DREAM
Danish Research Institute for
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MAKRO

Job Destruction and Job Finding Rates by Age in Danmark

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Preface

I use register data from Statistics Denmark to compute job destruction and job finding rates by age which account for job to job transitions. These rates vary significantly over the life cycle. In addition, rates that account for job to job transitions are much higher than rates of movement in and out of employment that exclude them. The job destruction rates obtained here show a very dynamic picture of the danish labor market and are useful for macroeconomic models with a life cycle component.

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Introduction

The life cycle model is a workhorse of modern Macroeconomics, typically used to model the savings decision. It is also relevant for studying the employment decision and to characterize the labor market. Many labor market features vary significantly over the life cycle, from hours worked, wages earned, and rates of employment and participation, to dynamic properties such as finding and destruction rates. [1]

Here I use Danmark's register data to compute job finding and job destruction rates for wage earners. I use both unconditional and conditional measures of finding and destruction rates to isolate job to job transitions. By counting the number of individuals working during November of a given year who are also working in the month of November of the following year we obtain an unconditional measure. By counting those that are still working in the same job we obtain a conditional measure and I use both firm level and workplace level criteria for constructing the conditional measures. The difference between the unconditional and conditional measures yields job to job (J2J) transitions. These reveal a very dynamic view of the labor market which is well suited to be used in macroeconomic models with a life cycle component. Job to job transitions matter for firms since irrespective of whether a worker leaves because he has found a job elsewhere or otherwise, there is a vacant job that needs to be filled.

For workers aged 16 to 83 I find an average unconditional job destruction rate of 9.76% and an average conditional job destruction rate between 26 and 30% depending on the J2J measure used. Using OECD data on unemployment duration and on job tenure Hobijn and Şahin (2009) calculate aggregate job finding and destruction rates for Denmark. Their job destruction rate implicitly include job to job transitions whereas their finding rate does not. They estimate a monthly destruction rate of 1.87% which corresponds to an annual rate of 20%.[2]. Despite the limitations of their data they find a value close in magnitude to what I find in the micro data. As for their estimate of the job finding rate, it is 9.64% *per month*.

I look briefly at gender differences. Frederiksen (2008) looks at danish register data and finds that women have higher unconditional job separation probabilities. That does not seem to be the case in the 40 to 60 age interval here. The most significant gender differences I find are until age 40 where women have significantly higher unconditional finding and destruction rates, and lower job to job transition rates.

I also find evidence of heterogeneity. The probability of changing jobs conditional on having changed jobs the previous year is higher than the corresponding unconditional probability, suggesting some people are more prone to changing jobs. This matters because heterogeneity implies we cannot iterate on monthly job destruction and finding rates to obtain corresponding annual

1. See Jung and Kuhn (2017), Menzio, Telyukova and Visschers (2015) and references therein.
2. $1 - (1 - 0.0187)^{12} = 0.2027$

measures of these objects.

Data

The register data contains the personal number, date of birth, gender, living address, and other personal information on individuals measured in the last quarter of each year. To this we match employment status information which contains monthly data on employment, wages, hours worked, total compensation, characteristics of the firm (firm and plant identifier, location, sector, type of job), etc. The data has information on whether a person is working, and conditional on working, how many hours he or she works and gets paid, how many different jobs they have, and if they work in the same firm or plant in different periods. The data is restricted to wage earners and therefore self employed individuals are excluded. I also limit the focus to annual changes, thereby selecting data only from the month of November in every year. November is chosen as it is a month with closer to "normal" economic activity. Employment information in the month of November in year t is matched to personal information on each individual.

Crucial to obtaining job destruction and job finding measures from the data is the definition of what it means to be employed. Employment is defined as working more than one hour **and** earning any positive amount, and non-employment as working less than one hour **or** earning a zero amount. In the data we observe also that the same individual can receive multiple wage payments in a given month, so that a number of individuals can be counted more than once as they have more than one "job". Non employment means zero jobs so in this variable individuals are counted only once. We eliminate this feature by selecting only the "job" with the largest paycheck in the period for each individual. [3]

Employment to Employment Transitions

Apart from measuring the transitions in and out of employment, we are interested in measuring job changes. We explore four different conditioning variables for employment to employment transitions. These have the following names and descriptions in the Danmark Statistik database.

The first variable AJO-CVR-NR-FRA-PROD-JOB is the CVR number used to identify a company as a legal entity. The second variable AJO-OK-NR identifies an economic entity, which is a statistical unit formed mechanically in Statistics Denmark's Business Statistics Register (ESR).

3. This is not an innocuous choice as it implies a difference in job destruction and creation rates of around 15% such that the highest job destruction rate calculated for the 16 to 83 age sample is close to 36%. However, it is not always clear what these multiple paychecks correspond to. They could be multiple payments for the same task, payments for related tasks in the same job, etc. For some there are payments made from different employers, and the elimination of these has more economic significance.

An economic entity is a combination of the fewest possible legal entities (CVR units) under the same owner so that the formed entity has such financial independence that it significantly decides for itself how the income generated in the entity is used. The economic unit corresponds to the definition of enterprise in Eurostat's statistical unit regulation.

The other two variables identify the workplace. The variable AJO-ARBNR-SENR identifies a workplace in Statistics Denmark's Business Statistics Register (ESR). The last variable is AJO-PROD-NR-FRA-PROD-JOB which is a production unit number (P-number) which indicates the workplace to which the employee is affiliated and which the employer must state when paying and reporting wages paid to the tax authority in case the company has two or more P-numbers. In addition to a CVR number companies are assigned one P-number for each physical location from which the business operates. Several P-numbers can thus be associated with the same CVR number.

The CVR and OK numbers yield results virtually identical to each other in our exercise. They identify the company. The ARBNR identifies the workplace and the PROD number identifies a production unit. The results with these two alternative measures are also similar between them, and in both cases yield greater job creation and destruction than the ones obtained using job to job transitions measured by the OK or CVR numbers. These lower measures obtained from OK and CVR classifications are likely to be a lower bound on the dynamics we are measuring since there can be job changes within a company which should count as job destruction. There is an additional source of labor market dynamics which is being ignored in this study. This is the turnover occurring during the year between the two November dates used and which is overlooked.

Overview of the data

Table 1 shows data on population and employment for individuals aged 26 to 55.[4] Around three quarters of the population of these ages are employed, and 77.8% of men and 74.5% of women are employed in 2018.

Table 2 shows data on unemployment and on jobs found out of unemployment for the same age interval. Unemployment is calculated as the difference between population and employment so it is best described as non-employment, and jobs found counts the number of individuals who are not employed in November of the first year and are employed in November of the following year. Around 19% of unemployed men and 20% unemployed women aged 26 to 55 find jobs, and from 2017 to 2018 the job finding rates are respectively 19.9% and 21.6%.

Table 3 shows data on employment and on jobs lost (transitions from employment at time to to non employment at t+1) for individuals aged 26 to 55. Around 6% of employed men and 7% employed women aged 26 to 55 lose jobs, and from 2017 to 2018 the job loss rates are respectively 6.13% and 6.98%.

4. This age interval is useful for looking at effects across time so we make use of it here also.

Table 4 shows employment to employment transitions. The first measure is unconditional and measures the number of individuals that have a job in the one period (November of the year described in the first row) and also have a job one year later. Any job. The next four measures are conditional. They measure the number of individuals that have a job in both periods and that job is classified in the same way, in the first case by ARBNR and in the next cases by PRODNR, CVR number, and OKNR. These are people that have **not** changed jobs. The difference between the unconditional and each conditional measure of employment to employment transitions provides the measures of job to job transitions (people staying employed but changing jobs). The crucial information contained in this measure is that it is much bigger in size than the number of jobs found out of unemployment. Most jobs found are found by people who already have jobs.

The conditional classification matters here. In 2017/18 men have a job to job transition rate of 20.6% when measured by the ARBNR criterion ($J \to J|_{an}$ /$E \to E$ = 170174/825416) while if measured by the OKNR the rate is 17.1% (141059/825416). There is more job mobility across firms **and** workplaces than just across firms. Irrespective of the measure used, these movements of people that remain employed are much larger than movements in and out of employment. The job destruction rate into unemployment (job loss rate) of men in 2017/18 is 6.13% or about one third of job to job transitions. For firms, the bulk of replacement activity occurs due to workers leaving for other jobs rather than due to workers either retiring or becoming unemployed.

Calculating job destruction and job finding rates

Job destruction is a transition from employment to non-employment. Employment to employment transitions are further detailed on the event of working for the same firm or working in the same workplace in different years. We explore four different conditioning classifications. The difference between the unconstrained and constrained versions of employment to employment transitions produces a measure of job changes or job to job transitions. Job destruction rates can be computed either including or excluding job to job transitions, with significant implications for the level of job destruction and finding rates. Table 5 shows numbers for 40 year old individuals in 2017 and the numbers for 40 year old men are used in the immediate illustration.

We define the unconditional job finding rate as the ratio of transitions from non-employment to employment over the number of non employed,

$$x_t = \frac{U_t \to E_{t+1}}{U_t} = \frac{1323}{7239} = 0.183$$

This job finding rate is 18.3% for a 40 year old man unemployed in November 2017. We define also the unconditional job destruction rate as employment into unemployment transitions (employment minus job survival) over employment

$$\delta_t = \frac{E_t \to U_{t+1}}{E_t} = \frac{28156 - 26695}{28156} = \frac{1461}{28156} = 0.0519$$

and this destruction rate is 5.2% for a 40 year old man employed in November 2017.

Alternatively we define the total jobs found as the sum of non-employment to employment transitions plus job to job transitions (employment in job i into employment in job j). In this example we use the CVR number for job to job transitions (J2JCV):

$$JF_t = U_t \to E_{t+1} + E_t^i \to E_{t+1}^j = 1323 + 4413 = 5736$$

and define similarly total jobs destroyed as the sum of employment into unemployment transitions plus the same job to job transitions:

$$JD_t = E_t \to U_{t+1} + E_t^i \to E_{t+1}^j = 1461 + 4413 = 5874$$

and the job destruction rate is then given by

$$\hat{\delta}_t = \frac{JD_t}{E_t} = \frac{5874}{28156} = 0.209$$

The job destruction rate measured this way is 20.9% for a 40 year old man. For younger workers job destruction rates are higher. The job finding rate is then given by

$$\hat{x}_t = \frac{JF_t}{U_t + JD_t} = \frac{5736}{7239 + 5874} = 0.437$$

For the years 2017/2018 this global job finding rate measured above is very high, at 43.7% for a 40 year old man, because job to job transitions have a rate of 1 and account for a large part of jobs found. Job finding rates also fall with age.

The life cycle

Figure 1 shows that job to job transitions decline steadily in importance as agents get older, with the steepest decline occurring early on between ages 20 and 30. Job changes occur mostly early in life. Figure 2 shows unconditional job finding and job destruction rates. The job finding rate out of unemployment (out of non employment), x_t is highest at the youngest ages and drops steadily over the life cycle, with a sudden steep drop around age 60 as individuals enter retirement age. The job destruction rate δ_t is the transition from employment into non employment and excludes job to job transitions. It is a U-shaped curve, highest at young and old ages and flat at around 5% between ages 40 and 60. Retirement accounts for the high transition rates in old age. The lower panels show also the turning point around age 60 shifting to the right with time due to the changes in the retirement law.[5]

Figure 3 shows rates that include job to job transitions, for the 2017 to 2018 case. These are uniformly much higher than their unconditional counterparts (pictured in red) although after retirement the difference is small. Until around age 60 the majority of destruction comes from job to job transitions, whereas after age 60 it comes from definitive destruction. Clearly, finding and

5. Although we do not focus on hours worked, they also have a life cycle pattern. Younger and older workers work fewer hours than workers aged 25 to 60.

destruction rates that include job to job transitions contain a much more dynamic image of the labor market, whereas rates that exclude them suggest a much more rigid one.

It is worth noting also that the data shown is that of a cross section at a given moment and not the follow through of a given cohort over time. This is the way we need to look at the data since in a macroeconomic model job finding rates and job destruction rates for all ages are the result of a matching function working at a given moment in time.

Gender Differences

Men and women fare differently in the labor market. This also has systematic patterns over the life cycle. Figures 4 and 5 show life cycle profiles of finding and destruction rates for men and women. The unconditional rates show that from age 20 to age 40 women have both higher destruction and finding rates, consistent with entry and exit due to having children. Between ages 40 and 60 both unconditional rates are very similar for men and women. These are the robust patterns in the data. Rates that include job to job transitions yield heterogeneous results. Frederiksen (2008) looks at danish register data and finds that women have higher unconditional job separation probabilities. That is not true in the 40 to 60 age interval.[6] Finally, he finds that women are more likely to move from a job and into unemployment or out of the labor force, and less likely to make job-to-job transitions. This is the case here when using the CVR measure although the difference is generally not substantial. Where gender differences are significant is until age 40 where women have significantly higher unconditional finding and destruction rates, and lower job to job transition rates.

The business cycle

Here we focus on the age interval 26 to 55 (inclusive) in order to eliminate the moving kink around retirement that we can see in panels c) and d) of figure 2, and also to eliminate the high volatility of the young cohorts around age 20.

The joint employment rate for men and women aged 26 to 55 increases from 74.43% in 2012 to 76.19% in 2018. In this period 2012 to 2018 the unconditional job finding rate (out of non employment) for men and women together increases from 19.46% to 20.79%, and the unconditional job destruction rate falls from 6.95% to 6.54%. This period from 2012 to 2018 is a stable period of recovery which followed the financial crisis of 2008.

6. He finds no gender difference in job separation probabilities if workplaces are similar.

Job to job transitions also increase during this period. Using the CVR criterion in the 26-55 age interval they increase by one fifth between 2012 and 2018.[7] Using the OK and CVR measures job to job transitions show a clear positive trend during this period. However, using the ARBNR and PRODNR criteria this is not the case as the numbers oscillate without a trend.[8] The different measures paint a different picture for the broader job destruction rate. Using the CVR or OK number to calculate J2J transitions the total destruction rate actually increases during the recovery whereas it stays flat using the ARBNR or PRODNR. Either way, from the point of view of the firm recoveries are not periods where job destruction falls, while for workers the chances of job loss do fall unambiguously.

There is a business cycle effect on employment, finding and destruction rates, and job to job transitions. This effect is, however, much smaller in magnitude than the variation contained in the life cycle. The unconditional job destruction rate of 26 years olds in 2017-2018 is 14.48% while the same rate for 55 year olds is 4.52%. The life cycle has far more variation in finding and destruction rates than the business cycle. To understand aggregate levels of employment and unemployment it is therefore crucial to understand their life cycle. Busyness Cycle variation then moves these life cycle profiles up and down as a whole, but not uniformly. The employment rates and job finding rates of 16 to 25 year olds increase proportionally more and the job destruction rates fall proportionally more than they do for the 26 to 55 year olds. This effect is reasonably monotonic over the 16 to 60 age range. The older the worker the less he or she benefits in an expansion and the more he or she suffers in a recession.

Heterogeneity

Job to job transitions provide us with the relevant job destruction measure from the point of view of the firm, and they reveal a high turnover. Depending on the measure the numbers show a job destruction rate in the 0.25 to 0.30 range. This is a high number and its inverse ratio implies an average job duration between 3 and 4 years. However the average job duration has been measured to be longer at around 7 years. These numbers can be reconciled if not all workers behave identically with respect to job to job transitions. Figure 6 a) shows two measures of job to job transitions for the triennium 2013-2015, where we count the workers that change jobs twice, and the respective measures for the biennium 2013-2014 where we count the workers that changed jobs once initially. The measure for 2013-14 measures job to job transitions relative to initial employment, while the triennium measure measures the number of workers with two job changes relative to the the number of workers that had changed jobs initially. The second measure is conditional on the first. And the graph shows that there is a higher fraction of workers that change jobs twice than the fraction of workers than change jobs once. The same result is verified with all measures in the triennium 2015-2017 and I expect the same is true of all measures across the entire time

7. From 119765 + 94009 = 213774 in 2012-2013, to 254448 in 2017-2018.
8. If we look at the 16 to 25 year olds, J2J numbers increase for all criteria. Young people just move more.

frame. These graphs suggest that, at every age, there is a subset of population that changes jobs more often, reconciling a high turnover rate with a longer average job duration.

To understand the implication, if changing jobs was an i.i.d. process we would expect the conditional and unconditional curves to overlap, while if workers were less likely to change jobs immediately after a job change we would see the conditional curves lying below the unconditional ones.

Time Aggregation

Suppose the relevant time unit is the month. Hobijn and Şahin (2009) find a job destruction rate of 0.0187 per month and a job finding rate of $F = 0.0964$ per month. They assume job to job transitions are 40% of all job destruction.[9] That means the rate of job loss is assumed to be $L = 0.6 \times 0.0187 = 0.01122$. We now define the laws of motion for employment and unemployment as $V_{t+1} = M \times V_t$ or in detail

$$\begin{bmatrix} U_{t+1} \\ E_{t+1} \end{bmatrix} = \begin{bmatrix} 1-F & L \\ F & 1-L \end{bmatrix} \begin{bmatrix} U_t \\ E_t \end{bmatrix}$$

and if we want to calculate transitions between V_t and V_{t+12} we use the matrix M exponentiated 12 times, M^{12}. Element [1,1] of this matrix contains the probability of being unemployed at t+12 given being unemployed at t. Element [2,2] contains the probability of being employed at t+2 given being employed at t. The off diagonal elements contain the probabilities of switching states with element [1,2] being the job loss probability which we calculate in our data to be 0.1075 in 2012-2013 and 0.0975 in 2017-2018, and element [2,1] being the unconditional job finding rate we calculate as 0.1159 in 2012-2013 and 0.1237 in 2017-2018. Using Hobijn and Şahin's numbers we have

$$\begin{bmatrix} U_{t+12} \\ E_{t+12} \end{bmatrix} = \begin{bmatrix} 0.9036 & 0.01122 \\ 0.0964 & 0.98878 \end{bmatrix}^{12} \begin{bmatrix} U_t \\ E_t \end{bmatrix} = \begin{bmatrix} 0.3327 & 0.07767 \\ 0.6673 & 0.92233 \end{bmatrix} \begin{bmatrix} U_t \\ E_t \end{bmatrix}$$

where relative to the 2018 data used here they underestimate the job loss rate ($0.0777 < 0.0975$) and overestimate the job finding rate ($0.667 > 0.1237$). Their job destruction measure based on job tenure data measures the probability of exiting one job after a given period of time and that is irrespective of whether they exit to another job, and their measure of finding rate takes the non employed population and measures the transition into employment.

Another way to measure the bias in the estimates is to look at the steady state. From the laws of motion we obtain the steady sate employment rate $\frac{E}{E+U} = \frac{F}{F+L}$. With H&S estimates this number is 0.896. This number is too large. In 2018 data, even if we restrict the age range to the 26 to 55 year olds where the employment rate is highest, it is still only 0.75. With my estimates

9. I find it to be around 2/3 instead of 0.4.

for 2018 for ages 16 to 83 this ratio is 0.559 and computing it directly from the data it is 0.577. This is the age range used to calculate the average F and L in the data and the small discrepancy suggests that in 2018 Denmark is not far from steady state.[10]

Using the Data

In a discrete time model the number of workers searching for a job in a given period is given by the surviving workers who were unemployed last period, the surviving workers who lost their job at the end of last period, and plus the new arrivals or minus the exits from the population.

$$\left(N_{a-1,t-1} - n^e_{a-1,t-1}\right) \cdot s_{a-1,t-1}$$

$$\delta_{a-1} \cdot n^e_{a-1,t-1} \cdot s_{a-1,t-1}$$

$$N_{a,t} - N_{a-1,t-1} \cdot s_{a-1,t-1}$$

and these quantities add up to $S_{a,t} = N_{a,t} - (1 - \delta_{a-1}) \cdot n^e_{a-1,t-1} \cdot s_{a-1,t-1}$ which is the entire population of age a at time t, $N_{a,t}$, minus the job survivors.

This algebra is agnostic to whether or not one includes job to job transitions in the destruction rate δ_a. That choice is reflected in the way the job finding rate is modeled. Also, adding workers who were unemployed last period to workers that have lost their job at the end of the period in one single group of job searchers assumes they have identical job finding rates, which we know is not true in the data. The model then uses average probabilities such as those calculated here.

Conclusion

Job destruction and job finding rates vary significantly with age. Job to job transitions reveal a dynamic labor market and are significant at all ages but far more so at younger ages. Job finding rates are lower and job destruction rates higher during recessions and older workers are more affected by higher job destruction rates than young ones. Women have higher job destruction and higher job finding rates, and lower job to job transitions until age 40, after which their laor market characteristics resemble those of men. Finally, the data shows there is heterogeneity in labor market behavior in that some individuals move jobs more often than others. This reconciles a high turnover rate which points to an average job duration of 3 to 4 years, with an elsewhere documented duration of about 7 years.[11]

10. The average employment rate in 2018 is 0.614 for ages 16 to 75 and 0.700 for ages 16 to 65. Hobijn and Sahin look at individuals aged 15 and older.

11. if 80% of the population changes jobs every 8.5 years and 20% changes job every year the average job duration is 7 years and the job destruction rate is 29%.

- Chéron, A., Hairault, J., and Langot, F. (2013). Life-Cycle Equilibrium Unemployment. Journal of Labor Economics, 31(4), 843-882.
- Frederiksen, A. (2008). Gender differences in job separation rates and employment stability: New evidence from employer-employee data. Labour Economics 15 (2008) 915–937.
- Fujimoto, J. (2013). A note on the life-cycle search and matching model with segmented labor markets. Economics Letters, Volume 121, Issue 1, October 2013, Pages 48-52.
- Hobijn, B., and Şahin, A. (2009). Job-finding and separation rates in the OECD. Economics Letters, Volume 104, Issue 3, September 2009, Pages 107-111
- Menzio, G., Telyukova, I., and Visschers, L. (2015). Directed Search over the Life Cycle. Review of Economic Dynamics, 2016, vol. 19, 38-62.
- Jung, P., and Kuhn, M. (2017). Earnings losses and labor mobility over the lifecycle. CESifo Working Paper Series 6552, CESifo.
- Jean-Olivier Hairault, François Langot, Thepthida Sopraseuth (2018). Unemployment fluctuations over the life cycle. 2018. Working Paper ffhalshs-01922680

Table 1: Data: Population and Employment

	Men			*Women*		
	N	E	E/N	N	E	E/N
2012	1115795	838456	0.751	1101421	811911	0.737
2013	1115814	839968	0.753	1100737	810715	0.737
2014	1120024	847048	0.756	1101887	811790	0.737
2015	1129285	856378	0.758	1107508	814207	0.735
2016	1134854	868586	0.765	1111875	817877	0.736
2017	1138612	879291	0.772	1115492	825521	0.740
2018	1142328	888936	0.778	1118578	833590	0.745

N = Population, ages 26 to 55 (inclusive). E = Employment.

Table 2: Data: Jobs Found

	Men			Women		
Year	U	Jobs Found	JFR	U	Jobs Found	JFR
2012	277339	50647	0.183	289510	59653	0.206
2013	275846	51018	0.185	290022	60231	0.208
2014	272976	50896	0.186	290097	59498	0.205
2015	272907	52834	0.194	293301	60852	0.207
2016	266268	52162	0.196	293998	62673	0.213
2017	259321	51543	0.199	289971	62664	0.216
2018	253392	0		284988	0	

Ages 26 to 55 (inclusive). Of the 259321 men unemployed in November 2017 51543 are employed in November 2018, for a JFR of 19.9%.

Tables

Table 3: Data: Jobs Lost

	Men			Women		
Year	E	Jobs Lost	JLR	E	Jobs Lost	JLR
2012	838456	55201	0.658	811911	59464	0.732
2013	839968	52013	0.619	810715	58904	0.727
2014	847048	51589	0.609	811790	58368	0.719
2015	856378	51092	0.597	814207	58523	0.719
2016	868586	52264	0.602	817877	56968	0.697
2017	879291	53875	0.613	825521	57599	0.698
2018	888936			833590		

Ages 26 to 55 (inclusive). Of the 879291 men employed in November 2017 53875 are not employed in November 2018, for a Job Loss Rate of 6.13%.

Figures

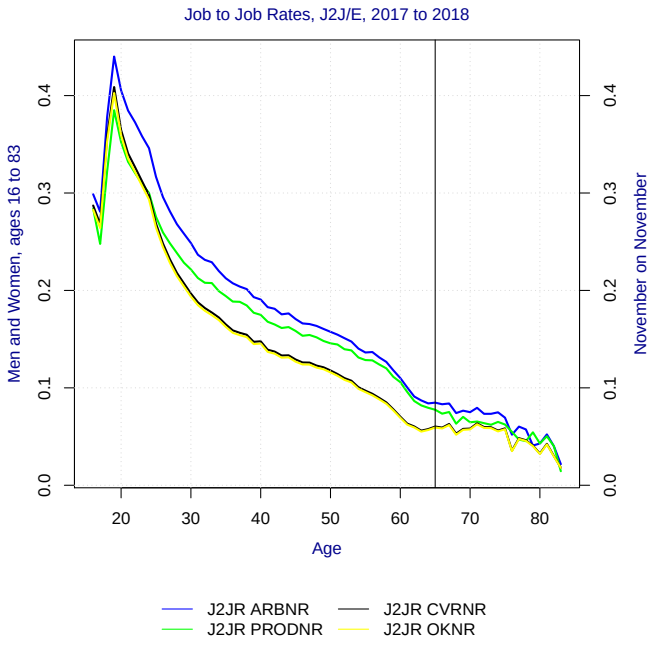


Figure 1: Job to Job Transition Rates

Table 4: Data: Employment to Employment Transitions

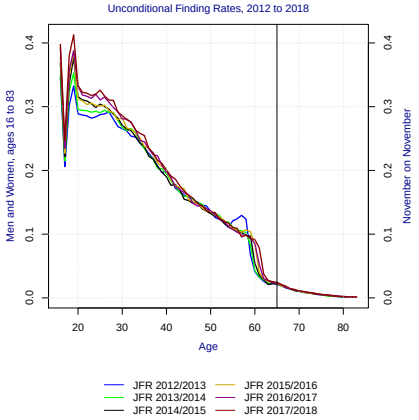
MEN	2012	2013	2014	2015	2016	2017
E→E	783255	787955	795459	805286	816322	825416
$E\rightarrow E\|_{an}$	618837	622858	633871	639465	644203	655242
$E\rightarrow E\|_{pn}$	646318	646550	651252	661422	667605	673894
$E\rightarrow E\|_{cv}$	663490	666107	666522	669014	674451	684221
$E\rightarrow E\|_{ok}$	663731	666121	666570	669839	675264	684357
$J\rightarrow J\|_{an}$	164418	165097	161588	165821	172119	170174
$J\rightarrow J\|_{pn}$	136937	141405	144207	143864	148717	151522
$J\rightarrow J\|_{cv}$	119765	121848	128937	136272	141871	141195
$J\rightarrow J\|_{ok}$	119524	121834	128889	135447	141058	141059
WOMEN	2012	2013	2014	2015	2016	2017
E→E	752447	751811	753422	755684	760909	767922
$E\rightarrow E\|_{an}$	590031	573816	593606	595357	600709	608115
$E\rightarrow E\|_{pn}$	605125	600029	599467	608532	613912	618388
$E\rightarrow E\|_{cv}$	658438	653763	650748	647491	647541	654687
$E\rightarrow E\|_{ok}$	658655	653773	650780	647775	647895	654768
$J\rightarrow J\|_{an}$	162416	177995	159816	160327	160200	159807
$J\rightarrow J\|_{pn}$	147322	151782	153955	147152	146997	149534
$J\rightarrow J\|_{cv}$	94009	98048	102674	108193	113368	113235
$J\rightarrow J\|_{ok}$	93792	98038	102642	107909	113014	113154

Individuals aged 26 to 55. E→E ≡ Working in both periods.
$E\rightarrow E|_{an}$ ≡ Working in both periods in the same ARBNR job.
$E\rightarrow E|_{pn}$ ≡ Working in both periods in the same PRODNR job.
$E\rightarrow E|_{cv}$ ≡ Working in both periods in the same CVRNR job.
$E\rightarrow E|_{ok}$ ≡ Working in both periods in the same OKNR job.
$J\rightarrow J|_{an}$ = (E→E) - ($E\rightarrow E|_{an}$). $J\rightarrow J|_{pn}$ = (E→E) - ($E\rightarrow E|_{pn}$).
$J\rightarrow J|_{cv}$ = (E→E) - ($E\rightarrow E|_{cv}$). $J\rightarrow J|_{ok}$ = (E→E) - ($E\rightarrow E|_{ok}$).

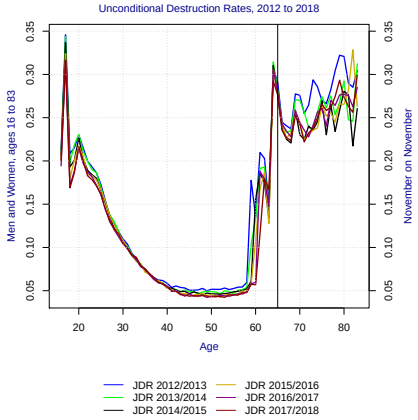
Table 5: Individuals Aged 40 in November 2017

	POP	EMP	UNP	SURV	J2JAN	J2JPN	J2JCV	J2JOK	JOBSF
M40	35395	28156	7239	26695	5254	4700	4413	4408	1323
W40	35185	27044	7029	25511	5270	4956	3745	3742	1762

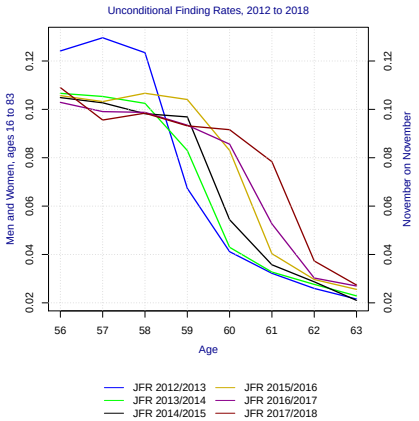
35395 men aged 40, 28156 employed, 7239 unemployed in November 2015. Of the unemployed, 1323 are working in November 2016. Of the 28156 employed in 2015, 26695 are working one year later. And using four different classifications we have four measures of job to job transitions.



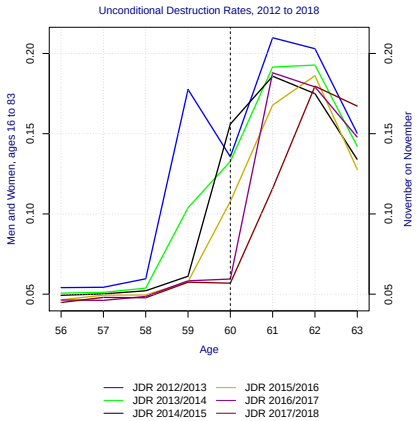
(a) Job Finding Rates



(b) Job Destruction Rates

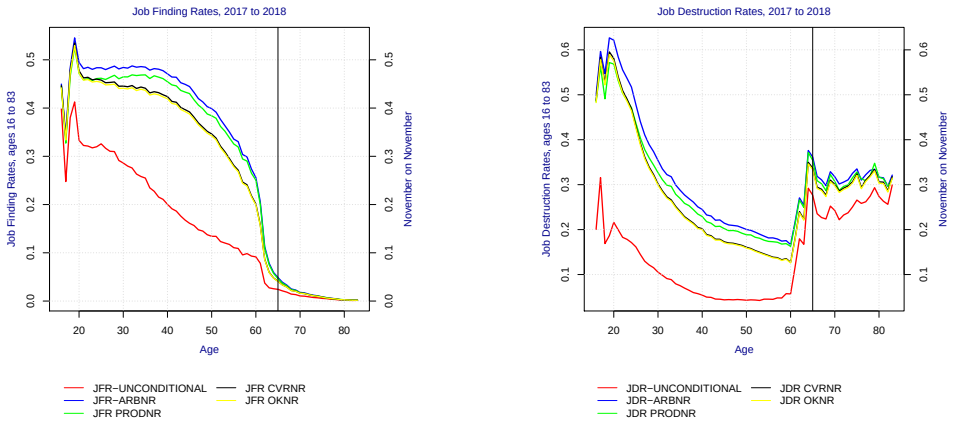


(c) Job Finding Rates



(d) Job Destruction Rates

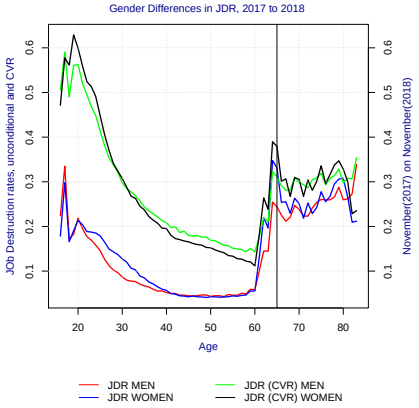
Figure 2: Job Destruction and Job Finding Rates



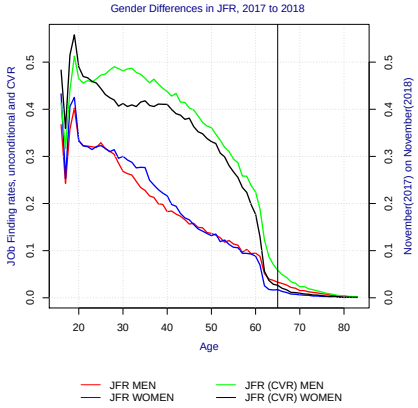
(a) Job Finding Rates

(b) Job Destruction Rates

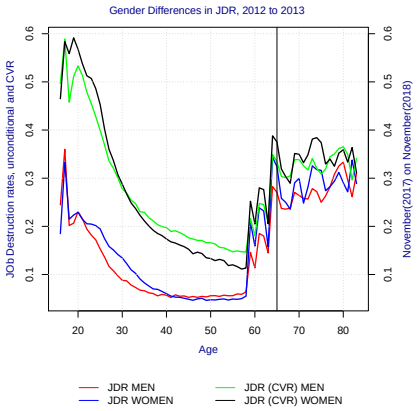
Figure 3: Rates with Job to Job Transitions



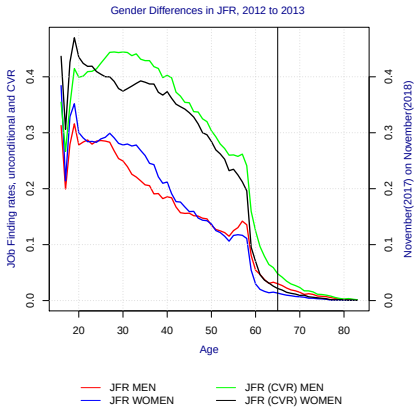
(a) Job Destruction Rates



(b) Job Finding Rates

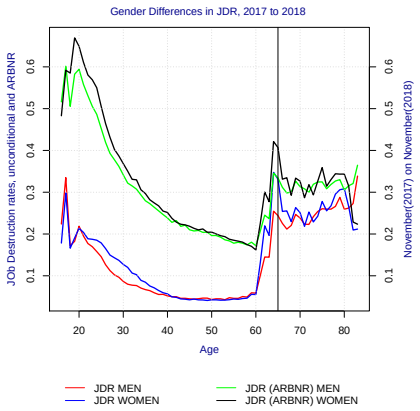


(c) Job Destruction Rates

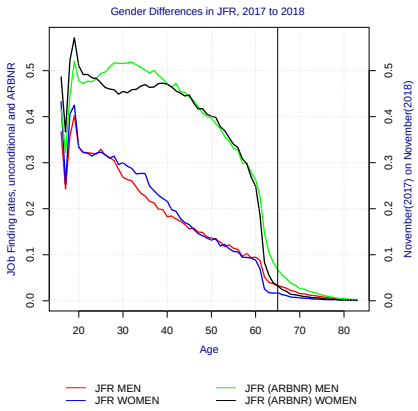


(d) Job Finding Rates

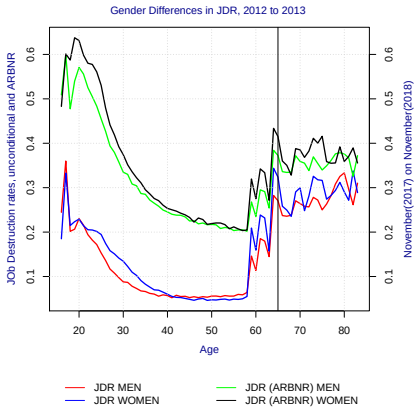
Figure 4: Gender Differences with CVR Job to Job Transitions



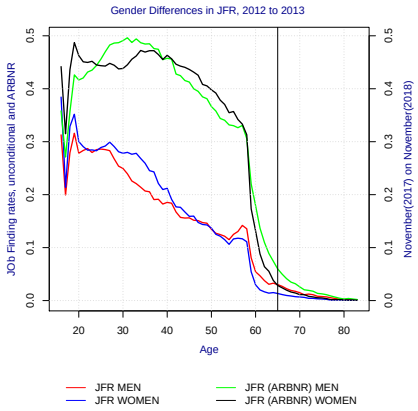
(a) Job Destruction Rates



(b) Job Finding Rates



(c) Job Destruction Rates



(d) Job Finding Rates

Figure 5: Gender Differences with ARBNR Job to Job Transitions

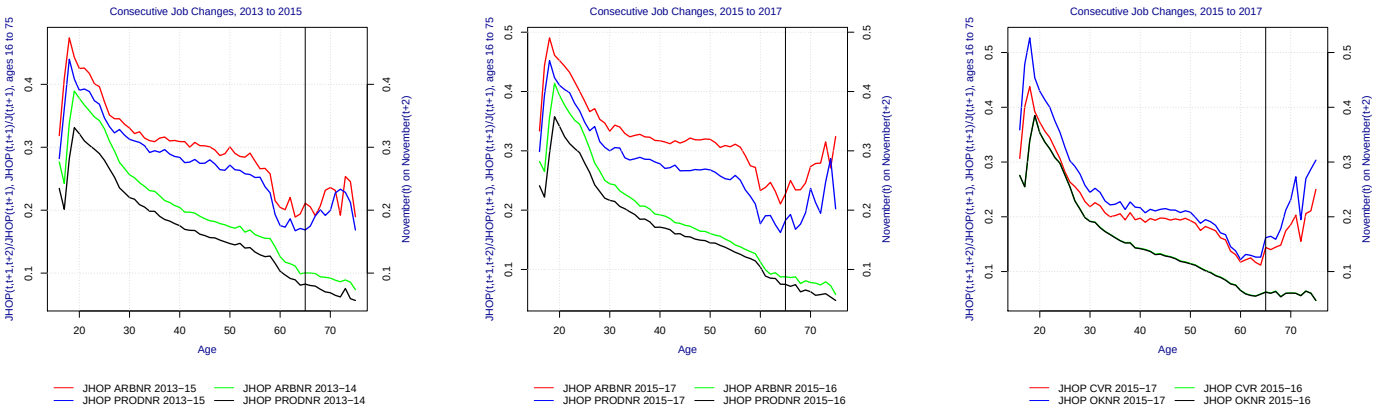


Figure 6: Consecutive Job to Job Transitions