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Conference Paper

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Beiträge zur Jahrestagung des Vereins für Socialpolitik 2013: Wettbewerbspolitik und Regulierung in einer globalen Wirtschaftsordnung - Session: Job Search, No. G11-V3

Provided in Cooperation with:

Verein für Socialpolitik / German Economic Association

Suggested Citation: Weynandt, Michèle; Saygin, Perihan; Weber, Andrea (2013) : Effect of Past Coworkers on Job Search Evidence from Austria, Beiträge zur Jahrestagung des Vereins für Socialpolitik 2013: Wettbewerbspolitik und Regulierung in einer globalen Wirtschaftsordnung - Session: Job Search, No. G11-V3, ZBW - Deutsche Zentralbibliothek für Wirtschaftswissenschaften, Leibniz-Informationszentrum Wirtschaft, Kiel und Hamburg

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Effect of Past Coworkers on Job Search Evidence from Austria*

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February 15, 2013

Abstract

This paper evaluates the strength of information flow from employed past coworkers on the re-employment duration of displaced workers due to plant closures in Austria. Using the Austrian Social Security Database (a matched employer-employee database) we exploit the panel structure of 36 years of data to construct the network of past coworkers. The paper also evaluates the probability to drop out of labor force as well as subsequent match quality based on re-entry wages and re-entry tenure. We find that a 10 percentage point increase in the network employment rate leads to a 3.2 percent increase in the exit hazard from unemployment, and to a 2.5 percent decrease in the drop out hazard. It is also associated with a 0.5 EUR increase in the daily re-entry wages and a 0.4 percentage point increase in the probability to have tenure of at least a year. Additionally, we find a significant difference between males and females.

JEL-Classification: J63, J64, J65

Keywords: Networks, Labor Markets, Employment, Wages

*This project received funding from the Austrian Science Fund (NRN Labor Economics and the Welfare State). We would like to thank seminar participants from the GESS Research Day, and from the NFN Workshop for many helpful comments.

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1 Introduction

Theoretical and empirical studies in economics and sociology provided convincing evidence for the interaction between social networks and labor markets. Theory suggested several pathways through which networks can affect labor markets more than job finding while empirical studies are relatively scarce and have no clear consensus on these various channels (see Rees (1966), Granovetter (1973), Granovetter (1995) for earlier studies and Montgomery (1991), Ioannides and Loury (2004) for a review). Looking at the existing literature, one can classify three perspectives that social networks can be at play in labor markets: job seeker side, firm side and social cost. Job seekers can use social network contacts to minimize search costs by getting referrals from employed network members and firms use referrals while hiring. On the other hand, if firms rely on networks to fill vacancies and if individuals rely on networks to find jobs, inequalities between different groups in the labor market can be fostered and can grow depending on the initial differences in the network employment rates (Calvo-Armengol and Jackson (2004)).

According to the growing literature on social networks in the labor market, there is a robust consensus that workers use informal contacts as an information channel when looking for a job and that social networks have a positive effect on the job finding rate (Corcoran et al. (1980); Holzer (1988); Mortensen and Vishwanath (1994); Pistaferri (1999); Topa (2001); Calvo-Armengol and Jackson (2004); Kramarz and Skans (2011); Bayer et al. (2008); Laschever (2009); Pellizzari (2010); Cappellari and Tatsiramos (2010); Cingano and Rosolia (2012); Goel and Lang (2009); Glitz (2012); Beaman (2012)).

There are also studies elaborating the effect of using networks on the quality of the subsequent matches (such as tenure and/or wage) with no clear consensus on the direction of the effect. Most of the studies use survey data where employees are asked about how they found their job in order to compare the jobs obtained through social networks and with those found through formal methods. Pistaferri (1999) uses the Bank of Italy Survey of Household Income and Wealth where applicants are asked how they found their jobs. He reports a positive effect of using informal connections on job offer arrival rate but a negative effect on earnings. Similarly, Bentolila et al. (2004) provide evidence for a positive effect on job finding but negative effect on earnings. They show that the so-

cial networks might induce mismatches between workers' productive advantage and their actual occupational choice using the "Multi-City Study of Urban Inequality, 1992-1994" survey conducted by the Inter-University Consortium for Political and Social Research. Pellizzari (2010) uses The European Community Household Panel (ECHP) which is a panel dataset of households covering all the 15 countries of the pre-enlargement European Union. Based on ECHP which contains individuals' job search strategies, he finds mixed evidence for the effect using personal contacts in different countries varying between a wage premium and a wage penalty. Antoninis (2006) suggests that the wage effect can be positive or negative depending on the type of tie. In particular, if the referee has a direct knowledge of worker's productivity, new recruits receive a higher starting wage.

Given the inconclusive results on the effect of using networks in labor market, as theorized by both Calvo-Armengol and Jackson (2004) and Loury (2006), heterogeneity in the characteristics of social networks may lead to different impacts of social networks in terms of labor market outcomes. According to Loury (2006), workers are likely to earn higher wages if their contacts have good connections, are employed, receive higher wages, and help the employer by reducing the uncertainty about the productivity of the job seeker. Calvo-Armengol and Jackson (2004) suggest that unemployed workers who are connected in a social network with a high employment rate are more likely to find a job and should earn higher wages. In addition, they compare two groups with different employment rates and suggest that lower employment rates within a group will lead to a higher drop-out rate which will eventually cause a persistent inequality between two groups. Finally they also show that unemployment exhibits duration dependence.

Our aim is to empirically test these implications. We define the social networks as the group of past coworkers building on a 5 years history of overlapping spells at the same firm. We use data providing the entire work histories of the universe of private sector workers in Austria. Empirical studies use quite heterogeneous data sources and various social network definitions. Some studies analyzed the social networks concerning the residential proximity using census data such as Topa (2001) while some studies considered the social ties such as family and friends using survey data such as Magruder (2010), Kramarz and Skans (2011) and Cappellari and Tatsiramos (2010). Only two recent pa-

pers provide evidence for the effect of social networks consisting of past coworkers on job search: Cingano and Rosolia (2012), Glitz (2012).

Cingano and Rosolia (2012) use a matched employer-employee data for two Italian provinces over the period 1975 to 1997 and estimate the effect of the network employment rate on unemployment duration. In order to overcome the selection bias into unemployment, they use firm closures and find that one standard deviation increase in the network employment rate leads to 8% reduction in unemployment duration. On the other hand, they only consider the displaced workers who find a job after the firm closure in order to analyze the unemployment duration. By using only the completed unemployment spells, they drop around 20% of the displaced workers from their sample. In other words, using only completed unemployment spells, they condition on the outcome of becoming re-employed.

Glitz (2012) follows the same approach in terms of network definitions and empirical specification with two distinctive features from Cingano and Rosolia (2012). First, Glitz (2012) uses an administrative dataset for German workers in the 4 largest metropolitan areas where observations are recorded only annually. The second feature is that mass layoffs are used as an exogenous variation to the network employment rate as an additional identification strategy. As a result, Glitz (2012) suggests a strong positive effect of network employment rate on reemployment probabilities after displacement and no significant effect on wages.

Our paper contributes to the existing studies on the role of networks in the labor market by extending the perspective of the existing approaches. We use the Austrian Social Security Database (ASSD) which covers the universe of private sector workers covered by the social security system between 1972 and 2008. The ASSD provides daily information on employment and registered unemployment status, total annual earnings paid by each employer, and various individual characteristics of the workers as well as information on employers such as geographical location, industry, and size. Although we use the same network definitions as Cingano and Rosolia (2012) and Glitz (2012), we incorporate every worker that loses her job through a firm closure. In order to analyze the effect of network

characteristics on the reemployment probability and unemployment duration, we apply both a linear probability model and a duration analysis in order not to drop displaced workers who do not find any jobs within the covered period. In addition, we also analyze the effect of network characteristics on wages, and tenure at first job after displacement.

First we briefly describe the definition of closing firms and the network formation process. We then provide a descriptive analysis of individual characteristics, employment histories and network characteristics of the displaced workers as well as characteristics of closing firms. In the main empirical part, we study how the employment rate of the displaced workers' past coworkers affect their reemployment probability and unemployment duration including a comprehensive set of control variables as well as full set of fixed effects for closing firms and regions. We also look at the effect of network employment rate on the wage and tenure at first reemployment spell after displacement.

Our empirical results show that a 10 percentage point increase in the network employment rate lead to a 3.2 percentage increase in the exit hazard, while being a blue collar worker increases the probability to find a job by about 14%. The Cox models and the Kaplan Meier estimates show furthermore that being female slows the process of exit into employment down, while a 10 percentage point increase in the share of females in the displaced workers network decreases the exit hazard by 1.2 percent. Consistently with theoretical predictions, we also find that a 10 percentage point increase in the network employment rate lead to a 2.5 percent decrease in the drop out hazard. For the match quality on the other hand we find that a 10 percentage point increase in the network employment rate leads to a 0.4 percentage point increase in the probability to have tenure of at least a year. Being a blue collar worker decreases the probability to last for a year or more at the re-entry job by about 8% while being female does not play a role for the match tenure. In contrast to the duration findings, the share of females in the displaced workers network increases the likelihood to stay at the re-entry job for at least a year.

We also looked at the re-entry wage to evaluate the effect of network employment rate on match quality and we find that a 10 percentage point increase in network employment rate leads to a 0.5 percentage point increase in the daily wage at re-entry. While being

a women decreases the entry wage, and also being a blue collar worker is detrimental to having a higher re-entry wage. For the share of females in a displaced workers network, we find that a 10 percentage point increase leads to a decrease in the re-entry wage by 0.08 percentage points.

The rest of the paper is organized as follows: In the following section, we give a brief description of the data, the sample selection process, and the network formation as well as a descriptive analysis. Section 3 presents the empirical specification and the identification. Section 5 reports the results and Section 6 concludes.

2 Data and Sample Construction

The data that we use in this paper comes from the Austrian Social Security Database (ASSD) which covers the universe of private sector workers covered by social security system between 1972 and 2008. The ASSD provides daily information on employment, registered unemployment, total annual earnings paid by each employer, and various individual characteristics of the workers as well as information on employers such as geographical location, industry, and size. (See Zweimüller et al. (2009))

In the ASSD, the firms are associated with an employer identifier reported in every employment spell of the workers. Fink et al. (2010) identify entry and exit of firms using a worker flow approach that follows clusters of workers moving across entities. They also show that their firm definition is comparable to the official firm statistics of Austria in the covering period.

In order to use the firm closures as an entry to unemployment, we first created a sample of closing firms. We use the same strategy as Del Bono et al. (2012) to identify firm closures. To obtain our closing firm sample, we included firms that have only 3000 or less workers and excluded firms operating in agriculture, construction, and tourism industries. Given this sample of closing firms, we consider all blue and white collar workers who are displaced due to a closure with the following restrictions. First, we consider the displaced workers who were still employed within the last 3 months of activity of the closing firm. Second, we include workers who have at least 1 year tenure at the closing firm. Third,

we excluded workers who were above age 55 at the time of displacement and workers who were below age 15 at the first entry to the system.¹

Finally, we also impose a restriction on the spells of the employment history of the workers in our sample. We excluded the employment spells that have a shorter duration than 30 days from the employment history of displaced workers because the network formation process is based on the links between coworkers who work at least 30 days together at the same firm.

As for the displacement spell, we consider the employment spell at the closing firm. In our sample of displaced workers, around 5% of them were displaced due to a firm closure more than once in their employment history. For those workers, we considered the employment spells of the closing firms where they had the longest tenure as their displacement spell.

We define the network of a displaced worker based on the past coworkers that she worked with for at least a month within the past 5 years before the displacement². The same network definition is used by Cingano and Rosolia (2012). Similarly, we exclude the co-displaced workers from the network and we consider the closures that occurred within the sub-period of 1976 and 2008 to have the data for the pre-displacement period of the network formation for all workers and we focus on the spells after displacement date.

The final sample includes 98970 workers who were displaced by 27640 closing firms. According to Figure 1, closing firms are located in 5 main regions and in 43 counties where around 32% of them are located in the region of Vienna. Table 1 shows the descriptive statistics at the closing firm level.

Table 2 shows the descriptive statistics of the individual characteristics and employ-

¹After age, tenure and firm size restrictions, we had 99451 displaced workers who were employed at a closing firm within the last 3 months of activity period. When we applied the lower bound restriction of 15, we lose 481 and are left with 98970 displaced workers.

²There are workers who have overlapping employment spells at that time. In order to take into account the overlapping spells with the displacement spell, we split the overlapping spells at the time of displacement and included the first part of this spell in the 5 year history of the network formation period.

ment histories of displaced workers before, after, and at the displacement date. 3% of the displaced workers dropped out of the system after they were displaced due to firm closure while 52% of them were observed as employed within 30 days after displacement. 38% of our sample of displaced workers found a job at a firm where at least one of their past coworker is employed at.

Figures 2 to 22 show the distribution of network characteristics of our sample of displaced workers where the red lines indicate the 10th, 50th and 90th percentiles respectively. Table 3 and Table 4 also show the descriptive statistics for the network characteristics of the displaced workers by gender and collar type respectively. We provide a comparison of the different worker groups in order to show the initial difference in network characteristics in different groups since theory predicts that heterogeneity in network characteristics might lead to persistent differences in terms of labor market outcomes between these groups.

Figures 23 and 24 show the distributions of time to reemployment since displacement. Around 7% of our sample are never observed as employed after displacement while more than half of the displaced workers are already employed within a month after their displacement. As it is also reported in Table 2, 76% of the displaced workers were observed as employed in another firm within 6 months after their displacement date while 34% of them were still unemployed after six months. Column 1 and 2 of Table 5 and Table 6 show the descriptive statistics of the employment history and the network characteristics for these two sub-samples of displaced workers respectively. It is worth noticing that the share of female workers and blue collar workers are significantly higher for the displaced workers who are still unemployed after 6 months. Furthermore, the network size and the employment rate is lower for displaced workers that have no employment spell within 6 months after closure. Moreover they seem to have a higher female share in their network and they are connected to less firms through their past coworkers.

As mentioned above around 7% of our sample are never observed as employed after displacement and 3% of the sample drop out of the system and never appear again. Around 15% of the sample disappear from the system and come back after a long time.

Based on these statistics, we define the drop outs as having no employment spell within two years after displacement and this group consists of around 11% of the sample of displaced workers. Table 7 show the descriptive statistics for the network characteristics of the displaced workers by drop out status after displacement. According to this table, network employment rate and network size are significantly smaller for displaced workers who drop out of the labor force after displacement.

3 Empirical Specification and Results

Our empirical analysis is based on the empirical test of the theoretical implications suggesting that the social network characteristics might have an effect on subsequent labor market outcomes. In particular, we aim at testing the effect of network employment rate on labor market outcomes such as reemployment probability, unemployment duration, wage, and tenure at first reemployment. In order to test these implications, we follow a similar empirical specification as in Cingano and Rosolia (2012) with the following base-line equation:

$$y_i = \alpha + X_i\beta + ER_{it_0}\gamma + \theta\log(N_{it_0}) + e_{it_0} \quad (1)$$

where y_i is the outcome of interest (reemployment probability, unemployment duration, and quality of subsequent job (measured by re-entry wage and stability)), ER_{it_0} is the network employment rate and N_{it_0} is the overall size of the network, and all of these variables are measured at the starting date of the unemployment spell (t_0) or equivalently stated at the date when the individual leaves the closing firm. X_i is a comprehensive set of both employment history and individual characteristics of displaced workers and average network characteristics. γ is the coefficient of interest and it is supposed to measure the causal effect of the specific network characteristics which are assumed to be orthogonal to the residuals.

In the first specification where we analyze the effect of network employment rate on reemployment probability, the dependent variable y_i is an indicator variable taking value one if a displaced worker is observed as reemployed within a certain period of time after

displacement³. Then we also employ another indicator variable taking the value one if the displaced worker is observed at the same job for longer than one year duration at the reemployment spell. Finally, we also use the wage of the displaced workers at first reemployment after the displacement as a dependent variable to measure the effect of network employment rate on wages.

As for the unemployment duration analysis, differently from Cingano and Rosolia (2012) we employ the semi parametric Cox Model following Cox (1972) using the same set of control variables. This approach allows us to keep all displaced workers in our analysis without conditioning our sample on the outcome of exiting unemployment.

The main problem with estimating the causal effect of network employment rate on labor market outcomes is the endogeneity problem that might arise from unobserved group level shocks and/or from the self selection of workers into particular firms based on unobservable characteristics. To overcome this problem, we include a full set of closing firm fixed effects as well as displacement year fixed effects and regional dummies to control for common local shocks. Furthermore, we include also a large set of individual controls such as wage at displacement date, wage at first labor market entry, relative employment duration until displacement, and the number of firms the worker has been working during the network formation process.

In addition to the baseline estimations of the above specification for different labor market outcomes, we also provide results for the different specifications. First we decompose the network effect into information availability and circulation by looking at the share of past coworkers in the network who moved to another firm and who stayed in the firm where they worked with the displaced workers together. We also decompose the effect of employed contacts into the share of past coworkers working in the same and different industries, and the same and different regions. Then we analyze the network composition, such as qualification, age and the gender ratio. Finally, we provide a closer look at the network composition in terms of connections and information flows.

³We specify the reemployment probabilities considering 1, 3, 6, 9 or 12 months after displacement respectively

3.1 Reemployment Probability

In this section, we present the estimation results from the linear probability model of reemployment after displacement based on the empirical approach explained above. We consider the whole sample of displaced workers and analyze whether network employment rate has an impact on the probability of their reemployment within different periods of time after displacement. In particular, our dependent variable takes value one if a displaced worker is observed as reemployed within 1, 3, 6, 9 or 12 months after displacement respectively.

Table 8 shows that network employment rate has a significant positive effect on the probability of reemployment. We control for individual characteristics of displaced workers as well as their employment history. All estimations include closing firm fixed effects as well as closing year fixed effects. Although the magnitude of the coefficients become smaller as we consider a longer period for the reemployment of the displaced workers, there is always a positive effect of the network employment rate.

Another interesting result is that females are less likely to be reemployed and moreover the coefficient of the interaction term between female indicator and network employment rate is negative and significant suggesting that network employment rate has a lower contribution to reemployment probability of female displaced workers.

3.2 Drop outs

This section shows the estimation results from the linear probability model of dropping out of labor force after displacement. We consider the whole sample of displaced workers and analyze whether the network employment rate has an impact on the probability of dropping out as predicted by theory. In particular, our dependent variable takes the value one if a displaced worker is not observed as employed within 2 years in the social security system.

Table 9 shows that the network employment rate has a significant negative effect on the probability of drop out. We also find that female workers are more likely to drop out

after displacement. It also seems that share of female contacts and blue collar contacts increases the probability of dropping out. We control for individual characteristics of displaced workers as well as their employment history. All estimations include closing firm fixed effects as well as closing year fixed effects.

3.3 Exit Hazard

To test the theoretical prediction from Calvo-Armengol and Jackson (2004) that “Information passing leads to a positive correlation between employment status of agents who are directly or indirectly connected in the network within a period across time” we will use the semi parametric Cox Model following Cox (1972). This translates into testing the empirical fact that an increase in the network employment rate leads to a decrease in unemployment duration. Since we include every displaced individual into our sample they become at risk from the day that they leave the displacement firm.⁴ Furthermore, we restrict the sample in a sense that we censor all observations at 365 days, meaning that a displaced individual who did not find a new job after a year is treated as censored or as not having failed yet. We apply the same criteria to individuals that drop out of our sample for unknown reasons.⁵ Those individuals that do not drop out of the labor force but find a job after 13 months for example are also treated as censored after a year. After we have censored all these different observation we deal with the overlapping spells since individuals may start different jobs at the exact same time. In the case of overlapping spells we keep the spell that has the longest duration.⁶

First we present the nonparametric estimates of the Kaplan Meier Survival Function in order to provide an overview of the data and the variation of the duration measures and some of the explanatory variables. Figure 25 looks at the different survival functions by gender. It clearly shows that males exit quicker to employment than females since they have a lower survival rate. Figure 26 then looks at the different survival functions by network size. Here we can see that the data seems to fit the theory, since the larger the

⁴Since our closing firm information is on a quarterly basis, we use the date that the person leaves the firm in the last 90 days, to identify how long she has been unemployed.

⁵A possible and plausible explanation for some of the dropouts is that they may have moved to Germany to get a job.

⁶Specific details on how this was implemented can be retrieved from the authors upon request, since we kept the spell that had the longest duration if that was an employment spell.

network, the lower the survival rate. The same holds for the network employment rate, where figure 27 plots the different survival rates for different network employment rate bins. The higher the network employment rate, the lower the survival rate. Figures 28 and 29 look at the weekly hazard rates on the job finding rates. Figure 28 looks at those who have a network employment rate above and below the median.⁷ Those individuals having a network employment rate above the median also exit quicker a finding in line with the previous graph. Figure 29 on the other hand tries to examine different bins to check for heterogeneity in the network employment rate, but the positive result still holds. The higher the network employment rate the higher the exit hazard.

Tables 10 through 13 show semi parametric cox estimates and present the coefficients and not the hazard ratios.⁸ Table 10 presents the results of the baseline specification. For identification purposes columns (2) through (4) are stratified by closing firm fixed effects. In column (1) of table 10, which does not stratify by closing firm, a 10 percentage point increase in the network employment rate leads to a 5.8 percent increase in the exit hazard from unemployment. Once we stratify by closing firm, the effect becomes a bit smaller and balances around 3 to 4 percent. Column (2) only stratifies by closing firm, while column (3) and (4) additionally controls for the individuals work history.⁹ Furthermore column (4) adds year fixed effects, there the effect of network employment rate on the reemployment hazard is the smallest but still significant at the 1% level. Here a 10 percentage point increase in the network employment rate leads to a 3.2 percentage increase in the exit hazard. Notice also the coefficient on the female dummy which is significant at the 1% level throughout all specifications and negative, meaning that women exit unemployment slower than their male counterparts. This coefficient is along the lines of the findings in Beaman et al. (2012) who find that women are systematically disadvantaged through the use of referrals, even though their setup is an experiment in Malawi. The coefficient on the interaction term between network employment rate and female on the other side is not significant. Whether or not an individual is a blue collar worker also increases the probability to find a job by about 14% (column (3)). Tenure at the closing firm, wage at displacement, wage at first job, unemployment duration before closure and

⁷The median network employment rate lies at 0.625 in our data.

⁸In order to get from the coefficients to the hazard ratios we only need to exponentiate the coefficients.

⁹The individual's work history contains; tenure at the closing firm, wage at displacement, wage at first job, unemployment duration before closure, and the number of employment spells before the closure.

the number of employment spells before the closure are all significantly different from zero but nevertheless very close to zero. Therefore they do not seem to play a major role in determining the exit to employment.

Table 11 tries to decompose the network effect into information availability and circulation. Column (1) is the baseline column which includes year fixed effects, and which is shown for comparison. Column (2) decomposes the share of employed workers in a displaced workers network by the share of movers and the share of stayers. The omitted category is always the share of individuals in the network that are unemployed. Here we see that the share of movers is more important in generating necessary information, which is exactly what we would expect. The movers may have newer and more relevant information than the share of those network members who stayed at the firm that the two individuals met at. Column (3) and (4) look at the share of individuals who are employed in a close or a far industry - where an individual is defined to work in a close industry if the nace95 code (column (3) based on the 2-digit indicator, while column (4) is based on the 3-digit indicator) of the closing firm is the same as that of the employed network members current firm. Here our intuition is not backed up, since the individuals that are employed in a far industry seem to be more important than those working in a similar industry. Intuitively we would have thought that those individuals in a close industry may provide more suitable information about job openings since they are employed in the same industry as the closing firm's industry. Column (5) then looks at the share of individuals employed in the same or a different region, again the results are a bit counterintuitive, since it seems that the ones who are employed further away seem to have more suitable information. This counterintuitive finding may stem from the fact that different region is based on the location of the firm and not on the residence of the individuals. Column (6) then additionally looks at the average duration the individuals have worked together. This coefficient points into the right direction but is very small. Here we averaged the duration across each displaced workers network and thereby may have canceled out most of the variation. Nevertheless the result on the network employment rate stays stable. The individual workers history as well as the individual characteristics stay stable across the different specifications.

Table 12 takes the analysis one step further and looks at the network composition, such as qualification, age and the gender ratio. Column (1) shows the baseline coefficients for comparison. Column (2) looks additionally into the average age distance of the displaced worker to the network members. Here the coefficient is not significant, which may again stem from the fact that we average out the effect, by taking the average for each displaced worker. Column (3) takes a closer look at the gender composition of the network. The higher the share of females in the displaced workers network, the slower the exit to employment. A 10 percentage point increase in the share of females in your network decreases the exit hazard by 1.2 percent. Column (4) looks at the average wage in the network, here a higher average wage decreases the exit hazard to reemployment. This may show that individuals who are too far away from each other in terms of wages are not able to provide useful information on job openings. Column (5) then analyzes the duration since separation - this measures the time since the two individuals last worked together with the date that the displaced worker leaves the displacement firm - which also points into the right direction. The longer the network member and the displaced individual have not been working together the less useful the past coworker is in passing on information. Column (6) looks at the share of blue collar workers in the network. A 10 percentage point increase in the share of blue collar workers leads to an increase in the exit hazard of 0.6%. Overall the effect of the network employment rate on the reemployment hazard remains highly significant, positive and has nearly the same impact.

Table 13 analyzes the indirect connections a bit closer. Again, column (1) is the baseline result, which is shown for comparison. Column (2) looks at the number of competitors - which is equivalent to the number of codisplaced individuals who are competitors for the job opening information - here the effect is not significant, and it does not seem to matter how many individuals were displaced together. This finding goes into the direction of Gibbons and Katz (1991), in the sense that the individuals laid off from plant closures are non-lemons. Column (3) looks at the two link away individuals - how many individuals the displaced worker is indirectly linked to through her network - these individuals seem to be too far away from the displaced worker since we do not find a significant effect. By too far away we mean that the indirect connections information may not be passed on to the displaced worker. Column (4) on the other hand then looks at the number of net-

worked firms - the number of firms the individual is linked to through her network - this coefficient is significant and seems to show us that the more firms a displaced individual is connected to, the higher the exit hazard. Over all the effect of the network employment rate on the exit hazard is stable, just as much as the coefficient on being a female, and all other controls.

3.4 Match Quality

In order to evaluate the match quality of the new job, we ran a linear probability model using as the dependent variable a dummy which equals one if the individual stayed at this first re-employment job for at least a year. We chose one year since we only wanted to evaluate the jobs that lasted for a certain while, in order to see whether the network helps to find stable jobs. Furthermore we ran a fixed effects model on the re-entry wages. Tables 14 to 17 look at the tenure outcome while tables 18 to 21 look at the re-entry wages. To evaluate match quality we need to restrict the sample to those individuals who actually find a job.

Table 14 looks at the tenure outcome and contains the same control variables as Table 10. The OLS results in column (1) show that the network employment rate does not play a significant role, neither does being female or the interaction term between being female and network employment rate. Column (2) and (3) then additionally control for the individual worker history and closing firm fixed effects and column (3) adds year fixed effects. In those specifications we see that the higher the network employment rate the higher the probability to have a longer tenure. A 10 percentage point increase in the network employment rate leads to a 0.4 percentage point increase in the probability to have tenure of at least a year. On the other hand, unlike in the re-employment hazard, being female does not play a significant role in being more likely to have tenure of at least a year in the re-entry job. No evidence can be found that the female network employment rate plays a different role than the male network employment rate. Being a blue collar worker, decreases the likelihood to last longer on the re-entry job, while age at displacement has the expected signs. Being a blue collar worker decreases the probability to last for a year or more at the re-entry job by about 8%. A result which is not necessarily in contrast with the finding that blue collar workers exit the state of unemployment quicker. The

older one is if one gets a job the likelier it is that one stays at the re-entry job. The individual worker components are highly significant but are very small in magnitude and thus do not seem to play a major role in the determination of the tenure at the re-entry job.

Table 15 decomposes the effect into information availability and information circulation. Column (1) through (4) decompose the network employment rate into the share of movers and stayers, the share of employed network members in a close or a far industry, (measured by 2-digit and 3 digit industry) and the share of network members working in the same region or a different region. In contrast to the re-employment probabilities, the higher the share of movers the likelier it is that the displaced individual has tenure of at least a year. A 10 percentage point increase in the share of movers leads to a 0.6 percentage point increase in the probability to have tenure of at least a year. The share of employed stayers in the displaced workers network on the other hand do not seem to matter. For the share of network members working in the same or in a different industry than the displaced workers, the effect is in the opposite direction. Seemingly the higher the share of network members working a different industry helps the displaced worker to last longer in his re-entry job. While the share of network members working in the same industry does not have a significant effect on the tenure at the re-entry job. For the regional indicators it is the more intuitive coefficient which is significant. The larger the share of employed network members in the same region as the displaced firm, the higher the probability to have tenure of at least a year. Column (5) looks at the average coworker duration in the network, which shows that the longer the two individuals have worked together, the higher the likelihood to have longer tenure, even though this coefficient is very small in magnitude.

Table 16 looks at the network composition and the effects on re-entry tenure. The effect of network employment rate is stable throughout all the regressions. The coefficient on the average age difference to the network members is positive but small in magnitude even though significant. In contrary to the exit hazard results, the share of females in the network increases the likelihood to stay at the re-entry job longer. This may point towards the fact that women may use networks in a different way than males (evidence for the differences are starting to be explored by recent papers such as Marguder (2010),

Beaman and Magruder (2011)), and that women act different on the job than males. The average wage on the other hand is negative and significant, meaning that the larger the wage distance between the displaced worker and his network members, the shorter the tenure. The average duration since separation is not significant while the larger the share of blue collar workers in the displaced workers network, the less likelier she is to stay at the re-entry firm longer.

Finally table 17 looks at the indirect connections. The number of competitors in the displaced workers network influence the tenure at the first job in a positive but very small way. The more individuals that a displaced worker is connected to through her network does not matter for the tenure, just as for the exit hazard while the number of networked firms that the displaced worker is connected to decreases the likelihood to stay longer at the re-entry firm. This could go into the direction that the more firms an individual is connected to, the more offers she may get along the way and thus longer tenure at the re-entry firm is endangered.

Table 18 confirms the theoretical prediction from Calvo-Armengol and Jackson (2004) that wages increase the higher the network employment rate. In columns (2) and (3) where we include closing firm fixed effects, a 10 percentage point increase in the network employment rate leads to a 0.4 - 0.5 percentage point increase in the daily wage at re-entry. This effect stays robust throughout the different specifications, whether we look at the information availability and circulation where the network employment rate is decomposed into the share of movers and stayers, the share of close and far industry and the share of network members working in the same or a different region (table 19) or whether we look at the network composition (table 20) or at the indirect connections (table 20). Being female just as for the re-employment probabilities has a negative and significant effect on the re-entry wage. In contrary to the earlier results, the Female x Network Employment Rate coefficient now becomes significant and stays negative. Pointing into the direction that women may use networks in a different manner than males when it comes down to negotiating wages. Bertrand (2011) summarizes the gender preferences well and also offers some insights into the differences that exist in negotiation skills. Being a blue collar worker at the displacement date is detrimental to having a higher re-entry wage. The dif-

ferent worker history characteristics are all significant but are not very large in magnitude.

Table 19 decomposes the network employment rate, here we can see that the higher the share of movers in the network, the higher the re-employment wage. The same holds for the share of individuals in the displaced workers network in a close industry columns (2) and (3). All of these results are very intuitive and along the predictions of the theory. For the regional decomposition on the other hand it seems that the share of network members employed in a firm that is in a different region than the displacement firm matters more. Again this variable may not capture what we intend to measure with it - the fact that information stemming from the same local area as an individuals residence is more valuable than that from a different area, where the displaced worker would need to move to. The average coworker duration in the network on the other hand is significant but very small in magnitude.

Table 20 presents the network composition results. The average age difference in the network does not seem to play a significant role for the re-entry wage. While the higher the share of females in the network the smaller the re-entry wage. This result is in line with the re-employment probabilities but in contrast with the tenure findings. A 10 percentage point increase in the share of females in the network decreases the re-entry wage by 0.08 percentage points. The average wage in the network also has a positive impact on the re-entry wage. This is very intuitive, since the higher the wage among the network members, the higher the re-entry wage. The average duration since separation does not seem to have a significant impact in terms of magnitude on the re-entry wage, while the higher the share of blue collar workers in the network on the other hand, the lower the re-entry wage. Here we find that a 10 percentage point increase in the share of blue collar workers, leads to 0.19 percentage point decrease in the re-entry wage.

Table 21 looks at the indirect connections. Here we can see that the number of competitors has an effect that is very close to zero while the number of indirect connections do not seem to play a significant role for the re-entry wage (column (2)). The number of networked firms that the displaced worker is linked to through his network has a negative effect on the re-entry wage. The direction of this coefficient is just as in the tenure re-

gressions, even though the interpretation in the tenure case is more straightforward than the one in the wage case¹⁰.

4 Conclusion

A growing theoretical and empirical literature on the use of social networks in labor markets has provided various channels through which networks can affect labor markets. Although empirical studies have remained relatively scarce in order to test the implications of the theory with very little consensus on these channels.

In line with the inconclusive evidence on the effect of using networks in labor market, theoretical studies such as (Calvo-Armengol and Jackson, 2004) and Loury (2006) suggested that heterogeneity in the characteristics of social networks may lead to different impacts of social networks in terms of labor market outcomes. In order to empirically test these implications, we define the social networks as the group of past coworkers with whom they worked together at the same firm. We use data providing the entire work histories of the universe of private sector workers in Austria.

We analyze the effect of network employment rate on the reemployment probability and unemployment duration as well as on wages and tenure at the first job after displacement. We find consistent evidence supporting the theoretical implications. According to our results, a 10 percentage point increase in the network employment rate lead to a 3.2 percentage increase in the exit hazard, while being a blue collar worker increases the probability to find a job by about 14%. The Cox models and the Kaplan Meier estimates show furthermore that being female slows the process of exit into employment down. As for the tenure at the re-entry, we find that a 10 percentage point increase in the network employment rate leads to a 0.4 percentage point increase in the probability to have tenure of at least a year. We also find that a 10 percentage point increase in network employment rate leads to a 0.5 percentage point increase in the daily wage at re-entry. While being

¹⁰We have done a couple of robustness checks so far and all of the above results, especially those concerning the network employment rate are stable. The results of those robustness checks are not in the paper yet, but we will update the current version as soon as possible. So far the robustness checks made concerned the maximum size restriction and the 90 day framework to select the displaced individuals. This framework was increased to 180 days, also in order to address the robustness mentioned by Schwerdt (2011).

a women decreases the entry wage, and also being a blue collar worker is detrimental to having a higher re-entry wage. For the share of females in a displaced workers network, we find that a 10 percentage point increase leads to a decrease in the re-entry wage by 0.08 percentage points.

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A Figures and tables



Figure 1: Regional Distribution of Closing Firms

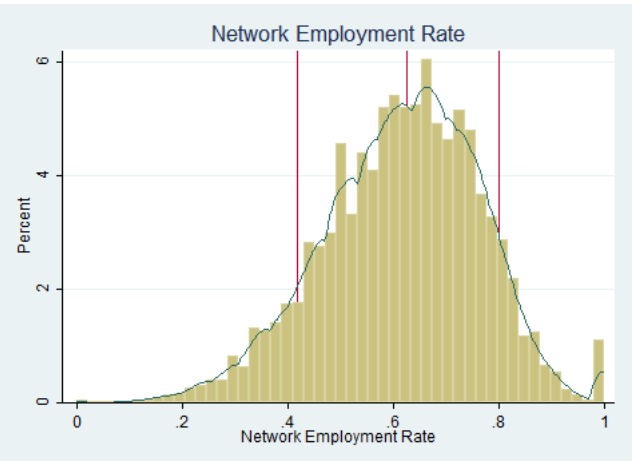


Figure 2: Distribution of Network Employment Rate

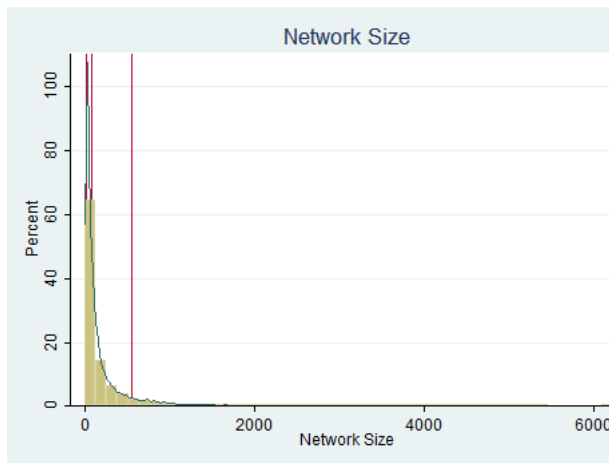


Figure 3: Distribution of Network Size

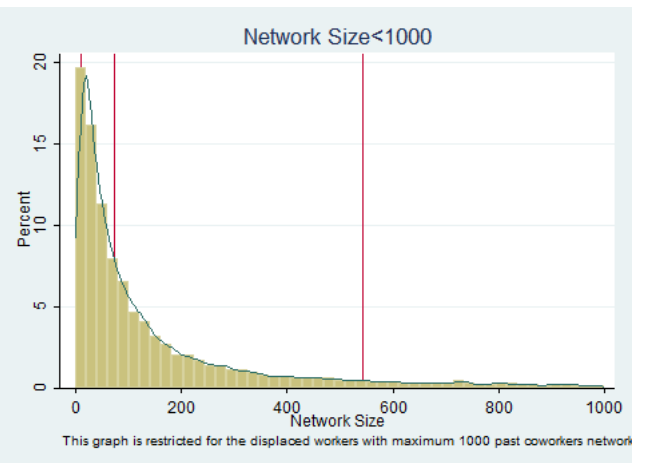


Figure 4: Distribution of Network Size: Restricted 1000

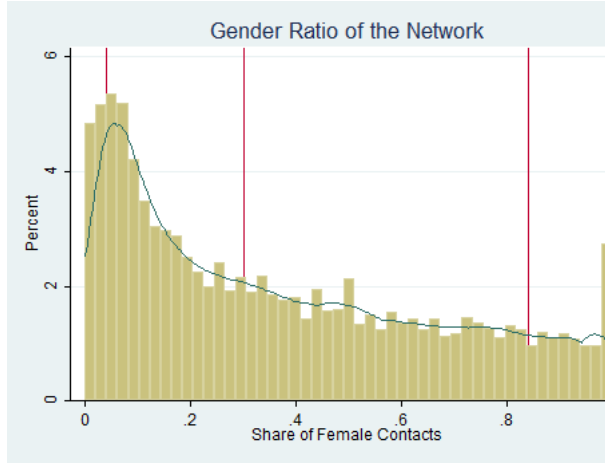


Figure 5: Distribution of Female Share in Network

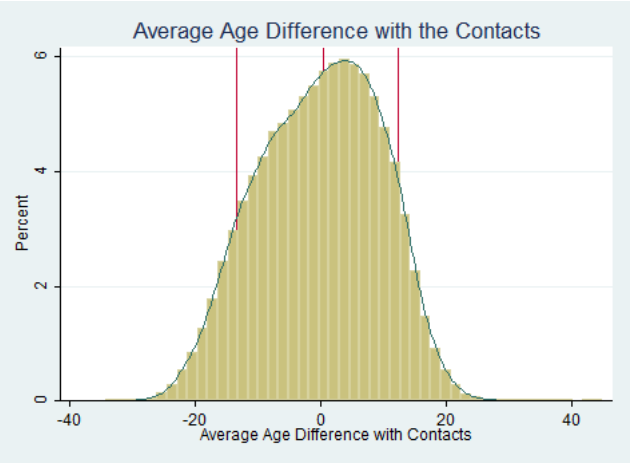


Figure 6: Distribution of Average Age Difference Between Contacts

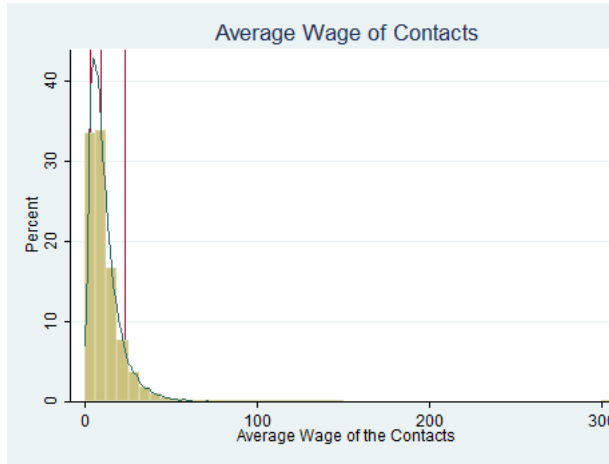


Figure 7: Distribution of Average Wage of Contacts

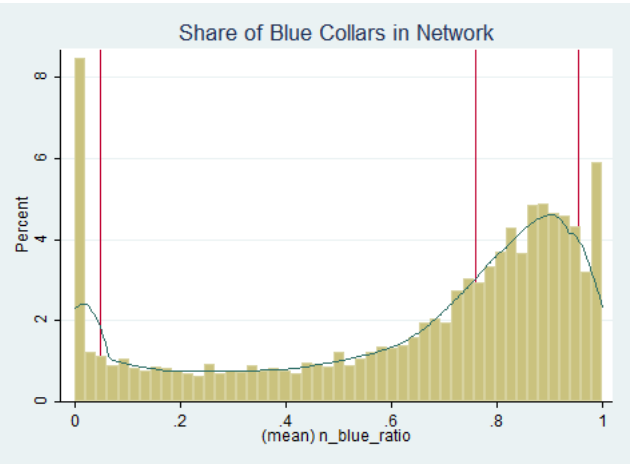


Figure 8: Distribution of Blue Collar Share in Network

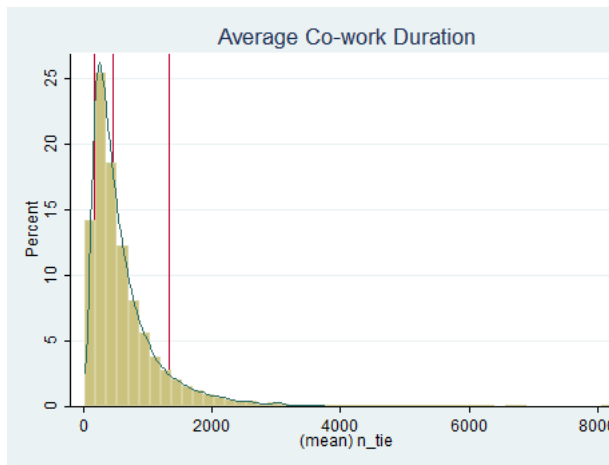


Figure 9: Distribution of Average Cowork Duration

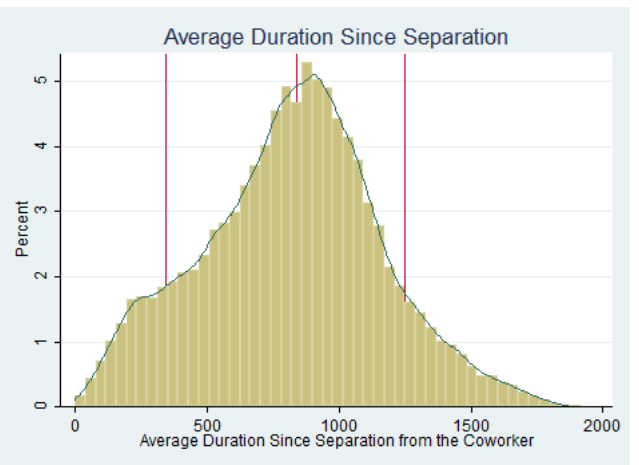


Figure 10: Distribution of Average Duration Since Separation with Contact

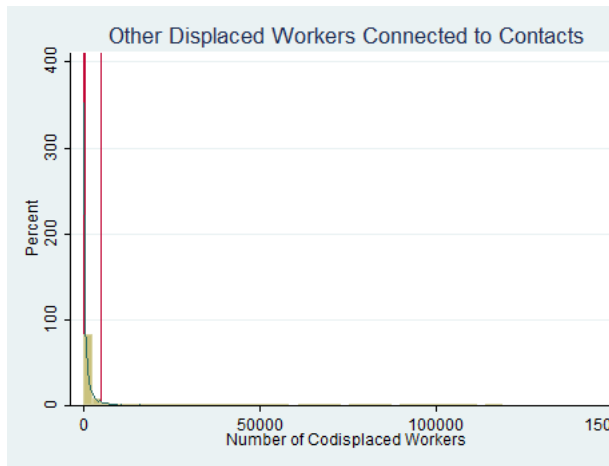


Figure 11: Distribution of Number of Competitors

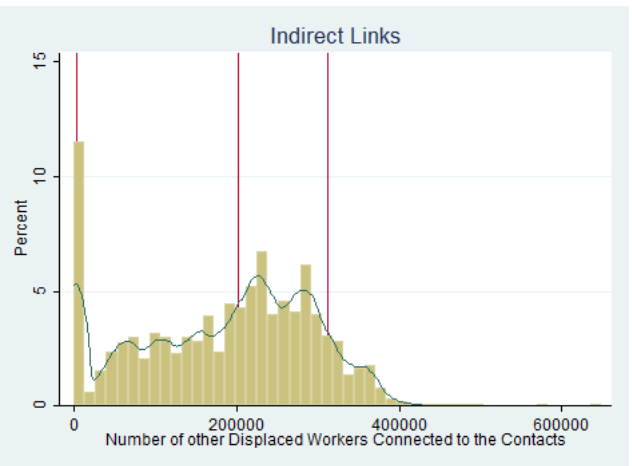


Figure 12: Distribution of Number of Indirect Links

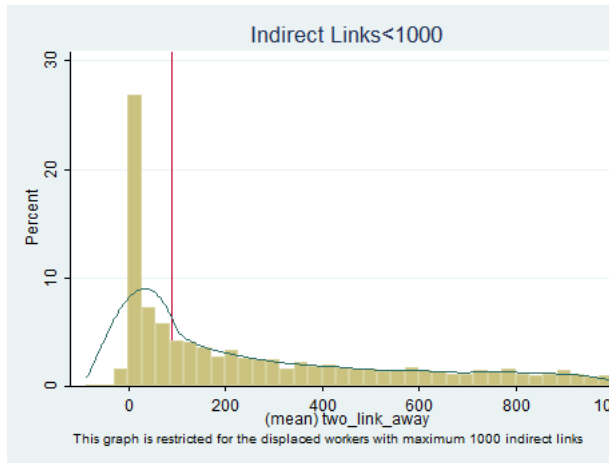


Figure 13: Distribution of Number of Indirect Links: Restricted 1000

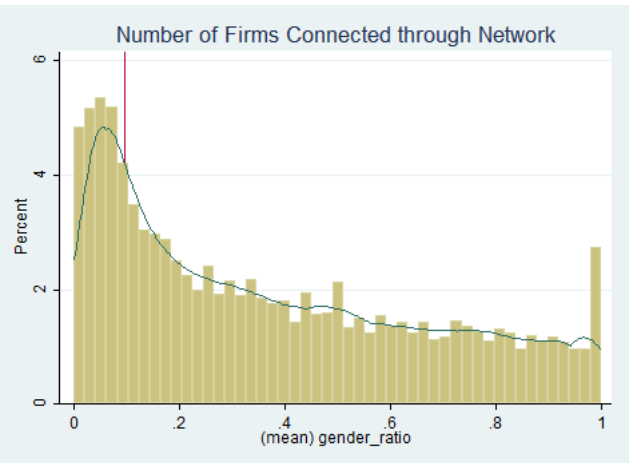


Figure 14: Distribution of Number of Firms Connected through the Contacts

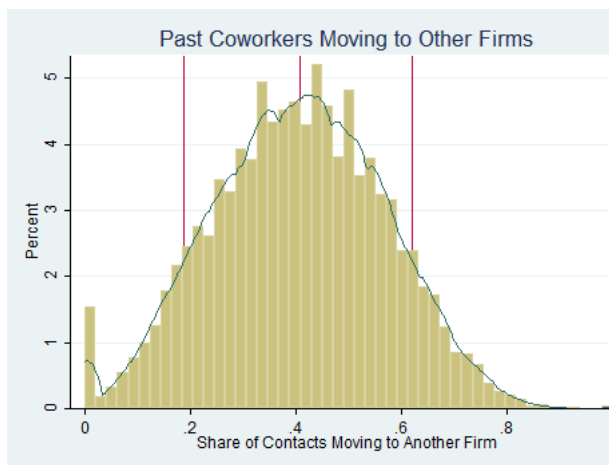


Figure 15: Distribution of Share of Contacts Moved to Another Firm

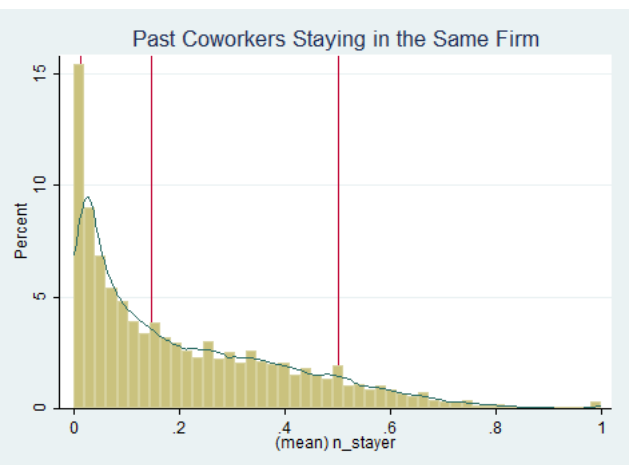


Figure 16: Distribution of Share of Contacts Stayed in the Same Firm

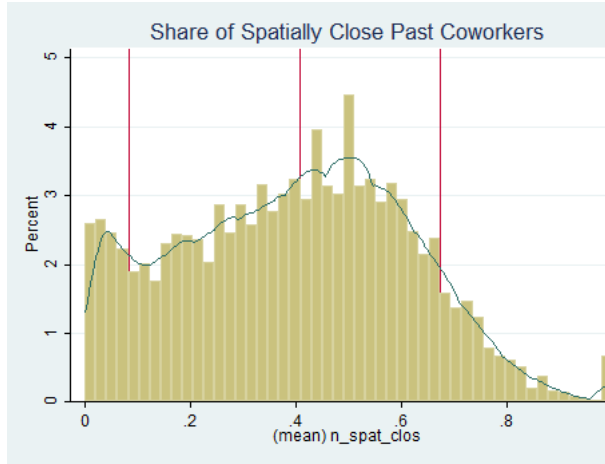


Figure 17: Distribution of Number of Contacts Employed in the Same Region

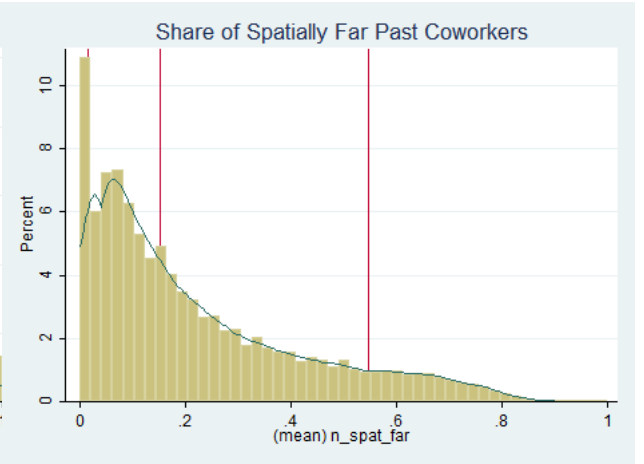


Figure 18: Distribution of Number of Contacts Employed in another Region

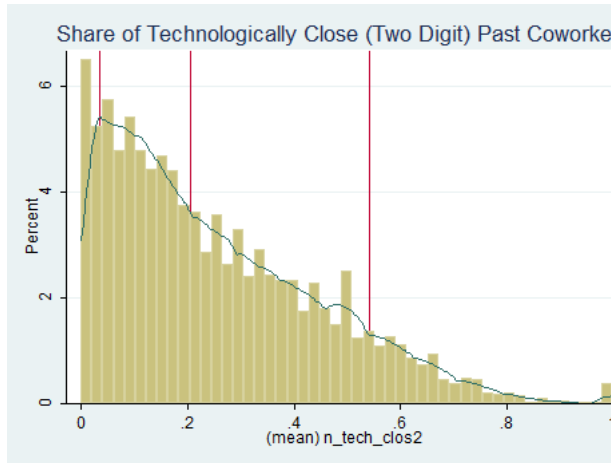


Figure 19: Distribution of Number of Contacts Employed in the Same Industry 2-Digit

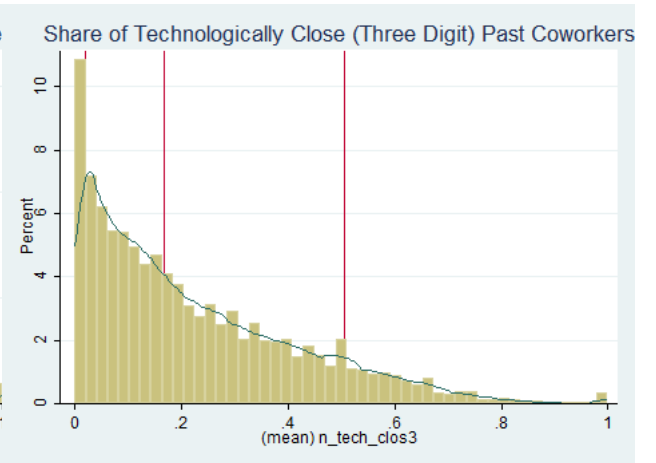


Figure 20: Distribution of Number of Contacts Employed in the Same Industry 3-Digit

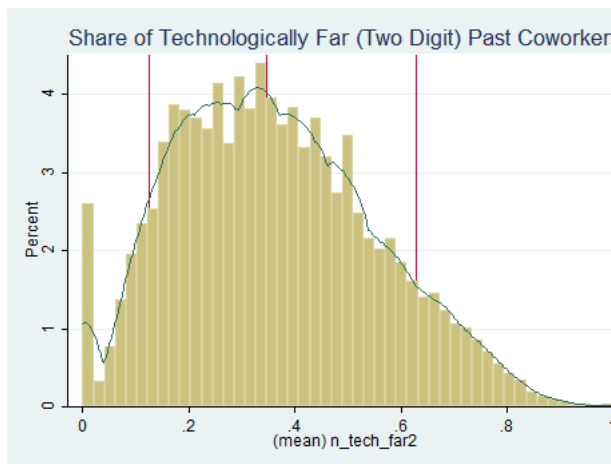


Figure 21: Distribution of Number of Contacts Employed in a Different Industry 2-Digit

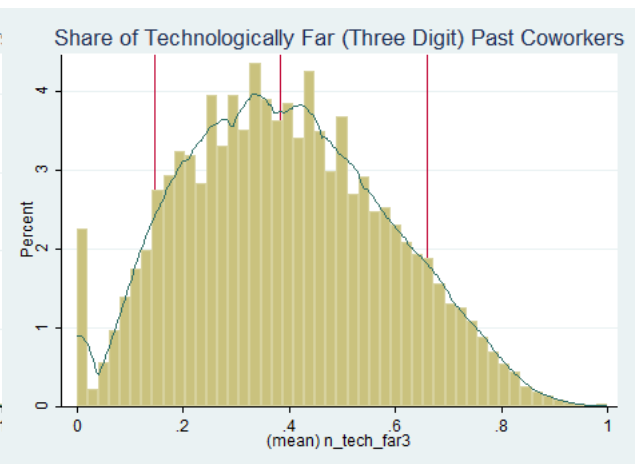


Figure 22: Distribution of Number of Contacts Employed in a Different Industry 3-Digit

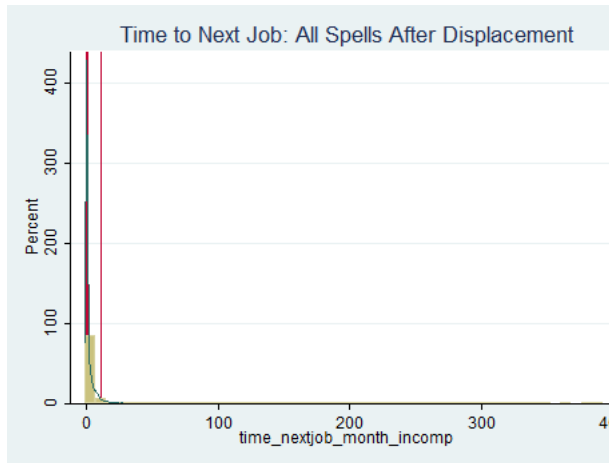


Figure 23: Distribution of Time to Next Job

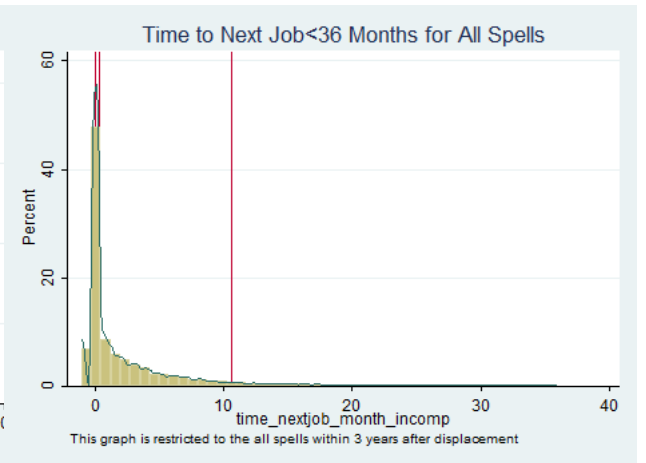


Figure 24: Distribution of Time to Next Job: Restricted 36 Months

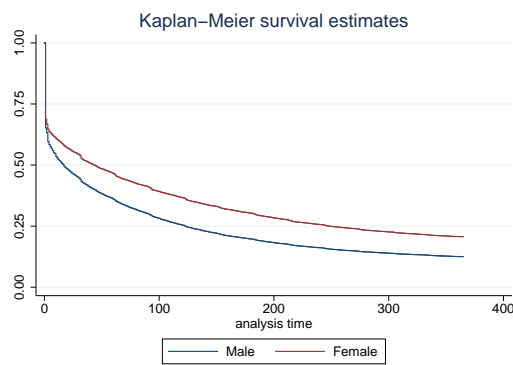


Figure 25: Survival Function by Gender

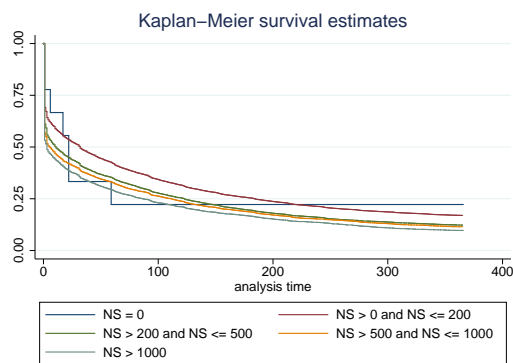


Figure 26: Survival Function by Network Size

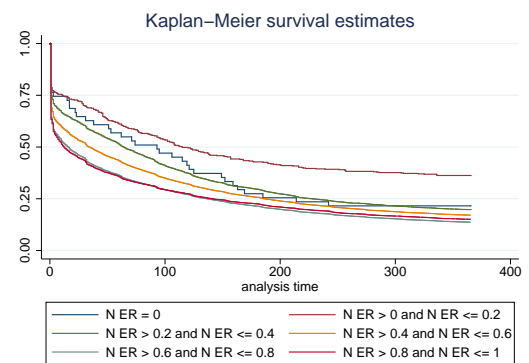


Figure 27: Survival Function by Network Employment Rate

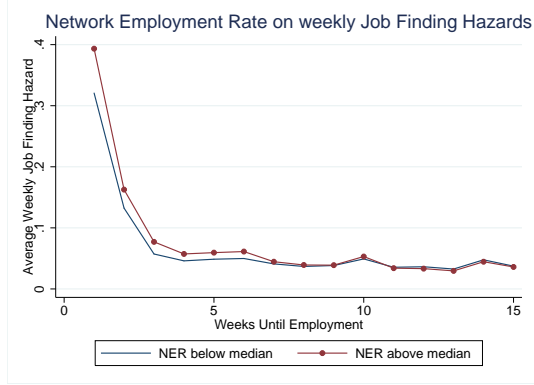


Figure 28: Weekly Hazard, Network Employment Rate

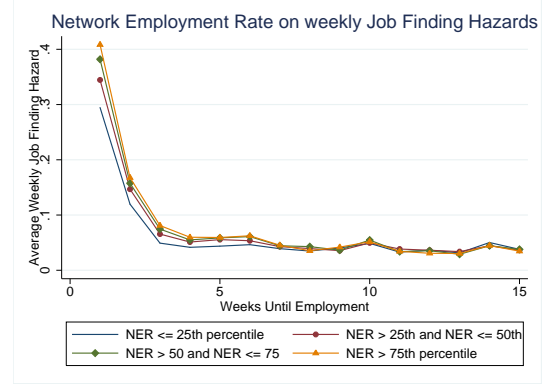


Figure 29: Weekly Hazard, Network employment rate

Table 1: Summary Statistics at Closing Firm Level

Variable	Mean	Std. Dev.	Min.	Max.	N
Number of Displaced Workers	313.372	372.851	1	3756	27640
Average Age of Displaced Workers	35.42	8.148	16	55	27640
Ratio of Displaced Female Workers	0.4	0.427	0	1	27640
Ratio of Displaced Blue Collar Workers	0.563	0.45	0	1	27640
Average Wage	47.748	25.802	0	427.5	27245
Average Tenure of Displaced Workers	1305.284	1181.553	365	11871	27640
Firm Operation Duration	3295.311	2907.895	365	13423	27640

Table 2: Summary statistics: Employment History Before and After Closure by Gender

	Men	Women	All sample
Age at First Employment	22.63	22.02	22.40
	8.31	8.31	8.31
Wage at First Job	12.09	10.76	11.58
	15.63	11.46	14.20
Unemployment Duration Before Closure	168.75	195.64	179.00
	342.43	388.63	360.98
Relative Unemployment Duration wrt Since LFP	0.03	0.04	0.03
	0.06	0.06	0.06
Employment Duration Before Closure	2908.57	2424.50	2724.03
	2522.66	2510.27	2528.88
Number of Employment Spells Before Closure	6.59	4.87	5.94
	6.72	5.37	6.30
Wage at Displacement	57.44	39.26	50.51
	28.76	23.61	28.33
Age at Displacement	36.56	35.64	36.21
	9.53	10.37	9.87
Blue Collar at Displacement	0.69	0.47	0.60
	0.46	0.50	0.49
Tenure at Closing Firm	1549.68	1651.66	1588.56
	1587.02	1616.28	1599.00
If Employed in the Spell After Closure	0.48	0.41	0.46
	0.50	0.49	0.50
If employed within 1 month after closure	0.55	0.46	0.52
	0.50	0.50	0.50
If employed within 3 months after closure	0.70	0.59	0.66
	0.46	0.49	0.47
If employed within 6 months after closure	0.80	0.70	0.76
	0.40	0.46	0.43
If employed within 9 months after closure	0.85	0.76	0.82
	0.36	0.43	0.39
If employed within 12 months after closure	0.87	0.79	0.84
	0.33	0.40	0.36
Months Unemployed After Closure	2.72	4.03	3.22
	8.94	10.01	9.38
Months to Next Job After Closure	4.56	8.09	5.89
	16.99	23.58	19.80
Drops Out After Displacement	0.03	0.02	0.03
	0.16	0.15	0.16
First Wage After Closure	54.88	38.14	48.74
	26.41	22.17	26.21

Table 3: Summary statistics: Network Characteristics by Gender

	Men	Women	All sample
Network Size	233.13 (411.30)	174.07 (349.15)	210.62 (389.83)
Network Employment Rate	0.63 (0.15)	0.59 (0.16)	0.62 (0.15)
Share of Contacts Moving to Another Firm	0.42 (0.17)	0.38 (0.16)	0.40 (0.17)
Share of Contacts Staying in the Same Firm	0.21 (0.20)	0.22 (0.21)	0.21 (0.20)
Share of Contacts Employed in the Same Industry 2-Digit	0.26 (0.20)	0.24 (0.20)	0.25 (0.20)
Share of Contacts Employed in the Same Industry 3-Digit	0.23 (0.20)	0.21 (0.19)	0.22 (0.20)
Share of Contacts Employed in a Different Industry 2-Digit	0.37 (0.19)	0.35 (0.19)	0.36 (0.19)
Share of Contacts Employed in a Different Industry 3-Digit	0.40 (0.20)	0.38 (0.19)	0.39 (0.19)
Share of Contacts Employed in the Same Region	0.39 (0.22)	0.41 (0.22)	0.40 (0.22)
Share of Contacts Employed in a Different Region	0.24 (0.21)	0.18 (0.18)	0.22 (0.20)
Average Cowork Duration	626.78 (573.84)	650.79 (598.48)	635.94 (583.47)
Average Duration Since Separation from the Coworker	848.06 (331.39)	779.05 (350.18)	821.75 (340.33)
Number of Competitors	2292.43 (7779.55)	2077.56 (8120.35)	2210.51 (7911.85)
Share of Female Contacts	0.24 (0.22)	0.59 (0.28)	0.37 (0.30)
Number of Firms Connected through Contacts	58.75 (80.57)	42.54 (63.79)	52.57 (75.03)
Average Age Difference with Contacts	-0.05 (9.45)	-0.16 (10.11)	-0.09 (9.70)
Average Wage of the Contacts	12.19 (9.94)	10.33 (9.86)	11.48 (9.95)
Share of Blue Collar Contacts	0.68 (0.29)	0.57 (0.35)	0.63 (0.32)
Number of Indirect Links	187516.58 (106335.28)	177294.28 (108354.59)	183619.46 (107224.07)

Table 4: Summary statistics: Network Characteristics by Class

	White	Blue	All sample
Network Size	201.05 (384.28)	216.92 (393.33)	210.62 (389.83)
Network Employment Rate	0.63 (0.15)	0.60 (0.15)	0.62 (0.15)
Share of Contacts Moving to Another Firm	0.40 (0.17)	0.41 (0.16)	0.40 (0.17)
Share of Contacts Staying in the Same Firm	0.23 (0.22)	0.20 (0.19)	0.21 (0.20)
Share of Contacts Employed in the Same Industry 2-Digit	0.26 (0.21)	0.25 (0.19)	0.25 (0.20)
Share of Contacts Employed in the Same Industry 3-Digit	0.22 (0.20)	0.22 (0.19)	0.22 (0.20)
Share of Contacts Employed in a Different Industry 2-Digit	0.38 (0.20)	0.35 (0.19)	0.36 (0.19)
Share of Contacts Employed in a Different Industry 3-Digit	0.41 (0.20)	0.38 (0.19)	0.39 (0.19)
Share of Contacts Employed in the Same Region	0.42 (0.23)	0.38 (0.21)	0.40 (0.22)
Share of Contacts Employed in a Different Region	0.21 (0.21)	0.22 (0.20)	0.22 (0.20)
Average Cowork Duration	673.47 (600.58)	611.17 (570.55)	635.94 (583.47)
Average Duration Since Separation from the Coworker	789.24 (354.53)	843.20 (328.87)	821.75 (340.33)
Number of Competitors	1917.60 (7799.75)	2403.77 (7979.13)	2210.51 (7911.85)
Share of Female Contacts	0.42 (0.29)	0.34 (0.30)	0.37 (0.30)
Number of Firms Connected through Contacts	47.98 (68.36)	55.60 (78.98)	52.57 (75.03)
Average Age Difference with Contacts	-0.02 (9.77)	-0.14 (9.66)	-0.09 (9.70)
Average Wage of the Contacts	12.30 (11.52)	10.95 (8.72)	11.48 (9.95)
Share of Blue Collar Contacts	0.41 (0.34)	0.79 (0.19)	0.63 (0.32)
Number of Indirect Links	181802.61 (109620.72)	184818.20 (105596.81)	183619.46 (107224.07)

Table 5: Summary statistics: Individual Characteristics by Employment Status Within 6 Months After Closure

	No Emp6	Emp6	All sample
Female	0.49 (0.50)	0.35 (0.48)	0.38 (0.49)
Age at First Employment	23.17 (8.66)	22.16 (8.18)	22.40 (8.31)
Wage at First Job	11.81 (15.51)	11.51 (13.77)	11.58 (14.20)
Relative Unemployment Duration wrt Since LFP	0.04 (0.07)	0.03 (0.06)	0.03 (0.06)
Number of Employment Spells Before Closure	5.51 (6.10)	6.07 (6.35)	5.94 (6.30)
Wage at Displacement	49.13 (31.09)	50.93 (27.41)	50.51 (28.33)
Age at Displacement	37.88 (10.37)	35.69 (9.65)	36.21 (9.87)
Blue Collar at Displacement	0.52 (0.50)	0.63 (0.48)	0.60 (0.49)
Tenure at Closing Firm	1762.06 (1797.16)	1534.55 (1528.09)	1588.56 (1599.00)

Table 6: Summary statistics: Network Characteristics by Employment Status Within 6 Months After Closure

	No Emp6	Emp6	All sample
Network Size	167.36 (334.94)	224.08 (404.47)	210.62 (389.83)
Network Employment Rate	0.60 (0.16)	0.62 (0.15)	0.62 (0.15)
Share of Contacts Moving to Another Firm	0.39 (0.17)	0.41 (0.16)	0.40 (0.17)
Share of Contacts Staying in the Same Firm	0.21 (0.20)	0.21 (0.20)	0.21 (0.20)
Share of Contacts Employed in the Same Industry 2-Digit	0.25 (0.20)	0.25 (0.20)	0.25 (0.20)
Share of Contacts Employed in the Same Industry 3-Digit	0.22 (0.20)	0.22 (0.19)	0.22 (0.20)
Share of Contacts Employed in a Different Industry 2-Digit	0.35 (0.19)	0.37 (0.19)	0.36 (0.19)
Share of Contacts Employed in a Different Industry 3-Digit	0.38 (0.19)	0.40 (0.19)	0.39 (0.19)
Share of Contacts Employed in the Same Region	0.41 (0.22)	0.39 (0.22)	0.40 (0.22)
Share of Contacts Employed in a Different Region	0.19 (0.19)	0.23 (0.21)	0.22 (0.20)
Average Cowork Duration	719.25 (669.95)	610.00 (551.24)	635.94 (583.47)
Average Duration Since Separation from the Coworker	799.19 (352.46)	828.77 (336.15)	821.75 (340.33)
Number of Competitors	2271.14 (9598.97)	2191.64 (7307.59)	2210.51 (7911.85)
Share of Female Contacts	0.43 (0.31)	0.35 (0.29)	0.37 (0.30)
Number of Firms Connected through Contacts	42.31 (64.31)	55.77 (77.80)	52.57 (75.03)
Average Age Difference with Contacts	-1.79 (10.23)	0.43 (9.47)	-0.09 (9.70)
Average Wage of the Contacts	11.90 (10.91)	11.35 (9.63)	11.48 (9.95)
Share of Blue Collar Contacts	0.60 (0.34)	0.64 (0.31)	0.63 (0.32)
Number of Indirect Links	178651.56 (108281.29)	185165.84 (106846.44)	183619.46 (107224.07)

Table 7: Summary statistics: Network Characteristics by Drop Out After Closure

	No Drop	Drop	All sample
Network Size	218.77	147.32	210.62
	399.03	301.98	389.83
Network Employment Rate	0.62	0.59	0.62
	0.15	0.17	0.15
Share of Contacts Moving to Another Firm	0.41	0.38	0.40
	0.16	0.17	0.17
Share of Contacts Staying in the Same Firm	0.21	0.21	0.21
	0.20	0.20	0.20
Share of Contacts Employed in the Same Industry 2-Digit	0.25	0.26	0.25
	0.20	0.20	0.20
Share of Contacts Employed in the Same Industry 3-Digit	0.22	0.23	0.22
	0.19	0.20	0.20
Share of Contacts Employed in a Different Industry 2-Digit	0.37	0.34	0.36
	0.19	0.19	0.19
Share of Contacts Employed in a Different Industry 3-Digit	0.40	0.36	0.39
	0.19	0.19	0.19
Share of Contacts Employed in the Same Region	0.39	0.41	0.40
	0.22	0.22	0.22
Share of Contacts Employed in a Different Region	0.22	0.18	0.22
	0.20	0.18	0.20
Average Cowork Duration	619.81	761.07	635.94
	562.15	715.75	583.47
Average Duration Since Separation from the Coworker	827.18	779.60	821.75
	338.67	350.08	340.33
Number of Competitors	2250.20	1902.65	2210.51
	7815.40	8617.62	7911.85
Share of Female Contacts	0.36	0.44	0.37
	0.30	0.31	0.30
Number of Firms Connected through Contacts	54.52	37.49	52.57
	76.78	57.63	75.03
Average Age Difference with Contacts	0.34	-3.44	-0.09
	9.50	10.54	9.70
Average Wage of the Contacts	11.40	12.14	11.48
	9.71	11.63	9.95
Share of Blue Collar Contacts	0.64	0.60	0.63
	0.32	0.35	0.32
Number of Indirect Links	185495.94	169063.72	183619.46
	106771.57	109590.14	107224.07

Table 8: Reemployment Probabilities, Baseline

	Emp1	Emp3	Emp6	Emp9	Emp12
	(1)	(2)	(3)	(4)	(5)
Log Network Size	.0323 (.0013)***	.0288 (.0013)***	.0247 (.0012)***	.0221 (.0011)***	.0206 (.0010)***
Network Employment Rate	.2743 (.0164)***	.1585 (.0159)***	.0650 (.0144)***	.0341 (.0131)***	.0317 (.0123)***
Female	-.0089 (.0145)	-.0457 (.0140)***	-.0879 (.0127)***	-.0776 (.0115)***	-.0703 (.0108)***
Network Emp. Rate x Female	-.0823 (.0229)***	-.0243 (.0222)	.0554 (.0201)***	.0527 (.0183)***	.0477 (.0172)***
Age at Displacement	-.0050 (.0312)	.0030 (.0302)	.0475 (.0273)*	.0459 (.0249)*	.0499 (.0234)**
Age at Displacement ²	-.0006 (.0014)	-.0013 (.0013)	-.0034 (.0012)***	-.0035 (.0011)***	-.0038 (.0010)***
Age at Displacement ³	.00003 (.00003)	.00005 (.00002)*	.00009 (.00002)***	.00009 (.00002)***	.0001 (.00002)***
Age at Displacement ⁴	-2.95e-07 (1.72e-07)*	-4.78e-07 (1.66e-07)***	-7.85e-07 (1.50e-07)***	-8.42e-07 (1.37e-07)***	-9.41e-07 (1.29e-07)***
Tenure at Closing Firm	-6.71e-07 (1.00e-06)	-3.00e-06 (1.00e-06)***	-6.00e-06 (1.00e-06)***	-6.00e-06 (1.00e-06)***	-5.00e-06 (9.59e-07)***
Blue Collar at Displacement	.0046 (.0041)	.0540 (.0039)***	.0817 (.0036)***	.0805 (.0033)***	.0770 (.0031)***
Wage at Displacement	.0003 (.00008)***	.0007 (.00007)***	.0007 (.00007)***	.0005 (.00006)***	.0005 (.00006)***
Wage at First Job	-.0011 (.0001)***	-.0009 (.0001)***	-.0009 (.0001)***	-.0009 (.0001)***	-.0009 (.0001)***
Unemp. Dur. Before Closure	-.00009 (5.00e-06)***	-.0001 (5.00e-06)***	-.00007 (5.00e-06)***	-.00006 (4.00e-06)***	-.00005 (4.00e-06)***
Nb of Emp. Spells Before Closure	-.0002 (.0003)	.0010 (.0003)***	.0013 (.0003)***	.0012 (.0003)***	.0012 (.0002)***
Obs.	97592	97592	97592	97592	97592
<i>F</i> statistic	169.5655	212.8822	274.6384	307.4811	333.9085

Source: ASSD, own calculations.

Note: *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. All estimations include closing firm FE as well as closing year FE.

Table 9: Drop-Out Probabilities, Baseline and Network Composition

	Drop1	Drop2	Drop3
	(1)	(2)	(3)
Log Network Size	-.0170 (.0009)***	-.0171 (.0009)***	-.0142 (.0010)***
Network Employment Rate	-.0257 (.0088)***	-.0106 (.0107)	-.0322 (.0095)***
Female	.0276 (.0026)***	.0497 (.0095)***	.0202 (.0028)***
Network Emp. Rate x Female		-.0363 (.0150)**	
Average Age Difference with Contacts			-.0011 (.0003)***
Share of Females in Contacts			.0384 (.0056)***
Share of Blue Collar Contacts			.0089 (.0050)*
Average Wage of Contacts			.0008 (.0002)***
Age at Displacement	-.0791 (.0205)***	-.0804 (.0205)***	-.0764 (.0205)***
Age at Displacement ²	.0053 (.0009)***	.0053 (.0009)***	.0051 (.0009)***
Age at Displacement ³	-.0001 (.00002)***	-.0001 (.00002)***	-.0001 (.00002)***
Age at Displacement ⁴	1.00e-06 (1.13e-07)***	1.00e-06 (1.13e-07)***	1.00e-06 (1.13e-07)***
Tenure at Closing Firm	5.00e-06 (8.40e-07)***	5.00e-06 (8.40e-07)***	5.00e-06 (8.40e-07)***
Blue Collar at Displacement	-.0601 (.0027)***	-.0605 (.0027)***	-.0612 (.0029)***
Wage at Displacement	-.0004 (.00005)***	-.0004 (.00005)***	-.0004 (.00005)***
Wage at First Job	.0009 (.00008)***	.0009 (.00008)***	.0008 (.00008)***
Unemployment Duration Before Closure	.00002 (3.00e-06)***	.00002 (3.00e-06)***	.00002 (3.00e-06)***
Number of Employment Spells Before Closure	-.0010 (.0002)***	-.0010 (.0002)***	-.0010 (.0002)***
Obs.	97592	97592	97586
<i>F</i> statistic	384.723	357.6803	299.5834

Source: ASSD, own calculations.

Note: *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. All estimations include closing firm FE as well as closing year FE.

Table 10: Semiparametric Cox Model, Baseline

	(1)	(2)	(3)	(4)
log(ns)	0.0771*** (0.00240)	0.0689*** (0.00326)	0.0698*** (0.00337)	0.0688*** (0.00340)
Network Emp. Rate	0.461*** (0.0297)	0.322*** (0.0405)	0.307*** (0.0414)	0.279*** (0.0416)
Female	-0.136*** (0.0297)	-0.158*** (0.0369)	-0.145*** (0.0374)	-0.145*** (0.0375)
Network Emp. Rate x Female	-0.108** (0.0475)	-0.0122 (0.0586)	0.0192 (0.0592)	0.0262 (0.0593)
Age at Displacement	0.0398*** (0.00277)	0.0354*** (0.00317)	0.0372*** (0.00326)	0.0362*** (0.00326)
Age at Displacement ²	-0.000664*** (0.0000373)	-0.000609*** (0.0000424)	-0.000622*** (0.0000434)	-0.000612*** (0.0000435)
Blue Collar at Displacement	0.106*** (0.00740)	0.0992*** (0.00972)	0.134*** (0.0104)	0.137*** (0.0105)
Tenure at Closing Firm			-0.0000131*** (0.00000326)	-0.0000111*** (0.00000328)
Wage at Displacement			0.00133*** (0.000189)	0.00166*** (0.000207)
Wage at First Job			-0.00276*** (0.000325)	-0.00236*** (0.000340)
Unemployment Duration Before Closure			-0.000233*** (0.0000141)	-0.000225*** (0.0000144)
Number of Employment Spells Before Closure			0.00227*** (0.000825)	0.00318*** (0.000838)
year FE	No	No	No	Yes
Observations	98962	98962	97586	97586

Source: ASSD, own calculations.

Note: *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Semi-parametric Cox Estimations. Column (1) is the baseline, while columns (2) - (4) are stratified by the closing firm. Column (4) additionally contains closing year dummies.

Table 11: Semiparametric Cox Model, Information Availability and Circulation

	(1)	(2)	(3)	(4)	(5)	(6)
log(ns)	0.0698*** (0.00337)	0.0286*** (0.00415)	0.0684*** (0.00347)	0.0676*** (0.00347)	0.0665*** (0.00357)	0.0691*** (0.00338)
Network Emp. Rate	0.307*** (0.0414)					0.315*** (0.0414)
Female	-0.145*** (0.0374)	-0.183*** (0.0375)	-0.178*** (0.0371)	-0.175*** (0.0371)	-0.186*** (0.0370)	-0.141*** (0.0374)
Network Emp. Rate x Female	0.0192 (0.0592)	0.0936 (0.0595)	0.0711 (0.0587)	0.0660 (0.0588)	0.0876 (0.0588)	0.0149 (0.0592)
Age at Displacement	0.0372*** (0.00326)	0.0345*** (0.00327)	0.0370*** (0.00326)	0.0370*** (0.00326)	0.0369*** (0.00327)	0.0393*** (0.00327)
Age at Displacement ²	-0.000622*** (0.0000434)	-0.000590*** (0.0000435)	-0.000619*** (0.0000434)	-0.000619*** (0.0000435)	-0.000618*** (0.0000435)	-0.000641*** (0.0000435)
Blue Collar at Displacement	0.134*** (0.0104)	0.140*** (0.0104)	0.135*** (0.0104)	0.136*** (0.0104)	0.134*** (0.0104)	0.135*** (0.0104)
Tenure at Closing Firm	-0.000131*** (0.00000326)	-0.0000131*** (0.00000325)	-0.0000144*** (0.00000326)	-0.0000146*** (0.00000326)	-0.0000136*** (0.00000326)	0.00000268 (0.00000380)
Wage at Displacement	0.00133*** (0.000189)	0.00130*** (0.000190)	0.00136*** (0.000189)	0.00135*** (0.000189)	0.00131*** (0.000190)	0.00149*** (0.000190)
Wage at First Job	-0.00276*** (0.000325)	-0.00259*** (0.000325)	-0.00277*** (0.000325)	-0.00278*** (0.000325)	-0.00280*** (0.000325)	-0.00305*** (0.000327)
Unemployment Duration Before Closure	-0.000233*** (0.0000141)	-0.000230*** (0.0000142)	-0.000233*** (0.0000141)	-0.000234*** (0.0000141)	-0.000234*** (0.0000141)	-0.000238*** (0.0000141)
Number of Employment Spells Before Closure	0.00227*** (0.000825)	0.00189*** (0.000828)	0.00225*** (0.000825)	0.00221*** (0.000826)	0.00219*** (0.000827)	0.00156* (0.000832)
Share Movers Network		0.502*** (0.0429)				
Share Stayers Network		-0.225*** (0.0509)				
Share Close Industry 2-digit			0.215*** (0.0415)			
Share Far Industry 2-digit			0.282*** (0.0424)			
Share Close Industry 3-digit				0.209*** (0.0419)		
Share Far Industry 3-digit				0.299*** (0.0422)		
Share of Same Region					0.201*** (0.0408)	
Share of Different Region					0.302*** (0.0446)	
Avg. Cow. Dur. in Network						-0.0000881*** (0.0000110)
Observations	97586	97502	97502	97502	97273	97586

Source: ASSD, own calculations.

Note: ***, ***, * indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Semi-parametric Cox Estimations. Every column is stratified by the closing firm.

Table 12: Semiparametric Cox Model, Network Composition: Qualification, Age, Sex

	(1)	(2)	(3)	(4)	(5)	(6)
log(ns)	0.0698*** (0.00337)	0.0693*** (0.00344)	0.0690*** (0.00338)	0.0627*** (0.00368)	0.0948*** (0.00407)	0.0685*** (0.00339)
Network Emp. Rate	0.307*** (0.0414)	0.306*** (0.0414)	0.290*** (0.0415)	0.366*** (0.0431)	0.257*** (0.0416)	0.326*** (0.0417)
Female	-0.145*** (0.0374)	-0.145*** (0.0374)	-0.117*** (0.0376)	-0.146*** (0.0374)	-0.138*** (0.0373)	-0.143*** (0.0374)
Network Emp. Rate x Female	0.0192 (0.0592)	0.0188 (0.0592)	0.0126 (0.0592)	0.0213 (0.0593)	0.00338 (0.0591)	0.0202 (0.0593)
Age at Displacement	0.0372*** (0.00326)	0.0379*** (0.00341)	0.0365*** (0.00326)	0.0369*** (0.00326)	0.0412*** (0.00327)	0.0371*** (0.00326)
Age at Displacement ²	-0.000622*** (0.0000434)	-0.000622*** (0.0000434)	-0.000616*** (0.0000434)	-0.000619*** (0.0000434)	-0.000673*** (0.0000436)	-0.000622*** (0.0000434)
Blue Collar at Displacement	0.134*** (0.0104)	0.134*** (0.0104)	0.130*** (0.0105)	0.136*** (0.0104)	0.136*** (0.0104)	0.119*** (0.0112)
Tenure at Closing Firm	-0.0000131*** (0.00000326)	-0.0000132*** (0.00000326)	-0.0000124*** (0.00000326)	-0.0000128*** (0.00000326)	-0.00000909*** (0.00000327)	-0.0000131*** (0.00000326)
Wage at Displacement	0.00133*** (0.000189)	0.00132*** (0.000190)	0.00126*** (0.000190)	0.00152*** (0.000193)	0.00137*** (0.000189)	0.00139*** (0.000190)
Wage at First Job	-0.00276*** (0.000325)	-0.00276*** (0.000325)	-0.00276*** (0.000325)	-0.00256*** (0.000327)	-0.00306*** (0.000326)	-0.00275*** (0.000325)
Unemployment Duration Before Closure	-0.000233*** (0.0000141)	-0.000233*** (0.0000141)	-0.000232*** (0.0000141)	-0.000229*** (0.0000141)	-0.000233*** (0.0000141)	-0.000233*** (0.0000141)
Number of Employment Spells Before Closure	0.00227*** (0.000825)	0.00225*** (0.000825)	0.00225*** (0.000825)	0.00242*** (0.000825)	0.00295*** (0.000823)	0.00229*** (0.000825)
Average Age Difference to Network		0.000782 (0.00109)				
Share of Female in Network			-0.127*** (0.0202)			
Average Wage in Network				-0.00279*** (0.000582)		
Average Duration Since Separation					-0.000170*** (0.0000155)	
Share of Blue Collars in Network						0.0672*** (0.0182)
Observations	97586	97586	97586	97586	97586	97586

Source: ASD, own calculations.
Note: *, **, *** indicates significance at the 10%, 5% and 1% level, respectively. Standard errors in parentheses. Semi-parametric Cox Estimations. Every column is stratified by the closing firm.

Table 13: Semiparametric Cox Model, Indirect Connections

	(1)	(2)	(3)	(4)
log(ns)	0.0698*** (0.00337)	0.0703*** (0.00350)	0.0656*** (0.00385)	-0.0111 (0.0102)
Network Emp. Rate	0.307*** (0.0414)	0.306*** (0.0415)	0.328*** (0.0425)	0.307*** (0.0417)
Female	-0.145*** (0.0374)	-0.145*** (0.0374)	-0.153*** (0.0376)	-0.138*** (0.0378)
Network Emp. Rate x Female	0.0192 (0.0592)	0.0192 (0.0592)	0.0313 (0.0596)	0.0118 (0.0598)
Age at Displacement	0.0372*** (0.00326)	0.0372*** (0.00326)	0.0376*** (0.00326)	0.0347*** (0.00328)
Age at Displacement ²	-0.000622*** (0.0000434)	-0.000622*** (0.0000434)	-0.000626*** (0.0000435)	-0.000593*** (0.0000436)
Blue Collar at Displacement	0.134*** (0.0104)	0.134*** (0.0104)	0.133*** (0.0104)	0.131*** (0.0104)
Tenure at Closing Firm	-0.0000131*** (0.00000326)	-0.0000129*** (0.00000327)	-0.0000132*** (0.00000326)	-0.0000145*** (0.00000327)
Wage at Displacement	0.00133*** (0.000189)	0.00133*** (0.000189)	0.00127*** (0.000190)	0.00127*** (0.000190)
Wage at First Job	-0.00276*** (0.000325)	-0.00276*** (0.000325)	-0.00276*** (0.000325)	-0.00263*** (0.000325)
Unemployment Duration Before Closure	-0.000233*** (0.0000141)	-0.000233*** (0.0000141)	-0.000235*** (0.0000141)	-0.000231*** (0.0000141)
Number of Employment Spells Before Closure	0.00227*** (0.000825)	0.00226*** (0.000825)	0.00220*** (0.000826)	0.00232*** (0.000826)
Number of Competitors		-0.000000581 (0.00000104)		
log(Two Link Away)			0.00560** (0.00252)	
log(Networked Firms)				0.101*** (0.0120)
Observations	97586	97586	97335	97534

Source: ASSD, own calculations.

Note: ***,**,* indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Semi-parametric Cox Estimations. Every column is stratified by the closing firm.

Table 14: Tenure at re-entry job LPM, Baseline

	(1)	(2)	(3)
log(ns)	-0.0131*** (0.00151)	-0.00666*** (0.00154)	-0.00710*** (0.00156)
Network Emp. Rate	0.00111 (0.0186)	0.0418** (0.0187)	0.0429** (0.0189)
Female	0.0144 (0.0169)	0.00932 (0.0170)	0.0113 (0.0170)
Network Emp. Rate x Female	0.0190 (0.0268)	0.0333 (0.0268)	0.0365 (0.0269)
Age at Displacement	0.0158*** (0.00145)	0.0204*** (0.00148)	0.0202*** (0.00148)
Age at Displacement ²	-0.000170*** (0.0000196)	-0.000237*** (0.0000198)	-0.000235*** (0.0000199)
Blue Collar at Displacement	-0.0975*** (0.00446)	-0.0840*** (0.00476)	-0.0830*** (0.00479)
Tenure at Closing Firm		0.0000151*** (0.00000150)	0.0000153*** (0.00000151)
Wage at Displacement		0.000310*** (0.0000923)	0.000466*** (0.000103)
Wage at First Job		-0.00170*** (0.000149)	-0.00151*** (0.000158)
Unemployment Duration Before Closure		-0.0000680*** (0.00000620)	-0.0000633*** (0.00000632)
Number of Employment Spells Before Closure		-0.00565*** (0.000368)	-0.00543*** (0.000376)
year FE	No	No	Yes
F-Stat.	152.70	172.47	47.92
Observations	83506	82649	82649

Source: ASSD, own calculations.

Note: *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Dependent variable is one if the tenure in the first job after being displaced is longer than a year. Column (1) is the baseline, while columns (2) - (4) include closing firm fixed effects. Column (4) additionally contains closing year dummies.

Table 15: Tenure at re-entry job LPM, Information Availability and Circulation

	(1)	(2)	(3)	(4)	(5)
log(ns)	-0.0103*** (0.00179)	-0.00747*** (0.00158)	-0.00751*** (0.00158)	-0.00340** (0.00163)	-0.00627*** (0.00154)
Female	0.00508 (0.0169)	0.00387 (0.0168)	0.00228 (0.0168)	0.00435 (0.0168)	0.00839 (0.0170)
Network Emp. Rate x Female	0.0394 (0.0267)	0.0418 (0.0266)	0.0443* (0.0266)	0.0389 (0.0265)	0.0335 (0.0269)
Age at Displacement	0.0206*** (0.00148)	0.0203*** (0.00148)	0.0202*** (0.00148)	0.0203*** (0.00148)	0.0195*** (0.00149)
Age at Displacement ²	-0.000239*** (0.0000199)	-0.000236*** (0.0000199)	-0.000235*** (0.0000199)	-0.000237*** (0.0000199)	-0.000228*** (0.0000199)
Blue Collar at Displacement	-0.0827*** (0.00478)	-0.0835*** (0.00477)	-0.0833*** (0.00477)	-0.0847*** (0.00477)	-0.0845*** (0.00476)
Tenure at Closing Firm	0.0000154*** (0.00000150)	0.0000147*** (0.00000150)	0.0000146*** (0.00000150)	0.0000145*** (0.00000150)	0.00000965*** (0.00000174)
Wage at Displacement	0.000333*** (0.0000925)	0.000322*** (0.0000924)	0.000318*** (0.0000924)	0.000347*** (0.0000925)	0.000240*** (0.0000930)
Wage at First Job	-0.00170*** (0.000149)	-0.00170*** (0.000149)	-0.00170*** (0.000149)	-0.00168*** (0.000149)	-0.00160*** (0.000150)
Unemployment Duration Before Closure	-0.0000683*** (0.00000621)	-0.0000686*** (0.00000621)	-0.0000688*** (0.00000621)	-0.0000681*** (0.00000621)	-0.0000663*** (0.00000621)
Number of Employment Spells Before Closure	-0.00568*** (0.000369)	-0.00566*** (0.000369)	-0.00567*** (0.000369)	-0.00555*** (0.000369)	-0.00541*** (0.000371)
Share Movers Network	0.0642 (0.0199)				
Share Stayers Network	0.00196 (0.0197)				
Share Close Industry 2-digit		0.0136 (0.0187)			
Share Far Industry 2-digit		0.0472** (0.0191)			
Share Close Industry 3-digit			0.00745 (0.0189)		
Share Far Industry 3-digit			0.0449** (0.0190)		
Share of Same Region				0.0492*** (0.0183)	0.0391** (0.0188)
Share of Different Region				-0.0304 (0.0200)	
Network Emp. Rate					0.0000309*** (0.00000497)
Avg. Cov. Dur. in Network					
F-Stat.	160.47	159.73	159.83	161.72	162.31
Observations	82581	82581	82581	82382	82581

Source: ASSD, own calculations.

Note: * ** *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Dependent variable is one if the tenure in the first job after being displaced is longer than a year. Every column includes closing firm fixed effects.

Table 16: Tenure at re-entry job LPM, Network Composition: Qualification, Age, Sex

	(1)	(2)	(3)	(4)	(5)
log(ns)	-0.00727*** (0.00157)	-0.00630*** (0.00154)	-0.0115*** (0.00168)	-0.00517*** (0.00183)	-0.00556*** (0.00155)
Network Emp. Rate	0.0400** (0.0188)	0.0482** (0.0188)	0.0803*** (0.0195)	0.0383** (0.0189)	0.0277 (0.0189)
Female	0.00972 (0.0170)	-0.000544 (0.0171)	0.00914 (0.0170)	0.00977 (0.0170)	0.00863 (0.0170)
Network Emp. Rate x Female	0.0327 (0.0268)	0.0348 (0.0268)	0.0348 (0.0269)	0.0323 (0.0268)	0.0307 (0.0268)
Age at Displacement	0.0213*** (0.00155)	0.0205*** (0.00148)	0.0201*** (0.00148)	0.0206*** (0.00149)	0.0204*** (0.00148)
Age at Displacement ²	-0.000237*** (0.0000198)	-0.000239*** (0.0000198)	-0.000234*** (0.0000198)	-0.000240*** (0.0000200)	-0.000237*** (0.0000198)
Blue Collar at Displacement	-0.0842*** (0.00476)	-0.0822*** (0.00478)	-0.0825*** (0.00477)	-0.0838*** (0.00476)	-0.0721*** (0.00516)
Tenure at Closing Firm	0.0000150*** (0.00000150)	0.0000148*** (0.00000150)	0.0000152 (0.00000150)	0.0000153*** (0.00000151)	0.0000151*** (0.00000150)
Wage at Displacement	0.000297*** (0.0000925)	0.000340*** (0.0000925)	0.000464*** (0.0000948)	0.000313*** (0.0000923)	0.000264*** (0.0000926)
Wage at First Job	-0.00170*** (0.000149)	-0.00170*** (0.000149)	-0.00156*** (0.000150)	-0.00172*** (0.000150)	-0.00170*** (0.000149)
Unemployment Duration Before Closure	-0.0000681*** (0.00000620)	-0.0000684*** (0.00000620)	-0.0000660*** (0.00000621)	-0.0000681*** (0.00000620)	-0.0000680*** (0.00000620)
Number of Employment Spells Before Closure	-0.00568*** (0.000369)	-0.00565*** (0.000368)	-0.00553*** (0.000369)	-0.00561*** (0.000369)	-0.00566*** (0.000368)
Average Age Difference to Network	0.000996** (0.000501)				
Share of Female in Network		0.0456*** (0.00932)			
Average Wage in Network			-0.00194*** (0.000269)		
Average Duration Since Separation				-0.0000105 (0.00000696)	
Share of Blue Collars in Network					-0.0505*** (0.00840)
F-Stat.	159.52	161.09	163.36	159.38	162.06
Observations	82649	82649	82581	82649	82649

Source: ASD, own calculations.
Note: ***, ***, * indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Dependent variable is one if the tenure in the first job after being displaced is longer than a year. Every column includes closing firm fixed effects.

Table 17: Tenure at re-entry job LPM, Indirect Connections

	(1)	(2)	(3)
log(ns)	-0.00740*** (0.00160)	-0.00389 (0.00262)	-0.00279 (0.00181)
Network Emp. Rate	0.0442** (0.0188)	0.0914*** (0.0310)	0.0589*** (0.0194)
Female	0.00934 (0.0170)	0.0162 (0.0288)	0.0106 (0.0171)
Network Emp. Rate x Female	0.0331 (0.0268)	0.0228 (0.0437)	0.0310 (0.0270)
Age at Displacement	0.0204*** (0.00148)	0.0231*** (0.00253)	0.0201*** (0.00148)
Age at Displacement ²	-0.000237*** (0.0000198)	-0.000269*** (0.0000343)	-0.000234*** (0.0000199)
Blue Collar at Displacement	-0.0842*** (0.00477)	-0.0813*** (0.00815)	-0.0845*** (0.00477)
Tenure at Closing Firm	0.0000149*** (0.00000151)	0.0000179*** (0.00000255)	0.0000143*** (0.00000151)
Wage at Displacement	0.000305*** (0.0000924)	0.00000938 (0.000157)	0.000284*** (0.0000925)
Wage at First Job	-0.00170*** (0.000149)	-0.00173*** (0.000247)	-0.00170*** (0.000149)
Unemployment Duration Before Closure	-0.0000679*** (0.00000620)	-0.0000691*** (0.0000101)	-0.0000686*** (0.00000620)
Number of Employment Spells Before Closure	-0.00563*** (0.000369)	-0.00508*** (0.000621)	-0.00544*** (0.000372)
Number of Competitors	0.000000778* (0.000000456)		
log(Two Link Away)		-0.00138 (0.000851)	
log(Networked Firms)			-0.0302*** (0.00739)
F-Stat.	159.43	57.85	160.28
Observations	82649	32210	82608

Source: ASSD, own calculations.

Note: *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Dependent variable is one if the tenure in the first job after being displaced is longer than a year. Every column includes closing firm fixed effects.

Table 18: Wage at re-entry job, Baseline

	(1)	(2)	(3)
log(ns)	0.360*** (0.0633)	0.00328 (0.0464)	0.301*** (0.0460)
Network Emp. Rate	6.399*** (0.777)	4.826*** (0.562)	4.089*** (0.554)
Female	-13.19*** (0.712)	-3.456*** (0.513)	-4.490*** (0.503)
Network Emp. Rate x Female	-7.402*** (1.129)	-2.615*** (0.811)	-3.402*** (0.795)
Age at Displacement	1.370*** (0.0607)	0.0806* (0.0445)	0.170*** (0.0436)
Age at Displacement ²	-0.0156*** (0.000820)	-0.00132** (0.000597)	-0.00234*** (0.000585)
Blue Collar at Displacement	-16.96*** (0.187)	-4.870*** (0.143)	-5.614*** (0.141)
Tenure at Closing Firm		0.000355*** (0.0000455)	0.000154*** (0.0000448)
Wage at Displacement		0.677*** (0.00279)	0.603*** (0.00307)
Wage at First Job		0.0928*** (0.00449)	0.0107** (0.00466)
Unemployment Duration Before Closure		0.000774*** (0.000192)	-0.00121*** (0.000192)
Number of Employment Spells Before Closure		0.131*** (0.0112)	0.0180 (0.0112)
year FE	No	No	Yes
R ²	0.53	0.76	0.77
Observations	80616	79901	79901

Source: ASSD, own calculations.

Note: *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Dependent variable is the daily wage on the re-entry job. Column (1) is the baseline, while columns (2) includes closing firm fixed effects. Column (3) additionally contains closing year dummies.

Table 19: Wage at re-entry job, Information Availability and Circulation

	(1)	(2)	(3)	(4)	(5)
log(ns)	0.170*** (0.0539)	0.0608 (0.0475)	0.0412 (0.0475)	-0.0919* (0.0490)	0.0133 (0.0465)
Female	-3.622*** (0.509)	-3.730*** (0.507)	-3.696*** (0.508)	-3.911*** (0.507)	-3.497*** (0.513)
Network Emp. Rate x Female	-2.315*** (0.806)	-2.163*** (0.802)	-2.218*** (0.803)	-1.808** (0.803)	-2.585*** (0.812)
Age at Displacement	0.0675 (0.0445)	0.0830* (0.0445)	0.0829* (0.0445)	0.0817* (0.0446)	0.0576 (0.0447)
Age at Displacement 2	-0.00118** (0.000598)	-0.00137** (0.000597)	-0.00136** (0.000597)	-0.00134** (0.000598)	-0.00109* (0.000598)
Blue Collar at Displacement	-4.953*** (0.144)	-4.928*** (0.144)	-4.917*** (0.144)	-4.879*** (0.144)	-4.893*** (0.144)
Tenure at Closing Firm	0.000327*** (0.0000455)	0.000362*** (0.0000455)	0.000357*** (0.0000455)	0.000352*** (0.0000454)	0.000199*** (0.0000526)
Wage at Displacement	0.676*** (0.00280)	0.676*** (0.00280)	0.676*** (0.00280)	0.676*** (0.00280)	0.674*** (0.00282)
Wage at First Job	0.0929*** (0.00449)	0.0927*** (0.00450)	0.0930*** (0.00450)	0.0924*** (0.00450)	0.0959*** (0.00452)
Unemployment Duration Before Closure	0.000767*** (0.000192)	0.000783*** (0.000192)	0.000782*** (0.000192)	0.000756*** (0.000192)	0.000832*** (0.000192)
Number of Employment Spells Before Closure	0.134*** (0.0112)	0.133*** (0.0112)	0.133*** (0.0112)	0.128*** (0.0112)	0.139*** (0.0113)
Share Movers Network	3.053*** (0.598)				
Share Stayers Network	5.828*** (0.591)				
Share Close Industry 2-digit		5.235*** (0.562)			
Share Far Industry 2-digit		3.132*** (0.573)			
Share Close Industry 3-digit			5.031*** (0.567)		
Share Far Industry 3-digit			3.609*** (0.570)		
Share of Same Region				3.284*** (0.550)	
Share of Different Region				5.898*** (0.600)	
Network Emp. Rate					4.787*** (0.563)
Avg. Cov. Dur. in Network					0.000886*** (0.000150)
R ²	0.76	0.76	0.76	0.76	0.76
Observations	79837	79837	79837	79641	79837

Source: ASSD, own calculations.
Note: *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Dependent variable is the daily wage on the re-entry job. Every column includes closing firm fixed effects.

Table 20: Wage at re-entry job, Network Composition: Qualification, Age, Sex

	(1)	(2)	(3)	(4)	(5)
log(ns)	-0.00727 (0.0474)	-0.00293 (0.0465)	0.311*** (0.0506)	-0.102* (0.0551)	0.0445 (0.0467)
Network Emp. Rate	4.799*** (0.563)	4.712*** (0.564)	2.310*** (0.585)	5.068*** (0.566)	4.305*** (0.566)
Female	-3.449*** (0.513)	-3.281*** (0.516)	-3.419*** (0.512)	-3.488*** (0.513)	-3.474*** (0.512)
Network Emp. Rate x Female	-2.627*** (0.811)	-2.642*** (0.811)	-2.748*** (0.810)	-2.544*** (0.811)	-2.731*** (0.811)
Age at Displacement	0.0959** (0.0465)	0.0775* (0.0445)	0.0938** (0.0444)	0.0621 (0.0448)	0.0818* (0.0445)
Age at Displacement ²	-0.00131** (0.000597)	-0.00129** (0.000597)	-0.00149** (0.000596)	-0.00108* (0.000601)	-0.00131** (0.000597)
Blue Collar at Displacement	-4.875*** (0.144)	-4.903*** (0.144)	-4.993*** (0.144)	-4.884*** (0.144)	-4.427*** (0.155)
Tenure at Closing Firm	0.000352*** (0.0000455)	0.000359*** (0.0000455)	0.000347*** (0.0000454)	0.000338*** (0.0000457)	0.000355*** (0.0000455)
Wage at Displacement	0.676*** (0.00280)	0.676*** (0.00280)	0.666*** (0.00287)	0.676*** (0.00279)	0.675*** (0.00280)
Wage at First Job	0.0927*** (0.00449)	0.0927*** (0.00449)	0.0841*** (0.00453)	0.0941*** (0.00451)	0.0929*** (0.00449)
Unemployment Duration Before Closure	0.000773*** (0.000192)	0.000780*** (0.000192)	0.000614*** (0.000192)	0.000776*** (0.000192)	0.000771*** (0.000192)
Number of Employment Spells Before Closure	0.131*** (0.0112)	0.131*** (0.0112)	0.124*** (0.0112)	0.128*** (0.0112)	0.131*** (0.0112)
Average Age Difference to Network	0.0169 (0.0151)				
Share of Female in Network		-0.805*** (0.281)			
Average Wage in Network			0.126*** (0.00814)		
Average Duration Since Separation				0.000745*** (0.000210)	
Share of Blue Collars in Network					-1.905*** (0.254)
R ²	0.76	0.76	0.76	0.76	0.76
Observations	79901	79901	79837	79901	79901

Source: ASD, own calculations.
Note: ***, ***, * indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Dependent variable is the daily wage on the re-entry job. Every column includes closing firm fixed effects.

Table 21: Wage at re-entry job, Indirect Connections

	(1)	(2)	(3)
log(ns)	-0.0277 (0.0482)	0.0682 (0.0798)	0.237*** (0.0546)
Network Emp. Rate	4.928*** (0.564)	3.499*** (0.941)	5.966*** (0.581)
Female	-3.456*** (0.512)	-5.436*** (0.883)	-3.299*** (0.515)
Network Emp. Rate x Female	-2.624*** (0.811)	0.164 (1.338)	-2.877*** (0.815)
Age at Displacement	0.0806* (0.0445)	0.0456 (0.0770)	0.0709 (0.0445)
Age at Displacement ²	-0.00132** (0.000597)	-0.000958 (0.00104)	-0.00124** (0.000597)
Blue Collar at Displacement	-4.882*** (0.144)	-4.727*** (0.248)	-4.909*** (0.144)
Tenure at Closing Firm	0.000345*** (0.0000457)	0.000389*** (0.0000781)	0.000306*** (0.0000458)
Wage at Displacement	0.676*** (0.00280)	0.678*** (0.00480)	0.675*** (0.00280)
Wage at First Job	0.0928*** (0.00449)	0.0859*** (0.00753)	0.0922*** (0.00449)
Unemployment Duration Before Closure	0.000780*** (0.000192)	0.000858*** (0.000316)	0.000751*** (0.000192)
Number of Employment Spells Before Closure	0.132*** (0.0112)	0.121*** (0.0191)	0.143*** (0.0113)
Number of Competitors	0.0000323** (0.0000136)		
log(Two Link Away)		-0.0136 (0.0258)	
log(Networked Firms)			-1.824*** (0.222)
R ²	0.76	0.79	0.76
Observations	79901	31031	79862

Source: ASSD, own calculations.

Note: *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively. Standard errors in parentheses. Dependent variable is the daily wage on the re-entry job. Every column includes closing firm fixed effects.