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# National QWI

*(190 variables)*

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Data prepared by: Labor Dynamics Institute

Principal Investigator(s): Cornell University. Labor Dynamics Institute.

## Citation

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John M. Abowd and Lars Vilhuber, "National Quarterly Workforce Indicators, r2254," Cornell University, Labor Dynamics Institute [distributor], Ithaca, NY, USA, [Computer file], 2012

## Abstract

The Quarterly Workforce Indicators are local labor market data produced and released every quarter by the United States Census Bureau. Unlike any other local labor market series produced in the U.S. or the rest of the world, the QWI measure employment flows for workers (accession and separations), jobs (creations and destructions) and earnings for demographic subgroups (age and sex), economic industry (NAICS industry groups), and detailed geography (county, Core-Based Statistical Area, and Workforce Investment Area, as well as experimental, unreleased block-level estimates). The current QWI data cover 47 states and about 98% of the private workforce in each of those states.

John Abowd and Lars Vilhuber have used the existing public-use data (and only those public-use data) to construct the first national estimates. The national estimates are an important enhancement to existing series because they include demographic and industry detail for both worker and job flows compiled from data that have been integrated at the micro-level by the Longitudinal Employer-Household Dynamics Program at the Census Bureau. The research paper (see below) compares the new estimates to national data published by the BLS from the Quarterly Census of Employment and Wages and the Business Employment Dynamics series.

# Datasets

qwi\_national\_wia.dta [http://download.vrdc.cornell.edu/qwipu.national/beta/r4580/qwi\\_national\\_wia.dta.gz](http://download.vrdc.cornell.edu/qwipu.national/beta/r4580/qwi_national_wia.dta.gz) ( Stata )

qwi\_national\_wia.sas7bdat [http://download.vrdc.cornell.edu/qwipu.national/beta/r4580/qwi\\_national\\_wia.sas7bdat.gz](http://download.vrdc.cornell.edu/qwipu.national/beta/r4580/qwi_national_wia.sas7bdat.gz) ( SAS )

qwi\_national\_wia.csv [http://download.vrdc.cornell.edu/qwipu.national/beta/r4580/qwi\\_national\\_wia.csv.gz](http://download.vrdc.cornell.edu/qwipu.national/beta/r4580/qwi_national_wia.csv.gz) ( CSV )

# Terms of Use

## Access Levels

### *releasable*

Elements flagged with this access level can be released

### *restricted*

Elements flagged with this access level cannot be released

## Access Permission Requirements

The National QWI are constructed using only public-use data. No confidential data was used. The U.S. Census Bureau was not involved in the data creation process other than through their provision of the Quarterly Workforce Indicators.

## Citation Requirements

Please use the following language in published work that make use of this dataset: "The creation of the National QWI by John M. Abowd and Lars Vilhuber was made possible through NSF Grants #0922005 and #0922494. Access to the National QWI was made possible through NSF Grant #0922005 and #1131848." Please also cite Abowd and Vilhuber (2012) and use the bibliographic citation for the dataset provided in this document.

## Disclaimer

The National Quarterly Workforce Indicators dataset is a research product, not an official U.S. Census Bureau product.

## Contact

For questions regarding this data collection, please contact: [ldi@cornell.edu](mailto:ldi@cornell.edu)

## Additional Information

### Methodology

Imputation and aggregation

#### Sources

- I. Quarterly Workforce Indicators <http://lehd.ces.census.gov/data/>

### Related Publications

- I. The home page of the National QWI can be found at <http://www2.vrdc.cornell.edu/news/data/qwi-national-data/> .

- II. John M. Abowd and Lars Vilhuber, "National estimates of gross employment and job flows from the Quarterly Workforce Indicators with demographic and industry detail," *Journal of Econometrics*, vol. 161, iss. 1, pp. 82-99, 2011. <http://dx.doi.org/10.1016/j.jeconom.2010.09.008> .
- III. John M. Abowd and Lars Vilhuber, "National estimates of gross employment and job flows from the Quarterly Workforce Indicators with demographic and industry detail (with color graphs)," Center for Economic Studies, U.S. Census Bureau, Working Papers 10-11, 2010. <http://ideas.repec.org/p/cen/wpaper/10-11.html>

# Variable Groups - National QWI

*Codebook does not contain variable groups.*

Variable Name	naicssec
Label	NAICS Sector
Concept	
Type	character
Files	F1dta F1sas F1csv

## Full Description

North American Industry Classification System (NAICS) Sector.

## Values ( 20 total)

00	All NAICS Sectors
11	Agriculture, Forestry, Fishing and Hunting
21	Mining, Quarrying, and Oil and Gas Extraction
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services

55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (except Public Administration)

## Summary Statistics

Valid values 38340

Invalid values 0

Variable Name

sex

Label

Gender

Concept

Type

character

Files

F1dta F1sas F1csv

## Full Description

Gender code:

- 0 = Male and female
- 1 = Male
- 2 = Female

## Values ( 3 total)

0	Male and female
1	Male
2	Female

## Summary Statistics

Valid values 38340

Invalid values 0



Variable Name	agegroup
Label	Age group
Concept	
Type	character
Files	F1dta F1sas F1csv

## Full Description

Age group code (Workforce Investment Act).

## Values ( 9 total)

A00	Age 14-99
A01	Age 14-18
A02	Age 19-21
A03	Age 22-24
A04	25-34
A05	Age 35-44
A06	Age 45-54
A07	Age 55-64
A08	Age 65-99

## Summary Statistics

Valid values	38340
Invalid values	0

Variable Name

year

Label

Year

Concept

Type

character

Files

F1dta F1sas F1csv

Values ( 18 total)

1993

1994

1995

1996

1997

1998

1999

2000

2001

2002

2003

2004

2005

2006

2007

2008

2009

2010

## Summary Statistics

Valid values 38340

Variable Name	quarter
Label	Quarter
Concept	
Type	numeric
Files	F1dta F1sas F1csv

### Values ( 4 total)

1  
2  
3  
4

### Summary Statistics

Valid values	38340
Invalid values	0

### Value Ranges

#### Value Range

Range: [ 1 , 4 ]

Variable Name	yyq
Label	YYYYQq (year quarter)
Concept	
Type	character
Files	F1dta F1sas F1csv

### Values ( 71 total)

- 1993Q1
- 1993Q2
- 1993Q3
- 1993Q4
- 1994Q1
- 1994Q2
- 1994Q3
- 1994Q4
- 1995Q1
- 1995Q2
- 1995Q3
- 1995Q4
- 1996Q1
- 1996Q2
- 1996Q3
- 1996Q4
- 1997Q1

1997Q2

1997Q3

1997Q4

1998Q1

1998Q2

1998Q3

1998Q4

1999Q1

1999Q2

1999Q3

1999Q4

2000Q1

2000Q2

2000Q3

2000Q4

2001Q1

2001Q2

2001Q3

2001Q4

2002Q1

2002Q2

2002Q3

2002Q4

2003Q1

2003Q2

2003Q3

2003Q4

2004Q1

2004Q2

2004Q3

2004Q4

2005Q1

2005Q2

2005Q3

2005Q4

2006Q1

2006Q2

2006Q3

2006Q4

2007Q1

2007Q2

2007Q3

2007Q4

2008Q1

2008Q2

2008Q3

2008Q4

2009Q1

2009Q2

2009Q3

2009Q4

2010Q1

2010Q2

2010Q3

# Summary Statistics

Valid values 38340

Invalid values 0



Variable Name	qwi_eb2
Label	QWI: average employment
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

QWI: Average employment:

$(E + B)/2$

Note: this variable is not present on the regular QWI, but it's derived from variables on the regular QWI.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	279.806
Maximum	114334409.266
Mean	1557892.319
Standard deviation	6133444.348

## Value Ranges

### Value Range

Range: [ 279.806286319696 , 114334409.265891 ]

Variable Name	qwi_f2
Label	QWI: average FQ employment
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

QWI: average full-quarter (FQ) employment:

$$\frac{(F_{t-1} + F_t)}{2}$$

Note: this variable is not present on the regular QWI, but it's derived from variables on the regular QWI.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	196.445
Maximum	97690818.555
Mean	1324389.545
Standard deviation	5239820.185

## Value Ranges

### Value Range

Range: [ 196.444530385582 , 97690818.5549464 ]

Variable Name	qwi_f
Label	QWI: FQ employment
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

The concept of full-quarter employment estimates individuals who are likely to have been continuously employed throughout the quarter at a given employer. An individual is defined as full-quarter employed if that individual has valid UI wage records in the current quarter, the preceding quarter, and the subsequent quarter at the same employer (SEIN). That is, in terms of the point-in-time definitions, if the individual is employed at the same employer at both the beginning and end of the quarter, then the individual is considered full-quarter employed in the QWI system.

Full-quarter status is not defined for either the first or last quarter of available data.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	175.089
Maximum	97861311.012
Mean	1326172.167
Standard deviation	5246023.225

## Value Ranges

### Value Range

Range: [ 175.088725040975 , 97861311.0118791 ]

Variable Name	qwi_fa
Label	QWI: FQ accessions
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Full-quarter employment is not a point-in-time concept. Full-quarter accession refers to the quarter in which an individual first attains full-quarter employment status at a given employer.

Full-quarter employment refers to an estimate of the number of employees who were employed at a given employer during the entire quarter. An accession to full-quarter employment, then, involves two additional conditions that are not relevant for ordinary accessions.

First, the individual (PIK) must still be employed at the end of the quarter at the same employer (SEIN) for which the ordinary accession is defined. At this point (the end of the quarter where the accession occurred and the beginning of the next quarter) the individual has acceded to continuing-quarter status. An accession to continuing-quarter status means that the individual acceded in the current quarter and is end-of-quarter employed.

Next, the QWI system must check for the possibility that the individual becomes a full-quarter employee in the subsequent quarter. An accession to full-quarter status occurs if the individual acceded in the previous quarter, and is employed at both the beginning and end of the current quarter.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	12459478.916
Mean	151675.636
Standard deviation	595422.887

# Value Ranges

## Value Range

Range: [ 0 , 12459478.916179 ]

Variable Name	qwi_h3
Label	QWI: FQ new hires
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Full-quarter new hires.

Accessions to full-quarter status can be decomposed into new hires and recalls. The QWI system accomplishes this decomposition by classifying all accessions to full-quarter status who were classified as new hires in the previous quarter as new hires to full-quarter status in the current quarter. Otherwise, the accession to full-quarter status is classified as a recall to full-quarter status.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	10026858.544
Mean	120134.043
Standard deviation	474195.784

## Value Ranges

### Value Range

Range: [ 0 , 10026858.5435973 ]

Variable Name	qwi_fs
Label	QWI: FQ separations
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Full-quarter employment is not a point-in-time concept. Full-quarter separation occurs in the last full-quarter that an individual worked for a given employer.

As previously noted, full-quarter employment refers to an estimate of the number of employees who were employed at a given employer during the entire quarter. An accession to full-quarter employment, then, involves two additional conditions that are not relevant for ordinary accessions.

First, the individual (PIK) must still be employed at the end of the quarter at the same employer (SEIN) for which the ordinary accession is defined. At this point (the end of the quarter where the accession occurred and the beginning of the next quarter) the individual has acceded to continuing-quarter status. An accession to continuing-quarter status means that the individual acceded in the current quarter and is end-of-quarter employed.

Next, the QWI system must check for the possibility that the individual becomes a full-quarter employee in the subsequent quarter. An accession to full-quarter status occurs if the individual acceded in the previous quarter, and is employed at both the beginning and end of the current quarter.

Full-quarter separation works much the same way. One must be careful about the timing, however. If an individual separates in the current quarter, then the QWI system looks at the preceding quarter to determine if the individual was employed at the beginning of the current quarter. An individual who separates in a quarter in which that person was employed at the beginning of the quarter is a separation from continuing-quarter status in the current quarter.

Finally, the QWI system checks to see if the individual was a full-quarter employee in the preceding quarter. An individual who was a full quarter employee in the previous quarter is treated as a full-quarter separation in the quarter in which that person actually separates. Note, therefore, that the definition of full-quarter separation preserves the timing of the actual separation (current quarter) but restricts the estimate to those individuals who were full-quarter status in the preceding quarter.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	11703331.525
Mean	145434.791
Standard deviation	570784.485

## Value Ranges

### Value Range

Range: [ 0 , 11703331.525353 ]



Variable Name	qwi_a
Label	QWI: accessions
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

An accession occurs in the QWI system when it encounters the first valid UI wage record for a job (an individual [PIK]-employer [SEIN] pair). Accessions are not defined for the first quarter of available data from a given state. The QWI definition of an accession can be interpreted as an estimate of the number of new employees added to the payroll of the employer (SEIN) during the quarter. The individuals who acceded to a particular employer were not employed by that employer during the previous quarter, but received at least one dollar of UI-covered earnings during the quarter of accession.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	41.251
Maximum	32716703.814
Mean	371648.689
Standard deviation	1467814.611

## Value Ranges

### Value Range

Range: [ 41.2512608378604 , 32716703.8143023 ]

Variable Name	qwi_s
Label	QWI: separations
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

A separation occurs in the current quarter of the QWI system when it encounters no valid UI wage record for an individual-employer pair in the subsequent quarter. This definition of separation can be interpreted as an estimate of the number of employees who left the employer during the current quarter. These individuals received UI-covered earnings during the current quarter but did not receive any UI-covered earnings in the next quarter from this employer. Separations are not defined for the last quarter of available data.

## Summary Statistics

Valid values	36791
Invalid values	1549
Minimum	0
Maximum	32495685.715
Mean	373501.149
Standard deviation	1475641.134

## Value Ranges

### Value Range

Range: [ 0 , 32495685.7150443 ]

Variable Name	qwi_wrr
Label	QWI: worker reallocation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross worker flows are measured using the Worker Reallocation Rate:

$$\text{WR}\text{R}_{\text{agkst}} = \frac{A_{\text{agkst}} + S_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$$

where

- $A_{\text{agkst}}$   $\equiv$  accessions (new hires plus recalls)
- $S_{\text{agkst}}$   $\equiv$  separations (quits, layoffs, other)
- $B_{\text{agkst}}$   $\equiv$  beginning-of-quarter employment
- $E_{\text{agkst}}$   $\equiv$  end-of-quarter employment

$\text{WR}\text{R}$  measures total accession and separation flows as a proportion of average employment over the quarter in the age, gender, industry and state. The  $\text{WR}\text{R}$  is a symmetric growth rate designed to approximate the logarithmic change over the time period (one quarter). In addition, the  $\text{WR}\text{R}$ , can be expressed as the sum of its inflow and outflow components, the distinct accession and separation rates are defined, respectively, as:

- $\text{AR}_{\text{agkst}} = \frac{A_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$
- $\text{SR}_{\text{agkst}} = \frac{S_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$

Accessions and separations satisfy the net job flow ( $\text{JF}_{\text{agkst}}$ ) identity:

$$\text{JF}_{\text{agkst}} \equiv E_{\text{agkst}} - B_{\text{agkst}} = A_{\text{agkst}} - S_{\text{agkst}}$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.0354
Maximum	5.707

Mean 0.638

Standard deviation 0.48

## Value Ranges

### Value Range

Range: [ 0.0354101463929498 , 5.70673291418945 ]

Variable Name	qwi_jrr
Label	QWI: job reallocation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross job flows are measured in similar fashion using the symmetric Job Reallocation Rate:

$$\text{JRR}_{\text{agkst}} = \frac{(\text{JC}_{\text{agkst}} + \text{JD}_{\text{agkst}})}{2(\text{B}_{\text{agkst}} + \text{E}_{\text{agkst}})}$$

where

- $\text{JC}_{\text{agkst}} \equiv$  job creations
- $\text{JD}_{\text{agkst}} \equiv$  job destructions

$\text{JRR}$  measures total job creations and destructions (called job creations/destructions in the QWI and gross job gains/losses in the BED) as a proportion of average employment over the quarter in the category. The gross job inflow and outflow rates, the Job Creation Rate ( $\text{JCR}$ ) and Job Destruction Rate ( $\text{JDR}$ ), can be defined as additive components of the  $\text{JRR}$ :

- $\text{JCR}_{\text{agkst}} = \frac{\text{JC}_{\text{agkst}}}{2(\text{B}_{\text{agkst}} + \text{E}_{\text{agkst}})}$
- $\text{JDR}_{\text{agkst}} = \frac{\text{JD}_{\text{agkst}}}{2(\text{B}_{\text{agkst}} + \text{E}_{\text{agkst}})}$

Gross job flow measures are defined at an establishment, not job, level. Let  $\text{B}_{\text{agjt}}$  be beginning-of-quarter employment for demographic group  $\text{ag}$  at establishment  $\text{j}$  in quarter  $\text{t}$ , and similarly let  $\text{E}_{\text{agjt}}$  be end-of-quarter employment for the same category and time period. Then:

- $\text{JC}_{\text{agjt}} \equiv \max(\text{E}_{\text{agjt}} - \text{B}_{\text{agjt}}, 0)$
- $\text{JD}_{\text{agjt}} \equiv \max(\text{B}_{\text{agjt}} - \text{E}_{\text{agjt}}, 0)$

so that, as originally specified by Davis and Haltiwanger, job creations are the change in employment when employment is growing at the establishment and job destructions are the change in employment when employment is shrinking at the establishment. Net job flows also satisfy the identity  $\text{JF}_{\text{agkst}} = \text{JC}_{\text{agkst}} - \text{JD}_{\text{agkst}}$

## Summary Statistics

Valid values

38340

Invalid values	0
Minimum	0.0227
Maximum	1.387
Mean	0.244
Standard deviation	0.158

## Value Ranges

### Value Range

Range: [ 0.022674754002389 , 1.38650126107658 ]

Variable Name	qwi_err
Label	QWI: excess reallocation rate (churning)
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

We define the excess reallocation measured using the symmetric Excess Reallocation Rate (see variables "qwi\_wrr" and "qwi\_jrr" for further information):

$$\text{`EIR`}_{agkst} = \text{`WR`}_{agkst} - \text{`JR`}_{agkst}$$

which measures the difference between gross worker flow and gross job flow rates, sometimes called the labor market ?churning? rate. The `EIR` measures the rate of gross worker flow activity in each category in excess of the minimum rate required to account for the observed gross job reallocation. Separate inflow and outflow excess reallocation rates can be defined using the components of the `EIR`?specifically, the Excess Inflow Rate (`EIR`) and the Excess Outflow Rate (`EOR`):

- $\text{`EIR`}_{agkst} = \text{`AR`}_{agkst} - \text{`JCR`}_{agkst}$
- $\text{`EOR`}_{agkst} = \text{`SR`}_{agkst} - \text{`JDR`}_{agkst}$

where the additive and symmetric growth rate properties of the measure within categories continue to hold. Because of the net job flow identities,  $\text{`EIR`}_{agkst} \equiv \text{`EOR`}_{agkst}$ .

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000876
Maximum	4.792
Mean	0.394
Standard deviation	0.351

# Value Ranges

## Value Range

Range: [ 0.00087597454622405 , 4.79210373588679 ]



Variable Name	qwi_ar
Label	QWI: accession rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross worker flows are measured using the Worker Reallocation Rate:

$$\text{WR}\text{R}_{\text{agkst}} = \frac{A_{\text{agkst}} + S_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$$

where

- $A_{\text{agkst}}$   $\equiv$  accessions (new hires plus recalls)
- $S_{\text{agkst}}$   $\equiv$  separations (quits, layoffs, other)
- $B_{\text{agkst}}$   $\equiv$  beginning-of-quarter employment
- $E_{\text{agkst}}$   $\equiv$  end-of-quarter employment

$\text{WR}\text{R}$  measures total accession and separation flows as a proportion of average employment over the quarter in the age, gender, industry and state. The  $\text{WR}\text{R}$  is a symmetric growth rate designed to approximate the logarithmic change over the time period (one quarter). In addition, the  $\text{WR}\text{R}$ , can be expressed as the sum of its inflow and outflow components, the distinct accession and separation rates are defined, respectively, as:

- $\text{AR}_{\text{agkst}} = \frac{A_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$
- $\text{SR}_{\text{agkst}} = \frac{S_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$

Accessions and separations satisfy the net job flow ( $\text{JF}_{\text{agkst}}$ ) identity:

$$\text{JF}_{\text{agkst}} \equiv E_{\text{agkst}} - B_{\text{agkst}} = A_{\text{agkst}} - S_{\text{agkst}}$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.0144
Maximum	2.739

Mean	0.33
Standard deviation	0.257

## Value Ranges

### Value Range

Range: [ 0.0143658912040135 , 2.73908026603349 ]

Variable Name	qwi_sr
Label	QWI: separation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross worker flows are measured using the Worker Reallocation Rate:

$$\text{WR}\backslash\text{R}_{\text{agkst}} = \frac{A_{\text{agkst}} + S_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$$

where

- $A_{\text{agkst}}$   $\equiv$  accessions (new hires plus recalls)
- $S_{\text{agkst}}$   $\equiv$  separations (quits, layoffs, other)
- $B_{\text{agkst}}$   $\equiv$  beginning-of-quarter employment
- $E_{\text{agkst}}$   $\equiv$  end-of-quarter employment

$\text{WR}\backslash\text{R}$  measures total accession and separation flows as a proportion of average employment over the quarter in the age, gender, industry and state. The  $\text{WR}\backslash\text{R}$  is a symmetric growth rate designed to approximate the logarithmic change over the time period (one quarter). In addition, the  $\text{WR}\backslash\text{R}$ , can be expressed as the sum of its inflow and outflow components, the distinct accession and separation rates are defined, respectively, as:

- $\text{AR}_{\text{agkst}} = \frac{A_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$
- $\text{SR}_{\text{agkst}} = \frac{S_{\text{agkst}}}{B_{\text{agkst}} + E_{\text{agkst}}}$

Accessions and separations satisfy the net job flow ( $\text{JF}_{\text{agkst}}$ ) identity:

$$\text{JF}_{\text{agkst}} \equiv E_{\text{agkst}} - B_{\text{agkst}} = A_{\text{agkst}} - S_{\text{agkst}}$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.0178
Maximum	2.968

Mean 0.308

Standard deviation 0.234

## Value Ranges

### Value Range

Range: [ 0.0178022257286356 , 2.96765264815597 ]

Variable Name	qwi_jcr
Label	QWI: job creation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross job flows are measured in similar fashion using the symmetric Job Reallocation Rate:

$$\text{JR}_{agkst} = \frac{JC_{agkst} + JD_{agkst}}{B_{agkst} + E_{agkst}}$$

where

- $JC_{agkst}$   $\equiv$  job creations
- $JD_{agkst}$   $\equiv$  job destructions

$\text{JR}$  measures total job creations and destructions (called job creations/destructions in the QWI and gross job gains/losses in the BED) as a proportion of average employment over the quarter in the category. The gross job inflow and outflow rates, the Job Creation Rate ( $JCR$ ) and Job Destruction Rate ( $JDR$ ), can be defined as additive components of the  $\text{JR}$ :

- $JCR_{agkst} = \frac{JC_{agkst}}{B_{agkst} + E_{agkst}}$
- $JDR_{agkst} = \frac{JD_{agkst}}{B_{agkst} + E_{agkst}}$

Gross job flow measures are defined at an establishment, not job, level. Let  $B_{agjt}$  be beginning-of-quarter employment for demographic group  $ag$  at establishment  $j$  in quarter  $t$ , and similarly let  $E_{agjt}$  be end-of-quarter employment for the same category and time period. Then:

- $JC_{agjt} \equiv \max(E_{agjt} - B_{agjt}, 0)$
- $JD_{agjt} \equiv \max(B_{agjt} - E_{agjt}, 0)$

so that, as originally specified by Davis and Haltiwanger, job creations are the change in employment when employment is growing at the establishment and job destructions are the change in employment when employment is shrinking at the establishment. Net job flows also satisfy the identity  $JF_{agkst} = JC_{agkst} - JD_{agkst}$

## Summary Statistics

Valid values

38340

Invalid values	0
Minimum	0.00635
Maximum	1.222
Mean	0.133
Standard deviation	0.111

## Value Ranges

### Value Range

Range: [ 0.00634819878858328 , 1.22206835070017 ]

Variable Name	qwi_jdr
Label	QWI: job destruction rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross job flows are measured in similar fashion using the symmetric Job Reallocation Rate:

$$\text{JR}_{agkst} = \frac{JC_{agkst} + JD_{agkst}}{B_{agkst} + E_{agkst}}$$

where

- $JC_{agkst}$   $\equiv$  job creations
- $JD_{agkst}$   $\equiv$  job destructions

$\text{JR}$  measures total job creations and destructions (called job creations/destructions in the QWI and gross job gains/losses in the BED) as a proportion of average employment over the quarter in the category. The gross job inflow and outflow rates, the Job Creation Rate ( $JCR$ ) and Job Destruction Rate ( $JDR$ ), can be defined as additive components of the  $\text{JR}$ :

- $JCR_{agkst} = \frac{JC_{agkst}}{B_{agkst} + E_{agkst}}$
- $JDR_{agkst} = \frac{JD_{agkst}}{B_{agkst} + E_{agkst}}$

Gross job flow measures are defined at an establishment, not job, level. Let  $B_{agjt}$  be beginning-of-quarter employment for demographic group  $ag$  at establishment  $j$  in quarter  $t$ , and similarly let  $E_{agjt}$  be end-of-quarter employment for the same category and time period. Then:

- $JC_{agjt} \equiv \max(E_{agjt} - B_{agjt}, 0)$
- $JD_{agjt} \equiv \max(B_{agjt} - E_{agjt}, 0)$

so that, as originally specified by Davis and Haltiwanger, job creations are the change in employment when employment is growing at the establishment and job destructions are the change in employment when employment is shrinking at the establishment. Net job flows also satisfy the identity  $JF_{agkst} = JC_{agkst} - JD_{agkst}$

## Summary Statistics

Valid values

38340

Invalid values	0
Minimum	0.00949
Maximum	0.847
Mean	0.111
Standard deviation	0.0763

## Value Ranges

### Value Range

Range: [ 0.00949471923872865 , 0.847288140116007 ]



Variable Name	qwi_eir
Label	QWI: excess inflow rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

We define the excess reallocation measured using the symmetric Excess Reallocation Rate (see variables "qwi\_wrr" and "qwi\_jrr" for further information):

$$\text{`EIR}_{agkst} = \text{`WR}_{agkst} - \text{`JR}_{agkst}$$

which measures the difference between gross worker flow and gross job flow rates, sometimes called the labor market ?churning? rate. The `EIR` measures the rate of gross worker flow activity in each category in excess of the minimum rate required to account for the observed gross job reallocation. Separate inflow and outflow excess reallocation rates can be defined using the components of the `EIR`?specifically, the Excess Inflow Rate (`EIR`) and the Excess Outflow Rate (`EOR`):

- $\text{`EIR}_{agkst} = \text{`AR}_{agkst} - \text{`JCR}_{agkst}$
- $\text{`EOR}_{agkst} = \text{`SR}_{agkst} - \text{`JDR}_{agkst}$

where the additive and symmetric growth rate properties of the measure within categories continue to hold. Because of the net job flow identities,  $\text{`EIR}_{agkst} \equiv \text{`EOR}_{agkst}$ .

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	-0.0459
Maximum	2.397
Mean	0.197
Standard deviation	0.176

# Value Ranges

## Value Range

Range: [ -0.0459330405058202 , 2.39678506164041 ]

Variable Name	qwi_eor
Label	QWI: excess outflow rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

We define the excess reallocation measured using the symmetric Excess Reallocation Rate (see variables "qwi\_wrr" and "qwi\_jrr" for further information):

$$\text{`EIR}_{agkst} = \text{`WR}_{agkst} - \text{`JR}_{agkst}$$

which measures the difference between gross worker flow and gross job flow rates, sometimes called the labor market ?churning? rate. The `EIR` measures the rate of gross worker flow activity in each category in excess of the minimum rate required to account for the observed gross job reallocation. Separate inflow and outflow excess reallocation rates can be defined using the components of the `EIR`?specifically, the Excess Inflow Rate (`EIR`) and the Excess Outflow Rate (`EOR`):

- $\text{`EIR}_{agkst} = \text{`AR}_{agkst} - \text{`JCR}_{agkst}$
- $\text{`EOR}_{agkst} = \text{`SR}_{agkst} - \text{`JDR}_{agkst}$

where the additive and symmetric growth rate properties of the measure within categories continue to hold. Because of the net job flow identities,  $\text{`EIR}_{agkst} \equiv \text{`EOR}_{agkst}$ .

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	-0.0308
Maximum	2.395
Mean	0.197
Standard deviation	0.176

# Value Ranges

## Value Range

Range: [ -0.0307893139631966 , 2.39531867424638 ]

Variable Name	qwi_fwrr
Label	QWI: FQ worker reallocation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross full-quarter worker flows are measured using the Full-Quarter Worker Reallocation Rate:

$$\text{`FWR}\text{R}_{\text{agkst}} = \frac{\text{FA}_{\text{agkst}} + \text{FS}_{\text{agkst}}}{2(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$$

where

- $\text{`FA}_{\text{agkst}}$   $\equiv$  full-quarter accessions (new hires plus recalls)
- $\text{`FS}_{\text{agkst}}$   $\equiv$  full-quarter separations (quits, layoffs, other)
- $\text{`F}_{\text{agkst}}$   $\equiv$  full-quarter employment in period  $\text{`t}$
- $\text{`F}_{\text{agkst-1}}$   $\equiv$  full-quarter employment in period  $\text{`t-1}$

$\text{`FWR}\text{R}$  measures total accession and separation flows as a proportion of average full-quarter employment in the age, gender, industry and state. The  $\text{`FWR}\text{R}$  is a symmetric growth rate designed to approximate the logarithmic change over the time period (one quarter). In addition, the  $\text{`FWR}\text{R}$ , can be expressed as the sum of its inflow and outflow components, the distinct accession and separation rates are defined, respectively, as:

- $\text{`FAR}_{\text{agkst}} = \frac{\text{FA}_{\text{agkst}}}{2(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$
- $\text{`FSR}_{\text{agkst}} = \frac{\text{FS}_{\text{agkst}}}{2(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$

Accessions and separations satisfy the net full-quarter job flow ( $\text{`FJF}_{\text{agkst}}$ ) identity:

$$\text{`FJF}_{\text{agkst}} \equiv \text{FA}_{\text{agkst}} - \text{FS}_{\text{agkst}}$$

where the net change in full-quarter is defined as  $\text{`FJF}_{\text{agkst}} = \text{F}_{\text{agkst}} - \text{F}_{\text{agkst-1}}$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.0263

Maximum	1.155
Mean	0.284
Standard deviation	0.155

## Value Ranges

### Value Range

Range: [ 0.0263323249283248 , 1.15497467232966 ]

Variable Name	qwi_fjrr
Label	QWI: FQ job reallocation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross full-quarter job flows are measured using the symmetric Full-Quarter Job Reallocation Rate:

$$\text{FJR}_{\text{agkst}} = \frac{(\text{FJC}_{\text{agkst}} + \text{FJD}_{\text{agkst}})}{2 \times (\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$$

where

- $\text{FJC}_{\text{agkst}}$  \equiv job creations
- $\text{FJD}_{\text{agkst}}$  \equiv job destructions

$\text{FJR}$  measures total job creations and destructions (called job creations/destructions in the QWI and gross job gains/losses in the BED) as a proportion of full-quarter average employment in the category. The gross job inflow and outflow rates, the Full-Quarter Job Creation Rate ( $\text{FJCR}$ ) and Full-Quarter Job Destruction Rate ( $\text{FJDR}$ ), can be defined as additive components of the  $\text{FJR}$ :

- $\text{FJCR}_{\text{agkst}} = \frac{\text{FJC}_{\text{agkst}}}{\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}}}$
- $\text{FJDR}_{\text{agkst}} = \frac{\text{FJD}_{\text{agkst}}}{\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}}}$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.0207
Maximum	0.998
Mean	0.202
Standard deviation	0.115

# Value Ranges

## Value Range

Range: [ 0.0206979658906578 , 0.998018441111468 ]



Variable Name	qwi_ferr
Label	QWI: FQ excess reallocation rate (churning)
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

We define the full-quarter excess reallocation measured using the symmetric Full-Quarter Excess Reallocation Rate (see variables "qwi\_fwrr" and "qwi\_fjrr" for further information):

$$\text{`FEIR}_{agkst} = \text{FWIR}_{agkst} - \text{FJIR}_{agkst}$$

which measures the difference between full-quarter gross worker flow and full-quarter gross job flow rates, sometimes called the labor market "churning" rate. The `FEIR` measures the rate of gross worker flow activity in each category in excess of the minimum rate required to account for the observed gross job reallocation. Separate inflow and outflow excess reallocation rates can be defined using the components of the `FEIR`—specifically, the Full-Quarter Excess Inflow Rate (`FEIR`) and the Full-Quarter Excess Outflow Rate (`FEOR`):

- $\text{`FEIR}_{agkst} = \text{FAR}_{agkst} - \text{FJCR}_{agkst}$
- $\text{`FEOR}_{agkst} = \text{FSR}_{agkst} - \text{FJDR}_{agkst}$

where the additive and symmetric growth rate properties of the measure within categories continue to hold. Because of the net job flow identities,  $\text{`FEIR}_{agkst} \equiv \text{`FEOR}_{agkst}$ .

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	-0.318
Maximum	0.556
Mean	0.0822
Standard deviation	0.0644

# Value Ranges

## Value Range

Range: [ -0.317873213537048 , 0.556283105516977 ]

Variable Name	qwi_far
Label	QWI: FQ accession rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross full-quarter worker flows are measured using the Full-Quarter Worker Reallocation Rate:

$$\text{`FWR}\backslash\text{R}_{\{agkst\}} = \backslash (FA_{\{agkst\}} + FS_{\{agkst\}}) * (2 / (F_{\{agkst\}} + F_{\{agkst-1\}}))`$$

where

- `FA\_{agkst}` \equiv` full-quarter accessions (new hires plus recalls)
- `FS\_{agkst}` \equiv` full-quarter separations (quits, layoffs, other)
- `F\_{agkst}` \equiv` full-quarter employment in period `t`
- `F\_{agkst-1}` \equiv` full-quarter employment in period `t-1`

`FWR}\backslash\text{R}` measures total accession and separation flows as a proportion of average full-quarter employment in the age, gender, industry and state. The `FWR}\backslash\text{R}` is a symmetric growth rate designed to approximate the logarithmic change over the time period (one quarter). In addition, the `FWR}\backslash\text{R}`, can be expressed as the sum of its inflow and outflow components, the distinct accession and separation rates are defined, respectively, as:

- `FAR}\_{agkst} = \backslash FA\_{\{agkst\}} \* (2 / (F\_{\{agkst\}} + F\_{\{agkst-1\}}))`
- `FSR}\_{agkst} = \backslash FS\_{\{agkst\}} \* (2 / (F\_{\{agkst\}} + F\_{\{agkst-1\}}))`

Accessions and separations satisfy the net full-quarter job flow (`FJF\_{agkst}`) identity:

$$\text{`FJF}_{\{agkst\}} \equiv \backslash FA_{\{agkst\}} - FS_{\{agkst\}}`$$

where the net change in full-quarter is defined as `FJF}\_{agkst} = F\_{\{agkst\}} - \backslash F\_{\{agkst-1\}}`

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0

Maximum	0.807
Mean	0.151
Standard deviation	0.0992

## Value Ranges

### Value Range

Range: [ 0 , 0.806980769208525 ]

Variable Name	qwi_fsr
Label	QWI: FQ separation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross full-quarter worker flows are measured using the Full-Quarter Worker Reallocation Rate:

$$\text{`FWR}\text{R}_{\text{agkst}} = \text{`}( \text{`FA}_{\text{agkst}} + \text{`FS}_{\text{agkst}} ) * ( 2 / ( \text{`F}_{\text{agkst}} + \text{`F}_{\text{agkst-1}} ) ) \text{`}$$

where

- $\text{`FA}_{\text{agkst}}$   $\text{`equiv}$  full-quarter accessions (new hires plus recalls)
- $\text{`FS}_{\text{agkst}}$   $\text{`equiv}$  full-quarter separations (quits, layoffs, other)
- $\text{`F}_{\text{agkst}}$   $\text{`equiv}$  full-quarter employment in period  $\text{`t}$
- $\text{`F}_{\text{agkst-1}}$   $\text{`equiv}$  full-quarter employment in period  $\text{`t-1}$

$\text{`FWR}\text{R}$  measures total accession and separation flows as a proportion of average full-quarter employment in the age, gender, industry and state. The  $\text{`FWR}\text{R}$  is a symmetric growth rate designed to approximate the logarithmic change over the time period (one quarter). In addition, the  $\text{`FWR}\text{R}$ , can be expressed as the sum of its inflow and outflow components, the distinct accession and separation rates are defined, respectively, as:

- $\text{`FAR}_{\text{agkst}} = \text{`FA}_{\text{agkst}} * ( 2 / ( \text{`F}_{\text{agkst}} + \text{`F}_{\text{agkst-1}} ) ) \text{`}$
- $\text{`FSR}_{\text{agkst}} = \text{`FS}_{\text{agkst}} * ( 2 / ( \text{`F}_{\text{agkst}} + \text{`F}_{\text{agkst-1}} ) ) \text{`}$

Accessions and separations satisfy the net full-quarter job flow ( $\text{`FJF}_{\text{agkst}}$ ) identity:

$$\text{`FJF}_{\text{agkst}} \text{`equiv} \text{`FA}_{\text{agkst}} - \text{`FS}_{\text{agkst}}$$

where the net change in full-quarter is defined as  $\text{`FJF}_{\text{agkst}} = \text{`F}_{\text{agkst}} - \text{`F}_{\text{agkst-1}}$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0

Maximum	0.634
Mean	0.133
Standard deviation	0.0664

## Value Ranges

### Value Range

Range: [ 0 , 0.633539719954526 ]

Variable Name	qwi_fjcr
Label	QWI: FQ job creation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross full-quarter job flows are measured using the symmetric Full-Quarter Job Reallocation Rate:

$$\text{FJR}_{\text{agkst}} = \frac{(\text{FJC}_{\text{agkst}} + \text{FJD}_{\text{agkst}}) * 2}{(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$$

where

- $\text{FJC}_{\text{agkst}}$  \equiv job creations
- $\text{FJD}_{\text{agkst}}$  \equiv job destructions

$\text{FJR}$  measures total job creations and destructions (called job creations/destructions in the QWI and gross job gains/losses in the BED) as a proportion of full-quarter average employment in the category. The gross job inflow and outflow rates, the Full-Quarter Job Creation Rate ( $\text{FJCR}$ ) and Full-Quarter Job Destruction Rate ( $\text{FJDR}$ ), can be defined as additive components of the  $\text{FJR}$ :

- $\text{FJCR}_{\text{agkst}} = \frac{\text{FJC}_{\text{agkst}} * 2}{(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$
- $\text{FJDR}_{\text{agkst}} = \frac{\text{FJD}_{\text{agkst}} * 2}{(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.00495
Maximum	0.698
Mean	0.11
Standard deviation	0.0808

# Value Ranges

## Value Range

Range: [ 0.0049511968246761 , 0.69772714489474 ]



Variable Name	qwi_fjdr
Label	QWI: FQ job destruction rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Gross full-quarter job flows are measured using the symmetric Full-Quarter Job Reallocation Rate:

$$\text{FJR}_{\text{agkst}} = \frac{(\text{FJC}_{\text{agkst}} + \text{FJD}_{\text{agkst}}) * 2}{(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$$

where

- $\text{FJC}_{\text{agkst}}$  \equiv job creations
- $\text{FJD}_{\text{agkst}}$  \equiv job destructions

$\text{FJR}$  measures total job creations and destructions (called job creations/destructions in the QWI and gross job gains/losses in the BED) as a proportion of full-quarter average employment in the category. The gross job inflow and outflow rates, the Full-Quarter Job Creation Rate ( $\text{FJCR}$ ) and Full-Quarter Job Destruction Rate ( $\text{FJDR}$ ), can be defined as additive components of the  $\text{FJR}$ :

- $\text{FJCR}_{\text{agkst}} = \frac{\text{FJC}_{\text{agkst}} * 2}{(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$
- $\text{FJDR}_{\text{agkst}} = \frac{\text{FJD}_{\text{agkst}} * 2}{(\text{F}_{\text{agkst}} + \text{F}_{\text{agkst-1}})}$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.00792
Maximum	0.486
Mean	0.0917
Standard deviation	0.0482

# Value Ranges

## Value Range

Range: [ 0.00792219927487688 , 0.486128123514633 ]

Variable Name	qwi_feir
Label	QWI: FQ excess inflow rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

We define the full-quarter excess reallocation measured using the symmetric Full-Quarter Excess Reallocation Rate (see variables "qwi\_fwrr" and "qwi\_fjrr" for further information):

$$\text{`FEIR}_{agkst} = \text{`FWIR}_{agkst} - \text{`FJIR}_{agkst}$$

which measures the difference between full-quarter gross worker flow and full-quarter gross job flow rates, sometimes called the labor market "churning" rate. The `FEIR` measures the rate of gross worker flow activity in each category in excess of the minimum rate required to account for the observed gross job reallocation. Separate inflow and outflow excess reallocation rates can be defined using the components of the `FEIR`—specifically, the Full-Quarter Excess Inflow Rate (`FEIR`) and the Full-Quarter Excess Outflow Rate (`FEOR`):

- $\text{`FEIR}_{agkst} = \text{`FAR}_{agkst} - \text{`FJCR}_{agkst}$
- $\text{`FEOR}_{agkst} = \text{`FSR}_{agkst} - \text{`FJDR}_{agkst}$

where the additive and symmetric growth rate properties of the measure within categories continue to hold. Because of the net job flow identities,  $\text{`FEIR}_{agkst} \equiv \text{`FEOR}_{agkst}$ .

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	-0.187
Maximum	0.218
Mean	0.041
Standard deviation	0.0324

# Value Ranges

## Value Range

Range: [ -0.187057814968676 , 0.218152978878315 ]

Variable Name	qwi_feor
Label	QWI: FQ excess outflow rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

We define the full-quarter excess reallocation measured using the symmetric Full-Quarter Excess Reallocation Rate (see variables "qwi\_fwrr" and "qwi\_fjrr" for further information):

$$\text{`FEIR}_{agkst} = \text{FWIR}_{agkst} - \text{FJIR}_{agkst}$$

which measures the difference between full-quarter gross worker flow and full-quarter gross job flow rates, sometimes called the labor market "churning" rate. The `FEIR` measures the rate of gross worker flow activity in each category in excess of the minimum rate required to account for the observed gross job reallocation. Separate inflow and outflow excess reallocation rates can be defined using the components of the `FEIR`—specifically, the Full-Quarter Excess Inflow Rate (`FEIR`) and the Full-Quarter Excess Outflow Rate (`FEOR`):

- $\text{`FEIR}_{agkst} = \text{FAR}_{agkst} - \text{FJCR}_{agkst}$
- $\text{`FEOR}_{agkst} = \text{FSR}_{agkst} - \text{FJDR}_{agkst}$

where the additive and symmetric growth rate properties of the measure within categories continue to hold. Because of the net job flow identities,  $\text{`FEIR}_{agkst} \equiv \text{`FEOR}_{agkst}$ .

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	-0.155
Maximum	0.462
Mean	0.0412
Standard deviation	0.0323

# Value Ranges

## Value Range

Range: [ -0.155147790889173 , 0.462360689413917 ]

Variable Name	qwi_z_w3
Label	QWI: FQ average monthly earnings
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Measuring earnings using UI wage records in the QWI system presents some interesting challenges. The earnings of end-of-quarter employees who are not present at the beginning of the quarter are the earnings of accessions during the quarter. The QWI system does not provide any information about how much of the quarter such individuals worked. The range of possibilities goes from one day to every day of the quarter. Hence, estimates of the average earnings of such individuals may not be comparable from quarter to quarter unless one assumes that the average accession works the same number of quarters regardless of other conditions in the economy. Similarly, the earnings of beginning-of-quarter workers who are not present at the end of the quarter represent the earnings of separations. These present the same comparison problems as the average earnings of accessions; namely, it is difficult to model the number of weeks worked during the quarter. If we consider only those individuals employed at the employer in a given quarter who were neither accessions nor separations during that quarter, we are left, exactly, with the full-quarter employees.

The QWI system measures the average earnings of full-quarter employees by summing the earnings on the UI wage records of all individuals at a given employer who have full-quarter status in a given quarter, then dividing by the number of full-quarter employees.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	212.787
Maximum	24174.711
Mean	2679.631
Standard deviation	1831.52

# Value Ranges

## Value Range

Range: [ 212.786636705592 , 24174.7113894223 ]



## Variable Name

qwi\_z\_wfa

## Label

QWI: FQ average monthly earnings FQ accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

A full-quarter accession is an individual who acceded in the preceding quarter and achieved full-quarter status in the current quarter. The QWI system measures the average earnings of full-quarter accessions in a given quarter by summing the UI wage record earnings of all full-quarter accessions during the quarter and dividing by the number of full-quarter accessions in that quarter.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	174.506
Maximum	26645.807
Mean	2063.091
Standard deviation	1371.03

## Value Ranges

### Value Range

Range: [ 174.506172855544 , 26645.806794608 ]

## Variable Name

qwi\_z\_wh3

## Label

QWI: FQ average monthly earnings FQ new hires

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Full-quarter new hires are accessions to full-quarter status who were also new hires in the preceding quarter. The average earnings of full-quarter new hires are measured as the sum of UI wage records for a given employer for all full-quarter new hires in a given quarter divided by the number of full-quarter new hires in that quarter.

## Summary Statistics

Valid values	37253
Invalid values	1087
Minimum	175.642
Maximum	24698.907
Mean	2019.165
Standard deviation	1323.248

## Value Ranges

### Value Range

Range: [ 175.642493777742 , 24698.9072791115 ]

## Variable Name

qwi\_z\_wfs

## Label

QWI: FQ average monthly earnings FQ separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Full-quarter separations are individuals who separate during the current quarter who were full-quarter employees in the previous quarter. The QWI system measures the average earnings of full-quarter separations by summing the earnings for all individuals who are full-quarter status in the current quarter and who separate in the subsequent quarter. This total is then divided by full-quarter separations in the subsequent quarter. Thus, the average earnings of full-quarter separations are the average earnings of full-quarter employees in the current quarter who separated in the next quarter.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	167.658
Maximum	40096.338
Mean	2169.135
Standard deviation	1638.36

## Value Ranges

### Value Range

Range: [ 167.657552677156 , 40096.3379224132 ]

Variable Name	qwi_z_na
Label	QWI: average quarters of inactivity before accession
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

An accession occurs when a job starts; that is, on the first occurrence of a SEIN-PIK pair following the first quarter of available data. When the QWI system detects an accession, it measures the number of quarters (up to a maximum of four) that the individual spent nonemployed in the state prior to the accession. The QWI system estimates the number of quarters spent nonemployed by looking for all other jobs held by the individual at any employer in the state in the preceding quarters up to a maximum of four. If the QWI system does not find any other valid UI wage records in a quarter preceding the accession, it augments the count of nonemployed quarters for the individual who acceded, up to a maximum of four. Total quarters of nonemployment for all accessions is divided by accessions to estimate average periods of nonemployment for accessions.

Average periods of nonemployment for new hires and recalls are estimated using exactly analogous formulas except that the measures are estimated separately for accessions who are also new hires as compared with accession who are recalls.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.787
Maximum	3.71
Mean	1.784
Standard deviation	0.39

## Value Ranges

# Value Range

Range: [ 0.786820185307893 , 3.70997998759424 ]

Variable Name	qwi_z_ns
Label	QWI: average quarters of inactivity since separation
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Analogous to the average number of periods of nonemployment for accessions prior to the accession, the QWI system measures the average number of periods of nonemployment in the state for individuals who separated in the current quarter, up to a maximum of four. When the QWI system detects a separation, it looks forward for up to four quarters to find valid UI wage records for the individual who separated among other employers in the state. Each quarter that it fails to detect any such jobs is counted as a period of nonemployment, up to a maximum of four. The average number of periods of nonemployment is estimated by dividing the total number of periods of nonemployment for separations in the current quarter by the number of separations in the quarter.

## Summary Statistics

Valid values	36720
Invalid values	1620
Minimum	1.026
Maximum	3.998
Mean	1.768
Standard deviation	0.407

## Value Ranges

### Value Range

Range: [ 1.02556418915133 , 3.9981738207903 ]

Variable Name	vm_qwi_wrr
Label	Within-implicate variance for QWI: worker reallocation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

The within-implicate variance for QWI  $\hat{WR}$  is:

$$V^{(l)}[\hat{WR}_{agkt}] = \frac{1}{49}$$

$$\sum_{AA} \frac{(\frac{B_{agkt}^{(l)} + E_{agkt}^{(l)}}{2})(WR_{agkt}^{(l)} - \hat{WR}_{agkt}^{(l)})^2}{\sum_{AA} (\frac{B_{agkt}^{(l)}}{2})}$$

where  $\frac{1}{49}$  is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	2.45e-06
Maximum	1.927
Mean	0.00108
Standard deviation	0.0134

## Value Ranges

### Value Range

Range: [ 2.44732584143864e-06 , 1.92691817778576 ]

## Variable Name

vm\_qwi\_jrr

## Label

Within-implicate variance for QWI: job reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{B_{agkst}^{(l)} + E_{agkst}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{B_{agkvt}^{(l)} +$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	6.27e-09
Maximum	0.00252
Mean	7.3e-05
Standard deviation	0.000134

## Value Ranges

### Value Range

Range: [ 6.266833107653e-09 , 0.00252222290076745 ]



## Variable Name

vm\_qwi\_err

## Label

Within-implicate variance for QWI: excess reallocation rate  
(churning)

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{B_{agkvt}^{(l)} + E_{agkvt}^{(l)}}{2})(X_{agkvt}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{B_{agkvt}^{(l)} +$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	8.52e-08
Maximum	1.921
Mean	0.000877
Standard deviation	0.0132

## Value Ranges

### Value Range

Range: [ 8.51552057587548e-08 , 1.92058621266751 ]

Variable Name

vm\_qwi\_ar

Label

Within-implicate variance for QWI: accession rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{B_{agkst}^{(l)} + E_{agkst}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{B_{agkvt}^{(l)} +$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	1.73e-10
Maximum	0.482
Mean	0.000308
Standard deviation	0.00335

## Value Ranges

### Value Range

Range: [ 1.73055838192779e-10 , 0.482239510197475 ]

## Variable Name

vm\_qwi\_sr

## Label

Within-implicate variance for QWI: separation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AA} \frac{(\frac{B_{agkvt}^{(l)} + E_{agkst}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AA} (\frac{B_{agkvt}^{(l)} +$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	7.09e-07
Maximum	0.481
Mean	0.000289
Standard deviation	0.00337

## Value Ranges

### Value Range

Range: [ 7.09385780910604e-07 , 0.481238738691366 ]

## Variable Name

vm\_qwi\_jcr

## Label

Within-implicate variance for QWI: job creation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AA} \frac{(\frac{B_{agkvt}^{(l)} + E_{agkst}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AA} (\frac{B_{agkvt}^{(l)} +$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	4.55e-08
Maximum	0.0029
Mean	5.27e-05
Standard deviation	0.000142

## Value Ranges

### Value Range

Range: [ 4.55425897553464e-08 , 0.00290473655795188 ]

## Variable Name

vm\_qwi\_jdr

## Label

Within-implicate variance for QWI: job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{B_{agkst}^{(l)} + E_{agkst}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{B_{agkvt}^{(l)} +$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	9.26e-08
Maximum	0.00274
Mean	3.95e-05
Standard deviation	0.000115

## Value Ranges

### Value Range

Range: [ 9.26111786049236e-08 , 0.00273756082495804 ]

Variable Name

vm\_qwi\_eir

Label

Within-implicate variance for QWI: excess inflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{B_{agkst}^{(l)} + E_{agkst}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{B_{agkvt}^{(l)} +$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	2.49e-08
Maximum	0.48
Mean	0.00022
Standard deviation	0.00331

## Value Ranges

### Value Range

Range: [ 2.48559360274888e-08 , 0.480407275752156 ]

## Variable Name

vm\_qwi\_eor

## Label

Within-implicate variance for QWI: excess outflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{B_{agkst}^{(l)} + E_{agkst}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{B_{agkvt}^{(l)} +$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	6.7e-08
Maximum	0.48
Mean	0.000219
Standard deviation	0.00328

## Value Ranges

### Value Range

Range: [ 6.70194215178722e-08 , 0.479895197745124 ]

## Variable Name

vm\_qwi\_fwrr

## Label

Within-implicate variance for QWI: FQ worker reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	9.91e-07
Maximum	0.00357
Mean	6.68e-05
Standard deviation	0.000119

## Value Ranges

### Value Range

Range: [ 9.90857912645096e-07 , 0.00356598519265545 ]



## Variable Name

vm\_qwi\_fjrr

## Label

Within-implicate variance for QWI: FQ job reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	1.29e-06
Maximum	0.00224
Mean	5.52e-05
Standard deviation	0.000103

## Value Ranges

### Value Range

Range: [ 1.29302111914721e-06 , 0.00223931781859099 ]

## Variable Name

vm\_qwi\_ferr

## Label

Within-implicate variance for QWI: FQ excess reallocation rate (churning)

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	6.41e-08
Maximum	0.00655
Mean	1.33e-05
Standard deviation	5.21e-05

## Value Ranges

### Value Range

Range: [ 6.41067278546588e-08 , 0.006553394377481 ]

## Variable Name

vm\_qwi\_far

## Label

Within-implicate variance for QWI: FQ accession rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	0.00245
Mean	3.43e-05
Standard deviation	8.31e-05

## Value Ranges

### Value Range

Range: [ 0 , 0.00244659565523215 ]

## Variable Name

vm\_qwi\_fsr

## Label

Within-implicate variance for QWI: FQ separation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	0.00521
Mean	2.82e-05
Standard deviation	8.39e-05

## Value Ranges

### Value Range

Range: [ 0 , 0.00520625701222076 ]

## Variable Name

vm\_qwi\_fjcr

## Label

Within-implicate variance for QWI: FQ job creation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	2.8e-08
Maximum	0.00279
Mean	3.14e-05
Standard deviation	8.17e-05

## Value Ranges

### Value Range

Range: [ 2.79537636791583e-08 , 0.00279404821920074 ]

## Variable Name

vm\_qwi\_fjdr

## Label

Within-implicate variance for QWI: FQ job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	2.81e-07
Maximum	0.00209
Mean	2.51e-05
Standard deviation	7.5e-05

## Value Ranges

### Value Range

Range: [ 2.8054671334571e-07 , 0.00208527916904609 ]

## Variable Name

vm\_qwi\_feir

## Label

Within-implicate variance for QWI: FQ excess inflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AA} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AA} (\frac{F_{agkst}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	1.17e-08
Maximum	0.000637
Mean	3.49e-06
Standard deviation	1.04e-05

## Value Ranges

### Value Range

Range: [ 1.16776868636651e-08 , 0.000636643630938821 ]

## Variable Name

vm\_qwi\_feor

## Label

Within-implicate variance for QWI: FQ excess outflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	8.3e-09
Maximum	0.00661
Mean	3.69e-06
Standard deviation	4.29e-05

## Value Ranges

### Value Range

Range: [ 8.2973244530473e-09 , 0.00660929571227902 ]



Variable Name

vm\_qwi\_z\_w3

Label

Within-implicate variance for QWI: FQ average monthly earnings

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	11.487
Maximum	50544894.7
Mean	18787.306
Standard deviation	334526.131

## Value Ranges

### Value Range

Range: [ 11.4866121858754 , 50544894.7001032 ]

## Variable Name

vm\_qwi\_z\_wfa

## Label

Within-implicate variance for QWI: average monthly earnings FQ accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	13.006
Maximum	34610188.698
Mean	22520.412
Standard deviation	365824.68

## Value Ranges

### Value Range

Range: [ 13.0061712657641 , 34610188.6984916 ]

## Variable Name

vm\_qwi\_z\_wh3

## Label

Within-implicate variance for QWI: average monthly earnings FQ  
new hires

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37253
Invalid values	1087
Minimum	8.442
Maximum	81647129.005
Mean	20460.585
Standard deviation	518437.176

## Value Ranges

### Value Range

Range: [ 8.44179517948714 , 81647129.0050754 ]

## Variable Name

vm\_qwi\_z\_wfs

## Label

Within-implicate variance for QWI: average monthly earnings FQ separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	11.276
Maximum	116576100.983
Mean	54342.079
Standard deviation	1241551.598

## Value Ranges

### Value Range

Range: [ 11.2761106176026 , 116576100.983062 ]

## Variable Name

vm\_qwi\_z\_na

## Label

Within-implicate variance for QWI: average quarters of inactivity before accession

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	4.54e-05
Maximum	0.057
Mean	0.00139
Standard deviation	0.00209

## Value Ranges

### Value Range

Range: [ 4.5377909786721e-05 , 0.0570064113385811 ]

## Variable Name

vm\_qwi\_z\_ns

## Label

Within-implicate variance for QWI: average quarters of inactivity after separation

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The within-implicate variance for a generic variable `X` is:

$$V^{(l)}[\hat{X}_{agkt}] = \frac{1}{49}$$

$$\sum_{AAs} \frac{(\frac{F_{agkst}^{(l)} + F_{agkst-1}^{(l)}}{2})(X_{agkst}^{(l)} - \hat{X}_{agkt}^{(l)})^2}{\sum_{AAv} (\frac{F_{agkvt}^{(l)}}{2})}$$

where `1/49` is the number of states minus 1.

## Summary Statistics

Valid values	36720
Invalid values	1620
Minimum	2.55e-05
Maximum	0.0411
Mean	0.00135
Standard deviation	0.00207

## Value Ranges

### Value Range

Range: [ 2.550088228256e-05 , 0.0411411249867288 ]

Variable Name

b\_qwi\_eb2

Label

Between implicate variance for QWI: average employment

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	36423
Invalid values	1917
Minimum	0
Maximum	78133069213.445
Mean	171237747.072
Standard deviation	1350092847.8

## Value Ranges

### Value Range

Range: [ 0 , 78133069213.4448 ]

## Variable Name

b\_qwi\_f2

## Label

Between implicate variance for QWI: average FQ employment

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	35397
Invalid values	2943
Minimum	0.076
Maximum	58621888495.515
Mean	142035361.096
Standard deviation	1138775593.101

## Value Ranges

### Value Range

Range: [ 0.076005061216641 , 58621888495.5149 ]



Variable Name

b\_qwi\_f

Label

Between implicate variance for QWI: FQ employment

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	35397
Invalid values	2943
Minimum	0
Maximum	67865822254.794
Mean	144830972.963
Standard deviation	1179146466.343

## Value Ranges

### Value Range

Range: [ 0 , 67865822254.7944 ]

Variable Name

b\_qwi\_fa

Label

Between implicate variance for QWI: FQ accessions

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	35397
Invalid values	2943
Minimum	0
Maximum	24084654975.334
Mean	15177192.869
Standard deviation	245819835.473

## Value Ranges

### Value Range

Range: [ 0 , 24084654975.3335 ]

Variable Name

b\_qwi\_h3

Label

Between implicate variance for QWI: FQ new hires

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	35397
Invalid values	2943
Minimum	0
Maximum	21754261848.141
Mean	15958281.898
Standard deviation	256059987.765

## Value Ranges

Value Range

Range: [ 0 , 21754261848.1408 ]

## Variable Name

b\_qwi\_fs

## Label

Between implicate variance for QWI: FQ separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	35397
Invalid values	2943
Minimum	0
Maximum	16131657066.299
Mean	11467510.696
Standard deviation	161860848.192

## Value Ranges

### Value Range

Range: [ 0 , 16131657066.2994 ]

Variable Name

b\_qwi\_a

Label

Between implicate variance for QWI: accessions

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	36423
Invalid values	1917
Minimum	0
Maximum	174959498147.445
Mean	192554501.67
Standard deviation	2709970532.359

## Value Ranges

### Value Range

Range: [ 0 , 174959498147.445 ]

Variable Name

b\_qwi\_s

Label

Between implicate variance for QWI: separations

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	34955
Invalid values	3385
Minimum	0
Maximum	46078995758.876
Mean	90663761.143
Standard deviation	756663262.389

## Value Ranges

### Value Range

Range: [ 0 , 46078995758.8761 ]

Variable Name

b\_qwi\_wrr

Label

Between-implicate variance for QWI: worker reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.68
Mean	0.000623
Standard deviation	0.00821

## Value Ranges

### Value Range

Range: [ 0 , 0.679914213025538 ]

Variable Name

b\_qwi\_jrr

Label

Between-implicate variance for QWI: job reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.0107
Mean	5.6e-05
Standard deviation	0.000256

## Value Ranges

### Value Range

Range: [ 0 , 0.0106951589666963 ]



## Variable Name

b\_qwi\_err

## Label

Between-implicate variance for QWI: excess reallocation rate  
(churning)

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.655
Mean	0.000487
Standard deviation	0.00783

## Value Ranges

### Value Range

Range: [ 0 , 0.655118307631096 ]

## Variable Name

b\_qwi\_ar

## Label

Between-implicate variance for QWI: accession rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.162
Mean	0.00018
Standard deviation	0.00202

## Value Ranges

### Value Range

Range: [ 0 , 0.161916969521459 ]

## Variable Name

b\_qwi\_sr

## Label

Between-implicate variance for QWI: separation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.178
Mean	0.000167
Standard deviation	0.00214

## Value Ranges

### Value Range

Range: [ 0 , 0.178452175028823 ]

Variable Name

b\_qwi\_jcr

Label

Between-implicate variance for QWI: job creation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.0127
Mean	3.54e-05
Standard deviation	0.000201

## Value Ranges

### Value Range

Range: [ 0 , 0.0127383643650372 ]

## Variable Name

b\_qwi\_jdr

## Label

Between-implicate variance for QWI: job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.01
Mean	2.76e-05
Standard deviation	0.000201

## Value Ranges

### Value Range

Range: [ 0 , 0.0100288938048348 ]

Variable Name

b\_qwi\_eir

Label

Between-implicate variance for QWI: excess inflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.165
Mean	0.000123
Standard deviation	0.00199

## Value Ranges

### Value Range

Range: [ 0 , 0.164571678380631 ]

## Variable Name

b\_qwi\_eor

## Label

Between-implicate variance for QWI: excess outflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.163
Mean	0.000121
Standard deviation	0.00194

## Value Ranges

### Value Range

Range: [ 0 , 0.162991003532113 ]

Variable Name

b\_qwi\_fwrr

Label

Between-implicate variance for QWI: FQ worker reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	1.08e-09
Maximum	0.0258
Mean	5.27e-05
Standard deviation	0.000295

## Value Ranges

### Value Range

Range: [ 1.08043162371382e-09 , 0.0257608440233382 ]



Variable Name

b\_qwi\_fjrr

Label

Between-implicate variance for QWI: FQ job reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	8.18e-10
Maximum	0.0136
Mean	4.42e-05
Standard deviation	0.00022

## Value Ranges

### Value Range

Range: [ 8.18066692332241e-10 , 0.0136444430337992 ]

## Variable Name

b\_qwi\_ferr

## Label

Between-implicate variance for QWI: FQ excess reallocation rate (churning)

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	6.08e-11
Maximum	0.0305
Mean	1.27e-05
Standard deviation	0.000195

## Value Ranges

### Value Range

Range: [ 6.08270643463537e-11 , 0.0304982492497402 ]

## Variable Name

b\_qwi\_far

## Label

Between-implicate variance for QWI: FQ accession rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	0.014
Mean	2.61e-05
Standard deviation	0.000166

## Value Ranges

### Value Range

Range: [ 0 , 0.0140177411647295 ]

## Variable Name

b\_qwi\_fsr

## Label

Between-implicate variance for QWI: FQ separation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	0.0244
Mean	2.33e-05
Standard deviation	0.000195

## Value Ranges

### Value Range

Range: [ 0 , 0.0243635131853057 ]

Variable Name

b\_qwi\_fjcr

Label

Between-implicate variance for QWI: FQ job creation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	2.95e-10
Maximum	0.0154
Mean	2.41e-05
Standard deviation	0.000159

## Value Ranges

### Value Range

Range: [ 2.94736710056526e-10 , 0.015396490160345 ]

Variable Name

b\_qwi\_fjdr

Label

Between-implicate variance for QWI: FQ job destruction rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	3.94e-10
Maximum	0.0084
Mean	2.08e-05
Standard deviation	0.000154

## Value Ranges

### Value Range

Range: [ 3.94140569242157e-10 , 0.00840342924964108 ]

Variable Name

b\_qwi\_feir

Label

Between-implicate variance for QWI: FQ excess inflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	2.07e-11
Maximum	0.0035
Mean	3.15e-06
Standard deviation	3.02e-05

## Value Ranges

### Value Range

Range: [ 2.07190443317741e-11 , 0.00350206296075208 ]

Variable Name

b\_qwi\_feor

Label

Between-implicate variance for QWI: FQ excess outflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	1.73e-11
Maximum	0.0309
Mean	4.22e-06
Standard deviation	0.000168

## Value Ranges

### Value Range

Range: [ 1.72747058239012e-11 , 0.0308641251718331 ]



## Variable Name

b\_qwi\_z\_w3

## Label

Between-implicate variance for QWI: FQ average monthly earnings

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$s^2[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.497
Maximum	8106200.181
Mean	3855.464
Standard deviation	52895.787

## Value Ranges

### Value Range

Range: [ 0.497499308864763 , 8106200.18055785 ]

## Variable Name

b\_qwi\_z\_wfa

## Label

Between-implicate variance for QWI: average monthly earnings  
FQ accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$B[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	0.35
Maximum	7492231.113
Mean	5844.725
Standard deviation	79730.171

## Value Ranges

### Value Range

Range: [ 0.350072790280439 , 7492231.11308704 ]

## Variable Name

b\_qwi\_z\_wh3

## Label

Between-implicate variance for QWI: average monthly earnings  
FQ new hires

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$S^2[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37253
Invalid values	1087
Minimum	0.344
Maximum	9883075.134
Mean	6066.205
Standard deviation	104978.996

## Value Ranges

### Value Range

Range: [ 0.344119944585457 , 9883075.13390217 ]

## Variable Name

b\_qwi\_z\_wfs

## Label

Between-implicate variance for QWI: average monthly earnings  
FQ separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$s^2[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	0.27
Maximum	76141308.486
Mean	14387.779
Standard deviation	568253.115

## Value Ranges

### Value Range

Range: [ 0.269577479260917 , 76141308.4855635 ]

## Variable Name

b\_qwi\_z\_na

## Label

Between-implicate variance for QWI: average quarters of inactivity before access

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$s^2[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	1.83e-07
Maximum	0.368
Mean	0.00141
Standard deviation	0.00648

## Value Ranges

### Value Range

Range: [ 1.83209207039713e-07 , 0.367643628043225 ]

## Variable Name

b\_qwi\_z\_ns

## Label

Between-implicate variance for QWI: average quarters of inactivity after separat

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The between implicate variance for a generic variable `X` is:

$$s^2[\bar{X}_{agkt}] = \frac{1}{(M-1)} \sum_{l=1}^{100} (\hat{X}_{agkt}^{(l)} - \bar{X}_{agkt})^2$$

## Summary Statistics

Valid values	36720
Invalid values	1620
Minimum	2.52e-07
Maximum	0.319
Mean	0.00134
Standard deviation	0.0061

## Value Ranges

### Value Range

Range: [ 2.5246100593762e-07 , 0.318676373778177 ]

## Variable Name

vt\_qwi\_wrr

## Label

Total variation for QWI: worker reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	5.22e-06
Maximum	2.181
Mean	0.00171
Standard deviation	0.0191

## Value Ranges

### Value Range

Range: [ 5.21540391818811e-06 , 2.18070889199105 ]

Variable Name

vt\_qwi\_jrr

Label

Total variation for QWI: job reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	1.75e-08
Maximum	0.0116
Mean	0.000129
Standard deviation	0.00034

## Value Ranges

### Value Range

Range: [ 1.74959778103997e-08 , 0.0115707326811016 ]



Variable Name

vt\_qwi\_err

Label

Total variation for QWI: excess reallocation rate (churning)

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	1.88e-07
Maximum	2.174
Mean	0.00137
Standard deviation	0.0187

## Value Ranges

### Value Range

Range: [ 1.87500694987168e-07 , 2.17372380840807 ]

Variable Name

vt\_qwi\_ar

Label

Total variation for QWI: accession rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	1.01e-09
Maximum	0.546
Mean	0.000489
Standard deviation	0.00476

## Value Ranges

### Value Range

Range: [ 1.00915983961674e-09 , 0.545724076316501 ]

Variable Name	vt_qwi_sr
Label	Total variation for QWI: separation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	1.55e-06
Maximum	0.545
Mean	0.000456
Standard deviation	0.00487

## Value Ranges

### Value Range

Range: [ 1.54681987020723e-06 , 0.544650525618147 ]

Variable Name

vt\_qwi\_jcr

Label

Total variation for QWI: job creation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	1.17e-07
Maximum	0.0138
Mean	8.84e-05
Standard deviation	0.000289

## Value Ranges

### Value Range

Range: [ 1.16812807515711e-07 , 0.0138026475498457 ]

## Variable Name

vt\_qwi\_jdr

## Label

Total variation for QWI: job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	2.38e-07
Maximum	0.0128
Mean	6.73e-05
Standard deviation	0.000279

## Value Ranges

### Value Range

Range: [ 2.37539670850849e-07 , 0.0127829478768387 ]

Variable Name

vt\_qwi\_eir

Label

Total variation for QWI: excess inflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	6.98e-08
Maximum	0.544
Mean	0.000344
Standard deviation	0.00472

## Value Ranges

### Value Range

Range: [ 6.97645438852369e-08 , 0.543690283591803 ]

Variable Name

vt\_qwi\_eor

Label

Total variation for QWI: excess outflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	1.69e-07
Maximum	0.543
Mean	0.000341
Standard deviation	0.00463

## Value Ranges

### Value Range

Range: [ 1.69006024577029e-07 , 0.543181396110611 ]

## Variable Name

vt\_qwi\_fwrr

## Label

Total variation for QWI: FQ worker reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	1.01e-06
Maximum	0.028
Mean	0.00012
Standard deviation	0.00037

## Value Ranges

### Value Range

Range: [ 1.00705471889831e-06 , 0.0280208756356075 ]



Variable Name

vt\_qwi\_fjrr

Label

Total variation for QWI: FQ job reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	1.71e-06
Maximum	0.0152
Mean	9.97e-05
Standard deviation	0.000291

## Value Ranges

### Value Range

Range: [ 1.70877506673705e-06 , 0.0151928489705921 ]

## Variable Name

vt\_qwi\_ferr

## Label

Total variation for QWI: FQ excess reallocation rate (churning)

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	6.66e-08
Maximum	0.0372
Mean	2.6e-05
Standard deviation	0.000239

## Value Ranges

### Value Range

Range: [ 6.65855069980193e-08 , 0.0372041348734699 ]

Variable Name

vt\_qwi\_far

Label

Total variation for QWI: FQ accession rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	0.0154
Mean	6.05e-05
Standard deviation	0.000215

## Value Ranges

### Value Range

Range: [ 0 , 0.0153954199090178 ]

Variable Name

vt\_qwi\_fsr

Label

Total variation for QWI: FQ separation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0
Maximum	0.0297
Mean	5.16e-05
Standard deviation	0.000255

## Value Ranges

### Value Range

Range: [ 0 , 0.029691587763453 ]

Variable Name

vt\_qwi\_fjcr

Label

Total variation for QWI: FQ job creation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	2.11e-07
Maximum	0.0168
Mean	5.57e-05
Standard deviation	0.000208

## Value Ranges

### Value Range

Range: [ 2.10653829875347e-07 , 0.0168187367216684 ]

Variable Name

vt\_qwi\_fjdr

Label

Total variation for QWI: FQ job destruction rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	5.57e-07
Maximum	0.0103
Mean	4.6e-05
Standard deviation	0.000207

## Value Ranges

### Value Range

Range: [ 5.56639102898821e-07 , 0.0103216095154346 ]

Variable Name

vt\_qwi\_feir

Label

Total variation for QWI: FQ excess inflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	1.26e-08
Maximum	0.00379
Mean	6.65e-06
Standard deviation	3.6e-05

## Value Ranges

### Value Range

Range: [ 1.261223736293e-08 , 0.00379330746997077 ]

## Variable Name

vt\_qwi\_feor

## Label

Total variation for QWI: FQ excess outflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	8.45e-09
Maximum	0.0376
Mean	7.94e-06
Standard deviation	0.000208

## Value Ranges

### Value Range

Range: [ 8.45231960144695e-09 , 0.0376277415099713 ]



Variable Name

vt\_qwi\_z\_w3

Label

Total variation for QWI: FQ average monthly earnings

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	48.465
Maximum	51395035.372
Mean	22662.047
Standard deviation	346526.894

## Value Ranges

### Value Range

Range: [ 48.465367176908 , 51395035.3720583 ]

## Variable Name

vt\_qwi\_z\_wfa

## Label

Total variation for QWI: average monthly earnings FQ accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	41.952
Maximum	34811568.938
Mean	28394.361
Standard deviation	401504.208

## Value Ranges

### Value Range

Range: [ 41.9517980656893 , 34811568.9379937 ]

Variable Name

vt\_qwi\_z\_wh3

Label

Total variation for QWI: average monthly earnings FQ new hires

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37253
Invalid values	1087
Minimum	43.294
Maximum	81789525.474
Mean	26557.121
Standard deviation	556928.591

## Value Ranges

### Value Range

Range: [ 43.2937770961348 , 81789525.4736252 ]

## Variable Name

vt\_qwi\_z\_wfs

## Label

Total variation for QWI: average monthly earnings FQ separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = 1/M \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + (M+1)/M B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	37.298
Maximum	193098116.011
Mean	68801.797
Standard deviation	1688115.262

## Value Ranges

### Value Range

Range: [ 37.2982022314207 , 193098116.011054 ]

## Variable Name

vt\_qwi\_z\_na

## Label

Total variation for QWI: average quarters of inactivity before accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000142
Maximum	0.401
Mean	0.00281
Standard deviation	0.0077

## Value Ranges

### Value Range

Range: [ 0.000141856590166331 , 0.401474503360183 ]

## Variable Name

vt\_qwi\_z\_ns

## Label

Total variation for QWI: average quarters of inactivity after separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The total variation for a generic variable `X` is:

$$T[\bar{X}_{agkt}] = \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] + \frac{(M+1)}{M} B[\bar{X}_{agkt}]$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	36720
Invalid values	1620
Minimum	0.000137
Maximum	0.348
Mean	0.0027
Standard deviation	0.0073

## Value Ranges

### Value Range

Range: [ 0.000137018391715673 , 0.34841122020328 ]

Variable Name

st\_qwi\_wrr

Label

Standard error for QWI: worker reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{\{agkt\}}]}$ , where  $T[\bar{X}_{\{agkt\}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.00228
Maximum	1.477
Mean	0.0258
Standard deviation	0.0323

## Value Ranges

### Value Range

Range: [ 0.00228372588508081 , 1.4767223476304 ]

## Variable Name

st\_qwi\_jrr

## Label

Standard error for QWI: job reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000132
Maximum	0.108
Mean	0.00896
Standard deviation	0.00701

## Value Ranges

### Value Range

Range: [ 0.000132272362231872 , 0.1075673402158 ]



Variable Name

st\_qwi\_err

Label

Standard error for QWI: excess reallocation rate (churning)

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000433
Maximum	1.474
Mean	0.0206
Standard deviation	0.0307

## Value Ranges

### Value Range

Range: [ 0.000433013504393532 , 1.47435538741786 ]

## Variable Name

st\_qwi\_ar

## Label

Standard error for QWI: accession rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	3.18e-05
Maximum	0.739
Mean	0.0142
Standard deviation	0.0169

## Value Ranges

### Value Range

Range: [ 3.17672762385563e-05 , 0.738731396595881 ]

Variable Name

st\_qwi\_sr

Label

Standard error for QWI: separation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{\{agkt\}}]}$ , where  $T[\bar{X}_{\{agkt\}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.00124
Maximum	0.738
Mean	0.0133
Standard deviation	0.0167

## Value Ranges

### Value Range

Range: [ 0.00124371213317521 , 0.738004421137263 ]

## Variable Name

st\_qwi\_jcr

## Label

Standard error for QWI: job creation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000342
Maximum	0.117
Mean	0.00659
Standard deviation	0.0067

## Value Ranges

### Value Range

Range: [ 0.000341778886878215 , 0.117484669424762 ]

## Variable Name

st\_qwi\_jdr

## Label

Standard error for QWI: job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000487
Maximum	0.113
Mean	0.00568
Standard deviation	0.00593

## Value Ranges

### Value Range

Range: [ 0.000487380416975128 , 0.113061699424866 ]

Variable Name

st\_qwi\_eir

Label

Standard error for QWI: excess inflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000264
Maximum	0.737
Mean	0.0103
Standard deviation	0.0154

## Value Ranges

### Value Range

Range: [ 0.00026412978606215 , 0.737353567558877 ]

## Variable Name

st\_qwi\_eor

## Label

Standard error for QWI: excess outflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000411
Maximum	0.737
Mean	0.0103
Standard deviation	0.0153

## Value Ranges

### Value Range

Range: [ 0.000411103423212492 , 0.737008409796395 ]

## Variable Name

st\_qwi\_fwrr

## Label

Standard error for QWI: FQ worker reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.001
Maximum	0.167
Mean	0.00877
Standard deviation	0.00654

## Value Ranges

### Value Range

Range: [ 0.0010035211601647 , 0.167394371576847 ]



Variable Name

st\_qwi\_fjrr

Label

Standard error for QWI: FQ job reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{\{agkt\}}]}$ , where  $T[\bar{X}_{\{agkt\}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.00131
Maximum	0.123
Mean	0.00787
Standard deviation	0.00614

## Value Ranges

### Value Range

Range: [ 0.00130720123421646 , 0.123259275393749 ]

## Variable Name

st\_qwi\_ferr

## Label

Standard error for QWI: FQ excess reallocation rate (churning)

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.000258
Maximum	0.193
Mean	0.00369
Standard deviation	0.00353

## Value Ranges

### Value Range

Range: [ 0.000258041676862516 , 0.19288373408214 ]

Variable Name

st\_qwi\_far

Label

Standard error for QWI: FQ accession rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	0.000723
Maximum	0.124
Mean	0.00577
Standard deviation	0.00521

## Value Ranges

### Value Range

Range: [ 0.000723047690839673 , 0.124078281375178 ]

Variable Name

st\_qwi\_fsr

Label

Standard error for QWI: FQ separation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	0.00071
Maximum	0.172
Mean	0.0052
Standard deviation	0.00496

## Value Ranges

### Value Range

Range: [ 0.000709698951842829 , 0.172312471294022 ]

Variable Name

st\_qwi\_fjcr

Label

Standard error for QWI: FQ job creation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{\{agkt\}}]}$ , where  $T[\bar{X}_{\{agkt\}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.000459
Maximum	0.13
Mean	0.00538
Standard deviation	0.00517

## Value Ranges

### Value Range

Range: [ 0.000458970401960025 , 0.129687072299703 ]

## Variable Name

st\_qwi\_fjdr

## Label

Standard error for QWI: FQ job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.000746
Maximum	0.102
Mean	0.0048
Standard deviation	0.00478

## Value Ranges

### Value Range

Range: [ 0.000746082504083041 , 0.101595322310797 ]

## Variable Name

st\_qwi\_feir

## Label

Standard error for QWI: FQ excess inflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	0.000112
Maximum	0.0616
Mean	0.00188
Standard deviation	0.00176

## Value Ranges

### Value Range

Range: [ 0.000112304217921368 , 0.0615898325210482 ]

Variable Name

st\_qwi\_feor

Label

Standard error for QWI: FQ excess outflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	9.19e-05
Maximum	0.194
Mean	0.00188
Standard deviation	0.0021

## Value Ranges

### Value Range

Range: [ 9.19364976570619e-05 , 0.193978714064124 ]



Variable Name

st\_qwi\_z\_w3

Label

Standard error for QWI: FQ average monthly earnings

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{\{agkt\}}]}$ , where  $T[\bar{X}_{\{agkt\}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	6.962
Maximum	7169.033
Mean	85.476
Standard deviation	123.921

## Value Ranges

### Value Range

Range: [ 6.96170720275623 , 7169.03308487681 ]

## Variable Name

st\_qwi\_z\_wfa

## Label

Standard error for QWI: average monthly earnings FQ  
accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	6.477
Maximum	5900.133
Mean	84.951
Standard deviation	145.528

## Value Ranges

### Value Range

Range: [ 6.47702077082429 , 5900.13295934878 ]

Variable Name

st\_qwi\_z\_wh3

Label

Standard error for QWI: average monthly earnings FQ new hires

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37253
Invalid values	1087
Minimum	6.58
Maximum	9043.756
Mean	79.032
Standard deviation	142.519

## Value Ranges

### Value Range

Range: [ 6.57980068817702 , 9043.75615956253 ]

## Variable Name

st\_qwi\_z\_wfs

## Label

Standard error for QWI: average monthly earnings FQ separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	6.107
Maximum	13895.975
Mean	103.87
Standard deviation	240.862

## Value Ranges

### Value Range

Range: [ 6.10722541187246 , 13895.9748132707 ]

## Variable Name

st\_qwi\_z\_na

## Label

Standard error for QWI: average quarters of inactivity before accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.0119
Maximum	0.634
Mean	0.044
Standard deviation	0.0297

## Value Ranges

### Value Range

Range: [ 0.0119103564248234 , 0.633620157002745 ]

## Variable Name

st\_qwi\_z\_ns

## Label

Standard error for QWI: average quarters of inactivity after separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The standard error for a generic variable `X` is defined as  $\sqrt{T[\bar{X}_{agkt}]}$ , where  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	36720
Invalid values	1620
Minimum	0.0117
Maximum	0.59
Mean	0.0427
Standard deviation	0.0295

## Value Ranges

### Value Range

Range: [ 0.0117054855395098 , 0.590263687010543 ]

## Variable Name

df\_qwi\_wrr

## Label

Degrees of freedom for QWI: worker reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.126
Maximum	478663330.69
Mean	17936.4
Standard deviation	2464165

## Value Ranges

### Value Range

Range: [ 199.125833701209 , 478663330.689539 ]

Variable Name

df\_qwi\_jrr

Label

Degrees of freedom for QWI: job reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] \right) B[\bar{X}_{agkt}]^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.127
Maximum	166208627.306
Mean	8008.951
Standard deviation	853704.344

## Value Ranges

### Value Range

Range: [ 199.126528061546 , 166208627.305541 ]



Variable Name

df\_qwi\_err

Label

Degrees of freedom for QWI: excess reallocation rate (churning)

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.162
Maximum	1103453827.566
Mean	43432.739
Standard deviation	5812229.374

## Value Ranges

### Value Range

Range: [ 199.162120391357 , 1103453827.56603 ]

Variable Name

df\_qwi\_ar

Label

Degrees of freedom for QWI: accession rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)} [\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.132
Maximum	135523497.889
Mean	10667.066
Standard deviation	812291.8

## Value Ranges

### Value Range

Range: [ 199.131649088182 , 135523497.889005 ]

Variable Name

df\_qwi\_sr

Label

Degrees of freedom for QWI: separation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.155
Maximum	1334789100.772
Mean	42804.719
Standard deviation	6877620.437

## Value Ranges

### Value Range

Range: [ 199.155185847832 , 1334789100.77189 ]

Variable Name

df\_qwi\_jcr

Label

Degrees of freedom for QWI: job creation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.135
Maximum	32503782.344
Mean	4446.182
Standard deviation	200303.632

## Value Ranges

### Value Range

Range: [ 199.134989532334 , 32503782.344318 ]

Variable Name

df\_qwi\_jdr

Label

Degrees of freedom for QWI: job destruction rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.147
Maximum	3316711.755
Mean	2660.392
Standard deviation	49478.403

## Value Ranges

### Value Range

Range: [ 199.147418088662 , 3316711.75532789 ]

Variable Name

df\_qwi\_eir

Label

Degrees of freedom for QWI: excess inflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)} [\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.12
Maximum	756660324.265
Mean	32057.641
Standard deviation	4012550.359

## Value Ranges

### Value Range

Range: [ 199.119947455509 , 756660324.265179 ]

Variable Name

df\_qwi\_eor

Label

Degrees of freedom for QWI: excess outflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)} [\hat{X}_{agkt}] \right) \{B[\bar{X}_{agkt}]\}^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38333
Invalid values	7
Minimum	199.127
Maximum	1656612910.46
Mean	60418.766
Standard deviation	8657345.947

## Value Ranges

### Value Range

Range: [ 199.126517000442 , 1656612910.46041 ]

## Variable Name

df\_qwi\_fwrr

## Label

Degrees of freedom for QWI: FQ worker reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	199.146
Maximum	8763468.356
Mean	2602
Standard deviation	66058.746

## Value Ranges

### Value Range

Range: [ 199.145829075646 , 8763468.35608619 ]



## Variable Name

df\_qwi\_fjrr

## Label

Degrees of freedom for QWI: FQ job reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	199.152
Maximum	5555295.596
Mean	2795.345
Standard deviation	63092.76

## Value Ranges

### Value Range

Range: [ 199.151778520052 , 5555295.59625072 ]

Variable Name	df_qwi_ferr
Label	Degrees of freedom for QWI: FQ excess reallocation rate (churning)
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	199.155
Maximum	3105738.011
Mean	2312.04
Standard deviation	33698.601

## Value Ranges

### Value Range

Range: [ 199.154693059006 , 3105738.01120896 ]

Variable Name

df\_qwi\_far

Label

Degrees of freedom for QWI: FQ accession rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)} [\hat{X}_{agkt}] \right) \{B[\bar{X}_{agkt}]\}^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	199.126
Maximum	21085406.843
Mean	3521.556
Standard deviation	144786.681

## Value Ranges

### Value Range

Range: [ 199.126113770588 , 21085406.8432821 ]

Variable Name

df\_qwi\_fsr

Label

Degrees of freedom for QWI: FQ separation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	199.164
Maximum	10958063.249
Mean	2848.254
Standard deviation	85268.219

## Value Ranges

### Value Range

Range: [ 199.163953248639 , 10958063.2494087 ]

Variable Name

df\_qwi\_fjcr

Label

Degrees of freedom for QWI: FQ job creation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	199.132
Maximum	12519718.384
Mean	2884.432
Standard deviation	91256.354

## Value Ranges

### Value Range

Range: [ 199.13157837662 , 12519718.3841029 ]

## Variable Name

df\_qwi\_fjdr

## Label

Degrees of freedom for QWI: FQ job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)} [\hat{X}_{agkt}] \right) B[\bar{X}_{agkt}]^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	199.166
Maximum	11323445.995
Mean	2785.923
Standard deviation	87566.98

## Value Ranges

### Value Range

Range: [ 199.165694268626 , 11323445.9950121 ]

Variable Name

df\_qwi\_feir

Label

Degrees of freedom for QWI: FQ excess inflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)} [\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	199.155
Maximum	5291065.584
Mean	2600.111
Standard deviation	51697.574

## Value Ranges

### Value Range

Range: [ 199.154801994484 , 5291065.58370226 ]

Variable Name

df\_qwi\_feor

Label

Degrees of freedom for QWI: FQ excess outflow rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)} [\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	199.151
Maximum	4269951.278
Mean	2434.568
Standard deviation	40939.274

## Value Ranges

### Value Range

Range: [ 199.151427931516 , 4269951.27757389 ]



Variable Name

df\_qwi\_z\_w3

Label

Degrees of freedom for QWI: FQ average monthly earnings

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)} [\hat{X}_{agkt}] B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	199.188
Maximum	1097031.851
Mean	2362.209
Standard deviation	28546.712

## Value Ranges

### Value Range

Range: [ 199.18798533345 , 1097031.85078173 ]

## Variable Name

df\_qwi\_z\_wfa

## Label

Degrees of freedom for QWI: average monthly earnings FQ accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	199.146
Maximum	2442075.107
Mean	1645.242
Standard deviation	28072.384

## Value Ranges

### Value Range

Range: [ 199.146462684757 , 2442075.10688387 ]

## Variable Name

df\_qwi\_z\_wh3

## Label

Degrees of freedom for QWI: average monthly earnings FQ new hires

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37253
Invalid values	1087
Minimum	199.096
Maximum	9492998.925
Mean	2530.636
Standard deviation	80738.818

## Value Ranges

### Value Range

Range: [ 199.09643651151 , 9492998.92505432 ]

## Variable Name

df\_qwi\_z\_wfs

## Label

Degrees of freedom for QWI: average monthly earnings FQ separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	199.142
Maximum	3667346762.939
Mean	100841.042
Standard deviation	18999490.72

## Value Ranges

### Value Range

Range: [ 199.142460457816 , 3667346762.93867 ]

## Variable Name

df\_qwi\_z\_na

## Label

Degrees of freedom for QWI: average quarters of inactivity before accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] \{B[\bar{X}_{agkt}]\}^2 \right)$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	199.118
Maximum	495768.542
Mean	670.547
Standard deviation	5512.114

## Value Ranges

### Value Range

Range: [ 199.11834001989 , 495768.542089997 ]

## Variable Name

df\_qwi\_z\_ns

## Label

Degrees of freedom for QWI: average quarters of inactivity after separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

Degrees of freedom for a generic variable `X` are defined as:

$$df[\bar{X}_{agkt}] = (M-1) \left( 1 + \frac{1}{M+1} \frac{1}{M} \sum_{l=1}^M V^{(l)}[\hat{X}_{agkt}] / B[\bar{X}_{agkt}] \right)^2$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`.

## Summary Statistics

Valid values	36720
Invalid values	1620
Minimum	199.142
Maximum	640694.405
Mean	535.242
Standard deviation	4113.44

## Value Ranges

### Value Range

Range: [ 199.1416343393 , 640694.405378131 ]

## Variable Name

mr\_qwi\_wrr

## Label

Effective missing data rate for QWI: worker reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.936
Mean	0.257
Standard deviation	0.277

## Value Ranges

### Value Range

Range: [ 0 , 0.935857157226828 ]

Variable Name

mr\_qwi\_jrr

Label

Effective missing data rate for QWI: job reallocation rate

Concept

Type

numeric

Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.936
Mean	0.263
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 0 , 0.935550228935167 ]



## Variable Name

mr\_qwi\_err

## Label

Effective missing data rate for QWI: excess reallocation rate (churning)

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{agkt}] = \frac{B[\bar{X}_{agkt}]}{T[\bar{X}_{agkt}]}$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.92
Mean	0.257
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 0 , 0.920083224981673 ]

## Variable Name

mr\_qwi\_ar

## Label

Effective missing data rate for QWI: accession rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.933
Mean	0.257
Standard deviation	0.277

## Value Ranges

### Value Range

Range: [ 0 , 0.933292799260301 ]

## Variable Name

mr\_qwi\_sr

## Label

Effective missing data rate for QWI: separation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.923
Mean	0.256
Standard deviation	0.277

## Value Ranges

### Value Range

Range: [ 0 , 0.923056349774663 ]

## Variable Name

mr\_qwi\_jcr

## Label

Effective missing data rate for QWI: job creation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.932
Mean	0.261
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 0 , 0.931826155685037 ]

## Variable Name

mr\_qwi\_jdr

## Label

Effective missing data rate for QWI: job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.926
Mean	0.261
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 0 , 0.926409669739523 ]

## Variable Name

mr\_qwi\_eir

## Label

Effective missing data rate for QWI: excess inflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.938
Mean	0.257
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 0 , 0.938467190089872 ]

## Variable Name

mr\_qwi\_eor

## Label

Effective missing data rate for QWI: excess outflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0
Maximum	0.936
Mean	0.257
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 0 , 0.935555116695799 ]

## Variable Name

mr\_qwi\_fwrr

## Label

Effective missing data rate for QWI: FQ worker reallocation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	2.38e-05
Maximum	0.927
Mean	0.257
Standard deviation	0.275

## Value Ranges

### Value Range

Range: [ 2.38208115995623e-05 , 0.927098654370843 ]



Variable Name	mr_qwi_fjrr
Label	Effective missing data rate for QWI: FQ job reallocation rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	3e-05
Maximum	0.925
Mean	0.259
Standard deviation	0.275

## Value Ranges

### Value Range

Range: [ 2.99551111065702e-05 , 0.924524282057912 ]

## Variable Name

mr\_qwi\_ferr

## Label

Effective missing data rate for QWI: FQ excess reallocation rate (churning)

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	4.01e-05
Maximum	0.923
Mean	0.258
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 4.01440262728907e-05 , 0.923268362047683 ]

Variable Name	mr_qwi_far
Label	Effective missing data rate for QWI: FQ accession rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$MR[\bar{X}_{agkt}] = \frac{B[\bar{X}_{agkt}]}{T[\bar{X}_{agkt}]}$$

where  $V^{(l)}[\hat{X}_{agkt}]$  and  $B[\bar{X}_{agkt}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{agkt}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	1.53e-05
Maximum	0.936
Mean	0.257
Standard deviation	0.276

## Value Ranges

### Value Range

Range: [ 1.53309492854368e-05 , 0.935733333787666 ]

## Variable Name

mr\_qwi\_fsr

## Label

Effective missing data rate for QWI: FQ separation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	2.13e-05
Maximum	0.919
Mean	0.259
Standard deviation	0.275

## Value Ranges

### Value Range

Range: [ 2.12916331428293e-05 , 0.919300609447794 ]

## Variable Name

mr\_qwi\_fjcr

## Label

Effective missing data rate for QWI: FQ job creation rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	1.99e-05
Maximum	0.933
Mean	0.258
Standard deviation	0.276

## Value Ranges

### Value Range

Range: [ 1.99140427002584e-05 , 0.933323895662624 ]

## Variable Name

mr\_qwi\_fjdr

## Label

Effective missing data rate for QWI: FQ job destruction rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	2.09e-05
Maximum	0.919
Mean	0.26
Standard deviation	0.275

## Value Ranges

### Value Range

Range: [ 2.09438485668288e-05 , 0.91855844302207 ]

Variable Name	mr_qwi_feir
Label	Effective missing data rate for QWI: FQ excess inflow rate
Concept	
Type	numeric
Files	F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	3.07e-05
Maximum	0.923
Mean	0.258
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 3.06984980390427e-05 , 0.923221486387726 ]

## Variable Name

mr\_qwi\_feor

## Label

Effective missing data rate for QWI: FQ excess outflow rate

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	3.42e-05
Maximum	0.925
Mean	0.258
Standard deviation	0.279

## Value Ranges

### Value Range

Range: [ 3.41962976708713e-05 , 0.924675586975829 ]



## Variable Name

mr\_qwi\_z\_w3

## Label

Effective missing data rate for QWI: FQ average monthly earnings

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37260
Invalid values	1080
Minimum	6.79e-05
Maximum	0.909
Mean	0.256
Standard deviation	0.278

## Value Ranges

### Value Range

Range: [ 6.79172713521817e-05 , 0.909161239660819 ]

## Variable Name

mr\_qwi\_z\_wfa

## Label

Effective missing data rate for QWI: average monthly earnings  
FQ accessions

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{\wedge}(l)[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37258
Invalid values	1082
Minimum	4.53e-05
Maximum	0.927
Mean	0.266
Standard deviation	0.284

## Value Ranges

### Value Range

Range: [ 4.53178610079207e-05 , 0.926823802869399 ]

## Variable Name

mr\_qwi\_z\_wh3

## Label

Effective missing data rate for QWI: average monthly earnings  
FQ new hires

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37253
Invalid values	1087
Minimum	2.29e-05
Maximum	0.949
Mean	0.278
Standard deviation	0.294

## Value Ranges

### Value Range

Range: [ 2.28829371510015e-05 , 0.949039463651687 ]

## Variable Name

mr\_qwi\_z\_wfs

## Label

Effective missing data rate for QWI: average monthly earnings  
FQ separations

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	37259
Invalid values	1081
Minimum	1.16e-06
Maximum	0.929
Mean	0.263
Standard deviation	0.283

## Value Ranges

### Value Range

Range: [ 1.15919143763135e-06 , 0.92856266646684 ]

## Variable Name

mr\_qwi\_z\_na

## Label

Effective missing data rate for QWI: average quarters of inactivity before acces

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	38340
Invalid values	0
Minimum	0.000102
Maximum	0.939
Mean	0.278
Standard deviation	0.289

## Value Ranges

### Value Range

Range: [ 0.000101703522178258 , 0.939182485901545 ]

## Variable Name

mr\_qwi\_z\_ns

## Label

Effective missing data rate for QWI: average quarters of inactivity after separa

## Concept

## Type

numeric

## Files

F1dta F1sas F1csv

## Full Description

The effective missing data rate for a generic variable `X` is defined as:

$$\text{MR}[\bar{X}_{\text{agkt}}] = \frac{B[\bar{X}_{\text{agkt}}]}{T[\bar{X}_{\text{agkt}}]}$$

where  $V^{(l)}[\hat{X}_{\text{agkt}}]$  and  $B[\bar{X}_{\text{agkt}}]$  are respectively the within implicate variance and the between implicate variance of `X`, and  $T[\bar{X}_{\text{agkt}}]$  is the total variation of `X`.

## Summary Statistics

Valid values	36720
Invalid values	1620
Minimum	8.92e-05
Maximum	0.929
Mean	0.286
Standard deviation	0.287

## Value Ranges

### Value Range

Range: [ 8.92458962550074e-05 , 0.92892240839143 ]

