

The effect of parental background on youth' unemployment duration.

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Abstract

This paper analyses the relationship between unemployment among young Italians and their parents' economic and cultural background. A search theory model was used to identify the direct and indirect effects of household financial situation and parental cultural and educational status on their employment prospects. The empirical specification of the model featured Lancaster's (1985a) simultaneous estimate of two variables: duration of unemployment and accepted starting wage in a new job. The data was sampled from the European Community Household Panel for an eight-year period (1994-2001) with a specific focus on unemployed Italians below the age of thirty-six years who were living with their parents while looking for work. The study revealed that young people from disadvantaged social backgrounds experienced greater difficulties in finding a job than their more privileged peers. This trend was particularly marked in southern regions of Italy where, paradoxically, the discrepancy was more pronounced at higher levels of educational qualifications. In Northern Italy, on the other hand, young male graduates who finished their degree courses without a delay were unemployed for shorter periods. Finally, work experience was an influential factor to finding employment for all young Italians, irrespective of their residential area and educational experience.

C3, J64, J62.

Keywords: Simultaneous equation models, unemployment duration, job search, intergenerational mobility

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1. Introduction

Educational achievement and success in the labour market are important predictors of income distribution and are often thought to be among the key factors in determining a nation's wealth, as well as cross-national differences in economic growth. On a micro level, there is generally presumed to be a strong correlation between educational achievement and household background variables (specifically, parental income and educational qualifications). However, the effect of these variables on academic success can be multifarious and the net impact rather ambiguous.

For instance, while all children receive financial support from their parents during their educational years, high income families are in a better position to subsidise their childrens' expenses than families on a low income, leading to a reduction in the opportunity cost of attending school. Nonetheless, the former group experience a more elevated opportunity cost in relation to spending time with their offspring. Secondly, while there is a link between aptitude and household background variables, the former also has an independent impact on the decision to attend school and on labour market wages. Hence, if there is a strong correlation between academic skills and parental variables (in particular, educational qualifications), it follows that children raised in households with a high level of human capital should perform well at school and should also be positioned more favourably in the labour market. Moreover, family background may influence their reservation wage and accepted starting salary, since this is an increasing function of the former, as well as the decision to accept the offered starting salary. As a final point, the employment prospects for a given individual may also depend on their access to and ability to utilise sources of job

vacancy information. This, in turn, may be dictated by the characteristics of the family.

To summarise, household background variables (specifically, income and education) may influence individual success in the labour market, exerting both a direct impact on the characteristics of the labour supply (in terms of educational qualifications, skills and reservation wages) and an indirect one on the labour demand (for instance, the employment prospects for a particular individual, as determined by their job search strategies).

The effects of parental background on opportunity costs, reservation wages, academic ability and labour market prospects form the central concerns of this study. The main aims were: to formulate a structural model of unemployment duration and to determine whether household characteristics influence this dependent variable after controlling for the subject's educational level, ability and accepted starting wage. Family background was described in terms of: i) economic factors (monetary poverty condition) and ii) parental cultural factors¹. These two variables were used to distinguish between liquidity constraint effects (i.e., income-related constraints, which may influence choice of education and/or job employment prospects) and non-monetary effects (linked to the family's cultural origins). Such a distinction has important implications for policies aimed at improving the labour market conditions.

The data were drawn from the Italian section of the European Community Household Panel (ECHP) for an eight-year period (1994-2001), and referred specifically to unemployed

¹ Parental educational qualifications were scored using the following method. The mean educational level of both parents was converted to one of the following scores: a mean corresponding to a primary or middle school education with no qualifications scored 4.3; a mean corresponding to a high school education scored 13 and a mean corresponding to a university education scored 17. This average was subsequently transformed into a discrete variable with three values whose upper limits were defined by the three respective scores.

individuals below the age of thirty-six years (born after 1958 and before 1985) who were living with their families while looking for work and for whom the following observations were available: i) duration of a completed period of unemployment and ii) accepted starting wage for a job offer received at some point during the six-year study period (1995 – 2000)². Members of the workforce who satisfied the age criterion but not the criteria for data availability were used to correct the model for selection bias. Subjects within the stipulated age range who were not in the labour market (i.e., students and those not seeking employment) or who had never been unemployed and those over the age of thirty-five years were not included in the study.

The following section reviews the literature on reservation wage and unemployment duration. The data and the simultaneous equations model corrected for the sample selection are described in third section. The results of the estimations are reported in section four and the paper concludes with a summary of policy implications.

2. Literature

Research on the relationship between the economic and cultural background of parents and the success of their offspring in the labour market has mainly focussed on the phenomenon of intergenerational mobility, specifically the link between a father's income and that of his son or daughter. The transmission of economic status from one generation to another is generally

² The data was sampled from a six-year interval for two methodological reasons. Since the period of unemployment commenced in the first year of the survey (1994), only job offers accepted after this year could be considered. Furthermore, data for the final year (2001) were not utilised since the income figures for that year referred to the previous financial year.

a subject of interest when the need arises to determine the degree of equal opportunities in a particular country. Since the landmark study by Becker and Thomes in 1979, economists have sought to evaluate the link between an individual's socioeconomic position and that of his or her father. Researchers have specifically concentrated their efforts on identifying the most appropriate methods for measuring mobility or studying the intergenerational correlations between educational achievement.

However, only a handful of more recent studies have investigated the origins of this robust link. With specific reference to the Italian research, one of the factors postulated as a cause of low intergenerational mobility is liquidity (monetary) constraints, since they determine a child's incentive to reaching his or her desired education level. Children from low income households tend to invest less in education because they are unable to attain this optimal level. A second causal factor refers to dependence on family origins, whose influence is enhanced by the 'peer effect' operating within and outside the school context. Children whose parents have a low income and few educational qualifications have less access to educational opportunities because their social context does not encourage learning. This variable has implications for policy measures directed towards increasing intergenerational mobility since they not only need to address the problem of liquidity constraints, but should also seek to improve the efficacy of the educational system. This could be achieved by promoting integration among pupils from different social backgrounds to reduce the initial discrepancies in academic abilities. A third factor which is considered influential to the intergenerational transmission of socioeconomic status is aptitude, which radical theories consider to be genetically pre-determined.

Checchi and Zollino (2001) and Checchi and Bertola (2001) have studied the effects of parental background on educational level, while Brunello, Checchi and Comi (2003) have examined the effect of educational quality on level of income. These researchers concluded that while attendance at an expensive school is a necessary but not sufficient condition for improving career prospects, the peer effects exerted by the neighbourhood and differences in cultural backgrounds originating within the family are more significant. More specifically, Checchi, Ichino and Rustichini (1999) have compared Italy and the USA in terms of their educational systems and degree of intergenerational mobility. They observed that Italian society is characterised by a limited degree of mobility compared to its American counterpart, perhaps reflecting a diverse organisation of the school system and the labour market. As a result, children from low income families are denied opportunities to improve their economic circumstances and to capitalise on the returns from their investment in education. In a society where family background is arguably important for labour market success, an educational system which is overly-centralised and of uniform quality, particularly at university level, may fail to help under-privileged Italian children, depriving them of a fundamental tool to prove their talents and to compete with their more affluent peers.

Two methods have been outlined for analysing employment prospects (or, alternatively, the hazards rate from unemployment): a reduced form approach and a structural one. The first method (see Nickell, 1979; Lancaster and Nickell, 1980; Atkinsons *et al.* 1984; Narendranathan *et al.*, 1985 for examples) involves a direct estimation of the hazard function, with rate of job offers and reservation wage as the variables of interest. However, the specification makes no explicit references to the behaviours of the reservation wage. This shortcoming precludes the possibility of directly testing various hypotheses with regard to the

reservation wage function postulated by the job search model. As a result, it serves merely as the basis for interpretation and indirect inference from the results of the estimation. The second method, on the other hand, utilises information concerning the structure of the model and imposes appropriate restrictions on the data. The ability to identify and estimate the underlying framework of a job search model is of prime concern to those involved in the design and evaluation of policies affecting the hunt for employment.

Estimation of the structural parameters of job search models has been made possible by the availability of reservation wage data. Pioneering work in this area has been done by Lancaster and Chesher (1983, 1984) and Lancaster (1985). Recognition of the potential two-way causal link between unemployment duration and reservation wage accounts for the techniques developed in Lancaster and Chesher (1984) and Lancaster (1985), where the structural parameters are estimated using the two-stage least squares method (2SLS). With regard to the Italian research, direct estimates of reservation wages are provided by Mazzotta (1998), Bettio and Mazzotta (2002), Boeri and Pagani (1998) and Sestito and Viviano (2008). All these studies focus on the demographic and territorial differences in reservation wages.

An important issue for the present study is the accuracy with which the reservation wage data is reported. Recent work by Bettio and Mazzotta (2008) highlights that the reservation wages documented in the ECHP are not precise estimates, while the starting salary reported by each subject ³ represents a more exact parameter. A simultaneous analysis must also take into account the duration of the period of unemployment since this variable influences the

³ In Southern Italy, the average starting salary for new employees or employees returning to work during the period 1994-2001 (€ 2.80 p.h.) was not only lower than the figures for the rest of the country ((€ 4.00 p.h. for central-north regions), but was 35% lower than the average predicted reservation wage for that area. The difference for central-north regions was 16% (all calculations based on 1995 prices).

wage data. Reservation wage values are determined in relation to the length of time which elapses during the search for work while accepted starting wage is defined in terms of a completed period of unemployment. While the ECHP specifies unemployment duration, several significant observations are omitted. For instance, there is no record of whether a subject stops looking for work at any one time during the study period. Furthermore, if an individual does not succeed in finding a job during the eight-year period and the duration of unemployment is not specified, it is not possible to identify the point at which he or she began their search. To compensate for these inaccuracies, the completed period of unemployment was used as a parameter for the current model, controlling for accepted starting salary.

The present study appears to be unique in terms of its use of two variables to estimate the job search model: the accepted starting salary and the hazard function. Furthermore, it is innovative in exploring the influence of family background on accepted starting wage (i.e., the labour supply) and the prospect of job offers (i.e., the labour demand). The aim of the study was to perform a structural estimation of a job search model which determined the effects of family background on duration of unemployment and the direction of any observed influence, while controlling for the following subject variables: educational level, reservation wage and ability.

The theoretical background provides no clear a priori expectations with reference to the strength and direction of the relationship between unemployment duration and household variables. As discussed earlier, parents may influence the occupational status of their offspring via their own educational achievements. For instance, children whose parents can

afford to send them to a reputable school or prolong their education may expect to receive higher marginal returns from their efforts to find a job . Family cultural background also influences the value of the reservation wage since children born to mothers or fathers with good educational qualifications are more likely to be high achievers . Checchi and Zollino (2001) in fact estimate that the son of a graduate is 43% more likely to be awarded a college degree than a son whose parents who did not attend university.

An offspring's position in the labour market may be determined by his or her parents' economic and cultural status independently of their own educational level, by affecting the children's expectations. For instance, a high family income enables parents to provide financial support during the search for employment. This boosts the offspring's reservation wage and accepted starting salary. On the other hand, if the former is interpreted as a threshold wage, there may be an inverse relationship between parental financial status and an offspring's expectations of his or her starting salary since children from low income households need to guarantee a minimum standard of living for the whole family.

Family background may not only affect labour supply and demand in relation to wage prospects but also in terms of the ability to access to different channels of job information and to create a favourable impression to potential employers. However, the net effect of these variables on intergenerational mobility is unclear. For instance, children from low income families with few educational qualifications may limit their job search to positions which are low-paid but readily available. This strategy would reduce the duration of unemployment but nonetheless limit the potential for improving intergenerational mobility.

3. Estimation methodology: employment duration and accepted starting wage.

Lancaster's (1985) model specifies two casual relationships between reservation wage (w^r) and duration of unemployment (t). In the first instance, a man who has been out of work for a long time is likely to have been using a relatively high reservation wage. On the other hand, since the latter is a decreasing function of time, the longer he has been out of work, the lower his reservation wage must be. Furthermore, since the accepted wage in a new job, w , is an increasing function of the reservation wage, a similar heuristic argument predicts two casual relations between w and t , where t is the completed rather than elapsed duration.⁴ In fact, when a person accepts a job at date t , the accepted wage is a realisation of the random variable, whose distribution is that of the wage offer truncated on the left at $w^r(t)$.

Lancaster (1985) specifies the structural form of the model with completed duration and accepted wage as:

$$\log w = \text{constant} - \eta \log t + X\beta + u_1 \quad [1]$$

$$\log t = \text{constant} + \alpha \log w - X\theta + u_2 \quad [2]$$

Lancaster terms this model the 'structural form' since its coefficients are the structural coefficients of the search model specification, η , θ , α e β . The expression clearly shows

⁴ Lancaster and Chesher (1984) assume that the wage offer distribution is a Pareto one, which is a constant elasticity hypothesis for the relationship between hazards and reservation wage and can be thought as a log-linear approximation to the true relation. The log normal distribution, may, of course, be more accurate, but it cannot be interpreted as a linear approximation.

the two casual relationships between t and w , as described earlier. The first equation predicts that a subject who has been seeking employment for a long time has lower expectations of their starting salary and therefore starts work on a considerably lower wage (if $\eta > 0$). The second equation predicts that a subject who begins a new job on a higher salary will have higher expectations of their starting wage and will therefore wait longer before finding a suitable offer of employment.

Note that if at least one element of θ is zero and the corresponding element of β is not, α and the remaining elements of θ can be identified from the preliminary output of the model, regardless of the distribution of the error terms u_1 and u_2 , providing that their mean values do not depend on X . On the contrary, Lancaster argues that, η and β cannot be identified on the basis that all variables in $X\beta$ are necessarily present in $X\theta$. However, he adds that if one or more zero restrictions can be placed on θ , the equation [2] can be consistently estimated by 2SLS and standard errors computed from the usual formula, since the covariance matrix of $\log w$ and $\log t$ is independent of X for small η .

In his 1985 study, Lancaster uses the number of dependent children in the job seeker's household to identify the coefficient of the equation [2]. Dolton and O'Neill (1995) utilise the total amount of benefits claimed by the job seeker, the number of children in the household and the existence of a working partner as criteria for exclusion. This decision was based on the rationale that the above factors (presence of children in the household and subsidisation of income with financial transfers and/or social benefits) affect the cost of looking for employment, and consequently the value of the reservation wage. In contrast, these variables should have no impact on the arrival rate of job offers. In the present study the

following variables were utilised: presence of children (between 0-15 years) in the family home, subsidisation of income from financial transfers or social benefits and two dummy variables relating to job sector (public or private) and size of the enterprise which employed the individual (small, medium or large**). .

Another relevant econometric issue concerns the limited generalisability of the data. Starting wage figures were available for a group of subjects who were seeking jobs during the period 1995-2001. Unemployment duration was generally estimated using this sample, although it was not necessarily representative of the total population of workers since it did not include subjects who were constantly out of work during the period. As a result, estimations based on this sample may have yielded biased regression coefficients. Secondly, in the interests of calculating mean parental educational level and household poverty, the sample was limited to subjects who were living with their parents during a period of unemployment immediately prior to starting a new job.

The first selection bias issue is analogous to the scenario where a standard wage equation is estimated using only employed subjects. Heckman's (1986) solution to this problem involves specifying a probit model that relates the probability of being employed to a set of determinants and then subsequently uses the probit estimates to compute the inverse Mills ratio. This variable is then included as a covariate in the wage equation. In the present case, however, two of the criteria for inclusion to the sample – the subject's acceptance of a job offer and cohabitation with parents during the period of unemployment - were not completely independent. Heckman's methodology was therefore adapted, using the step procedure

described below.

1. To address the problem of selectivity, the following model was run in step one:

$$\begin{aligned}
 Y_{1i} &= \begin{cases} 1 = \Pi_1 Z_{1i} + U_1 & \text{if } w > w^r \text{ (employed)} \\ 0 & \text{otherwise (constantly unemployed)} \end{cases} \\
 Y_{2i} &= \begin{cases} 1 = \Pi_2 Z_{2i} + U_2 & \text{if } u(\text{in family}) > u(\text{out of family}) \text{ (children)} \\ 0 & \text{otherwise (not children)} \end{cases}
 \end{aligned} \tag{3}$$

where

Z_1 should contain all the exogenous variables in [1] and [2].

Z_2 contains all the exogenous variables that determine the benefits of living in the family home or independently and thus the decision to cohabit with parents.⁵

2. In step two, the bivariate probit estimates⁶ from the previous step are used to calculate the two selection bias terms. The corresponding expressions are (Tunali, 1986):

$$\lambda_{1i} = \frac{\phi(Z_i \Pi_1) \Phi\left[\frac{Z_i \Pi_2 - \rho Z_i \Pi_1}{\sqrt{1 - \rho^2}}\right]}{F(Z_i \Pi_1, Z_i \Pi_2; \rho)} \tag{4}$$

⁵ To identify the employment equation, there must be a variable, which does not influence the decision to stay at home. The present study utilised: growth rate in the residential area by year, average number of job offers by year, population density in the county of residence and percentage of employed for the public sector, non-standard sector and small, medium and large enterprises in the residential area by year. . However, the variable which is thought to have the greatest influence on the decision to live at home and less significant influence on employment status is the dummy variable “marital status”. Growth rate and marital status were excluded from the estimations at step four.

⁶ The results of this estimation are not described in the present article but are available on request from the author.

$$\lambda_{2i} = \frac{\phi(Z_i\Pi_2)\Phi\left[\frac{Z_i\Pi_1 - \rho Z_i\Pi_2}{\sqrt{1-\rho^2}}\right]}{F(Z_i\Pi_1, Z_i\Pi_2; \rho)} \quad [5]$$

3. In step three, the selection bias terms were included on the right-hand side of the reservation wage data and the duration equation [1 and 2];

4. In step four, equations 1 and 2, adjusted for selectivity bias, were estimated using 2SLS (Hui, 1991; Haurin and Sridhar, 2003).

Among the variables examined in the present study, household economic conditions and parental cultural-educational status appear to be the crucial covariates for the reasons outlined earlier. Parents who earn a good salary and who possess good qualifications tend to invest more in their child's education compared to their less privileged counterparts. If the concept of reservation wage is used in the sense of the job search models one would expect to see a positive correlation between the first accepted wage and level of educational qualifications in both generations. One of the reasons for this is that job seekers who receive financial support from their parents tend to establish a higher starting salary threshold since their subsidisation reduces the costs of job seeking. If, on the other hand, there is a 'threshold effect', which the original search model does not allow for, job seekers from households with a lower income may set the reservation wage threshold at a higher level in order to guarantee a minimum standard of living.

To summarise, in terms of the labour supply, one would expect *a priori* a positive

correlation between reservation wage - or accepted starting salary - and household income, and a negative correlation between household income and the probability of finding work in the short term.⁷ On the demand side, a higher education level favorably signals the abilities of the job seeker to potential employers, increasing his or her probability of finding a job.⁸

One aspect of unemployment which has been largely overlooked by the literature is the influence of household economic and cultural/educational variables on access to job information, a factor which affects both the labour supply and demand. While it is not easy to formulate hypotheses *a priori* concerning the effects of economic and cultural variables in this context, it is likely that job seekers from high income families have privileged access to certain sources of information. This has the effect of alerting potential employers to their greater aptitude, favouring their chances of being offered challenging and rewarding positions. On the other hand, job seekers from less privileged backgrounds may be directed towards low-paid, undemanding jobs via alternative channels of information. The net result would be a reduction in levels of unemployment for this group but no improvement in terms of intergenerational mobility.

In addition to family background information, Vector X incorporates gender, age and other subject variables which may be considered indicators of individual productivity, such as foreign language skills, completion of studies within the statutory time limit⁹ and previous

⁷ However, a threshold effect would invert this relationship.

⁸ The value of this signal may differ according to family background. For instance, a degree awarded to a child from a low-income family with a poor qualifications may be considered a more reliable indicator of aptitude than a degree awarded to a child from a more economically and educationally privileged background.

⁹ The 'statutory time limits' are as follows: completion of a first degree course; age 25; completion of upper secondary school: age 19; completion of lower secondary school: age 14. The number of years of regular study are calculated as the difference between the maximum number of years hypothesised and the number of years spent in education, as calculated by the survey. If this difference is ≥ 1 , the variable is assigned a value of 1; if

work experience. Local labour market conditions, area of residence, type of employment (self-employment, permanent or standard, temporary or casual employment including job training) and mean number of job offers per region for each year of the survey.

Finally, data pertaining to the number of children in the household below the age of 15 years and the subsidisation of household income from social benefits and additional sources were used to identify the unemployment duration equation since it was assumed that these variables would have an impact on the cost of job-seeking and, consequently, on the reservation wage. The rate of job offers and the wage offer distribution, on the other hand, were assumed not to be affected.

4. Data and measurement issues

The data for the study derived from the European Community Household Panel for an eight-year period, between 1994 and 2001 (details of the survey are given in the appendix). The observations referred to unemployed Italians who were below the age of 36 years (born after 1958 and before 1985) and were either living with their parents or had moved out of the family home. The sample was limited to subjects for whom data was available for the entire six-year period of observation. The term ‘unemployed’ was used to define those who had been jobless and had tried to find work on at least one occasion during the study period. For

the number of years taken to obtain the highest educational qualification is more than the statutory number of years required, creating a negative difference, a value of 0 is assigned.

those subjects who had been unemployed and had subsequently found a job, duration of unemployment and parental characteristics were also reported. The term ‘cohabitants’ was used to classify offspring who had lived with one or both parents for the duration of their unemployment; all others (principal wage earners, spouses, etc.) were labelled as ‘non cohabitants’.

To summarise, the data entered into the model described three groups of unemployed Italians: i) a group of subjects below the age of 36 years who were living with their parents while looking for work and who had found a job during the six-year period of observation (unemployed/cohabiting); ii) a group of subjects in the same age range who were not living at home during the period of unemployment (unemployed/non cohabitants) and iii) a group of subjects who were living at home (cohabiting) and were permanently unemployed. Subjects below the age of 36 years who were not part of the labour force (students, for example), who were permanently employed or whose age exceeded the threshold were omitted altogether from the analysis.

Table 1 lists the covariates used for the model; the mean values are reported in the appendix. Note that for those variables which influenced unemployment duration and whose values were not fixed over time, the data entered into the model referred to the value reported by the subject at the moment of starting a new job. Accepted starting salary figures¹⁰ were derived from the subject’s gross annual income and hourly salary was calculated on the basis of the number of hours worked. The duration of unemployment was estimated using the

¹⁰ Annual income figures were adjusted to take into account their real value at 1995 prices.

subject's response to the question: "How long (in months) did it take you to find your current job?". Some missing data were recovered by calculating the difference between the date on which the current job commenced and the year in which the previous job or full-time education ended. This procedure is clearly susceptible to inaccuracies but served to fill in some of the gaps in the information. Since the ECHP reports completed periods of unemployment only, no information was available concerning the duration of ongoing unemployment.

Table 2 Insert here

Household economic poverty status was calculated on the basis of net household income (excluding offspring's earnings) plus social benefits and "capital income". Incomes were scaled using the modified OECD equivalence scale. The threshold for poverty was defined as a net household income equal to or below the standard poverty line¹¹. To avoid using a static measure, the calculation took into consideration the number of years in which the family were below the poverty threshold prior to the subject commencing employment.

Insert table 3 here

¹¹ The poverty line is equal to 50% of the median value of the equivalent net annual household income.

5. Results

Three sets of estimates are presented which account for the data regarding hourly accepted wages. For the first estimate, the sample was broken down according to the subjects' educational qualifications. The second and third sets, in which the sample was also broken down according to geographical area of residence (North and South), are proposed as the best sets.

The first set of estimates (see Table 4) indicates that unemployment duration does not depend significantly on one's accepted starting salary at any level of educational qualification. Graduates from low income households appear to have greater difficulty finding work than their more privileged peers, since unemployment duration is approximately 48% longer for the former group. The discrepancy between low and high income families is slightly less (14%) for subjects with a high school diploma. For this last group those subjects whose parents have few educational qualifications, tend to have shorter periods of unemployment. One explanation for this phenomenon refers to the kind of job information which might be available to these parents, giving them an advantage over their more educated counterparts. For subjects who did not possess a university degree, age was a better predictor of finding work than family background since the relationship between the former variable and employment increased linearly up to 30 years. Finally, at each level of qualification the other variable which significantly influenced the completed duration of unemployment was work experience, which provides an index of productivity to potential employers.

From these observations, one might conclude that children from deprived households are at a disadvantage in terms of the quality of educational services available to them and/or tend to possess less aptitude than children from more affluent families, regardless of their level of qualifications. While it was not possible to directly control for the influence of these two variables in the estimates described here, there were two indices of aptitude in the ECHP data which could be used to explore its relationship to job success: i) ability to speak English fluently and ii) completion of studies within the statutory¹² time limit. Only the first variable had a significant negative effect on unemployment duration, which was limited to the group of graduates. For subjects with a high school diploma, the correlation between length of studies and unemployment duration was positive, suggesting that children who took longer to finish their education also took longer to find a job once they had left school. This observation is puzzling and invites speculation that indecision about whether or not to continue full-time education reduces the intensity of the job search.

An earlier study by Mazzotta (2007) shows that the interaction between family background, economic status and unemployment rate is not homogeneous across the three principal regions of Italy. In the South of the country, where labour market conditions are less favourable than in northern areas, subjects from low income families with few educational qualifications are unemployed for significantly longer periods than their peers from high income families. In contrast, the effect of household status on unemployment duration was not significant for subjects living in Northern Italy .

In the light of the finding that residential area was significantly influential to finding

¹² See previous note (n.9)

employment, the third and final set of estimates was broken down in terms of educational level and the geographical variable (see tables 5 and 6). The results shed new light on the relevance of regional differences to unemployment duration. In the South of Italy, university graduates from low income families took 65% longer to find a job than their peers from high income households (significant at the 6% level). The differences were 19% and 21% for those with middle and elementary school educations (significant at the 1% and 2% levels respectively). These results suggest, unexpectedly, that at every level of qualification individuals from deprived backgrounds were disproportionately hindered in their efforts to find work and that the effect of economic status was more pronounced at higher levels of education.

On the other hand, household income had no significant effect on unemployment duration in central-northern areas. The data for Northern Italy suggest that young male graduates who complete their studies in a relatively short time and have work experience are in a more favourable position than their peers with lower aptitude scores. Furthermore, in central-northern areas, work experience and age were significant factors in determining the duration of unemployment at high school level and below.

Insert table 4
Insert table 5
Insert table 6

6. Summary and conclusions

The present article set out to determine the degree to which family background affects duration of unemployment among Italians and the direction of this influence after controlling for educational level, starting wage and individual aptitude. To this end, the 2SLS structural approach pioneered by Lancaster and Chesher (1984) was used, which is based on a particular functional form of the accepted wage and hazard functions. Identification of the latter was secured by combining the restrictions found in Kiefer and Neumann (1979, 1981) and Lancaster and Chesher (1984). Finally, a modified 2SLS procedure was used to correct for selectivity bias.

With regard to the family background issue, there was consistent evidence across all our estimates that household economic conditions affect unemployment duration at all levels of educational achievement. However, the influence of family origins was far from uniform across regions. According to the data, there was a significant disadvantage associated with living in the South of Italy as opposed to the North, which was even more marked for subjects from economically deprived households. Furthermore, the discrepancy between high and low income families was more pronounced at higher levels of educational qualification. These results suggest that after controlling for the effects of aptitude and expected wage, subjects from poor families are unable to access good quality education or effective sources of job vacancy information. These obstacles predominantly affect the labour market in southern areas.

For graduate subjects, the factor which seems to be most influential to finding a job is the ability to complete a degree course within the statutory time limit. However, this variable does not make significant contribution to reducing the period of unemployment in the South of the country. This finding once again raises questions about the quality of educational provision in Italy and possible discrepancies between North and South regions. It also highlights the difficulties faced by young people seeking employment in a stagnant labour market which does not necessarily recognise individual ability and quality of education as passports to job finding. On a positive note, our data suggest that previous work experience is the one variable which appears to substantially reduce unemployment duration among young Italians, irrespective of where they live and the kind of education they have received, thereby representing a powerful indicator of productivity to potential employers.

Appendix A

Sample details

The data used in the present study were sampled from the European Community Household Panel survey and refer to Italian subjects. The survey was commissioned by Eurostat and was carried out by the Italian National Institute of Statistics . The first survey was conducted in 1994 and the last survey in the year 2001. Approximately 6,000 households and 16,000 individuals were interviewed each year (17729 in 1994 and 13392 in 2001).

Data were sampled from all eight surveys with a specific focus on subjects who were unemployed at some point during the study period. The sample comprised 763 subjects (with a total of 1590 observations) below the age of 36 years who lived with their parents during the period of unemployment and had found work at some point during the study period. The term ‘cohabitants’ was used to refer to subjects who lived with their parents for the duration of their unemployment. All others (principal wage-earners, spouses, etc.) were termed ‘non cohabitants’. Unemployed subjects below the age of 36 years who were not living at home and those who lived at home but who were unemployed throughout the entire study period were used to correct the model for selection bias. Those who were not members of the labour force (students, housewives, etc.), who were over the age of 35 years and who were in constant employment during the eight years were excluded from the analysis.

Insert table A1 and A2

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TABLES

Table 1: List of Covariates

		ACCEPTED WAGE EQUATION (LNHOURLYWAGE)	COMPLETED UNEMPLOYMENT DURATION EQUATION LNDUR (MONTHS)
Age	Age of children	(AGE)	(AGE)
Gender	Female	(FEMALE)1/0	(FEMALE) 1/0
Ability	Fluent knowledge of English in social contexts	(FLUENT) 1/0	(FLUENT) 1/0
	Completion of education on time	(REGULAR) 1/0	(REGULAR) 1/0
	Work experience (previous last job)	(ESPER) 1/0	(ESPER) 1/0
Family Background	Household economic condition	No of years spent below the poverty threshold (POVFAM)	No of years spent below the poverty threshold (POVFAM)
	Average no. years of education for father and mother	13 <average no. years of education <17 HIGHSCPAREN 1/0 §	(HIGHSCPAREN) 1/0
		(4,3 < mean no. years of education < 13)(MEDSCPAREN)1/0	(MEDCPAREN) 1/0
		mean no. years of education <=4,3 (LOWSCPAREN) 1/0	(LOWSCPAREN) 1/0
Local labour market	Residential area	Centre-North1/0§	Centre-North1/0§
		South and islands (SUDIS)1/0	South and islands (SUDIS)1/0
	Rate of job offers	Annual average n° of job offers in area of residence, year of survey and population density of town (MEDOFFCENT) (X100)	Annual average n° of job offers in area of residence, year of survey and population density of town (MEDOFFCENT) (X100)
	Type of labor contract	Non standard contract 1/0 (OTHER) Self employment 1/0 (AUTONOM) Standard 1/0§	
Sample selection term	Employed	(λ_1)	(λ_1)
	Cohabiting	(λ_2)	(λ_2)
Variables for identifying the unemployment duration equation	No. of members of household aged below 16 yrs	(CHILD015) (Log)	
	Total transfers	Private and social transfers (SOCIALBEN)(Log)	
	Sector of employment	Public sector 1/0 (PUBB) Private sector 1/0§ Little 1/0 (1 – 99 n° of employees) (LITTLEF)	
	Size of enterprise	Medium 1/0 (100 – 499 employees) (MEDIUMF) Big 1/0§ (more than 499 employees)	

Table 2: Mean reservation wage, hours of work offered and unemployment duration by gender, education level and geographical area.

	Men	Female	University graduates	High school graduates	Educated to middle school level	North	South
Reservation wage (euros per month)	806,12	741,89	966,20	727,83	781,19	785,72	778,42
Starting salary (euros per month)	585,81	508,26	620,37	551,50	529,94	620,44	520,94
Duration of completed period of unemployment (months)	22,49	19,29	12,99	21,62	24,23	12,51	24,46
Elapsed period of unemployment (months)	15,72	13,69	8,91	15,72	16,04	19	8,94
Hours of work offered (per week)	37,40	35,91	33,11	36,90	38,30	35,35	37,87
Hours of work (per week)	39,85	36,01	36,09	38,06	40,26	37,29	39,15

Table 3: Poverty thresholds for the eight year study period (1994-2001).

YEAR OF COMPETENCE	1994,00	1995,00	1996,00	1997,00	1998,00	1999,00	2000,00
Poverty threshold (50% of median) (in euros)							
Annual equivalent net income	3822,74	4083,02	4152,31	4510,73	4738,49	5035,46	5267,86

Table 4: Accepted starting salary and completed periods of unemployment for the whole of Italy.

	Lndur University graduates		Lndur High school graduates		Lndur Educated to middle school level	
	Coefficient	(S.E.)	Coefficient	(S.E.)	Coefficient	(S.E.)
Lnhourlywage	-0,326	0,538	0,288	0,479	-0,746	0,773
Demographic Characteristics						
Age	0,720	0,793	0,578	0,222***	0,782	0,171***
Age^2	-0,011	0,013	-0,010	0,004**	-0,013	0,003***
Female	0,357	0,298	0,243	0,177	-0,090	0,216
Aptitude/productivity						
Fluent	-0,601	0,290**	-0,258	0,176	-0,227	0,343
Regular	-0,094	0,302	0,487	0,143***	0,002	0,167
Esper	-1,301	0,295***	-1,219	0,155***	-1,570	0,221***
Household economic condition						
Povfam	0,475	0,222**	0,140	0,058**	0,053	0,085
Lowscparen	-0,288	0,422	-0,662	0,334*	-0,120	0,304
Medscparen	0,075	0,462	-0,437	0,335		
Local Labour market						
Sudis	0,754	0,408**	0,698	0,195***	0,045	0,273
Medoffcent	0,045	0,108	0,014	0,036	-0,013	0,127
Other	-0,632	0,295**	0,358	0,150**	-0,458	0,242*
Autonom	-0,566	0,754	0,012	0,462	-0,534	0,428
Correction for selection bias						
λ_1 (employed)	0,054	0,144	-0,003	0,087	0,045	0,140
λ_2 (cohabiting)	0,235	0,259	-0,568	0,246**	0,089	0,302
Constant	-9,404	12,462	-6,473	2,857**	-7,218	2,320***
N	211		895		484	
Prob>F)	0.000		0.000		0.000	

The second equation was estimated with two zero restrictions on θ , omitting the number of children in the household below the age of 16 years (Child 015 yrs) and income from private and social monetary transfers.

Table 5: Accepted starting salary and duration of completed periods of unemployment for Southern areas of Italy

	Lndur		Lndur		Lndur	
	University graduates		High school graduates		Educated to middle school level	
	Coefficient	(S.E.)	Coefficient	(S.E.)	Coefficient	(S.E.)
Lnhourlywage	0,429	0,598	0,781	0,889	-0,034	0,514
Demographic Characteristics						
Age	0,383	0,948	0,013	0,371	0,686	0,207***
Age^2	-0,006	0,015	0,000	0,007	-0,011	0,003***
Female	0,393	0,563	0,231	0,328	-0,016	0,284
Aptitude/productivity						
Fluent	-0,351	0,584	-0,167	0,338	0,085	0,492
Regular	0,158	0,584	0,338	0,219	-0,294	0,193
Esper	-1,340	0,565**	-1,603	0,213***	-1,486	0,240***
Household economic condition						
Povfam	0,641	0,347*	0,148	0,072**	0,148	0,081**
Lowscparen	-0,181	0,609	-0,662	0,747	0,411	0,445
Medscparen	0,145	0,801	-0,283	0,756		
Local Labour market						
Medoffcent	0,139	0,208	0,026	0,061	-0,212	0,097**
Other	-0,603	0,554	0,152	0,221	-0,316	0,233
Autonom	0,305	0,907	0,241	0,715	0,059	0,263
Correction for selection bias						
λ_1 (employed)	0,140	0,201	0,035	0,138	0,132	0,169
λ_2 (cohabiting)	0,017	0,400	-0,990	0,329***	-0,013	0,218
Constant	-4,507	15,226	1,856	4,935	-6,459	3,184
N	91		472		286	
Prob>F)	0.000		0.000		0.000	

The second equation was estimated with two zero restrictions on θ , omission of the number of children in the household below the age of 16 years (Child 015 yrs) and income from private and social monetary transfers.

Table 6: Accepted starting salary and duration of completed periods of unemployment for North-Central areas of Italy

	Lndur		Lndur		Lndur	
	University graduates		High school graduates		Educated to middle school level	
	Coefficient	(S.E.)	Coefficient	(S.E.)	Coefficient	(S.E.)
Lnhourlywage	-0,143	0,743	-0,475	0,542	-0,467	0,794
Demographic Characteristics						
Age	0,044	0,855	0,960	0,216***	0,781	0,361**
Age^2	0,000	0,014	-0,017	0,004***	-0,012	0,007*
Female	0,665	0,359*	0,227	0,207	-0,094	0,298
Aptitude/productivity						
Fluent	-0,558	0,309*	-0,300	0,179**	-0,215	0,362
Regular	-0,580	0,323*	0,593	0,190***	0,373	0,291
Esper	-1,281	0,330***	-0,934	0,208***	-1,530	0,283***
Household economic condition						
Povfam	0,291	0,386	0,161	0,148	-0,025	0,157
Lowscparen	-0,789	0,534	-0,203	0,526	-0,444	0,391
Medscparen	-0,399	0,497	-0,010	0,548		
Local Labour market						
Medoffcent	-0,051	0,164	0,052	0,066	0,076	0,129
Other	-0,325	0,389	0,370	0,209*	-0,257	0,293
Autonom	-0,605	0,800	-0,583	0,561	-0,900	0,754
Correction for selection bias						
λ_1 (employed)	0,071	0,205	-0,094	0,107	0,140	0,132
λ_2 (cohabiting)	0,154	0,374	0,005	0,322	0,441	0,677
Constant	1,313	13,453	-11,288	2,947***	-7,957	4,389*
N	120		423		198	
Prob>F)	0.000		0.000		0.000	

The second equation was estimated with three zero restrictions on θ , omission of the number of children in the household below the age of 16 years (Child 015 yrs) and income from private and social monetary transfers.

Appendix

Table A1 Mean values of the variables for Southern areas of Italy

	University graduates		High school graduates		Educated to middle school level	
	Mean	(S.E.)	Coefficient	(S.E.)	Coefficient	(S.E.)
Hourlywage	4,509	2,939	3,784	1,822	3,553	3,597
Unemployment Duration (months)	29,253	38,171	30,705	32,201	30,854	33,724
<i>Demographic Characteristics</i>						
Age	25,945	3,591	22,198	3,256	22,498	4,269
Female	46%	50%	31%	46%	17%	38%
<i>Aptitude/productivity</i>						
Fluent	41%	49%	16%	37%	3%	18%
Regular	38%	49%	69%	46%	48%	50%
Esper	25%	44%	43%	50%	53%	50%
<i>Household economic condition</i>						
Povfam	0,44	0,897	0,96	1,375	1,38	1,5
Lowscparen	53%	50%	74%	44%	95%	21%
Medscparen	19%	39%	24%	43%	5%	21%
<i>Local Labour market</i>						
Medoffcent	2,845	1,205	3,007	2,218	3,007	1,138
Other	0,344	0,478	0,439	0,497	0,469	0,500
Autonom	0,300	0,461	0,123	0,329	0,161	0,368
<i>Correction for selection bias</i>						
Child015	1,044	0,206	1,266	0,533	1,359	0,715
SocialBen	126,413	639,587	195,598	1162,948	320,181	1867,604
Pubb	0,250	0,435	0,179	0,384	0,095	0,294
Little	0,769	0,424	0,855	0,353	0,930	0,256
Medium	0,099	0,300	0,058	0,233	0,014	0,118
N	91		474		287	

Table A2 Mean values of the variables for North-Central areas of Italy

	University graduates		High school graduates		Educated to middle school level	
	Mean	(S.E.)	Coefficient	(S.E.)	Coefficient	(S.E.)
Hourlywage	5,365	3,049	4,301	1,758	4,115	1,95
Unemployment Duration (months)	7,958	15,676	12,809	21,633	17,343	25,878
<i>Demographic Characteristics</i>						
Age	25,2	3,18	20,894	3,191	21,03	3,705
Female	59%	49%	53%	50%	33%	47%
<i>Aptitude/productivity</i>						
Fluent	77%	42%	37%	48%	18%	39%
Regular	47%	50%	61%	49%	34%	48%
Esper	58%	50%	52%	50%	72%	45%
<i>Household economic condition</i>						
Povfam	0,192	0,539	0,317	0,75	0,5	0,911
Lowscparen	34%	48%	67%	47%	91%	29%
Medscparen	45%	50%	31%	46%	9%	28%
<i>Local Labour market</i>						
Medoffcent	4,509	1,222	4,478	1,267	4,416	1,31
Other	0,292	0,456	0,306	0,462	0,323	0,469
Autonom	0,200	0,402	0,105	0,306	0,192	0,395
<i>Correction for selection bias</i>						
Child015	1,033	0,257	1,374	0,637	1,465	0,785
SocialBen	267,928	1487,895	226,267	1617,454	193,429	741,607
Pubb	0,235	0,426	0,188	0,391	0,091	0,289
Little	0,731	0,445	0,823	0,382	0,899	0,302
Medium	0,143	0,351	0,084	0,277	0,066	0,248
N	120		423		198	