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Local social capital and geographical mobility: some empirics and a conjecture on the nature of European unemployment

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August 2008

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ABSTRACT

Local Social Capital and Geographical Mobility: Some Empirics and a Conjecture on the Nature of European Unemployment*

European labor markets are characterized by the low geographical mobility of workers. The absence of mobility is a factor behind high unemployment when jobless people prefer to remain in their home region rather than to go prospecting in more dynamic areas. In this paper, we attempt to understand the determinants of mobility by introducing the concept of *local* social capital. Using data from a European household panel (ECHP), we provide various measures of social capital, which appears to be a strong factor of immobility. It is also a fairly large factor of unemployment when social capital is clearly local, while other types of social capital are found to have a positive effect on employability. We also find evidence of the reciprocal causality, that is, individuals born in another region have accumulated less local social capital. Finally, observing that individuals in the South of Europe appear to accumulate more local social capital, while in Northern Europe they tend to invest in more general types of social capital, we argue that part of the European unemployment puzzle can be better understood thanks to the concept of local social capital.

JEL Classification: J2, J61, Z1

Keywords: European unemployment, geographical mobility, social capital

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In an influential work, Bertola and Ichino (1995) documented the inability of European workers to move to more dynamic regions. This arose according to the authors, because of wage and income compression, lowering the returns from mobility. Low mobility and wage compressing labor market institutions have indeed been central in many explanations of unemployment in Europe (see Layard et al. 1991 and Layard and Nickell 1999).

In this work, we want to better understand the determinants and implications of low mobility and provide an alternative explanation for low mobility. We do not focus on the returns of mobility, as in Bertola and Ichino (1995), even though this dimension will be present, but, in a dual perspective, on the *costs of mobility*.

The novelty of our approach is first to give an explicit content to mobility costs, namely social capital. In a companion paper (David et al. 2008), we have indeed developed the concept of local social capital and provided a theoretical model in which moving from one region to another had a cost to individuals in terms of social capital losses. We found two relevant concepts of social capital: the part of social capital which is made of connections with friends, relatives and the closer family, and the part of social capital which is more linked to professional ties. While both have a local component, the first part is presumably more local than the second part. We argued in a simple model that local social capital has a negative impact on mobility and, to a lesser extent, a positive impact on unemployment. We pointed out implications on the determinants of European unemployment and the possible inability of labor market reforms to make significant progress in terms of employment, given the likely existence of multiple equilibria.

In this paper, we attempt to match some of the concepts with the data. We show that local social capital affects the cost of moving. Based on various measures of local social capital, we find that it is a dominant factor of immobility. It is also a fairly large factor of unemployment when social capital is clearly local, while other types of social capital are found to have a positive effect on employability. We also find evidence of the reciprocal causality, that is, individuals born in another region have accumulated less local social capital. This gives some credibility to a theory of multiple equilibria developed in David et al. (2008).

Finally, observing that individuals in the South of Europe appear to accumulate more local social capital, while in Northern Europe they tend to invest in more general types of social capital, we argue that part of the European unemployment puzzle can be better understood thanks to the concept of local social capital.

A few recent works are related to ours. We survey them more in detail in our companion paper. Let us only cite Bentolila et al. (2008) who emphasize the potential negative links between social capital and labor markets: jobs obtained through social networks tend to have a wage discount, distorting choices towards inefficiency. Belot and Ermisch (2006) show that geographical proximity of friends matters for mobility decisions in the UK. In a different context, Spilimbergo and Ubeda (2004a and b) argue that US black workers are less mobile than white workers because of family ties (2004b) and successfully test this using the PSID survey. Kan (2007) also assesses the impact of local social capital on residential mobility. He also explores the role of friends and relatives using the PSID data. In Spilimbergo and Ubeda (2004a), they model how the double matching in the labor market and social environment can explain migration patterns. An implication is the existence of multiple equilibria.

In **Section 2**, we define the concept of local social capital and then propose a match between theory and the data. We attempt to measure social capital relevant to the European context using panel data analysis from the European Community Household Panel: for instance, local social capital can be approximated by measures such as the intensity of relations with friends and neighborhood connections, while being a member of clubs, associations, etc. is a more global type of social capital.

In **Section 3**, we then explore the links between mobility and social capital in Europe. We carry out various empirical exercises to underline the mechanisms at work. The first causality, from social capital to mobility, is tested treating first social capital as given or predetermined. Mobility is measured as year-to-year change of “area of residence”. We indeed find, as expected, that our measures of local social capital lead to a strong reduction of residential mobility. We use a succession of different instruments for social capital, such as regional social capital, individual lags, family composition, regional turnout in elections and regional population density. The second causality, from mobility to social capital accumulation, is also verified in the data: individuals living in a region different from their region of birth indeed have accumulated less social capital. We finally explore the role of local social capital on unemployment: here, interestingly, social capital of various sorts have opposite effects on unemployment: neighborhood variables usually raise unemployment, while club membership and friends reduce it. We finally attempt to correlate social capital with traditional labor market variables such as reservation wages - as defined by individuals and the duration of unemployment before re-employment.

Finally, in **Section 4**, we summarize our insights and then explore how social capital could help understand intra-European differences in unemployment at the country level.

1 Local social capital

1.1 Definition

In this Section, we clarify our meaning of the expression *social capital*, for which there are many definitions. The key concept is the *localness* of social capital.

Assume an individual endowed with S units of social capital, leaving in a region (say, the South) to study or work in another region (say, the North). Once the individual leaves the South, her social capital is partly depreciated: she only retains a fraction of it, because she loses friends or will see them less often. Let us denote by δ_λ the depreciation rate, which describes the degree of localness of social capital. We may think for instance that by leaving the native region, she loses δ_λ of her friends, or meets her relative less frequently. Therefore, a higher level of local social capital may be associated with a reluctance to move to another region.

At the same time, a higher level of social capital can provide information about job offers (Granovetter 1995), this both in the South and in the North. Social capital may thus have an ambiguous effect on unemployment. Social capital may also be more or less local. Then, for a given level of social capital, a more local type of social capital reduces the likelihood an individual moves toward job opportunities, and therefore to be employed.

Therefore, and along the lines of David et al. (2008), we expect to find a negative link between measures of local social capital and mobility, and a link between social capital and unemployment that may be either positive or negative, depending on whether social capital is local or more general.

1.2 Matching the concepts to the data

We will attempt to find an empirical counterpart to the concept of local social capital. We will base the analysis on a widely used dataset, the European Community Household Panel Survey (ECHP). In our context, it is particularly useful because it surveys various dimensions of the social life and social capital of individuals. In the literature surveyed in Glaeser et al. (2002), many works rely on trust questions to approximate social capital. However, Glaeser et al. (2002)

argue that, along with Putnam (2000), one should focus instead on association membership. There is indeed implicitly a revealed preference argument here: in a survey interview, talking about confidence and trust is relatively cheap. Further, in European countries of different languages, responses may be subject to translation bias. Here, we will indeed follow the logic of Glaeser et al. (2002) and Putnam (2000) and use information of three types: club membership as in Glaeser et al. (2002), and the frequency of social contacts with friends and neighbors. We tend to prefer the latter two, because they are presumably more closely associated with the concept of localness we have in mind. Soccer club is local, but chess or Scrabble associations bring usually country-wide ties.

1.3 Data description

More precisely, the social capital measures are derived from the three following questions in the ECHP survey:

1. Are you a member of any club, such as a sport or entertainment club, a local or neighborhood group, a party etc...?
2. How often do you talk to any of your neighbors?
3. How often do you meet friends or relatives not living with you, whether here at home or elsewhere?

Questions 2 and 3 precisely correspond to a type of social capital that is clearly local. The “friend” question may in part refer to professional social capital (that is, capital that depreciates when the individual is unemployed). The “club” question may refer to less local social capital. Even though it is phrased as suggesting non-professional social capital, it may be professional if associations are professional ones. We have however no direct evidence in one sense or the other.¹

The answer to the first question is yes/no (and is attributed the value 1 or 0). The answer to the last two questions defines a frequency on a discrete support, as follows: 1. On most days;

¹Note that Belot and Ermisch (2006), who address a similar question to ours, have more precise data than us (although for a single country the UK): their data allows them to explore two dimensions of the strength of social ties: location of the closest friends and frequency of contacts. Their results actually emphasize the importance of the first factor.

2. Once or twice a week; 3. Once or twice a month; 4. Less often than once a month; 5. Never. In order to simplify the exposition of the results, we build an index measure as follows:

$$Z_{i,t} = I[X_{i,t} = 1] + I[X_{i,t} = 2] \cdot \frac{2}{7} + I[X_{i,t} = 3] \cdot \frac{2}{30} + I[X_{i,t} = 4] \cdot \frac{1}{60} + I[X_{i,t} = 5] \cdot 0,$$

where $Z_{i,t}$ is the index value for individual i at time t and $X_{i,t}$ the answer to the question. $I[\cdot]$ is an indicator function that takes value 1 if the expression in brackets is true and 0 if it is wrong.²

The top of Table 1 presents relevant summary statistics.

2 Mobility, unemployment and local social capital

2.1 Short-Run

The mechanisms we want to highlight can be uncovered estimating the following equations:

$$\begin{aligned} P_m^{i,t+1} &= \pi_m x^{i,t} + \beta_m \text{friendfreq}^{i,t} + \gamma_m \text{neibfreq}^{i,t} + \phi_m \text{club}^{i,t} + \epsilon_m^{i,t+1}, \\ P_u^{i,t+1} &= \pi_u x^{i,t} + \beta_u \text{friendfreq}^{i,t} + \gamma_u \text{neibfreq}^{i,t} + \phi_u \text{club}^{i,t} + \epsilon_u^{i,t+1}, \end{aligned}$$

where $P_m^{i,t+1}$ and $P_u^{i,t+1}$ are respectively the probabilities of moving to another area and of being unemployed for individual i in period $t + 1$, the time period being a year. $x^{i,t}$ is a vector of exogenous controls: Sex (1 if female, 0 if male), house tenure (categorical variable stating whether the individual is owner of his house, whether he rents it or has it for free), age category (16 to 25, 26 to 35, 36 to 45, 46 to 55 and 56+), number of years of education, a dummy variable for unemployment, household size (1, 2, 3, 4 persons or 5 and more); marital status (married, separated, divorced, widowed or never married), time effects. The variables $\text{friendfreq}^{i,t}$ and $\text{neibfreq}^{i,t}$ will correspond to our measures of social capital. Hence, the predictions to be tested are whether β_m and γ_m (and possibly ϕ_m) are negative and whether β_u , γ_u or ϕ_u are uniformly positive or possibly negative.

The sample is restricted to the active population. A full description of the variables can be found in Appendix. See Table 1 for summary statistics. Note that we also estimated an employment equation (instead of unemployment) of the larger sample of 26-55 year old individuals—thus including non-participants— but found no qualitative difference. We will thus only display

²We have tried a few other specifications, one including the log of this variable (but we need to replace the zero with, arbitrarily, either 1/365 or half of this number) which improves the significance of coefficients at the cost of introducing some arbitrariness. We also tried dummy variables for the five possible answers, to detect non-monotonicity. We did not find any non-monotonicity for the impact of social capital on mobility, and decided to keep a simple, linear specification throughout.

the mobility and the unemployment results. To estimate these equations, we will proceed as follows. In the first set of regressions, we consider social capital measures as exogenous and run simple probit regressions. We introduce the various measures of social capital separately or together, because there could be some positive correlation across individuals in these three social capital variables.³ We will also check whether the inclusion of 92 regional effects affects the results.

In a second step, we attempt to control for potential endogeneity and instrument social capital with various instruments. We tried several of them, which generally yield the same kind of results. A first instrument is the lag of individual social capital. It is highly correlated with contemporaneous social capital, but can be criticized for not removing all endogeneity. A second type of instrument is the average social capital in the region⁴. It is more likely to be exogenous, but could be weaker, that is, less correlated with contemporaneous social capital of the individual. In that case, we also use the lagged value of social capital at the regional level. We will report these two types of IV estimations, since each of them has pros and cons. Alternative instruments we also used are described in Appendix⁵.

Table 2 offers a summary of the mobility regressions with all specifications discussed above. Full Tables A-1 to A-3 in Appendix present the other coefficients. Generally speaking, all three variables measuring social capital have negative and significant effects on mobility. In IV regressions, as the full tables in Appendix (Tables A-2 and A-3) indicate, the number of observations is also reduced by 25% approximately, due to the presence of lags and, when instruments are the regional level of social capital, due to the fact that the region of residence is sometimes missing. There is thus some efficiency loss in the estimates, but generally speaking, the coefficients remain negative and usually significant. In particular, the “neighbor” variable

³The correlation structure is actually 0.32 between “friend” and “neighbor” but close to zero between “club” and the first two variables.

⁴The richness of the dataset used by Belot and Ermisch (2006) allows them to explore other instruments describing the environment in which the individual grew up as a child. They consider the number of biological siblings in the household when the individual was fourteen years old, his birth-order, the level of education of his parents and whether he grew up in a rural or urban area.

⁵Technically, in all IV regressions, we follow a two-stage procedure: we first regress the social capital measures on the instruments, and use the projection as regressors in probit regressions. The IV regressions we present therefore have biased standard errors. The reason for using this procedure is that the standard ivprobit procedure in Stata 9 provides the s.e. correction but however does not support clustering and the panel dimension. We are thus left with two alternatives: either we choose to correct for the bias in s.e. due to IV, or to correct for the bias due to individual clustering due to the panel dimension. We chose here to correct for clustering, the main reason being that the implementation of the correction procedure proposed by Wooldridge (2002) for the IV correction would actually lead the s.e. to be lower than with the uncorrected s.e. as displayed in the IV tables. The s.e. displayed here are thus an upper bound for the “true” s.e.

has a significant and negative impact on mobility, while the “club” variable is typically no longer significant. Note also from the full Tables A-2 and A-3 that the other variables included present reasonable coefficients: women are less mobile, as well as house owners, older people, large families and married individuals. Unemployed are not significantly more mobile, but the educated are clearly much more mobile. To be exhaustive, Table A-4 in Appendix produces fixed effect regressions for the mobility equation. Without surprise, the coefficients of social capital turn out to be much less significant, even though the “neighbor” variable remains quite significant. This indicates that even the —necessarily moderate—variations in time in social capital “neighbor” for a given individual generate a decline in mobility. Other coefficients displayed are those for which time variation was observed.

Table 3 shows a summary of individual unemployment regressions. Results are relatively stable across specifications, but with interesting changes in sign and significance across social capital measures. The main findings are that the “neighbor” has a positive impact on the unemployment probability, while “club” has a negative impact on unemployment, this with or without regional effects. The “friend” variable is generally not significant, or marginally positive, except in the last set of IV regressions when instruments are social capital at the regional level.⁶ Full Tables A-5 to A-7 present the other coefficients.

Finally, we attempted to estimate a multinomial logit model where the dependent variable, denote it by $y^{i,t+1}$, takes value 1 if the individual stays in the region and works, 2 if she stays and is unemployed, 3 if she moves and works, 4 if she moves and is unemployed. However, at this stage, the multinomial one fails at explaining individual unemployment, where the coefficient are never significant, but the same results as in Tables 2 and 3 are obtained for inter-area mobility. We do not reproduce those results, available upon request.

We can summarize the effect of social capital on mobility and unemployment in offering a summary, as displayed in Table 4. This table calculates the conditional mobility rate and the conditional unemployment rate for two groups of individuals in the sample (say, an Italian male, owner, 36-45 years old, etc... and a dutch woman, tenant with rent, 26-35 years old, etc...). The

⁶The lack of significance of “Friends” can also be explained by a light non monotonicity of its effect on unemployment. Indeed, individuals with both very low or very high frequency of visits to friends are those with highest unemployment rates, while individuals with intermediate frequency have lower unemployment. To make sense of the non-monotonicity, we would need to introduce additional ingredients in the theory exposed next Section, notably search and network effects à la Granovetter (1995). See e.g. the series of papers by Calvó-Armengol (2004), Calvó-Armengol and Jackson (2004) or Calvó-Armengol and Zenou (2005). Here, we do not explore further this interesting question and leave it for future research.

mobility rate is respectively, in the absence of social capital (all social capital variables fixed to zero) 0.20% and 6.31%, while unemployment rates are 4.18% and 7.79%. We next consider the impact of the maximum amount of social capital (1 for “club” and the highest possible frequency of visits of friends and neighbors). The largest impact on mobility is the “friend” variable, which can bring back the mobility rate almost to zero for the Italian male and reduces it by two thirds for the Dutch woman. The impact of social capital on unemployment is more ambiguous. As far as “club” is concerned, the unemployment risk is reduced by a third, while instead, the other two variables contribute to an increase of that risk by a third approximately.

These are extremely large numbers. Note however they are obtained in the most favorable case in which coefficients are the largest. The impact of social capital is divided by two if one considers alternative specifications, for instance the regular probit model without instruments. Nevertheless, they remain large enough to deserve more attention than what has usually been the case. A final remark concerns the facts that high social capital individuals may be individuals endowed with better skills to make new connections. In this case, to the extent that our IV regressions have not sufficiently taken care of such an endogeneity problem, we can argue that this leads to an underestimation of the magnitude of the negative effects of social capital on mobility: individuals with better skills at making friends, if anything, should be more, not less mobile. The effect on unemployment might also be larger than what we measure, since such individuals are presumably also more able to obtain jobs. Our claim, based on these regressions, is not to measure any structural coefficient: it is actually much more modest, to argue that social capital and notably its local component deserves the full consideration of labor economists.⁷

2.2 Long-Run

As already argued in introduction, the link between social capital and mobility potentially goes both ways. In the short-run, social capital is predetermined to a large extent, hence the regressions in the previous sub-Section are a good first investigation. However, in the long run, it might be that individuals forecast future mobility episodes and so, endogenously determine their level of social capital. Thus we need to dissociate *short-run* mobility from *long-run* mobility and we now explore how social capital may depend on long-run mobility. Now, the mobility

⁷...as many of them have recently started to recognize (e.g. Calvo and Jackson 2006, Calvo and Zenou 2005, Cahuc and Fontaine 2002).

variable $P_m^{i,t}$ takes value 0 if “*the individual was born in the country of current residence and has lived in the same region since birth*” and 1 in the opposite case. We regress our measures of local social capital on this long-run mobility variable, which is now predetermined. Table 5 shows that indeed, having experienced a geographical mobility episode in the past leads to a huge discount in social capital, giving some sense to the concept of localness of social capital. The full table is in Table A-8 in Appendix.

3 Additional regressions

The ECHP contains a few additional variables which can be used to complement the previous analysis. In particular, we explore the impact of social capital on unemployment and its duration. In order to simplify the exposition of results, we limit tables to a few coefficients (that of social capital) and of very few additional variables when relevant, such as whether individuals receive unemployment benefits. The sample and the specification are kept as close as possible from the previous set of regressions: sex, house tenure, age categories, education measured in years, household size, marital status and time dummies. For each dependent variable, we present in general three different specifications: the first is without geographical control, the second adds country dummies and the third one has regional dummies. Table A-9 in Appendix presents these regressions.

In the first part of Table A-9, we analyze the effect of social capital on a variable reflecting whether individuals have experienced long term unemployment. The idea is to test whether social capital can be powerful enough to significantly reduce the risk of long spells of unemployment: connected people may be able to obtain a new job immediately after a layoff. For that, we restrict the sample to people looking for a job, not working or working less than 15 hours a week. We find that only the “club” variable has a negative impact on having been unemployed at a time, while the other social capital variables have no effect.

A second test is to determine, for currently employed individuals, whether social capital reduced the probability of having experienced a spell of unemployment before the current job. The idea is similar to the previous one: connected people may move easily from job-to-job. The effect of “club” is still strong and negative, while now, we find marginally positive impact of the “neighbor” variable.

In the second part of Table A-9, we regress the number of months of unemployment before

the current job on our social capital variables and the usual controls.⁸ To these usual controls, we add a set of time controls, not at the time of the survey, but at the time of entrance in the previous job. That is, if an individual is interviewed in 1996 and has been employed in the current job for six years, that individual is attributed a time dummy ($y_{90}=1$), in order to control for the economic cycle at the time of job search.⁹ Columns (1) to (3) only consider the length of unemployment of those having experienced some unemployment (log specification) while Columns (4) to (6) also include those having faced no unemployment. We find that belonging to a club is generally associated with shorter unemployment spells, and that the neighbor variable is marginally positively significant.

Finally, we also tried similar regressions with a measure of the reservation wage but found them disappointing, probably due to measurement error and do not report them here.

However, our conclusions from these additional regressions is that social capital has positive impact on employability when it is not local, and has a negative or nul impact when it is local, which is in line with the previous results in this paper and the theoretical results in David et al. (2008).

3.1 Summary

We first summarize the few stable relations in the data. Our regressions suggest unambiguous effects of social capital on individual mobility and adverse effects on individual employment probabilities too. The magnitude of the effects was even quite striking. It notably appears that:

1. Individuals endowed with more local social capital as described by the variables “friend”, “neighbor” or “club” are less likely to move to another region in the short-run.
2. Individuals endowed with more local social capital such as described by the variables friends or neighbors are more likely to become unemployed in the short-run.
3. In contrast, individuals who are members of a club are less likely to become unemployed in the short-run.

⁸Note that here, we do not have any right-censoring problem since we know the exact number of months of unemployment prior to re-employment, contrary to a classical duration analysis where we would observe transitions between different stats instead. In addition, the sample is restricted to persons that are “normally working” at the time of the survey, i.e. working more than 15 hours per week, and that started their current job at the earliest 2 years before they joined the survey.

⁹Note an obvious limitation of this specification, as well as the next specifications: we investigate the relationship between past unemployment experience of an individual and current social capital. We see the results presented in those tables as correlations between variables rather than deterministic relationship.

4. Workers in a region different from their birth region have a lower stock of social capital in all three dimensions measured (“friend”, “neighbor” and “club”). and suggesting interpretations and extensions of our results.

4 A conjecture on European unemployment

We now try to document a conjecture developed in the introduction: can we really explain country-differences in aggregate unemployment? Table 6 indicates that there is indeed a North-South divide in the *nature* of social capital: in the South of Europe (and in Ireland too), social capital seems to be more local, explaining the lower geographical mobility rates and difficulty to reduce unemployment. In the North of Europe, being part of clubs is instead much more frequent. To the extent that being a member of a club (such as a Scrabble or a chess league) helps to cope with mobility—this is indeed a very good way to re-establish a social network when moving to a new city—, we may have an interesting characterization of the way labor markets work in Europe.

We can go one step further here. Without claiming much causal evidence, but just as a way to summarize the data, we now regress national unemployment on these average measures of social capital, in a cross-country analysis, in an approach inspired by Layard-Nickell (1999). Table 7 regresses the log of unemployment on country-averages of local social capital. Table 8 adds conventional covariates capturing labor market institutions, Table 9 uses lagged employment protection measures for the period before 1990 as instruments, as well as owner occupation rates. The main finding is that the “friend” variable is significant and raises unemployment. The “neighbor” variable also raises unemployment but only when it is alone. Multicollinearity with “friend” leads however to instability when both are added. These regressions are only to be thought as preliminary steps. They indicate that the social organization of populations may matter much more than what is commonly believed.

Beyond these last three summary regressions based on macro data, the empirical analysis based on microdata suggests that, to understand better European unemployment, more is to be learnt from non-standard factors. Notably, social capital may be an interesting avenue to explore, confirming the fruitfulness of the concept.

Table 1: *Summary statistics*

| Variable | Observations | Mean | Std Dev | Min | Max |
|----------------------------|--------------|-------|---------|-----|-----|
| Friends | 566281 | 0.488 | 0.41 | 0 | 1 |
| Neighbors | 566281 | 0.438 | 0.43 | 0 | 1 |
| Club | 500053 | 37.4% | 0.48 | 0 | 1 |
| Geographic Mobility | 441024 | 0.7% | 0.08 | 0 | 1 |
| Male | 566281 | 57.1% | 0.49 | 0 | 1 |
| Female | 566281 | 42.9% | 0.49 | 0 | 1 |
| Rent-free accommodation | 560878 | 3.4% | 0.18 | 0 | 1 |
| Owner | 560878 | 71.6% | 0.45 | 0 | 1 |
| Tenant with rent | 560878 | 25.1% | 0.43 | 0 | 1 |
| Age category 16-25 | 566281 | 15.4% | 0.36 | 0 | 1 |
| Age category 26-35 | 566281 | 28.4% | 0.45 | 0 | 1 |
| Age category 36-45 | 566281 | 26.0% | 0.44 | 0 | 1 |
| Age category 46-55 | 566281 | 21.0% | 0.41 | 0 | 1 |
| Age category 56-65 | 566281 | 9.3% | 0.29 | 0 | 1 |
| Years of education | 566281 | 10.5 | 5.53 | 0 | 25 |
| Employed | 566281 | 90.1% | 0.30 | 0 | 1 |
| Unemployed | 566281 | 9.9% | 0.30 | 0 | 1 |
| Living alone | 566281 | 8.9% | 0.29 | 0 | 1 |
| Two members in household | 566281 | 19.9% | 0.40 | 0 | 1 |
| Three members in household | 566281 | 22.3% | 0.42 | 0 | 1 |
| Four members in household | 566281 | 28.2% | 0.45 | 0 | 1 |
| Five members in household | 566281 | 20.7% | 0.41 | 0 | 1 |
| Separated | 552771 | 1.4% | 0.12 | 0 | 1 |
| Divorced | 552771 | 4.7% | 0.21 | 0 | 1 |
| Widowed | 552771 | 1.4% | 0.12 | 0 | 1 |
| Never married | 552771 | 33.8% | 0.47 | 0 | 1 |

Notes: The summary statistics are calculated from the ECHP data over the period 1994-2001. 14 EU countries are considered: Denmark, Netherlands, Belgium, Luxembourg, Ireland, Italy, Greece, Spain, Portugal, Austria, Finland, Sweden, Germany, UK. The sample is restricted to the active population.

Table 2: Summary of the Results for Inter-Area Mobility

| | probit | probit | probit | probit | probit | probit | probit | probit |
|-----------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Friends | -0.139 (5.06)** | | | -0.104 (3.54)** | -0.115 (3.94)** | | | -0.079 (2.51)* |
| Neighbors | | -0.149 (5.48)** | | -0.125 (4.29)** | | -0.159 (5.44)** | | -0.141 (4.46)** |
| Club | | | -0.063 (3.08)** | -0.059 (2.85)** | | | -0.059 (2.59)** | -0.055 (2.40)* |
| Time Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | Yes | Yes | Yes | No | No | No | No |
| Region Dummies | No | No | No | No | Yes | Yes | Yes | Yes |
| | IVprobit | IVprobit | IVprobit | IVprobit | IVprobit | IVprobit | IVprobit | IVprobit |
| Friends | -0.454 (5.08)** | | | -0.378 (3.65)** | -0.413 (4.39)** | | | -0.330 (2.99)** |
| Neighbors | | -0.146 (2.27)* | | -0.001 (0.01) | | -0.145 (2.07)* | | -0.007 (0.08) |
| Club | | | -0.040 (0.86) | -0.010 (0.21) | | | -0.021 (0.41) | 0.006 (0.12) |
| Time Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | Yes | Yes | Yes | No | No | No | No |
| Region Dummies | No | No | No | No | Yes | Yes | Yes | Yes |
| | IVprobit | IVprobit | IVprobit | IVprobit | | | | |
| Friends | -0.253 (0.99) | | | 0.260 (0.69) | | | | |
| Neighbors | | -0.876 (2.99)* | | -0.866 (2.01)* | | | | |
| Club | | | -0.605 (1.40) | -0.415 (0.91) | | | | |
| Time Dummies | Yes | Yes | Yes | Yes | | | | |
| Country Dummies | Yes | Yes | Yes | Yes | | | | |
| Region Dummies | No | No | No | No | | | | |

Notes: As additional explicative variables, the above regressions include sex, house tenure, age categories, years of education, a dummy for unemployment, household size, marital status. For the first set of IV estimations, social capital measures are instrumented by their lag and the lag of the other explicative variables. For the second set of IV estimations, social capital measures are instrumented by the regional average of social capital measures and their lag. See Tables 10, 11 and 12 in the Appendix for more detailed results. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 3: Summary of the Results for Individual Unemployment

| | probit | probit | probit | probit | probit | probit | probit | probit |
|-----------------|-------------------|-------------------|---------------------|---------------------|------------------|-------------------|---------------------|---------------------|
| Friends | 0.005 (0.39) | | | 0.005 (0.38) | -0.004 (0.27) | | | -0.003 (0.18) |
| Neighbors | | 0.052 (4.04)** | | 0.061 (4.53)** | | 0.045 (3.23)** | | 0.058 (3.90)** |
| Club | | | -0.131 (11.74)** | -0.133 (11.87)** | | | -0.135 (10.57)** | -0.137 (10.67)** |
| Time Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | Yes | Yes | Yes | No | No | No | No |
| Region Dummies | No | No | No | No | Yes | Yes | Yes | Yes |
| | IVprobit | IVprobit | IVprobit | IVprobit | IVprobit | IVprobit | IVprobit | IVprobit |
| Friends | 0.116 (2.86)** | | | 0.096 (2.00)* | 0.090 (2.02)* | | | 0.068 (1.29) |
| Neighbors | | 0.163 (5.36)** | | 0.165 (4.59)** | | 0.145 (4.27)** | | 0.160 (3.96)** |
| Club | | | -0.254 (10.72)** | -0.271 (11.24)** | | | -0.244 (9.06)** | -0.260 (9.47)** |
| Time Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | Yes | Yes | Yes | No | No | No | No |
| Region Dummies | No | No | No | No | Yes | Yes | Yes | Yes |
| | IVprobit | IVprobit | IVprobit | IVprobit | | | | |
| Friends | 0.572 (5.88)** | | | 0.328 (2.11)* | | | | |
| Neighbors | | 0.231 (2.23)* | | 0.308 (1.84) | | | | |
| Club | | | -2.153 (14.16)** | -2.245 (13.45)** | | | | |
| Time Dummies | Yes | Yes | Yes | Yes | | | | |
| Country Dummies | Yes | Yes | Yes | Yes | | | | |
| Region Dummies | No | No | No | No | | | | |

Notes: As additional explicative variables, the above regressions include sex, house tenure, age categories, years of education, a dummy for unemployment, household size, marital status. For the first set of IV estimations, social capital measures are instrumented by their lag and the lag of the other explicative variables. For the second set of IV estimations, social capital measures are instrumented by the regional average of social capital measures and their lag. See Tables 14, 15 and 16 in the Appendix for more detailed results. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 4: *Probabilities of moving and being unemployed: examples*

| | Probability of → | Moving | Unemployment |
|---|----------------------------------|--------|--------------|
| Italian man, owner, 36-45 years old, married, living with someone, year 2000 | No social capital | 0.20% | 4.18% |
| | If friends and family, every day | -0.16% | +0.48% |
| | If neighbors, every day | -0.04% | +0.82% |
| | if club | -0.02% | -1.43% |
| Fraction of mobility reduced by the maximum combination of social capital | | -100% | |
| Fraction of unemployment added by the maximum combination of friends and neighbors | | | +31% |
| Dutch woman, tenant with rent, 26-35 years old, never married, living alone, year 1996 | No social capital | 6.31% | 7.79% |
| | If friends and family, every day | -3.95% | +0.83% |
| | If neighbors, every day | -0.76% | +1.41% |
| | If club | -0.28% | -2.51% |
| Fraction of mobility reduced by the maximum combination of social capital | | -79% | |
| Fraction of unemployment added by the maximum combination of friends and neighbors | | | +29% |

Note: the above probabilities are computed from the fitted values of the instrumental variable probit regression from Tables 11 and 15 with country dummies and all social capital measures introduced as regressors.

Table 5: *Summary of the Results for Long-Run Social Capital Investment*

| Social Capital: | Friendfreq | | Neibfreq | | Club | |
|------------------------|--------------------|--------------------|---------------------|--------------------|--------------------|-------------------|
| Estimation Method: | OLS | | OLS | | Probit | |
| Born in another region | -0.04 (13.43)** | -0.04 (13.25)** | -0.039 (10.93)** | -0.034 (9.40)** | -0.116 (9.25)** | -0.09 (6.89)** |
| Time Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | No | Yes | No | Yes | No |
| Region Dummies | No | Yes | No | Yes | No | Yes |

Notes: As additional explicative variables, the above regressions include sex, house tenure, age categories, years of education, a dummy for unemployment, household size, marital status. See Table 17 in the Appendix for more detailed results. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table 6: Aggregate social capital

| Country | <i>friendfreq</i> | <i>neibfreq</i> | <i>club</i> |
|------------------------------------|-------------------|-----------------|-------------|
| <u>Nordic countries and the UK</u> | | | |
| Denmark | 43 | 41.8 | 62.1 |
| Finland | 45.9 | 52.3 | 52.5 |
| Sweden | 43.6 | na | 69.4 |
| UK | 57.6 | 28 | 62.7 |
| <u>Western Europe</u> | | | |
| Austria | 35.8 | 46.3 | 49.5 |
| Belgium | 41 | 39 | 39.4 |
| Germany | 14.7 | na | 32.8 |
| Ireland | 78.9 | 62 | 48.7 |
| Luxembourg | 44.8 | 47.3 | 41 |
| Netherlands | 42 | 36.7 | 48 |
| <u>Southern Europe</u> | | | |
| Greece | 69.5 | 80.8 | 12.1 |
| Italy | 57.6 | 54.7 | 23.8 |
| Portugal | 47.8 | 66.6 | 21.5 |
| Spain | 74 | 68.1 | 28.5 |
| <u>Correlation with:</u> | | | |
| <i>friendfreq</i> | 1 | 0.61 | -0.22 |
| <i>neibfreq</i> | 0.61 | 1 | -0.79 |
| <i>club</i> | -0.22 | -0.79 | 1 |

Notes: the Table displays the average value of the social capital measures by country over the period 1994-2001 for the active population.

“na” refers to non-available data. See Section 1 for more details on the methodology used to construct these indexes.

Table 7: *Log Unemployment Rate Regressed on our Measures of Social Capital.*

| | | | |
|----------------|--------------------------------|--------------------------------|--------------------------------|
| Friends | 1.176 (4.10) ^{***} | | 1.746 (3.32) ^{***} |
| Neighbors | | 1.729 (4.52) ^{***} | 0.388 (0.72) |
| Constant | 1.434 (8.87) ^{***} | 1.085 (4.84) ^{***} | 0.879 (4.00) ^{***} |
| Observations | 95 | 80 | 80 |
| Adjusted R^2 | 0.14 | 0.2 | 0.29 |

Note: The estimation is by OLS using 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data and the unemployment rates are the standardized OECD rates. Absolute value of t statistics in parentheses. ** significant at 5%; *** significant at 1%

Table 8: *Log Unemployment Rate Regressed on Measures of Social Capital and Labor Market Institutions.*

| | | | | |
|--------------------------------|--------------------|-------------------|--------------------|--------------------|
| Friends | | 0.92 (2.44)** | | 7.239 (6.69)** |
| Neighbors | | | 2.518 (6.83)** | -2.672 (3.25)** |
| Total Tax Wedge | 0.03 (6.71)** | 0.026 (5.74)** | 0.041 (10.41)** | 0.03 (8.80)** |
| Union Density | 0.003 (1.38) | 0.000 (0.06) | 0.004 (1.46) | -0.021 (4.88)** |
| Union Coverage Index | 0.527 (3.49)** | 0.39 (2.49)* | 0.042 (0.27) | -0.765 (4.58)** |
| Co-ordination (Union+Employer) | -0.274 (5.52)** | -0.124 (1.59) | -0.145 (2.70)** | -0.495 (4.77)** |
| Replacement Rate | 0.002 (0.96) | 0.000 (0.16) | 0.004 (1.78) | -0.004 (1.94) |
| Benefit Duration | 0.095 (2.59)** | 0.126 (3.35)** | 0.197 (4.33)** | 0.236 (6.82)** |
| Active Labor Market Policies | -0.000 (0.1) | -0.000 (0.02) | 0.024 (2.33)* | 0.127 (7.37)** |
| Observations | 87 | 87 | 72 | 72 |
| Number of countries | 12 | 12 | 10 | 10 |
| R^2 | 0.6219 | 0.6516 | 0.8142 | 0.8976 |

Note: The estimation is by Random Effect GLS using 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data, data on labor market institutions is taken from Nickell and Layard (1999) and the unemployment rates are the standardized OECD rates. Some ECHP data was not available for Germany and Sweden. Constant and time dummies not reported. Absolute value of z-statistics in parentheses. * significant at 5%; ** significant at 1%

Table 9: *Log Unemployment Rate Regressed on Measures of Social Capital and Labor Market Institutions, Where Social Capital Measures are Instrumented.*

| | | | |
|--------------------------------|-------------------|--------------------|--------------------|
| Friends | 3.712 (4.09)** | | 13.436 (6.12)* |
| Neighbors | | 2.632 (7.00)** | -7.112 (4.36)** |
| Total Tax Wedge | 0.015 (2.21)* | 0.042 (10.46)** | 0.02 (4.00)** |
| Union Density | -0.011 (2.31)* | 0.004 (1.51) | -0.043 (5.25)** |
| Union Coverage Index | -0.027 (0.11) | 0.025 (0.16) | -1.456 (5.15)** |
| Co-ordination (Union+Employer) | 0.332 (2.06)* | -0.14 (2.60)** | 1.044 (5.22)** |
| Replacement Rate | -0.006 (1.5) | 0.004 (1.82) | -0.011 (3.35)** |
| Benefit Duration | 0.219 (3.90)** | 0.199 (4.37)** | 0.269 (6.03)** |
| Active Labor Market Policies | 0.001 (0.16) | 0.024 (2.29)* | 0.215 (6.57)** |
| Observations | 87 | 72 | 72 |
| Number of Countries | 12 | 10 | 10 |
| R^2 | 0.4976 | 0.8140 | 0.8525 |

Note: The estimation is by Instrumental Variable Random Effect GLS using 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Social capital is instrumented by the employment protection index and owner occupation rate before 1994 from Nickell and Layard (1999). Our measures of social capital is based on ECHP data, data on labor market institutions is taken from Nickell and Layard (1999) and the unemployment rates are the standardized OECD rates. Some ECHP data was not available for Germany and Sweden. Constant and time dummies not reported. Absolute value of z-statistics in parentheses. * significant at 5%; ** significant at 1%

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A Appendix

A.1 Description of the explicative variables

- House tenure: in the survey, this variable refers to the following question: Does your household own this dwelling or do you rent it? The possible answers are (1) owner, (2) tenant / subtenant, paying rent (including when rent recovered from housing benefit) and (3) accommodation is provided rent-free.
- Age category: we grouped individuals into four categories: 16-24, 16-34, 35-54, and 55-64.
- Education: in the survey, this variable refers to the following question: Age when the Highest Level of General or Higher Education was Completed. The possible answers are numbers between 9 and 75. To correct for potential bias we followed the procedure proposed in Wasmer et al. (2005).
- Household size: in the survey, this variable refers to the following question: Household Size (Total Number of Household Members at Present). The possible answers are numbers between 1 and 96. We grouped the answers into five categories: 1, 2, 3, 4 and 5+.
- Marital status: in the survey, this variable refers to the following question: Present Marital Status. The possible answers are (1) Married, (2) Separated, (3) Divorced, (4) Widowed, (5) Never married.
- Regional dummies: in the survey, this variable refers to the following question: Region in which the Household is Presently Situated. The classification followed for this question is the NUTS2 AGGREGATES from the European Commission, which considers comparable regions with a population comprised between 800 000 and 3 millions inhabitants. For more information, please refer to the following web site: <http://ec.europa.eu/comm/eurostat/ramon/nuts>. Note also that some countries like the Netherlands have not filled this question.

A.2 Description of the instruments

As explained in the text, we tried several instruments. The one we found most convincing is the average level of social capital in the region where the individual lives: it is clearly exogenous to the individuals and fairly correlated to individual's social capital. We have however made several other attempts.

A first set of additional instrument relates to the regional vote and turnout in elections. In particular, we considered regional turnout at parliamentary elections. The intuition is that higher turnout is the sign of higher social cohesion, hence more social capital. Exogeneity in the unemployment/mobility equation is insured by the fact that we choose lagged turnout, that is, the last election before year 1990 in each available country. The data are missing for Austria, Greece and France. Unfortunately, correlation with our measures of social capital was poor, resulting in important loss of efficiency.

A second set of additional instruments can be found in the anthropological analysis of family structures. Todd (1990), a well known demographer and anthropologist, has argued that such structures are extremely stable over the pace of centuries, and can be categorized in four or five groups, based on the balance of authority (nuclear vs. "souche", that is, patriarchal) and of the type transmission of land and wealth (equalitarian, each offspring getting an equal share, or unequalitarian, the elder getting the largest share). Combining these two criteria leads, according to Todd, to a map of regions in Europe where in each region, one type of the four possible family structure is dominant, with sometimes several types coexisting. Note that we discovered after doing this that Spilimbergo and Ubeda (2004b) had used similar instruments for their US study. In attributing a number for each category of structure, we build an instrument for social capital which is used in individual regressions. It appears to be very correlated with our measures of social capital. With this set of instruments, the results are robust for the mobility equation. However, for the unemployment equation results were not consistent across specifications.

A.3 Additional tables

Table A-1: Probit Regression Explaining Inter-Area Mobility at Time $t+1$

| | | | | | | | | |
|---------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|--------------------|--------------------|
| Friends at t | -0.139 (5.06)** | | | -0.104 (3.54)** | -0.115 (3.94)** | | | -0.079 (2.51)* |
| Neighbors at t | | -0.149 (5.48)** | | -0.125 (4.29)** | | -0.159 (5.44)** | | -0.141 (4.46)** |
| Club at t | | | -0.063 (3.08)** | -0.059 (2.85)** | | | -0.059 (2.59)** | -0.055 (2.40)* |
| Male | ref | ref | ref | ref | ref | ref | ref | ref |
| Female | -0.014 (0.66) | -0.012 (0.58) | -0.02 (0.9) | -0.015 (0.69) | -0.015 (0.66) | -0.013 (0.57) | -0.022 (0.94) | -0.018 (0.75) |
| Rent-free accommodation at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Owner at t | -0.516 (10.21)** | -0.52 (10.29)** | -0.499 (9.48)** | -0.504 (9.54)** | -0.5 (9.47)** | -0.506 (9.58)** | -0.491 (8.93)** | -0.497 (9.01)** |
| Tenant with rent at t | -0.095 (1.83) | -0.099 (1.9) | -0.087 (1.6) | -0.09 (1.66) | -0.088 (1.6) | -0.093 (1.69) | -0.085 (1.47) | -0.089 (1.55) |
| Age category 16-25 at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Age category 26-35 at t | -0.039 (1.29) | -0.023 (0.76) | -0.042 (1.31) | -0.053 (1.67) | -0.028 (0.85) | -0.012 (0.38) | -0.04 (1.15) | -0.046 (1.32) |
| Age category 36-45 at t | -0.309 (8.69)** | -0.283 (8.00)** | -0.305 (8.27)** | -0.322 (8.63)** | -0.298 (7.67)** | -0.273 (7.08)** | -0.304 (7.47)** | -0.313 (7.64)** |
| Age category 46-55 at t | -0.434 (10.62)** | -0.405 (10.02)** | -0.437 (10.41)** | -0.453 (10.64)** | -0.435 (9.75)** | -0.406 (9.25)** | -0.445 (9.69)** | -0.453 (9.73)** |
| Age category 56-65 at t | -0.536 (9.48)** | -0.502 (8.90)** | -0.525 (8.92)** | -0.539 (9.11)** | -0.568 (9.46)** | -0.536 (8.97)** | -0.571 (9.13)** | -0.576 (9.17)** |
| Years of education at t | 0.014 (7.07)** | 0.014 (7.15)** | 0.014 (7.04)** | 0.014 (6.71)** | 0.012 (5.66)** | 0.012 (5.65)** | 0.013 (5.56)** | 0.012 (5.28)** |
| Employed at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Unemployed at t | -0.009 (0.26) | -0.002 (0.05) | -0.018 (0.54) | -0.006 (0.17) | 0 (0.01) | 0.007 (0.2) | -0.008 (0.22) | 0.003 (0.09) |
| Living alone at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Two members in household at t | -0.16 (4.53)** | -0.152 (4.31)** | -0.149 (4.01)** | -0.156 (4.21)** | -0.133 (3.40)** | -0.126 (3.24)** | -0.119 (2.89)** | -0.123 (2.97)** |
| Three members in household at t | -0.31 (8.56)** | -0.3 (8.29)** | -0.298 (7.86)** | -0.299 (7.87)** | -0.281 (7.15)** | -0.271 (6.92)** | -0.266 (6.43)** | -0.264 (6.37)** |
| Four members in household at t | -0.442 (11.86)** | -0.43 (11.55)** | -0.435 (11.05)** | -0.433 (10.99)** | -0.406 (9.98)** | -0.395 (9.71)** | -0.391 (9.01)** | -0.387 (8.91)** |
| Five members in household at t | -0.497 (11.47)** | -0.485 (11.20)** | -0.482 (10.61)** | -0.48 (10.57)** | -0.477 (10.33)** | -0.465 (10.10)** | -0.459 (9.45)** | -0.454 (9.35)** |
| Married at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Separated at t | 0.141 (1.56) | 0.132 (1.46) | 0.12 (1.2) | 0.121 (1.2) | 0.131 (1.53) | 0.123 (1.43) | 0.106 (1.11) | 0.106 (1.11) |
| Divorced at t | 0.011 (0.27) | 0.006 (0.16) | 0.023 (0.54) | 0.023 (0.54) | 0.018 (0.41) | 0.014 (0.32) | 0.035 (0.77) | 0.037 (0.8) |
| Widowed at t | 0.004 (0.05) | 0.006 (0.07) | 0.025 (0.27) | 0.035 (0.37) | -0.002 (0.02) | 0.001 (0.01) | 0.014 (0.14) | 0.022 (0.22) |
| Never married at t | -0.14 (5.11)** | -0.15 (5.45)** | -0.153 (5.32)** | -0.151 (5.26)** | -0.186 (6.16)** | -0.195 (6.42)** | -0.206 (6.43)** | -0.205 (6.38)** |
| Time dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country dummies | Yes | Yes | Yes | Yes | No | No | No | No |
| Region dummies | No | No | No | No | Yes | Yes | Yes | Yes |
| Observations | 403568 | 403568 | 385403 | 385403 | 357122 | 357122 | 339086 | 339086 |
| Pseudo R^2 | 0.1610 | 0.1584 | 0.1587 | 0.1592 | 0.1818 | 0.1774 | 0.1782 | 0.1800 |

Note: The estimation is by Probit using ECHP data on 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data. (Some data was not available for Germany and Sweden.) The reference for the interpretation of the dummy variables is an employed male with rent-free accommodation, married, aged 16-24, living alone. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table A-2: *Instrumental Variable Probit Regression Explaining Inter-Area Mobility at Time $t+1$*

| | | | | | | | | |
|---------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Friends at t | -0.454 (5.08)** | | | -0.378 (3.65)** | -0.413 (4.39)** | | | -0.330 (2.99)** |
| Neighbors at t | | -0.146 (2.27)* | | -0.001 (0.01) | | -0.145 (2.07)* | | -0.007 (0.08) |
| Club at t | | | -0.040 (0.86) | -0.010 (0.21) | | | -0.021 (0.41) | 0.006 (0.12) |
| Male | ref | ref | ref | ref | ref | ref | ref | ref |
| Female | -0.006 (0.24) | -0.003 (0.11) | -0.009 (0.33) | -0.005 (0.20) | -0.008 (0.32) | -0.005 (0.21) | -0.011 (0.41) | -0.008 (0.28) |
| Rent-free accommodation at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Owner at t | -0.475 (8.64)** | -0.474 (8.63)** | -0.455 (7.91)** | -0.459 (7.95)** | -0.454 (8.05)** | -0.454 (8.04)** | -0.442 (7.45)** | -0.445 (7.48)** |
| Tenant with rent at t | -0.053 (0.94) | -0.055 (0.97) | -0.038 (0.64) | -0.038 (0.63) | -0.045 (0.78) | -0.048 (0.82) | -0.036 (0.58) | -0.036 (0.58) |
| Age category 16-25 at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Age category 26-35 at t | -0.048 (1.25) | -0.005 (0.13) | -0.029 (0.72) | -0.063 (1.55) | -0.024 (0.56) | 0.016 (0.39) | -0.017 (0.38) | -0.046 (1.01) |
| Age category 36-45 at t | -0.348 (7.81)** | -0.278 (6.63)** | -0.310 (6.98)** | -0.368 (7.63)** | -0.324 (6.65)** | -0.260 (5.69)** | -0.302 (6.16)** | -0.351 (6.62)** |
| Age category 46-55 at t | -0.450 (8.90)** | -0.371 (7.80)** | -0.409 (8.12)** | -0.472 (8.69)** | -0.434 (7.89)** | -0.361 (7.01)** | -0.407 (7.40)** | -0.461 (7.76)** |
| Age category 56-65 at t | -0.557 (8.51)** | -0.476 (7.44)** | -0.508 (7.43)** | -0.570 (8.05)** | -0.582 (8.37)** | -0.508 (7.49)** | -0.554 (7.65)** | -0.607 (8.06)** |
| Years of education at t | 0.011 (4.97)** | 0.012 (5.42)** | 0.013 (5.13)** | 0.011 (4.41)** | 0.009 (3.67)** | 0.010 (3.99)** | 0.010 (3.71)** | 0.009 (3.13)** |
| Employed at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Unemployed at t | 0.019 (0.48) | 0.015 (0.36) | -0.004 (0.10) | 0.010 (0.25) | 0.045 (1.07) | 0.042 (0.98) | 0.028 (0.62) | 0.040 (0.90) |
| Living alone at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Two members in household at t | -0.198 (4.83)** | -0.174 (4.26)** | -0.167 (3.82)** | -0.188 (4.29)** | -0.166 (3.70)** | -0.146 (3.27)** | -0.134 (2.78)** | -0.150 (3.10)** |
| Three members in household at t | -0.325 (8.06)** | -0.303 (7.54)** | -0.298 (6.99)** | -0.313 (7.30)** | -0.294 (6.81)** | -0.274 (6.40)** | -0.266 (5.77)** | -0.278 (5.99)** |
| Four members in household at t | -0.421 (9.97)** | -0.394 (9.37)** | -0.392 (8.68)** | -0.410 (8.95)** | -0.380 (8.32)** | -0.355 (7.84)** | -0.344 (6.96)** | -0.358 (7.16)** |
| Five members in household at t | -0.491 (9.86)** | -0.464 (9.36)** | -0.456 (8.66)** | -0.474 (8.89)** | -0.474 (9.00)** | -0.450 (8.60)** | -0.438 (7.81)** | -0.452 (7.97)** |
| Married at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Separated at t | 0.065 (0.64) | 0.051 (0.51) | 0.036 (0.32) | 0.043 (0.38) | 0.053 (0.57) | 0.040 (0.43) | 0.022 (0.21) | 0.029 (0.28) |
| Divorced at t | -0.014 (0.30) | -0.022 (0.46) | -0.005 (0.09) | -0.001 (0.01) | -0.007 (0.13) | -0.015 (0.29) | 0.011 (0.20) | 0.016 (0.29) |
| Widowed at t | 0.023 (0.22) | 0.013 (0.12) | 0.042 (0.39) | 0.053 (0.49) | 0.024 (0.22) | 0.016 (0.14) | 0.037 (0.31) | 0.046 (0.39) |
| Never married at t | -0.120 (3.76)** | -0.145 (4.54)** | -0.148 (4.32)** | -0.130 (3.78)** | -0.169 (4.88)** | -0.193 (5.55)** | -0.204 (5.40)** | -0.187 (4.96)** |
| Time Dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | Yes | Yes | Yes | No | No | No | No |
| Region Dummies | No | No | No | No | Yes | Yes | Yes | Yes |
| Observations | 316463 | 316463 | 299625 | 299625 | 279365 | 279365 | 262824 | 262824 |
| Pseudo R^2 | 0.16 | 0.16 | 0.16 | 0.16 | 0.18 | 0.18 | 0.18 | 0.18 |

Note: The estimation is by IV Probit using ECHP data on 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data. (Some data was not available for Germany and Sweden.) Here, social capital is instrumented with its lag and the lag of the other explicative variables. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table A-3: *Instrumental Variable Probit Regression Explaining Inter-Area Mobility at Time $t+1$*

| | | | | |
|---------------------------------|--------------------|--------------------|--------------------|--------------------|
| Friends at t | -0.253 (0.99) | | | 0.260 (0.69) |
| Neighbors at t | | -0.876 (2.99)** | | -0.866 (2.01)* |
| Club at t | | | -0.605 (1.40) | -0.415 (0.91) |
| Male | ref | ref | ref | ref |
| Female | -0.019 (0.78) | 0.007 (0.28) | -0.084 (1.55) | -0.037 (0.61) |
| Rent-free accommodation at t | ref | ref | ref | ref |
| Owner at t | -0.489 (8.76)** | -0.510 (9.03)** | -0.452 (7.36)** | -0.481 (7.59)** |
| Tenant with rent at t | -0.090 (1.57) | -0.121 (2.07)* | -0.099 (1.61) | -0.124 (1.99)* |
| Age category 16-25 at t | ref | ref | ref | ref |
| Age category 26-35 at t | 0.022 (0.53) | 0.046 (1.15) | 0.015 (0.36) | 0.039 (0.83) |
| Age category 36-45 at t | -0.263 (5.05)** | -0.219 (4.93)** | -0.245 (5.06)** | -0.206 (3.26)** |
| Age category 46-55 at t | -0.369 (6.29)** | -0.315 (6.24)** | -0.349 (6.20)** | -0.301 (4.10)** |
| Age category 56-65 at t | -0.503 (6.81)** | -0.422 (6.02)** | -0.483 (6.44)** | -0.406 (4.39)** |
| Years of education at t | 0.010 (3.91)** | 0.006 (1.95) | 0.018 (3.07)** | 0.011 (1.63) |
| Employed at t | ref | ref | ref | ref |
| Unemployed at t | 0.047 (1.09) | 0.095 (2.05)* | -0.007 (0.15) | 0.054 (0.91) |
| Living alone at t | ref | ref | ref | ref |
| Two members in household at t | -0.160 (3.60)** | -0.158 (3.52)** | -0.151 (3.10)** | -0.146 (3.06)** |
| Three members in household at t | -0.306 (7.13)** | -0.287 (6.71)** | -0.301 (6.44)** | -0.279 (5.93)** |
| Four members in household at t | -0.396 (8.71)** | -0.369 (8.24)** | -0.382 (7.80)** | -0.354 (7.16)** |
| Five members in household at t | -0.465 (8.89)** | -0.433 (8.40)** | -0.445 (7.92)** | -0.412 (7.47)** |
| Married at t | ref | ref | ref | ref |
| Separated at t | 0.057 (0.60) | 0.010 (0.11) | -0.002 (0.02) | -0.038 (0.35) |
| Divorced at t | -0.005 (0.10) | -0.029 (0.57) | -0.014 (0.25) | -0.030 (0.52) |
| Widowed at t | -0.018 (0.17) | -0.010 (0.09) | -0.002 (0.02) | 0.009 (0.08) |
| Never married at t | -0.160 (4.31)** | -0.196 (5.60)** | -0.196 (5.40)** | -0.228 (4.68)** |
| Time Dummies | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | Yes | Yes | Yes |
| Region Dummies | No | No | No | No |
| Observations | 286362 | 286362 | 269339 | 269339 |
| Pseudo R^2 | 0.16 | 0.16 | 0.17 | 0.17 |

Note: The estimation is by IV Probit using ECHP data on 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data. (Some data was not available for Germany and Sweden.) Here, social capital is instrumented by the regional average of social capital measures and their lag. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table A-4: *Fixed-Effect Logit Regression Explaining Inter-Area Mobility at Time t+1*

| | | | | |
|------------------------------------|--------------------|--------------------|-------------------|--------------------|
| Friends at t | 0.048 (0.63) | | | 0.106 (1.23) |
| Neighbors at t | | -0.291 (3.57)** | | -0.345 (3.84)** |
| Club at t | | | -0.082 (1.12) | -0.077 (1.05) |
| Rent-free accommodation at t | ref | ref | ref | ref |
| Owner at t | -0.407 (2.42)* | -0.416 (2.47)* | -0.271 (1.46) | -0.281 (1.52) |
| Tenant with rent at t | 0.464 (2.80)** | 0.458 (2.77)** | 0.561 (3.09)** | 0.56 (3.08)** |
| Age category 16-25 at t | ref | ref | ref | ref |
| Age category 26-35 at t | -0.351 (2.87)** | -0.351 (2.87)** | -0.335 (2.52)* | -0.33 (2.47)* |
| Age category 36-45 at t | -0.426 (2.25)* | -0.424 (2.24)* | -0.36 (1.73) | -0.361 (1.73) |
| Age category 46-55 at t | -0.307 (1.15) | -0.31 (1.17) | -0.208 (0.71) | -0.215 (0.73) |
| Age category 56-65 at t | 0.006 (0.02) | 0.012 (0.03) | 0.067 (0.16) | 0.076 (0.18) |
| Years of education at t | 0.019 (2.22)* | 0.02 (2.27)* | 0.018 (1.91) | 0.018 (1.9) |
| Employed at t | ref | ref | ref | ref |
| Unemployed at t | 0.314 (2.96)** | 0.325 (3.05)** | 0.28 (2.48)* | 0.294 (2.59)** |
| Living alone at t | ref | ref | ref | ref |
| Two members in household at t | 0.018 (0.17) | 0.015 (0.15) | -0.08 (0.72) | -0.069 (0.63) |
| Three members in household at t | 0.043 (0.35) | 0.047 (0.39) | -0.023 (0.17) | 0.001 (0.01) |
| Four members in household at t | 0.228 (1.67) | 0.24 (1.77) | 0.146 (1.00) | 0.173 (1.18) |
| Five members in household at t | 0.406 (2.26)* | 0.413 (2.29)* | 0.361 (1.85) | 0.386 (1.97)* |
| Married at t | ref | ref | ref | ref |
| Separated at t | 0.003 (0.02) | -0.012 (0.06) | -0.094 (0.4) | -0.11 (0.47) |
| Divorced at t | 0.031 (0.19) | 0.035 (0.21) | 0.011 (0.06) | 0.009 (0.05) |
| Widowed at t | 0.835 (1.64) | 0.846 (1.66) | 0.707 (1.3) | 0.709 (1.32) |
| Never married at t | 0.108 (0.87) | 0.104 (0.84) | -0.05 (0.37) | -0.052 (0.39) |
| Time dummies | Yes | Yes | Yes | Yes |
| Observations | 12013 | 12013 | 9717 | 9717 |
| Number of individuals | 2306 | 2306 | 2062 | 2062 |

Note: The estimation is by Fixed-Effect Logit using ECHP data on 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK (some data was missing for Germany and Sweden). Our measures of social capital is based on ECHP data. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table A-5: *Probit Regression Explaining Individual Unemployment at Time t+1*

| | | | | | | | |
|---------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Friends at t | 0.005 (0.39) | | 0.005 (0.38) | -0.004 (0.27) | | | -0.003 (0.18) |
| Neighbors at t | | 0.052 (4.04)** | | 0.061 (4.53)** | | 0.045 (3.23)** | 0.058 (3.90)** |
| Club at t | | | -0.131 (11.74)** | -0.133 (11.87)** | | | -0.135 (10.57)** |
| Male | ref | ref | ref | ref | ref | ref | ref |
| Female | 0.12 (12.42)** | 0.118 (12.24)** | 0.115 (11.63)** | 0.113 (11.42)** | 0.113 (10.70)** | 0.112 (10.57)** | 0.109 (9.92)** |
| Rent-free accommodation at t | ref | ref | ref | ref | ref | ref | ref |
| Owner at t | -0.123 (5.00)** | -0.122 (4.97)** | -0.122 (4.87)** | -0.121 (4.83)** | -0.115 (4.56)** | -0.115 (4.54)** | -0.116 (4.48)** |
| Tenant with rent at t | 0.078 (3.01)** | 0.08 (3.07)** | 0.065 (2.44)* | 0.067 (2.51)* | 0.108 (4.04)** | 0.109 (4.08)** | 0.096 (3.50)** |
| Age category 16-25 at t | ref | ref | ref | ref | ref | ref | ref |
| Age category 26-35 at t | -0.052 (3.50)** | -0.052 (3.52)** | -0.052 (3.42)** | -0.051 (3.39)** | -0.079 (4.97)** | -0.079 (4.94)** | -0.08 (4.87)** |
| Age category 36-45 at t | -0.101 (5.79)** | -0.102 (5.85)** | -0.092 (5.17)** | -0.091 (5.09)** | -0.149 (7.81)** | -0.149 (7.81)** | -0.14 (7.14)** |
| Age category 46-55 at t | 0.005 (0.24) | 0.003 (0.18) | 0.014 (0.74) | 0.015 (0.76) | -0.05 (2.41)* | -0.05 (2.43)* | -0.041 (1.94) |
| Age category 56-65 at t | 0.18 (7.49)** | 0.177 (7.39)** | 0.176 (7.48)** | 0.174 (7.39)** | 0.15 (5.78)** | 0.148 (5.71)** | 0.145 (5.73)** |
| Years of education at t | -0.018 (19.52)** | -0.018 (19.28)** | -0.017 (17.32)** | -0.017 (16.92)** | -0.021 (19.55)** | -0.021 (19.33)** | -0.019 (17.22)** |
| Employed at t | ref | ref | ref | ref | ref | ref | ref |
| Unemployed at t | 1.931 (149.89)** | 1.928 (149.47)** | 1.926 (148.08)** | 1.922 (147.44)** | 1.904 (133.96)** | 1.902 (133.49)** | 1.901 (132.39)** |
| Living alone at t | ref | ref | ref | ref | ref | ref | ref |
| Two members in household at t | 0.098 (4.43)** | 0.099 (4.46)** | 0.093 (4.09)** | 0.095 (4.15)** | 0.068 (2.69)** | 0.069 (2.72)** | 0.064 (2.41)* |
| Three members in household at t | 0.128 (5.75)** | 0.127 (5.72)** | 0.118 (5.14)** | 0.118 (5.12)** | 0.073 (2.91)** | 0.073 (2.90)** | 0.061 (2.33)* |
| Four members in household at t | 0.15 (6.60)** | 0.149 (6.56)** | 0.139 (5.97)** | 0.138 (5.94)** | 0.081 (3.13)** | 0.08 (3.11)** | 0.066 (2.47)* |
| Five members in household at t | 0.204 (8.64)** | 0.203 (8.60)** | 0.192 (7.89)** | 0.191 (7.85)** | 0.123 (4.60)** | 0.122 (4.58)** | 0.107 (3.84)** |
| Married at t | ref | ref | ref | ref | ref | ref | ref |
| Separated at t | 0.202 (5.72)** | 0.205 (5.80)** | 0.171 (4.64)** | 0.175 (4.73)** | 0.224 (6.08)** | 0.227 (6.16)** | 0.191 (4.94)** |
| Divorced at t | 0.211 (8.85)** | 0.212 (8.92)** | 0.196 (7.91)** | 0.197 (7.98)** | 0.264 (9.72)** | 0.265 (9.75)** | 0.251 (8.79)** |
| Widowed at t | 0.016 (0.36) | 0.015 (0.36) | 0.012 (0.27) | 0.011 (0.26) | -0.004 (0.08) | -0.005 (0.1) | -0.007 (0.15) |
| Never married at t | 0.205 (14.53)** | 0.207 (14.67)** | 0.202 (14.03)** | 0.204 (14.12)** | 0.224 (14.64)** | 0.225 (14.71)** | 0.222 (14.13)** |
| Time dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Country dummies | Yes | Yes | Yes | Yes | No | No | No |
| Region dummies | No | No | No | No | Yes | Yes | Yes |
| Observations | 413599 | 413599 | 381493 | 381493 | 360291 | 360291 | 328309 |
| Pseudo R ² | 0.3439 | 0.3438 | 0.3439 | 0.3437 | 0.3646 | 0.3642 | 0.3643 |

Note: The estimation is by Probit using ECHP data on 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data (some data was not available for Germany and Sweden). The reference for the interpretation of the dummy variables is an employed male with rent-free accommodation, married, aged 16-24, living alone. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table A-6: *Instrumental Variable Probit Regression Explaining Individual Unemployment at Time $t+1$*

| | | | | | | | | |
|---------------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Friends at t | 0.116 (2.86)** | | | 0.096 (2.00)* | 0.090 (2.02)* | | | 0.068 (1.29) |
| Neighbors at t | | 0.163 (5.36)** | | 0.165 (4.59)** | | 0.145 (4.27)** | | 0.160 (3.96)** |
| Club at t | | | -0.254 (10.72)** | -0.271 (11.24)** | | | -0.244 (9.06)** | -0.260 (9.47)** |
| Male | | | | | | | | |
| Female | 0.113 (10.20)** | 0.107 (9.60)** | 0.094 (8.10)** | 0.087 (7.51)** | 0.106 (8.65)** | 0.101 (8.17)** | 0.087 (6.75)** | 0.081 (6.24)** |
| Rent-free accommodation at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Owner at t | -0.141 (4.93)** | -0.138 (4.83)** | -0.133 (4.64)** | -0.129 (4.47)** | -0.129 (4.43)** | -0.127 (4.33)** | -0.123 (4.17)** | -0.119 (4.03)** |
| Tenant with rent at t | 0.071 (2.37)* | 0.076 (2.53)* | 0.056 (1.83) | 0.062 (2.03)* | 0.100 (3.22)** | 0.104 (3.36)** | 0.086 (2.74)** | 0.092 (2.91)** |
| Age category 16-25 at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Age category 26-35 at t | -0.043 (2.40)* | -0.052 (2.99)** | -0.056 (3.17)** | -0.050 (2.75)** | -0.076 (3.94)** | -0.084 (4.41)** | -0.088 (4.60)** | -0.084 (4.28)** |
| Age category 36-45 at t | -0.086 (4.05)** | -0.103 (5.03)** | -0.096 (4.57)** | -0.083 (3.76)** | -0.140 (6.00)** | -0.153 (6.82)** | -0.146 (6.36)** | -0.137 (5.67)** |
| Age category 46-55 at t | 0.033 (1.44) | 0.014 (0.61) | 0.023 (1.03) | 0.036 (1.51) | -0.027 (1.06) | -0.043 (1.80) | -0.035 (1.44) | -0.027 (1.04) |
| Age category 56-65 at t | 0.217 (7.62)** | 0.193 (6.88)** | 0.190 (7.00)** | 0.197 (7.00)** | 0.180 (5.83)** | 0.159 (5.26)** | 0.154 (5.26)** | 0.156 (5.15)** |
| Years of education at t | -0.017 (15.35)** | -0.017 (14.86)** | -0.015 (12.91)** | -0.013 (11.32)** | -0.020 (15.66)** | -0.019 (15.19)** | -0.017 (13.20)** | -0.016 (11.90)** |
| Employed at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Unemployed at t | 1.974 (132.17)** | 1.969 (131.75)** | 1.965 (131.03)** | 1.951 (128.49)** | 1.932 (116.99)** | 1.926 (116.55)** | 1.923 (116.37)** | 1.910 (113.99)** |
| Living alone at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Two members in household at t | 0.114 (4.46)** | 0.111 (4.35)** | 0.101 (3.85)** | 0.108 (4.10)** | 0.079 (2.70)** | 0.077 (2.62)** | 0.069 (2.28)* | 0.074 (2.45)* |
| Three members in household at t | 0.140 (5.42)** | 0.134 (5.19)** | 0.122 (4.60)** | 0.123 (4.62)** | 0.086 (2.94)** | 0.080 (2.76)** | 0.068 (2.25)* | 0.068 (2.25)* |
| Four members in household at t | 0.161 (6.07)** | 0.152 (5.77)** | 0.140 (5.23)** | 0.141 (5.23)** | 0.087 (2.90)** | 0.080 (2.67)** | 0.066 (2.16)* | 0.067 (2.15)* |
| Five members in household at t | 0.206 (7.45)** | 0.197 (7.15)** | 0.186 (6.60)** | 0.186 (6.56)** | 0.119 (3.79)** | 0.111 (3.56)** | 0.098 (3.05)** | 0.098 (3.02)** |
| Married at t | ref | ref | ref | ref | ref | ref | ref | ref |
| Separated at t | 0.231 (5.66)** | 0.240 (5.89)** | 0.195 (4.61)** | 0.203 (4.79)** | 0.244 (5.75)** | 0.253 (5.94)** | 0.206 (4.67)** | 0.215 (4.86)** |
| Divorced at t | 0.214 (7.99)** | 0.220 (8.20)** | 0.199 (7.18)** | 0.203 (7.33)** | 0.261 (8.56)** | 0.265 (8.70)** | 0.250 (7.85)** | 0.253 (7.96)** |
| Widowed at t | -0.000 (0.00) | 0.000 (0.00) | 0.001 (0.02) | -0.004 (0.08) | -0.017 (0.32) | -0.018 (0.33) | -0.013 (0.24) | -0.018 (0.33) |
| Never married at t | 0.210 (12.78)** | 0.221 (13.43)** | 0.210 (12.61)** | 0.210 (12.48)** | 0.230 (12.85)** | 0.238 (13.31)** | 0.229 (12.63)** | 0.230 (12.57)** |
| Time Dummies | 0.164 | 0.166 | 0.160 | 0.161 | 0.144 | 0.146 | 0.139 | 0.140 |
| Country Dummies | (8.65)** | (8.78)** | (8.40)** | (8.43)** | (6.84)** | (6.93)** | (6.57)** | (6.61)** |
| Region Dummies | 0.104 | 0.108 | 0.103 | 0.103 | 0.085 | 0.089 | 0.083 | 0.083 |
| Observations | 312270 | 312270 | 295933 | 295933 | 271545 | 271545 | 255280 | 255280 |
| Pseudo R^2 | 0.35 | 0.35 | 0.35 | 0.35 | 0.37 | 0.37 | 0.37 | 0.37 |

Note: The estimation is by IV Probit using ECHP data on 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data (some data was not available for Germany and Sweden). Here, social capital is instrumented with its lag and the lag of the other explicative variables. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table A-7: *Instrumental Variable Probit Regression Explaining Individual Unemployment at Time $t+1$*

| | | | | |
|---------------------------------|---------------------|---------------------|---------------------|---------------------|
| Friends at t | 0.572 (5.88)** | | | 0.329 (2.11)* |
| Neighbors at t | | 0.231 (2.23)* | | 0.308 (1.84) |
| Club at t | | | -2.153 (14.16)** | -2.245 (13.45)** |
| Male | | | | |
| Female | 0.099 (8.27)** | 0.089 (7.22)** | -0.136 (6.58)** | -0.153 (6.17)** |
| Rent-free accommodation at t | | | | |
| Owner at t | -0.134 (4.64)** | -0.132 (4.59)** | -0.059 (1.97)* | -0.044 (1.44) |
| Tenant with rent at t | 0.103 (3.36)** | 0.105 (3.42)** | 0.010 (0.32) | 0.026 (0.80) |
| Age category 16-25 at t | | | | |
| Age category 26-35 at t | -0.031 (1.57) | -0.072 (3.97)** | -0.075 (3.97)** | -0.055 (2.40)* |
| Age category 36-45 at t | -0.078 (3.12)** | -0.150 (6.92)** | -0.074 (3.21)** | -0.037 (1.21) |
| Age category 46-55 at t | 0.044 (1.67) | -0.038 (1.64) | 0.057 (2.30)* | 0.097 (2.91)** |
| Age category 56-65 at t | 0.248 (7.77)** | 0.162 (5.37)** | 0.221 (7.64)** | 0.247 (6.32)** |
| Years of education at t | -0.019 (14.75)** | -0.019 (14.12)** | 0.005 (2.22)* | 0.009 (3.52)** |
| Employed at t | | | | |
| Unemployed at t | 1.956 (120.46)** | 1.961 (115.58)** | 1.821 (90.34)** | 1.784 (76.80)** |
| Living alone at t | | | | |
| Two members in household at t | 0.112 (3.97)** | 0.099 (3.50)** | 0.064 (2.16)* | 0.074 (2.46)* |
| Three members in household at t | 0.119 (4.23)** | 0.105 (3.76)** | 0.063 (2.12)* | 0.063 (2.09)* |
| Four members in household at t | 0.136 (4.69)** | 0.116 (4.02)** | 0.089 (2.97)** | 0.091 (2.95)** |
| Five members in household at t | 0.180 (5.99)** | 0.163 (5.40)** | 0.142 (4.53)** | 0.138 (4.26)** |
| Married at t | | | | |
| Separated at t | 0.231 (5.75)** | 0.253 (6.23)** | 0.110 (2.53)* | 0.116 (2.62)** |
| Divorced at t | 0.256 (8.82)** | 0.273 (9.36)** | 0.177 (5.68)** | 0.174 (5.54)** |
| Widowed at t | -0.006 (0.13) | 0.005 (0.11) | -0.040 (0.77) | -0.053 (1.00) |
| Never married at t | 0.207 (11.61)** | 0.242 (13.80)** | 0.200 (11.04)** | 0.190 (9.16)** |
| Time Dummies | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | Yes | Yes | Yes |
| Region Dummies | No | No | No | No |
| Observations | 289026 | 289026 | 261298 | 261298 |
| Pseudo R^2 | 0.36 | 0.36 | 0.36 | 0.36 |

Note: The estimation is by IV Probit using ECHP data on 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data (some data was not available for Germany and Sweden). Here, social capital is instrumented by the regional average of social capital measures and their lag. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table A-8: Regressions Explaining Social Capital

| Social Capital: | Friends | | Neighbors | | Club | |
|----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Estimation Method: | OLS | | OLS | | Probit | |
| Born in another region | -0.04 (13.43)** | -0.04 (13.25)** | -0.039 (10.93)** | -0.034 (9.40)** | -0.116 (9.25)** | -0.09 (6.89)** |
| Male | ref | ref | ref | ref | ref | ref |
| Female | -0.009 (3.92)** | -0.009 (3.85)** | 0.034 (12.31)** | 0.034 (12.27)** | -0.369 (36.47)** | -0.384 (36.58)** |
| Rent-free accommodation | ref | ref | ref | ref | ref | ref |
| Owner | -0.006 (0.98) | -0.005 (0.81) | -0.027 (3.83)** | -0.025 (3.54)** | 0.116 (4.87)** | 0.117 (4.86)** |
| Tenant with rent | -0.014 (2.08)* | -0.005 (0.79) | -0.049 (6.50)** | -0.038 (4.96)** | -0.083 (3.20)** | -0.066 (2.52)* |
| Age category 16-25 | ref | ref | ref | ref | ref | ref |
| Age category 26-35 | -0.077 (21.11)** | -0.078 (21.13)** | 0.006 (1.33) | 0.006 (1.43) | 0.01 (0.7) | 0.017 (1.1) |
| Age category 36-45 | -0.132 (31.61)** | -0.133 (31.56)** | 0.02 (4.14)** | 0.02 (4.20)** | 0.11 (6.38)** | 0.123 (6.89)** |
| Age category 46-55 | -0.146 (32.54)** | -0.148 (32.51)** | 0.03 (5.92)** | 0.032 (6.24)** | 0.129 (6.96)** | 0.139 (7.21)** |
| Age category 56-65 | -0.136 (24.93)** | -0.139 (25.22)** | 0.074 (12.52)** | 0.073 (12.22)** | 0.086 (3.89)** | 0.099 (4.35)** |
| Years of education | -0.004 (18.52)** | -0.004 (14.70)** | -0.008 (28.95)** | -0.007 (25.15)** | 0.039 (39.82)** | 0.041 (40.22)** |
| Employed | ref | ref | ref | ref | ref | ref |
| Unemployed | 0.035 (10.64)** | 0.029 (8.48)** | 0.076 (21.16)** | 0.075 (20.24)** | -0.268 (19.77)** | -0.246 (17.52)** |
| Living alone | ref | ref | ref | ref | ref | ref |
| Two members in household | -0.044 (8.13)** | -0.038 (6.86)** | -0.007 (1.05) | -0.006 (0.89) | -0.043 (1.85) | -0.036 (1.49) |
| Three members in household | -0.033 (6.11)** | -0.03 (5.36)** | 0.022 (3.42)** | 0.022 (3.37)** | -0.071 (3.03)** | -0.064 (2.65)** |
| Four members in household | -0.042 (7.61)** | -0.038 (6.77)** | 0.03 (4.62)** | 0.031 (4.70)** | -0.045 (1.88) | -0.031 (1.25) |
| Five members in household | -0.038 (6.54)** | -0.032 (5.46)** | 0.038 (5.56)** | 0.038 (5.46)** | -0.057 (2.27)* | -0.037 (1.43) |
| Married | ref | ref | ref | ref | ref | ref |
| Separated | 0.019 (2.18)* | 0.019 (2.12)* | -0.057 (5.51)** | -0.06 (5.68)** | -0.153 (4.11)** | -0.157 (4.08)** |
| Divorced | 0.019 (3.17)** | 0.019 (3.16)** | -0.032 (4.61)** | -0.027 (3.85)** | -0.098 (3.94)** | -0.095 (3.66)** |
| Widowed | 0.024 (2.27)* | 0.026 (2.47)* | 0.012 (1.08) | 0.014 (1.21) | -0.133 (3.06)** | -0.123 (2.76)** |
| Never married | 0.054 (15.82)** | 0.056 (16.29)** | -0.033 (8.49)** | -0.029 (7.44)** | -0.06 (4.22)** | -0.057 (3.85)** |
| Time dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Country dummies | Yes | No | Yes | No | Yes | No |
| Region dummies | No | Yes | No | Yes | No | Yes |
| Observations | 390662 | 373813 | 390662 | 373813 | 376326 | 359660 |
| R-squared | 0.15 | 0.17 | 0.15 | 0.17 | 0.13 | 0.14 |

Note: The estimation is by Probit using ECHP data on 8 time periods (1994-2001) and 12 European economies: Austria, Belgium, Denmark, Germany, Greece, Ireland, Italy, Portugal, The Netherlands, Spain, Sweden, UK. Our measures of social capital is based on ECHP data (some data was not available for Germany and Sweden). The reference for the interpretation of the dummy variables is an employed male, renting his accommodation, aged 16-24, living alone and separated. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%

Table A-9: Summary of results for some additional regressions

| | Unemployment longer than a year during 5 last years? | | | Unemployed before current job? | | |
|-----------------|---|--------------------|--------------------|--------------------------------|------------------|--------------------|
| | Probit | Probit | IV Probit | Probit | Probit | IV Probit |
| Friends at t | 0.009 (0.43) | 0.002 (0.1) | -0.161 (0.45) | 0.004 (0.6) | 0.001 (0.15) | -0.117 (0.57) |
| Neighbors at t | 0,033 (1.38) | 0,046 (1.91) | 0,252 (0.68) | 0,038 (2.58)** | 0,033 (2.12)* | 0,892 (4.10)** |
| Club at t | -0.113 (5.64)** | -0.104 (4.94)** | -2.196 (5.77)** | -0.111 (9.45)** | -0.1 (7.77)** | -2.082 (9.63)** |
| Time Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | No | Yes | Yes | No | Yes |
| Region Dummies | No | Yes | No | No | Yes | No |
| Observations | 109258 | 101314 | 80090 | 279735 | 245971 | 201484 |
| Pseudo R^2 | 0.11 | 0.11 | 0.1 | 0.06 | 0.08 | 0.07 |

| | Log of unemployment before current job | | | Unemployment before current job | | |
|-----------------|---|--------------------|--------------------|------------------------------------|-------------------|----------------------|
| | OLS | OLS | IV | OLS | OLS | IV |
| Friends at t | -0.009 -0.42 | -0.013 -0.55 | 0.304 -0.95 | -0.003 -0.01 | -0.092 -0.42 | 2.754 -0.89 |
| Neighbors at t | 0.031 -1.21 | 0.051 (2.03)* | 0.303 -0.91 | 0.392 -1.67 | 0.58 (2.33)* | 8.396 (2.29)* |
| Club at t | -0.067 (3.42)** | -0.055 (2.67)** | -3.505 (9.95)** | -0.719 (4.70)** | -0.55 (3.15)** | -42.575 (10.07)** |
| Time Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Tenure Dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Country Dummies | Yes | No | Yes | Yes | No | Yes |
| Region Dummies | No | Yes | No | No | Yes | No |
| Observations | 83910 | 76289 | 63402 | 279586 | 245892 | 200878 |
| R^2 | 0.18 | 0.2 | 0.17 | 0.07 | 0.11 | 0.07 |

Notes: As additional explicative variables, the above regressions include sex, house tenure, age categories, years of education, household size, marital status. For the set of IV estimations, social capital measures are instrumented by the regional average of social capital measures and their lag. Robust z statistics in parentheses. * significant at 5%; ** significant at 1%