LABOUR MARKET DUALISM AND THE TRANSITION FROM TEMPORARY TO PERMANENT JOBS IN THE PROVINCE OF BOLOGNA

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1. INTRODUCTION

The employment crisis that afflicted the European Union during the 1990s led to the emergence of various forms of employment other than full-time, permanent employment, namely: part-time work, temporary work, agency-based work, employer-coordinated freelance work, and many other atypical contractual types, some of which were specifically aimed at young people, such as apprenticeship contracts (OECD 2007).

The reform of the Italian labour market in 1995 led to a substantial increase in the number of temporary employees, and more generally speaking, of those with atypical employment contracts. At the same time, Italy witnessed a substantial reduction in the unemployment rate, and a corresponding increase in the workforce rates, although general labour productivity grew very slowly compared with that of other European countries (OECD 2007).

There is also evidence, according to the OECD’s report Employment Outlook 2007, that the partial reform of the labour market, designed to loosen restrictions on the use of temporary employment contracts without affecting permanent contracts, may have undesired long-term effects. In fact, when the rules governing permanent workers remain stringent, firms tend to employ more temporary staff, and are very reluctant to transform temporary contracts into regular, permanent contracts. Temporary jobs are often used by firms as a mechanism with which to render employment more flexible in the presence of cyclical fluctuations in the economy (Blanchard, Landier, 2001) and may also be utilised in order to select those employees who are to be subsequently offered permanent contracts (Guell and Petrangolo, 2000; Booth et al., 2002). All of this leads to increased turnover within certain specific categories of labour, which tend to be over-represented in the temporary employment segment, and this, in turn, produces greater job and wage insecurity among such workers, and an under-investment in human resources leading to a deterioration in their productive potential and in levels of occupational health and safety (Booth et al., 2001 e 2002; Guadalupe, 2003).
The dual nature of the Italian labour market, together with the “segregation” of “atypical” workers, is further confirmed by an examination of the matrices elaborated by the CNEL (2007) regarding changes in the professional conditions of workers. Taking 100 as the base for the number of temporary employees in 2005, after just one year only 29% had been given a permanent job, while 65% continued to be employed on a temporary basis, and about 5% were unemployed.

In order to interpret these figures in a correct manner, we need to bear in mind that approximately 88% of those persons employed on a temporary employment contract declared that “the temporary nature of the job was not a choice”, compared with 55% of workers in all EU countries. In the case of freelancers providing coordinated and continuous collaboration, the likelihood of them being given permanent jobs is fairly slim – approximately 12% – and this may partly be due to the fact that some of them do not aspire to, or indeed look for, permanent employment. The period of transition from temporary work, or from coordinated and continuous collaboration, to permanent employment is therefore one of the crucial aspects of the present labour market situation in Italy, and indeed in Europe as a whole, in that the transition to permanent employment status implies the greater stability of workers not only in terms of their current jobs, but also in terms of their professional careers, and at the end of the day, in terms of their lifetime projects (Anastasia, Danilo, 2008).

To put it briefly, the difference between stepping stones and dead ends, as Booth metaphorically puts it, lies in the length of time a worker remains temporarily employed. Up until now, studies of the transition from temporary to permanent employment have in the main been based upon the shift from one state to the other during the course of one year, taken from the ISTAT survey of the labour force (Contini and Trivellato, 2002; Barbieri and Sestito, 2008); this is really too short a period if we wish to draw reliable conclusions regarding the effects of employment in temporary jobs on the professional career of those persons in question, despite certain evidence suggesting that those workers who have had some experience of temporary employment, have a better chance of finding permanent jobs than do those who have simply been unemployed (Ichino, 2004; Larsson et al., 2004; Barbieri and Sestito, 2008; for an opposing view, see Autor and Houseman, 2005).

In this present study we are going to avail ourselves of figures regarding new
employment and employment termination, registered at the Bologna Provincial Employment Centre for the three-year period 2004-2006, in order to calculate the duration of job placements, according to the type of contract, and the likelihood of temporary workers being made unemployed. In order to do so, we shall utilise the survival curves method based on the Kaplan and Meier filter (Kaplan, Meier, 1958; Cox, Oates, 1984). Given the impossibility of estimating true transition matrices, in that the database fails to “cover” all outgoing events, the survival curves method at least enables us to estimate the “duration” of permanence in a given state. The utilisation of the Bologna Provincial Employment Centre’s records enables us to cover a sufficiently long period of time, which in turn enables us to obtain sufficiently stable estimates unaffected by contingencies. Clearly, the results may not be generalised for the whole of Italy, although they do nevertheless provide a meaningful insight into the situation of temporary workers (also given the healthy state of the Bologna province’s labour market).

2. FIGURES FOR, AND THE NATURE OF, HIRING WITHIN THE PROVINCE OF BOLOGNA, ACCORDING TO TYPE OF EMPLOYMENT CONTRACT AND AGE OF EMPLOYEE

A number of the problems encountered when studying the transition from temporary to permanent employment (as well as other dynamic labour market phenomena), derive from the fact that there is still no administrative database covering the entire employment universe, and thus the database in question may throw up “outputs” that could constitute “inputs” in other conditions not envisaged by the individual database. Despite certain limitations, the sources of information available within the Province of Bologna nevertheless represent an important tool for the analysis of labour market dynamics. The main source is provided by the notification of hirings, contractual terminations, extensions and transformation, received by the Labour Exchange from individual firms (these figures thus do not include, up until 2006, any movements pertaining to public institutions, while any movements concerning coordinated and continuous collaboration are only covered in a sporadic, marginal manner up until then³).

An initial assessment of the entity of temporary employment contracts may be made after examining the figures for the first six months of 2007; these figures reveal that only 27.9% of all job placements concerned persons given permanent employed-labour contracts. The other permanent-type contracts were those given to apprentices (7.2% of all job placements), and to cooperative workers (2.9% of all job placements), two categories which are characterised by a certain degree of precariousness. Thus overall, job placements on temporary contracts represented 60% of all job placements registered in the province of Bologna during the first half of 2007. Given the high proportion of job placements on temporary contracts, it is difficult to believe that the temporary filling of such a high percentage of jobs can be “objectively” justified (Cahuc, Postel-Vinay, 2002).

³ Following the 2007 Finance Act, all job placements, including those regarding coordinated and continuous collaboration, and those made by the Civil Service, as of January 2007, must be notified to the Provincial Labour Exchanges in question.
Before expounding the results of the analyses conducted using the Kaplan-Meier filter, we would like to examine the composition, in terms of age and contract type, of the job placements in the province of Bologna during the first half of 2007, in order to highlight any links between the stage in the life cycles of those persons involved in the said job placements, and the type of employment contract they were offered.

The job-placement-by-age analysis, based upon figures for the first half of 2007 (Table 2 below), may be summed up as follows: the average worker comes into the labour market at a very young age, usually either as an apprentice or on a temporary contract, although fairly often as a coordinated and continuous collaborator, then works on a series of temporary jobs, before being offered a permanent employment contract (at the age of 35 or more). This is, of course, a picture of the “average worker”, and does not reflect the heterogeneous nature of the work experiences of different individuals. This question shall be dealt with in more detail in the following section.

If we now examine the composition of those persons hired, according to the type of contract they are offered and their age group, as one would have expected the younger age groups account for almost one half of all job placements (18.7% in the age group 15 to 24, and 28.5% in the age group 25 to 34). However, those persons within the central age groups (covering ages from 35 to 54) account for 37.1% of all job placements. Those hired on permanent contracts fall mainly within the said 35-54 age groups.
We should point out that in none of the above age groups were more people hired on permanent contracts than on temporary contracts, although the incidence of permanent contracts increases with age. Young people in particular (aged 15-24) were seldom hired for permanent employed work. In terms of their relative incidence, job placements on coordinated and continuous collaboration contracts concerned the over-45 age groups above all (where this type of contract represents around 20% of all job placements registered during the first half of 2006), while in absolute terms, such contracts are more frequent among the younger age groups. The instability of the employment relationship is thus something that affects all those persons given work, rather than just the younger age groups. Temporary employment not only represents the channel through which young people get introduced into the labour market, but for a great number of them it is something that persists well into their adult lives.

3. HOW LONG DOES A JOB LAST?

An examination of the figures we have for job placements clearly reveals the dual nature of the labour market in the province of Bologna: while the majority of workers are employed on permanent contracts, there are nevertheless a substantial number of flexible/precarious workers: the interesting thing is that job placements and the termination of contracts tends to almost exclusively concern the latter of these two categories, which is characterised by the “intermittent” nature of the work in question, by the high level of rotation of those being hired, by the limited duration of the employment relationship, and finally, by the limited likelihood of temporary employment contracts being transformed into permanent ones.

Does the type of contract affect the duration of employment in a given job, that is, the time between “placement” and “termination”? The answer is of course yes, given that permanent job placements usually come to an end for objective, financial reasons, whereas flexible/precarious job placements, by their very nature, are of a temporary nature. Nevertheless, it is important to try and measure just how long any employment contract lasts, and to distinguish the two types of contract. The shorter a temporary contract is, the greater the uncertainty the worker in question will have about his/her future, and this will have repercussions on the accumulation of human capital, on labour productivity, and on health and safety in the workplace.

Measuring the “duration” of job placements is not a simple task, however, since the likelihood of placement and termination depends on the passing of time, and varies according to the temporal distance from the start of the phenomenon in question. In such cases, the variable in question is constituted by the duration of the state in question (in this case, the state of being employed), which within a given observation period may arise more than once. Thus we need to analyse data expressing the time between an originating event (in our case, a job placement) and a terminal event (the end of employment) marking an individual's
exit from a given state (that of being employed). Such data may be interpreted and elaborated according to a specific statistical approach known as duration data analysis, or survival analysis (Cox, Oates, 1984), which has also been utilised by Booth (2001 and 2002), Alboni et al. (2008), Evangelista, Rinaldi (2008).

One of the fundamental features of such analyses consists in the evaluation of the contribution made to the estimate of the survival of those persons who never experience the terminal event (termination of employment) during the observation period: in the language of statisticians, these are the so-called censured observations. The diagram shown in Figure 1 represents the mechanism whereby data for the time-period during which the beginning and end of job placements are transformed into figures for duration, where certain observations, at the time the empirical observation is made, may still be ongoing observations.

![Figure 1 – Diagram of the construction of data for the purposes of estimating survival curves.](image)

Usually we think that the average (or median) duration of the observed job placements constitutes an indicator of the likelihood of an employment contract being terminated: this would only be correct, however, if all the individuals in question had been given the same time from the start of their job placement, which is clearly not the case. In fact, scholars commonly accept that in such cases, an estimate is required of a survival function representing the probability, with time, that an individual is still going to be in his/her job, at least up until the end of the observation period. Thus we took the SILER database for the period 2004-2006, and used it to estimate the survival functions for job placements, subdivided according to the type of employment contract in question. This time span allows to investigate consequences of the labour market reform introduced in 2003 (Law n. 30/2003). Besides, a three year interval gives us the possibility to observe in a robust way the transitions from temporary to permanent works (usu-
ally transition matrices are computed in Italy on a year to year basis, as in Ministry of Labour (2007) or CNEI (2007)). Moreover, longitudinal analysis in Italy has been performed using pseudo-panels data, and deals with periods before the introduction of the Law n. 30 (Berton, 2008; Evangelista, Fabrizi, 2008). In order to elaborate the survival curves, we adopted the following classification:
permanent employed labour contracts (including those of cooperative members);
temporary employed labour contracts;
apprenticeship contracts;
agency-work contracts and other contracts (mainly contracts for continuous and coordinated collaboration).
The resulting survival curves are shown in Figure 2 below.

The above graph is crystal clear: given a certain type of job placement, you can trace the probability of an individual still being employed under that contract after a given number of days. Of course, by separating the various types of employment contract, the resulting probabilities diverge considerably. As far as regards permanent employment contracts (fig. 2), with reference to job placements during the period 2004-2006 once again, the probability that a job placement lasts more than 1,000 days is slightly more than 80% (which in practice corresponds to

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4 For the analysis we used the software S-Plus, and more precisely the routines Surv and Surfit of the library Survival, which allow to estimate survival functions by the Kaplan Meier filter.
the length of the period subject to analysis). The duration of apprentices’ job placements is also rather lengthy, the probability of such contracts lasting more than 836 days being greater than 50%. As far as regards temporary employment contracts, the median duration of such contracts is much lower, ranging from 29 days in the case of temporary contracts through job placement agencies, to 105 days in the case of temporary job placements, and to 213 days in the case of job placements on “other contracts” (mainly contracts for continuous and coordinated collaboration, as we have already seen). The summarised picture shown in Table 3 below also highlights the considerable precision of the estimates, given the low standard error for the estimate of median duration.

This situation could be seen, in a certain sense, as “innate” to the type of contract in question: nevertheless, there are also certain aspects of precarity and insecurity associated with the extremely short “expected duration” of the contracts, in terms of both the insecurity of the job and of the previously-mentioned strictly economic repercussions.

Table 3 below reveals the extremely high number of job placements registered during the three-year period (around 382,000) compared with the average number of employed persons, which varies between 420,000 and 450,000 during that same period. There is thus a substantial process of job creation and destruction, in that the considerable number of movements (an average of around 130,000 a year) contrasts with the increase of only 20,000 or so in the number of persons in work during the period 2004-2006: hence the figures for the province of Bologna would seem to indicate that the majority of firms create new jobs in the form of both temporary and permanent posts. When the said temporary contracts come to an end, the majority are renewed for a further temporary period, whereas only a very limited number get transformed into permanent contracts (Cahuc, Postel-Vinay, 2002).

<table>
<thead>
<tr>
<th>Type of contract</th>
<th>No. placements</th>
<th>Average duration</th>
<th>S.E. average duration</th>
<th>Median duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temp. Contracts through agencies</td>
<td>31,031</td>
<td>59</td>
<td>0,656</td>
<td>29</td>
</tr>
<tr>
<td>Temp. contracts</td>
<td>161,023</td>
<td>161</td>
<td>0,498</td>
<td>105</td>
</tr>
<tr>
<td>Other contracts</td>
<td>6,694</td>
<td>412</td>
<td>6,123</td>
<td>213</td>
</tr>
<tr>
<td>Apprentices</td>
<td>29,633</td>
<td>658</td>
<td>3,003</td>
<td>836</td>
</tr>
<tr>
<td>Permanent contracts</td>
<td>154,247</td>
<td>836</td>
<td>1,127</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

Source: Elaboration of SILER data – Province of Bologna

It is interesting to see whether the duration of the temporary job placements depends in some way on demographic factors. To this end, and without going any further than those job placements on temporary contracts (that is, excluding apprenticeship contracts and permanent contracts), we have estimated the survival curves according to gender (Fig. 3) and to age group (Fig. 4). The age-group classification fails to reveal any difference worthy of note: the median duration of job placements is 98 days for women and 120 days for men, which comes down to 98 days for the age groups 25-34 and 35-44, whereas the median duration for the over-45s age group is 92 days. It would thus seem that for younger people,
the “precarity” of temporary job placements is no less pronounced than it is for older people (and in particular, for those over 45), for whom one may presume the existence of a negative signal effect related to the fact that they are looking for work at a mature age, a signal that contributes towards “confining them” to short-term jobs.

Figure 3 – Survival curves for job placements on temporary contracts, according to gender (2004-2006) [Femmine = females, Maschi = males].
Source: Elaboration of SILER data – Province of Bologna

Figure 4 – Survival curves for job placements on temporary contracts, according to age (2004-2006).
Source: Elaboration of SILER data – Province of Bologna
One important thing we should focus our attention on here is an individual’s permanence in the condition of temporary worker, that is, on the length of time before he/she has a chance of being offered a permanent job. In order to interpret such information correctly, we need to bear in mind that the “transition” from temporary work to permanent employment is not always a lasting transition; in other words, it is not unusual to find workers on temporary contracts being offered permanent jobs, and then at a later date returning to cover another post on a temporary contract. If we reconstruct the path taken by those individuals present in the Province of Bologna’s database who, during the observation period, had at least one temporary employment contract, we get the following results (Table 4).

### TABLE 4

*Workers by type of initial and final contract, within the Province of Bologna, 2004-2006*

<table>
<thead>
<tr>
<th>Initial contract type</th>
<th>Final contract type</th>
<th>No. of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent</td>
<td>Permanent</td>
<td>4,654</td>
</tr>
<tr>
<td>Temporary</td>
<td>Permanent</td>
<td>18,972</td>
</tr>
<tr>
<td>Permanent</td>
<td>Temporary</td>
<td>13,511</td>
</tr>
<tr>
<td>Temporary</td>
<td>Temporary</td>
<td>66,904</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>104,041</td>
</tr>
</tbody>
</table>

Source: Elaboration of SILER data – Province of Bologna

Of the approximately 100,000 cases of workers, registered in the archives, who have had at least one temporary employment contract, approximately 4,600 (4.5% of the total) were in work both at the beginning and at the end of the period in question. The average duration of their temporary jobs within that period was 188 days, while the average duration of permanent employment was 612 days. Approximately 18,900 workers (18.2%) had temporary jobs at the beginning of the period and permanent jobs at the end of it: the average period during which these workers had a temporary job was 228 days, while the average period during which they were employed on a permanent contract was 442 days. Approximately 13,500 workers (13% of the observed sample) went from a permanent job to a temporary one, and while the average duration of the permanent job was 389 days, the average duration of the temporary job was 223 days. Finally, some 67,000 workers (approximately 64.3% of the total) had temporary contracts both at the beginning and at the end of the period in question; the average duration of the periods of temporary work was 221 days, while that of permanent work was only 10 days. Almost two-thirds of the total thus remained “permanently” in the temporary job mode, since the permanent employment events affecting this group of workers were of a negligible duration. An examination of the figures reveals the substantial “non linearity” of working experiences, characterised as they are by the frequent alternation of periods of work involving different types of employment contract, and by the fact that the transition from temporary work to permanent work does not always represent a shift towards a stable employment situation. Such findings give us to believe that temporary work tends to represent a permanent condition in many cases, rather than an initial step towards a stable
professional career (similar conclusions can also be found in Anastasia, Danilo, 2008, p. 6).

Given this situation, we have formulated an estimation of the functions of duration in the state of temporary worker of those persons who, during the three-year observation period (2004-2006), held at least one temporary job, classifying the said workers according to the type of employment contract (temporary or permanent) they had at the end of the said period. The periods of unemployment between one contract and another were counted as periods of “precarity”, and thus summed together with the periods of temporary employment. The results are shown in Figure 5 below.

Figure 5 – Survival curves for job placements on temporary contracts, according to the type of final control (2004-2006). [Indeterminati – permanent contracts. Precari – flexible/temp. contracts]
Source: Elaboration of SILER data – Province of Bologna

The median duration (that is, the duration corresponding to a probability of 50%) of a person’s status as temporary worker was thus 355 days in the case of those persons who were employed on a permanent contract at the end of the observation period. For those who shifted from temporary to permanent employment, the median duration of their condition as temporary worker was therefore just less than a year, which is not a dramatically lengthy period. In the case of those workers who were temporarily employed both at the beginning and at the end of the observation period, on the other hand, the median duration was 301 days; however, in this case the transition is towards an unidentified state (perhaps one of unemployment, or of their dropping out of the labour force, or of their covering a post in another Italian province). Our findings are thus far from con-
inclusive, since the data we have fail to cover all the possible states of the workers in question; however, the entity of the observed phenomenon (approximately 64% of workers involved in job placements during the period 2004-2006 cover temporary posts only), leads us to believe that a considerable proportion of them oscillate between temporary jobs and periods of unemployment, and a certain percentage experience an inverse transition, that is, from permanent employment to precarious employment (i.e. employment on flexible/temporary contracts).

Finally, we would like to point out that our estimate of the percentage of precarious workers who “shift” to permanent employment, together with the duration of the period of precarity of the said workers, is in keeping with the transition matrices drawn up by the CNEL (2007), which point to the “slow” transformation of temporary jobs into permanent jobs and also with the findings of Berton et al. (2008) and Evangelista, Fabrizi (2008).

Our findings reveal a very different situation from that ascertained by Booth et al. (2001 and 2002) for the UK; the latter also used the survival curve method, in order to estimate a median duration (that is, a probability of 50%) in the condition of temporary worker that ranges from 18 to 42 months (depending on gender and on contract type).

4. CONCLUSIONS

Although our analysis is based upon data circumscribed to a given administrative area, namely the province of Bologna, which cannot be taken as being representative of Italy as a whole, it nevertheless reveals certain specific features of the phenomenon of temporary employment which are worth dwelling on.

Firstly, it is very clear that the majority of job placements involve temporary work (more than 60% within the province of Bologna), and given this high percentage, it is difficult to believe that in every such case there are “objective” grounds for the job in question being temporary. On the contrary, given also the limited duration of the temporary job placements, we believe that a substantial percentage of such temporary jobs are renewed by means of the same kind of temporary contract, and that only a limited proportion of them get transformed into permanent jobs. In fact, our findings show that job placements on temporary contracts is not something that concerns only young people on the first rung of the career ladder, but represents a generalised condition also involving people of a certain age looking for a new job.

Secondly, our findings also show, albeit not in such a clear-cut manner, how temporary employment may constitute a kind of “trap”, similar in certain ways to the poverty trap, which it is difficult to get out of, in that the probability of a person’s continuing to do temporary jobs is extremely high; thus, paradoxically, temporary employment becomes a “permanent condition”. For such workers, there is also the chance that they experience the “inverse” transition from permanent to temporary employment. Our findings are coherent with the transition matrices drawn up by the CNEL (2007), which point to the “slow” transformation of
temporary jobs into permanent jobs and also with the findings of Evangelista and Fabrizi (2008), which show a substantial increase in the period 1988-2003 of the instability for young people entering the labour market.

There may be a number of underlying reasons for this phenomenon, some of which may even be concomitant rather than alternative: reasons such as the “rationing” of permanent jobs of course, together with the limited accumulation of human capital which is often associated with temporary employment and is probably also a negative “signal effect” on workers’ abilities and skills, resulting from their having done a series of temporary jobs.

Finally, the substantial mobility between one state and another (employed/unemployed/inactive), and between different forms of employment (temporary work/permanent work), creates problems for a data-collection system based on repeated cross-section surveys, such as the Permanent Survey of the Workforce conducted by ISTAT, or the surveys of employment opportunities for graduates, which as a rule are carried out three years after the individuals in question have graduated; such surveys, while capable of measuring the quantitative aspects of the labour market from a comparative statics point of view, are simply not capable of representing the dynamic aspects of that market. Thus we need to develop new sources of information, new databases, capable of providing information covering a sufficiently lengthy period of time, concerning individuals’ careers and the transition between diverse employment states and conditions.

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SUMMARY

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In this present study we are going to avail ourselves of figures regarding new employment and employment termination, registered at the Bologna Provincial Labour Exchange for the three-year period 2004-2006, in order to calculate the duration of job placements, according to the type of contract, and the likelihood of temporary workers being made unemployed: in order to do so, we shall utilise the survival curves method based on the Kaplan and Maier filter (Cox and Oates, 1984). Given the impossibility of estimating true transition matrices, in that the database fails to “cover” all outgoing events, the survival curves method at least enables us to estimate the “duration” of permanence in a given state. The utilisation of the Bologna Provincial Employment Centre’s records enables us to cover a sufficiently long period of time, which in turn enables us to obtain sufficiently stable estimates unaffected by contingencies. Clearly, the results may not be generalised for the whole of Italy, although they do nevertheless provide a meaningful insight into the situation of temporary workers (also given the healthy state of the Bologna province’s labour market).