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*****
* A Practical Guide to Using Panel Data
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* ISER, University of Essex
* Chapter 12
*****
```

```
-----
name: <unnamed>
log: C:\My Documents\\Example_Chapter12.log
log type: text
opened on: 30 Jul 2014, 08:34:17
```

```
.
. * 12.1. Merging Data on Previous Spell to Data on Current Spell
. *-----
.
. use pid ajspno ajhstat ajhbgm ajhbggy4 ajhstpy ajhendd ajhendm ajhendy4 ///
>      ajha9ly      ///
>      using "$datadir/ajobhist", clear
```

```
. generate wave = 1
```

```
. renpfix a
```

```
. mvdecode _all, mv(-9/-1)
      jhstat: 62 missing values generated
      jhbgm: 303 missing values generated
      jha9ly: 1304 missing values generated
      jhstpy: 1328 missing values generated
      jhendd: 880 missing values generated
      jhendm: 24 missing values generated
      jhbggy4: 96 missing values generated
      jhendy4: 20 missing values generated
```

```
. describe
```

```
Contains data from S:\final/ajobhist.dta
obs:      3,382
vars:      11
size:     64,258
```

```
-----
variable name      storage   display   value    variable label
                   type      format    label
-----
jspno              byte      %8.0g    ajhstat   spell number of labour force status
jhstat            byte      %8.0g    ajhbgm    labour force status code
jhbgm             byte      %8.0g    ajha9ly   month labour force spell began
jha9ly            byte      %8.0g    ajhstpy   whether job started after 1.9.90
jhstpy            byte      %8.0g    ajhendd   reason for stopping previous job
jhendd            byte      %8.0g    ajhendm   day labour force spell ended
jhendm            byte      %8.0g    ajhbggy4  month labour force spell ended
jhbggy4           int       %8.0g    ajhendy4  year labour force spell began: 4 digit
jhendy4           int       %8.0g    ajhendy4  year labour force spell ended: 4 digit
pid               long      %12.0g   cross-wave person identifier
wave              float     %9.0g
```

```
Sorted by:
Note: dataset has changed since last saved
```

```
.
. * What is the maximum number of spells?
. tabulate jspno
```

```
      spell |
number of  |
labour     |
force      |
status     |      Freq.    Percent    Cum.
-----
```

1	2,362	69.84	69.84
2	683	20.20	90.04
3	220	6.51	96.54
4	76	2.25	98.79
5	25	0.74	99.53
6	11	0.33	99.85
7	5	0.15	100.00
Total	3,382	100.00	

```
. * How many respondents have only one recorded spell?
. bysort pid: generate TotSpells = _N
```

```
. tabulate TotSpells
```

TotSpells	Freq.	Percent	Cum.
1	1,679	49.65	49.65
2	926	27.38	77.03
3	432	12.77	89.80
4	204	6.03	95.83
5	70	2.07	97.90
6	36	1.06	98.97
7	35	1.03	100.00
Total	3,382	100.00	

```
.
. * Month and year in which the spell started and ended
```

```
.
. generate previous_spellbegin = ym(jhbgy4, jhbgm)
(305 missing values generated)
```

```
. tabulate previous_spellbegin
```

previous_spellbegin	Freq.	Percent	Cum.
-180	1	0.03	0.03
-159	1	0.03	0.06
-142	1	0.03	0.10
-86	1	0.03	0.13
-77	1	0.03	0.16
-71	1	0.03	0.19
-69	1	0.03	0.23
-17	1	0.03	0.26
-15	1	0.03	0.29
-9	1	0.03	0.32
-7	1	0.03	0.36
-4	1	0.03	0.39
0	4	0.13	0.52
4	1	0.03	0.55
8	1	0.03	0.58
12	1	0.03	0.62
14	1	0.03	0.65
20	1	0.03	0.68
37	1	0.03	0.71
49	1	0.03	0.75
51	1	0.03	0.78
58	2	0.06	0.84
62	1	0.03	0.88
74	1	0.03	0.91
82	1	0.03	0.94
87	1	0.03	0.97
92	1	0.03	1.01
93	1	0.03	1.04
94	1	0.03	1.07
95	1	0.03	1.10
100	1	0.03	1.14
103	2	0.06	1.20
104	3	0.10	1.30
109	1	0.03	1.33

114	1	0.03	1.36
115	2	0.06	1.43
116	1	0.03	1.46
122	1	0.03	1.49
123	1	0.03	1.53
124	1	0.03	1.56
125	1	0.03	1.59
126	1	0.03	1.62
127	1	0.03	1.66
128	2	0.06	1.72
134	2	0.06	1.79
135	2	0.06	1.85
136	2	0.06	1.92
137	1	0.03	1.95
139	2	0.06	2.01
144	2	0.06	2.08
149	1	0.03	2.11
150	2	0.06	2.18
151	2	0.06	2.24
152	2	0.06	2.31
153	1	0.03	2.34
157	1	0.03	2.37
158	1	0.03	2.40
160	1	0.03	2.44
161	2	0.06	2.50
165	1	0.03	2.53
166	1	0.03	2.57
167	1	0.03	2.60
168	2	0.06	2.66
170	1	0.03	2.70
171	3	0.10	2.79
172	1	0.03	2.83
173	2	0.06	2.89
174	1	0.03	2.92
175	1	0.03	2.96
176	1	0.03	2.99
178	1	0.03	3.02
180	1	0.03	3.05
182	1	0.03	3.09
183	2	0.06	3.15
185	2	0.06	3.22
186	1	0.03	3.25
188	2	0.06	3.31
191	1	0.03	3.35
192	1	0.03	3.38
195	2	0.06	3.44
197	1	0.03	3.48
198	1	0.03	3.51
199	1	0.03	3.54
200	4	0.13	3.67
201	1	0.03	3.70
202	3	0.10	3.80
204	1	0.03	3.83
205	2	0.06	3.90
206	1	0.03	3.93
207	1	0.03	3.96
208	2	0.06	4.03
209	2	0.06	4.09
211	2	0.06	4.16
212	5	0.16	4.32
216	1	0.03	4.35
217	2	0.06	4.42
218	4	0.13	4.55
219	2	0.06	4.61
221	1	0.03	4.65
222	2	0.06	4.71
223	5	0.16	4.87
224	7	0.23	5.10
225	2	0.06	5.17
226	2	0.06	5.23
227	1	0.03	5.26
228	3	0.10	5.36
229	2	0.06	5.43

230	4	0.13	5.56
231	2	0.06	5.62
232	3	0.10	5.72
233	3	0.10	5.82
234	2	0.06	5.88
235	2	0.06	5.95
236	28	0.91	6.86
238	1	0.03	6.89
239	1	0.03	6.92
240	3	0.10	7.02
241	2	0.06	7.08
242	2	0.06	7.15
243	5	0.16	7.31
244	3	0.10	7.41
245	1	0.03	7.44
246	3	0.10	7.54
247	2	0.06	7.60
248	28	0.91	8.51
249	4	0.13	8.64
250	3	0.10	8.74
252	1	0.03	8.77
253	1	0.03	8.81
254	1	0.03	8.84
255	3	0.10	8.94
258	5	0.16	9.10
260	2	0.06	9.16
261	1	0.03	9.20
262	1	0.03	9.23
264	2	0.06	9.29
265	2	0.06	9.36
266	3	0.10	9.46
267	3	0.10	9.55
268	4	0.13	9.68
269	2	0.06	9.75
271	1	0.03	9.78
272	6	0.19	9.98
273	3	0.10	10.07
275	1	0.03	10.11
276	4	0.13	10.24
277	3	0.10	10.33
278	3	0.10	10.43
279	1	0.03	10.46
280	4	0.13	10.59
281	4	0.13	10.72
283	2	0.06	10.79
284	7	0.23	11.02
285	1	0.03	11.05
287	3	0.10	11.15
288	2	0.06	11.21
289	3	0.10	11.31
290	1	0.03	11.34
291	1	0.03	11.37
292	2	0.06	11.44
293	1	0.03	11.47
294	4	0.13	11.60
295	7	0.23	11.83
296	6	0.19	12.02
297	4	0.13	12.15
298	4	0.13	12.28
299	2	0.06	12.35
300	3	0.10	12.45
301	2	0.06	12.51
302	4	0.13	12.64
303	5	0.16	12.80
304	7	0.23	13.03
305	6	0.19	13.23
306	7	0.23	13.45
307	4	0.13	13.58
308	21	0.68	14.27
309	8	0.26	14.53
310	4	0.13	14.66
311	1	0.03	14.69
312	9	0.29	14.98

313	11	0.36	15.34
314	9	0.29	15.63
315	11	0.36	15.99
316	5	0.16	16.15
317	10	0.32	16.48
318	3	0.10	16.57
319	10	0.32	16.90
320	29	0.94	17.84
321	4	0.13	17.97
322	5	0.16	18.13
323	2	0.06	18.20
324	14	0.45	18.65
325	4	0.13	18.78
326	4	0.13	18.91
327	9	0.29	19.21
328	4	0.13	19.34
329	12	0.39	19.73
330	10	0.32	20.05
331	13	0.42	20.47
332	18	0.58	21.06
333	17	0.55	21.61
334	7	0.23	21.84
335	5	0.16	22.00
336	25	0.81	22.81
337	11	0.36	23.17
338	20	0.65	23.82
339	16	0.52	24.34
340	19	0.62	24.96
341	21	0.68	25.64
342	15	0.49	26.13
343	19	0.62	26.75
344	45	1.46	28.21
345	26	0.84	29.05
346	11	0.36	29.41
347	7	0.23	29.64
348	27	0.88	30.52
349	19	0.62	31.13
350	18	0.58	31.72
351	31	1.01	32.73
352	32	1.04	33.77
353	31	1.01	34.77
354	29	0.94	35.72
355	29	0.94	36.66
356	89	2.89	39.55
357	50	1.62	41.18
358	31	1.01	42.18
359	29	0.94	43.13
360	49	1.59	44.72
361	51	1.66	46.38
362	55	1.79	48.16
363	79	2.57	50.73
364	65	2.11	52.84
365	113	3.67	56.52
366	90	2.92	59.44
367	139	4.52	63.96
368	208	6.76	70.72
369	115	3.74	74.46
370	87	2.83	77.28
371	65	2.11	79.40
372	107	3.48	82.87
373	81	2.63	85.51
374	81	2.63	88.14
375	82	2.66	90.80
376	67	2.18	92.98
377	76	2.47	95.45
378	67	2.18	97.63
379	40	1.30	98.93
380	23	0.75	99.68
381	7	0.23	99.90
382	2	0.06	99.97
383	1	0.03	100.00
<hr/>			
Total	3,077	100.00	

```
. format previous_spellbegin %tm
```

```
. tabulate previous_spellbegin
```

previous_spellbegin	Freq.	Percent	Cum.
1945m1	1	0.03	0.03
1946m10	1	0.03	0.06
1948m3	1	0.03	0.10
1952m11	1	0.03	0.13
1953m8	1	0.03	0.16
1954m2	1	0.03	0.19
1954m4	1	0.03	0.23
1958m8	1	0.03	0.26
1958m10	1	0.03	0.29
1959m4	1	0.03	0.32
1959m6	1	0.03	0.36
1959m9	1	0.03	0.39
1960m1	4	0.13	0.52
1960m5	1	0.03	0.55
1960m9	1	0.03	0.58
1961m1	1	0.03	0.62
1961m3	1	0.03	0.65
1961m9	1	0.03	0.68
1963m2	1	0.03	0.71
1964m2	1	0.03	0.75
1964m4	1	0.03	0.78
1964m11	2	0.06	0.84
1965m3	1	0.03	0.88
1966m3	1	0.03	0.91
1966m11	1	0.03	0.94
1967m4	1	0.03	0.97
1967m9	1	0.03	1.01
1967m10	1	0.03	1.04
1967m11	1	0.03	1.07
1967m12	1	0.03	1.10
1968m5	1	0.03	1.14
1968m8	2	0.06	1.20
1968m9	3	0.10	1.30
1969m2	1	0.03	1.33
1969m7	1	0.03	1.36
1969m8	2	0.06	1.43
1969m9	1	0.03	1.46
1970m3	1	0.03	1.49
1970m4	1	0.03	1.53
1970m5	1	0.03	1.56
1970m6	1	0.03	1.59
1970m7	1	0.03	1.62
1970m8	1	0.03	1.66
1970m9	2	0.06	1.72
1971m3	2	0.06	1.79
1971m4	2	0.06	1.85
1971m5	2	0.06	1.92
1971m6	1	0.03	1.95
1971m8	2	0.06	2.01
1972m1	2	0.06	2.08
1972m6	1	0.03	2.11
1972m7	2	0.06	2.18
1972m8	2	0.06	2.24
1972m9	2	0.06	2.31
1972m10	1	0.03	2.34
1973m2	1	0.03	2.37
1973m3	1	0.03	2.40
1973m5	1	0.03	2.44
1973m6	2	0.06	2.50
1973m10	1	0.03	2.53
1973m11	1	0.03	2.57
1973m12	1	0.03	2.60
1974m1	2	0.06	2.66
1974m3	1	0.03	2.70
1974m4	3	0.10	2.79

1974m5	1	0.03	2.83
1974m6	2	0.06	2.89
1974m7	1	0.03	2.92
1974m8	1	0.03	2.96
1974m9	1	0.03	2.99
1974m11	1	0.03	3.02
1975m1	1	0.03	3.05
1975m3	1	0.03	3.09
1975m4	2	0.06	3.15
1975m6	2	0.06	3.22
1975m7	1	0.03	3.25
1975m9	2	0.06	3.31
1975m12	1	0.03	3.35
1976m1	1	0.03	3.38
1976m4	2	0.06	3.44
1976m6	1	0.03	3.48
1976m7	1	0.03	3.51
1976m8	1	0.03	3.54
1976m9	4	0.13	3.67
1976m10	1	0.03	3.70
1976m11	3	0.10	3.80
1977m1	1	0.03	3.83
1977m2	2	0.06	3.90
1977m3	1	0.03	3.93
1977m4	1	0.03	3.96
1977m5	2	0.06	4.03
1977m6	2	0.06	4.09
1977m8	2	0.06	4.16
1977m9	5	0.16	4.32
1978m1	1	0.03	4.35
1978m2	2	0.06	4.42
1978m3	4	0.13	4.55
1978m4	2	0.06	4.61
1978m6	1	0.03	4.65
1978m7	2	0.06	4.71
1978m8	5	0.16	4.87
1978m9	7	0.23	5.10
1978m10	2	0.06	5.17
1978m11	2	0.06	5.23
1978m12	1	0.03	5.26
1979m1	3	0.10	5.36
1979m2	2	0.06	5.43
1979m3	4	0.13	5.56
1979m4	2	0.06	5.62
1979m5	3	0.10	5.72
1979m6	3	0.10	5.82
1979m7	2	0.06	5.88
1979m8	2	0.06	5.95
1979m9	28	0.91	6.86
1979m11	1	0.03	6.89
1979m12	1	0.03	6.92
1980m1	3	0.10	7.02
1980m2	2	0.06	7.08
1980m3	2	0.06	7.15
1980m4	5	0.16	7.31
1980m5	3	0.10	7.41
1980m6	1	0.03	7.44
1980m7	3	0.10	7.54
1980m8	2	0.06	7.60
1980m9	28	0.91	8.51
1980m10	4	0.13	8.64
1980m11	3	0.10	8.74
1981m1	1	0.03	8.77
1981m2	1	0.03	8.81
1981m3	1	0.03	8.84
1981m4	3	0.10	8.94
1981m7	5	0.16	9.10
1981m9	2	0.06	9.16
1981m10	1	0.03	9.20
1981m11	1	0.03	9.23
1982m1	2	0.06	9.29
1982m2	2	0.06	9.36
1982m3	3	0.10	9.46

1982m4	3	0.10	9.55
1982m5	4	0.13	9.68
1982m6	2	0.06	9.75
1982m8	1	0.03	9.78
1982m9	6	0.19	9.98
1982m10	3	0.10	10.07
1982m12	1	0.03	10.11
1983m1	4	0.13	10.24
1983m2	3	0.10	10.33
1983m3	3	0.10	10.43
1983m4	1	0.03	10.46
1983m5	4	0.13	10.59
1983m6	4	0.13	10.72
1983m8	2	0.06	10.79
1983m9	7	0.23	11.02
1983m10	1	0.03	11.05
1983m12	3	0.10	11.15
1984m1	2	0.06	11.21
1984m2	3	0.10	11.31
1984m3	1	0.03	11.34
1984m4	1	0.03	11.37
1984m5	2	0.06	11.44
1984m6	1	0.03	11.47
1984m7	4	0.13	11.60
1984m8	7	0.23	11.83
1984m9	6	0.19	12.02
1984m10	4	0.13	12.15
1984m11	4	0.13	12.28
1984m12	2	0.06	12.35
1985m1	3	0.10	12.45
1985m2	2	0.06	12.51
1985m3	4	0.13	12.64
1985m4	5	0.16	12.80
1985m5	7	0.23	13.03
1985m6	6	0.19	13.23
1985m7	7	0.23	13.45
1985m8	4	0.13	13.58
1985m9	21	0.68	14.27
1985m10	8	0.26	14.53
1985m11	4	0.13	14.66
1985m12	1	0.03	14.69
1986m1	9	0.29	14.98
1986m2	11	0.36	15.34
1986m3	9	0.29	15.63
1986m4	11	0.36	15.99
1986m5	5	0.16	16.15
1986m6	10	0.32	16.48
1986m7	3	0.10	16.57
1986m8	10	0.32	16.90
1986m9	29	0.94	17.84
1986m10	4	0.13	17.97
1986m11	5	0.16	18.13
1986m12	2	0.06	18.20
1987m1	14	0.45	18.65
1987m2	4	0.13	18.78
1987m3	4	0.13	18.91
1987m4	9	0.29	19.21
1987m5	4	0.13	19.34
1987m6	12	0.39	19.73
1987m7	10	0.32	20.05
1987m8	13	0.42	20.47
1987m9	18	0.58	21.06
1987m10	17	0.55	21.61
1987m11	7	0.23	21.84
1987m12	5	0.16	22.00
1988m1	25	0.81	22.81
1988m2	11	0.36	23.17
1988m3	20	0.65	23.82
1988m4	16	0.52	24.34
1988m5	19	0.62	24.96
1988m6	21	0.68	25.64
1988m7	15	0.49	26.13
1988m8	19	0.62	26.75

1988m9	45	1.46	28.21
1988m10	26	0.84	29.05
1988m11	11	0.36	29.41
1988m12	7	0.23	29.64
1989m1	27	0.88	30.52
1989m2	19	0.62	31.13
1989m3	18	0.58	31.72
1989m4	31	1.01	32.73
1989m5	32	1.04	33.77
1989m6	31	1.01	34.77
1989m7	29	0.94	35.72
1989m8	29	0.94	36.66
1989m9	89	2.89	39.55
1989m10	50	1.62	41.18
1989m11	31	1.01	42.18
1989m12	29	0.94	43.13
1990m1	49	1.59	44.72
1990m2	51	1.66	46.38
1990m3	55	1.79	48.16
1990m4	79	2.57	50.73
1990m5	65	2.11	52.84
1990m6	113	3.67	56.52
1990m7	90	2.92	59.44
1990m8	139	4.52	63.96
1990m9	208	6.76	70.72
1990m10	115	3.74	74.46
1990m11	87	2.83	77.28
1990m12	65	2.11	79.40
1991m1	107	3.48	82.87
1991m2	81	2.63	85.51
1991m3	81	2.63	88.14
1991m4	82	2.66	90.80
1991m5	67	2.18	92.98
1991m6	76	2.47	95.45
1991m7	67	2.18	97.63
1991m8	40	1.30	98.93
1991m9	23	0.75	99.68
1991m10	7	0.23	99.90
1991m11	2	0.06	99.97
1991m12	1	0.03	100.00

Total	3,077	100.00
-------	-------	--------

```

.
. generate spellend = ym(jhendy4, jhendm)
(24 missing values generated)

. format spellend %tm

.
. recode jspno (. = 0)
(jspno: 0 changes made)

.
. save "$dir\ajobhistory", replace
file C:\My Documents\ajobhistory.dta saved

.
. * OPEN THE INDRESP FILE AND MERGE WITH THE JOB HISTORY FILE
. *-----*

. use ahid pid asex aage ajbstat aqfachi apaygu ajbsemp ajbft ajbbgm ajbbgy4 ///
> using "$datadir/aindresp", clear

. renpfix a

. generate wave = 1

. mvdecode _all, mv(-9/-1)
  jksemp: 4112 missing values generated
  jkbbgm: 5358 missing values generated
  jkbstat: 352 missing values generated
  qkfachi: 371 missing values generated

```

```

        jbft: 4439 missing values generated
        paygu: 5100 missing values generated
        jbbgy4: 5105 missing values generated

. generate current_spellbegin = ym(jbbgy4, jbbgm)
(5358 missing values generated)

. format current_spellbegin %tm

.

. joinby pid using "$dir\ajobhistory.dta", unmatched(both)

.

. tabulate _merge

-----+-----
      _merge |          Freq.      Percent      Cum.
-----+-----
      only in master data |          7,902         70.03       70.03
both in master and using data |          3,382         29.97      100.00
-----+-----
              Total |          11,284        100.00

. drop _merge

.

. save "$dir\ajobhistory.dta", replace
file C:\My Documents\ajobhistory.dta saved

.
. * GENERALISATION TO MULTIPLE WAVES *
. *-----*
.
. * Open the job history files
. * Merge with the indresp files
.
. foreach wave in a b c d e f {
2.      * Job history files
.      use pid `wave'jspno `wave'jhstat `wave'jhbgm `wave'jhbggy4 `wave'jhstpy ///
>      `wave'jhstpy `wave'jhendd `wave'jhendm `wave'jhendy4 `wave'jha9ly ///
>      using "$datadir/\wave'jobhist", clear
3.      renpfix `wave'
4.      generate wave = index("abcdef","`wave'")
5.      mvdecode _all, mv(-9/-1)
6.      replace jhbgm = . if jhbgm > 12
7.      replace jhendm = . if jhendm > 12
8.      save "$dir/\wave'jobhistory_junk", replace
9.      * Individual respondent files
.      use `wave'hid pid `wave'sex `wave'age `wave'jbstat `wave'qfachi ///
>      `wave'paygu `wave'jbsemp `wave'jbft `wave'jbbgm `wave'jbbgy4 ///
>      using "$datadir/\wave'indresp", clear
10.     renpfix `wave'
11.     generate wave = index("abcdef","`wave'")
12.     mvdecode _all, mv(-9/-1)
13.     replace jbbgm = . if jbbgm > 12
14.     * Merge individual respondent file with job history file
.     joinby pid using "$dir/\wave'jobhistory_junk.dta", unmatched(both)
15.     tabulate _merge
16.     drop _merge
17.     * Generate the dates of beginning and end of the spell
.     generate previous_spellbegin = ym(jhbggy4, jhbgm)
18.     format previous_spellbegin %tm
19.     generate spellend = ym(jhendy4, jhendm)
20.     format spellend %tm
21.     generate current_spellbegin = ym(jbbgy4, jbbgm)
22.     format current_spellbegin %tm
23.     recode jspno (. = 0)
24.     compress
25.     save "$dir/\wave'jobhistory.dta", replace
26.     }
jhstat: 62 missing values generated
jhbgm: 303 missing values generated
jha9ly: 1304 missing values generated
jhstpy: 1328 missing values generated

```

```

    jhendd: 880 missing values generated
    jhendm: 24 missing values generated
    jhbgy4: 96 missing values generated
    jhendy4: 20 missing values generated
(0 real changes made)
(0 real changes made)
file C:\My Documents\ajobhistory_junk.dta saved
    jbsemp: 4112 missing values generated
    jbbgm: 5358 missing values generated
    jbstat: 352 missing values generated
    qfachi: 371 missing values generated
    jbft: 4439 missing values generated
    paygu: 5100 missing values generated
    jbbgy4: 5105 missing values generated
(0 real changes made)

```

	_merge	Freq.	Percent	Cum.
only in master data		7,902	70.03	70.03
both in master and using data		3,382	29.97	100.00
Total		11,284	100.00	

```

(8207 missing values generated)
(7926 missing values generated)
(5727 missing values generated)
(jspno: 7902 changes made)
    wave was float now byte
    previous_spellbegin was float now int
    spellend was float now int
    current_spellbegin was float now int
(101,556 bytes saved)

```

```

file C:\My Documents\ajobhistory.dta saved
    jhstat: 21 missing values generated
    jhbgm: 169 missing values generated
    jhstpy: 1136 missing values generated
    jhendd: 1060 missing values generated
    jhendm: 4 missing values generated
    jhbgy4: 36 missing values generated
    jhendy4: 5 missing values generated
(32 real changes made, 32 to missing)
(4 real changes made, 4 to missing)
file C:\My Documents\bjobhistory_junk.dta saved
    jbstat: 1 missing value generated
    jbsemp: 4037 missing values generated
    jbbgm: 5218 missing values generated
    qfachi: 439 missing values generated
    jbft: 4234 missing values generated
    paygu: 5002 missing values generated
    jbbgy4: 5013 missing values generated
(27 real changes made, 27 to missing)

```

	_merge	Freq.	Percent	Cum.
only in master data		7,785	72.74	72.74
both in master and using data		2,918	27.26	100.00
Total		10,703	100.00	

```

(7988 missing values generated)
(7794 missing values generated)
(5580 missing values generated)
(jspno: 7785 changes made)
    wave was float now byte
    previous_spellbegin was float now int
    spellend was float now int
    current_spellbegin was float now int
(96,327 bytes saved)
file C:\My Documents\bjobhistory.dta saved
    jhbgm: 167 missing values generated
    jhstpy: 1082 missing values generated
    jhendd: 363 missing values generated
    jhendm: 14 missing values generated
    jhbgy4: 33 missing values generated
    jhendy4: 9 missing values generated

```

```

(11 real changes made, 11 to missing)
(1 real change made, 1 to missing)
file C:\My Documents\cjobhistory_junk.dta saved
  jbstat: 8 missing values generated
  jbsemp: 3886 missing values generated
  jbbgm: 5103 missing values generated
  qfachi: 625 missing values generated
  jbft: 4119 missing values generated
  paygu: 4935 missing values generated
  jbbgy4: 4967 missing values generated
(12 real changes made, 12 to missing)

```

	_merge	Freq.	Percent	Cum.
-----+-----				
	only in master data	7,498	71.99	71.99
both in master and using data		2,918	28.01	100.00
-----+-----				
	Total	10,416	100.00	

```

(7678 missing values generated)
(7515 missing values generated)
(5450 missing values generated)
(jspno: 7498 changes made)
  wave was float now byte
  previous_spellbegin was float now int
  spellend was float now int
  current_spellbegin was float now int
(93,744 bytes saved)
file C:\My Documents\djobhistory.dta saved
  jhstat: 28 missing values generated
  jhbgm: 325 missing values generated
  jhstpy: 1121 missing values generated
  jhendd: 379 missing values generated
  jhendm: 14 missing values generated
  jha9ly: 1 missing value generated
  jhbgy4: 75 missing values generated
  jhendy4: 7 missing values generated

```

```

(1 real change made, 1 to missing)
(1 real change made, 1 to missing)

```

```

file C:\My Documents\djobhistory_junk.dta saved
  jbstat: 6 missing values generated
  jbsemp: 3772 missing values generated
  jbbgm: 5027 missing values generated
  qfachi: 475 missing values generated
  jbft: 3973 missing values generated
  paygu: 4738 missing values generated
  jbbgy4: 4744 missing values generated
(2 real changes made, 2 to missing)

```

	_merge	Freq.	Percent	Cum.
-----+-----				
	only in master data	7,374	71.01	71.01
both in master and using data		3,011	28.99	100.00
-----+-----				
	Total	10,385	100.00	

```

(7700 missing values generated)
(7389 missing values generated)
(5370 missing values generated)
(jspno: 7374 changes made)
  wave was float now byte
  previous_spellbegin was float now int
  spellend was float now int
  current_spellbegin was float now int
(93,465 bytes saved)
file C:\My Documents\djobhistory.dta saved
  jhstat: 59 missing values generated
  jhbgm: 353 missing values generated
  jhstpy: 1151 missing values generated
  jhendd: 412 missing values generated
  jhendm: 17 missing values generated
  jhbgy4: 103 missing values generated
  jhendy4: 5 missing values generated
(2 real changes made, 2 to missing)
(1 real change made, 1 to missing)

```

```

file C:\My Documents\ejobhistory_junk.dta saved
  jbstat: 2 missing values generated
  jbsemp: 3632 missing values generated
  jbbgm: 4898 missing values generated
  qfachi: 471 missing values generated
  jbft: 3815 missing values generated
  paygu: 4569 missing values generated
  jbbgy4: 4581 missing values generated
(0 real changes made)

```

	_merge	Freq.	Percent	Cum.
only in master data		7,087	69.49	69.49
both in master and using data		3,112	30.51	100.00
Total		10,199	100.00	

```

(7444 missing values generated)
(7106 missing values generated)
(5218 missing values generated)
(jspno: 7087 changes made)
  wave was float now byte
  previous_spellbegin was float now int
  spellend was float now int
  current_spellbegin was float now int
(91,791 bytes saved)

```

```

file C:\My Documents\ejobhistory.dta saved
  jhstat: 26 missing values generated
  jhbgm: 318 missing values generated
  jhstpy: 1099 missing values generated
  jhendd: 399 missing values generated
  jhndm: 11 missing values generated
  jhbgy4: 74 missing values generated
  jhendy4: 4 missing values generated
(0 real changes made)

```

```

file C:\My Documents\fjobhistory_junk.dta saved
  jbstat: 16 missing values generated
  jbsemp: 3639 missing values generated
  jbbgm: 4831 missing values generated
  qfachi: 351 missing values generated
  jbft: 3803 missing values generated
  paygu: 4553 missing values generated
  jbbgy4: 4568 missing values generated
(0 real changes made)

```

	_merge	Freq.	Percent	Cum.
only in master data		7,343	70.86	70.86
both in master and using data		3,019	29.14	100.00
Total		10,362	100.00	

```

(7662 missing values generated)
(7354 missing values generated)
(5111 missing values generated)
(jspno: 7343 changes made)
  wave was float now byte
  previous_spellbegin was float now int
  spellend was float now int
  current_spellbegin was float now int
(93,258 bytes saved)

```

```

file C:\My Documents\fjobhistory.dta saved

```

```

.
. foreach wave in a b c d e f {
2.     use "$dir/\wave\jobhistory.dta", clear
3.     if indexnot("a","\wave") append using "$dir/jobhistory_final.dta"
4.     * There is no append for the first wave of the data
.     compress
5.     save "$dir/jobhistory_final.dta", replace
6.     }
(0 bytes saved)
file C:\My Documents\jobhistory_final.dta saved
(0 bytes saved)

```

```

file C:\My Documents\jobhistory_final.dta saved
(0 bytes saved)
file C:\My Documents\jobhistory_final.dta saved
(0 bytes saved)
file C:\My Documents\jobhistory_final.dta saved
(0 bytes saved)
file C:\My Documents\jobhistory_final.dta saved
(0 bytes saved)
file C:\My Documents\jobhistory_final.dta saved
(0 bytes saved)

```

```

.
. *****
. * EXTRACT VARIABLES FROM THE JOB HISTORY FILE *
. * AND RUN A REGRESSION *
. *****
.
. tabulate jhstat

```

labour force status code	Freq.	Percent	Cum.
diff job same employer	2,893	15.93	15.93
empl self/diff emply	8,758	48.22	64.14
unemp/job seeking	3,067	16.89	81.03
ret'd from pd emplymt	106	0.58	81.61
on maternity leave	315	1.73	83.35
looking after family	1,037	5.71	89.06
f-t education	1,159	6.38	95.44
lng trm sick/disabl'd	179	0.99	96.42
on govt trng scheme	262	1.44	97.86
something else	388	2.14	100.00
Total	18,164	100.00	

```

. tabulate jhstat jbsemp

```

labour force status code	employee or self-employed: current job	Total
diff job same employer	2,852 19	2,871
empl self/diff emply	4,881 585	5,466
unemp/job seeking	2,040 237	2,277
ret'd from pd emplymt	68 12	80
on maternity leave	235 13	248
looking after family	710 69	779
f-t education	726 33	759
lng trm sick/disabl'd	75 12	87
on govt trng scheme	142 10	152
something else	226 36	262
Total	11,955 1,026	12,981

```

.
. * Keep those who have at most one recoded spell in the job history file
. bysort pid wave: generate TotSpells = _N

```

```

. drop if TotSpells > 1
(9173 observations deleted)

```

```

. tabulate jspno

```

spell number of labour force status	Freq.	Percent	Cum.
0	44,989	83.04	83.04
1	9,187	16.96	100.00

Total | 54,176 100.00

```
.
. tsset pid wave
    panel variable:  pid (unbalanced)
    time variable:  wave, 1 to 6, but with gaps
    delta: 1 unit

. generate NewJob = 0 if jbstat == 2 & L.jbstat == 2
(36894 missing values generated)

. replace NewJob = 1 if jhstat == 2
(4249 real changes made)

.
. * What is the impact of a job change on wages?
. * Note that you have to generate the dummy variables again
. generate age2 = age^2

. generate Female = 1 if sex == 2
(25242 missing values generated)

. replace Female = 0 if sex == 1
(25242 real changes made)

. label var Female "Dummy for women"

. generate PartTime = 1 if jbft == 2
(47140 missing values generated)

. replace PartTime = 0 if jbft == 1
(23902 real changes made)

. label var PartTime "Part-time dummy"

. tabulate qfachi, gen(Q)
```

	highest academic qualification	Freq.	Percent	Cum.
	higher degree	811	1.58	1.58
	1st degree	3,600	7.00	8.57
hnd,hnc,teaching		2,918	5.67	14.24
	a level	8,199	15.93	30.17
	o level	13,184	25.62	55.79
	cse	2,659	5.17	60.96
	none of these	20,094	39.04	100.00
Total		51,465	100.00	

```
. label var Q1 "higher degree"
. label var Q2 "1st degree"
. label var Q3 "hnd,hnc,teaching"
. label var Q4 "a level"
. label var Q5 "o level"
. label var Q6 "cse"
. label var Q7 "none of these qualif"
. generate year = wave + 1990
. tabulate year, gen(Y)
```

year	Freq.	Percent	Cum.
1991	9,581	17.68	17.68
1992	9,242	17.06	34.74
1993	9,031	16.67	51.41

1994	8,856	16.35	67.76
1995	8,639	15.95	83.71
1996	8,827	16.29	100.00
<hr/>			
Total	54,176	100.00	

```
.
. generate LnW = ln(paygu) if jbsemp == 1
(27597 missing values generated)
```

```
.
. * Declare the data to be panel
. tsset pid year, yearly
    panel variable:  pid (unbalanced)
    time variable:   year, 1991 to 1996, but with gaps
                    delta: 1 year
```

```
.
. xtreg LnW age age2 sex PartTime NewJob Q1-Q6 Y2-Y6, fe vce(robust)
note: sex omitted because of collinearity
```

Fixed-effects (within) regression	Number of obs	=	17377
Group variable: pid	Number of groups	=	5462
R-sq: within = 0.2144	Obs per group: min =		1
between = 0.4778	avg =		3.2
overall = 0.4720	max =		6

	F(15,5461)	=	100.30
corr(u_i, Xb) = 0.4333	Prob > F	=	0.0000

(Std. Err. adjusted for 5462 clusters in pid)

LnW	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
age	.0729065	.0115463	6.31	0.000	.0502711	.0955419
age2	-.0009346	.0000873	-10.71	0.000	-.0011057	-.0007636
sex	0	(omitted)				
PartTime	-.4061249	.0260675	-15.58	0.000	-.4572276	-.3550221
NewJob	-.038944	.0125733	-3.10	0.002	-.0635926	-.0142953
Q1	.291791	.107313	2.72	0.007	.0814147	.5021673
Q2	.2752159	.101622	2.71	0.007	.0759962	.4744355
Q3	.1142671	.052778	2.17	0.030	.0108013	.217733
Q4	.1480537	.0438928	3.37	0.001	.0620064	.2341011
Q5	.0563789	.0395975	1.42	0.155	-.021248	.1340058
Q6	.0102531	.0941488	0.11	0.913	-.174316	.1948223
Y2	.0781909	.0251369	3.11	0.002	.0289126	.1274691
Y3	.1143867	.029796	3.84	0.000	.0559746	.1727988
Y4	.1700801	.0364408	4.67	0.000	.0986416	.2415187
Y5	.226619	.0438193	5.17	0.000	.1407158	.3125223
Y6	.2865728	.0516866	5.54	0.000	.1852466	.3878991
_cons	5.32457	.3606437	14.76	0.000	4.617565	6.031575
<hr/>						
sigma_u	.62081593					
sigma_e	.22142467					
rho	.88714497	(fraction of variance due to u_i)				

```
. test NewJob
```

```
( 1) NewJob = 0
```

F(1, 5461)	=	9.59
Prob > F	=	0.0020

```
.
.
.
. * 12.3. Appending Data on Previous Spell to Data on Current Spell
. *****
. * 12.3.1. Merging Files
. *-----
```



```

.
. foreach wave in a b c d e f {
2.     * Job history files
        use pid `wave' jspno `wave' jhstat `wave' jhbgm `wave' jhbggy4 `wave' jhstpy ///
>         `wave' jhstpy `wave' jhendd `wave' jhendm `wave' jhendy4 `wave' jha9ly ///
>         using "$datadir/\`wave'jobhist", clear
3.         renpfix `wave'
4.         generate wave = index("abcdef", "`wave'")
5.         mvdecode _all, mv(-9/-1)
6.         replace jhbgm = . if jhbgm > 12
7.         replace jhendm = . if jhendm > 12
8.         sort pid jspno
9.         save "$dir/\`wave'jobhistory_junk", replace
10.        * Individual respondent files
        use `wave' hid pid `wave' sex `wave' age `wave' jbstat `wave' qfachi ///
>         `wave' paygu `wave' jbsemp `wave' jbft `wave' jbbgm `wave' jbbgy4 ///
>         using "$datadir/\`wave'indresp", clear
11.        renpfix `wave'
12.        generate wave = index("abcdef", "`wave'")
13.        generate jspno = 0
14.        mvdecode _all, mv(-9/-1)
15.        replace jbbgm = . if jbbgm > 12
16.        sort pid jspno
17.        * Merge individual respondent file with job history file
.        merge 1:m pid jspno using "$dir/\`wave'jobhistory_junk.dta"
18.        tabulate _merge
19.        drop _merge
20.        compress
21.        save "$dir/\`wave'jobhistory.dta", replace
22.    }

```

```

jhstat: 62 missing values generated
jhbgm: 303 missing values generated
jha9ly: 1304 missing values generated
jhstpy: 1328 missing values generated
jhendd: 880 missing values generated
jhendm: 24 missing values generated
jhbggy4: 96 missing values generated
jhendy4: 20 missing values generated

```

(0 real changes made)

(0 real changes made)

file C:\My Documents\ajobhistory_junk.dta saved

```

jbsemp: 4112 missing values generated
jbbgm: 5358 missing values generated
jbstat: 352 missing values generated
qfachi: 371 missing values generated
jbft: 4439 missing values generated
paygu: 5100 missing values generated
jbbgy4: 5105 missing values generated

```

(0 real changes made)

Result	# of obs.
not matched	13,646
from master	10,264 (_merge==1)
from using	3,382 (_merge==2)
matched	0 (_merge==3)

_merge	Freq.	Percent	Cum.
master only (1)	10,264	75.22	75.22
using only (2)	3,382	24.78	100.00
Total	13,646	100.00	

wave was float now byte

jspno was float now byte

(81,876 bytes saved)

file C:\My Documents\ajobhistory.dta saved

```

jhstat: 21 missing values generated
jhbgm: 169 missing values generated
jhstpy: 1136 missing values generated
jhendd: 1060 missing values generated

```

```

    jhndm: 4 missing values generated
    jhbgy4: 36 missing values generated
    jhendy4: 5 missing values generated
(32 real changes made, 32 to missing)
(4 real changes made, 4 to missing)
file C:\My Documents\bjobhistory_junk.dta saved
    jbstat: 1 missing value generated
    jbsemp: 4037 missing values generated
    jbbgm: 5218 missing values generated
    qfachi: 439 missing values generated
    jbft: 4234 missing values generated
    paygu: 5002 missing values generated
    jbbgy4: 5013 missing values generated
(27 real changes made, 27 to missing)

```

Result	# of obs.
not matched	12,763
from master	9,845 (_merge==1)
from using	2,918 (_merge==2)
matched	0 (_merge==3)

_merge	Freq.	Percent	Cum.
master only (1)	9,845	77.14	77.14
using only (2)	2,918	22.86	100.00
Total	12,763	100.00	

```

wave was float now byte
jspno was float now byte
(76,578 bytes saved)
file C:\My Documents\bjobhistory.dta saved
    jhbgm: 167 missing values generated
    jhstpy: 1082 missing values generated
    jhendd: 363 missing values generated
    jhndm: 14 missing values generated
    jhbgy4: 33 missing values generated
    jhendy4: 9 missing values generated
(11 real changes made, 11 to missing)
(1 real change made, 1 to missing)
file C:\My Documents\cjobhistory_junk.dta saved
    jbstat: 8 missing values generated
    jbsemp: 3886 missing values generated
    jbbgm: 5103 missing values generated
    qfachi: 625 missing values generated
    jbft: 4119 missing values generated
    paygu: 4935 missing values generated
    jbbgy4: 4967 missing values generated
(12 real changes made, 12 to missing)

```

Result	# of obs.
not matched	12,518
from master	9,600 (_merge==1)
from using	2,918 (_merge==2)
matched	0 (_merge==3)

_merge	Freq.	Percent	Cum.
master only (1)	9,600	76.69	76.69
using only (2)	2,918	23.31	100.00
Total	12,518	100.00	

```

wave was float now byte
jspno was float now byte
(75,108 bytes saved)
file C:\My Documents\cjobhistory.dta saved
    jhstat: 28 missing values generated
    jhbgm: 325 missing values generated

```

```

jhstpy: 1121 missing values generated
jhendd: 379 missing values generated
jhendm: 14 missing values generated
jha9ly: 1 missing value generated
jhbgy4: 75 missing values generated
jhendy4: 7 missing values generated
(1 real change made, 1 to missing)
(1 real change made, 1 to missing)
file C:\My Documents\djobhistory_junk.dta saved
jbstat: 6 missing values generated
jbsemp: 3772 missing values generated
jbbgm: 5027 missing values generated
qfachi: 475 missing values generated
jbft: 3973 missing values generated
paygu: 4738 missing values generated
jbbgy4: 4744 missing values generated
(2 real changes made, 2 to missing)

```

Result	# of obs.	
not matched	12,492	
from master	9,481	(_merge==1)
from using	3,011	(_merge==2)
matched	0	(_merge==3)

_merge	Freq.	Percent	Cum.
master only (1)	9,481	75.90	75.90
using only (2)	3,011	24.10	100.00
Total	12,492	100.00	

```

wave was float now byte
jspno was float now byte
(74,952 bytes saved)

```

```

file C:\My Documents\djobhistory.dta saved
jhstat: 59 missing values generated
jhbmg: 353 missing values generated
jhstpy: 1151 missing values generated
jhendd: 412 missing values generated
jhendm: 17 missing values generated
jhbgy4: 103 missing values generated
jhendy4: 5 missing values generated
(2 real changes made, 2 to missing)
(1 real change made, 1 to missing)
file C:\My Documents\ejobhistory_junk.dta saved
jbstat: 2 missing values generated
jbsemp: 3632 missing values generated
jbbgm: 4898 missing values generated
qfachi: 471 missing values generated
jbft: 3815 missing values generated
paygu: 4569 missing values generated
jbbgy4: 4581 missing values generated
(0 real changes made)

```

Result	# of obs.	
not matched	12,361	
from master	9,249	(_merge==1)
from using	3,112	(_merge==2)
matched	0	(_merge==3)

_merge	Freq.	Percent	Cum.
master only (1)	9,249	74.82	74.82
using only (2)	3,112	25.18	100.00
Total	12,361	100.00	

```

wave was float now byte
jspno was float now byte

```



```

(18360 real changes made)
(18277 real changes made)

.
. generate Status = 1 if jbstat == 1 | jbstat == 2 | jhstat == 1 | jhstat == 2
(31809 missing values generated)

. replace Status = 2 if jbstat == 3 | jhstat == 3
(6030 real changes made)

. replace Status = 3 if (jbstat >= 4 & jbstat <= 10) | ///
>         (jhstat >= 4 & jhstat <= 10)
(25198 real changes made)

. label var Status "Employment Status"

. label define ES 1 "Employed" 2 "Unemployed" 3 "Inactive"

. label value Status ES

.
.
. * 12.3.3. Addressing Inconsistencies
. *-----
.
. generate JBSpellStart = ym(jbbgy4, jbbgm)
(48839 missing values generated)

. generate JHSpellStart = ym(jhbgy4, jhbgm)
(59567 missing values generated)

. generate JHSpellEnd = ym(jhendy4, jhendm)
(57972 missing values generated)

.
. bysort pid wave (jspno): generate Cronjspno = _N - jspno

.
. generate SpellBegin = JBSpellStart if jspno == 0
(48839 missing values generated)

. replace SpellBegin = JHSpellStart if jspno > 0 & jspno ~= .
(16670 real changes made)

.
. generate SpellEnd = JHSpellEnd
(57972 missing values generated)

.
. * If there has been no change and dates do not match
. bysort pid (wave Cronjspno): replace SpellBegin = SpellBegin[_n-1] if ///
>         SpellBegin ~= SpellBegin[_n-1] & SpellBegin[_n-1] ~= . & ///
>         jspno == 0 & Cronjspno == 1 & wave > 1
(9965 real changes made)

. * If there have been intervening spells but the dates do not match
. * the windresp file overrides the w+1 job history file
. * JHSpellStart of the oldest spell in the job history file must be >=
. * JBSpellStart in the indresp file
. bysort pid (wave Cronjspno): replace SpellBegin = JBSpellStart[_n-1] if ///
>         SpellBegin < JBSpellStart[_n-1] & SpellBegin ~= . & ///
>         JBSpellStart[_n-1] ~= . & Status == Status[_n-1] & wave > 1
(3960 real changes made)

. bysort pid (wave Cronjspno): replace SpellBegin = JHSpellStart if ///
>         SpellBegin == . & JHSpellStart ~= . & ///
>         jspno ~= 0 & Cronjspno == 1 & wave > 1
(0 real changes made)

. bysort pid (wave Cronjspno): replace SpellBegin = SpellBegin[_n-1] if ///
>         SpellBegin == . & SpellBegin[_n-1] ~= . & ///
>         JHSpellStart == . & Status == Status[_n-1] & ///
>         jspno ~= 0 & Cronjspno == 1 & wave > 1

```

(528 real changes made)

```
.      * This would be the oldest spell in case of multiple spells
.
. foreach var of varlist JBSpellStart JHSpellStart JHSpellEnd ///
>      SpellBegin SpellEnd {
2.      format `var' %tm
3.      }

.
.
. save "$dir\jobhistory_final.dta", replace
file C:\My Documents\\jobhistory_final.dta saved

.
. log close
      name: <unnamed>
      log:  C:\My Documents\\Example_Chapter12.log
      log type: text
closed on:  30 Jul 2014, 08:34:42
```
