Training Activity to Support Direct Participation Practices: Evidence for European Workplaces[#]

[CONTRIBUTI LIBERI: 11 (Personnel Economics and Internal Labour Markets]

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Abstract: Employees' direct participation in decision making can take various forms: from the simple consultation to the more involving delegation of authority, as well as a combination of the two. We use data for European workplaces to investigate the requirements of direct participation in terms of employees' training activity, also controlling for work organisation arrangements' and industrial relations' features. We find that the provision of training among workplaces using delegation and consultation is rather limited, and it is higher when both types of participation mechanisms are in place. Concerning the differences between workplaces using delegation and consultation, while the theory suggests that the former should make a more intense use of training, this prediction does not seem to be consistently supported by the data.

JEL Codes: J24; J50; M53; M54

Keywords: Employees' direct participation, workplace training, industrial relations

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[#] Paper prepared for the 14th IIRA World Congress to be held in Lima (Peru) on Sept. 11 – 14, 2006

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1. Introduction

While traditional types of employee participation were concerned with various forms of collective involvement (i.e. collective bargaining) with the objective to work for a more equitable distribution of power within the organisation, in recent years 'new' forms of participation have emerged -- especially in new knowledge-based sectors of the economy -- out of management strategies such as high performance work organisation (HPWO).

These are characterised by a higher direct involvement of workers in the decision process and aimed at securing employee commitment to firm's objectives, both through sophisticated information sharing procedures as well as performance appraisal linked to performance-related pay (Blinder, 1990). Interestingly, by creating the European Information and Consultation Directive, also the European Commission has implicitly recognised the crucial social role of employees' higher involvement in decision-making as a way of promoting workplace democracy by removing the discretion from management and ensuring that workers can have a right to information and consultation about workplace changes (Sisson, 2002; Coriat, 2002).

These direct participation mechanisms have increased in importance and diffusion since managers seek to gain voluntary commitment from employees to organisational goals at times of higher competitive pressures and work insecurity (Kelly, 1998). Moreover, these forms of involvement are deemed to be effective in improving economic efficiency, fostering both firm's productivity and profitability[1].

In particular, 'new' forms of employee participation, and especially those implying higher employees' involvement, may require a specific training directed to empower workers with the individual competencies and inter-personal skills needed to

make employee information sharing, consultation and delegation mechanisms to be effective.

In fact, one might assume that this "new" approach to workplace governance goes along with considerable training efforts since working and deciding together in groups requires higher cooperative and communicative skills. It is only when employee knowledge and experience on those practices nicely complements management's strategies on markets that the best outcomes may be achieved.

While the literature emphasised the association between organisational practices and economic efficiency, the requirements of direct participation in terms of training efforts have been mostly neglected. We contribute to the existing literature by investigating whether different forms of employee involvement induce specific investment in training at the workplace, and which of the above mentioned 'high-commitment work practices' (consultation versus delegation) requires a higher training intensity. To this purpose, we employ the 1996 EPOC Survey (Employment Participation in Organisational Changes) which provides information on direct participation and innovative human resource management styles, as well as on specific training at the workplaces level in ten European countries.

In this paper, we focus on "vocational" training specifically targeted to support workers' direct participation practices in the form of group consultation and/or group delegation at the workplace. In other words, we investigate the determinants of training within the sub sample of workplaces that have introduced some forms of workers' direct participation, also controlling for several workplaces characteristics which may be related both with the use of direct participation schemes and training decisions.

[1] It should be noted that, while in the literature several positive outcomes have been associated to the adoption of different forms of employee information and participation mechanisms, yet it is not obvious which are the features through which better performance is achieved (Purcell et al, 2003).

In principle, there are different degrees of workers' direct involvement in the decision making activity, going from the simple consultation to more structured forms in which workers can decide by their own on a number of specific issues. In the latter case, since the strategic decision taken by the management to decentralise the decision making is much more complex than in the case of simple consultation, it may affect the training activity.

Also, since in our sample we can identify workplaces according to the type of direct participation activity, as well as the intensity in the use of such practices (only one - either consultation or delegation – or both), interesting insights on the relationship between work practices and workplace training can be derived.

The paper is organised as follows. In Section 2 we discuss the relationship between participation, delegation – as well as other workplace characteristics – and training. Section 3 describes the data and the empirical strategy. Section 4 contains the descriptive statistics and the main econometric results. The last section concludes.

2. Related literature: training and workers' direct participation

In this Section we provide a framework for the analysis of training issues in the context of workplaces' direct participation activity. First we introduce a number of issues related to consultation and delegation within the firm. Next, we offer a classification of direct participation practices and discuss their relationship with training decisions. Finally, we review the empirical literature that have investigated the training determinants in a broader perspective that of direct participation.

2.1. Employee participation: consultation and delegation within the firm

Employee participation can take various forms, it can be *individual* or *collective*, and also *direct* or *indirect*. In the former type of participation, it is either the 'single' worker who is involved in the process (*individual*), or alternatively a 'group' of them who collectively interact with the management (*collective*). In the latter type, the extent to which employees are represented in organisational decision-making can range from management dealing directly with employees (*direct*) or management dealing with employee representatives (*indirect*).

The existence of economies of scale and transaction costs in employee participation – given the number of workers involved -- contribute to make the *indirect collective* as the main form of participation. Collective bargaining, for example, is still the more diffused form of workers involvement, allowing employee participation in negotiations *via* elected representatives or fulltime officials, usually as part of a trade unions (Cully et al., 1999). Other forms of indirect collective participation can include social partnership agreements with trade unions, works councils, co-determination agreements and joint consultation committees.

However, 'new' forms of participation concern much more direct modes and employee involvement or employee empowerment, and most of them can be included under HPWO strategies. In particular, in the HPWO literature, a major role in organisation design and human resource management has been information sharing, consultation and delegation (Roche, 1999; Purcell et al, 2003).

For example, in the 1996 Employee Participation and Organisational Change (EPOC) survey used in this paper, various types of employee participation mechanisms have resulted to be positively associated with different compensation policies and better organisational and economic performance (Dell'Aringa et al. 2005). Often, new

practices have been shown to facilitate employee-managerial relations during times of intense organisational change and re-organisation plans (Oxenbridge and Brown, 2002).

In the 'new' forms of participation, often referred to 'high-commitment work practices' (HCWP), both the form of participation arrangements and the degree of involvement can go from one extreme to the other: 'no employee input' to organisational decisions, to 'complete delegation' for a situation of employee (total) control (Marchington et al., 1992). Summarising the main findings from the literature on participation, in Table 1 we report a stylised description of the main forms through which participation can be implemented. Moreover, these forms are rated on a progressive scale from 1 to 4, according to the degree of intrinsic participation they imply, going from 'no employee involvement' up to 'complete delegation'.

[TABLE 1 HERE]

Of course, the sharp distinction between different arrangements is rather artificial: in practice, in large organisations several arrangements concerning employees participation may coexist. In addition, it may be that in order to introduce some delegation of decision power a "platform" of pre-existing habit and familiarity with the practice of consultation is desirable. This is an interesting point, which will be addresses in more detail in our empirical analysis.

In any respect, a higher involvement of workers in the decision process, as the one induced by consultation and delegation mechanisms, may require higher levels of interpersonal skills. In this context, the ability to cooperate by working in groups becomes a key factor to obtain better performances. In principle, the firm may acquire these competencies on the market hiring more skilled workers, or it may decide to implement direct participation practices only when the existing workforce is endowed with a the desired level of competencies. Alternatively, the management may obtain

higher levels of "vocational" skills providing substantial training to the employees involved in the direct participation process. In this perspective, we may expect that the need for training increases together with the degrees of involvement of workers in the decision process.

Indeed, employers can choose whether to adopt a 'high' or a 'low' road strategy in relation to their market strategies and employee relations. The choice of a 'high-power' objectives, as previously discussed, should necessarily combine high value-added products and services, high levels of investment and intense training activity, with high-trust industrial relations committed to employee involvement. On the other hand, when a 'low-power' objective is chosen both training investment and productivity are likely to be lower, while industrial relations tend to be more adversarial and based on *winner-takes-all* attitude (TUC, 2002).

Within this framework, the aim of this paper is to place under scrutiny a number of theoretical predictions concerning the relationship between direct participation and workplace training. First, we investigate whether, as suggested by the arguments outlined above, direct participation calls for an intense training activities. Second, we try to understand if delegation of decision power is associated with more training than "simple" consultation. Finally, we want to test whether the coexistence of both consultation and delegation mechanisms is associated with a higher training provision.

2.2. The determinants of training within workplaces

In the economic and in the industrial relations literature, the usual approach to study workplaces' training decisions is to analyse their determinants, i.e. those economic factors that, from a theoretical point of view, can have an influence on the likelihood and on the amount of the training offered. We argue that the decision of firms to use

training as a tool to implement and reinforce practices of consultation and delegation is also going to be influenced by a number of factors that the existing literature considers as important in affecting training in general. Accordingly, we will take them into account as additional controls in the empirical analysis[2].

Training differs significantly across countries, according – among others – to differences in the institutional setting both in the labour and education markets, which are likely to affect both benefits and costs of training.

Personal characteristics and the workforce composition are also relevant, as returns are linked to various attributes, especially formal qualification and skills (training individuals with higher levels of qualification will yield higher returns at lower costs).

Concerning job attributes, full-time workers may be more likely to receive training than part-time workers (reflecting both the period over which the investment is realized and the type of job that is involved), permanent as opposed temporary contracts are also more likely to be trained (Arulampalam and Booth, 1998).

Workplace characteristics may also affect the scope and the intensity of work-related training. Jacobs et al. (1996) ranked the relative importance of organizational factors "vis-à-vis" individual characteristics in U.S. companies, and concluded noting that ". . . the relatively powerful importance of establishment and job factors in structuring opportunities to receive worksite training and the relatively modest importance of individual factors. . . " (ibid, p. 174).

For example, larger workplaces by having greater costs of monitoring employees, are more likely to provide more training to improve productivity and lower

[2] The motivation is that the overall workplace training activity may be represented by a vector of decisions, rather than a single investment choice. Of course, they are subject to a set of constraints given by the characteristics of the workplace. In this context, the choice of the optimal amount of training aimed at facilitating the implementation of direct participation can be thought as one vector component.

turnover. They also tend to operate in more stable markets and to be characterised by stronger internal employment markets, which means lower risk associated with returns to training (Harris, 1999).

Many studies show considerable variation of the training intensity by industry. Black and Lynch (1998) find that the industries less likely to report employer-provided formal training are apparel, construction, transportation, insurance, hotels, and business services, while finance, insurance and real estate industries are the most likely to provide job skill training to employees (Frazis et al., 1995). The public sector also seems more likely to engage in training probably because the risk of poaching by rivals is much lower (Harris, 1999).

The so called High-Performance-Workplace Organisations (HPWO), such as team work, job rotation, etc., have been also found in a number of study to be important factors. Still, the direction of causality in the relationship between the adoption of such practices and the provision of training is difficult to establish. In theory, firms that adopt new practices should train their workers in order to provide them with the skills required to carry on those work practices. There is evidence, however , that many firms use a number of these practices without formally providing their workers with additional skills (Lawler, 1992). The adoption of new practices may be most successful in those establishments in which there is already a high degree of employer-employee commitment (as it is the case of the consultation and delegation practices here considered). If this commitment is linked to training, then firms adopting such practices would also have a high likelihood of providing training. Positive effects of at least some

of these HPWO have been found, among others, in the studies of Frazis et al. (1995), Osterman (1995), Black and Lynch (1998)[3].

Finally, the presence of unions can be important, also interacting with the practices of consultation and delegation. The channels through which unions affect training are potentially quite complex, and it is not immediately obvious that unionism will be associated with greater or lower intensity of training. The implications of unionism for training depend on whether the union effect is indirect – either through the compression of the wage structure (Booth et al., 2003), the employees relations in the organization (Green et al., 1999) -, or alternatively direct, through the negotiation of training.

A number of economic studies stress the efficiency–enhancing role of unions also in the field of workplace training: by reducing turnover rates, they provide employers with greater incentives to train and retain productive workers (Dustmann and Schonberg, 2004). Green et al. (1999) investigate whether there is any training effect from the interaction between union presence and other plant characteristics (such as the presence of employee involvement and of a joint consultative committee). They find that the coefficient of the interaction term is positive and view this as an important evidence of an indirect union influence on training via collective the voice mechanism. Heynes and Stuart (1998) find a strong association between training experiences of unionised workers and the union involvement in the organisation.

Finally, the degree of competition in the product market influences the profits, and the available surplus may be partly shared with workers in the form of workplace general training. Surplus availability and training might also reinforce each other in affecting the training intensity.

[3] Other factors related to the characteristics of establishments or firms may influence the amount of training provided to employees. In particular, physical capital and information technology can have a

3. Data and variables

To study the features of training motivated by workers' direct participation we use the EPOC (Employee direct Participation in Organisational Change) Survey[4]. It covers workplaces with more than 25 employees in all the economic sectors (with the exception of the agriculture) for ten European countries (Denmark, France, Germany, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and UK). Additional information refers to the largest occupational group[5].

The overall response rate is approximately 18 percent, which raises obvious concerns for the treatment of non-respondents. Sensitivity checks in the form of telephone follow-ups for similar surveys in different countries revealed that usually there is no systematic relationship between flexible work organisations and the probability to be in the sample. Although a similar check has not been made for the EPOC survey and there is no direct evidence on that, there is no a-priori reason to believe this would not be the case here.

The Survey can be ideally divided into two parts. The first one collects information about the main characteristics of each workplace surveyed, such as the size, the sector of activity, the employment composition and the characteristics of its product (or service) market. The second part asks about the practice of direct participation in the largest occupational group and contains the information on the training activity. Direct participation concerns the organisation of work and of its tasks, as well as the working

positive effect as complements to human capital (Black and Lynch, 1998; Black and Lynch, 2001).

[4] It was carried out by the European Foundation for the Improvement of Living and Working Conditions in 1996. For additional details on the Survey and on its sampling design, see Dell'Aringa et al. (2005).

[5] The EPOC Survey used in all countries a standardised questionnaire, administered to general managers. In larger countries (France, Germany, Italy, Spain, UK) the gross sample included 5,000 workplaces while it was 2,500 in medium countries (Denmark, Netherlands, Sweden) and 1,000 in the smaller ones (Ireland, Portugal). The stratification process differed across countries and was made according to population size, number of employees in industry and services and number of workplaces. Distortions and

conditions, and it can be individually or group-based. Hence, direct participation is intrinsically different from indirect and representative participation through trade unions and work councils. The questionnaire distinguishes between consultative participation (hereafter consultation), where the management retains the right to decide on work-related themes, and delegative participation (hereafter delegation), where employees organise their job independently and without feeding back to management[6].

The information on training is available only for a subset of workplaces, namely those that responded positively to the questions about the presence of group consultation and/or group delegation. Hence, they form the sample available for our empirical investigation on the training's determinants, which represents the 81 percent of the entire data set (5,786 obs.). Because of missing values, the final sample used in the empirical analysis contains 4,442 observations.

3.1. Direct participation and training indicators

We identify three categories of workplaces, depending on the type of direct participation adopted: (i) only group consultation; (ii) only group delegation; (iii) both of them. The category to which each workplace belongs is captured by three dummies (*CONS, DELEG, CONS&DELEG*) taking value one when only group consultation, only group delegation or both are used, respectively. Table 2 shows the distribution of the workplaces across different direct participation practices: 23 percent of the sample only

response bias problems regarding the sector and the size of the workplace are mitigated by the availability of specific weighting factors.

[6] According to the Survey's design, consultation and delegation apply to non-managerial employees either individually or as a group, and in the questionnaire there are four separate questions (of the type yes/no) asking whether the workplace uses each type of direct participation practice (individual/group consultation/delegation). Multiple choices are of course allowed. When the respondent answers positively to any of these question, he/she is then asked a battery of questions on the nature, the content and the consequences of the direct participation practice considered.

uses consultation; 6 percent only delegation; 71 percent use both. Thus, it seems that in the majority of cases delegation is more additive than substitute to consultation.

Information on training comes from two separate questions asking whether the management organised any training of employees to support its consultation (or delegation) group activities in very specific areas [7]. Hence, the training effort here considered is that specifically targeted to support direct participation activities and, more specifically, to either consultation or delegation practices[8]. Given the available information, we measure training by means of two ordered variables reporting the number of areas in which training is offered (for consultation and delegation, separately): *TRAINCONS* and *TRAINDEL*, both ranging from 0 to 4[9]. These indicators can be used to investigate (separately) the determinants of training for consultation and for delegation, and especially whether workplaces using both types of direct participation practices (*CONS&DELEG* = 1) train more than the others in both fields.

One limitation of all the above indicators is that they provide only "qualitative" information on the number of areas in which training is offered, not enabling us to directly investigate the effect of direct participation on the "real" intensity of workplace training[10].

[TABLE 2 AROUND HERE]

[7] The first question is asked to those who have declared that the management consults (*CONS = 1* or *CONS&DELEG = 1*) workers before taking decisions; the second is for those who responded positively to the question on delegation of decision power (*DELEG = 1* or *CONS&DELEG = 1*). In both cases, the structure of the question is the same, asking about training in the following areas: (i) collection and analysis of data; (ii) presentation skills; (iii) interpersonal skills; (iv) group dynamics; (v) other (and specify).

[8] Due to the Survey design (i.e. the respondents to the question on training for delegation are only those who actually use delegation; similarly for consultation), the distribution of valid answers is not the same across workplaces, for we have 4,169 observations for consultation and 3,421 for delegation. Of course, the two samples partly overlap, as for those workplaces using both direct participation schemes we have information on both types of training.

[9] Although the range of values could go from 0 to 5, to avoid small cells problems we rescaled them from 0 to 4, imputing value 4 to workplaces with an original value 5. The value for *TRAINCONS* is missing for workplaces with *CONS = 0*, while the opposite is true for *TRAINDEL*.

3.2. Other controls

As regards to innovative work arrangements, the EPOC survey contains information about the introduction in the last three years of several personnel practices, including: flattening of management structures, installation of team-based work organisation, job rotation of workers across different tasks, higher involvement of workers over a range of different issues. Using this information we define the variable *ORGCHANGE*, which counts the number of work practices introduced at the workplace, thus accounting for the "intensity" in the use of these work practices[11].

On the industrial relations side, the survey asks for the presence of two different types of indirect employees representation recognised at the workplace: union representatives, representatives elected to a work council and representatives to an advisory committee established by managers. We condense this information through binary indicators (*WORKCOUNC* and *ADVISCOMT*) for, respectively, the presence of the corresponding employees representation bodies, and a continuous variable for the percentage of union members in the largest occupational group (*UNIONDENS).* The latter is aimed at capturing not the "active" involvement of employees representatives in decision making but just the "*de facto*" bargaining power of unions.

Besides industrial relations and HPWO factors, several other characteristics may influence training at the workplace, including an *ICT* dummy, which takes value one in workplaces where information and communication technologies were introduced in the last three years. The effect of *ICT* on training is supposed to be positive, for new technologies can make the production process more flexible and decentralised, raising

[10] For example, consider two workplaces providing training in the same number of areas. According to our coding procedure, they are assumed using the same amount of training. However, the total time spent on training, which is the true measure of intensity, can be very different.

[11] In the set of our variables for HPWO we are probably missing some important aspect of work organisational changes. However, we are confident that our approach captures at least in broad terms the phenomena we aim to measure.

the need for incentives. The skill workforce level, is accounted for with the dummy *HIGHSKILL*, taking value one when a sufficiently high level of qualification (values one and two in a scale from one to five) is required for employees in the highest occupational group to perform their tasks.

The location of the workplace is captured by a set of country dummy variables, while other binary indicators controls for the sector of activity of the workplace. The number of employees, available from the data, is used to construct a set of dummies for firm size categories. Other dummy variables controls for other important workplace attributes such as: not being part of a larger firm; partly owned by the state; being profit oriented. Product market issues are summarised by binary controls for foreign competition; significant increases of competitive pressures over the last three years; the main success factors for the workplace (such as price, quality, variety, services)[12].

4. Empirical analysis

A descriptive analysis of workplace characteristics, including training, based on the practice of direct participation is presented in Table 3. Column (1) contains means of the variables used in the empirical analysis for the whole sample. The adoption of training to support the practice of direct participation is not as diffused as the theory predicts: 54 percent of workplaces using consultation do not train their employees in any area; the percentage is even higher (63 percent) in the case of training for delegation. Moreover, among workplaces reporting positive values, only a small percentage of them uses a combination of separate training practices: for example, while approximately 35 percent of workplaces use one or two types of training for consultation (*TRAINCON = 1 or TRAINCON = 2)*, only 10 percent three or four

[12] A detailed description of the variables used in the empirical analysis is given in Table 1.

(*TRAINCON = 3 or TRAINCON = 4*). A similar pattern emerges also for *TRAINDEL*. These features are reflected in the mean values of the training indicators: 0.87 and 0.72 for *TRAINCONS* and *TRAINDEL*, respectively.

[TABLE 3 HERE]

Summing up, this preliminary evidence seems to suggest that delegation is associated with a lower intensity of training as compared to consultation. This however, may be due to compositional effects that are not accounted for in simple descriptive analysis. Columns (2) and (3) show how workplaces with both consultation and delegation invest on average more in both type of training as compared to those with only delegation and only consultation: the value for *TRAINCONS* is 0.92 in the first case (*CONS&DELEG* = 1) and 0.72 in the second (*CONS* = 1), while the corresponding values for *TRAINDEL* are 0.74 (*CONS&DELEG* = 1) and 0.38 (*DELEG* = 1). However, we should also remind that also other factors may drive this result: for example, workplaces with both consultation and delegation are larger, more unionised, and, to the extent which these characteristics are positively associated with the number of types of training and with the propensity to have more direct participation practices, they affect the result. What is somehow surprising is the small mean value of the training indicator for workplaces using only delegation. In fact, according to the discussion of Section 2, we may expect higher training levels for delegation than for consultation. We will explore in more detail this issue analysing the results of the econometric exercise.

As far as other variables are concerned, while workplaces with only consultation or with both consultation and delegation are in our sample quite similar, those with substantial delegation of decision-making appear to be smaller, less unionised, more likely to be independent, less technologically advanced and less open to globalisation. In other words, they appear to be structurally different to the others.

A description of training patterns is given in Table 4, which tabulates the training indicators against a selected set of workplace characteristics used in our analysis. For ease of interpretation, we split the sample according to two binary variables (*D_TRAINCONS, D_TRAINDEL*), taking value one when *TRAINCONS* e *TRAINDEL* have positive values[13].

[TABLE 4 HERE]

Basic summary statistics reveal that the samples with and without training to support both delegation and consultation differ for a number of characteristics. The public sector is over represented in the group with training, and the same is true for larger workplaces. In addition, training is more likely in larger firms and in those more exposed to foreign competition. As regards to the industrial relations system, the presence of work councils, strong unions and advisory committees increase the likelihood of training, which is also positively associated with new work arrangements and the use of new technologies.

In the next section we analyse how these factors interact with direct participation strategies to determine training outcomes.

4.1. Econometric results

We use reduced form models to estimate the impact of different levels of involvement of employees in the decision-making on the probability to provide training for direct participation[14].

Because the dependent variables (*TRAINCONS, TRAINDEL*) are discrete and

[13] While *TRAINCONS* and *TRAINDEL* should capture the "intensity" of training, the corresponding dummies collapse this information in binary indicators for the presence (*TRAINCONS* >= 1; *TRAINDEL* >= 1) or the absence (*TRAINDEL* = 0; *TRAINCONS* = 0) of training.

[14] Particular care should be used in the interpretation of results as some workplace characteristics may be correlated with the adoption of both direct participation schemes and the intensity of training due to endogeneity or reverse causality problems (Handel and Levine, 2004). However, the lack of longitudinal

ordered, we estimate the net impact of different participation practices (consultation *vs* delegation; either consultation of delegation *vs* both of them) by means of regression techniques based on probabilistic models (ordered probit) and controlling for a number of other workplace characteristics and personnel policies, such as the industrial relation climate and work organisation arrangements. In addition, we use weights to control for sector, size and country distortions in the data. Robust (to heteroskedasticity) estimates are also clustered by country, as observations may not be independent within a single cluster (country).

We first pay attention to the effect of using both delegation and consultation on the number of training practices adopted. To this purpose, we estimate two different models; the first contains *TRAINCONS* as the dependent variable, while the second *TRAINDEL*. The set of covariates is the same. In particular, it includes the dummy *CONS&DELEG*. Its coefficient measures the shift in the probability to have a high number of training practices for workplaces in which *CONS&DELEG* equals 1. Results are given in Table 5.

[TABLE 5 HERE]

Concerning the equation for *TRAINCONS,* the effect of using both consultation and delegation instead of consultation only is positive and significant. The same qualitative picture emerges when *TRAINDEL* is considered, but the positive effect is less robust. We interpret the evidence that the adoption of a more complex and developed structure of employees' direct involvement in decision making implies more training as follows. On the one hand, the simultaneous presence of consultation and delegation channels makes more difficult but, at the same time, more important the coordination between employees. This stimulate a higher demand for a number of skills (the ability to

data and of good candidate instruments in the survey prevents us to control for selectivity issues.

communicate, to share data and information) that can be developed making a larger use of training. On the other hand, it may be possible that training for consultation and training for delegation are strategic complements, so that the simultaneous use of both direct participation techniques creates scale economies stimulating the joint use of training for delegation purposes.

We also notice that the effect of many other covariates is similar across different models. In other words, several workplace characteristics affect training for direct participation independently to the specific purpose for which it is provided. This is comforting, since structural workplace attributes should affect the provision of training *per se*, and not the specific reason why it is offered. The effect of several covariates is consistent with the predictions of the theory. For example, the probability of high training practices increases with firm size and it is larger in the public sector.

Looking at the effect of other workplace characteristics, union density matters and has positive effects, but only for delegation. As we expect, the intensity of training increases when new technologies are in place and the organisation of work is more flat and decentralised (HPWO).

Next, we investigate the relationship between the number of training practices and the adoption of the delegation. As we have discussed in previous sections, we want to clarify whether the use of a higher degree of involvement and autonomy of workers in decision making (i.e. delegation) is accompanied, as it is suggested by theoretical predictions, by a higher provision of training as compared to consultation. The descriptive analysis has suggested that, at least in our sample, it does not seem to be always the case. Here, we want to investigate whether the same result applies once controlling for observable workplace heterogeneity. One problem with the approach used in our above estimates is that *TRAINCONS* or *TRAINDEL* are not simultaneously

defined over the whole sample of workplaces, either with or without delegation. Hence, we experiment with an indicator obtained merging information from the two available training indicators, and including a delegation dummy among the set of regressors. More specifically, we construct the new variable *TRAIN*, which takes the value of *TRAINCONS* when *CONS = 1* and of *TRAINDEL* when *DEL = 1* or *CONS&DELEG = 1*, thus being able to account for the differences in terms of training between workplaces adopting just consultation and those adopting delegation (maybe in conjunction with consultation)[15]. We also create a new binary variable, *SOME_DELEG*, taking value 1 when the workplace uses delegation, alone or in conjunction with consultation. While *CONS&DELEG* controls for the fact that, as previously discussed, the joint adoption of consultation and delegation has a positive effect on the training indicator, the coefficient associated to *SOME_DELEG* should capture the "net" effect of delegation by itself, i.e. the fact that the adoption of delegative direct participation, which imply a higher propensity of the management to share responsibility with workers, requires a higher training intensity than the simple consultation of employees. Results of column (3) indicate that delegation impacts negatively on the probability of having a high number of training practices. This result, which contrast the predictions from the theory, should not be interpreted in causal term, but, instead, as a simple correlation. One interpretation may be that the management decide to delegate only if the core workforce is skilled enough and, therefore, there is less demand for training. This seems to be confirmed by the coefficient for the variable that captures the need for skills (*HIGHSKILL*), which is positive and statistically significant.

[15] Here, we are making the assumption that the time needed to train in each area of those considered (for example vocational skills) is the same for both consultation and delegation purposes. Of course, this is questionable: for example, the intensity of training to develop skills for

5. Concluding remarks

While there has been substantial effort to shed light on the effects of workers direct involvement in decision making on workplaces' efficiency and performance, less attention has been given to the routes through which this result can be achieved. We argue that training activities targeted to employees involved in direct participation procedures may play a key role when work reorganisations and technological changes occur.

More specifically, in this study we use a rich data set on European workplaces with information on (direct) participation practices, to investigate the determinants of training supporting group consultation and group delegation practices. Our main results are as follow. First, it does not seem that that the use of direct participation requires specific training, and only half of the workplaces make use of it. Second, the higher the complexity of employees direct participation arrangements (both consultation and delegation as opposed to only one of them), the higher is the need for training, i.e. it seems that training for participation and training for delegation are complements. Finally, we do not find evidence workplaces using delegation instead of just consultation train more to support their participation schemes, as theory suggests (i.e. delegation requires more skill and, therefore, more training). However, this effect should not be interpreted as causal, for it may be due to reverse causality problems: only when the workplace has "good quality" employees, who need less training for being productive in the practice of direct participation, it introduces delegation mechanisms.

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autonomous decision making may be *per se* higher than what is required for (less demanding) consultation activities.

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Tables

Table 1 - Degree of participation, information sharing and control over procedures

[1] No Involvement: mainly refers to unilateral decisions by the employer without any information sharing with employees; [2] Receiving Information: refers to 'one-way' transmission by the employer to employees (or their representatives) of data relevant to the organisation; [3] Consultation: refers to two-way transmission between the employer and the employees (or their representatives), the exchange of views and establishment of dialogue between them. These can include a variety of techniques such as attitude surveys, team briefings, quality circles and employee focus groups; [4] Delegation-Employee Control: this defines high employee commitment procedures where dialogue is seen as pre-requisite, but, in this case, employees have full control over the practices implemented. It concerns techniques such as self-managed teams, consultative committees or autonomous bodies;

Table 2 – Variables' definition

VARIABLE	Definition
CONS	1 = only consultation; 0 = otherwise
DELEG	1 = only delegation of decision 0 = only consultation
CONS&DELEG	1 = both consultation and delegation 0 = otherwise
TRAINCONS	Number of training schemes to support consultation (from 0 to 4)
TRAINDEL	Number of training schemes to support delegation (from 0 to 4)
NETHERLANDS	1 = located in Netherlands; 0 = otherwise
GERMANY	1 = located in Germany; 0 = otherwise
SPAIN	1 = located in Spain; 0 = otherwise
DENMARK	1 = located in Denmanrk; 0 = otherwise
IRELAND	1 = located in Ireland; 0 = otherwise
FRANCE	1 = located in France; 0 = otherwise
ITALY	1 = located in Italy; 0 = otherwise
SWEDEN	1 = located in in Sweden; 0 = otherwise
UK	1 = located in the UK; 0 = otherwise
PORTUGAL	1 = located in Portugal; 0 = otherwise
MANUFACT.	1 = industry sector; 0 = otherwise
CONSTRUCTION	1 = construction sector; 0 = otherwise
TRADE	1 = trade sector; 0 = otherwise
PRIVATE SERVICES	1 = private services sector; 0 = otherwise
PUBLIC SERVICES	1 = public services sector; 0 = otherwise
SIZE_LESS100	1 = less than 100 employees; 0 = otherwise
SIZE100_200	1 = number of employees between 100 and 200; 0 = otherwise
SIZE200_500	1 = number of employees between 200 and 500; 0 = otherwise
SIZE500_1000	1 = number of employees between 500 and 1000; 0 = otherwise
SIZE_1000MORE	1 = more than 1000 employees; 0 = otherwise
INDEPEND	1 = independent workplace; 0 = otherwise
PROFIT	1 = workplace profit-oriented; 0 = otherwise
STATESHARE	1 = workplace owned (maybe partly) by the state; 0 = otherwise
FOREIGNCOMP	1 = workplace open to foreign competition; 0 = otherwise
INCRECOMP	1 = increased competition in the last three years; 0 = otherwise
WORKCOUNC	1 = work council at the workplace; 0 = otherwise
ADVISCOMT	1 = advisory committee at the workplace; 0 = otherwise
UNIONDENS	Union density (percentage points)
COVERAGE	1 = workplace covered by a collective agreement; 0 = otherwise
ICT	1 = information and communic. tech introduced in the last three years; 0 = otherwise
HIGHSKILL	1 = the mean level of skills of the workforce is high; 0 = otherwise
ORGCHANGE	Number of changes in work organization practices (from 1 to 5, std. dev. = 1.2)

Table 3 – Descriptive statistics: full sample and by intensity of direct participation

	Full sample		Only consultation		Only delegation		Both consultation & delegation	
VARIABLE	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
DK	0.086	0.280	0.075	0.264	0.150	0.358	0.084	0.277
FRA	0.124	0.330	0.142	0.349	0.139	0.347	0.117	0.321
GER	0.063	0.243	0.099	0.299	0.147	0.354	0.044	0.205
IRL	0.112	0.316	0.170	0.376	0.081	0.273	0.096	0.295
ITA	0.067	0.250	0.096	0.295	0.026	0.158	0.061	0.239
NL	0.109	0.311	0.080	0.272	0.055	0.228	0.122	0.328
PORT	0.086	0.281	0.157	0.364	0.055	0.228	0.066	0.249
SPA	0.036	0.186	0.032	0.177	0.062	0.242	0.035	0.183
SWE	0.165	0.371	0.000	0.000	0.000	0.000	0.233	0.423
UK	0.152	0.359	0.148	0.355	0.286	0.453	0.142	0.349
INDUSTRY	0.294	0.456	0.303	0.460	0.275	0.447	0.294	0.455
CONSTRUCTIO N	0.097	0.296	0.093	0.291	0.176	0.381	0.091	0.288
TRADE_	0.081	0.273	0.077	0.267	0.084	0.278	0.082	0.275
PRIV_SERVICE	0.253	0.435	0.273	0.446	0.271	0.445	0.245	0.430
PUB_SECTOR	0.274	0.446	0.254	0.435	0.194	0.396	0.288	0.453
SIZE_LESS100	0.355	0.479	0.319	0.466	0.425	0.495	0.361	0.480
SIZE100_200	0.212	0.409	0.227	0.419	0.212	0.410	0.207	0.405
SIZE200_500	0.220	0.414	0.238	0.426	0.205	0.405	0.215	0.411
SIZE500_1000	0.100	0.300	0.109	0.311	0.099	0.299	0.097	0.296
SIZE_1000MORE	0.113	0.317	0.107	0.309	0.059	0.235	0.120	0.325
SUCC_PRICE	0.491	0.500	0.466	0.499	0.527	0.500	0.497	0.500
SUCC_QUALITY	0.750	0.433	0.759	0.428	0.747	0.435	0.747	0.435
SUCC_VARIETY	0.353	0.478	0.313	0.464	0.337	0.474	0.367	0.482
SUCC_SERV	0.671	0.470	0.673	0.469	0.674	0.470	0.670	0.470
INDEPEND	0.408	0.492	0.409	0.492	0.542	0.499	0.396	0.489
PROFIT	0.674	0.469	0.697	0.460	0.766	0.424	0.659	0.474
STATESHARE	0.235	0.424	0.214	0.411	0.136	0.343	0.250	0.433
FOREIGNCOMP	0.382	0.486	0.394	0.489	0.311	0.464	0.384	0.487
INCRECOMP	0.434	0.496	0.448	0.497	0.414	0.493	0.431	0.495
TIME_RED	0.101	0.301	0.102	0.303	0.158	0.365	0.095	0.294
TIME_FLEX	0.303	0.460	0.292	0.455	0.238	0.427	0.312	0.463
INCR_TEMP	0.261	0.439	0.246	0.431	0.245	0.431	0.267	0.442
INCR_PARTIME	0.188	0.390	0.177	0.382	0.179	0.384	0.192	0.394
WORKCOUNC	0.345	0.476	0.367	0.482	0.377	0.486	0.335	0.472
ADVISCOMT	0.141	0.348	0.139	0.346	0.062	0.242	0.149	0.356
UNIONDENS	47.891	40.078	45.091	37.977	32.560	34.771	50.129	40.826
ICT	0.469	0.499	0.483	0.500	0.392	0.489	0.471	0.499
HIGHSKILL	0.511	0.500	0.483	0.500	0.377	0.486	0.531	0.499
ORGCHANGE	1.895	1.237	1.716	1.110	1.505	1.033	1.987	1.279
TRAINCONS (§)	0.872	1.134	0.721	1.022			0.921	1.164
TRAINDEL (#)	0.720	1.106			0.388	0.820	0.748	1.122
TRAIN	0.720	1.087	0.721	1.022	0.388	0.820	0.748	1.122
CONS	0.230	0.421						
DELEG	0.061	0.240						
CONS_DELEG	0.709	0.454						
n. obs.	4,442		1,021		273		3,148	
§: n. valid obs.	4,169							
#: n. valid obs.	3,421							

Table 4 – Distribution of mean characteristics across training activities (proportion)

	Training for consultation		Training for delegation	
	no	yes	no	Yes
VARIABLE	Mean	Mean	Mean	Mean
DK	0.073	0.093	0.083	0.100
FRA	0.140	0.103	0.132	0.096
GER	0.057	0.058	0.057	0.044
IRL	0.093	0.139	0.075	0.129
ITA	0.058	0.083	0.052	0.069
NL	0.128	0.094	0.136	0.084
PORT	0.087	0.090	0.065	0.066
SPA	0.043	0.024	0.045	0.022
SWE	0.206	0.140	0.219	0.205
UK	0.114	0.177	0.135	0.186
INDUSTRY	0.289	0.304	0.277	0.317
CONSTRUCTION	0.120	0.059	0.116	0.069
TRADE_	0.087	0.074	0.094	0.063
PRIV_SERVICE	0.262	0.240	0.261	0.224
PUB_SECTOR	0.242	0.323	0.252	0.328
SIZE_LESS100	0.403	0.289	0.404	0.301
SIZE100_200	0.214	0.209	0.213	0.198
SIZE200_500	0.216	0.227	0.198	0.242
SIZE500_1000	0.079	0.124	0.086	0.115
SIZE_1000MORE	0.088	0.151	0.099	0.143
SUCC_PRICE	0.518	0.456	0.522	0.461
SUCC_QUALITY	0.731	0.771	0.742	0.755
SUCC_VARIETY	0.339	0.371	0.346	0.396
SUCC_SERV	0.659	0.685	0.668	0.675
INDEPEND	0.434	0.358	0.429	0.370
PROFIT	0.699	0.633	0.694	0.622
STATESHARE	0.205	0.284	0.210	0.293
FOREIGNCOMP	0.361	0.417	0.362	0.407
INCRECOMP	0.433	0.439	0.433	0.424
TIME_RED	0.104	0.089	0.105	0.092
TIME_FLEX	0.279	0.340	0.280	0.351
INCR_TEMP	0.253	0.272	0.258	0.277
INCR_PARTIME	0.171	0.208	0.179	0.210
UNIONREPR	0.453	0.531	0.469	0.559
WORKCOUNC	0.315	0.376	0.333	0.349
ADVISCOMT	0.115	0.183	0.120	0.179
UNIONDENS	47.231	50.837	45.700	53.879
COVERAGE	0.797	0.776	0.790	0.786
ICT	0.412	0.546	0.419	0.541
HIGHSKILL	0.481	0.564	0.483	0.580
ORGCHANGE	1.666	2.218	1.715	2.347
CONS	0.268	0.218		
DELEG			0.097	0.051
CONS_DELEG	0.732	0.782	0.903	0.949
N. OBS.	2,245	1,924	2,155	1,266

Table 5 – The determinants of training: Ordered probit estimates

	dependent variable: TRAINCONS		Dependent variable: TRAINDEL		Dependent variable: TRAIN	
	(1)		(2)		(3)	
	Coef.	z	Coef.	z	Coef.	z
DK	-0.155	-3	-0.104	-1.78	-0.089	-1.67
FRA	-0.203	-2.2	-0.168	-2.68	-0.183	-4.32
GER	-0.328	-4.54	-0.346	-8.98	-0.223	-4.08
IRL	-0.031	-0.49	-0.211	-3.02	-0.155	-2.11
ITA	0.192	3.64	-0.134	-2.63	-0.029	-0.9
NL	-0.419	-4.97	-0.530	-7.22	-0.468	-6.76
PORT	-0.076	-0.84	-0.304	-5.47	-0.183	-3.64
SPA	-0.288	-2.82	-0.292	-3.48	-0.176	-2.85
SWE	-0.682	-8.34	-0.705	-8.49	-0.538	-5.87
INDUSTRY	-0.256	-2.53	-0.101	-0.64	-0.142	-1.07
CONSTRUCTION	-0.774	-10.02	-0.538	-4.08	-0.580	-4.95
TRADE_	-0.257	-2.21	-0.357	-3.15	-0.250	-2.23
PRIV_SERVICE	-0.208	-2.27	-0.170	-1.63	-0.141	-1.57
SIZE100_200	0.114	1.22	0.082	1.36	0.099	1.35
SIZE200_500	0.186	7.41	0.183	4.19	0.193	4.16
SIZE500_1000	0.401	3.56	0.251	1.71	0.329	4.74
SIZE_1000M~E	0.621	6.95	0.373	2.79	0.448	3.44
SUCC_PRICE	-0.039	-1.34	0.035	0.51	-0.004	-0.09
SUCC_QUALITY	0.093	0.99	-0.019	-0.27	0.064	0.77
SUCC_VARIETY	0.045	1.2	0.199	2.28	0.105	1.75
SUCC_SERV	0.085	1.52	-0.088	-0.75	0.009	0.13
INDEPEND	-0.150	-4.94	-0.047	-0.68	-0.092	-2.16
PROFIT	0.001	0.01	-0.033	-0.36	0.014	0.15
STATESHARE	-0.085	-2.67	-0.128	-1.94	-0.120	-1.99
FOREIGNCOMP	0.152	2.9	0.163	2.17	0.159	2
INCRECOMP	-0.141	-1.61	-0.084	-1.6	-0.086	-2.13
TIME_RED	-0.305	-3.74	-0.207	-1.61	-0.104	-1
TIME_FLEX	0.029	0.75	0.015	0.21	0.009	0.12
INCR_TEMP	-0.036	-0.7	-0.063	-0.84	-0.058	-1.06
INCR_PARTIME	-0.090	-1.31	0.226	2.17	0.194	2.03
WORKCOUNC	0.180	2.37	-0.011	-0.11	0.043	0.64
ADVISCOMT	0.208	1.86	0.177	1.32	0.150	1.33
UNIONDENS	0.001	0.77	0.003	3.35	0.002	2.77
COVERAGE	0.067	0.81	0.022	0.35	0.019	0.35
ICT	0.202	3.34	0.092	1.57	0.128	2.46
HIGHSKILL	0.152	1.81	0.177	2.4	0.212	3.56
ORGCHANGE	0.169	7.19	0.199	9.64	0.176	8.07
SOME_DELEG					-0.403	-2.51
CONS&DELEG	0.209	2.5	0.357	1.63	0.362	1.79
N. OBS	4,169		3,421		4,442	
LOGLIK						

Note: Each regression includes four ancillary parameters. Category excluded: UK, public sector, *SIZE_LESS100*. z-statistics are robust and clustered by country. Weights controls for size, sector and country distortions in the sample.