

Turnover Analyses; Definitions, Process, and Quantification.
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Turnover is the general term used to describe the churning that occurs in the labor market. In more specific terms, turnover analysis assigns a category representing an individual's relationship with an employer at a point time (i.e. were they just hired or on their way out). While there are some variations in the collection of Wage Records (WR) from state to state, this database is particularly well suited for tracking individual-employer interactions across time. Knowing an individual received wages from an employer in a year and quarter has value, but only offers a snapshot of the individual's interactions with the employer. By combining several years of quarterly WR data to create a time series, it is possible to assign a value describing the individual-employer interaction relative to the quarters prior and subsequent. For example, we know that John Doe worked for Employer A in year and quarter Y and was compensated with wages Z. This snapshot doesn't tell us that this was the quarter that John Doe was hired by Employer A and that John Doe had previously worked for Employer B and doubled his quarterly wages as a result of changing employers.

First, in this paper we define the terminology needed to assign the turnover categories. Next, we will discuss the processes for arriving at a category determination representing the individual-employer interaction. Once the categories are assigned, several ways to quantify the data are discussed. Lastly, we introduce several applications employed by Wyoming's Research and Planning (R&P) and suggest future avenues of research.

Operational Definitions

A few preliminary definitions are needed at this point and used subsequently to help define the Turnover Categories. The definition of the term “employed” in this paper is that the individual received wages ($\$ > 0$) from the employer in a given year and quarter and that this transaction was recorded in WR. The capitol letter “A” denotes that the individual was employed by Employer A in the quarter specified and letter “O” means that the individual was not employed with Employer A. Lastly, the lower case “a” specifies a quarter in which the individual could have worked for Employer A.

Initial inquiry using the prior, subsequent and quarter of interest led to the development of four mutually exclusive individual-employer interactions in Table 1. The definitions for these interactions are each provided three (an attempt to appeal to various learning styles) ways following the table.

Table 1: Four Mutually Exclusive Individual / Employer Interactions in the Reference Quarter (shaded area).

Turnover Category	Quarter Prior (Q-1)	Reference Quarter (Q0)	Quarter Subsequent (Q+1)
Entry (Hire)	O	A	A
Both (Hire and Exit)	O	A	O
Exit	A	A	O
Continuous	A	A	A

Notes

Subscript – Q0 = Reference Quarter, Q-1 = quarter prior and Q+1 = quarter subsequent.

Throughout this paper the A represents a specific employer account.

Throughout this paper the O means that the individual was not employed with EMPLOYER A.

Entry (Hire)

- 1) An Entry is the situation in which and individual is hired by an employer in a specified quarter and maintains that employment in the subsequent quarter.
- 2) The individual was employed with Employer A in the reference quarter (Q0) and the quarter subsequent (Q+1), but was not employed with Employer A the quarter prior (Q-1).
- 3) Of the three quarters in Table 1.

Quarters Employed with Employer A	Quarters Not Employed with Employer A
Q0, Q+1	Q-1

Both (Hire and Exit)

- 1) The Both category is both a Hire and an Exit in a quarter and could be an individual that starts a job and quits or someone who is hired for a temporary position.
- 2) The individual was employed with Employer A in the reference quarter (Q0), but was not employed with Employer A the quarter prior (Q-1) or the quarter subsequent (Q+1).
- 3) Of the three quarters in Table 1.

Quarters Employed with Employer A	Quarters Not Employed with Employer A
Q0	Q-1, Q+1

Exit

- 1) An Exit is an individual that was employed with an employer in the specified and prior quarters but no longer works for the employer in the subsequent quarter.
- 2) The individual was employed with Employer A in the reference quarter (Q0) and the quarter prior (Q-1), but was not employed with Employer A the quarter subsequent (Q+1).
- 3) Of the three quarters in Table 1.

Quarters Employed with Employer A Q-1, Q0	Quarters Not Employed with Employer A Q+1
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Continuous

- 1) The individual maintains employment with Employer A for all quarters of interest.
- 2) The individual was employed with Employer A in the reference quarter (Q0), the quarter prior (Q-1) and the quarter subsequent (Q+1).
- 3) Of the three quarters in Table 1.

Quarters Employed with Employer A Q-1, Q0, Q+1	Quarters Not Employed with Employer A None
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All of the data published to date by R&P have used these categories, combining the Entry and Both categories to calculate total hires and the Exit and Both categories to determine the total exits. During subsequent research a discussion arose indicating two distinct categories of Entries, those that are Newhires and those that are Rehires. Alaska's research shop recently published an article¹ on Hires using the two groups. Alaska

¹ Alaska Citation

defined a Rehire as someone who was hired by an employer which the individual had previously worked in the past four quarters. Four quarters was determined as appropriate as it would capture turnover situations in which an individual-employer interaction is a result of seasonal employment. Table 2 and the definitions below describe the extended turnover categories.

Table 2: Six Mutually Exclusive Individual / Employer Interactions in the Reference Quarter (shaded area).

Variable	Turnover Category	Q-4	Q-3	Q-2	Q-1	Q0	Q+1
E-N	Entry Newhire	O	O	O	O	A	A
E-R	Entry Rehire	a	a	a	O	A	A
B-N	Both Newhire	O	O	O	O	A	O
B-R	Both Rehire	a	a	a	O	A	O
X	Exit	a	a	a	A	A	O
C	Continuous	a	a	a	A	A	A

Notes

In the table above for an individual to be considered an E-R or a B-R the individual would have had to work for Employer A in at least one of the quarters containing “a” but they were not employed with Employer A in the prior quarter (O).

In adding the additional disaggregates of Entry and Both it becomes necessary to use six rather than three quarters of WR.

Entry Newhire (E-N)

- 1) An Entry Newhire is the same as an Entry with the exception that the individual had not worked for the employer in the last year (four consecutive quarters).
- 2) The individual was employed with Employer A in the reference quarter (Q0) and the quarter following (Q+1), but was not employed with Employer A during any of the four quarters prior (Q-4 to Q-1).
- 3)

Quarters Employed with Employer A Q0 and Q+1	Quarters Not Employed with Employer A Q-4 and Q-3 and Q-2 and Q-1
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Entry Rehire (E-R)

- 1) An Entry Rehire is the same as an Entry with the exception that the individual has worked for the employer for at least one quarter in the prior year, excluding the prior quarter.
- 2) The individual was employed with Employer A in the reference quarter (Q0) and the quarter following (Q+1), was not employed with Employer A in the quarter prior (Q-1), but was employed in at least one of the remaining four quarters prior (Q-4 to Q-2).
- 3)

Quarters Employed with Employer A	Quarters Not Employed with Employer A	Employed in At Least One of the Following Quarters
Q0, Q+1	Q-1	Q-4, Q-3, Q-2

Both Newhire (B-N)

- 1) A Both Newhire is the same as a Both with the exception that the individual had not worked for the employer in the last year (four consecutive quarters).
- 2) The individual was employed with Employer A in the reference quarter (Q0), not employed the quarter following (Q+1) and was not employed with Employer A during any of the four quarters prior (Q-4 to Q-1).
- 3)

Quarters Employed with Employer A	Quarters Not Employed with Employer A
Q0	Q-4 and Q-3 and Q-2 and Q-1, Q+1

Both Rehire (B-R)

- 1) A Both Rehire is the same as an Both with the exception that the individual has worked for the employer for at least one quarter in the prior year, excluding the prior quarter.
- 2) The individual was employed with Employer A in the reference quarter (Q0), not employed the quarter following (Q+1), not employed the quarter prior (Q-1) but was employed in at least one of the remaining four quarters prior (Q-4 to Q-2).
- 3)

Quarters Employed with Employer A	Quarters Not Employed with Employer A	Employed in At Least One of the Following Quarters
Q0	Q-1, Q+1	Q-4, Q-3, Q-2

The Process

As mentioned earlier there are variations in the WR databases from state to state. For example, South Dakota uses the term “serial” as the field name for the unique employer’s account number and Wyoming uses “ui” (Unemployment Insurance Account).

Regardless of these slight variations, WR in other states are maintained for the same purposes as those in Wyoming: Unemployment Insurance benefit calculation.

Correspondingly, the variables needed (listed in Table 3) to assign turnover categories to the each record are available in all states.

Table 3: Data Elements Needed from WR

Variable	Description	Notes
ssn	Social Security Number	Unique Individual Identifier
year	Year	Year of the record
qtr	Quarter	Quarter of the Record
ui	Employer Account Number	Unique Employer Identifier
wages	Wages	Wages from employer to employee

Note: Wages are not needed for the Turnover Category determination and are not mentioned again until Section 3 of this document. However, it is recommended that wages be carried as a field throughout the process.

Each record represents an individual employed in the year and quarter by a specific employer. Referencing Table 2, it is apparent that a total of six quarters of data (four quarters prior, the reference quarter and one quarter subsequent) are needed to complete one quarter of turnover analyses. To complete the turnover calculations for the four quarters of calendar year 2000 you need the WR with the above listed fields from 1999q1 to 2001q1.

Once the data for the desired periods are downloaded, all years and quarters need to be appended. For example, if I wanted to fill in the appropriate turnover categories for the entire year of 2000, my data set would now include all records in WR from 1999q1 to 2001q1. The entire file needs to be sorted on the following variables in the following order. An example of the resulting data for John Doe (SSN = 999-99-9998) appears in Table 4.

- 1) ssn /ascending
- 2) ui / ascending
- 3) year /ascending
- 4) qtr /ascending

Table 4: WR Data Subsequent to Sort

Rec#	ssn	year	qtr	ui
1	999-99-9997	****	*	*****
2	999-99-9998	2000	1	1111111111
3	999-99-9998	2000	2	1111111111
4	999-99-9998	2000	4	1111111111
5	999-99-9998	1999	4	1111111112
6	999-99-9998	2000	1	1111111112
7	999-99-9998	2000	2	1111111112
8	999-99-9998	2000	3	1111111112
9	999-99-9998	2000	4	1111111113
10	999-99-9998	2000	2	1111111114
11	999-99-9998	2000	3	1111111114
12	999-99-9998	2000	4	1111111114
13	999-99-9998	2001	1	1111111114
14	999-99-9998	1999	3	1111111115
15	999-99-9998	2001	1	1111111115
16	999-99-9999	****	*	*****

Notes

The “Rec #” field is simply a place holder to facilitate discussion and not an actual part of the data set.

All records for John Doe in WR from 1999q1 to 2001q1 appear between the bold triple lines in Table 4. The records one and sixteen are provided to demonstrate that Table 4 is only a snapshot of John Doe's records but in reality contains all the SSNs that occur during the analysis period. Within the triple lines there are several double lines which separate the different employers for which John Doe has worked.

The sorting process takes us one step closer to the goal of assigning the appropriate Turnover Category to each record. The order of the records allows us to group the individual-employer interactions in a linear time sequence. For example, referring to the concepts in Table 2, the appropriate turnover categories are assigned to the data in Table 4, as follows.

Rec# 2 - This was the first quarter (2000q1) in which John Doe was employed by employer "1111111111" (from this point forward the last digit of the employer number is used to designate an individual employer). A review of Rec# 3 reveals that John was still employed with employer "1" in 2000q2. Based on the concepts from Table 2 the Turnover Category assigned to Rec#2 is Entry Newhire (E-N).

Rec# 3 - We see that John was employed by employer "1" in 2000q2 and we know John was employed with employer "1" in 2000q1. Rec#4 shows that the next time John shows up employed with employer "1" was not until two quarters later. Once again based on Table 2 Rec#3 is assigned the Turnover Category of Exit (X).

Rec# 4 - John was employed by employer "1" in 2000q4 but not employed by employer "1" in 2001q1. Further, the last time John was employed by employer "1" was in 2000q2. For Rec# 4, John is assigned the value of Both Rehire (B-R).

This process is fine and dandy if you have an infinite amount of time (Wyoming's WR from 1999q1 to 2001q1 approx 2,000,000 records), but the next few pages streamline the process into a formal algorithm. To do this we need to add a few variables, listed in Table 5 and defined below, to our WR file.

Table 5: Data Elements Added to WR

Variable	Field Size / Data Type	Notes
period	2 / Numeric	A numeric value assigned to a Year and Quarter
forward	2 / Numeric	Explained below
backward	3 / Numeric	Explained below
turn	3 / Character	Turnover Categories discussed earlier

Period – Is a count of quarters in chronological order from a point in time. R&P has chosen the beginning point in time as 1990q1. This means that the value for period assigned to all records with a Year and Quarter of 1990q1 is 1. Correspondingly, 1990q2 = 2, 1990q3 = 3, 1990q4 = 4, 1991q1 = 5, ****so on**** and 2001q1 = 45.

Forward – Forward is a calculated value representing the time transitioned between the current employee-employer interaction and the previous interaction with the same employer. For example, Table 6 repeats the data from Table 4 with the additional variables and values completed. Referring to Rec# 4 the value for forward is the difference between the period for Rec# 4 (44) and the period for Rec#3 (42). In other words the value of forward for Rec#4 is $(44 - 42 = 2)$ two. One additional step must be completed, at the point where the individual or the employer changes (Rec#s 2, 5, 9, 10, 14, 16) the value of forward becomes zero (refer to appendix A, line#1 to line#14).

Backward – Same as forward with the exception that the value calculated represents the time transitioned between the current employee / employer interaction and the subsequent interaction with the same employer. Once again a value of zero is assigned (Rec#s 15, 13, 9, 8, 4, 1) when there is a change of individual or employer (refer to appendix A, line# 16 to line#31).

Table 6: WR Data of John Doe with Turnover Variables Completed

Rec#	ssn	year	qtr	ui	period	forward	backward	turn
1	999-99-9997	****	*	*****	**	**	0	***
2	999-99-9998	2000	1	1111111111	41	0	1	E-N
3	999-99-9998	2000	2	1111111111	42	1	2	X
4	999-99-9998	2000	4	1111111111	44	2	0	B-R
5	999-99-9998	1999	4	1111111112	40	0	1	?(E-N or E-R)
6	999-99-9998	2000	1	1111111112	41	1	1	C
7	999-99-9998	2000	2	1111111112	42	1	1	C
8	999-99-9998	2000	3	1111111112	43	1	0	X
9	999-99-9998	2000	4	1111111113	44	0	0	B-N
10	999-99-9998	2000	2	1111111114	42	0	1	E-N
11	999-99-9998	2000	3	1111111114	43	1	1	C
12	999-99-9998	2000	4	1111111114	44	1	1	C
13	999-99-9998	2001	1	1111111114	45	1	0	?(X or C)
14	999-99-9998	1999	3	1111111115	39	0	6	?(B-N or B-R)
15	999-99-9998	2001	1	1111111115	45	6	0	?(B-N or E-N)
16	999-99-9999	****	*	*****	**	0	**	***

Turn – The actual Turnover Category assigned to the record in the form of the variable names listed in Table 2. A few paragraphs ago we assigned the Turnover Categories to Rec#2 to Rec#4 by working our way through the concepts in Table 2. Table 7 and Line#

32 to Line# 54 in Appendix A introduce six logical statements that allow the assignment of the Turnover Category based on the calculated values of Forward and Backward.

Table 7: Six Mutually Exclusive Logical Statements for Turnover Category Assignment

Variable	Category	Logical Statement (Knowing the values of Forward and Backward)
E-N	Entry Newhire	(forward = 0 or forward > 4) and (backward = 1)
E-R	Entry Rehire	(forward > 1 and forward < 5) and (backward = 1)
B-N	Both Newhire	(forward = 0 or forward > 4) and (backward <> 1)
B-R	Both Rehire	(forward > 1 and forward < 5) and (backward <> 1)
X	Exit	(forward = 1) and (backward <> 1)
C	Continuous	(forward = 1) and (backward = 1)

Notes

The symbol <> stands for Not Equal

Table 7 is identical to Table 2 with the exception that whereas, Table 2 introduces the Turnover Categories symbolically, Table 7 places them in logical statements. A quick review of Table 6 demonstrates that the same Turnover Categories were assigned to the previously determined Rec#s 2, 3 and 4. Further, if you wished to use Table 2 and determine the correct Turnover Category for each of John Doe's records you would find that the statements hold true.

It is important to keep in mind that the period of analysis is the quarters that occur in the calendar year 2000. Using the statements in Table 7 or the code provided in Appendix A will result in incorrect assignment of Turnover Categories for Rec#s 5, 13, 14 and 15. This occurs as the data we used does not span enough quarters to determine whether the individual had worked for the employer previously (Rec#s 5, 14) or in the subsequent

quarter (Rec# 13 and 15) to the time frame of our analysis. To correct this error Rec#s 5, 13, 14 and 15 will be deleted. The procedures discussed in this section are in a flowchart in Appendix B.

Now that each record that occurs in our Wage Records data has been assigned a category related to the individual-employer interaction, the next section will offer several ways with which to summarize the data. First, we will offer operational definitions for various rates associated with Turnover (i.e. Turnover Rate, Continuous Rate, etc.). We will then demonstrate the difference between using covered employment versus individual-employer transactions using Wyoming's 2000 data.

Quantification
Data Merges and Grouping

Data Merges

Now that the Turnover Categories (E-N, E-R, B-N, B-R, C and X) have been assigned, the next step is to merge the ES-202 data with the Wage Records file on the UI account number. As research and planning acquires several data sets with demographics attached to SSNs we further enhance our data by merging the demographics along with the ES-202 data. Additionally we will need to add two fields for the Industry and Sub_ Industry names that are to be used in St Paul. Our Wage Records working file has the fields described in Table 8.

Table 8: Wage Records Working File Table Structure.

Variable	Description	Field Type and Size
Ssn	Social Security Number	Numeric / 9
Year	Year	Numeric / 4
Qtr	Quarter	Numeric / 1
Period	Numeric Year and Quarter	Numeric / 3
Ui	Employer Account Number	Character / 10
Wages	Wages	Numeric / 10
forward		Numeric / 3
backward		Numeric / 3
turn		Character / 3
<i>Fields added by ES-202 Merge</i>		
Sic	SIC	Character / 4
own	Ownership	Character / 1
<i>Fields added by Drivers License Merge</i>		
Dob	Date of Birth	Date / 8
gender	Gender	Character / 1
<i>Fields added at this step</i>		
Industry	Primary Industry Name	Character / 50
sub_indus	Sub Industry Name	Character / 50

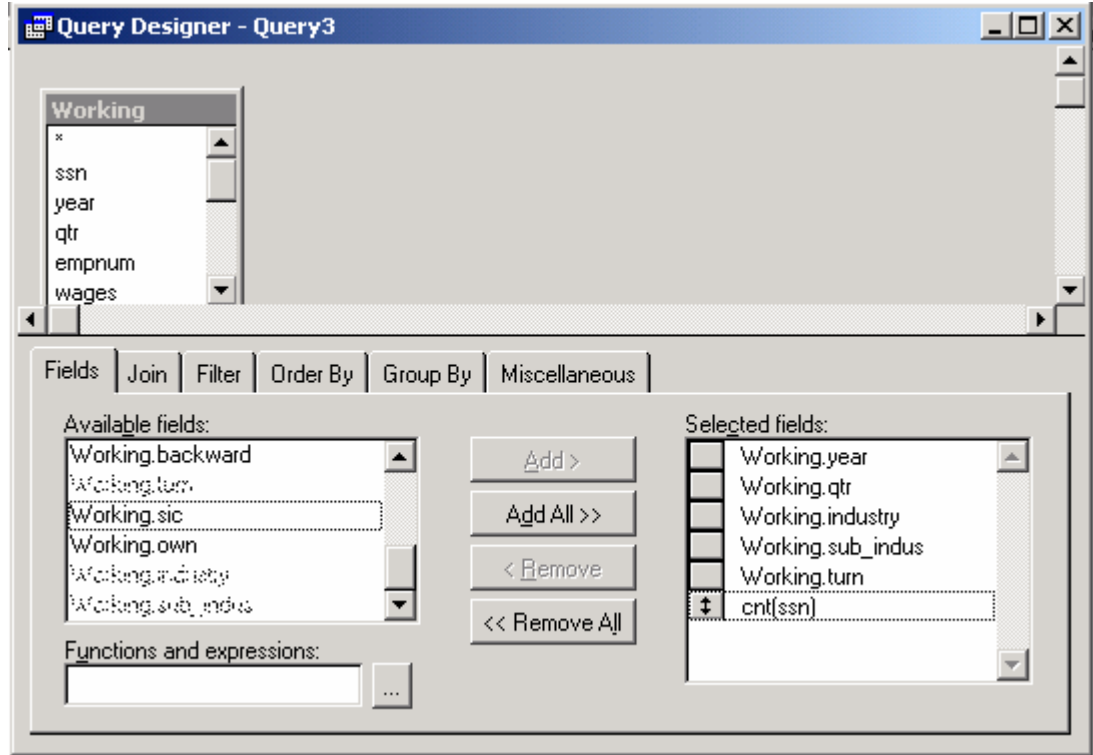
The code that appears in Appendix C assigns the Industry and Sub Industry categories to the fields added in Table 8.

Grouping

The last step involved is the grouping of the data on Year, Qtr, Industry, Sub Industry and Turn.. Using the Foxpro Query builder take the following steps.

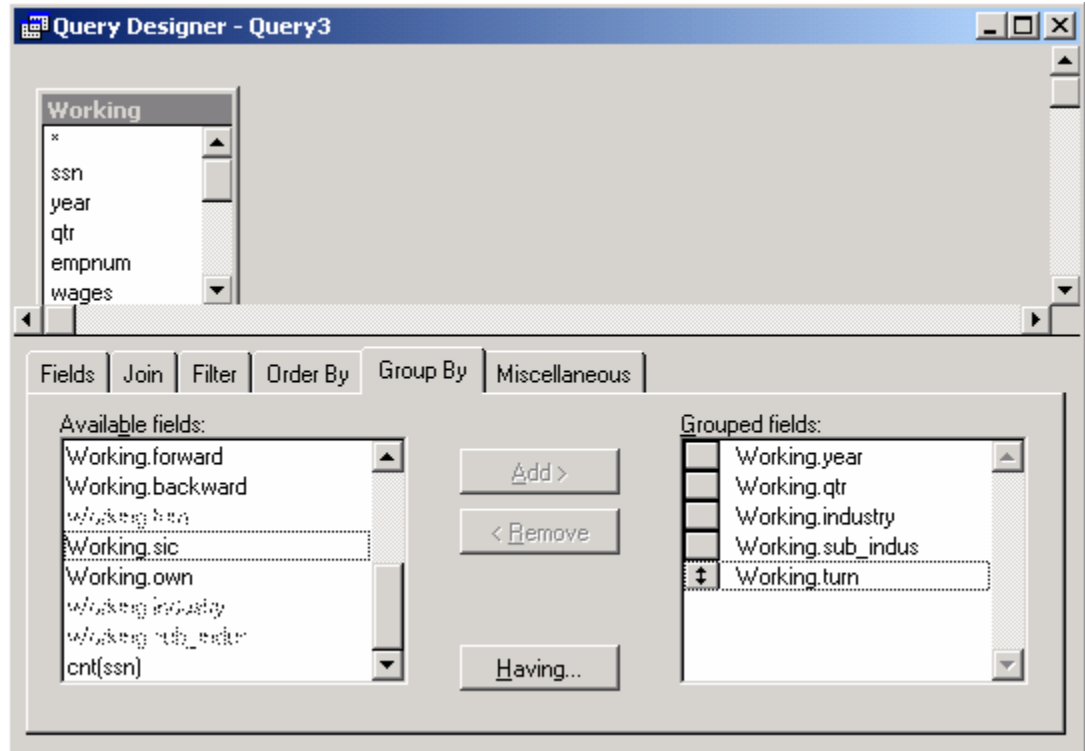
- 1) Click on File > New
- 2) Select the Radio Dial for “Query” and click on the “New File” Button
- 3) An Open pop up window appears. In this window locate your working file and highlight it. Click on the “OK” button. Another Open pop up window will appear. Click on the “Close” button.
- 4) This should leave your Query Designer window free to work with.
 - a. Click on the “Fields” Tab and highlight “Year” in the “Available Fields” list. Click on the “Add” button to add this field to the “Selected Fields” list. Follow the same steps to add the following fields to the “Selected Fields” list; qtr, industry, sub_indus, turn.
 - b. Remaining on the “Fields” tab click once in the “Functions and Expressions:” text box and type in the following statement: cnt(ssn). Click on the “Add” button to add this statement to the “Selected Fields” list. At this point your Query Designer window should look like Figure 1.

Figure 1



- c. Click on the Group By tab and add the following fields from the “Available Fields:” to the “Grouped Fields:” list. The Query Designer Window should look like Figure 2.

Figure 2



- d. Click on “Query” on the top file menu and select “Run Query” from the drop down menu, and wait. A little window should pop up with the name “Running Query...” and give you the progress of your query.
- e. Your completed table should be displayed with one record per Year, Qtr, Industry, Sub Industry and Turnover Category with a total count of the SSNs in that group.
- f. While viewing this table Click on “File” the “Export” to export your table to an Excel file for the remainder of the work. After clicking on File > Export a “Export” window will appear. Select “Microsoft Excel” from the “Type:” drop down menu in the “To:” window select the directory and type the file name which you wish to place the new Excel file.

g. Exit Foxpro

Definitions

Total Exits - The combination of Exit (X), Both Newhires (B-N) and Both Rehires (B-R).

Total Hires - The combination of Entry Newhires (E-N), Entry Rehires (E-R), Both Newhires (B-N) and Both Rehires (B-R).

Total Transactions - The combination of Entry (E), Both Newhires (B-N), Both Rehires (B-R), Exits (X) and Continuous (C).

Turnover Rate - Commonly defined as Total Exits divided by Total Transactions, expressed as a percentage.

Hire Rate - Commonly defined as Total Entries divided by Total Transactions, expressed as a percentage.

Continuous Rate - Defined as Total Continuous divided by Total Transactions, expressed as a percentage.

Flow Rate - Total Entries minus Total Exits divided by Total Transactions.

Appendix A: FoxPro Code for Turnover Category Assignment

line#	Code	Notes
1	go top	Goes to the first record of our sorted file
2	replace forward with 0	Replaces the value of forward with 0 for the first record
3	do while not eof(1)	Starts the do loop which will proceed through the file forward until it reaches the end of file (eof)
4	store ssn to s1	Stores the value of the ssn to a temporary variable s1
5	store ui to u1	Stores the value of the ui to a temporary variable u1
6	store period to p1	Stores the value of the period to a temporary variable p1
7	skip 1	Goes to the next record in the file
8	if ssn = s1 and ui = u1	Checks the value of the current records ssn (individual) and ui (employer) against the values of the last record if they are the same executes line# 9 if not goes to line# 11
9	replace forward with (period-p1)	If values of the above comparison are the same replaces forward with the time transitioned in quarters
10	endif	Closes the if statement
11	if ssn <> s1 or ui <> u1	Basically a clause that executes line# 12 if line# 8 is not true
12	replace forward with 0	Fills the forward value with 0 if the individual changes or the individual changes employers
13	endif	Closes statement
14	enddo	As soon as the program reaches the last record closes the loop (line# 1 to line#14)
15		
16	go bottom	Goes to the end of the file
17	i = 2642645	i is the number of records in the file
18	replace backward with 0	Replaces the value of backward with 0 for the last record
19	do while i > 0	Starts the do loop which will proceed through the file backward until i = 0
20	store ssn to s1	Stores the value of the ssn to a temporary variable s1
21	store ui to u1	Stores the value of the ui to a temporary variable u1
22	store period to p1	Stores the value of the period to a temporary variable p1
23	skip -1	Goes to the previous record in the file
24	if ssn = s1 and ui = u1	Checks the value of the current records ssn (individual) and ui (employer) against the values of the last record if they are the same executes line# 9 if not goes to line# 11
25	replace backward with (p1-period)	If values of the above comparison are the same replaces forward with the time transitioned in quarters
26	endif	Closes the if statement
27	if ssn <> s1 or ui <> u1	Basically a clause that executes line# 12 if line# 8 is not true
28	replace backward with 0	Fills the forward value with 0 if the individual changes or the individual changes employers
29	endif	Closes statement
30	i = i - 1	Subtracts 1 from the value of i each time through loop
31	enddo	As soon as the program reaches the last record closes the loop (line# 17 to line#30)

32		
33	go top	Refer to note on Line#1
34	do while not eof(1)	Refer to note on Line# 3
35	if (forward = 0 or forward > 4) and backward = 1	
36	replace turn with "EN"	
37	Endif	
38	if (forward > 1 and forward < 5) and backward = 1	
39	replace turn with "ER"	
40	Endif	
41	if (forward = 0 or forward > 4) and backward <> 1	
42	replace turn with "BN"	
43	Endif	Refer to Table 6 for an explanation of the
44	if (forward > 1 and forward < 5) and backward <> 1	logical statements for Line# 34 to Line# 51
45	replace turn with "BR"	
46	Endif	
47	if forward = 1 and backward = 1	
48	replace turn with "C"	
49	Endif	
50	if forward = 1 and backward <> 1	
51	replace turn with "X"	
52	Endif	
53	skip 1	Refer to Line# 7
54	Enddo	Refer to Line# 14

Appendix B: Flowchart of Section 2 Procedures

Step 1
Download WR data needed including the following data fields.
ssn – Individual identifier
year – Year of record
qtr – Quarter of record
ui – Employer identifier

Step 2
Sort the file on the following criteria.
ssn – Ascending
ui – Ascending
year – Ascending
qtr – Ascending

Step 3
Add the following fields to the data.
period – Numeric 2 digits
forward – Numeric 2 digits
backward – Numeric 2 digits
turn – Character 3 digits

Step 4
Assign the values to period for each record in the data.
1999Q4 = period 40
2000Q1 = period 41
Etc.
2001Q1 = period 45

Step 5
Assign the values to forward using code similar to lines 1 to 14 in Appendix A.

Step 6a
Determine the number of records in your data set and alter line 17 of Appendix A appropriately.

Step 6b
Assign the values to backward using lines 17 to 31 of Appendix A.

Step 7
Assign Turnover Categories to turn using lines 33 to 54 of the code in Appendix A.

Step 8
Delete records that are outside the analysis period

Appendix C: Industry and Sub_Industry Assign code

```

set talk off
go record 1
do while not eof(1)
    replace sub_indus with ""
    replace industry with ""

    If val(sic) > 0 and val(sic) < 1000
        replace sub_indus with "Agriculture, Forestry, Fishing"
        replace industry with "01 Agriculture, Forestry, Fishing"
    endif

    If val(sic) > 1000 and val(sic) < 1100
        replace sub_indus with "Metal Mining"
        replace industry with "02 Mining"
    endif

    If val(sic) > 1100 and val(sic) < 1300
        replace sub_indus with "Coal Mining"
        replace industry with "02 Mining"
    endif

    If val(sic) > 1300 and val(sic) < 1400
        replace sub_indus with "Oil & Gas Extraction"
        replace industry with "02 Mining"
    endif

    If val(sic) > 1400 and val(sic) < 1500
        replace sub_indus with "Nonmetallic Minerals Mining"
        replace industry with "02 Mining"
    endif

    If val(sic) > 1500 and val(sic) < 1600
        replace sub_indus with "General Building Contractors"
        replace industry with "03 Construction"
    endif

    If val(sic) > 1600 and val(sic) < 1700
        replace sub_indus with "Heavy Construction"
        replace industry with "03 Construction"
    endif

    If val(sic) > 1700 and val(sic) < 1800
        replace sub_indus with "Special Trade Construction"
        replace industry with "03 Construction"
    endif

    if val(sic) > 2000 and val(sic) < 2400
        replace sub_indus with "Manufacturing - Nondurable Goods"
        replace industry with "04 Manufacturing"
    endif

    if val(sic) > 2400 and val(sic) < 2600
        replace sub_indus with "Manufacturing - Durable Goods"
        replace industry with "04 Manufacturing"
    endif

    if val(sic) > 2600 and val(sic) < 3200
        replace sub_indus with "Manufacturing - Nondurable Goods"
        replace industry with "04 Manufacturing"
    endif

    if val(sic) > 3200 and val(sic) < 4000
        replace sub_indus with "Manufacturing - Durable Goods"
        replace industry with "04 Manufacturing"
    endif

    If val(sic) > 4000 and val(sic) < 4800
        replace sub_indus with "Transportation"
        replace industry with "05 TCPU"
    endif

    If val(sic) > 4800 and val(sic) < 5000
        replace sub_indus with "Communications & Public Utilities"
        replace industry with "05 TCPU"
    endif

    If val(sic) > 5000 and val(sic) < 5100

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        replace sub_indus with "Wholesale - Durable Goods"
        replace industry with "06 Wholesale Trade"
    endif
    If val(sic) > 5100 and val(sic) < 5200
        replace sub_indus with "Wholesale - Nondurable Goods"
        replace industry with "06 Wholesale Trade"
    endif

    If val(sic) > 5200 and val(sic) < 5300
        replace sub_indus with "Building Materials & Garden Supplies"
        replace industry with "07 Retail Trade"
    endif
    If val(sic) > 5300 and val(sic) < 5400
        replace sub_indus with "General Merchandise Stores"
        replace industry with "07 Retail Trade"
    endif
    If val(sic) > 5400 and val(sic) < 5500
        replace sub_indus with "Food Stores"
        replace industry with "07 Retail Trade"
    endif
    If val(sic) > 5500 and val(sic) < 5600
        replace sub_indus with "Auto Dealers & Service Stations"
        replace industry with "07 Retail Trade"
    endif
    If val(sic) > 5600 and val(sic) < 5700
        replace sub_indus with "Apparels & Accessory Stores"
        replace industry with "07 Retail Trade"
    endif
    If val(sic) > 5700 and val(sic) < 5800
        replace sub_indus with "Furniture & Home Furnishings"
        replace industry with "07 Retail Trade"
    endif
    If val(sic) > 5800 and val(sic) < 5900
        replace sub_indus with "Eating & Drinking Places"
        replace industry with "07 Retail Trade"
    endif
    If val(sic) > 5900 and val(sic) < 6000
        replace sub_indus with "Miscellaneous Retail"
        replace industry with "07 Retail Trade"
    endif

    If val(sic) > 6000 and val(sic) < 6300
        replace sub_indus with "Finance"
        replace industry with "08 FIRE"
    endif
    If val(sic) > 6300 and val(sic) < 6500
        replace sub_indus with "Insurance"
        replace industry with "08 FIRE"
    endif
    If val(sic) > 6500 and val(sic) < 6600
        replace sub_indus with "Real Estate"
        replace industry with "08 FIRE"
    endif
    If val(sic) > 6600 and val(sic) < 6800
        replace sub_indus with "Finance"
        replace industry with "08 FIRE"
    endif

    If val(sic) > 7000 and val(sic) < 7200
        replace sub_indus with "Hotels & Other Lodging Places"
        replace industry with "09 Services"
    endif
    If val(sic) > 7200 and val(sic) < 7300
        replace sub_indus with "Personal Services"
        replace industry with "09 Services"
    endif
    If val(sic) > 7300 and val(sic) < 7500
        replace sub_indus with "Business Services"
        replace industry with "09 Services"
    endif
    If val(sic) > 7500 and val(sic) < 7600

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        replace sub_indus with "Auto Repair, Services & Parking"
        replace industry with "09 Services"
    endif
    If val(sic) > 7600 and val(sic) < 7800
        replace sub_indus with "Miscellaneous Repair Service"
        replace industry with "09 Services"
    endif
    If val(sic) > 7800 and val(sic) < 7900
        replace sub_indus with "Motion Pictures"
        replace industry with "09 Services"
    endif
    If val(sic) > 7900 and val(sic) < 8000
        replace sub_indus with "Amusement & Recreation Services"
        replace industry with "09 Services"
    endif
    If val(sic) > 8000 and val(sic) < 8100
        replace sub_indus with "Health Services"
        replace industry with "09 Services"
    endif
    If val(sic) > 8100 and val(sic) < 8200
        replace sub_indus with "Legal Services"
        replace industry with "09 Services"
    endif
    If val(sic) > 8200 and val(sic) < 8300
        replace sub_indus with "Educational Services"
        replace industry with "09 Services"
    endif
    If val(sic) > 8300 and val(sic) < 8400
        replace sub_indus with "Social Services"
        replace industry with "09 Services"
    endif
    If val(sic) > 8400 and val(sic) < 8600
        replace sub_indus with "Museums & Botanical Gardens"
        replace industry with "09 Services"
    endif
    If val(sic) > 8600 and val(sic) < 8700
        replace sub_indus with "Membership Organizations"
        replace industry with "09 Services"
    endif
    If val(sic) > 8700 and val(sic) < 8800
        replace sub_indus with "Engineering & Management Services"
        replace industry with "09 Services"
    endif
    If val(sic) > 8800 and val(sic) < 8900
        replace sub_indus with "Private Households"
        replace industry with "09 Services"
    endif
    If val(sic) > 8900 and val(sic) < 9000
        replace sub_indus with "Services, NEC"
        replace industry with "09 Services"
    endif

    If val(sic) > 9800
        replace sub_indus with "Not Classified"
        replace industry with "11 Not Classified"
    endif

    If val(sic) > 9000 and val(sic) < 9800
        replace sub_indus with "Public Administration"
        replace industry with "10 Public Administration"
    endif

    if val(sic) = 0
        replace sub_indus with "N/A"
        replace industry with "12 N/A"
    endif

    skip 1

enddo

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Wyoming's 2001Q1 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry Newhire (e_n)	Entry Rehire (e_r)	Both Newhire (b_n)	Both Rehire (b_r)	Continuous c	Exit (x)	Total Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
Agriculture, Forestry	Agriculture, Forestry, Fishing	513	145	279	54	2,246	398	3,635	20.11	27.26	7.15	61.79
	Total	513	145	279	54	2,246	398	3,635	20.11	27.26	7.15	61.79
Mining	Metal Mining	21	5	26	3	269	21	345	14.49	15.94	1.45	77.97
	Coal Mining	173	49	51	26	4,153	172	4,624	5.38	6.47	1.08	89.81
	Oil & Gas Extraction	2,180	205	1,538	129	6,981	2,044	13,077	28.38	30.99	2.61	53.38
	Nonmetallic Minerals Mining	57	29	35	9	2,077	90	2,297	5.83	5.66	-0.17	90.42
	Total	2,431	288	1,650	167	13,480	2,327	20,343	20.37	22.30	1.93	66.26
Construction	General Building Contractors	599	122	517	69	2,643	826	4,776	29.56	27.37	-2.20	55.34
	Heavy Construction	811	272	802	132	2,964	867	5,848	30.80	34.49	3.69	50.68
	Special Trade Construction	1,190	260	1,050	153	5,119	1,464	9,236	28.88	28.72	-0.15	55.42
	Total	2,600	654	2,369	354	10,726	3,157	19,860	29.61	30.10	0.49	54.01
Manufacturing	Manufacturing - Nondurable Goods	431	83	310	48	5,417	997	7,286	18.60	11.97	-6.63	74.35
	Manufacturing - Durable Goods	538	110	352	35	3,844	755	5,634	20.27	18.37	-1.90	68.23
	Total	969	193	662	83	9,261	1,752	12,920	19.33	14.76	-4.57	71.68
TCPU	Transportation	813	135	506	88	4,633	1,242	7,417	24.75	20.79	-3.96	62.46
	Communications & Public Utilities	264	41	186	29	4,335	562	5,417	14.34	9.60	-4.74	80.03
	Total	1,077	176	692	117	8,968	1,804	12,834	20.36	16.07	-4.29	69.88
Wholesale Trade	Wholesale - Durable Goods	391	66	243	40	3,494	597	4,831	18.22	15.32	-2.90	72.32
	Wholesale - Nondurable Goods	406	109	170	42	2,505	427	3,659	17.46	19.87	2.41	68.46
	Total	797	175	413	82	5,999	1,024	8,490	17.89	17.28	-0.61	70.66
Retail Trade	Building Materials & Garden Supplies	455	48	137	15	1,375	255	2,285	17.81	28.67	10.85	60.18
	General Merchandise Stores	700	44	267	34	4,316	1,008	6,369	20.55	16.41	-4.15	67.77
	Food Stores	530	105	393	48	3,888	1,147	6,111	25.99	17.61	-8.38	63.62
	Auto Dealers & Service Stations	1,281	260	965	92	5,609	1,738	9,945	28.10	26.12	-1.98	56.40
	Apparels & Accessory Stores	185	35	102	31	897	289	1,539	27.42	22.94	-4.48	58.28
	Furniture & Home Furnishings	218	37	171	12	1,171	265	1,874	23.91	23.37	-0.53	62.49
	Eating & Drinking Places	3,518	563	2,748	314	9,781	4,032	20,956	33.85	34.09	0.23	46.67
	Miscellaneous Retail	808	172	462	101	4,104	1,038	6,685	23.95	23.08	-0.87	61.39
	Total	7,695	1,264	5,245	647	31,141	9,772	55,764	28.09	26.63	-1.46	55.84
FIRE	Finance	450	142	156	55	3,518	451	4,772	13.87	16.83	2.95	73.72
	Insurance	150	52	57	13	1,590	169	2,031	11.77	13.39	1.62	78.29
	Real Estate	207	53	119	24	1,348	269	2,020	20.40	19.95	-0.45	66.73
	Total	807	247	332	92	6,456	889	8,823	14.88	16.75	1.87	73.17

Wyoming's 2001Q1 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry Newhire (e_n)	Entry Rehire (e_r)	Both Newhire (b_n)	Both Rehire (b_r)	Continuous c	Exit (x)	Total Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
Services	Hotels & Other Lodging Places	1,075	253	976	120	4,501	1,439	8,364	30.31	28.98	-1.33	53.81
	Personal Services	312	139	201	45	1,329	393	2,419	26.42	28.81	2.40	54.94
	Business Services	2,380	224	2,007	207	4,763	1,953	11,534	36.13	41.77	5.64	41.30
	Auto Repair, Services & Parking	311	57	243	30	1,437	356	2,434	25.84	26.34	0.49	59.04
	Miscellaneous Repair Service	130	28	113	19	682	130	1,102	23.77	26.32	2.54	61.89
	Motion Pictures	104	25	67	13	468	141	818	27.02	25.55	-1.47	57.21
	Amusement & Recreation Services	455	144	323	105	2,162	496	3,685	25.07	27.87	2.80	58.67
	Offices and Clinics	134	38	49	11	1,029	143	1,404	14.46	16.52	2.07	73.29
	Nursing Care Facilities	469	114	292	50	3,722	591	5,238	17.81	17.66	-0.15	71.06
	Hospitals	376	90	169	29	1,815	384	2,863	20.33	23.19	2.86	63.40
	Health Services Other	495	131	160	33	7,299	567	8,685	8.75	9.43	0.68	84.04
	Legal Services	130	29	69	12	921	143	1,304	17.18	18.40	1.23	70.63
	Educational Services Other	505	173	267	122	5,896	523	7,486	12.18	14.25	2.07	78.76
	Elementary and Secondary Schools	812	701	433	416	15,911	2,110	20,383	14.52	11.59	-2.93	78.06
	Social Services	866	102	682	65	4,652	974	7,341	23.44	23.36	-0.08	63.37
	Museums & Botanical Gardens	17	6	12	6	253	22	316	12.66	12.97	0.32	80.06
	Membership Organizations	157	83	136	33	1,026	329	1,764	28.23	23.19	-5.05	58.16
	Engineering & Management Services	616	161	340	74	3,205	488	4,884	18.47	24.39	5.92	65.62
	Private Households	84	10	45	7	387	48	581	17.21	25.13	7.92	66.61
	Services, NEC	45	3	22	4	125	38	237	27.00	31.22	4.22	52.74
Total		9,473	2,511	6,606	1,401	61,583	11,268	92,842	20.76	21.53	0.77	66.33
Public Administration	Public Administration	900	815	522	254	15,146	1,436	19,073	11.60	13.06	1.46	79.41
	Total	900	815	522	254	15,146	1,436	19,073	11.60	13.06	1.46	79.41
SIC Not Available	SIC Not Available	58	4	177	1	226	72	538	46.47	44.61	-1.86	42.01
	Total	58	4	177	1	226	72	538	46.47	44.61	-1.86	42.01
Total	Total	27,320	6,472	18,947	3,252	165,232	33,899	255,122	21.99	21.95	-0.04	64.77

Wyoming's 2001Q2 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry Newhire (e_n)	Entry Rehire (e_r)	Both Newhire (b_n)	Both Rehire (b_r)	Continuous c	Exit (x)	Total Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
Agriculture, Forestry	Agriculture, Forestry, Fishing	1,010	533	785	188	2,308	596	5,420	28.95	46.42	17.47	42.58
	Total	1,010	533	785	188	2,308	596	5,420	28.95	46.42	17.47	42.58
Mining	Metal Mining	33	16	29	4	240	55	377	23.34	21.75	-1.59	63.66
	Coal Mining	447	90	112	27	4,163	212	5,051	6.95	13.38	6.43	82.42
	Oil & Gas Extraction	2,495	648	1,815	196	7,594	1,772	14,520	26.05	35.50	9.44	52.30
	Nonmetallic Minerals Mining	170	50	51	5	2,065	98	2,439	6.31	11.32	5.00	84.67
	Total	3,145	804	2,007	232	14,062	2,137	22,387	19.55	27.64	8.09	62.81
Construction	General Building Contractors	1,054	247	1,026	135	2,539	825	5,826	34.09	42.26	8.17	43.58
	Heavy Construction	1,918	445	1,853	274	3,040	1,007	8,537	36.71	52.59	15.88	35.61
	Special Trade Construction	1,992	624	2,367	380	4,964	1,605	11,932	36.47	44.95	8.47	41.60
	Total	4,964	1,316	5,246	789	10,543	3,437	26,295	36.02	46.83	10.81	40.10
Manufacturing	Manufacturing - Nondurable Goods	529	447	515	145	4,255	1,661	7,552	30.73	21.66	-9.07	56.34
	Manufacturing - Durable Goods	649	341	602	84	3,600	892	6,168	25.58	27.17	1.59	58.37
	Total	1,178	788	1,117	229	7,855	2,553	13,720	28.42	24.14	-4.28	57.25
TCPU	Transportation	956	241	875	104	4,450	1,131	7,757	27.20	28.05	0.85	57.37
	Communications & Public Utilities	284	130	253	67	4,078	562	5,374	16.41	13.66	-2.75	75.88
	Total	1,240	371	1,128	171	8,528	1,693	13,131	22.79	22.16	-0.62	64.95
Wholesale Trade	Wholesale - Durable Goods	566	153	286	26	3,480	471	4,982	15.72	20.69	4.98	69.85
	Wholesale - Nondurable Goods	447	142	285	36	2,435	600	3,945	23.35	23.07	-0.28	61.72
	Total	1,013	295	571	62	5,915	1,071	8,927	19.09	21.74	2.65	66.26
Retail Trade	Building Materials & Garden Supplies	390	122	261	42	1,485	393	2,693	25.84	30.26	4.42	55.14
	General Merchandise Stores	1,392	511	484	69	4,105	955	7,516	20.06	32.68	12.61	54.62
	Food Stores	924	128	633	50	3,561	962	6,258	26.29	27.72	1.44	56.90
	Auto Dealers & Service Stations	1,676	333	1,207	102	5,465	1,685	10,468	28.60	31.70	3.10	52.21
	Apparels & Accessory Stores	347	45	124	16	808	309	1,649	27.23	32.26	5.03	49.00
	Furniture & Home Furnishings	242	73	197	45	1,076	350	1,983	29.85	28.09	-1.77	54.26
	Eating & Drinking Places	5,053	926	4,402	481	8,947	4,915	24,724	39.63	43.93	4.30	36.19
	Miscellaneous Retail	1,059	321	749	131	3,890	1,194	7,344	28.24	30.77	2.53	52.97
	Total	11,083	2,459	8,057	936	29,337	10,763	62,635	31.54	35.98	4.44	46.84
FIRE	Finance	599	169	244	39	3,550	560	5,161	16.33	20.36	4.03	68.79
	Insurance	160	36	80	13	1,540	252	2,081	16.58	13.89	-2.69	74.00
	Real Estate	348	116	267	29	1,295	313	2,368	25.72	32.09	6.38	54.69
	Total	1,107	321	591	81	6,385	1,125	9,610	18.70	21.85	3.15	66.44

Wyoming's 2001Q2 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry Newhire (e_n)	Entry Rehire (e_r)	Both Newhire (b_n)	Both Rehire (b_r)	Continuous c	Exit (x)	Total Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
Services	Hotels & Other Lodging Places	4,685	1,521	2,371	282	3,948	1,881	14,688	30.87	60.31	29.45	26.88
	Personal Services	325	64	356	46	1,264	516	2,571	35.71	30.77	-4.94	49.16
	Business Services	2,263	374	2,962	293	4,756	2,611	13,259	44.24	44.44	0.20	35.87
	Auto Repair, Services & Parking	343	84	316	26	1,337	468	2,574	31.47	29.88	-1.59	51.94
	Miscellaneous Repair Service	177	57	142	18	697	143	1,234	24.55	31.93	7.37	56.48
	Motion Pictures	197	31	114	13	396	201	952	34.45	37.29	2.84	41.60
	Amusement & Recreation Services	943	633	482	144	1,324	1,437	4,963	41.57	44.37	2.80	26.68
	Offices and Clinics	167	30	84	18	1,026	175	1,500	18.47	19.93	1.47	68.40
	Nursing Care Facilities	488	187	408	67	3,582	723	5,455	21.96	21.08	-0.88	65.66
	Hospitals	371	49	162	19	1,833	448	2,882	21.83	20.85	-0.97	63.60
	Health Services Other	604	315	242	91	6,494	1,431	9,177	19.22	13.64	-5.58	70.76
	Legal Services	137	55	91	18	922	158	1,381	19.33	21.80	2.46	66.76
	Educational Services Other	521	262	465	341	5,436	1,138	8,163	23.81	19.47	-4.35	66.59
	Elementary and Secondary Schools	378	459	558	261	14,289	3,135	19,080	20.72	8.68	-12.04	74.89
	Social Services	912	341	632	110	4,376	1,244	7,615	26.08	26.20	0.12	57.47
	Museums & Botanical Gardens	121	54	23	9	250	26	483	12.01	42.86	30.85	51.76
	Membership Organizations	292	131	175	50	962	304	1,914	27.64	33.86	6.22	50.26
	Engineering & Management Services	710	209	547	103	3,153	829	5,551	26.64	28.27	1.62	56.80
	Private Households	84	48	70	17	379	102	700	27.00	31.29	4.29	54.14
	Services, NEC	36	12	19	0	140	33	240	21.67	27.92	6.25	58.33
Total		13,754	4,916	10,219	1,926	56,564	17,003	104,382	27.92	29.52	1.60	54.19
Public Administration	Public Administration	1,948	951	542	173	15,561	1,300	20,475	9.84	17.65	7.81	76.00
	Total	1,948	951	542	173	15,561	1,300	20,475	9.84	17.65	7.81	76.00
SIC Not Available	SIC Not Available	110	173	46	42	187	101	659	28.68	56.30	27.62	28.38
	Total	110	173	46	42	187	101	659	28.68	56.30	27.62	28.38
Total	Total	40,552	12,927	30,309	4,829	157,245	41,779	287,641	26.74	30.81	4.07	54.67

Wyoming's 2001Q3 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry	Entry	Both	Both	Total						
		Newhire	Rehire	Newhire	Rehire	Continuous c	Exit (x)	Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
		(e_n)	(e_r)	(b_n)	(b_r)							
Agriculture, Forestry	Agriculture, Forestry, Fishing	514	155	853	122	2,638	1,213	5,495	39.82	29.92	-9.90	48.01
	Total	514	155	853	122	2,638	1,213	5,495	39.82	29.92	-9.90	48.01
Mining	Metal Mining	29	4	30	5	249	40	357	21.01	19.05	-1.96	69.75
	Coal Mining	339	12	165	20	3,947	753	5,236	17.91	10.24	-7.68	75.38
	Oil & Gas Extraction	2,297	303	2,135	216	8,423	2,314	15,688	29.74	31.56	1.82	53.69
	Nonmetallic Minerals Mining	111	14	53	4	2,069	216	2,467	11.07	7.38	-3.69	83.87
	Total	2,776	333	2,383	245	14,688	3,323	23,748	25.06	24.16	-0.90	61.85
Construction	General Building Contractors	873	213	1,012	113	2,630	1,210	6,051	38.59	36.54	-2.05	43.46
	Heavy Construction	1,588	195	2,114	142	3,521	1,882	9,442	43.83	42.78	-1.05	37.29
	Special Trade Construction	1,615	380	2,350	191	5,273	2,307	12,116	40.01	37.44	-2.58	43.52
	Total	4,076	788	5,476	446	11,424	5,399	27,609	41.00	39.07	-1.94	41.38
Manufacturing	Manufacturing - Nondurable Goods	511	224	490	49	4,298	933	6,505	22.63	19.58	-3.04	66.07
	Manufacturing - Durable Goods	588	207	648	69	3,526	1,064	6,102	29.19	24.78	-4.41	57.78
	Total	1,099	431	1,138	118	7,824	1,997	12,607	25.80	22.10	-3.70	62.06
TCPU	Transportation	829	298	975	114	4,291	1,356	7,863	31.10	28.18	-2.91	54.57
	Communications & Public Utilities	335	171	158	42	4,022	470	5,198	12.89	13.58	0.69	77.38
	Total	1,164	469	1,133	156	8,313	1,826	13,061	23.85	22.37	-1.48	63.65
Wholesale Trade	Wholesale - Durable Goods	509	229	362	86	3,449	750	5,385	22.25	22.02	-0.22	64.05
	Wholesale - Nondurable Goods	464	99	349	53	2,324	700	3,989	27.63	24.19	-3.43	58.26
	Total	973	328	711	139	5,773	1,450	9,374	24.54	22.95	-1.59	61.59
Retail Trade	Building Materials & Garden Supplies	301	61	266	30	1,506	491	2,655	29.64	24.78	-4.86	56.72
	General Merchandise Stores	1,000	71	576	54	4,414	1,594	7,709	28.85	22.07	-6.78	57.26
	Food Stores	850	163	684	75	3,482	1,131	6,385	29.60	27.75	-1.85	54.53
	Auto Dealers & Service Stations	1,444	374	1,858	205	4,699	2,775	11,355	42.61	34.18	-8.43	41.38
	Apparels & Accessory Stores	300	38	247	29	794	406	1,814	37.60	33.85	-3.75	43.77
	Furniture & Home Furnishings	281	57	251	30	1,013	378	2,010	32.79	30.80	-1.99	50.40
	Eating & Drinking Places	4,276	525	6,073	544	8,483	6,443	26,344	49.57	43.34	-6.23	32.20
	Miscellaneous Retail	865	206	897	116	3,755	1,515	7,354	34.38	28.34	-6.04	51.06
	Total	9,317	1,495	10,852	1,083	28,146	14,733	65,626	40.64	34.66	-5.97	42.89
FIRE	Finance	450	119	291	36	3,665	653	5,214	18.80	17.18	-1.61	70.29
	Insurance	171	37	105	11	1,519	217	2,060	16.17	15.73	-0.44	73.74
	Real Estate	216	67	297	42	1,377	382	2,381	30.28	26.12	-4.16	57.83
	Total	837	223	693	89	6,561	1,252	9,655	21.07	19.08	-1.99	67.95

Wyoming's 2001Q3 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry Newhire (e_n)	Entry Rehire (e_r)	Both Newhire (b_n)	Both Rehire (b_r)	Continuous c	Exit (x)	Total Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
Services	Hotels & Other Lodging Places	1,711	314	3,112	300	5,439	4,715	15,591	52.13	34.87	-17.25	34.89
	Personal Services	310	75	356	98	1,221	432	2,492	35.55	33.67	-1.89	49.00
	Business Services	1,982	298	2,529	302	4,831	2,562	12,504	43.13	40.87	-2.26	38.64
	Auto Repair, Services & Parking	332	87	351	19	1,399	365	2,553	28.79	30.90	2.12	54.80
	Miscellaneous Repair Service	270	29	243	37	671	260	1,510	35.76	38.34	2.58	44.44
	Motion Pictures	141	21	100	12	405	219	898	36.86	30.51	-6.35	45.10
	Amusement & Recreation Services	397	151	839	234	1,534	1,366	4,521	53.95	35.85	-18.09	33.93
	Offices and Clinics	146	41	105	17	972	251	1,532	24.35	20.17	-4.18	63.45
	Nursing Care Facilities	542	181	580	65	3,497	760	5,625	24.98	24.32	-0.66	62.17
	Hospitals	481	32	260	17	1,709	544	3,043	26.98	25.96	-1.02	56.16
	Health Services Other	551	203	259	62	6,283	1,130	8,488	17.09	12.66	-4.43	74.02
	Legal Services	156	54	101	23	926	188	1,448	21.55	23.07	1.52	63.95
	Educational Services Other	634	225	651	245	5,341	878	7,974	22.25	22.01	-0.24	66.98
	Elementary and Secondary Schools	1,317	1,301	521	196	13,560	1,566	18,461	12.37	18.07	5.70	73.45
	Social Services	1,014	285	736	160	4,147	1,482	7,824	30.39	28.05	-2.34	53.00
	Museums & Botanical Gardens	38	9	37	6	281	144	515	36.31	17.48	-18.83	54.56
	Membership Organizations	164	59	331	152	919	466	2,091	45.38	33.76	-11.62	43.95
	Engineering & Management Services	562	143	646	61	3,140	932	5,484	29.89	25.75	-4.14	57.26
	Private Households	55	16	95	5	382	129	682	33.58	25.07	-8.50	56.01
	Services, NEC	17	15	35	5	133	55	260	36.54	27.69	-8.85	51.15
Total		10,820	3,539	11,887	2,016	56,790	18,444	103,496	31.25	27.31	-3.95	54.87
Public Administration	Public Administration	1,106	569	1,206	453	15,397	3,063	21,794	21.67	15.30	-6.37	70.65
	Total	1,106	569	1,206	453	15,397	3,063	21,794	21.67	15.30	-6.37	70.65
SIC Not Available	SIC Not Available	30	11	59	6	205	265	576	57.29	18.40	-38.89	35.59
	Total	30	11	59	6	205	265	576	57.29	18.40	-38.89	35.59
Total	Total	32,712	8,341	36,391	4,873	157,759	52,965	293,041	32.16	28.09	-4.06	53.84

Wyoming's 2001Q4 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry	Entry	Both	Both	Total						
		Newhire	Rehire	Newhire	Rehire	Continuous c	Exit (x)	Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
		(e_n)	(e_r)	(b_n)	(b_r)							
Agriculture, Forestry	Agriculture, Forestry, Fishing	274	158	603	214	2,228	1,079	4,556	41.62	27.41	-14.20	48.90
	Total	274	158	603	214	2,228	1,079	4,556	41.62	27.41	-14.20	48.90
Mining	Metal Mining	32	1	38	5	166	116	358	44.41	21.23	-23.18	46.37
	Coal Mining	182	12	79	46	3,118	1,180	4,617	28.27	6.91	-21.36	67.53
	Oil & Gas Extraction	1,329	323	1,854	608	8,325	2,701	15,140	34.10	27.17	-6.93	54.99
	Nonmetallic Minerals Mining	43	28	36	13	2,071	123	2,314	7.43	5.19	-2.25	89.50
	Total	1,586	364	2,007	672	13,680	4,120	22,429	30.31	20.64	-9.67	60.99
Construction	General Building Contractors	630	193	767	134	2,476	1,240	5,440	39.36	31.69	-7.67	45.51
	Heavy Construction	918	160	1,563	237	3,103	2,201	8,182	48.90	35.17	-13.73	37.92
	Special Trade Construction	1,072	445	1,685	258	4,979	2,289	10,728	39.45	32.25	-7.20	46.41
	Total	2,620	798	4,015	629	10,558	5,730	24,350	42.60	33.11	-9.49	43.36
Manufacturing	Manufacturing - Nondurable Goods	424	240	412	210	4,285	748	6,319	21.68	20.35	-1.33	67.81
	Manufacturing - Durable Goods	490	133	477	84	3,482	836	5,502	25.39	21.52	-3.87	63.29
	Total	914	373	889	294	7,767	1,584	11,821	23.41	20.90	-2.51	65.71
TCPU	Transportation	617	278	614	180	4,317	1,101	7,107	26.66	23.77	-2.90	60.74
	Communications & Public Utilities	217	280	185	61	4,075	453	5,271	13.26	14.10	0.83	77.31
	Total	834	558	799	241	8,392	1,554	12,378	20.96	19.65	-1.31	67.80
Wholesale Trade	Wholesale - Durable Goods	305	81	225	42	3,524	663	4,840	19.21	13.49	-5.72	72.81
	Wholesale - Nondurable Goods	281	104	301	60	2,293	594	3,633	26.29	20.53	-5.75	63.12
	Total	586	185	526	102	5,817	1,257	8,473	22.25	16.51	-5.74	68.65
Retail Trade	Building Materials & Garden Supplies	220	64	135	39	1,490	378	2,326	23.73	19.69	-4.04	64.06
	General Merchandise Stores	986	74	459	49	4,467	1,018	7,053	21.64	22.23	0.60	63.33
	Food Stores	840	88	518	63	3,682	813	6,004	23.22	25.13	1.92	61.33
	Auto Dealers & Service Stations	1,122	259	883	121	4,826	1,562	8,773	29.25	27.19	-2.06	55.01
	Apparels & Accessory Stores	247	63	204	28	832	300	1,674	31.78	32.38	0.60	49.70
	Furniture & Home Furnishings	246	77	191	30	1,035	316	1,895	28.34	28.71	0.37	54.62
	Eating & Drinking Places	3,424	765	3,616	419	8,742	4,542	21,508	39.88	38.24	-1.64	40.65
	Miscellaneous Retail	787	321	610	121	3,773	1,053	6,665	26.77	27.59	0.83	56.61
Total	7,872	1,711	6,616	870	28,847	9,982	55,898	31.25	30.54	-0.71	51.61	
FIRE	Finance	301	86	275	48	3,560	674	4,944	20.17	14.36	-5.81	72.01
	Insurance	136	81	53	31	1,559	168	2,028	12.43	14.84	2.42	76.87
	Real Estate	178	80	161	42	1,323	337	2,121	25.46	21.74	-3.72	62.38
	Total	615	247	489	121	6,442	1,179	9,093	19.67	16.19	-3.49	70.85

Wyoming's 2001Q4 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry Newhire (e_n)	Entry Rehire (e_r)	Both Newhire (b_n)	Both Rehire (b_r)	Continuous c	Exit (x)	Total Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
Services	Hotels & Other Lodging Places	1,132	424	1,156	285	3,906	3,687	10,590	48.42	28.30	-20.12	36.88
	Personal Services	323	112	223	61	1,278	328	2,325	26.32	30.92	4.60	54.97
	Business Services	1,638	314	2,160	377	4,379	2,732	11,600	45.42	38.70	-6.72	37.75
	Auto Repair, Services & Parking	247	107	227	46	1,448	370	2,445	26.30	25.64	-0.65	59.22
	Miscellaneous Repair Service	181	32	141	27	716	254	1,351	31.24	28.20	-3.03	53.00
	Motion Pictures	119	26	142	12	431	136	866	33.49	34.53	1.04	49.77
	Amusement & Recreation Services	564	607	354	207	1,306	776	3,814	35.06	45.41	10.36	34.24
	Offices and Clinics	180	62	74	12	989	170	1,487	17.22	22.06	4.84	66.51
	Nursing Care Facilities	503	301	342	114	3,518	702	5,480	21.13	22.99	1.86	64.20
	Hospitals	364	45	289	27	1,645	577	2,947	30.30	24.60	-5.70	55.82
	Health Services Other	627	764	193	99	6,212	825	8,720	12.81	19.30	6.49	71.24
	Legal Services	72	53	74	23	965	171	1,358	19.73	16.35	-3.39	71.06
	Educational Services Other	503	405	374	351	5,613	587	7,833	16.75	20.85	4.10	71.66
	Elementary and Secondary Schools	1,072	1,312	536	395	14,948	1,230	19,493	11.09	17.01	5.92	76.68
	Social Services	829	291	529	115	4,381	1,065	7,210	23.70	24.47	0.76	60.76
	Museums & Botanical Gardens	12	6	16	6	240	88	368	29.89	10.87	-19.02	65.22
	Membership Organizations	152	130	119	52	903	239	1,595	25.71	28.40	2.70	56.61
	Engineering & Management Services	453	245	655	140	2,984	861	5,338	31.02	27.97	-3.05	55.90
	Private Households	65	23	67	14	354	99	622	28.94	27.17	-1.77	56.91
	Services, NEC	6	7	6	4	147	18	188	14.89	12.23	-2.66	78.19
Total		9,042	5,266	7,677	2,367	56,363	14,915	95,630	26.10	25.46	-0.63	58.94
Public Administration	Public Administration	832	253	704	198	14,872	2,200	19,059	16.28	10.43	-5.85	78.03
	Total	832	253	704	198	14,872	2,200	19,059	16.28	10.43	-5.85	78.03
SIC Not Available	SIC Not Available	16	0	214	1	57	189	477	84.70	48.43	-36.27	11.95
	Total	16	0	214	1	57	189	477	84.70	48.43	-36.27	11.95
Total	Total	25,191	9,913	24,539	5,709	155,023	43,789	264,164	28.03	24.74	-3.29	58.68

Wyoming's 2001 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry		Both		Continuous	Exit (x)	Total				
		Newhire (e_n)	Entry Rehire (e_r)	Newhire (b_n)	Both Rehire (b_r)			Transactions (trans)	exit_rate	entr_rate	flow_rate	cont_rate
Agriculture, Forestry	Agriculture, Forestry, Fishing	2,311	991	2,520	578	9,420	3,286	19,106	33.41	33.50	0.08	49.30
	Total	2,311	991	2,520	578	9,420	3,286	19,106	33.41	33.50	0.08	49.30
Mining	Metal Mining	115	26	123	17	924	232	1,437	25.89	19.55	-6.33	64.30
	Coal Mining	1,141	163	407	119	15,381	2,317	19,528	14.56	9.37	-5.19	78.76
	Oil & Gas Extraction	8,301	1,479	7,342	1,149	31,323	8,831	58,425	29.65	31.27	1.62	53.61
	Nonmetallic Minerals Mining	381	121	175	31	8,282	527	9,517	7.70	7.44	-0.26	87.02
	Total	9,938	1,789	8,047	1,316	55,910	11,907	88,907	23.92	23.72	-0.20	62.89
Construction	General Building Contractors	3,156	775	3,322	451	10,288	4,101	22,093	35.64	34.87	-0.77	46.57
	Heavy Construction	5,235	1,072	6,332	785	12,628	5,957	32,009	40.84	41.94	1.09	39.45
	Special Trade Construction	5,869	1,709	7,452	982	20,335	7,665	44,012	36.58	36.38	-0.20	46.20
	Total	14,260	3,556	17,106	2,218	43,251	17,723	98,114	37.76	37.85	0.09	44.08
Manufacturing	Manufacturing - Nondurable Goods	1,895	994	1,727	452	18,255	4,339	27,662	23.56	18.32	-5.24	65.99
	Manufacturing - Durable Goods	2,265	791	2,079	272	14,452	3,547	23,406	25.20	23.10	-2.10	61.74
	Total	4,160	1,785	3,806	724	32,707	7,886	51,068	24.31	20.51	-3.80	64.05
TCPU	Transportation	3,215	952	2,970	486	17,691	4,830	30,144	27.49	25.29	-2.20	58.69
	Communications & Public Utilities	1,100	622	782	199	16,510	2,047	21,260	14.24	12.71	-1.53	77.66
	Total	4,315	1,574	3,752	685	34,201	6,877	51,404	22.01	20.09	-1.92	66.53
Wholesale Trade	Wholesale - Durable Goods	1,771	529	1,116	194	13,947	2,481	20,038	18.92	18.02	-0.90	69.60
	Wholesale - Nondurable Goods	1,598	454	1,105	191	9,557	2,321	15,226	23.76	21.99	-1.77	62.77
	Total	3,369	983	2,221	385	23,504	4,802	35,264	21.01	19.73	-1.28	66.65
Retail Trade	Building Materials & Garden Supplies	1,366	295	799	126	5,856	1,517	9,959	24.52	25.97	1.45	58.80
	General Merchandise Stores	4,078	700	1,786	206	17,302	4,575	28,647	22.92	23.63	0.71	60.40
	Food Stores	3,144	484	2,228	236	14,613	4,053	24,758	26.32	24.61	-1.72	59.02
	Auto Dealers & Service Stations	5,523	1,226	4,913	520	20,599	7,760	40,541	32.54	30.05	-2.49	50.81
	Apparels & Accessory Stores	1,079	181	677	104	3,331	1,304	6,676	31.23	30.57	-0.66	49.90
	Furniture & Home Furnishings	987	244	810	117	4,295	1,309	7,762	28.81	27.80	-1.00	55.33
	Eating & Drinking Places	16,271	2,779	16,839	1,758	35,953	19,932	93,532	41.19	40.25	-0.94	38.44
	Miscellaneous Retail	3,519	1,020	2,718	469	15,522	4,800	28,048	28.48	27.55	-0.93	55.34
	Total	35,967	6,929	30,770	3,536	117,471	45,250	239,923	33.16	32.18	-0.98	48.96
	FIRE	Finance	1,800	516	966	178	14,293	2,338	20,091	17.33	17.22	-0.11
Insurance		617	206	295	68	6,208	806	8,200	14.26	14.46	0.21	75.71
Real Estate		949	316	844	137	5,343	1,301	8,890	25.67	25.26	-0.40	60.10
Total		3,366	1,038	2,105	383	25,844	4,445	37,181	18.65	18.54	-0.11	69.51

Wyoming's 2001 Turnover Data by Industry and Sub-Industry

Industry	Sub-Industry	Entry		Both		Continuous	Exit (x)	Total Transactions				
		Newhire (e_n)	Entry Rehire (e_r)	Newhire (b_n)	Both Rehire (b_r)			(trans)	exit_rate	entr_rate	flow_rate	cont_rate
Services	Hotels & Other Lodging Places	8,603	2,512	7,615	987	17,794	11,722	49,233	41.28	40.05	-1.23	36.14
	Personal Services	1,270	390	1,136	250	5,092	1,669	9,807	31.15	31.06	-0.09	51.92
	Business Services	8,263	1,210	9,658	1,179	18,729	9,858	48,897	42.32	41.54	-0.79	38.30
	Auto Repair, Services & Parking	1,233	335	1,137	121	5,621	1,559	10,006	28.15	28.24	0.09	56.18
	Miscellaneous Repair Service	758	146	639	101	2,766	787	5,197	29.38	31.63	2.25	53.22
	Motion Pictures	561	103	423	50	1,700	697	3,534	33.11	32.17	-0.93	48.10
	Amusement & Recreation Services	2,359	1,535	1,998	690	6,326	4,075	16,983	39.82	38.76	-1.07	37.25
	Offices and Clinics	2,002	783	1,622	296	14,319	2,776	21,798	21.53	21.58	0.04	65.69
	Nursing Care Facilities	1,592	216	880	92	7,002	1,953	11,735	24.93	23.69	-1.24	59.67
	Hospitals	2,277	1,413	854	285	26,288	3,953	35,070	14.52	13.77	-0.75	74.96
	Health Services Other	627	171	312	58	4,016	739	5,923	18.72	19.72	1.00	67.80
	Legal Services	495	191	335	76	3,734	660	5,491	19.50	19.98	0.47	68.00
	Educational Services Other	2,163	1,065	1,757	1,059	22,286	3,126	31,456	18.89	19.21	0.32	70.85
	Elementary and Secondary Schools	3,579	3,773	2,048	1,268	58,708	8,041	77,417	14.67	13.78	-0.89	75.83
	Social Services	3,621	1,019	2,579	450	17,556	4,765	29,990	25.99	25.57	-0.42	58.54
	Museums & Botanical Gardens	188	75	88	27	1,024	280	1,682	23.48	22.47	-1.01	60.88
	Membership Organizations	765	403	761	287	3,810	1,338	7,364	32.40	30.09	-2.31	51.74
	Engineering & Management Services	2,341	758	2,188	378	12,482	3,110	21,257	26.70	26.65	-0.05	58.72
	Private Households	288	97	277	43	1,502	378	2,585	27.00	27.27	0.27	58.10
	Services, NEC	104	37	82	13	545	144	925	25.84	25.51	-0.32	58.92
Total		43,089	16,232	36,389	7,710	231,300	61,630	396,350	26.68	26.09	-0.58	58.36
Public Administration	Public Administration	4,786	2,588	2,974	1,078	60,976	7,999	80,401	14.99	14.21	-0.78	75.84
	Total	4,786	2,588	2,974	1,078	60,976	7,999	80,401	14.99	14.21	-0.78	75.84
SIC Not Available	SIC Not Available	214	188	496	50	675	627	2,250	52.13	42.13	-10.00	30.00
	Total	214	188	496	50	675	627	2,250	52.13	42.13	-10.00	30.00
Total	Total	125,775	37,653	110,186	18,663	635,259	172,432	1,099,968	27.39	26.57	-0.82	57.75