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WORKERS ON THE BORDER BETWEEN EMPLOYMENT AND SELF-EMPLOYMENT

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# Workers on the Border between Employment and Self-employment\*

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## *Abstract*

The number of workers on the border between self-employment and employment strongly increased across Europe over the last decade. This paper investigates whether and in what respect these workers differ from employees and self-employed and analyses whether these work relationships are a stepping stone to more stable employment in the short-run using Italian data. Depending on the data source the “para-subordinates” represent between 1.8% and 5.3% of the Italian labour force. Since most of them work only for one company and are strongly integrated into the firm of the contract partner, we argue that labour and social security law discriminates against these workers who are in fact very close to employees. We find that they are not low qualified workers, but young, highly educated professionals. At the same time these contracts are not a port of entry into the labour market nor do we find that they are a vehicle to more stable jobs. However, they are a possibility for women to work part-time.

*Keywords:* Self-employment, Dependency, Outsourcing.

*JEL classification:* K31, J21, L22.

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## 1. *Introduction*

Over the last two decades, we have seen an increase in outsourcing and subcontracting activities, which appear to be replacing hierarchies in firms by market forms of governance. There is evidence that an increasing share of these outsourcing activities is based on contracts where the outsourced worker is both economically dependent on the firm she contracts with and in hierarchical subordination to it (ILO, 2003; EIRO, 2002; OECD, 2000). Such relationships have been termed “dependent self-employment” or “dependent outsourcing” (ILO, 2003; EIRO, 2002; Supiot, 2001).

Dependent outsourcing refers to work relationships where subcontractors are formally self-employed, but their conditions of work are similar to those of employees. These workers do not have a labour contract, but supply their labour to their contractor on the basis of a private contract. They are however economically dependent on their contractor and face subordination. Economic dependence basically means that the dependent self-employed worker takes the entrepreneurial risk. Since such workers have in most cases only one contractor, they generate their whole income from this very business relationship.<sup>1</sup> This means that the dependent self-employed worker is dependent on the orders of the contractor. If we assume that the two parties do not usually agree on a constant quantity of orders but quite the contrary, namely that the quantity of business deals depends on the economic situation of the contractor, then the dependent self-employed person obviously takes the entrepreneurial risk. Subordination, on the other hand, refers to dependence in terms of time, place, and content of the work. In sum, the dependent self-employed worker bear (part of) the entrepreneurial risk without having the entrepreneurial possibilities of independent self-employed persons because they do not appear on the external market since they have in most of the cases only one contractor.

Dependent self-employment has crucial implications for social and labour market policies. The employment status under which a person carries out her work matters because the access to employment rights depends on the employment status. For instance, self-employed persons are widely excluded from employment protection and social security law. Thus, the classification of employment statuses is important not only from a legal, but also from a social point of view. However, most European countries face the

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<sup>1</sup> Even if we assume that the dependent self-employed person also does occasional extra jobs, she nevertheless generates the vast majority of her income from the business relationship with the main contractor.

problem of a high degree of uncertainty attached to the legal and social criteria by which workers are classified. Conventional classifications have become too rigid to deal effectively with the growth of non-standard forms of work (Supiot, 2001). As a result, certain groups of workers are excluded from (parts of) the social security system as well as from the protection of labour law.

In Italy, individuals that work on the basis of a contract of continuous and coordinated collaboration (sometimes called “para-subordinates”) are self-employed, but most of them work only for one company with a high degree of subordination. Despite the political and legal debate on dependent self-employment<sup>2</sup>, we know little about these workers. In this paper, we analyse dependent self-employed workers (“collaborators”) using the Italian Labour Force Survey. We investigate whether, and how, these workers differ from employees and (independent) self-employed individuals. We find that these collaborators are not low qualified workers, but young, highly educated professionals. The contracts of continuous collaboration are, however, not a port of entry into the labour market nor do we find that these contracts are a vehicle to more stable jobs. However, they seem to be a possibility for women to work part-time.

## 2. *The Contracts of Continuous and Coordinated Collaboration in Italy*

Over the last decade we have observed an increase in the number of persons who work on the basis of ‘contracts of continuous and coordinated collaboration’ (“co.co.co.” and, more recently, contract for a project “co.pro.”) in Italy.<sup>3</sup> The aim of these work relationships is to have a more flexible contract both for the employer (promptness and simplicity in stipulating the contract) and for the employee (self-determination of timing and methods of the work). These contracts have, however, also been used by both the public and the private sector as a low-cost alternative to fixed-term and permanent contracts. In contrast, contracts of continuous and coordinated collaboration are not subject to substantial parts of employment protection and social security laws.

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<sup>2</sup> See Burchell *et al.* (1999) and Collins (1990) for the UK; Dietrich (1996) for Germany; Lyon-Caen (1990) for France; IRES (2005) and Regalia (2003) for Italy. For international aspects see OECD (2000) and ILO (2003); Supiot (2001), EIRO (2002), Perulli (2003), and Sciarra (2004) provide an European perspective.

<sup>3</sup> In the following, we use the term “collaborators” for workers with a contract of continuous collaboration.

The first attempt to give a definition to contracts of continuous and coordinated collaboration can be found in the law 335/1995 (i.e. a reform of the pension system) which obliged these workers to contribute to a separate INPS (National Institute of Social Security) fund in order to obtain the right to a pension<sup>4</sup> and disability pension.

Since 1998 collaborators get family allowance and an allowance during parental leave as well as during periods in hospital (but not for illness without hospitalisation). The legislative decree 38/2000 extended the obligatory insurance against accidents and professional diseases to collaborators. The fiscal law of 2000 obliged the employers to pay the collaborators on a monthly basis. The possibility to work on the basis of a contract of continuous collaboration was extended beyond professional and artistic activities, allowing also manual and non-professional workers to supply labour as collaborators.

However, it is only with the law 30/2003 (“Biagi Law”) that the rules of collaboration were fixed and the cases in which it is possible to employ continuous and coordinated collaborators (co.co.co.) were limited<sup>5</sup>. In all other cases it is only possible to employ workers with a ‘contract for a project’ (co.pro.): working activities have to be limited to single projects. However, the possibility of control by the court is only formal and limited to the existence of a project, without any possibility of verifying the real working activity of the para-subordinate worker within the firm (CNEL, 2004). Therefore, as a consequence of the Biagi Law, many co.co.co. jobs have been simply transformed into co.pro. jobs (IRES, 2005).

Despite these recent laws, these work relationships still lack a coherent set of rules and collective agreements. As a consequence, collaborators do not have many of the rights and employment and social protection that are guaranteed to dependent workers: minimum wage; Christmas bonus; severance pay; rules for holidays, leaves and in case of illness; the right for trade union actions; equal opportunity and training rights (Regalia, 2003). Moreover, the contribution to the separate INPS fund does not guarantee them a pension that is economically sufficient<sup>6</sup>. In sum, it seems that the Italian legislation initially tried

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<sup>4</sup> The right to receive a pension is obtained at the age of 57 years after a minimum of five years of contribution to the fund. The minimum amount of the pension is given by the non-contributory pension (“pensione sociale”) plus 20% (INPS, 2001). The annual contribution of collaborators is around half of the contribution paid by employees with the same wage. Thus, the future pensions of collaborators will be substantially lower than that of employees.

<sup>5</sup> Mainly in the public sector, in sport activities, for business agents and for firms’ auditors.

<sup>6</sup> The initial contribution to the INPS fund was set at 10% of gross income (1/3 paid by the worker and 2/3 paid by the employer) which was subsequently increased to 13% (in 1997) and will reach 19% by 2018, compared with 33% of employees.

to extend the rights of employees to collaborators, but subsequently (with the Biagi law) attempted at limiting the use of contracts of continuous and coordinated collaboration.

Altieri and Oteri (2004) report that 1,177,000 (or 5.3% of the Italian labour force) were registered at the special INPS fund for ‘continuous and coordinated collaborators’. However, this figure does not tell how many are actually working as collaborators. On the basis of the Italian Labour Force Survey, ISTAT (2004) reports 400,000 workers that state that their main activity status is that of a collaborator, i.e. 1.8% of the Italian labour force.<sup>7</sup>

### 3. *Empirical Evidence of Dependent Self-employed in Europe and in Italy*

Due to a lack of microdatasets that allow to identify dependent self-employed workers until recently, there are only few empirical studies that investigate this phenomenon in Europe. For the U.K., Burchell *et al.* (1999) claim that around 30% of those in employment hold an unclear employment status, suggesting that the use of the wider concept of ‘worker’ rather than that of ‘employee’ would increase the number of persons covered by employment rights by 5% of all those in employment in the U.K. More specifically, using a broader definition in labour law would include individuals who contract their own personal services to an employer without having a contract of employment and who are (to some degree) economically dependent on the employer, because they derive a substantial part of their income from this employer.

Böheim and Muehlberger (2006) explore the British Labour Force Survey that allows to identify self-employed workers that have no employees and work only for one company. They find that these dependent self-employed workers have lower labour market skills and less labour market attachment. It is shown that dependent self-employed workers are a distinct labour market group which differs from both employees and independent self-employed individuals. Men, older workers, those with low education and a low job tenure have greater odds of working in dependent self-employment than their counterparts. They argue that dependent forms of self-employment are used by firms to

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<sup>7</sup> The category of collaborators is very heterogeneous, including individuals waiting for a more stable job (student, recent graduates), individuals that could not find a more stable job, individuals choosing voluntarily this type of contract, retired people or individuals for which this is the second job. Because of the ambiguity of the legal definition, the statistics available (mainly INPS and ISTAT, see Section 4) cannot give an accurate measure of the phenomenon.

increase labour flexibility of firms as part of their outsourcing strategies rather than as a part of entry into self-employment.

Analysing an Austrian microdataset, Heineck *et al.* (2004) find that roughly 1.6% of the Austrian labour force are self-employed working only for one company and being bound to the instructions of the company they contract with. Logistic estimates show that married persons and women with an increasing number of children are more likely to be dependent self-employed. Dependent self-employment seems to be associated with higher qualification for men, but low qualification for women. Additionally, the probability of being dependent self-employed increases with age. Especially older men are more likely to be dependent self-employed than their younger counterparts.

Berton *et al.* (2005) use the Italian INPS data for the year 1999 and analyse the probability of changing the labour market status from employee to collaborator and vice versa. They show that for employees the probability of becoming a collaborator increases with age (especially for managers), but decreases with an higher hourly wage. Less qualified workers are less likely to become a collaborator.

Accornero *et al.* (2001) report that almost 30% of the 500 Italian enterprises considered in their research deploy collaborators mainly because of labour cost reduction and only secondarily to increase labour flexibility. Bertolini (2005) shows for Italy that continuous and coordinated contracts are often offered to part-time workers, because part-time employees is relatively expensive if compared to full-time employees in Italy. Continuous and coordinated contracts are used extensively by consulting firms and training companies.

An IRES (2005) study analyses 640 collaborators between 2004 and 2005: 76% worked for a single firm, 77% work on the enterprise's premises, 80% has to comply with a working time schedule fixed by the employer and 74% has to be at work every day. Moreover, 37% declare to do a different work with respect to what is written in the contract. The weekly working hours are on average more than 38 and 46% of them had a monthly wage lower than 1,000 Euro. Their level of education is relatively high<sup>8</sup>, they are, on average, between 30 and 39 years old and most of them are not in their first job. One third of the contracts is for one year or less, even if most of the interviewed had more than one contract with the same firm. This study also analyses the transitions of collaborators and the effect of the Biagi Law: it is shown that one year after the law was in effect only

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<sup>8</sup> More than 70% has at least a university degree. On average, men are more educated than women.

7% of the collaborators had a permanent contract, while 7% was not working anymore and 6% had another type of temporary contract; 46% had their contract transformed into a project-contract in the private sector, 23% remained collaborators in the public sector<sup>9</sup> and 6% became autonomous workers. Finally, 64% were working for the same firm one year later.

#### 4. *The Dataset and Sample Characteristics*

Despite the active political debate on labour market flexibility and precariousness in Italy, there is little empirical evidence due to the lack of adequate datasets. One source of data on collaborators in Italy is the administrative INPS data, used by Berton *et al.* (2005), which contains information on workers in the private sector registered in the separate social security fund and on actual contributors to the fund<sup>10</sup>. The creation of the separate INPS fund for collaborators showed that almost one million work relationships on the basis of a contract of continuous collaboration existed in 1995. Another source of data on collaborators is the Italian Labour Force Survey (ILFS)<sup>11</sup> by the National Institute of Statistics (ISTAT) which has included the category of collaborators since 2004<sup>12</sup>.

The two sources differ for various reasons. First, the ILFS is based on a questionnaire and it includes individuals working for both the private and the public sector, while the INPS data refer only to workers in the private sector, registered and contributing to the special social security fund reserved to collaborators. Secondly, in the INPS data the professional groups of administrators, syndics and auditors are included in the category of collaborators, while they are highly likely to define themselves as autonomous workers in the ILFS. More generally, the INPS includes all professionals in the category of collaborators, while ILFS does not. Finally, the questionnaire of the ILFS allows us to identify those collaborators who hold contracts of continuous and coordinated

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<sup>9</sup> The continuous and coordinated contracts allowed the public sector to overcome the prohibition of hiring imposed by the cuts in public budget.

<sup>10</sup> In the INPS data it is necessary to distinguish between actual and registered contributors. Since it is not required to withdraw from the fund at the end of a contract, the number of contributors is lower than the number of registered workers.

<sup>11</sup> Rilevazione Continua delle Forze Lavoro (RCFL).

<sup>12</sup> Co.pro. are included into the “co.co.co.” category in the ILFS.



collaboration in their principal job, while the INPS special fund also counts those persons who are collaborators in their second job<sup>13</sup>.

For the empirical analysis we use the fourth quarter of the Italian Labour Force Survey (ILFS) 2004. The dataset includes around 175,000 individuals belonging to 70,000 families and living in 1,246 different municipalities. It contains information on personal, family and labour market characteristics. Thus, in comparison to the administrative INPS data used by Berton *et al.* (2005), this dataset contains more information on individuals interviewed (education, marital status, search for a new job, motivation for working part-time, etc.). Unfortunately, users are not provided with the personal identification code of the respondents and therefore a panel analysis is not possible. However, the datasets contains information about the labour market status one year before, allowing at least an analysis on labour market transitions in the short run. Furthermore, it contains variables that allow to evaluate the effective degree of autonomy (or dependency) of collaborators with respect to the firm they contract with. Consequently, we investigate collaborators on the basis of three different definitions. The first definition looks at those collaborators who state that their principal main activity status is that of a collaborator (982 individuals). The second definition focuses at collaborators that additionally state that they work only for one agency (889 individuals, 90% of all collaborators). The third definition reduces the group of the collaborators further to those who claim that they cannot decide autonomously over their working hours and their working location (508 individuals, 52% of collaborators).

We reduced the sample to women between 20 and 59 and men between 20 and 64. Table 1 in the Appendix reports the descriptive statistics for employees, self-employed persons and collaborators (according to all three definitions). Contrary to employees and self-employed individuals, the share of women among collaborators is higher than that of men.<sup>14</sup> Around 50% of the collaborators live in the Northern regions, and especially in the North-West (30%). On average, collaborators are younger than their counterparts. A third of the collaborators is between 20 and 30, another third between 30 and 40, a fifth between 40 and 50, and the rest (15%) is older than 50. The share of married people is lower

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<sup>13</sup> By using the information on different rates of contribution to the fund it is possible to identify 'pure' collaborators also in the INPS dataset (Berton *et al.*, 2005).

<sup>14</sup> In 2002, the INPS data show that 46.2% of contributors are women, while they represent only 37.7% of the total labour force.

among collaborators, probably because of the younger age, but also due to the effect of the precariousness of their position in the labour market (De La Rica and Iza, 2005).

Collaborators are more educated than employees and self-employed persons. Within the group of collaborators, women are, on average, more educated than men: A third of female collaborators are university graduates compared to only a quarter of male collaborators.

Looking at job characteristics, we observe that the share of workers in the first job ever is not different among the three groups. However, job tenure is, on average, longer for employees and self-employed persons. Collaborators are mainly concentrated in the service sector (tourism, transport, financial) and in the public sector, followed by the manufacturing and commerce sectors. Using the INPS data, Altieri and Oteri (2004) found similar results: most of the enterprises deploying collaborators worked in the service sector.

The incidence of part-time jobs is more than three times higher among collaborators than among employees, probably because an employed part-timer is more expensive for the firms<sup>15</sup> and therefore Italian firms hardly offer part-time jobs, which means that a contract of continuous collaboration might be a possibility for individuals to work part-time and for the firms to reduce the cost of part-time work. Berton *et al.* (2005) argue that contracts of continuous and coordinated collaboration can be considered as an instrument for women to find a part-time job. Our data shows that 72% of collaborators working part-time are women (84% among employees) that state that they work part-time because they have to take care of their children or of other relatives (43%) or because they are studying (27%). However 47% of female collaborators working part-time also declare that they could not find a full-time job (35% among employees).

We observe that collaborators are concentrated in the high and medium qualified occupations (technicians, white collars, intellectuals and researchers, qualified professionals). In particular female collaborators seem to have more qualified jobs than men: 25% are white collar workers (13% among men) and 16% of female collaborators are qualified professionals (6% for men).

Data also show that most of the collaborators are not satisfied with their job and look for a more stable work position: 88% of them would like to find a permanent job and 22% are actually looking for a new job (the analogous figure among employees is only

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<sup>15</sup> In Italy, two part-time workers are more expensive for the firm than one full-time worker.

7%). The main reasons for searching a new job are that the contract is temporary (27%), that the present job is considered as occasional (10%), that they look for a more qualified (17%) and better paid (28%) job.

## 5. *Who are the Collaborators?*

We estimate a multi-nomial logit model to compare three groups of workers: employees, self-employed individuals and collaborators (the latter according to the three definitions as described above). It estimates the odds of being a collaborator versus the odds of being an employee and the odds of being a collaborator versus being self-employed. Since we are mainly interested in comparing collaborators with employees and self-employed individuals, respectively, we choose the group of collaborators as the comparison group to identify the model. The results are presented in relative risk ratios (RRR, i.e. the exponentiated coefficients). The RRR give the odds of being in one group versus the odds of being a collaborator. A RRR greater (less) than one indicates that the risk of being in the latter group is greater (smaller).

We estimate the model on the basis of three different definitions for collaborators. We estimate the model with only strict exogenous characteristics (i.e. sex, age, marital status and education) in Table 2 and with additional co-variables (i.e. interaction affect between sex and part-time, first job, job tenure, regions and sectors) in Table 3. Both estimations have been clustered according to the household individuals live in. The following interpretation of the results focuses on the second estimation (Table 3) and uses the collaborator status as the reference (omitted category).

In comparison to men, women are slightly less likely to work as collaborators than as employees. However, this effect is not significant in neither of the three definitions. Interestingly, we see that this chance is reversed in Definition 3. The latter shows that women are more likely to work as collaborators than as employees. In all three definitions women have a greater risk of being a collaborator than being self-employed.

The variable age is only measured in steps of five years in the dataset. Thus, we attributed each individual the median age of the according age group. Results show that older workers have a smaller risk of being a collaborator than being employed (at a slightly increasing rate). The same is true when comparing collaborators with the self-employed: older workers are less likely to be collaborators than being self-employed. All

the effects are more or less similar across the different definitions. In all three definitions, married workers have smaller odds of being collaborators than employed in comparison to non married workers. Married workers are also less likely to work as collaborators than being self-employed.

We find that highly educated workers are much more likely to work as collaborators than being employed. The same effect, but to a weaker degree, is found when looking at the self-employed versus collaborators. The odds of individuals with an university degree being a collaborator are roughly four times (twice) that of employees (self-employed). This effect is weaker in Definition 3 than in Definition 1 and 2. In comparison to workers living in the South of Italy, workers of Central or North Italy are more likely to be collaborators than being employed.

We do not find neither statistically significant nor strong effects for the variable whether this particular job is the first job ever when comparing employees with collaborators. Thus, there is no significant evidence that contracts of continuous and coordinated collaboration help individuals to enter the labour market. Interestingly, comparing self-employed and collaborators we find that individuals who work in their first job ever are more likely to work as self-employed than as a collaborator (statistically significant at a five per cent level for all definitions).

Workers with a longer job tenure are less likely to be collaborators than being employed. This effect increases with the length of the job tenure and also when comparing Definition 1 with Definition 2 and 3. For instance, using Definition 3 (Definition 1) the risk of being an employee is roughly 8 (6) times higher than the risk of being a collaborator for those with a job tenure of more than five years. The risk of being a collaborator compared to be an employee is more than twice as high for those having a job tenure between three and five years (more or less equal across the different definitions). The effect is even stronger when comparing self-employed persons with collaborators: the odds of being self-employed instead of working as a collaborator as defined in Definition 3 are 19 times higher for job tenures of five years.

Individuals working in the omitted sector – i.e. tourism, transport, finance and housing – are more likely to work as collaborators than employees compared to the other sectors (i.e. agriculture, manufacturing, construction, commerce and public administration). For instance, workers in the construction (manufacturing) industry are roughly four (three) times as likely to work as employees than as collaborators. These results are even stronger when comparing collaborators with self-employed individuals.

Finally, women working part-time are more than twice as likely working as collaborators than being employed. As above, this effect is slightly weaker in Definition 3 than in the other two definitions. Similarly, women working part-time are more likely to be a collaborator than being self-employed.

## **6. *Short-term Labour Market Transitions of Collaborators***

Although the data do not allow a panel analysis, we nevertheless have information about the labour market status one year before. We are aware of the problem that such retrospective data may be afflicted with non-random error, but we use them here as they come closest to longitudinal data. Table 4 depicts the transitions between the different labour markets statuses from one year to the next. It is shown that around 79% of the collaborators stay in the same group. 10% of the collaborators in the year 2003 became employees in 2004, 8% became unemployed and only 4% became self-employed.

In Table 5 we estimate a probit model with the labour market status one year before as an independent variable. Other independent variables are the strictly exogenous personal characteristics (i.e. sex, age, age squared, civil status and education). The dependent variable divides those who worked in 2004 and those who were unemployed and/or in search for a job. The results show that those who were employees in 2003 are more likely to work in 2004 compared to those who were collaborators in 2003 (omitted category). Similarly, we find that those who were self-employed in 2003 are more likely to work in 2004 in contrast to the collaborators in 2003.

In another multinomial analysis (see Table 6) we look at the effect of the labour market status in 2003 at the probabilities of being either an employee, collaborator, self-employed or unemployed in 2004. As above, the other independent variable are the strictly exogenous personal characteristics (i.e. sex, age, age squared, civil status and education). In order to avoid the problem of a high persistency, we only analyse those with a job tenure (or unemployment duration) of less than 12 months. We find that those who were employees in 2003 are much more likely to be an employee again a year later compared to collaborators (in 2003). Those who were self-employed in 2003 are more likely to be an employee in 2004 compared to collaborators (in 2003). Those who were employees in 2003 are more likely to be self-employed in 2004 compared to collaborators (in 2003). Those who were self-employed in 2003 are much more likely to be self-employed in 2003

compared to collaborators (in 2003). Also the unemployed have greater chances of becoming either employed or self-employed (or remain unemployed) than collaborators. In other terms, collaborators have a smaller risk of becoming unemployed on year later compared to the unemployed, but they are less likely to become both employed or self-employed compared to the unemployed.

## 7. *Conclusions*

Since the mid 1990s, Italy has experienced an increase in the number of atypical jobs. Among these a relevant share is represented by continuous and coordinated collaboration contracts. We have argued that these contracts are used to undergo labour and social security law and to reduce the cost of labour (in comparison to fixed-term contracts). Using the Italian Labour Force Survey (4<sup>th</sup> quarter of 2004), we analyse the characteristics of collaborators in comparison with employees and self-employed individuals as well as the short-term labour market transitions of collaborators to other labour market statuses.

Multinomial logistic regression shows that older as well as married workers have a smaller risk of being a collaborator than being employed or self-employed. This result differs from that found for the U.K., where, on the contrary, older workers have a higher risk of being collaborators (Böheim and Muehlberger, 2006). Workers with a high job tenure are less likely to be dependent self-employed compared to the other two labour market statuses. This effect increases the more dependent these workers are. Highly educated workers are much more likely to work as collaborators, with a decreasing strength of the effect the less dependent the workers are. Also this result differs from that found for the U.K. where most of the collaborators are lower educated and have lower qualified jobs than employees and self-employed individuals (Böheim and Muehlberger, 2006). Women working part-time have a higher risk of being dependent self-employed than being employed or self-employed, suggesting that contracts of continuous collaboration gives women the possibility to work part-time. We also find that women with a contract of continuous collaboration are on average more qualified than male collaborators. This results differs from that found by Heineck *et al.* (2004) for Austria, where female collaborators are on average less qualified than their male counterparts. In

contrast, we do not find evidence for the claim that contracts of continuous collaboration provides a port of entry to the labour market for young people.

The analysis of the transitions shows that most collaborators are also collaborators one year later. The probability of working at time  $t$  is higher for those who have been employed or self-employed than for those who have been collaborators one year before. We found that collaborators have less chance than both employees and self-employed individuals to become either an employee or self-employed. Thus we find a high persistency of dependent self-employment in Italy and at the same time we find that the contracts of collaboration are not a vehicle for more stable and better protected jobs. Our results show that contracts of continuous collaboration are not an instrument for young people to enter into the labour market, but many young and highly educated workers in Italy are forced to accept this type of contract that does not guarantee them neither flexibility nor job protection.

In comparison to other countries (such as U.K. and Austria), dependent self-employed workers in Italy seems not to be used to increase the labour flexibility of low qualified workers, but as a low-cost alternative to deploy highly educated young professionals. This has effects on both human capital accumulation and family formation (specifically fertility). Neither the employer nor the dependent self-employed have enough incentives to invest in human capital (both general and firm-specific) which is especially problematic for young people in the transition from education to the labour market. As argued by De la Rica and Iza (2005) for fixed-term workers, precariousness in the labour market has the effect to postpone family formation and thus to reduce fertility.

## **References**

- Accornero A., Altieri G. and Oteri C. (2001): *Lavoro flessibile. Cosa pensano davvero imprenditori e manager*, Ediesse, Roma.
- Alteri G. And Oteri C. (2004): *Il lavoro atipico in Italia: le tendenze del 2001 - Rapporto per Nidl-Cgil*, Working Paper no. 3, Roma.
- Bertolini S., (2005), Entre travail salarié and indépendant: les formes de travail hybrides en Italie, *Formation Emploi*, 90: 21-35.
- Berton, F., Pacelli L., and Segre G. (2005): Il Lavoro Parasubordinato in Italia. Tra Autonomia Del Lavoratore e Precarietà del Lavoro. *Rivista Italiana degli Economisti* 10: 57-99.
- Böheim, R. and Muehlberger, U. (2006): *Dependent Forms of Self-employment in the UK. Identifying Workers on the Border between Employment and Self-employment*, IZA Working Paper No. 1963, Bonn.
- Burchell, B., Deakin, S. and Honey S. (1999): *The Employment Status of Individuals in Non-standard Employment*. Report for the British Department of Trade and Industry, London.
- CNEL (2004): *Rapporto sul mercato del lavoro 2003*, Roma.
- Collins, H. (1990): Independent Contractors and the Challenge of Vertical Integration to Employment Protection Laws, *Oxford Journal of Legal Studies*, 10(3): 353-380.
- De La Rica S. and Iza A. (2005): Career Planning in Spain: Do Fixed-term Contracts Delay Marriage and Parenthood?, *Review of Economics of the Household*, 3(1): 49-73.
- Dietrich, H. (1996): *Empirische Befunde zur "Scheinselbständigkeit"*. Ergebnisse des IAB-Projekts 4-448V 'Freie Mitarbeiter und selbständige Einzelunternehmer mit persönlicher und wirtschaftlicher Abhängigkeit'. Edited by the German Federal Ministry of Labour and Social Order, Bonn.
- EIRO (European Industrial Relations Observatory on-line) (2002): 'Economically Dependent Workers', *Employment Law and Industrial Relations*. EU countries. <http://www.eiro.eurofound.eu.int/2002/05/study/tn0205101s.html>



- Heineck, G., Haider, A. and Neuwirth, N. (2004): *Determinanten abhängiger Selbständigkeit in Österreich*, Working Paper No. 40/2004, Austrian Institute for Family Studies, Vienna.
- ILO (2003): *The Scope of the Employment Relationship*. Report V. International Labour Conference. 91<sup>st</sup> Session. Geneva.  
<http://www.ilo.org/public/english/standards/relm/ilc/ilc91/pdf/rep-v.pdf>
- INPS (2001): *I<sup>o</sup> Rapporto sul lavoro subordinato*, (by Alzoni A., Bombelli S., Legini A. and Santoro G.), Roma.
- IRES (2005): *Nuovo contratto. Stessi Problemi. Gli effetti della legge 30/2003 nel passaggio dalle collaborazioni coordinate e continuative al lavoro a progetto*, Roma.
- ISTAT (2004): *Collaborazioni coordinate e continuative nella rilevazione sulle forze di lavoro, Statistiche in breve. 1-Lavoro*, Roma.
- Lyon-Caen, G. (1990): *Le droit du travail non-salarié*, Report for the Commissariat général du Plan, Paris.
- OECD (2000): *Employment Outlook 2000*. Paris.
- Perulli, A. (2003): *Economically Dependent/Quasi-subordinate (Parasubordinate) Employment. Legal, Social and Economic Aspects*. Study for the European Commission.  
[http://europa.eu.int/comm/employment\\_social/labour\\_law/docs/parasubordination\\_report\\_en.pdf](http://europa.eu.int/comm/employment_social/labour_law/docs/parasubordination_report_en.pdf)
- Regalia I., (2003): *Lavoro autonomi economicamente dipendente / lavoro parasubordinato – Una ricognizione su tutele e rappresentanza in Europa*, mimeo.
- Sciarra, S. (2004): *The Evolution of Labour Law (1992-2004)*. General Report. Project for the European Commission.  
[http://www.europa.eu.int/comm/employment\\_social/labour\\_law/docs/generalreport\\_en.pdf](http://www.europa.eu.int/comm/employment_social/labour_law/docs/generalreport_en.pdf)
- Supiot, A. (2001): *Beyond Employment. Changes in Work and the Future of Labour Law in Europe*. Oxford: Oxford University Press.

**Table 1: Descriptive Statistics of the Sample**

	Employee		Self-employed		Collaborators <i>Definition 1</i>		Collaborators <i>Definition 2</i>		Collaborators <i>Definition 3</i>	
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)
<i>Personal characteristics</i>										
Male (%)	55.9		74.9		40.5		40.1		36.9	
Female (%)	44.1		25.1		59.5		59.9		63.1	
Age	40.0	(10.2)	43.4	(10.2)	36.4	(10.9)	36.2	(10.9)	34.9	(10.3)
Married (%)	62.2		70.1		43.3		43.2		39.7	
Education (%):										
- High education	13.7		14.4		30.3		29.2		27.8	
- Medium education	45.8		37.4		50.2		50.4		51.1	
- Low education	40.5		48.2		19.5		20.4		21.1	
Residence (%):										
- North	51.1		54.5		49.8		53.4		48.9	
- Center	16.1		20.8		16.9		21.9		24.4	
- South	32.8		24.7		33.3		24.7		26.7	
<i>Job characteristics</i>										
First job (%)	30.3		37.3		27.2		27.8		30.9	
Tenure (%):										
- <1 year	13.2		6.3		32.8		33.4		34.6	
- 1-3 years	18.5		12.2		35.9		37.0		37.1	
- 3-5 years	11.2		9.1		11.4		11.4		12.8	
- >= 5 years	57.1		72.4		19.9		18.2		15.5	
Sector (%):										
- Agriculture	3.2		10.5		1.1		1.2		0.8	
- Manufacturing	26.1		13.0		10.5		10.5		9.5	
- Construction	7.3		13.2		1.9		1.9		1.7	
- Commerce	10.7		25.8		9.7		9.5		9.9	
- Tourism, Transport, Financial	19.8		27.0		41.7		42.1		37.9	
- Public sector (including education and health)	27.8		4.2		25.3		25.5		29.4	
- Other	5.1		6.3		9.8		9.3		10.8	
Working hours (week)	33.5	(13.1)	42.4	(16.9)	29.5	(14.4)	29.4	(14.0)	29.5	(13.4)
Part-time (%)	13.0		7.7		41.0		40.4		38.3	
Occupation (%):										
- Managers	1.7		14.5		2.6		2.7		1.7	
- Intellectuals and researcher	9.5		12.4		18.5		17.2		15.5	
- Technicians	21.3		15.2		35.0		33.9		29.6	
- White collars	14.9		-		19.9		20.7		22.6	
- Qualified professionals	12.9		22.0		11.8		12.6		14.9	
- Artisans and qualified blue collars	16.3		29.3		4.9		5.0		6.2	
- Low qualified blue collars	11.8		3.1		2.4		2.6		3.5	
- Not qualified blue collars	11.6		3.5		4.9		5.3		6.0	
Working one year before (%)	92.4		94.6		78.6		77.9		76.0	
<i>N. observations</i>	<i>44,913</i>		<i>12,521</i>		<i>982</i>		<i>889</i>		<i>508</i>	

**Table 2: Estimated risk of being self-employed or being an employee in comparison to being a collaborator.**

	Definition 1				Definition 2				Definition 3			
	Employee		Self-employed		Employee		Self-employed		Employee		Self-employed	
	RRR	(SE)	RRR	(SE)	RRR	(SE)	RRR	(SE)	RRR	(SE)	RRR	(SE)
<i>Personal characteristics</i>												
Female	0.633**	(0.042)	0.282**	(0.019)	0.626**	(0.044)	0.279**	(0.020)	0.561**	(0.053)	0.250**	(0.024)
Age	1.178**	(0.029)	1.217**	(0.031)	1.180**	(0.031)	1.219**	(0.033)	1.149**	(0.041)	1.186**	(0.043)
Age squared/100	0.998**	(0.000)	0.998**	(0.000)	0.998**	(0.000)	0.998**	(0.000)	0.999**	(0.000)	0.999**	(0.000)
Married	1.477**	(0.112)	1.538**	(0.121)	1.445**	(0.115)	1.505**	(0.123)	1.549**	(0.163)	1.615**	(0.173)
<i>Education</i>												
Medium Education	0.526**	(0.046)	0.431**	(0.039)	0.550**	(0.050)	0.450**	(0.042)	0.607**	(0.072)	0.498**	(0.060)
High Education	0.228**	(0.022)	0.235**	(0.023)	0.246**	(0.025)	0.253**	(0.026)	0.281**	(0.038)	0.288**	(0.039)

*Note:*

Estimation results from a multi-nomial logit regression, comparison group are collaborators.

Sample sizes: Definition 1 (Main activity status is collaborator): 44,913 employees, 982 collaborators, 12,521 self-employed. Definition 2 (Main activity status is collaborator + work only for one agency) : 44,913 employees, 889 collaborators, 12,521 self-employed. Definition 3 (Main activity status is collaborator + work only for one agency + cannot decide upon working hours and working location): 44,913 employees, 508 collaborators, 12,521 self-employed.

Omitted categories are: male, other civil status, low education.

Statistically significant (on a 5% error-level) estimates are indicated by \*\*, those on a 10% error-level by \*.

**Table 3: Estimated risk of being employed or self-employed in comparison to being a collaborator.**

	Definition 1				Definition 2				Definition 3			
	Employees		Self-employed		Employees		Self-employed		Employees		Self-employed	
	RRR	(SE)	RRR	(SE)	RRR	(SE)	RRR	(SE)	RRR	(SE)	RRR	(SE)
<i>Personal characteristics</i>												
Female	1.058	(0.088)	0.638**	(0.055)	1.034	(0.089§)	0.624**	(0.056)	0.920	(0.105)	0.556**	(0.065)
Age	1.104**	(0.028)	1.155**	(0.031)	1.102**	(0.029)	1.153**	(0.032)	1.071*	(0.039)	1.119**	(0.042)
Age squared/100	0.998**	(0.000)	0.998**	(0.000)	0.999**	(0.000)	0.998**	(0.000)	0.999*	(0.000)	0.999**	(0.000)
Married	1.307**	(0.103)	1.398**	(0.115)	1.270**	(0.104)	1.358**	(0.116)	1.341**	(0.145)	1.437**	(0.159)
<i>Education</i>												
Medium education	0.482**	(0.045)	0.487**	(0.047)	0.509**	(0.050)	0.515**	(0.052)	0.598**	(0.075)	0.605**	(0.077)
High education	0.218**	(0.024)	0.539**	(0.061)	0.246**	(0.028)	0.611**	(0.072)	0.339**	(0.050)	0.841	(0.126)
<i>Region</i>												
North Italy	0.634**	(0.065)	0.783**	(0.084)	0.599**	(0.064)	0.738**	(0.081)	0.578**	(0.078)	0.714**	(0.098)
Central Italy	0.731**	(0.063)	0.865*	(0.077)	0.740**	(0.067)	0.875	(0.082)	0.845	(0.101)	1.001	(0.122)
<i>First Job</i>	1.047	(0.088)	1.531**	(0.133)	0.994	(0.088)	1.452**	(0.132)	0.903	(0.104)	1.317**	(0.155)
<i>Job tenure</i>												
1 – 3 years	1.188**	(1.100)	1.725**	(0.164)	1.178*	(0.102)	1.708**	(0.168)	1.245*	(0.144)	1.806**	(0.225)
3 – 5 years	2.109**	(0.250)	3.736**	(0.478)	2.193**	(0.273)	3.885**	(0.520)	2.056**	(0.327)	3.642**	(0.608)
More than 5 years	6.212**	(0.770)	14.951**	(1.953)	7.024**	(0.922)	16.912**	(2.330)	7.928**	(1.446)	19.098**	(3.580)
<i>Sector</i>												
Agriculture	3.191**	(1.210)	7.591**	(2.882)	3.004**	(1.142)	7.148**	(2.721)	3.559**	(2.215)	8.462**	(5.275)
Manufacturing	3.202**	(0.377)	1.157	(0.141)	3.216**	(0.394)	1.162	(0.147)	3.225**	(0.551)	1.166	(0.203)
Construction	4.633**	(1.108)	6.686**	(1.612)	4.887**	(1.234)	7.060**	(1.796)	4.812**	(1.662)	6.958**	(2.414)
Commerce	1.987**	(0.249)	4.361**	(0.558)	2.080**	(0.276)	4.570**	(0.617)	1.850**	(0.326)	4.071**	(0.726)
Tourism, Finance, Housing	1.919**	(0.190)	0.139**	(0.015)	1.844**	(0.190)	0.133**	(0.015)	1.268*	(0.165)	0.091**	(0.013)
Public Administration	1.106	(0.143)	1.349**	(0.184)	1.207	(0.166)	1.475**	(0.214)	0.958	(0.168)	1.177	(0.213)
<i>Female*Part-time</i>	0.402**	(0.038)	2.222**	(0.024)	0.425**	(0.042)	0.235**	(0.026)	0.515**	(0.066)	0.284**	(0.039)

*Note:* Estimation results from a multi-nomial logit regression, comparison group are collaborators. Sample sizes: Definition 1 (Main activity status is collaborator): 44,913 employees, 982 collaborators, 12,521 self-employed. Definition 2 (Main activity status is collaborator + work only for one agency) : 44,913 employees, 889 collaborators, 12,521 self-employed. Definition 3 (Main activity status is collaborator + work only for one agency + cannot decide upon working hours and working location): 44,913 employees, 508 collaborators, 12,521 self-employed. Omitted categories are: male, other civil status, job tenure less than 1 year, low education, male\*part-time, not first job, other sectors, south Italy. Statistically significant (on a 5% error-level) estimates are indicated by \*\*, those on a 10% error-level by \*.

**Table 4: Transitions between three different labour market statuses.**

Labour Market Status in 2003	Labour Market Status in 2004									
	Employee		Collaborators		Self-employed		Unemployed		Total	
	n	%	n	%	n	%	n	%	N	
Employee	41,842	95.7	93	0.2	347	0.8	1,450	3.3	43,732	
Collaborator	82	9.5	682	78.7	30	3.5	72	8.3	866	
Self-employed	115	0.8	7	0.1	13,421	98.0	155	1.1	13,698	
Unemployed	1,680	18.1	77	0.8	262	2.8	7,237	78.2	9,256	
Total	43,719		859		14,060		8,914		67,552	

**Table 5: Probit estimation of the likelihood to work at time t (work=1, unemployed=0).**

	Coefficient	(SE)
Female	-0.137**	(0.022)
Age	0.059**	(0.008)
Age squared/100	0.000**	(0.000)
Married	0.155**	(0.026)
Medium Education	0.270**	(0.024)
High Education	0.434**	(0.041)
Employee t-1	0.471**	(0.064)
Self-employed t-1	0.839**	(0.070)
Constant	-0.231	(0.161)

*Note:* Omitted categories are: male, other civil status, low education and collaborator t-1. Sample size: 1,677 did not work at time t and 56,466 worked at time t. Statistically significant (on a 5% error-level) estimates are indicated by \*\*.

**Table 6: Estimated risk of being self-employed or being an employee in comparison to being a collaborator.**

	Employees		Self-employed		Unemployed	
	RRR	(SE)	RRR	(SE)	RRR	(SE)
Female	0.867	(0.130)	0.412**	(0.070)	1.121	(0.210)
Age	1.068	(0.056)	1.205**	(0.072)	0.992	(0.064)
Age squared/100	0.999*	(0.001)	0.997**	(0.001)	1.000	(0.001)
Married	1.533**	(0.282)	1.693**	(0.346)	1.300	(0.297)
Medium Education	0.469**	(0.091)	0.578**	(0.122)	0.280**	(0.065)
High Education	0.247**	(0.054)	0.357**	(0.088)	0.147**	(0.043)
Employee t-1	36.227**	(7.800)	7.925**	(2.214)	34.871**	(35.716)
Self-employed t-1	13.435**	(5.831)	60.018**	(27.659)	32.205**	(37.643)
Unemployed t-1	18.390**	(4.046)	6.638**	(1.895)	177.457**	(180.698)

*Note:*

Omitted categories are: male, other civil status, low education and collaborator t-1.

Sample size: 3,451 employees, 158 collaborators, 516 self-employed (only those who have changed job within the last 12 months).

Statistically significant (on a 5% error-level) estimates are indicated by \*\*.