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Why leave wage work and become self-employed ? Independence, earnings or unemployment.

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Why leave wage work and become self-employed ? Independence, earnings or unemployment.¹

*These are the cards we have been dealt,
we must play our hand to the best of our
ability”*

1. Introduction.

Self-employed individuals are commonly defined as individuals who earn no wage or salary, but derive their income by exercising their profession or business on their own account and/or at their own risk.

The group of self-employed individuals is important both in an economic and a political sense. Their economic significance shows up in the important contribution they make to the overall employment level. In Italy the percentage of entrepreneurs, the self-employed, family workers, professionals and cooperative members in terms of total employment reached 30% in 1996;² in the manufacturing sector almost 1/4 of the total employment figure for the male population is accounted for by self-employment (*Eurostat*, 1997).

Italy, among other European industrialised countries, has a very large quota of self-employment in terms of total employment and it is second only to Greece among the countries of the European Union; the self-employment quota in the manufacturing sector in Italy is double the EU average and three times the German and Dutch figures (*OECD*, 1992; *Eurostat*, 1997; *Isat*, 1998). Beyond the aforementioned economic significance of these workers, self-employed individuals are also politically relevant because of their electoral importance as voters.

It is noteworthy that after a long period of decline the self-employed faction of the labour force has increased since the mid-1970s in several Western countries (Blau, 1987; Evans and Leighton, 1989; Magnac and Robin, 1994). As in other countries, the self-employment quota in terms of total employment in Italy grew over time from the mid seventies onwards. The minimum level of 14% in total manufacturing sector employment was attained in 1974: subsequently the self-employment quota rose steadily in time, reaching a peak in the late seventies, to rise again in most recent years to the high values of the late fifties (+3.3% yearly rate, 1974-1994. Rapiti, 1997:176-180; Chelli and Rosti, 1998:3-4). The increase of the self-employment quota in the manufacturing sector reflects both the decline in employees (-2.2%) and the increase of self-employed workers (+ 1.7%).

¹ Our research was supported by the CNR Strategic project “Unemployment and low level of activity in Italy”. We are grateful to Dolce and Piatto of the regional Inps Institute, and Martinengo for helpful comments. Rettore clarified several points related to the estimation process. Occari and Pitingaro provided background computations for figures 1 and 2 and table 2.

² Currently members of cooperatives of production. This is the definition adopted by the Italian Central Statistical Office, Istat (Istat, 1984: 117).

In the rest of the economy self-employment grew at 3.0% per year but the quota of the self-employed itself grew much less, as the number of employees was increasing at the same time (+2.4%).

This paper uses retrospective data from the Italian social security archives (INPS) to build detailed career life-histories of a large number of individuals and models the process by which individuals move out of the category of employees into self-employment;³ arriving at self-employment from unemployment has not been directly studied. This limit reflects the bounds of our data source, and nonetheless does not seem crucial in sketching a general frame for the phenomenon. Istat data for Italy shows that every year more than 600 thousand employees move into self-employment and more than 500 thousand move out of self-employment and become employees; this data points to the fact that the net flow in the number of self-employed is, for the most part, the result of the net flux away from the employee category, and only to a limited degree is it the result of an inflow of people entering the labour market for the first time or previously unemployed (*OECD*. 1992, table 4.8; Rapiti, 1997:181; Chelli and Rosti, 1998: 13). The positive variation through time that has been registered in self-employment over the last twenty years, is largely explained by the net flow originating in the category of employees: people looking for a job move into self-employment directly only to a very limited extent.⁴

Social security archives provide a longitudinal data sets that lead to a closer examination of some key aspects of self-employment and allow us to trace several details of the selection process. The entry and exit into self-employment in terms of the cohort based on age (for both men and women) can be tracked, and the length of time an individual has been operating his current business and previous business can be closely monitored. Any previous spell as employee (duration, average wage, sector, firm's size, status) and the dynamics of these variables over the fifteen-year period being examined have been reconstructed.⁵

Social security archives refer to a limited number of personal variables such as age, place of birth and residence. Unfortunately, they do not give us other social structural and organisational variables, especially those related to family structure (other self-employed persons in the

³ Self-employment social security archives are extremely poor: we based our research on the wage employment population and studied transitions into self-employment, taking advantage of the knowledge of past history derived from the employees archive.

⁴ This is probably more warranted, regardless of whether full employment is the prevailing state. The two provinces under investigation are characterised by full employment and a labour market's constant tension. See Agenzia per l'impiego (1993).

⁵ This was the result of long and painstaking work undertaken with the help of Fabio Occari and Serafino Pitingaro, thanks to funding by the CNR's Progetto Strategico, "Unemployment and low level of activity in Italy".

family/family's wealth) and education,⁶ which would be particularly important for an understanding of the various transitions into self-employment.

We report various key findings. First, the probability of switching to self-employment is influenced by the macroeconomic cycle and is strongly interconnected with fluctuations in the employee sector. The probability of leaving or abandoning self-employment is quite high. Few young people remain self-employed for long and self-employment to them constitutes a very limited experience in their working life and becoming employees again after a short stint as self-employed workers is a common result. Second, the fraction of wage labour that moves into self-employment increases with age, and there is a peak at around 20 which then remains constant until the forties. This result is consistent with the accredited view that young workers will try riskier occupations first, and is contrary to the Evans and Leighton findings relative to the US market (1989). Third, transitions from the category of employees to a different firm and transitions to self-employment share common explanatory variables, even though the decision process is based on very different economic motives. A clear discrimination between the two "competing" situations appears crucial to the investigation. Fourth, people that have long spells out of (our database) labour force - possibly people with long unemployment spells - and people who have changed jobs a lot are more likely to enter self-employment, all else being equal. This result is consistent with the common view that "misfits" are pushed into self-employment. But further explanations are required.

Section 2 advances some theoretical considerations. Section 3 provides some information on the Inps data base. Section 4 investigates self-employment entry and exit over the life cycle. Section 5 discusses some estimates of transitions from the employee category into self-employment. Section 6 presents some estimates of transitions into self-employment based on a duration model. Section 7 advances some interpretations.

2. Theoretical issues.

Transition into self-employment is a class of a general event. There may be more than one state to which to move: unemployment, self-employment, a different form of employee status, the civil service etc. In order to explain the transition from employee status to self-employment, the relation between covariates and the choice to move to self-employment is investigated in the most general framework. Individual choice in favour of self-employment is investigated in relation to "competing" transitions in employee status, i.e. movement to a new firm within the employee

⁶ Most self-employment takes place in small and family firms, and these organisational structures should be included amongst our explanatory variables.

framework. To substantiate our claim, the relationship between transitions towards self-employment and employee status and continuous employment is eventually investigated: in such extreme cases the process of choice is clear cut.

A first step in the direction for the development of a self-employment model is the recognition of self-employment as an episodic event, part of a longer working life career, which is made of significant spells in the employee labour force. Because of the fragmentary nature of self-employment, theoretical arguments that rely on the stable attributes of individuals to explain self-employment are bound to be incomplete - at best they can explain an individual's behaviour at some particular point in life or in interaction with some other situation phenomena. Consequently, those factors that lead to self-employment early on in individual careers may be quite different from those associated with entry into the same sector at later points. The importance of a dynamic perspective is clear: the historical experience of each individual needs to be considered and modelled, and this may very well affect the operation of otherwise strong variables.

People with prior self-employment experience are more likely to consider it a viable career option and first entrances should be distinguished from later entrances into self-employment. This may be especially true in those sectors in which self-employment does not necessarily involve large capital investments. Additionally, people with high education are likely to move rapidly, particularly at a young age, within the employee sector, passing from one firm to another and transiting in self-employment as well, albeit for a short period. As far as individuals' working life is concerned, a distinction should also be made between length of experience and the sheer number of prior self-employment episodes. A single, long episode within the employee sector and in self-employment may develop fewer skills but it is likely to indicate prior success. On the other hand, many prior episodes express instability, but the meaning associated with such words is not without ambiguity. Frequent moves may indicate prior failures or a continuous search for a better job, a tendency to move easily, based on full consciousness of one's own capabilities.

A firm's large size and labour force experience have strong negative effects on overall labour-force mobility, and we expect that they would operate more markedly when movements into self-employment are investigated.

Previous studies on self-employment and entrepreneurship have failed to address questions with this degree of sophistication.

3.Data and variables.

The Inps (national Italian social security institute) data-base for wage work takes into account all workers in the employee sector and part of state workers (workers' archive: 01M). It has full coverage of employees in the private sector and a small part of the public sector so that it is not possible to trace transitions from employment in the public sector into self-employment. The archive made available to us spans 20 years (from 1974), with the entrance of all people already registered under social security in the "new archive"; it continues as a flow archive, with new entries and exits. Subjects are employees with at least a minimum active period (in relation to social security, i.e. contributions paid and/or subsidy received) in two very industrialised and dynamic provinces in northern Italy, Treviso and Vicenza.⁷

The social security data set allows us to investigate the effect of a substantive variable: the individual experience in the employee sector previous to transition into self-employment. Religion, parental self-employment, education and human capital formation are important elements that can sometimes be indirectly guessed at but the account of which is left to complementary studies.

The data is left and right censored. Left censor is the main problem and brings a presumption of length bias into work, as longer working lives are more likely to be detected than short ones. This problem is avoided considering people born in recent cohorts (1959-62 birth cohort), which are not left censored in 1974 in respect to our problem, because not yet of working age at the entry date, and modelling the process of choice towards the new state in a year on the far right (1990). Transitions into self-employment for the 1959-62 cohort by sex are plotted in Figure 2. The 1948-51 cohort is considered as providing some complementary and supporting information, waiting for new data that will allow us to study the transition process in 1996 or in 1997 (see appendix 2).

This basic archive has been "completed" by detecting self-employment spells for each employee (the self-employment archive) and for every spell within the employee sector, the firms in which the spell has taken place (firm's archive, DM10). We have been allowed a link between the employees' archive to the self-employment archive and to the firm's archive, maintaining the anonymity of the individual. This restraint makes it impossible to study the transition from self-employment to the founding of a new firm: there is some correspondence between entrepreneurship and self-employment but it is not precise and it should be studied with a different information set.⁸

⁷ Our investigation stops at 31.12.1992. We know that not all 1994 data is part of our data-base, and we have some doubts about a few cases referring to 1993.

⁸ The link would have been difficult anyway, because entrepreneurs are not subject to social security contributions and few of them register as white-collar workers in their own firm; possibly the older, which have already paid in large quotas to the social security service and are keen to complete their contributions in view of a future pension.

Our information on self-employment is limited to episodes concerning people registered at least once in the employees archive. With almost 30% of the stock of the total labour force engaged in self-employment it is obvious that self-employment affects many careers and that the number of self-employed not appearing in the employees archive for a period of any length should be very limited indeed.⁹

Unsuccessful self-employment is detected in the self-employment social security archives through the limited duration of their contribution. Social security contributions evasion has most likely been negligible: although the move from the employee sector towards self-employment might be considered risky, the social security contribution was very low for the period under scrutiny, so that there was a strong incentive for people moving into self-employment - although for a very limited period - to register.¹⁰

Retrospective data is potentially subject to error due to change in social security coverage and to various laws that increased social security charges and made evasion more viable as time went by. On the opposite side various amnesties increased drastically the number of people under public social security schemes. Particularly important was the 1980 amnesty¹¹, which had the very visible result of bringing a large number of people previously working without coverage into the national social security (Inps) scheme.¹²

We took special precautions to insure the quality of the data and estimated both the “false” separations and the effect of the 1980 social security amnesty at the aggregate level, controlling for age cohort, firm size and productive branch (Occari and Pitingaro, 1998), but we were not able to amend the individual records. The amnesty law did not discriminate between self-employment and employees, and transitions from the employee category into self-employment were probably not affected.

There were approximately 300,000 employees in the two provinces in the late eighties; a measure of the stock that has a correspondence in about 1 million persons moving in and out of the archive and in 15 millions records, concerning distinctive spells (as far as social security is

⁹ Self-employment data we possess refers to all people with a transition, whatever its length, in employee status, mainly in the private sector, during the twenty-year period.

¹⁰ The analysis seems not to suffer from the problem of sample-selection bias that appears any time we draw samples based on some value of the dependent variable (Heckman, 1979). We are confident that unsuccessful self-employed workers are included in our data base and are represented by short self-autonomous spells. Of course in more recent years the profitability of registering with social security has diminished, particularly for young people, as the premium has increased, and benefits have become more and more uncertain. Older people moving into self-employment, with a large number of contributions paid, still register; young people try to avoid payment. Actually, one reason for moving into self-employment from employee status in very recent years is the reduced burden of social security contributions.

¹¹ Law Decree dated 30.12.1979, number 663, article 23 *quater* states that employers regulating their debtor's position with INPS are exempted from any additional charge connected with tax or social services contributions evasion.

¹² In our 1958-1961 cohort entrance in 1980 is almost double the average rate for contiguous periods. The increase is equal for employee status workers (whether continuous or mobile) and self-employment.

concerned). From this data set we reconstructed the retrospective career history variables for each employee, which were then used in our investigation and listed in the appendix. The weekly average wage was computed as the ratio of total wage declared and the number of weeks worked; unfortunately it proved rather unreliable because many items were missing and the weekly wage had a large, unrealistic, standard error. The inclusion of a wage magnitude among our explanatory variables has been variously attempted (rate of growth of wages, average wage etc.), but our opinion is that it will require additional, substantial work. Social security archives are described in detail in Occari, Tattara and Volpe (1996).¹³

In using information on employment status and tenure we have calculated employment spells in the employee category and self-employment throughout the fifteen years under scrutiny. We tracked entry and exit over time. Data on job changes, unemployment and firm's size enables us to look at a number of issues that are not taken into account by other studies on self-employment. For example in cross-sectional studies, entry and exit decisions are not detected (Chelli and Rosti, 1998).

4.Entries and exits.

We examine several aspects of entry and exit over the life cycle. We begin by summarising in Figure 1 the rates of entry into self-employment for the most relevant cohorts of employee data. Entry rates are affected by the economic cycle, with a peak in 1979 reported also by the data collected at a national level, and a rather constant entry rate between 25 and 40 years of age (Table 1). The relationship between entry into self-employment and age is set out in Figure 1. The rate of entry into self-employment increases at a diminishing rate with age and approaches a plateau at about age 25 which lasts until age 40. The forties already point to a decline in the propensity to shift into self-employment. The entry rate is deeply affected by the high level of transitions to self-employment displaced in the late seventies, more than by the separation rate, that remained almost constant through time. Our data are confirmed at the national level by the National Statistical Office whose series show a peak in the self-employment rate in the same period: in the same years there are no peculiar fiscal incentives pushing towards a self-employment registration.

The fraction of wage workers that enters self-employment exceeds the fraction who exit self-employment, thereby increasing the fraction of those who are self-employed after employee status. It is well known that rates of job change show duration dependence. Ordinarily, duration in the job

¹³ In principles social security records register both the wage paid and the relative number of days in employment, but the second information is very often not available. To discard all the incomplete records would, on the other hand, introduce a substantial bias in our population, as missing informations are not distributed at random. The number of

shows an inverse relationship with the exit rate: the longer one stays in a job, the less likely one is to change jobs.

We examined the duration of the self-employment spell: around 50% of self-employed males last less than 3 years. The average duration for females is a bit longer.

Table. 1. Entry rate into self-employment from employee status, by age.

Age at the	% entry rate in 1980 n.entries/separations	% entry rate in 1985	% entry rate in 1990
54			0,74
49		2,87	2,58
44	11,51	5,70	6,22
39	20,54	9,26	7,24
34	20,58	11,09	9,03
29	18,60	11,61	12,41
24	18,59	12,90	16,20
19	7,59	6,21	9,46

worked weeks is more often recorded but the resulting weekly wage is of course a very rough approximation to the daily wage we were looking for.

FIGURE 1. TRANSITIONS TO SELF-EMPLOYMENT OVER SEPARATIONS FROM SELF-EMPLOYMENT BY AGE COHORT.

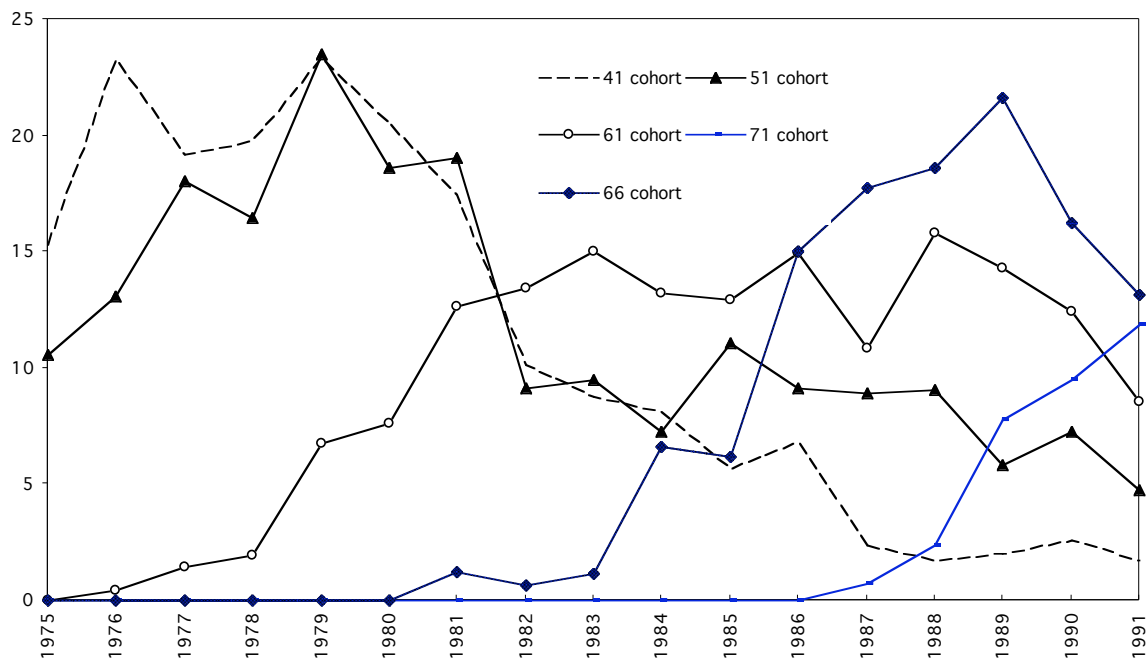


FIGURE 2. 1959-1962 BIRTH COHORTS. EMPLOYEE MOVING TO SELF-EMPLOYMENT, BY SEX .

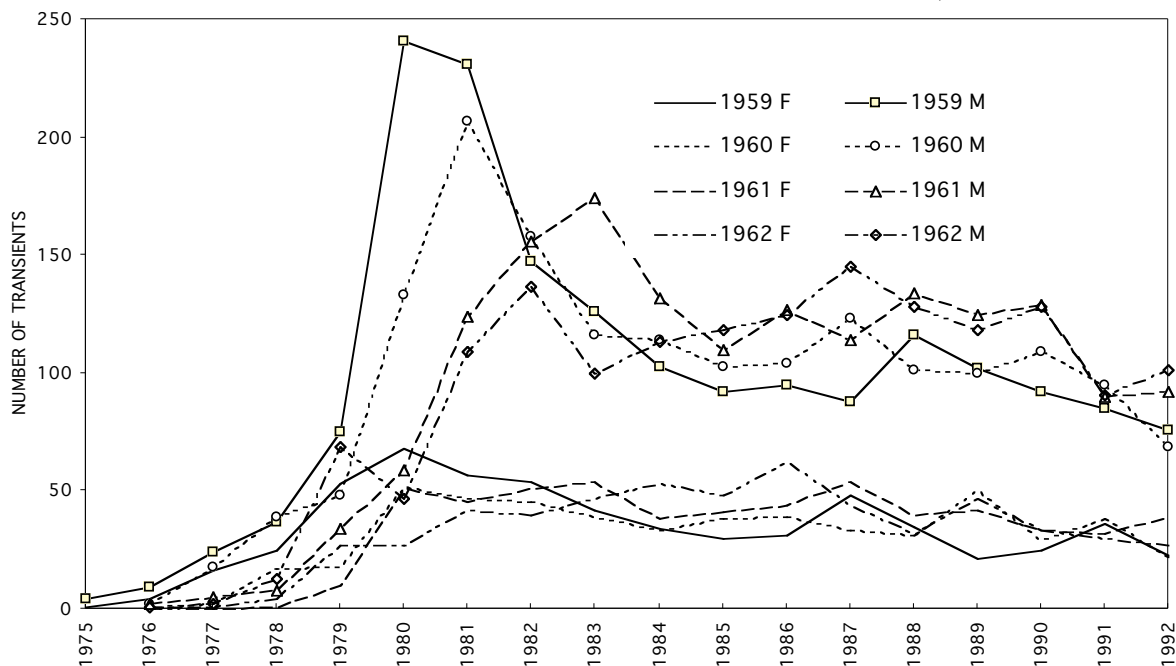


Table 2. 1960 Cohort. Self-employment spell characteristics.

<i>1981-1988. Duration of the self-employment spell.</i>							
<u>Males</u>							
	≤ 12 months	≤ 24 months	≤ 36 months	≤ 48 months	≤ 60 months	> 60 months	
average	18.8	17.7	12.8	9.7	8.4	32.7	100.0
st. deviat.	3.4	5.3	3.3	1.4	2.6	4.1	
<u>Females</u>							
average	16.5	10.8	10.8	11.6	10.4	39.8	100.0
st. deviat.	4.0	4.1	3.3	4.4	3.1	5.7	
<i>1981-1990. Position of the self-employed three years after the end of the self-employment spell.</i>							
<u>Males</u>			<u>Females</u>				
	self-empl. (returning)	employee	out		self-empl. (returning)	employee	out
average	6.8	44.7	48.6		7.2	51.6	41.1
st. deviat.	3.9	8.4	8.7		2.6	4.5	5.9
<i>1981-1989. Position of the self-employed five years after the end of the self-employment spell.</i>							
<u>Males</u>			<u>Females</u>				
	self-employ.	employee	out		self-employ.	employee	out
average	6.8	41.1	52.0		6.7	49.8	43.5
st. deviat.	4.4	4.8	7.3		3.9	6.0	7.4
<i>1981-1990. Distance of the next employee spell after last year of self-employment.</i>							
<u>Males</u>							
months	0-5	6-11	12-23	24-35	36-60	≥60	
average	44.3	28.6	9.3	6.9	4.2	6.6	100.0
st. deviat.	4.9	5.7	3.3	3.7	2.1	3.6	
<u>Females</u>							
average	31.5	23.5	11.7	9.8	9.7	13.8	100.0
st. deviat.	7.1	8.3	4.7	5.8	4.0	6.1	

Once they have exited self-employment, a large number of people come back to where they started, i.e. as employees. After three years, 40% of people who entered self-employment go back to employee status, 48 are out of the data-base and only 7% still perform some self-employment activity (interrupted). Coming back to self-employment is generally a quick decision, taken without much hesitation; almost 2/3 of the move back to self-employment takes place less than 6 months after the suspension of employee activity.

Self-employment for young people sometimes represents a short episode added to a previous employment position, both after voluntary resignations and when fired. For example, females transit through self-employment before exiting the labour market. Self-employment can be configured more as an interlude, an attempt not to immediately abandon the labour market; it is much more akin to an epilogue to an interrupted stint as an employee rather than the founding of a new firm.

5. From employee to self-employment as a binary choice model.

Individuals switch from employee status to self-employment if the expected utility of self-employment exceeds the expected utility of employee status.

We investigate rates of movement from employee status into first self-employment jobs in 1990. Rates of movement into self-employment at later stages in workers' careers are not considered explicitly. For a net comparison of the choice between self-employment and employee status we have deleted individuals who had both employee and self-employment jobs at the same time (for more than a few weeks).

An individual employed once as an employee in the period 1974-1990, who in 1990 makes a transition to self-employment, faces the following choices:

1. self-employment
2. unemployment
3. self employment and employee status
(dual employment)
4. wage employment
 - 4.1 continuing
 - 4.2.moving to a new wage employment

To investigate which covariates distinguish transitions into self-employment we have estimated a binary choice model for the two types of employment. We define a variable Y to be 1 if the person moves into self-employment in 1990 after having been an employee for some time at some date between 1974 and 1990, and to be 0 if the person has a spell as employee in 1990 and no self-employment. The 1990 employee spell can be part of a continuous spell or a new spell because the person in 1990 moves into a different employee position.

The basic analytical model is the binary choice model:

$$prob. (Y= 1| X)$$

where X is the vector of covariates. We apply a logistic specification to the probability function and the unknown coefficients are estimated by the maximum likelihood method. The logistic distribution is defined as

$$prob. (Y= 1| X) = e^{\beta^*x}/(1 + e^{\beta^*x})$$

Additionally we estimated three separate binary choice models:

$$prob. (Y=1| Y \neq 1, Y \neq 4.2, X)$$

where the person is assigned value Y = 0 if in 1990 s/he continues to work as an employee and

$$prob. (Y=1| Y \neq 4.1, X)$$

where the person is assigned value $Y = 0$ if in 1990 s/he is an employee but makes a transition in employee status and

$$prob. (Y=3 | Y \neq 1, Y \neq 4.2, X)$$

where the person is assigned value $Y = 0$ if in 1990 s/he is an employee but makes a transition in employee status.

The choice of a move towards a new job depends upon expected earnings, which as far as employee status is concerned are not known and depend in turn upon current wage earnings, education, family, job tenure and employee experience. We have investigated the following basic variables (Table 3).

Table 3. Basic variables according to the person's state in 1990. Percentage quota over the column categories' total (unless otherwise specified).

	trans. to self-employment	trans. to employee status	continuous employee status	total
Population (total)	594	8792	57759	67145
Gender				
male	67.00	55.25	57.41	57.21
female	33.00	44.75	42.59	42.79
Year of birth				
1959	19.36	21.77	23.29	23.06
1960	23.74	24.89	23.65	23.81
1961	24.75	26.89	26.04	26.14
1962	32.15	26.46	27.02	26.99
Place of birth				
Italy	91.92	92.44	93.98	93.62
foreign country	8.08	7.56	6.18	6.38
Transition into self-employment as				
entrepreneur	85.52			
family worker	14.48			
Age of entry to employees archive				
15-16	33.50	24.40	34.17	32.90
17-18	24.41	24.10	27.38	26.93
19-20	16.67	19.21	18.26	18.38
21-22	6.91	11.46	7.98	8.42
23-24	4.21	6.51	3.82	4.18
> 24	14.30	14.32	8.39	9.19
Size of firm at the last employee spell				
1	10.61	5.22	2.32	2.77
2-4	24.24	19.47	14.08	14.87
5-9	18.52	25.49	17.74	18.76
10-14	7.07	5.84	8.08	7.78
15-19	6.06	4.48	6.97	6.64
20-49	14.81	11.10	17.35	16.51
50-99	7.41	5.69	10.33	9.70
100-199	4.04	5.29	7.61	7.28
200+	7.24	17.42	15.52	15.69
no dimension available			(91)	
Sector of employment during the last employee period of employment				
S1	48.99	36.64	56.47	36.64
S2	23.74	16.00	14.09	14.43
S3	11.11	8.21	8.64	8.61
S4	16.16	39.15	20.77	23.14

Weeks worked in				
1974-1980: ≤ 52	54.88	66.74	49.78	52.05
≤ 104	14.31	13.43	15.53	15.25
≤ 156	11.28	7.52	11.41	10.90
> 156	19.53	12.31	23.27	21.80
1981-1985: ≤ 52	33.33	40.90	18.80	21.83
≤ 104	12.29	12.30	7.34	8.04
≤ 156	9.93	9.97	8.69	8.87
> 156	44.44	36.83	65.16	61.27
1986-1989: ≤ 52	33.67	34.97	6.42	10.40
≤ 104	12.46	15.28	7.01	8.14
≤ 156	14.81	13.72	10.45	10.92
> 156	36.09	36.03	76.13	70.55
Mobility in				
1974-1980: 0	26.26	35.95	22.96	24.69
1 - 50	37.88	39.76	33.78	34.60
51 - 100	19.19	12.85	20.48	19.47
101 - 200	9.26	7.37	14.40	13.46
>200	7.40	4.06	8.37	7.80
1981-1985: 0	17.51	19.24	9.87	11.16
1 - 50	32.66	39.93	21.44	23.96
51 - 100	18.69	14.56	19.04	18.45
101 - 200	16.50	12.27	20.55	19.43
>200	14.65	13.99	29.00	26.99
1986-1989: 0	16.33	12.20	0.07	1.81
1 - 50	35.02	49.08	21.04	24.84
51 - 100	19.53	14.49	21.10	20.22
101 - 200	20.53	10.58	23.41	21.70
>200	8.59	13.65	34.37	31.43
Employee category, last spell before transition, lagged				
blue collar	69.70	52.26	61.00	59.84
white collar	30.30	47.74	39.00	40.16
Wage per week (last spell available: reflatd to 1990), categorised in				
≤100	17.45	21.68	8.87	10.57
≤133	22.51	22.16	22.47	22.43
≤167	29.67	23.92	36.80	35.10
≤200	14.49	13.19	17.58	16.99
≤233	6.46	7.15	7.24	7.22
>233	9.42	11.91	7.04	7.68
missing	(21)	(317)	(127)	(465)

The first group of variables relate to individual background characteristics. Relying on standard models of job mobility we checked for birth cohort, sex, age of entrance into the labour market. Sex, as usual, may pick up a stability effect as well as an effect from the weak market. Other variables connected to human capital are absent. Particularly demanding is the lack of information on education. Time of entrance into the employee category is given high significance because it can be assumed as a proxy for years of education in our provinces, where a situation of almost full-employment prevails.

A time-related variable is introduced to check for age difference within the chosen cohort: younger people show a distinctive propensity to moving and entering into self-employment (consider the effect of the service in the army for young males, clearly expounded in figure 2).

The second group of variables include industry- and trade-specific factors. It is believed that some sectors, particularly the services and construction sectors, have a higher connection with self-employment. For example employment in construction has more fluctuations than others, and this can lead to layoffs and transitions into self-employment. Further, the dimension of firms is important as transitions into employee status are easier for people working in very small firms, both

because the firm's size is close to the self-employment dimension and because small firms show higher mobility.

Weeks worked are also a measure of work intensity, and supposedly people working continuously are less keen to move in any case. As additional measure of worker quality we have include the frequency of firm changes in relation to the week worked in a reference period.

Table 4 reports logistic estimates of a basic specification of the determinants of entry into first self-employment job, from employee work in year 1990 for cohort 1958-1961, and tables in Appendix 2 the same estimates for cohort 1948-1951. People with birth cohort 1958-1961 enter into employee status at the date recorded. People of the age cohort 1948-1952 may have entered before 1974 and are left censored.

Various specifications have been tested. We have limited our initial population to persons transiting to the new status within 24 months from the last spell, and in such cases we have dropped the AUS variable (last spell year) without losing too much in the population: the signs of the coefficients do not change and variations look marginal. The same happens with different categorisations of the continuous variables as mobility and worked weeks through time.

Table 4. Logit Estimates.

4.1. Model: prob. (Y=1 | X)

TRANS	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SEX	-.7196819	.09787	-7.353	0.000	-.9115036	-.5278602
ANNO_N	.1304555	.0404173	3.228	0.001	.051239	.2096721
SL80	.0036152	.0011307	3.197	0.001	.0013992	.0058312
SL85	.0015845	.0008943	1.772	0.076	-.0001683	.0033374
SL88	.005374	.0013399	4.011	0.000	.0027477	.0080002
S89	-.0546081	.0027268	-20.027	0.000	-.0599525	-.0492638
PM80	-.0015405	.0011976	-1.286	0.198	-.0038877	.0008067
PM85	-.0019787	.0008567	-2.310	0.021	-.0036578	-.0002996
PM89	-.0018861	.0010001	-1.886	0.059	-.0038462	.000074
AUS	-.1369674	.0223824	-6.119	0.000	-.1808361	-.0930986
CD	-.0004793	.0001606	-2.985	0.003	-.000794	-.0001646
CS	-.000315	.0002248	-1.401	0.161	-.0007556	.0001256
QLR	-.0389528	.1053975	-0.370	0.712	-.2455281	.1676224
RART	.1767874	.1070497	1.651	0.099	-.0330262	.3866009
AED	.0337875	.0180556	1.871	0.061	-.0016009	.0691758
cons	-1.417107	2.948899	-0.481	0.631	-7.196843	4.362629

Number of obs = 67054
 chi2(15) = 900.82
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.1325

Log Likelihood = -2948.4176

4.2. Model: prob. (Y=1 | Y≠ 4.1, X)

Number of obs = 9295
 chi2(15) = 258.62
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.0586

Log Likelihood = -2079.0042

TRANS	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SEX	-.6400981	.1014669	-6.308	0.000	-.8389696	-.4412267
ANNO_N	.1198368	.0417247	2.872	0.004	.0380579	.2016157
SL80	.0038964	.0011431	3.409	0.001	.001656	.0061369
SL85	.0011566	.0009242	1.251	0.211	-.0006548	.002968
SL88	.0024328	.0013825	1.760	0.078	-.0002769	.0051424
S89	-.0104064	.0027286	-3.814	0.000	-.0157543	-.0050586
PM80	-.0004359	.00123	-0.354	0.723	-.0028466	.0019748
PM85	-.0002142	.0008887	-0.241	0.810	-.0019559	.0015276
PM89	.0029552	.0010181	2.903	0.004	.0009598	.0049506
AUS	-.0833242	.0234002	-3.561	0.000	-.1291877	-.0374606
CD	-.0008879	.0001642	-5.408	0.000	-.0012097	-.0005661
CS	-.0005078	.0002377	-2.136	0.033	-.0009737	-.0000418
QLR	-.0768224	.1101734	-0.697	0.486	-.2927582	.1391134
RART	.3394356	.1118886	3.034	0.002	.1201379	.5587333
AED	.0585947	.0188726	3.105	0.002	.0216052	.0955843
cons	-7.153168	3.103038	-2.305	0.021	-13.23501	-1.071325

4.3. Model: prob. (Y=1 | Y≠1, Y≠ 4.2, X)

Number of obs = 58353
 chi2(15) = 1715.53
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.2587

Log Likelihood = -2458.1094

TRANS	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SEX	-.8250879	.1077705	-7.656	0.000	-1.036314	-.6138616
ANNO_N	.1665824	.0435679	3.824	0.000	.0811909	.2519738
SL80	.0030494	.0012036	2.534	0.011	.0006904	.0054083
SL85	.001191	.0009406	1.266	0.205	-.0006525	.0030345
SL88	.0051393	.0013675	3.758	0.000	.0024592	.0078195
S89	-.0652376	.0028711	-22.722	0.000	-.0708649	-.0596104
PM80	-.0020179	.0012842	-1.571	0.116	-.0045349	.000499
PM85	-.0024983	.000886	-2.820	0.005	-.0042349	-.0007617
PM89	-.0021094	.0010156	-2.077	0.038	-.0041	-.0001189
AUS	-.6402937	.0445289	-14.379	0.000	-.7275688	-.5530186
CD	-.000508	.0001705	-2.979	0.003	-.0008422	-.0001737
CS	-.0001786	.0002392	-0.747	0.455	-.0006475	.0002903
QLR	-.0514024	.1114458	-0.461	0.645	-.2698322	.1670274
RART	.1633328	.1177593	1.387	0.165	-.0674712	.3941369
AED	-.0020366	.018239	-0.112	0.911	-.0377844	.0337112
cons	44.83607	4.638716	9.666	0.000	35.74435	53.92779

4.4. Model: prob. (Y=3 | Y≠1, Y≠ 4.2, X)

MOBA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SEX	-.2944292	.0304738	-9.662	0.000	-.3541567	-.2347017
ANNO_N	-.0297152	.0128721	-2.308	0.021	-.0549442	-.0044863
SL80	-.001165	.000407	-2.863	0.004	-.0019626	-.0003674
SL85	-.0009105	.0002853	-3.192	0.001	-.0014696	-.0003513
SL88	.0043774	.0004074	10.744	0.000	.0035789	.0051759
S89	-.0460257	.0010216	-45.051	0.000	-.0480281	-.0440233
PM80	-.0020135	.0004628	-4.351	0.000	-.0029205	-.0011064
PM85	-.0001668	.0002733	-0.610	0.542	-.0007026	.0003689
PM89	-.0057484	.000293	-19.616	0.000	-.0063228	-.0051741
AUS	-.844827	.0351886	-24.009	0.000	-.9137953	-.7758586
CD	.0004968	.0000178	27.869	0.000	.0004618	.0005317
CS	.0008047	.0000695	11.573	0.000	.0006684	.0009409
QLR	.180888	.0318273	5.683	0.000	.1185077	.2432683
RART	-.2127333	.0447973	-4.749	0.000	-.3005345	-.1249322
AED	-.0359768	.0052913	-6.799	0.000	-.0463475	-.0256061
cons	79.50422	3.22826	24.628	0.000	73.17695	85.8315

Table 4.1. presents estimates of the choice of becoming self-employed in 1990, conditional on being once in the employees archive during the period 1974-1990. Table 4.2 conditional on having changed jobs within employee status for the first time in 1990. Table 4.3. provides an estimate of transitions to self-employment in 1990, conditional on not having moved in employee status in the same year (continuous wage-work), Table 4.4. estimates the transitions to another firm in employee status in 1990, conditional on not having changed jobs in employee status in the same year (continuous employee status).

Various observations about entry into self-employment can be made from Table 4. Several findings are robust.

First, our first estimate covers those who move into self-employment where the remaining population is made of employees (both movers and continuous employees in 1990). But a large part of the variables explaining the transition into self-employment explain the transition from a firm to a different firm in employee status as well. This point is frequently overlooked in studying movements towards self-employment from a specific data set (questionnaires, panels etc.) dealing exclusively with the self-employment state or with a move towards self-employment. Some crucial variables only are apparently related to transitions into self-employment: they explain mobility *tout court*.

Sex is an important covariate, as males move more than females, and specifically into self-employment. Age, as young people move more than older people, within our restricted four-year

cohort; younger people go into self-employment. Year of entrance into employee status also proves important, as late entrants, people who have higher educational qualifications, move more frequently. White-collar workers do not move more than blue-collar workers. People working in small firms, characterised by greater dynamism (larger birth and death rates) move more than people in medium-size firms.¹⁴ Three variables referring to the past working life look crucial. The number of weeks worked in the year just before transition, the mobility experienced in the past (related to the number of possible weeks worked -- i.e. average duration within a firm) and the distance of last spell in employee status from transition (1990), which is an index of possible recent unemployment experience.

All these variables explain both transitions within employee status and transitions into self-employment. People moving into self-employment are less mobile but transitions into self-employment originates especially in very small firms.

So, between movers, people going into self-employment are clearly detectable on the basis both of personal data variables and working-life variables. Females are less likely to transit into self-employment, people less mobile within employee status are more likely to move to self-employment, people in smaller size firms and craftsmen are more likely to move into self-employment as well. Higher education seems to characterise movers within the employee set. To work in the services sector does not significantly affect the easy transition to self-employment, contrary to expectations.

¹⁴ This is also a result which has been distorted because of the fact that, as small firms are successful, they transit into the next class in the size ladder. This implies that only the less successful ones stay in their original class. See Occari and Tattara (...).

FIGURE 3. YEAR OF ENTRANCE IN THE EMPLOYEE ARCHIVE, BY THE 1990 STATE.

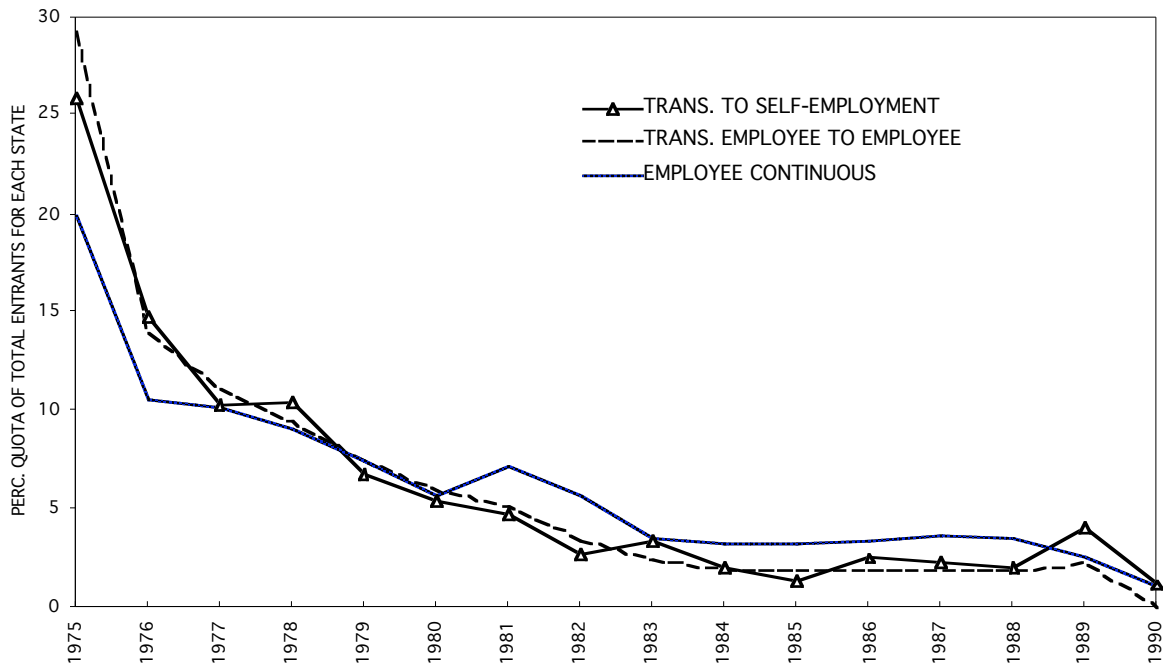
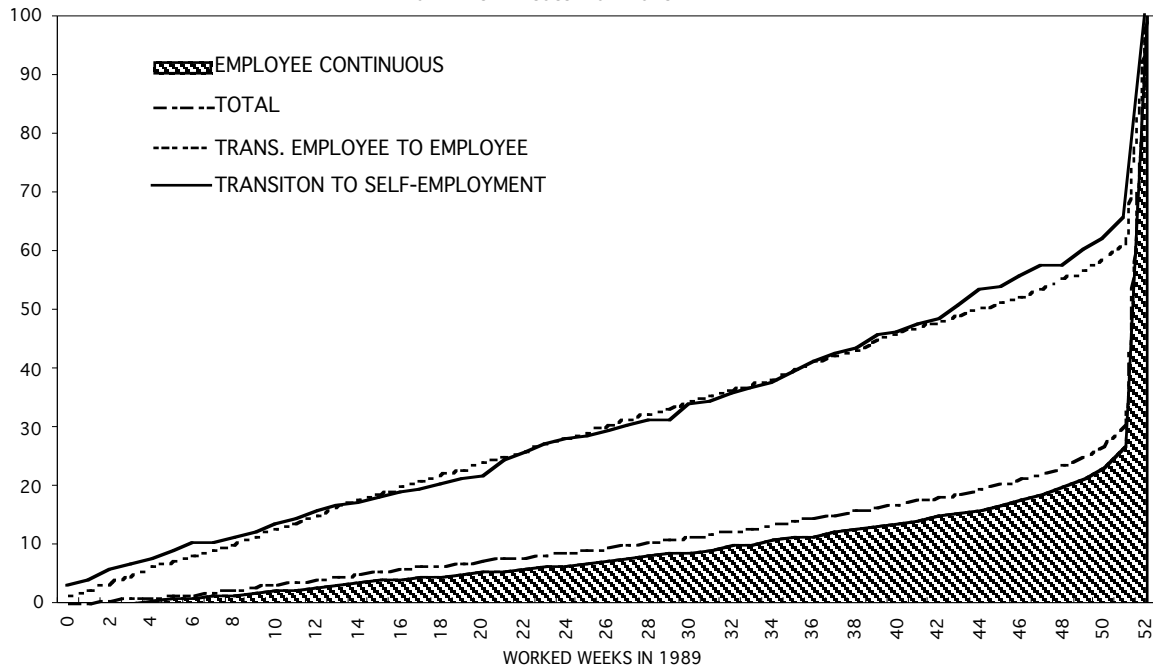


FIGURE 4. THE 1989 WORKING LIFE INTENSITY, BY 1990 STATE.

CUMULATED PERCENTAGE OF PEOPLE ENTERED IN THE EMPLOYEE ARCHIVE BEFORE 1989 AND WORKING AT LEAST THE NUMBER OF WEEKS IN ABSCISSA FOR EACH STATE.



People entering the first time in 1989 are not working for 52 weeks, of course, and the measure assumes, in such a circumstance, a very different meaning. But the number of people in this condition is very small (6.2% of self-employed, 3.4% of wage-empl.movers, 2.3% of wage-work-continuing, in 1990) and does not affect neither the result neither the visual impression we derive from the figure above.

FIGURE 5. CRAFTSMAN AND NO CRAFTSMAN, BY THE 1990 STATE.

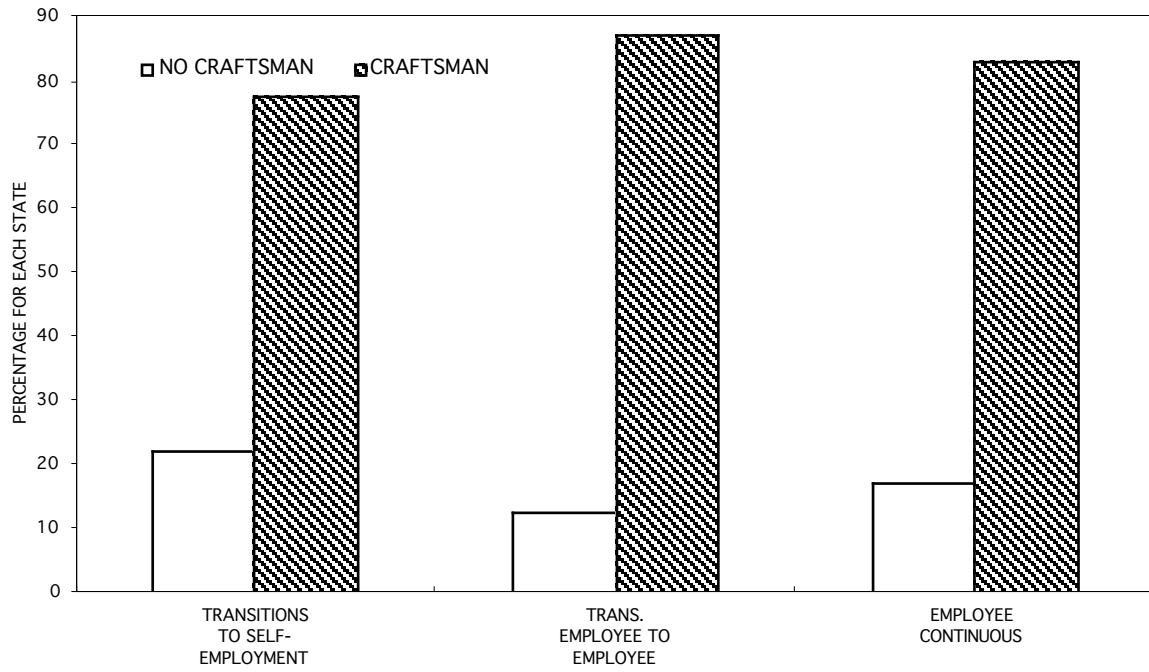


FIGURE 6. FIRM'S DIMENSION AT LAST SPELL AS EMPLOYEE, BY THE 1990 STATE, .

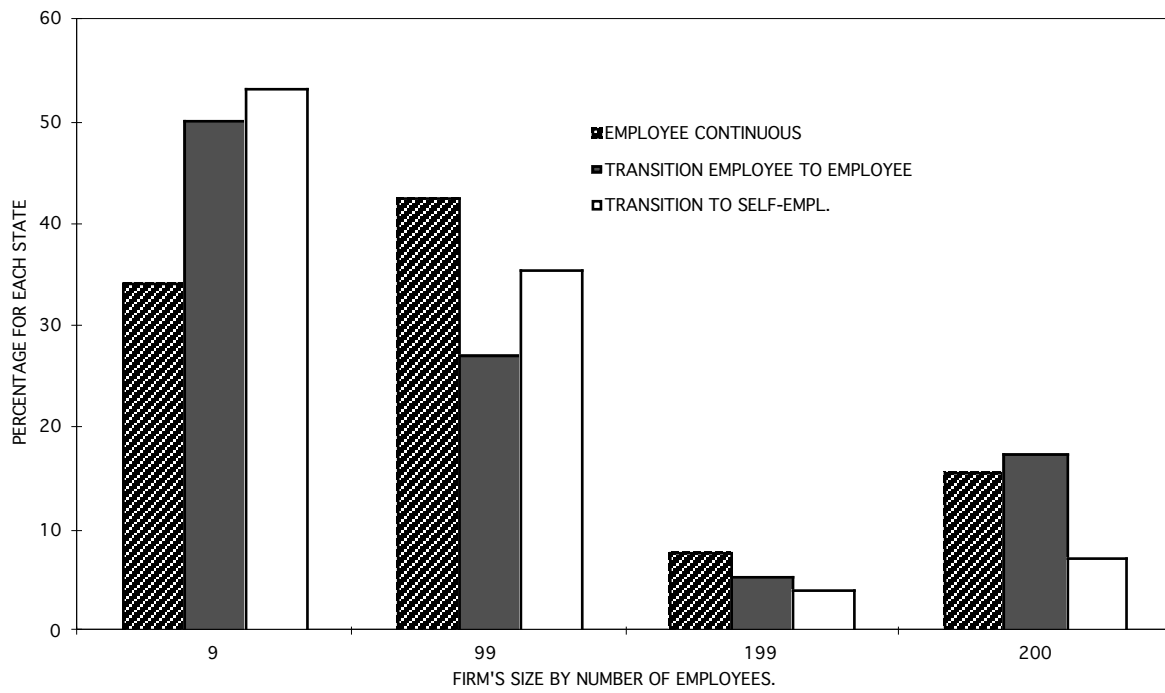


FIGURE 7. YEAR OF LAST SPELL, BY THE 1990 STATE..

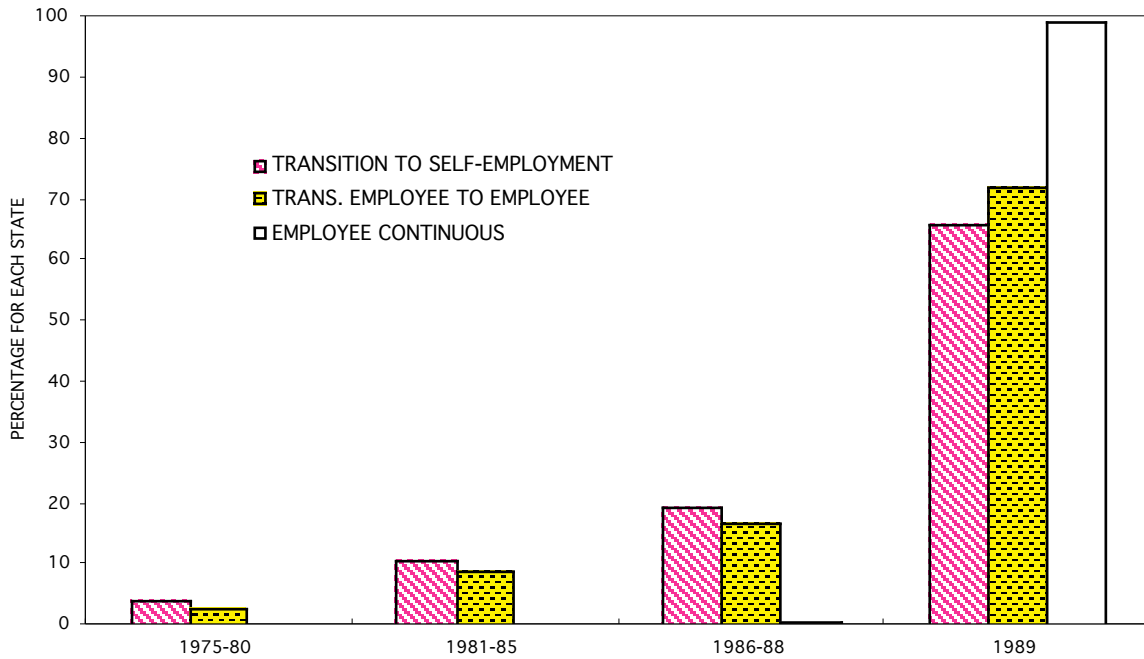


FIGURE 8. MOBILITY, BY THE 1990 STATE



Figure 2 shows how late entrants (AED), people with higher educational qualifications, move to self-employment. The work intensity in the preceding year strongly affects the probability of transition (S89: Figure 3). People working a large number of weeks are more likely to stay in place as are also more stable people, as expected; people moving in and out of employment and

unemployment are suitable movers. People working a reduced number of weeks are also likely to move to self-employment in respect to employee status movers. A related measure is mobility, Figure 7. Large mobility in employee status is directly linked with future mobility in employee status.

Figure 5 relates to the size of a firm (categorised, CD) and shows the prevalence of movers within small firms. Smaller size is important in explaining propensity towards self-employment in respect to employee status movers. Clear craftsmen (RART) pre-eminence among transits into self-employment is shown in figure 4 and is a variable which is typical of self-employment, and figure 6 points to the amount of time that has elapsed since the last spell (measured at the end) up to the date of the transition (AUS): the more distant the last spell, the greater the possible period of inactivity, and the easier it is to move out of employee status into self-employment.

Discrimination between movers (into self-employment and within employee status) and continuous work is very clearly detected (Table 4.3.).

Estimates for cohort 1948-1951 are built on more insecure assumptions, due to the left censor problem; the signs of the coefficients coincide for the two cohorts and point to the permanence of the same set of causes as apply to age.

6.A duration model of transitions.

The analysis performed so far has focused on the determinants of self-employment for people previously employed, limiting the transition to the first spell of self-employment in 1990.

If we were to choose a different year, would we have different results? Or, in other terms, is the result valid in general for our sample period? We answer these questions by adopting a different methodological perspective and therefore a different estimation procedure.

We consider the careers of employees in our sample as a sequence of three different spells: 1) first job as employee until the first self-employment spell 2) first self-employment spell 3) other spells after the first self-employment spell.

The determinants of condition 2), first self-employment spell, are investigated through the study of the previous career as an employee, the duration of the condition 1). In defining the spell as an employee, we control for the number of spells and the typology of spells, calculating some descriptive variables as “number of weeks” to be used as explanatory variables in the duration analysis.

To investigate on the determinants of the duration in condition 1), what we could call pre-first-self-employment spell, we use a survival analysis, largely used in the job market literature (for example, to estimate the length of unemployment spells). The period in which the transition occurs

is viewed as failure time. If the transition does not occur, the worker is surviving in his or her condition. We consider all individuals born in 1960, so that the spell labelled above as 1) is interpreted as the period (from the birth year) prior to the first transition into self-employment: in other words the entry time is the same for all individuals.

We estimate a survival model according to the Cox specification, based on proportional hazard rates. The Cox model to estimate the covariates roles is

$$H(t) = h_0(t)e^{x'\beta}$$

where x is the vector of independent variables, β the coefficient to be estimated and $h_0(t)$ is the baseline hazard function, i.e. the probability to exit when the explicative variables play no role.

The estimated model can be presented in terms of hazard function or survival function. The estimation results are reported in Table 5. Variable sex has a negative coefficient in the Cox regression: holding the value 1 for males, 0 for females, indicates that the probability to fall into self-employment, i.e. to terminate the pre-first-self-employment spell, is lower for females than for males. The estimation results confirm in general what we have found in the estimation of the logit model for the transition to self-employment in 1990: the lower the number of weeks worked in the last year before transition (ST1), the higher the probability to fall into self-employment, being the opposite for the weeks worked in 2 and 3 years before the transition (ST2, ST3). The mobility variables (PM1, PM2, ..), firm's size, entrance in wage-work exhibit the same sign as in the logit estimate, indicating that mobility is related to a higher probability to move to self-employment.

Because the duration model can be interpreted as an ordered logit model (Hosmer and Lemeshow, 1989:243), the duration model estimation confirms that the basic results obtained from the estimation of the logit model for the transition in the 1990 can claim a more general validity, extending to the whole period under investigation.

Table 5. Cox regression model.

5.1. Coefficients of the Cox regression.

No. of subjects = 2301 Log likelihood = -14745.49
 No. of failures = 2209 chi2(16) = 489.74
 Time at risk = 198635 Prob > chi2 = 0.0000

FM CENS	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
SEX	-.3114585	.0483547	-6.441	0.000	-.406232 -.216685
ST1	-.0384654	.0063863	-6.023	0.000	-.0509822 -.0259485
ST2	.0001698	.0018124	0.094	0.925	-.0033825 .003722
ST3	.0019869	.0018439	1.078	0.281	-.001627 .0056008
ST4	-.0053301	.0017864	-2.984	0.003	-.0088314 -.0018288
ST5	-.017629	.0014532	-12.131	0.000	-.0204773 -.0147807
PM1	.0007185	.0034716	0.207	0.836	-.0060857 .0075227
PM2	.0071091	.003231	2.200	0.028	.0007764 .0134418
PM3	.0114441	.0033857	3.380	0.001	.0048082 .0180799
PM4	.0172946	.0036566	4.730	0.000	.0101279 .0244613
PM5	.010281	.003772	2.726	0.006	.002888 .017674
CD	-.000236	.0000918	-2.570	0.010	-.0004159 -.000056
CS	-.0001153	.0001302	-0.885	0.376	-.0003706 .00014
QLR	-.1113085	.048071	-2.316	0.021	-.2055259 -.0170911
RART	-.0356107	.0482049	-0.739	0.460	-.1300906 .0588691
AED	-.0450028	.0083686	-5.378	0.000	-.0614049 -.0286007

5.2. Cox regression in Hazard ratio.

No. of subjects = 2301 Log likelihood = -14745.49
 No. of failures = 2209 chi2(16) = 489.74
 Time at risk = 198635 Prob > chi2 = 0.0000

FM CENS	Haz. Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
SEX	.732378	.0354139	-6.441	0.000	.6661556 .8051836
ST1	.962265	.0061453	-6.023	0.000	.9502956 .9743853
ST2	1.00017	.0018127	0.094	0.925	.9966233 1.003729
ST3	1.001989	.0018475	1.078	0.281	.9983743 1.005616
ST4	.994684	.0017769	-2.984	0.003	.9912074 .9981728
ST5	.9825255	.0014278	-12.131	0.000	.979731 .985328
PM1	1.000719	.0034741	0.207	0.836	.9939328 1.007551
PM2	1.007134	.0032541	2.200	0.028	1.000777 1.013533
PM3	1.01151	.0034247	3.380	0.001	1.00482 1.018244
PM4	1.017445	.0037204	4.730	0.000	1.010179 1.024763
PM5	1.010334	.003811	2.726	0.006	1.002892 1.017831
CD	.999764	.0000918	-2.570	0.010	.9995842 .999944
CS	.9998847	.0001302	-0.885	0.376	.9996295 1.00014
QLR	.8946627	.0430073	-2.316	0.021	.814219 .9830541
RART	.9650159	.0465185	-0.739	0.460	.8780159 1.060636
AED	.9559948	.0080003	-5.378	0.000	.9404424 .9718044

7. Conclusions.

An important issue is the contribution provided by self-employment to the beginning of new forms of entrepreneurship, i.e. to the establishment of a new firm employing people other than the owner and the members of his family. Entrepreneurs are not subject, in the period under exam, to social security contributions (INPS) and administrative data are not able to clarify this issue.

Typically self-employment originates from previous work as an employee.

A direct issue addressed in the paper is the link between self-employment and employee status. The issue is whether self-employment is a form of disguised unemployment or a suitable long term form of employment towards which gravitate the most successful wage-workers: wage-workers attracted by an activity that is more independent and more apt to bring their personality to the foreground.

The paper has focused on a detailed study of previous experience as an employee (entrance, duration, mobility, status, firm's size) to evaluate this point. Probability of entering into self-employment from employee status is dependent on age and experience cumulated during the first years of employment. Individuals enter self-employment for the first time at a very young age, and the choice is the result of a period of high mobility, unemployment and inactivity after the first entrance into the labour market as an employee. Self-employment does not seem to be bound by a liquidity constraint or by the need to accumulate assets in order to start a viable businesses, the usual reasons brought about to explain deferred entry, or by the time necessary to discover a viable business opportunity: it is directly linked to movements in wage employment and represents a temporary solution to face an unattended negative shock.

The disadvantage theory which views the self-employed as misfits excluded from wage work is consistent with many of our findings, but the evidence is not conclusive. Generally people who switch from being an employee to self-employment are people who have changed jobs frequently, and who have experienced relatively frequent or long spells of unemployment. This point is to be evaluated in relation to movements within the employee status. Employees moving to a new firm face the same covariates as people moving towards self-employment with some interesting peculiarities: they include a larger quota of females, are very mobile, stay in medium sized firms, more in the service sectors than in manufacturing. At least part of them seem to swim within the wage-work set with great confidence, like fish in water. The self-employed swim less confidently. They are less mobile in wage-work, work a fewer number of weeks, suffer more unemployment, work more in small firms, run by craftsmen. So mobility at young age has an ambiguous meaning. It can represent a misfit, and a move to shift out of wage-work towards self-employment, and it can represent a positive search for a better position in wage-work: a perspective good fit.

Social security data are particularly poor for personal characteristics, so our conclusions should be regarded as tentative. Several elements point to the fact that people enrol as self-employed immediately after leaving the employee status, where they had enjoyed very poor working conditions. Self-employment acts as a kind of temporary buffer, which is very flexible on the labour market, is burdened by very limited social security charges, provides a socially respectable transitory occupation and allow people to stay on the market.¹⁵ (for the fiscal push to self-employment, Contini, 1998)

In Italy job security legislation is relatively restrictive and social security charges are high. Both these factors are likely to encourage subcontracting by small firms, particularly in difficult years. Large and medium size firms refer to Cassa Integrazione guadagni for a very flexibility instrument to face temporary emergencies; small firms seek an instrument of flexibility in temporary self-employment.

¹⁵ Ichino has computed that at the same cost to the firm, just working few hours more, a self-employed has a net income which is double than the same income he would get as employee. (1966:27).

Appendix 1. Variables used in the analysis

Variable name	Description
SEX	female (1), male (0)
ANNO_N	year of birth
CPR	birth country: Italy (1), foreign country (0)
RART	artisan worker (1), non artisan worker (0)
AE	year of entrance in the INPS archive
AED	year of entrance in the INPS wage-workers archive
TITOLARE	for self-employment : owner (1), family worker (0)
AUS	exit year from wage-work
QLR	exit qualification. Blue collar (0), white collar (1).
DUS	distance between the month of transition into self-employment and the exit month from the previous spell (wage-work).
SETTORI	productive branches categorised (1,2,3 e 4)
S1	dummy for branch 1.Manufacture = ATECO 81: 01-04,22,25-49
S2	dummy for branch 2 Trade = ATECO 81: 61-67
S3	dummy for branch 3 Construction = ATECO 81: 11-19,21,23,24,50
S4	dummy for branch 4 Services = ATECO 81:71-98
CS	exit branch (ATECO 1981, three digit classification). Exit is defined as exit from the last spell before transition. This is, by definition, a wage-work spell.
CD	firm's dimension at exit: average number of people employed per firm (see previous definition)
CCD	CD categorisation
SL80	worked weeks before 1980
SL85	worked weeks from 1.1.1981 to 31.12.1985
SL89	worked weeks from 1.1.1986 to 31.12.1989
S86	worked weeks in 1986
S87	worked weeks in 1987
S88	worked weeks in 1988
S89	worked weeks in 1989
S1,S2,S3....	worked weeks in one year, lagged 1,2,3... years from transition
PM80	number of visited firms in.../ worked weeks in... before 31.12.1980
PM85	number of visited firms in.../ worked weeks in... from 1.1.1981 to 31.12.1985
PM89	number of visited firms in.../ worked weeks in... from 1.1.1986 to 31.12.1989
PM1,PM2,PM3...	Idem, lagged 1,2,3... years from transition
GW	yearly rate of growth of the last available weekly wage, deflated with the yearly consumers price index.
DRW	last available weekly wage, deflated with the yearly consumers price index.
AW	current average weekly wage
RW	exit average weekly wage
W86	average weekly wage in 1986
W87	average weekly wage in 1987
W88	average weekly wage in 1988
W89	average weekly wage in 1989

Appendix 2. Logit estimate for the cohorts 1948-1952.

5.1. Model: prob. (Y=1 | X)

Log Likelihood = -478.94277

Number of obs = 34217
 chi2(13) = 98.14
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.0929

TRANS	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SEX	-1.212452	.3497539	-3.467	0.001	-1.897957	-.5269466
SL80	.0009787	.0022858	0.428	0.669	-.0035014	.0054588
SL85	-.0039562	.0027724	-1.427	0.154	-.0093901	.0014776
SL88	.0119844	.0049019	2.445	0.014	.0023768	.021592
S89	-.0710985	.0088395	-8.043	0.000	-.0884235	-.0537734
PM80	-.0010385	.0015695	-0.662	0.508	-.0041147	.0020377
PM85	.001954	.0019374	1.009	0.313	-.0018433	.0057512
PM89	-.000163	.0001561	-1.044	0.297	-.000469	.0001431
CD	-.000416	.0002591	-1.606	0.108	-.0009238	.0000918
CS	-.0000137	.0006308	-0.022	0.983	-.0012501	.0012226
QLR	.1557894	.2741922	0.568	0.570	-.3816174	.6931962
RART	.4880929	.3195851	1.527	0.127	-.1382824	1.114468
AED	.1015646	.0620523	1.637	0.102	-.0200558	.2231849
_cons	-11.30719	5.246955	-2.155	0.031	-21.59104	-1.023351

5.2. Model: prob. (Y=1 | Y≠ 4.1, X)

Log Likelihood = -304.74513

Number of obs = 2515
 chi2(13) = 58.15
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.0871

TRANS	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SEX	-1.054737	.3545037	-2.975	0.003	-1.749552	-.3599228
SL80	.0025093	.0023518	1.067	0.286	-.0021001	.0071187
SL85	-.0028595	.0029708	-0.963	0.336	-.0086822	.0029633
SL88	.0056669	.0048326	1.173	0.241	-.0038047	.0151385
S89	-.0199383	.0088813	-2.245	0.025	-.0373453	-.0025313
PM80	-.0013507	.0016398	-0.824	0.410	-.0045647	.0018633
PM85	.0038739	.0020351	1.904	0.057	-.0001147	.0078625
PM89	.0001109	.0001628	0.681	0.496	-.0002082	.00043
CD	-.0008518	.0002832	-3.007	0.003	-.0014069	-.0002966
CS	.0007302	.0006726	1.086	0.278	-.0005881	.0020486
QLR	.3366211	.2899962	1.161	0.246	-.231761	.9050032
RART	.9305136	.3380969	2.752	0.006	.2678559	1.593171
AED	.161785	.0676256	2.392	0.017	.0292412	.2943288
_cons	-16.52251	5.670776	-2.914	0.004	-27.63703	-5.407996

5.3. Model: prob. (Y=1 | Y≠1, Y≠ 4.2, X)

Log Likelihood = -465.16654

Number of obs = 31776
 chi2(13) = 114.73
 Prob > chi2 = 0.0000
 Pseudo R2 = 0.1098

TRANS	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
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SEX	-1.303873	.3538082	-3.685	0.000	-1.997324	-.6104216
SL80	.0005239	.0023046	0.227	0.820	-.0039929	.0050408
SL85	-.0043724	.0027272	-1.603	0.109	-.0097176	.0009727
SL88	.0127043	.0049498	2.567	0.010	.0030029	.0224057
S89	-.0822084	.0089957	-9.139	0.000	-.0998397	-.0645771
PM80	-.0011442	.0015768	-0.726	0.468	-.0042347	.0019464
PM85	.0017667	.0019236	0.918	0.358	-.0020036	.0055369
PM89	-.000178	.0001556	-1.144	0.253	-.000483	.000127
CD	-.0004257	.0002651	-1.606	0.108	-.0009454	.000094
CS	-.0000486	.0006371	-0.076	0.939	-.0012972	.0012001
QLR	.1521023	.2736754	0.556	0.578	-.3842915	.6884962
RART	.4789086	.3215702	1.489	0.136	-.1513574	1.109174
AED	.0752135	.0610504	1.232	0.218	-.0444432	.1948701
_cons	-8.461075	5.188589	-1.631	0.103	-18.63052	1.708373

5.4. Model: prob. (Y=3 | Y≠1, Y≠ 4.2, X)

Number of obs = 34143
chi2(13) = 1299.88
Prob > chi2 = 0.0000
Pseudo R2 = 0.0739

Log Likelihood = -8141.3667

MOBA	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
SEX	-.5487598	.0535357	-10.250	0.000	-.6536878	-.4438318
SL80	-.0003648	.000456	-0.800	0.424	-.0012586	.000529
SL85	-.0036088	.0005092	-7.087	0.000	-.0046069	-.0026107
SL88	.0031486	.0011884	2.649	0.008	.0008194	.0054778
S89	-.0435378	.0023638	-18.418	0.000	-.0481708	-.0389048
PM80	.000639	.0002851	2.242	0.025	.0000803	.0011978
PM85	-.0000153	.0003409	-0.045	0.964	-.0006835	.0006529
PM89	-.000324	.0000293	-11.069	0.000	-.0003814	-.0002666
CD	.0003999	.0000226	17.696	0.000	.0003556	.0004441
CS	-.0002752	.0001161	-2.371	0.018	-.0005028	-.0000477
QLR	-.4403147	.0464473	-9.480	0.000	-.5313498	-.3492796
RART	-.3989941	.0928599	-4.297	0.000	-.5809962	-.216992
AED	-.0559092	.0146816	-3.808	0.000	-.0846846	-.0271339
_cons	5.148287	1.194784	4.309	0.000	2.806554	7.490021

Bibliography.

Agenzia per l'impiego del Veneto, 1993, Il mercato del lavoro nel Veneto.Tendenze e politiche.Rapporto 1993. Ministero per il lavoro, Regione Veneto, Angeli: Milano.

Anastasia B. and P. Guerra, 1997, L'artigianato: tra imprenditorialita', autonomia e dipendenza. In Bologna S. and A. Fumagalli (eds.). Il lavoro autonomo di seconda generazione. Scenari di postfordismo in Italia, Milano: Feltrinelli, 227-243.

Balugani F., B. Pistori, 199 , Analisi di sopravvivenza e modelli di durata della disoccupazione, Economia & Lavoro, XXVI,4,49-65.

Blau, D, 1987, A time-series analysis of self-employment in the United States, Journal of Political Economy, 95, 445-467

Borjas G J., 1986, The self-employment experience of immigrants, The Journal of Human Resources, XXI-4

Borjas G., S.G.Bronars, 1989, Consumer Discrimination and Self employment, Journal of Political Economy, 97(3), 581-605.

Carroll G., K.U.Mayer, 1986, Job-shift patterns in the Federal Republic of Germany: the effects of social class, industrial sector and organizational size, American Sociological Review, LI, 6 (3), 323-341.

Carroll G., E. Mosakowski, 1987, The career dynamics of self-employment, Administrative science quarterly, 32, 570-589.

Chelli F. and L. Rosti, 1998, La scelta di un'occupazione indipendente, CNR. Progetto Strategico Occupazione, working paper.

Contini B., 1998, Lavoro autonomo per evadere il fisco tutto il mondo e' paese. La repubblica. Affari e Finanza, 12th december, 8.

de Wit G., 1993, Models of self-employment in a competitive market, Journal of economic surveys, 4, 365-397.

Eurostat, 1997, Labour force surveys 1996. Office for official publications of the European Community: Luxemburg.

Evans D. and Leighton, L, 1989, The determinants of changes in US self-employment, Small Business Economics 1, 111-120.

Evans D., 1989, Some empirical aspects of entrepreneurship, American Economic Review, 6, 519-535.

Flinn C.J. J.J.Heckman, 1982, New methods for analyzing individual event histories, Sociological Methodology, 99-140.

Hachen D S Jr. 1990, Three models of job mobility, Work and occupations, v. 17 n 3 8, 320-354.

- Heckman J.J. 1979, Sample selection bias as a specification error, Econometrica, 47(1),153-161.
- Kiefer N.M., G.R. Neuman, 1989, Search models and applied labour economics, Cambridge: Cambridge University Press.
- Kiefer N.M., 1988, Economic duration data and hazard functions, Journal of economic literature, XXVI,6: 646-679.
- Ichino P., 1996, Il lavoro e il mercato. Per un diritto del lavoro maggiorenne. Milano: Mondadori.
- Istat, 1984, Commissione di studio per un sistema informativo del lavoro. Rapporto conclusivo. Economia e Lavoro, 4, 117-141.
- Istat, 1998, Forze di lavoro. Media 1997. Annuario di statistica n.3. Roma.
- Lee A. M., 1996, Good job, bad job: employment mobility and self-employment transitions, 1980-1990. Ph.d. dissertation, Cornell University.
- Loutfi M. F., 1991, Self-employment patterns and policy issues in Europe, International Labour Review, v.1, 130,n.1.
- Mcmanus P.A., 1996, Welfare capitalism, the family and small business: self-employment in the United states and Germany, Ph.d. Thesis, Duke University.
- Magnac T., and J.M Robin, 1994, An econometric analysis of labour market transitions using discrete and tenure data, Labour economics, 1, 327-346.
- Moen P. , 1985, Continuities and discontinuities in women's labour force activity. In G. H. Elder (ed.) Life course dynamics. Trajectories and transitions, 1968-1980, Ithaca and London: Cornell Un. Press.
- Mortensen D.T. and G.R. Neumann, 1984, Choice or chance ? A structural interpretation of individual labour market histories. In Neumann GR e Westergård-Nielsen eds, Studies in the labour market dynamics, Berlin: Spinger-Verlang, 193-204.
- Occari F. and G. Tattara, 1997, Struttura e organizzazione del sistema produttivo veneto nell'ultimo quindicennio. In P. Feltrin (ed.), Quale societa' della piccola impresa, Rpma: Nuova Italia Scientifica.
- OECD, 1992, Employment Outlook. July.
- Rapiti F., 1997, Lavoro autonomo, lavoro dipendente e mobilita': un quadro statistico sull'Italia. In Bologna S. and A. Fumagalli (eds.). Il lavoro autonomo di seconda generazione. Scenari di postfordismo in Italia, Milano: Feltrinelli, 173-191.
- Sestito P.,1989, Alcune note sul lavoro indipendente in Italia. Economia e Lavoro, 3, 71-85.
- Tai M., 1998, The determinants of self employment and wage/salary work among eight ethnic groups in the U.S., M.Sc. Thesis, Rutgers, New Brunswick.

Yuengert A. M. 1995, Testing Hypothesis of immigrant self-employment, Journal of Human Resources, 30(1), 194-204.