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Social Networks and Job Access for the Unemployed: Work Ties for the Upper-Middle Class, Communal Ties for the Working Class

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Abstract

In Europe, almost half of all jobs are found through personal contacts such as colleagues, family, or friends. We analyse whether personal contacts facilitate access to jobs for the middle or the working class. We do not treat informal ties as a homogeneous category, but distinguish work-related contacts from communal contacts such as family, friends, and acquaintances. Our analysis is based on a longitudinal survey of unemployed jobseekers in Switzerland that we match with administrative data. We find that work-related ties are disproportionately used by individuals with favourable employment prospects: middle-aged jobseekers with high prior earnings. In contrast, communal contacts chiefly help jobseekers with poor employability, notably the low-skilled working class and workers dismissed for non-economic reasons. Communal contacts thus compensate for the difficulty of finding a job through other channels. However, the different search methods do not affect how wages evolve from pre- to post-unemployment jobs. The unemployed who found a job via communal ties were earning less than those using a work tie or a formal method to begin with.

Introduction

Between a third and half of all jobs in affluent market economies are found through informal contacts such as colleagues, family, or friends (Granovetter, 1974, Pellizzari, 2010). Clearly, who you know is key for where you work. We analyse how unemployed jobseekers of different social classes find a job. More precisely, we examine the role that informal contacts play for job access and the evolution of wages after a spell of unemployment. Do informal contacts primarily facilitate the return to employment for members of the middle or the working class?

A first argument expects a middle-class bias in who uses personal ties in the labour market. Jobseekers in higher class positions befriend workers in similarly advantageous class positions—and these friends have more information about job openings and more influence over who gets these jobs (Bourdieu, 1979; Boxman, De Graaf and Flap, 1991). A second argument maintains, on the contrary, that social networks are not primarily used because a jobseeker has a lot of social capital, but because he or she lacks formal educational credentials and therefore has no other choice. It may thus mainly be the working class that substitutes informal contacts for the

formal job search methods used by professionals and managers (Corcoran, Datcher and Duncan, 1980: p. 35, Chua, 2011).

Our article argues that by treating informal ties as a homogeneous category, both expectations fall short of making a convincing case. We therefore propose to revisit the distinction between work-related and communal ties—a distinction first made by Granovetter (1974: p. 48) that was then superseded by his contrast between strong and weak ties. We expect that contacts from work are the upper-level job search method providing exclusive information about job openings and trustworthy referrals for jobseekers. In contrast, communal contacts such as family, friends, and acquaintances step in as a channel of last resort, once other search methods have failed (Loury, 2006: p. 302). Accordingly, jobseekers with lower employability, such as the working class, are likely to rely on communal ties, whereas jobseekers with better labour market prospects, such as the upper-middle class, more often find jobs through work-related ties.

Empirically, we put a clear focus on active jobseekers by using an inflow sample of newly unemployed workers. We thus diverge from the bulk of research on personal contacts which analyses how *employed* individuals found their last job. A major concern for public policy across Europe is how to bring unemployed workers back into jobs—and for this matter, generalizing results from studies on employed workers to unemployed jobseekers is problematic. Studies on employed workers include many non-searchers who changed jobs only because they received unsolicited information from a personal contact.[1] Accordingly, they tend to overestimate the importance of informal ties for unemployed jobseekers.

These studies are also likely to overestimate the wage effect. Unlike unemployed jobseekers, employed non-searchers are likely to accept a new job only if they are offered a wage that equals (or exceeds) the wage earned in their old job (McDonald and Elder, 2006: p. 522). Moreover, while our survey measures *starting* wages after a spell of unemployment, most studies on employed workers analyse *current* wages—and current wages also include on-the-job wage rises that are related to promotions and tenure, but unrelated to the way of finding a job.

We further diverge from the handful of studies on unemployed workers by surveying jobseekers both at the beginning *and* the end of their unemployment spell. This longitudinal data structure allows us to calculate the within-person evolution in wages and thus to focus on change rather than level of wages. This allows us to get rid of time-constant unobserved heterogeneity that afflicts cross-sectional analysis. If workers with different wage levels have different probabilities of accessing a job through either a work-related or communal contact, the observed differences in post-unemployment wages by hiring channel may well be spurious—as the two groups had different pre-unemployment wages to begin with.

Our analysis is based on a tailor-made inflow sample of newly unemployed jobseekers in Switzerland, whom we surveyed both at the entry into and the exit from the unemployment system. By combining this longitudinal survey with register data from the unemployment insurance system, we obtain extensive information on 1,194 jobseekers.

We start our article by discussing the distinction between work-related and communal contacts and develop our hypotheses. We then present the institutional context of Switzerland and discuss our data and measures. The first results section shows differences by class and education in the use of work-related and communal contacts to find a job. The second results section analyses whether different ways of finding a job are associated with differences in wages and unemployment duration. The conclusion highlights our key findings.

Social Classes and the Use of Informal Contacts

Why would we expect a middle-class bias in the use of personal contacts to get a job? Research in sociology systematically finds that individuals tend to choose as friends people who are similar to them—a phenomenon known as homophily (McPherson, Smith-Lovin and Cook, 2001). Jobseekers formerly employed in influential positions are thus likely to have friends in similar positions and to be able to call upon personal contacts with more information and greater influence to help them in getting a job. Accordingly, managers and professionals—specialists with friends in high positions—should be able to take greater advantage of informal contacts in their job search than low-skilled workers (Boxman, De Graaf and Flap, 1991).

At the other end of the class structure, individuals suffering frequent spells of temporary work and unemployment likely face the problem that their friends will also be disproportionately un- and underemployed, and hence in a poor position to offer job information (Granovetter, 1974: p. 136). In a similar vein, Bourdieu (1979) expected social capital to be correlated with economic and cultural capital. Lower social classes indeed have lower levels of social capital in Europe, and

especially weaker associational networks (Pichler and Wallace, 2009). The same finding has been made for unemployed jobseekers in Switzerland (Bonoli and Turtschi, 2015). Accordingly, people at the bottom of the educational and class hierarchy may have a social network that is of little help for getting a job.

But even though jobseekers in lower class positions tend to have fewer and less influential friends—and hence less social capital—they may nonetheless be more likely to find a job thanks to a personal contact. Not having much to offer in terms of formal credentials, they depend more on privileged information about job vacancies and on personal intermediaries who recommend them to potential employers. Personal contacts may thus compensate for the lack of formal education and facilitate the access to jobs (Chua, 2011: p. 3). This argument not only applies to the working class, but also to young labour market entrants and in particular to migrants. Evidence from the United States suggests that social networks are crucial for migrants, notably Hispanic men, who use them to bypass limitations in language and knowledge of the local labour market (Green, Tigges and Diaz, 1999, Smith, 2000: p. 521).

However, the use of recruitment channels not only depends on the characteristics of the jobseeker, but also on those of the *hiring firm*—and low educated workers may be more likely to find a job through an informal contact because of employers' behaviour. Typical employers of low-skilled labour have less standardized recruitment practices than organizations mainly hiring high-skilled labour—compare hotels and construction firms with public administrations and banks. Recruitment through informal contacts presents employers with three advantages: (i) it does not involve any costs linked to advertisement or formal intermediaries and is thus cheap; (ii) it leads to reliable job candidates for whom common acquaintances, by recommending them, act as pre-screeners; (iii) it allows employers to fill vacancies quickly (Marsden and Gorman, 2001: pp. 470, 476).

Empirical evidence suggests that informal recruitment is particularly prevalent in the market for unskilled labour. Among youth in Europe, no occupational group has a higher probability to be hired informally—through family or friends—than workers in elementary occupations (Harsløf, 2006: p. 569–570). Likewise, an analysis of the European Community Household Panel shows that blue-collar workers are more likely to work in jobs found through personal contacts than white-collar employees (Pellizzari, 2010: p. 501)—a finding confirmed by a large employer survey in France (Bessy and Marchal, 2009: p. 136). Research from the United States indicates that blue-collar, low-wage, and non-professional jobs are more frequently filled via informal contacts than jobs held by college-educated, white-collar workers (Corcoran, Datcher and Duncan, 1980: pp. 33–35, Mouw, 2003: p. 880).

However, the empirical evidence is not as clear-cut as these studies suggest. Totally, 61 per cent of high-level managers in the Netherlands located their current jobs using informal means, a proportion far above the Dutch average (Boxman, De Graaf and Flap, 1991). Likewise, French workers from a higher class origin more frequently resort to non-family ties or their school network to find a job than workers from a lower class origin (Forsé, 2001: p. 200).

The disparity between these results is partly explained by the fact that studies finding a lower-class bias in using informal contacts focus on family and friends (Harsløf, 2006, Pellizzari, 2010), whereas studies reporting an upper-class bias in using informal contacts deal with work-related ties (Boxman, De Graaf and Flap, 1991, Forsé, 2001). Accordingly, we need to disaggregate the two types of contacts (Bridges and Villemez, 1986).

The Distinction between Work-Related and Communal Contacts

Mark Granovetter is widely known for his distinction between weak and strong ties. However, his early work also emphasized the importance of whether an interpersonal tie was situated in a work-related (occupational) or a family-social (communal) context (Granovetter, 1974: pp. 44–48). This distinction seems more helpful for the analysis of labour market outcomes than the contrast between weak and strong ties, and the two distinctions overlap only partially: work-related ties are often weak ties, but people also make close friends—and hence strong ties—at work. Likewise, communal ties often tend to be strong ties, but they also include acquaintances and neighbours with whom interactions are infrequent and the ties weak.

We expect work contacts to be more instrumental than communal ties because they provide the key resources that give jobseekers an advantage in job search: information about upcoming job vacancies and influence on employers. In addition, employers are prone to trust the recommendations of work contacts more than those of the applicant's family, friends, and neighbours. The latter not only appear more biased towards the jobseeker, but also less competent in judging his or her productivity. In general, employers seem to consider applicants who are referred by their own employees as

particularly interesting. Employees know what the job is about—and they care about their reputation and the productivity of someone who might work alongside them (Bonoli and Hinrichs, 2012: p. 356).

A broad range of work contacts is probably a by-product of a successful career (Bridges and Villemez, 1986: p. 579). It should thus correlate positively with education and class position. Therefore, jobseekers in subordinate class positions may be less likely to benefit from their work-related network when looking for employment than jobseekers in higher class positions.

Contrary to work contacts, a jobseeker's communal ties may not give an advantage over formal job search methods, but rather compensate for the difficulty of obtaining a job via other means. They may thus serve as a search method of last resort on which jobseekers rely after other methods failed (Loury, 2006). As unemployment duration increases, jobseekers gradually lose their work-related ties. They thus depend more and more on their family, friends, and acquaintances for information on job openings and for someone willing to 'put in a good word for them' with the employer. Accordingly, individual characteristics that tend to reduce employability—such as low education or a subordinate class position—may be associated with a more frequent use of communal contacts.

Employability is also crucially affected by performance, motivation, and attitudes—factors that are difficult to observe for employers. They are therefore sensitive to the information that a jobseeker was dismissed for non-economic reasons, interpreting it as a negative signal of his or her ability—the so-called 'lemon effect' of layoffs for a just cause (Gibbons and Katz, 1991). If communal ties primarily step in for jobseekers with weaker employment prospects, jobseekers dismissed for non-economic reasons should be particularly likely to find their job through a communal contact. Likewise, a history of repeated—and recent—unemployment may signal lower work attachment. Moreover, it may result in a weaker work-related social network and thus increase the probability of having to rely on a communal contact—simply for a lack of alternatives.

What are the consequences for job quality? If work-related contacts convey more accurate information on job requirements than do communal contacts or formal recruitment channels, the resulting matches should take less time, lead to higher productivity and better wages (Marsden and Gorman, 2001: p. 469). Work-related contacts should thus result in shorter unemployment duration and higher wages than other job search methods.

The empirical evidence is inconclusive. A European panel study finds unemployment duration to be shorter for jobs obtained through family and friends than through formal channels (Bentolila, Michelacci and Suarez, 2010). But while these jobs were found more quickly, they were paid lower wages in some countries, but not in others (Pellizzari, 2010). A cross-sectional study based on the American Multi-City Study of Urban Inequality finds that jobs obtained through an influential contact—people with the authority to hire—are associated with higher wages (Kmec and Trimble, 2009: p. 276). Bridges and Villemez (1986) differentiate between work-related and communal ties for a Chicago sample of employed adults and find that work-related contacts went along with a wage premium and communal contacts with a wage discount. Similarly, Green, Tigges and Diaz (1999) report a negative relationship between tie strength and earnings for Hispanics, with stronger ties—which are often communal contacts—being associated with lower income.

However, the three American studies are based on a cross-sectional analysis of the wages currently earned by employed workers. It is uncertain how these results apply to starting wages of formerly unemployed jobseekers. More crucially, without having information on wages before taking on a given job, we do not know whether the individuals using work-related contacts (communal contacts) already had higher wages (lower wages) to begin with. The same characteristics that affect wages—class and education—may also affect the probability of finding a job through a work-related or communal contact. Accordingly, the analytical focus should be on wage change rather than wage levels. Indeed, when using longitudinal data for the United States, Mouw (2003: p. 890) finds no difference in terms of unemployment duration and wage change between jobs found through personal contacts and jobs found through another search method.

Hypotheses

Four hypotheses follow from our discussion. The first hypothesis is based on the argument that informal contacts allow workers with poor employability to substitute family, friends, and acquaintances for a lack of formal credentials.

Hypothesis 1: Low-educated jobseekers and the low-skilled working class are more likely to find a job through informal contacts than highly educated jobseekers and the upper-middle class.

Our second hypothesis distinguishes between work-related and communal ties and argues that work

contacts are the channel through which the upper-middle class finds a job, whereas communal contacts are the method that the low-skilled working-class uses to compensate for a lack of formal credentials.

Hypothesis 2: Low-educated jobseekers and the low-skilled working class disproportionately find a job through communal contacts, highly educated jobseekers and the upper-middle class disproportionately through work contacts.

Our third hypothesis expects different outcomes in terms of wages. If work contacts provide exclusive information on job openings and influence on employers, they should lead to an increase in wages. In contrast, if communal ties come into play once other search methods fail to provide a job, they should lead to a decrease in wages with respect to work contacts and formal methods.

Hypothesis 3: Finding a job through a work-related contact is associated with a rise in wages, finding a job through a communal contact with a fall in wages.

Our fourth hypothesis integrates time. We expect that jobs found through communal ties are associated with longer unemployment spells if family, friends, and acquaintances step in once other search methods fail to provide a job.

Hypothesis 4: As unemployment duration increases, the likelihood of finding a job through a communal contact—as compared to work-related contacts and formal methods—increases.

Institutional Context, Data, and Measures

Institutional Context

Our analysis focuses on Switzerland. The Swiss labour market shares many features with Austria and Germany, notably a strong reliance on vocational education, an occupational labour market with a tight link between education and employment, collective bargaining at the industry level, and low levels of unemployment. The unemployment rate fluctuated around 3 per cent at the national level and 5 per cent in French-speaking Switzerland in 2012 and 2013 when we collected our data. While employment protection in Switzerland is weak, unemployment insurance buffers the unemployed comparatively well against income loss with a replacement rate of 70–80 per cent during 12–24 months, depending on age and prior contribution period. Unemployed workers are strictly monitored, but benefit from active labour market measures such as job search counselling and training programmes.

Data

For our analysis, we collected our own data set based on a large inflow sample of unemployed workers in Switzerland. We surveyed all jobseekers who had newly registered with the public employment services between February and April 2012 in the canton of Vaud, Switzerland's largest French-speaking canton (population of 767,000). This provided us with an inflow sample of 4,860 unemployed individuals, a 3-month entry cohort. These jobseekers were surveyed for a second time after they left the public employment services—during an observation window of 17 months. The first survey, a paper-and-pencil questionnaire, was administered during the compulsory information session organized by the public employment service (response rate of 96 per cent). The second survey was sent by e-mail and postal mail to those jobseekers who had left the employment service (and who had accepted that we merge their survey data with register data). Out of 2,793 jobseekers who had exited unemployment, 1,448 individuals answered this second questionnaire (response rate of 52 per cent).

For three quarters of our inflow sample, we were allowed to match the survey data with data from the unemployment register, providing us with information on earlier unemployment spells, pre-unemployment wages, and occupations. Among the 1,448 individuals who responded to both surveys, 1,213 individuals had found a job and 235 individuals were in another situation (education, family work, etc.). Note that attrition between the two waves was not random. Migrants, men, individuals with low education, and younger people were less likely to answer to our second questionnaire—a result well known from Switzerland's largest longitudinal survey, the Swiss Household Panel (Lipps, 2007). Our analysis focuses on the group of successful jobseekers for whom the two surveys and register data provide complete information, leaving us with 1,194 observations.[2]

Measures

For our key variable, the channel through which a job was found, we first distinguish jobs accessed through formal search method (58 per cent of our sample) from jobs found through an informal contact (42 per cent of our sample). As formal search methods, we define jobs found through job advertisements, information received from public or private employment services, or direct applications to employers. As informal contacts, we define jobs for which respondents received the first information from a person who is part of their personal network, thus excluding professional intermediaries.

We further disaggregate informal contacts into work-related contacts (17 per cent of our sample) and communal contacts (25 per cent). Three types of intermediaries are defined as work-related contacts: former colleagues, peers from education who work in the same sector, and other non-defined occupational acquaintances. As communal contacts, we define family, friends, neighbours, members of an association or club, and other non-defined acquaintances. Respondents had to choose among these personal intermediaries in the same closed question—and therefore decided themselves whether someone was first and foremost a work colleague or a friend, an occupational acquaintance or a neighbour.[3]

For the outcome of the job search, we measure monthly wages before and after unemployment. This gives us two time points and allows us to calculate the within-person change in wages, thus reducing the influence of respondents' time-constant unobserved characteristics. We leave away earnings below 1,500 CHF (a quarter of the national median wage), thereby excluding marginal part-time jobs, apprenticeships, and internships. This leaves us with wage information for the pre- and post-unemployment job for one-third of our sample ($N = 421$). Unemployment duration is measured in weeks and right-censored at 73.9 weeks (17 months).

Our key interest is on two independent variables: education and class. We distinguish four educational categories: (i) no more than lower secondary education; (ii) vocational education at the upper secondary or lower tertiary level (apprenticeships and advanced vocational degrees); (iii) general education at the upper secondary level (such as the baccalaureate); (iv) upper tertiary education such as technical college or university degrees (but excluding tertiary vocational degrees). For social class, we use a simple version of the Erikson and Goldthorpe (1992) schema and create four hierarchically ordered categories: (i) low-skilled working class including machine operators and elementary occupations in production, sales, and services; (ii) skilled working class including craft workers, clerks, and skilled sales and service workers; (iii) lower-middle class of associate managers, semi-professionals, and technicians; (iv) upper-middle class of managers and professionals.[4]

In our sample of unemployed workers, it makes no sense to distinguish an upper class from the upper-middle class, as the upper class is rarely concerned by unemployment. Note, however, that unemployment is not a phenomenon limited to an underclass. The upper-middle class is broadly represented with 246 observations (20.4 per cent of our sample). Large upper-middle class occupations include, among many others, business professionals ($N = 31$), architects and engineers ($N = 25$), computer systems professionals ($N = 23$), and personnel and careers professionals ($N = 12$). Accordingly, a quarter of successful jobseekers earn post-unemployment wages that exceed the national median wage.

Our models control for age, sex, and nationality, a third of our sample being non-Swiss. In addition, we use register data to identify whether a jobseeker has had a prior unemployment spell between 2002 and 2012. Moreover, we create two dummy variables for the reason of unemployment: (i) dismissed for economic reasons (25 per cent of our sample); (ii) dismissed for other, non-economic reasons (23 per cent of our sample). The first variable—economic reasons—is a proxy for reasons that are largely beyond workers' influence, whereas the second variable—non-economic reasons—refers to reasons which appear more closely linked to workers' performance. The other reasons of unemployment that we do not further disaggregate include: never having worked before, having been on a temporary contract, having resigned from a job for various reasons, having moved house.

Finally, we control for the search methods that jobseekers had used at the very beginning of their unemployment spell. Our first survey asked respondents as to whether they had used a given search method over the past week. We use this information to distinguish five methods: (i) looking at, answering, or publishing job offers in the newspaper; (ii) sending unsolicited applications or walking-in to workplaces; (iii) searching on internet or uploading a CV on websites; (iv) enrolling in a private job placement agency; (v) contacting family, friends, colleagues, etc.

Descriptive Statistics

Table A1 shows the descriptive statistics of our variables separately for workers in jobs found through formal search methods, work-related contacts, and communal contacts. The *P*-values tell us whether values differ between workers who found a job through a work-related or communal contact. We find no gender difference, but sizeable age effects. Young labour market entrants and workers approaching the age of retirement are more likely to find a job through communal contacts than workers in their prime, between 25 and 54 years, who are more prone to using work-related contacts. In terms of nationality, Portuguese, Italian, and Spanish jobseekers stand out as being particularly likely to find a job through communal ties. In contrast, North Europeans and North Americans (among whom many

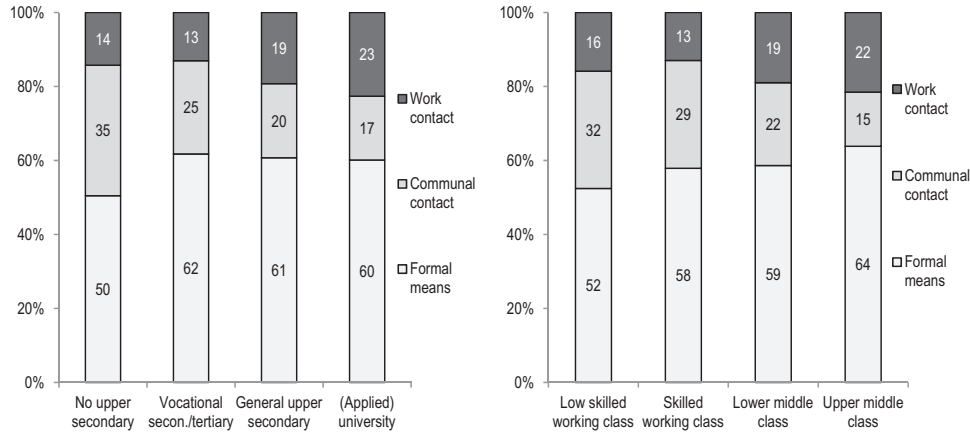

Figure 1. The source of the first information through which the unemployed found a new job—by education (left) and class (right)

belong to Switzerland's expat community) disproportionately obtain jobs through work-related contacts.

Class Differences in the Use of Informal Contacts

Communal contacts are primarily used at the bottom of the educational and class hierarchy, whereas work-related contacts disproportionately serve the groups at the top. We present the descriptive results for class and education graphically by cross-tabulating, in Figure 1, the hiring channel with four educational levels and four social classes. 35 per cent of low-educated jobseekers and 32 per cent of the low-skilled working class received the first information on their current job from communal ties—family, friends, or acquaintances—compared with only 17 per cent of university-educated jobseekers and 15 per cent of jobseekers in the upper-middle class.

In contrast, 23 per cent of university-trained workers returned to employment thanks to a work contact, compared to only 14 per cent among those with compulsory education. Note that individuals in higher educational and class settings also rely more often on formal search methods: 64 per cent of the upper-middle class found a job through a formal method as compared to 52 per cent among the low-skilled working class.

Jobseekers who had experienced previous spells of unemployment and who were dismissed for non-economic reasons disproportionately used a communal tie to return to a job. This finding is consistent with the argument that communal ties primarily serve jobseekers with poorer employability. As for the search channels used in the first weeks of unemployment, there are no differences for the use of newspapers, unsolicited applications, and internet. However, a disproportionate share of individuals who would find later on a job through a formal search method or a work contact had enrolled themselves in a private job placement agency, and respondents finding a job through a work contact were particularly likely to have talked about their job search with their personal network (see Table A1).

We estimate multinomial logistic regressions with the hiring channel as the dependent variable, distinguishing between jobseekers who found their job through (i) formal means, (ii) work contacts, or (iii) communal contacts. While a first model only includes socio-demographic controls, education, and class, a second model adds a dummy for previous unemployment, the reasons for unemployment, and the search channels used in the first month of unemployment. Table 1 presents results expressed as marginal effects.

Low-educated respondents are much more likely to find a job through a communal contact than the other educational groups—differences ranging between 7 and 12 percentage points. In contrast, having obtained a vocational degree strongly increases the likelihood of finding a job through a formal search method. The close link between Switzerland's vocational education and the labour market reduces the importance of personal contacts for vocationally trained workers. However, once we control for socio-demographic attributes and social class, educational groups no longer vary in their use of work-related contacts. Contrary to our hypothesis, more highly educated groups are not more likely to rely on work-related contacts than low-educated jobseekers.

In terms of class, we observe that members of the upper-middle class disproportionately find a job through formal search methods and are less likely to rely on

Table 1. Multinomial logistic regression for the probability of finding a job through a formal search method, a work contact, or a communal contact—average marginal effects (SE in parentheses)

	M1			M2		
	Formal method	Work contact	Communal contact	Formal method	Work contact	Communal contact
Education (ref: less than upper secondary)						
Vocational upper secondary/tertiary	**0.09****	−0.02	**−0.07****	**0.09****	−0.02	**−0.07****
	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)
General upper secondary	0.08	0.04	**−0.12****	0.08	0.04	**−0.12****
	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(0.05)
(Applied) university	0.07	0.03	**−0.10****	0.07	0.03	**−0.10****
	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.05)
Social class (low-skilled working class)						
Skilled working class	0.01	−0.02	0.01	−0.01	−0.01	0.02
	(0.04)	(0.03)	(0.04)	(0.02)	(0.03)	(0.04)
Lower-middle class	0.02	0.00	−0.02	0.02	0.00	−0.02
	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)
Upper-middle class	**0.10***	0.01	**−0.12****	**0.10***	0.02	**−0.12****
	(0.05)	(0.04)	(0.05)	(0.06)	(0.04)	(0.05)
Male	−0.04	**0.04***	0.00	−0.04	**0.04***	0.00
	(0.03)	(0.02)	(0.03)	(0.03)	(0.02)	(0.03)
Age (ref: 15–24)						
25–29	−0.07	0.07	0.00	−0.07	0.07	−0.00
	(0.05)	(0.04)	(0.05)	(0.05)	(0.04)	(0.05)
30–39	−0.06	**0.09****	−0.03	−0.07	**0.10****	−0.03
	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)
40–49	−0.03	**0.09****	−0.06	−0.03	**0.09****	−0.06
	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)
50–54	−0.05	**0.11****	−0.06	−0.05	**0.11****	−0.07
	(0.07)	(0.05)	(0.06)	(0.07)	(0.05)	(0.06)
55–64	−0.09	0.03	0.06	−0.09	0.03	0.06
	(0.07)	(0.06)	(0.05)	(0.07)	(0.06)	(0.06)
Nationality (ref: Swiss)						
Portugal	−0.02	−0.02	0.04	−0.02	−0.03	0.05
	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)
France	−0.05	0.01	0.04	−0.06	0.01	0.05
	(0.06)	(0.04)	(0.05)	(0.06)	(0.04)	(0.05)
Italy, Spain	−0.03	−0.07	**0.10***	−0.04	−0.06	**0.10***
	(0.06)	(0.05)	(0.05)	(0.06)	(0.05)	(0.05)
NW Europe, North America	**−0.20***	**0.12****	0.08	**−0.21***	**0.12****	0.09
	(0.11)	(0.06)	(0.10)	(0.11)	(0.06)	(0.10)
Ex-Yugoslavia, Albania	0.00	−0.05	0.04	0.01	−0.05	0.04
	(0.10)	(0.09)	(0.08)	(0.11)	(0.08)	(0.09)
Other countries	−0.06	0.00	0.06	−0.06	0.00	0.07
	(0.05)	(0.04)	(0.05)	(0.06)	(0.04)	(0.05)
Previous unemployment				0.02	−0.03	0.01
				(0.03)	(0.02)	(0.03)
Reason for unemployment: dismissed for economic reasons				0.03	−0.01	−0.02
				(0.04)	(0.03)	(0.03)
Reason for unemployment: dismissed for other reasons				−0.05	−0.03	**0.08****
				(0.04)	(0.03)	(0.03)
Job search method used						
Newspapers: yes				0.02	−0.01	0.00
				(0.03)	(0.02)	(0.03)

(continued)

Table 1. (Continued)

	M1			M2		
	Formal method	Work contact	Communal contact	Formal method	Work contact	Communal contact
Unsolicited applications: yes				−0.03	0.03	0.00
				(0.03)	(0.02)	(0.03)
Internet: yes				0.05	**−0.05***	−0.00
				(0.04)	(0.03)	(0.03)
Private job placement: yes				**0.06***	0.00	**−0.06****
				(0.03)	(0.02)	(0.03)
Social network: yes				**−0.11*****	**0.07**	0.04
				(0.03)	(0.02)	(0.03)
Pseudo R		0.033			0.049	
N		1,194			1,194	

$^{***}P < 0.01$, $^{**}P < 0.05$, $^{*}P < 0.10$.
The values in bold are statistically significant at $P < 0.10$.

communal contacts. Compared to the low-skilled working class, the proportion of the upper-middle class who find a job through a communal contact is 12 percentage points lower.

Adding controls for previous unemployment, the reason of dismissal and the different search methods used in the first weeks of unemployment do not change these results. However, these controls lead to findings that are interesting in their own right. Being dismissed for non-economic reasons increases the probability of using a communal tie by 8 percentage points, whereas talking to one's network about job-seeking at the beginning of unemployment increases the likelihood to obtain a job through a work-related contact by 7 percentage points.

Moreover, we find that men are somewhat more likely than women, and middle-aged jobseekers somewhat more likely than young labour market entrants to obtain a job via a work-related tie. Likewise, the North European/American expat group disproportionately finds a job through work ties, whereas Italians and Spaniards are particularly prone to relying on communal ties. In general, all immigrant groups tend to be somewhat less likely to find a job through a formal search method than the largest group of Swiss jobseekers. As in other countries, migrants in Switzerland thus also depend more on personal contacts than do national citizens.

Socio-demographic characteristics come in bundles: a university education typically goes along with an upper-middle class status. Accordingly, we combine class and education by attributing to each social class its most frequent education: (i) no post-mandatory education to the low-skilled working class, (ii) vocational education to the skilled working, (iii) vocational education to the lower-middle class, (iv) (applied) university education to the upper-middle class. We then calculate how the predicted probabilities for finding a job through a hiring channel varies for a Swiss man aged 30–39 depending on the class-education group and the reason of dismissal (economic/non-economic).

Figure 2 shows the predicted probabilities for work-related and communal ties. Together with the jobs found through formal means (the residual category, not shown), these percentages add up to 100 per cent. Work-related ties are of greater importance at the top than the bottom of the class-education hierarchy. Among members of the upper-middle class dismissed for economic reasons, 25 per cent found a job through a work tie, compared to only 16 per cent within the skilled working class dismissed for the same reasons. Being dismissed for non-economic reasons decreases the likelihood of finding a job through a work contact for all classes.

The opposite situation applies to communal contacts. Among the jobseekers of the low-skilled working class who were dismissed for non-economic reasons, 38 per cent relied on a communal tie, compared to only 16 per cent among those members of the upper-middle class having lost their job for the same reasons. The more favourable a jobseeker's class and education, the less likely he or she is to rely on family, friends, or acquaintances. On the contrary, being dismissed for non-economic reasons—and hence possibly a reason linked to one's performance—strongly increases the likelihood of finding a job through a communal contact: by 9 and 8 percentage points for the low-skilled and skilled working class, by 6

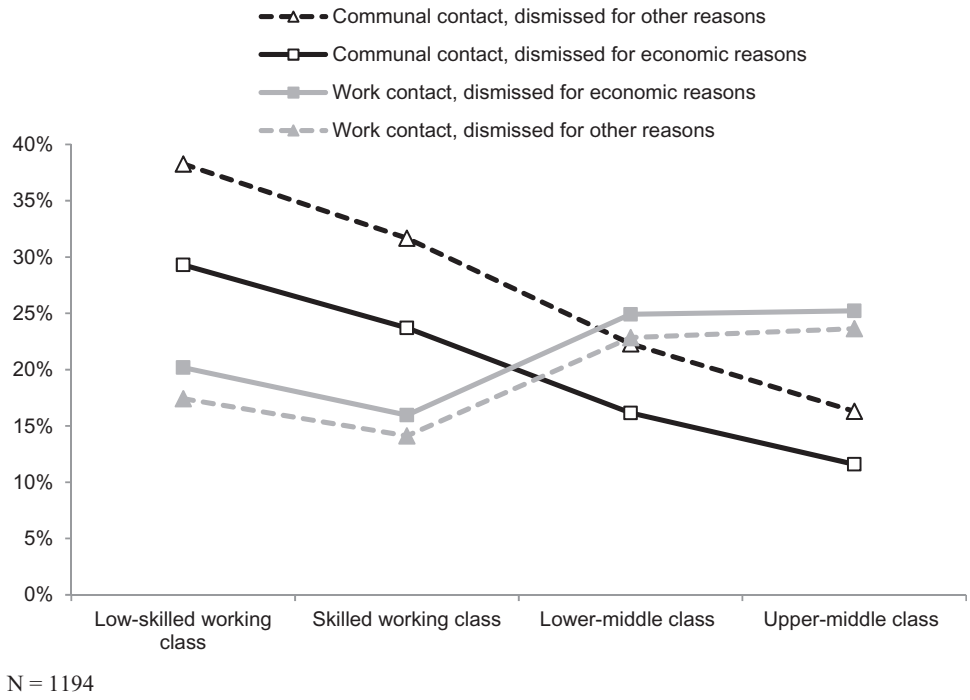

Figure 2. Predicted probability for a Swiss man aged 30–39 to have found a job through a work contact or communal contact, depending on reason for unemployment. $N = 1{,}194$. *Note*: Predicted probabilities are based on a multinomial regression with the dependent variable 'mean through which the unemployed have found a job' (1 = formal mean, 2 = work contact, 3 = communal contact). These analyses only include those individuals who found a job. The results of finding a job through a formal mean are not shown, but note that the probability of finding a job through a (1) formal mean, (2) work contact, and (3) communal contact add up to 1 (100 per cent).

and 5 points for the lower-middle and upper-middle class.

Differences by the Hiring Channel in Wages and Unemployment Duration

How do wages vary depending on the hiring channel? When looking at the monthly post-unemployment wage, we find that jobseekers who secured employment through a work-related contact earn a wage that is 14 per cent higher than jobs accessed through formal methods and 34 per cent higher than jobs found through communal ties (see Table 2). However, this wage gap should not be interpreted as being *caused* by the hiring channel: if more highly educated workers disproportionately learn about their jobs from work contacts, it is their skill profile—and not the hiring channel—which explains their higher wages.

Once we introduce controls such as sex, age, nationality, education, class, previous unemployment, reason of dismissal, and job search methods used, the difference in post-unemployment wages decreases from 34 to 13 per cent (see Table A2 for the coefficients of control variables). This tells us that primarily low-paid jobs are filled through word-of-mouth from family, friends, and acquaintances, whereas high-paid jobs are more often found thanks to work-related contacts.

If we further interact the hiring channel with social class, we observe that having found a job through either formal methods or work ties is associated with a substantially higher post-unemployment wage for the skilled working class and the lower-middle class, but not for the *low-skilled* working class. For these later jobseekers, jobs found through communal contacts are associated with somewhat higher earnings than jobs found through formal methods or work contacts. It is thus not the preferred hiring channel of the low-skilled working class—communal ties—that causes their wages to be lower.

However, it is more interesting to look at a within-person measure, namely, how an individual's post-unemployment wage differs relative to his or her pre-unemployment wage. This measure suggests that finding a job through work contacts as compared to finding a

Table 2. Linear coefficients for the effect of how a job was found on unemployment duration and wages

Controls included	Log of post-unemployment wage (OLS coefficients)		Difference between post- and pre-unemployment wage in CHF (OLS coefficients)		Unemployment duration in weeks (Tobit coefficients)	
	No	Yes	No	Yes	No	Yes
Communal contacts (ref.)						
Work contacts	0.34***	0.13*	33	−19	−3.55*	−3.17*
	(0.08)	(0.07)	(239)	(241)	(1.92)	(1.89)
Formal method	0.14**	0.03	59	10	−2.61*	−2.00
	(0.07)	(0.06)	(239)	(288)	(1.45)	(1.42)
Adjusted R^2	0.0192	0.3063	−0.005	0.0549	0.0004	0.0099
N	718	718	416	416	1,194	1,194

$^{***}P < 0.01$, $^{**}P < 0.05$, $^{*}P < 0.10$.

For the full model with controls, see Table A2.

R^2 refers to pseudo *R* for Tobit regression and adjusted R^2 for OLS regression.

job through a communal tie (or a formal search method) does not make any difference whatsoever. The coefficients for the job search channel are small and the standard errors large. If we introduce an interaction term between the hiring channel and social classes, we do not find any systematic differences in how the hiring channel affects the change in wages for different classes. For all these models, the adjusted R^2 statistics suggest that the hiring channel explains literally no variance in wage differences.

The unemployed who found a job via communal ties were earning less than those using a work tie or a formal method *to begin with*—that is, prior to their unemployment spell (see Table 1 above). However, they did not lose out from relying on a communal contact. Thanks to information on two distinct time points, our analysis shows that we should not interpret causally the cross-sectional correlation between hiring channel and post-hiring earnings.

This result is corroborated by an analysis on the question of subjective wage evolution, where jobseekers were asked to compare their post-unemployment wage to their pre-unemployment wage and to state, on a 5-point ordinal scale, whether it was much higher, slightly higher, equal, slightly lower, or much lower. This question was answered by two-thirds of our sample ($N = 870$) and shows no differences in wage change between the hiring channels. Coefficients are small, standard errors large, and the R2 close to zero (result available from the authors).

In a last analysis, we compare the duration of unemployment between jobseekers who found employment through different channels. On average, unemployment duration is longest for jobseekers having found a job through communal ties (28.9 weeks) and shortest for those having relied on work-related ties (25.4 weeks), formal search methods being associated with intermediary unemployment duration of 26.1 weeks (see Table A1).

It is common in economics to introduce the job hiring channel into a regression on unemployment duration to estimate its effect on the length of unemployment (Bentolila, Michelacci and Suarez, 2010: p. 33). If we follow this procedure and analyse the differences in unemployment duration in a multivariate model with a large set of controls, we still find communal contacts to be associated with 3.2 weeks longer unemployment spells than jobs found through work contacts (see Table 2). However, this result does not imply that communal ties *cause* longer unemployment spells. Rather, this finding is consistent with the idea that jobseekers with gloomier employment prospects disproportionately rely on family, friends, and acquaintances to get a job.

This argument is further substantiated if we introduce an interaction term between the hiring channel and social class. We find that work contacts are associated with substantially shorter unemployment for the skilled working class and the lower-middle class—two classes where vocational degrees dominate—but not for the *low-skilled* working class. For this later class, using communal ties does not go along with prolonged unemployment. If anything, unemployment is shorter for those jobseekers of the low-skilled working class who relied on communal ties rather than on work contacts (note, however, that standard errors are large and coefficients estimated with little precision). For the whole

sample, communal ties are thus associated with longer unemployment spells because they are disproportionately used by jobseekers whose employment prospects are precarious and who therefore face longer unemployment spells—and not because using communal ties *per se* prolongs unemployment duration.

Conclusion

What do these findings imply for our hypotheses? The upper-middle class is less likely to find a job through a personal contact than the working class. Despite lower amounts of social capital, disadvantaged groups of jobseekers tend to rely to a greater extent on their social network than more privileged social categories. It is not the amount of social capital that determines whether a jobseeker uses his or her social network to secure employment. Rather, social capital and informal contacts—notably family, friends, and acquaintances—are used by those jobseekers who have less to offer in terms of formal credentials (Chua, 2011).

However, the sole distinction between formal and informal contacts hides large variance among informal contacts, between work-related and communal ties. Communal ties primarily help jobseekers with weaker employability to find a job: individuals without upper-secondary education, the low-skilled working class and jobseekers dismissed for non-economic reasons. For these groups, family, friends, and acquaintances step in and compensate for the difficulty of finding a job through other channels. Consequently, communal contacts are associated with lower wages and longer unemployment duration than work-related contacts.

In contrast, our results give only lukewarm support to the hypothesis that highly educated jobseekers and the upper-middle class disproportionately find their jobs through work-related contacts. Evidence is stronger with respect to income groups: jobseekers with higher pre-unemployment wages are more likely to find a job through a work tie than through either formal means or communal contacts.

An influential argument in economic sociology expects personal contacts—and notably work-related contacts—to convey privileged information on job requirements and to lead to better job matches than formal recruitment channels (Granovetter, 1974, Marsden and Gorman, 2001: p. 469). Better job matches imply higher productivity and should go along with a wage premium as compared to jobs found through other channels. However, our data show no such wage premium for finding a job through work ties.

In the social network literature, nearly as many studies find a negative or a null relationship as a positive effect of personal contacts on earnings (Kmec and Trimble, 2009: p. 266). We argued above that this relationship should be analysed with a double focus on active jobseekers and on change in earnings between the pre- and post-unemployment job. When doing so, we find that work-related ties are disproportionately used by formerly well-paid jobseekers, but do not lead to higher wages. Likewise, jobs for low-paid workers are often passed on through communal contacts, but the same jobseekers would not have secured higher wages if they had found a job through a work contact or a formal search method. We thus observe the null relationship between hiring channel and earnings for Switzerland that Mouw (2003) found in his longitudinal analysis for the United States.

However, our results for unemployed jobseekers may well be due to the specific institutional and historical context that prevailed in Switzerland in the period under study. Like Austria and Germany, Switzerland is also a prime example of an occupational labour market where educational tracks are closely linked to specific occupations. In this context, educational credentials—notably vocational degrees—and work experience in a given occupation send clear signals to employers about the skills a jobseeker has or does not have. This may reduce the benefits brought by personal contacts for job allocation to a greater extent than in internal labour markets such as the United States.

In addition, our sample of unemployed individuals looked for a job in a labour market with only 5 per cent of unemployment. Personal contacts may well become more instrumental when unemployment rates are higher and the competition for rare job vacancies fiercer. In a slack labour market, work experience and educational degrees may no longer suffice to obtain a good job. Jobseekers may additionally depend on their former colleagues and friends to 'put in a good word for them' with employers. As longitudinal studies become available for a growing number of countries, future research may provide us with an answer to this question.

Notes

1 Nearly 30 per cent of Granovetter's (1974) original sample, all of whom had recently changed jobs, denied having actively searched.

2 The entire data set has been documented in English and is available free-of-charge from the Swiss data archive FORS, see https://forsbase.unil.ch/ or directly contact the authors.

3 Three questions were crucial to distinguish the three search methods: (i) formal search, (ii) work-related contact, (iii) communal ties. Question 1: *Through which means did you get the very first information that your new employer wanted to hire somebody?* Answers from: *newspaper, internet, unsolicited application, public employment service, private placement agency, a person*. If the first information was obtained from a person, then the second question was: *Did you know this person before he or she gave you the information on the new job?* Answers from: *(1) Yes, he or she was part of my social network. (2) Yes, but he or she was not part of my social network (p. ex. counsellor working in the public or private placement agency). (3) No, I did not know him or her before*. If the first information was obtained from a person that was part of jobseekers' network, then the third question was: *Who was the person who gave you the first information on your new job or your new employer?* The following 10 answers were provided: *(1) colleague; (2) colleague from school or studies; (3) member of an association; (4) another acquaintance from work; (5) another unemployed person I got to know while unemployed; (6) close friend; (7) neighbour; (8) a member of my closer family (parents, brothers and sisters, children, spouses); (9) a member of my wider family (cousins, uncles or aunts, step-family, in-laws); (10) other acquaintance.*

4 We coded occupations based on the Swiss Standard Classification of Occupations 2000 at the five-digit levels. The Stata codes are available from the authors.

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Appendix

Table A1. Descriptive statistics of key variables—unemployed individuals who found a job

	Proportion (or mean) of sample	Job through formal method	Job through work contact	Job through communal contact	p-value of contrast communal versus work contact
Education					
Less than upper secondary	0.268	0.232	**0.232**	**0.373**	0.001
Vocational upper secondary / tertiary	0.375	0.397	**0.297**	**0.373**	0.085
General upper secondary	0.112	0.117	0.131	0.088	0.124
(Applied) university	0.245	0.254	**0.338**	**0.167**	0.000
Social class					
Low-skilled working class	0.188	0.170	0.182	0.235	0.153
Skilled working class	0.415	0.413	**0.328**	**0.477**	0.001
Lower-middle class	0.192	0.194	0.222	0.170	0.144
Upper-middle class	0.204	0.223	**0.268**	**0.118**	0.000
Male	0.472	0.454	0.533	0.471	0.182
Age					
15–24	0.149	0.160	**0.085**	**0.166**	0.009
25–29	0.174	0.171	0.175	0.179	0.905
30–39	0.310	0.302	0.355	0.300	0.192
40–49	0.223	0.229	0.245	0.195	0.184
50–54	0.077	0.076	0.095	0.065	0.217
55–64	0.067	0.061	**0.045**	**0.094**	0.039
Nationality					
Swiss	0.625	0.661	0.607	0.550	0.208
Portugal	0.108	0.096	**0.089**	**0.147**	0.057
France	0.077	0.073	0.095	0.075	0.433
Italy, Spain	0.057	0.052	**0.040**	**0.078**	0.081
NW Europe, North America	0.022	0.015	**0.050**	**0.016**	0.029
Ex-Yugoslavia, Albania	0.021	0.020	0.015	0.26	0.399
Other countries	0.091	0.082	0.105	0.107	0.914
Previous unemployment	0.397	0.400	**0.353**	**0.428**	0.090
Reason of dismissal: economic reasons	0.251	0.262	0.259	0.221	0.335
Reason of dismissal: other non-economic reasons	0.225	0.206	**0.194**	**0.290**	0.015
Job search method used					
Newspapers	0.596	0.608	0.557	0.593	0.428
Unsolicited applications	0.548	0.534	0.567	0.570	0.949
Internet	0.774	0.793	0.756	0.739	0.671
Private job placement	0.308	0.325	**0.328**	**0.254**	0.070
Social network	0.458	0.425	**0.572**	**0.459**	0.012
Duration of unemployment (in weeks)	26.7	26.1	**25.4**	**28.9**	0.077
Pre-unemployment wage (in CHF) $N = 748$	5,140	5,115	**5,845**	**4,721**	0.000
Post-unemployment wage (in CHF) $N = 697$	5,440	5,250	**6,250**	**5,143**	0.000
Wage difference (in CHF)[a] $N = 416$	56	61.6	72.4	26.9	0.816

[a]Wage differences are within-person differences for those individuals who found a job, had a job paying more than 1,500 CHF before and after being unemployed, and disclosed information on both wages.

N observations: 1,194 (for wages, see annotations).

Bold: *t*-test indicates a difference in means for work-related and communal contacts that are significant at $P < 0.10$.

Table A2. Linear regression coefficients for the effect of how a job was found on wages and unemployment duration (full models)

	M1		M2		M3	
	Log of post-unemployment wage (OLS)		Difference between post- and pre-unemployment wage in CHF (OLS)		Unemployment duration in weeks (Tobit)	
	Coeff.	SE	Coeff.	SE	Coeff.	SE
Way job was found (ref: communal contact)						
Work contact	0.13*	(0.07)	−19	(242)	−3.17*	(1.89)
Formal method	0.03	(0.06)	10	(288)	−2.00	(1.42)
Male	0.09*	(0.05)	−366*	(196)	−1.47	(1.20)
Age	0.08***	(0.02)	−89	(72)	1.17***	(0.40)
Age squared	−0.00***	(0.00)	0.9	(0.9)	−0.01*	(0.01)
Education (ref: less than upper secondary)						
Vocational upper secondary / tertiary	0.16**	(0.07)	−320	(299)	−1.82	(1.69)
General upper secondary	0.15	(0.09)	−488	(366)	−0.33	(2.22)
(Applied) university	0.34***	(0.08)	−130	(346)	2.49	(2.06)
Social class (low-skilled working class)						
Skilled working class	0.19**	(0.08)	162	(312)	−3.26*	(1.74)
Lower-middle class	0.15	(0.09)	−100	(364)	−4.78**	(2.09)
Upper-middle class	0.20**	(0.09)	306	(378)	−3.26	(2.20)
Nationality (ref: Swiss)						
Portugal	−0.28***	(0.09)	−442	(376)	0.72	(2.14)
France	0.01	(0.09)	−158	(352)	−1.81	(2.28)
Italy, Spain	−0.13	(0.11)	−1057**	(442)	0.69	(2.61)
NW Europe, North America	0.14	(0.16)	−1176*	(645)	−3.45	(4.22)
Ex-Yugoslavia, Albania	0.05	(0.25)	−267	(1133)	11.31***	(4.26)
Other countries	−0.04	(0.10)	−30	(384)	2.20	(2.27)
Previous unemployment spell	−0.16***	(0.05)	−56	(194)	3.97***	(1.22)
Reason for unemployment: dismissed for economic reasons	0.09	(0.06)	−220	(230)	−0.09	(1.44)
Reason for unemployment: dismissed for other reasons	0.11*	(0.06)	−207	(241)	3.78**	(1.46)
Job search method used						
Newspapers: yes	0.03	(0.05)	−224	(212)	1.31	(1.30)
Unsolicited applications: yes	−0.10*	(0.05)	−227	(195)	−0.85	(1.22)
Internet: yes	0.31***	(0.07)	859***	(281)	0.77	(1.65)
Private job placement: yes	0.08	(0.05)	−152	(203)	−3.14**	(1.31)
Social network: yes	0.08	(0.05)	−41	(204)	−0.20	(1.24)
Working hours	0.03	(0.00)				
Constant	5.12	(0.34)	2256	1352	2.37	(7.38)
Adjusted R^2	0.3063		0.0549		0.0099	
N	718		416		1,194	

$^{***}P < 0.01$, $^{**}P < 0.05$, $^{*}P < 0.10$.

R^2 refers to pseudo R for Tobit regression and adjusted R^2 for OLS regression.

Table A3. Linear regression coefficients for the effect of how a job was found on wages and unemployment duration (full models)

	(1)	(2)	(3)	(4)	(5)	(6)
	(log) post-unemployment wage level		Wage change in CHF		Unemployment weeks	
	W/o interaction	With interaction	W/o interaction	With interaction	W/o interaction	With interaction
Way job was found (ref: communal contact)						
Work contacts	0.13*	−0.22	10	−124	−3.17*	4.91
	(0.07)	(0.19)	(288)	(842)	(1.89)	(4.16)
Formal methods	0.03	−0.23	−19	60	−2.00	−1.36
	(0.06)	(0.15)	(242)	(601)	(1.42)	(3.04)
Social class (low-skilled working class)						
Skilled working class	0.20**	−0.05	162	504	−3.26*	−0.29
	(0.08)	(0.14)	(312)	(570)	(1.75)	(3.01)
Lower-middle class	0.15	−0.15	−100	−732	−4.78**	−1.68
	(0.09)	(0.16)	(364)	(674)	(2.09)	(3.80)
Upper-middle class	0.20**	0.01	306	103	−3.26	−5.47
	(0.09)	(0.20)	(378)	(800)	(2.20)	(4.32)
Interactions class × way found (ref: communal contact × low-skilled working)						
Work contact × skilled working class		0.41*		−210		−12.89**
		(0.23)		(953)		(5.16)
Work contact × lower-middle class		0.53**		1,580		−10.39*
		(0.25)		(1,027)		(5.88)
Work contact × upper-middle class		0.22		−166		−3.46
		(0.26)		(1,080)		(6.05)
Formal method × skilled working class		0.32*		−545		−1.69
		(0.17)		(688)		(3.69)
Formal method × lower-middle class		0.35*		20		−2.22
		(0.14)		(793)		(4.49)
Formal method × upper-middle class		0.16		478		3.87
		(0.22)		(876)		(4.86)
Adjusted R^2	0.3063	0.3072	0.0549	0.0716	0.0099	0.0107
Observations	718	718	416	416	1,194	1,194

$^{***}P < 0.01$, $^{**}P < 0.05$, $^{*}P < 0.10$.

Controls introduced for sex, age, age squared, nationality, education, reason of dismissal, job search method used at the beginning of unemployment spell.

R^2 refers to pseudo R for Tobit regression and adjusted R^2 for OLS regression.