Relational Skills and Corporate Productivity in a Comparative Size Class Perspective

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Abstract

Based on results from the different fields of the game theoretic literature on strategic interactions and social dilemmas, gift exchange and procedural utility, we argue that corporate social responsibility and relational skills i) with other firms; ii) between employers and workers iii) among workers and iv) with stakeholders are associated to positive effects on productivity. We test our research hypothesis in a comparative perspective on small, medium and large sized Italian firms. We find that size matters when investigating the impact of relational skills on added value per worker after controlling for relevant concurring factors. The identified significant skill related components are: i) corporate policies considering strategic workers' wellbeing; ii) team working attitudes considered as priority soft skills when hiring workers; iii) initiatives in favour of the productive network operating in the same local area; iv) involvement of stakeholders in CSR projects. Our findings show that the fourth component (stakeholder involvement) is positive and significant for all (small, medium and large) size classes, while the first (workers wellbeing) for small and medium firms, the second (team working) applies mainly to medium firms, and the third (initiative for the local productive network) to medium and large firms. Instrumental variable estimates on the relational skill principal component suggest that a causality link exists beyond these significant correlations. Our conclusion is that scale has an inverse U-shaped effect on the impact of team skills, weakens the impact of gift exchange mechanisms, while it reinforces those of investment in the local productive environment on added value per worker.

Keywords: social dilemma, gift exchange, procedural utility, corporate social responsibility, corporate size

1. Introduction

The economic literature traditionally identifies the main drivers of corporate performance and competitive advantage in "hard factors" such as patents, innovation, sustainable competitive advantages on the supply side and consumer tastes on the demand side. We are much less accustomed to focus on the fact that competition is a "team sport" where the quality of internal (among workers and between managers and workers) and external (with stakeholders and other companies along the product chain) relationships are crucial.

Our aim is to contribute to bridge this gap by performing an empirical analysis on the effects of corporate social responsibility and relational skills on performance. More specifically, we identify three types of relational skills: gift giving, team working and stakeholders involvement and participation. We consider their effects in four different actions: welfare provisions toward workers, team working as key soft skill in hiring decision strategies, projects in favour of the local business and stakeholders' involvement in corporate CSR projects.

Our focus is motivated by the fact that human relationships are a powerful factor, whose role on social and economic performance has been only partially explored in the literature. An indication of their potential positive effect comes from three different strands in the literature, the first related to social dilemmas in game theory, the second to the role of soft skills on productivity in the labor market, the third to the so-called participatory utility theory (Frei and Stutzer, 2005 and 2006).

On the first strand game theory has a longstanding tradition that places strong emphasis on the importance of quality of human relationships when markets are thin. In presence of asymmetric information, incomplete contracts and non-overlapping competences, several game theoretic models – such as, for instance, the prisoner's dilemma, the trust investment game (Berg et al. 1995), the traveler game (Basu 1994) and the stag hunt game (Skyrms, 2001) - outline social dilemmas where coordination failures and suboptimal Nash equilibria show how players' low

relational skills can lead to Pareto inferior outcomes. A common factor across these social dilemmas is that trust is a form of social risk as it corresponds to putting oneself in other hands without any legal protection.[1] As a consequence, the absence of interpersonal social capital (trust and trustworthiness) leads to lack (or abuse) of trust, failure of coordination and cooperation, thereby making impossible to put together non overlapping competences and experiences that can create teams and generate superadditive effects. On the opposite, strategies of "relational rationality", going from the minimal form of cheap talks to the more engaging case of gift exchange (Akerlof, 1984, Bewley 1999), can overcome coordination failures, stimulate intrinsic motivations that contribute positively to productivity (Becchetti et al. 2013), bringing toward socially optimal equilibria. More specifically, in the gift exchange example illustrated by Akerlof (1984) a managerial "gift" (the first action of a manager creating benefits for workers, not motivated by a previous action from the latter deserving the benefit) can generate gratitude and trigger reciprocity that workers express under the form of higher productivity and lower absenteeism and quit rates. More in general, we can define a gift any action of giving that goes beyond what expected based on legal obligations and corporate role tasks. The same gift exchange mechanisms repeated between workers at the same hierarchical level can create mechanisms of gratitude and reciprocity,[2] thereby producing strong relational links that become a deterrent that increases the cost of violating trust and makes cooperation a more likely and robust outcome of social dilemmas (Becchetti and Pace, 2012). These findings imply that the very general features of social dilemmas in the game theoretic literature apply also to corporate life since it is possible to identify potential social dilemmas, coordination failures and, on the opposite direction, high

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[1] "Trust is the investor's willingness to make herself vulnerable to others' action" (Hong and Bohnet 2007). "An individual (let's call her the trustor or investor) trusts if she voluntarily places resources at disposal of another party (the trustees) without any legal commitment from the latter" (Fehr 2009).

[2] The key factor creating the gift exchange effect is reciprocity (Falk and Fishbacher 2006; Rabin 1993) triggered by the gratitude for the gift received. According to Gouldner (1960) reciprocity is "is no less universal and important an element of culture than the incest taboo". The relevance of gift exchange mechanism has been confirmed in several field experiments (se among others Falk, 2007).

productivity potential of interpersonal social capital in the interactions i) among workers with heterogeneous skills and competences, ii) among the firm and their suppliers/subcontractors and iii) among the firm and its stakeholders. This is because (considering for instance case i)) companies typically participate to competitive races with their projects and strategies elaborated by a team of workers with non-overlapping complementary skills (ie. lawyers, technology experts, economists, etc.) and therefore the creation of quality projects occurs under similar social dilemma conditions of the trust investment game. The commitment to employees at the origin of the gift exchange mechanism can be particularly important in triggering workers effort and improved productive performance especially in small and medium business where, due to the more limited number of employees and reduced relevance of formal and hierarchical relationships, quality of relationships can play an even higher role (Muse et al. 2005).

On a different strand of the literature the growing attention of labor economics to relational skills is evident in recent contributions focusing on returns to "non-cognitive" skills that include social skills (Kuhn and Weinberger 2005; Heckman, Stixrud, and Urzua 2006; Lindqvist and Vestman 2011; Borghans, Ter Weel, and Weinberg 2014). The importance of relational factors is confirmed by Deming (2017) reporting that employers in the National Association of Colleges and Employers (NACE) regard "ability to work in a team" when hiring new college graduates as the top attribute coming before analytical/qualitative skills and problem solving (NACE, 2015). Further evidence on the importance of team work and collaboration as crucial worker skills is provided by Casner et al. (2006) and Lins (2017).

A third strand of the literature related to our research hypotheses on the effect of relational skills on corporate performance concerns the value of participation. Along this line Frei and Stutzer (2005 and 2006) show that individual preferences are not only affected by outcomes but also by circumstances of actions related to those outcomes. More specifically, they show that individuals tend to support a given choice when they are involved and participating to the decision process, while they are against the same choice if they are not.

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Among empirical contributions related to this strand of research Edmans (2011) shows that employee satisfaction is positively correlated with shareholder returns and the stock market does not fully value intangibles, while Lins et al. (2017) show that firms with higher level of CSR intensity earned higher stock returns during the 2007-2008 financial crisis and interpret CSR as a proxy of trust between companies and their stakeholders.

Within this literature our contribution tests different research hypotheses on the nexus between corporate relational skills and performance using the Multiscopo survey of Italian firms which collects information on the universe of Italian companies with 250 employees and above, plus a large representative sample of companies between 3 and 249 employees. In our paper we wonder whether theoretical findings from the three above described literature fields find correspondence empirically in a significant nexus between relational skills and corporate performance comparing small, medium and large firms. An added value of our approach lies therefore in testing the effect of specific relational skills on a large and representative sample of small sized firms comparing them with medium and the Universe of large firms. More specifically, we test the effect of the following four relational skills (related to the three above described strands of the literature): i) considering workers' wellbeing as strategic; ii) regarding team working attitudes as priority soft skills when hiring workers; iii) taking initiatives in favour of the productive network operating in the same local area;   iv) involving stakeholders in CSR projects.

Our main findings show that stakeholder involvement is positive and significant for all size classes while the other three skills affect them differently. More specifically: i) care for workers wellbeing seems to weaken its positive impact on added value when it comes to large firms, ii) attention to team working attitudes has positive effect on medium size working environments and iii) initiatives in favor of the local productive network have positive effects only for large firms. Our interpretation of these last findings is that i) the gift exchange mechanism triggered by care for workers wellbeing weakens when the distance from employers and workers grows (Muse et al. 2005); ii) quality of relationships is more relevant in smaller working environments where

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formal hierarchical rules presumably matter less, but it requires a minimum scale where the mix of different competences can be large enough to generate the *superadditivity* effect of cooperation; iii) initiatives in favor of local productive network require scale. They therefore matter, have impact and positive feedbacks when companies are large. A synthetic representation of the four variables in a principal component analysis allows us to use instrumental variables and test more specifically the causality link between relational skills and corporate performance. Our tests show that the selected instrument is relevant and valid and that the instrumented variable is positive and significant thereby not rejecting the hypothesis that the observed significant association between corporate relational skills and performance hides a direct causality nexus between the two variables.

In terms of economic significance our estimates show that care for workers wellbeing effect accounts for around 3,900 (5,600) extra euros of added value per worker for small (medium) firms, care for team building skills considered strategic when hiring workers for around 3,000 extra euros for medium sized firms, while involving stakeholders in the implementation of CSR projects for 10,000 (15,000) extra euros for small (medium and large) firms.

The paper is divided into five sections. The second section outlines our research hypotheses. The third section describes our database. The fourth and fifth sections present descriptive and econometric findings. The sixth section concludes.

2. *Research hypothesis and theoretical framework*

Game theoretic models assume that life is made of social dilemmas where individuals have non overlapping competences and complementary roles and therefore can gain from cooperation. Unfortunately, cooperation requires interpersonal social capital since it originates from an act of trust that is risky. In a framework of asymmetric information and incomplete contracts the

interplay of individual rationality among purely self-regarding individuals ends up creating (when their preferences are common knowledge) Nash equilibria that are suboptimal and dominated by cooperative equilibria. In order to achieve the latter relational skills and "social rationality", (capacity to combine gift, reciprocity, cooperation and interpersonal trust) different from "individual rationality" (maximising individual payoff under purely self-regarding preferences) are required.

On the other side, the labor market literature finds that higher relational skills increase workers' productivity and wages and therefore positively contribute to corporate performance.

The literature of social dilemmas therefore predicts a positive causal relationship from relational skills to players payoffs that match corporate productivity when the game is played by workers within a company or by different companies trying to cooperate in some activities (ie. export, marketing, research consortia) (Becchetti and Pace, 2012). More specifically, the internal coordination game concerns the development of corporate strategies and projects that require information exchange and cooperation among workers with different (ie. marketing, finance, environmental, technological, legal) non overlapping competences. The external coordination game relates to relationships with other companies in order to create alliances for public goods (i.e.export services, marketing consortia, research and development).

Based on these considerations we expect that companies with workers with higher relational skills are more likely to overcome internal social dilemmas in teamwork within the company and external social dilemmas in horizontal and vertical cross-corporate cooperation along the value chain. These effects have the power of increasing corporate productivity and performance

H01: relational team working skills across workers and between companies contribute to improve corporate productivity

A second channel through which relational skills can be developed is the gift exchange mechanism. In the Akerlof (1984) model the gift (an unexpected wage increase provided by the employer, unrelated to employees' positive actions) triggers reciprocity increasing effort and productivity of workers.

In a similar way the literature in evolutionary game theory shows that coordination failures in multiplayer prisoner's dilemmas can be solved by the action of pivotal players committing to a socially optimal strategy and accepting the risk of not being reciprocated (Stewart and Plotkin, 2013). Their commitment however signals to the other players their trustworthiness and creates conditions for making cooperative equilibrium a focal point where other players find optimal to converge.

In our empirical analysis we identify companies with a specific corporate relational skill variable that relates to these mechanisms - that is, companies where improving workers wellbeing, equal opportunities, parenthood and work-life balance has been a corporate policy in the last three years corresponding to the company strategic mission - and test whether this corporate relational skill triggers a gift exchange mechanism (where workers reciprocate the gift in terms of higher productivity), thereby producing a significant effect on corporate productivity.

H02: strategic attention to workers wellbeing is a gift exchange mechanism that contributes to improve corporate performance

With their concept of participatory utility Frei and Stutzer (2005) argue that individuals have preferences not only for outcomes and quantity of consumed goods but also for the pattern of actions and interactions leading to the outcome. More specifically, they argue that individuals can switch from opposing to supporting exactly the same decision if they are involved and participate to the process leading to that decision. Based on the participatory utility concept we argue that stakeholder involvement in corporate social responsibility strategies can significantly

improve the attitude of stakeholders toward the company thereby producing positive effects on its performance.

H03: stakeholder involvement and participation can contribute positively to corporate performance

3. The database

Our main data source is the first Permanent Census of Italian Companies carried out by the Italian National Statistical Institute (ISTAT) between May and September 2019. Unlike traditional censuses, this Census is of a sampling type, while the return of the data obtained is of a census type, it is on a three-years basis (while normal census are on a 10-years) and the information is obtained from the integration between statistical registers and current economic surveys. Moreover, the information content covers different aspects: entrepreneurship, control and governance, human capital, relations between enterprises and with other entities, market, technological innovation and new professions, finance, internationalization, new development trajectories, and social and environmental sustainability. These characteristics make this database a great as well as a high quality data source. Infact, it involves around 24.0 percent of Italian companies, corresponding to a sample of about 280,000 companies with 3 or more employees. Sample companies employ 76.7 percent of the total workforce and 91.3 percent of total Italian employees. According to the Census, the three-year 2016-2018 period of our data was characterized by a marked employment recovery, with acquisition of new human resources involving 52.2 percent of micro and 77.3 percent of small businesses. During the same period 77.1 percent of sample companies undertook actions aimed to social sustainability and 74 percent

aimed to improve workers' well-being. Equal opportunities, parenting and work-family reconciliation, healthcare, and social assistance were the preferred actions.

To measure corporate relational skills we exploited variables concerning the relationship between employers and workers and, more specifically, corporate measures aimed to enhance workers' wellbeing. In particular, within this group we use a unit dummy picking up companies where improving workers wellbeing, equal opportunities, parenthood and work-life balance has been a corporate policy considered as a strategic mission in the last three years. This variable is the best proxy available in the our dataset capturing employer's care for workers and, potentially, a proxy of the first input (giving) in gift exchange mechanisms. We then select a second variable capturing workers relational skills. More specifically, we introduce in the econometric specifications that follow a dummy taking value one if the firm has considered as top priority team working attitudes when hiring its workers in the last three years. A third selected variable relates to the corporate relational skills with the local business environment. The variable is a dummy taking value one for companies supporting or taking initiatives in favour of the local business in the area in which the company operates and considering this activity as part of their strategic mission. A fourth variable takes value one if the company has financed CSR projects and initiatives involving stakeholders in planning and implementing the same initiatives. The CSR initiatives considered in the Permanent Census include five possible options: reduction of environmental impact of corporate activities, improvement of workers wellbeing, initiatives of collective interest outside the company, initiatives for the local business environment, increase in safety within the company or in the area where the company operates.

Summary descriptive findings on the variables used in the econometric analysis that follows are provided in Table 2 (while variable legend in Table 1). The average 2018 added value per employee is 47 729 euros, sample companies have on average 38 workers and are 21.6 years old. More than half companies are family owned (66 percent) and less than 10 percent of the them

have competitors outside the UE, while 62 percent invested in digitalisation in the last three years, 61 percent have used external financing sources in 2018 and only 1 percent have delocalised at least part of the production activity abroad.

About our four relational skill variables 44 percent of sample companies declare that workers wellbeing is for them strategic, while 54 percent consider team working a key priority when hiring workers. Only 9 percent of sample companies support projects in favour of the local business considering this action strategic, while around 22 percent involve stakeholders in the definition of their CSR projects.

In Table 2, a breakdown of descriptive statistics for small, medium and large firms is also provided. Larger firms have lower added value per employee (77.8 thousand euros against 82.2 and 90.3 of medium and small firms respectively). Worker wellbeing and team working values are reasonably greater in large firms, while relational activities involving local business or stakeholders are developed in higher proportion by medium firms. Size and age are positively correlated since small firms have an average age of 21 years, while medium and large firms respectively of 26 and 29 years. As expected, small firms are in a higher proportion family owned (68 percent), less likely to have an non-EU competitor (8 percent), invest in digitalisation technology (60 percent), use sources of external finance (60 percent) and delocalise part of their activity abroad (1 percent).

The geographical distribution of the four relational skill variables is presented in Figures 1.1 - 1.4. North-East regions and Emilia Romagna have the highest values for the worker wellbeing mission, the team working variable and the stakeholder mission variable. The North-South gap in the regional pattern of these variables is consistent with evidence in the literature on the lower social capital (and of its interpersonal component made of trust and trustworthiness) in the Italian Mezzogiorno (Nannicini and Leonardi, 2008 and Guiso, 2008). Our descriptive findings show that the lower level of trust and trustworthiness in the South observed in the literature finds

correspondence in a lower propensity of companies located in this area to rely on relational skill variables.

3   Econometric specification

In order to test our research hypothesis on the impact of relational variables on corporate productivity we estimate the following specification:

$$VA/employee_i = \alpha_0 + \alpha_1 Worker\ Wellbeing\ Mission_i + \alpha_2 Team\ Working\ Priority_i +$$
$$\alpha_3 Initiative\ for\ Local\ Business\ Strategic_i + \alpha_4 Initiative\ for\ Local\ Business\ not\ Strategic_i +$$
$$\alpha_5 CSR\ Involving\ Stakeholders_i + \alpha_6 CSR\ not\ Involving\ Stakeholders_i +$$
$$\alpha_7 Number\ of\ Employees_i + \alpha_8 Age_i + \alpha_9 Non\ EU\ Competitor_i + \alpha_{10} Digitalisation_i + \alpha_{11} Family\ Owned_i +$$
$$\alpha_{12} Delocalize + \alpha_{13}\ External\ Finance_i + \sum_d \gamma_d\ DNACE(2)_i + \sum_f \delta_f\ DProvince_i + \varepsilon_i\ (1)$$

where the dependent variable is added value per employee (*VA/employee*). The first group of six regressors is related to the corporate relational variables described in section 3. More specifically, the variable *Worker Wellbeing Mission* is a (0/1) dummy taking value one if the firm declares that its policy of improving workers wellbeing, equal opportunities, parenthood, and work-life balance pursued in the last three years is part of its strategic mission. The variable *Team Working Priority* takes value one (and zero otherwise) if the firm declares that team working soft skills have been top priority when hiring workers in the last three years (2016-2018). The variable *Initiative for Local Business Strategic* takes value one (and zero otherwise) when the firm declares that it has taken or supported initiatives for the local business in the last three years (2016-2018) by considering them part of its strategic mission, while the variable *Initiative for Local Business not Strategic* takes value one (and zero otherwise) for companies taking or supporting these initiatives as well but considering them as not strategic. The omitted benchmark here is represented by

companies not taking or supporting these initiatives. Last, our fourth key variable is *CSR Involving Stakeholders* and takes value one for companies involving stakeholders when financing CSR projects, where listed initiatives consider five possible options (reduction of environmental impact of corporate activities, improvement of workers wellbeing, initiative of collective interest outside the company, initiatives for the local business environment, increase in safety within the company or in the area where the company operates), while *CSR not Involving Stakeholders* is a variable taking value one for companies financing such initiatives without stakeholder involvement and the omitted benchmark is that of companies not financing CSR initiatives.

Control variables include the number of employees (*Number of Employees*), the distance in years from firm year of birth (*Age*) plus a set of (0/1) dummies respectively measuring whether the firm main competitors are located outside the EU (*non-EU competitor*), it has invested in digitalisation technology (*Digitalisation*) in the last three years*,* the company is family owned (*Family Owned*), whether it has carried out at least part of its production activity abroad (relocation) in the year 2018 (*Delocalize*) and whether it has used sources of external finance (*External Finance*) in 2018, Finally, 111 (minus one) Italian province dummies and 97 (minus one) NACE2 industry dummies are included in the estimate. All specifications have been estimated with heteroskedasticity robust standard errors.

5.1 Econometric findings

In the estimated specifications we start with a base specification without relational variables and gradually introduce our main corporate relational skill variables up to the fully augmented specification in column 5 (Table 3).

Results for small firms show that the two main relational factors having significant effects on the dependent variable are care for workers wellbeing and involvement of stakeholders with a

combined effect of additional 13.900 euros of added value per worker. If the worker wellbeing effect is interpreted in terms of causality our findings are consistent with the gift exchange hypothesis (*hypothesis 2*): companies take costly decisions that improve wellbeing of their workers and this finds correspondence, *coeteris paribus*, in a productivity response of the workforce that increases added value per worker. The stakeholder involvement finding is instead consistent with the idea that stakeholders involvement and participation can have positive effect on corporate performance (*hypothesis 3*). Team working is weakly significant once we introduce all relational variables. For medium sized firms, we find that the impact of all of the four relational variables is positive and significant. Medium sized firms seem to be the productive environment where the quality of relationships has the maximum power with workers wellbeing contributing approximately with 5,600 euros, team working with 3,100 euros, investment in local productive environment with 10,400 euros and stakeholders involvement with 15,000 euros. The team working finding is consistent with hypothesis 1 arguing that workers with team working skills produce superior outcomes in social dilemmas and strategic interactions with colleagues within the firm.

We observe that workers wellbeing is slightly significant and team working effects disappear when it comes to large firms while investment on local environment and stakeholder involvement have the highest significant effects (13,600 and 15,000 euros respectively).

Our interpretation of the different impact of relational variables across size classes is that scale can weaken the gift exchange mechanisms by increasing the distance between giver and receiver. The inverse U-shaped effect of scale on team working suggests that too small firms do not have enough skill diversification to generate the positive *superadditive* effects of team working while too large firms have more formal and bureaucratic rules that prevent benefits from team working. A final point is that initiative for local business is an activity typically requiring scale and therefore is no wonder that benefits from it are concentrated on medium and large firms.

Among controls our findings show the positive and significant effect of the number of workers for small and medium size classes (higher in magnitude in small firms) indicating diminishing marginal returns of employment growth as far as corporate size grows. The positive and significant impact of age is on the contrary quite similar in magnitude across small, medium and large firms. Having non EU competitors is a distinctive feature for small and medium sized firms impacting positively on added value per workers, while investment in digitalisation technology is positive for all size classes. Family ownership is a limit (negative and significant) for small and medium sized firms, while delocalisation and need of external finance impact positively and negatively as expected for all size classes. The last effect is presumably due to the adverse effects of debt service on corporate economic performance and also a selection effect since less productive companies have extended need of external finance.

4 Instrumental Variable estimates

As is well known the significant association between corporate relational skills and performance can be affected by endogeneity, hiding beyond our predicted direct causality link an inverse causality link (companies with higher added value have more resources to finance relational activities, especially if we refer to three of our relational variables excluding the team work skill variable) or a spurious correlation where a third omitted driver causes both relational skills and added value per worker. In order to tackle this point we perform instrumental variable estimates. To reduce the number of required exclusion restrictions, we use principal component analysis considering an extended set of CSR variables. The first two principal components, accounting jointly for 40 percent of the observed variance (Tables 4.1-4.5), are used to replace relational skills variables in (1). The second principal component accounting for around 16 percent of the observed variance for small firms and up to 18 percent in case of large firms is the most

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interesting for us since it is positively correlated with all our four relational skill variables (56 percent with the workers' wellbeing variable, 13.5 percent with the team work variable, 60 percent with the support for local business environment variable and 14 percent for the stakeholder involvement variable in the overall sample).

Estimate findings indicate that the second principal component contributes positively and significantly to added value per worker while the first principal component is not significant (Table 5, column 1).

We therefore instrument the selected second principal component capturing corporate relational skills with the difference between the national average of the relational principal component and its average at Province/Nace 2 level of the considered firm (*Local Relational Gap*). The instrument (we substantially use a Bartik type of instrument as in Goldsmith-Pinkham et al., 2020) therefore captures the local/industry specific corporate relational gap vis-à-vis the national average. Our first stage results show that the instrument is relevant (it is negatively and significantly correlated with the instrumented regressor) and not weak (Table 5, column 2). We reasonably assume that it is as well valid since we expect that the local/industry gap of the relational principal component does not directly affect added value per worker of the observed company (and especially so in an estimate where we control for province and industry effects). Second stage findings confirm the hypothesis that the instrumented variable contributes positively and significantly to added value per worker (Table 5, column 3), and this is true for all firm sizes.

5   Robustness checks

We perform again our estimates by replacing in two different estimates the 111 NACE2 dummies with the 272 NACE3 and 615 NACE4 dummies respectively in order to capture finer industry specific fixed effect components affecting added value per worker. Our findings on

relational variables are extremely stable in significance and magnitude in all size classes (Tables A.1 and A1.2 in Appendix). In a further robustness check we introduce survey weights as additional controls considering alternatively NACE2, NACE3 and NACE4 industry controls. As is well known their use to weight individual observations in the estimates is likely to bias standard errors, while their introduction as additional controls takes them into account in our findings without introducing further biases (Tables A.3 – A.5). Our main findings are again robust to this change in specification.

6   Conclusions

The role of relational skills in corporate performance of small firms compared with medium and large firms has hardly been explored in the literature. Among theories on the economic value of relationships that can be applied to corporate life we consider in our paper gift exchange, procedural utility and trust investment game-like models showing that team working skills can play a crucial role in overcoming the Pareto dominated and inefficient coordination failures and social dilemmas typical of these games.

Based on these theories we formulate three research hypotheses on the significant role of distinct forms of relational skills on corporate performance and test them empirically on a large sample of small sized Italian companies comparing them with larger firms including the Universe of large firms of the country.

Our findings do not reject our research hypotheses showing that added value per worker is significantly higher in the small and medium sized samples for firms that, in the previous years have i) considered strategic wellbeing of workers in terms of equal opportunities, parenthood and work-life balance, ii) involved stakeholders in their CSR policies. Team working as crucial skill when hiring workers impact positively only for medium firms, while initiatives in favour of the

productive network operating in the same local area is significant for medium and large sized firms.

In order to see whether there is a causality nexus beyond the observed significant correlations we extract a principal component correlated with the four significant variables that we define as corporate relational skill and instrument it with the difference between the average national level of the same variable and the province/NACE2 variable average of the respondent. We show that the instrument is relevant, valid and the instrumented variable has significant effect on added value per worker. Our falsification test find support for the instrument validity assumption.

Empirical findings of the paper therefore do no reject our research hypotheses on the relevance of relational factors but highlight that corporate scale has an important effect on them. More specifically the gift exchange mechanisms triggered by corporate care for workers welfare and wellbeing are rewarding when the distance between employer and workers is not too large (in small and medium sized firms). Team working skills require a medium scale to produce positive effects on added value presumably because gains from cooperation require a minimum diversification of complementary non overlapping skills. Investment in favour of the local productive environment requires a minimum (medium or large) scale presumably providing additional financial resources and influential positions in product chains.

Our findings have relevant policy implications. Corporate culture should not just focus on know-how and technologies but also (being aware of the diversified impact of different relational skills according to scale) on "know-how-with", intended as the corporate art of creating good internal and external relationships and investing in team working and relational skills. This is because corporate tasks, activities and actions inside and outside the firms are not played by isolated workers but crucially depend on the complex interplay among different actors. In these interaction what matters is not just hard skills and competence but also, and crucially, mechanisms of giving, trust, reciprocity and quality of participatory processes as emphasized by the theoretical underpinnings of our research hypotheses.

Policy implications of our paper include the importance of teaching soft relational skills at school and university, the relevance of pursuing team building activities within companies and that of creating good relationships with stakeholders and the local productive environment. Limits of our cross-sectional database indicate directions for future research since it would be interesting to evaluate the dynamic impact of relational skills and whether similar effects can be found in different countries and periods.

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Tables

Table 1. Variable Legend

	Dependent Variable
Added Value per Employee	Firms' added value per worker at the end of the year 2018 (millions of euros).

	Relational Skills
Worker Wellbeing Mission	(0/1) dummy taking value one if the firm declares that its policy of improving workers wellbeing, equal opportunities, parenthood, and work-life balance pursued in the last three years is part of its strategic mission.
Team Working Priority	(0/1) dummy taking value one if the firm declares that team working soft skills have been top priority when hiring workers in the last three years (2016-2018).
Initiative for Local Business Strategic	(0/1) dummy taking value one if the firm declares that it has taken or supported initiatives for the local business in the last three years (2016-2018) by considering them part of its strategic mission.
Initiative for Local Business not Strategic	(0/1) dummy taking value one if the firm declares that it has taken or supported initiatives for the local business in the last three years (2016-2018) by not considering them part of its strategic mission.
CSR Involving Stakeholders	(0/1) dummy taking value one if the firm declares that involves stakeholders when financing CSR projects, where listed initiatives consider five possible options (reduction of environmental impact of corporate activities, improvement of workers wellbeing, initiative of collective interest outside the company, initiatives for the local business environment, increase in safety within the company or in the area where the company operates).
CSR not Involving Stakeholders	(0/1) dummy taking value one if the firm declares that finances CSR initiatives without stakeholder involvement.

	Controls
Number of Employees	Average Number of employees in the years 2016-2018.
Non EU Competitor	(0/1) dummy taking value one if in the year 2018 the company's main competitors were located outside the EU.
Age	Years since firm birth.
Digitalisation	(0/1) dummy taking value one if the firm declares has invested in digitalisation technology.
Family Own	(0/1) dummy taking value one if the company was family held at 31 December 2018.
Delocalize	(0/1) dummy taking value one if the firm declares that in the year 2018 carried out at least part of its production activity abroad (relocation) through agreements or contracts for relocation.
External Finance	(0/1) dummy taking value one if the company had external financing sources at the end of the year 2018.
Coeffin	A final weight attached to each sample unit which indicates how many units of the population are represented, respectively, by each unit in the sample.
Province	111 Italian province dummies
NACE 2	97 Industry dummies
NACE 3	272 Industry dummies
NACE 4	615 Industry dummies

Table 2. Descriptive Statistics – size class breakdown

Dependent Variable	Obs	Mean	Std. Dev.	Min	Max
All Firms - Added Value per Employee*	195,796	47 729.19	89 704.70	-5 415 981	1.23e+07
Small Firms - Added Value per Employee*	172,335	44 776.20	90 347.47	-2285079	2938900
Medium Firms - Added Value per Employee*	20,147	68 472.01	82 198.88	-419 415	1 878 196
Large Firms - Added Value per Employee*	3,314	75 187.88	77 803.82	-88 56	1 030 773

	Small Firms			*Medium Firms*			*Large Firms*			*All Firms*		
CSR effort dummies	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.	Obs	Mean	Std. Dev.
Worker Wellbeing Mission	121,765	.42	.49358	15,299	.55	.49702	2,704	.64	.47861	140,518	.44	.49625
Team Working Priority	113,957	.53	.49903	18,08	.49	.48899	3,094	.62	.48459	135,872	.54	.49814
Initiative for Local Business Strategic	172,335	.09	.28294	20,147	.34	.35546	3,314	.22	.41244	196,983	.09	.29346
Initiative for Local Business not Strategic	172,335	.21	.41059	20,147	.42	.41892	3,314	.26	.43842	196,983	.22	.41205
Not Involving Stakeholders	144,476	.12	.32146	18,42	.37	.36984	3,142	.17	.37537	166,924	.12	.32845
Involving Stakeholders	144,476	.05	.21315	18,42	.32	.31802	3,142	.21	.40466	166,924	.06	.23399
Firms' characteristics												
Number of Employees*	172,335	14	12	20,147	97	47	3,314	960	3290	196,983	38	448
Age (years)*	172,335	21	14.3	20,147	25.7	17.5	3,314	29.4	19	196,983	21.6	14.9
Family Own (0/1)	172,335	.68	.46478	20,147	.51	.49962	3,314	.39	.48759	196,983	.66	.47309
Non Eu competitor (0/1)	172,335	.08	.26797	20,147	.98	.40107	3,314	.28	.45098	196,983	.09	.29157
Digitalisation (0/1)	126,709	.60	.48944	20,145	.74	.43941	3,314	.84	.36291	151,061	.62	.48407
External Finance (0/1)	172,333	.60	.48931	20,147	.71	.45444	3,314	.73	.44374	196,981	.61	.48656
Delocalize (0/1)	126,709	.01	.07011	20,145	.04	.18823	3,314	.11	.30893	151,061	.01	.10628

* For privacy reasons, in accordance with Laboratorio ADELE – ISTAT guidelines, we calculated min and max values on the basis of the mean of the first 10 and of the last 10 observations

Table 3. Econometric findings - CSR effort and Added value per worker – OLS estimates

	Small Firms					Medium Firms				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Worker Wellbeing Mission		4,586.679***	4,435.683***	4,278.685***	3,898.729***		8,320.197***	7,987.081***	6,404.534***	5,632.601***
		(538.974)	(680.985)	(700.306)	(686.367)		(1,225.018)	(1,278.466)	(1,256.315)	(1,229.397)
Team Working Priority			1,127.671**	1,125.532**	1,006.309*			2,945.914**	3,203.962***	3,111.314**
			(571.161)	(570.729)	(569.967)			(1,205.759)	(1,218.051)	(1,212.450)
Initiative for Local Business Strategic				1,185.671	333.381				12,137.179***	10,470.399***
				(1,013.191)	(1,011.215)				(2,493.441)	(2,382.954)
Initiative for Local Business not Strategic				371.890	-276.099				5,917.062***	4,673.325***
				(791.240)	(806.472)				(1,648.442)	(1,629.782)
CSR Involving Stakeholders					9,994.021***					15,027.922***
					(1,801.807)					(3,020.816)
CSR not Involving Stakeholders					4,596.349***					8,165.223***
					(922.778)					(1,987.082)
Employees	470.675***	460.846***	402.062***	401.042***	385.426***	42.982***	42.465***	43.312***	40.408***	36.085**
	(22.292)	(22.741)	(27.141)	(27.184)	(27.430)	(11.947)	(13.915)	(14.776)	(14.730)	(14.636)
Age	195.562***	190.795***	241.684***	241.562***	238.018***	245.685***	232.750***	235.123***	235.282***	228.633***
	(18.394)	(19.440)	(24.560)	(24.582)	(24.590)	(31.734)	(37.964)	(40.463)	(40.526)	(40.384)
Non Eu competitor	11,329.935***	10,713.075***	11,969.004***	11,975.577***	11,697.114***	7,402.881***	7,151.951***	7,684.630***	7,763.207***	7,533.859***
	(1,216.803)	(1,318.922)	(1,596.130)	(1,596.129)	(1,599.174)	(1,578.128)	(1,742.990)	(1,817.321)	(1,817.775)	(1,814.151)
Digitalisation	6,024.939***	5,028.937***	4,900.455***	4,847.606***	4,518.742***	12,633.316***	11,252.361***	11,475.535***	10,843.329***	9,911.785***
	(458.056)	(448.119)	(558.982)	(556.012)	(572.327)	(1,149.718)	(1,273.833)	(1,338.274)	(1,315.077)	(1,276.075)
Family Own	-5,174.657***	-5,602.627***	-6,534.589***	-6,543.885***	-6,648.466***	-6,163.216***	-6,812.154***	-7,095.523***	-7,249.215***	-7,512.833***
	(506.110)	(581.882)	(722.778)	(725.144)	(729.553)	(993.045)	(1,117.470)	(1,186.623)	(1,191.090)	(1,203.809)
Delocalize	20,582.874***	21,330.002***	21,228.576**	21,201.486**	20,528.278**	8,348.249***	7,621.931**	6,579.848*	6,115.179*	5,113.754
	(5,935.277)	(7,483.890)	(8,254.929)	(8,255.264)	(8,226.507)	(2,971.992)	(3,414.329)	(3,450.582)	(3,449.773)	(3,475.619)
External Finance	-1,470.226***	-2,013.866***	-3,015.468***	-3,027.804***	-3,235.331***	-7,099.463***	-8,743.513***	-9,037.239***	-9,163.226***	-9,477.574***
	(461.857)	(511.063)	(642.417)	(638.654)	(637.674)	(1,312.635)	(1,529.898)	(1,650.144)	(1,643.743)	(1,646.461)
Province FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
NACE2 FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	35,847.494***	35,937.345***	38,927.069***	38,811.201***	38,939.585***	55,078.103***	54,914.605***	54,918.744***	52,847.086***	52,480.200***
	(681.889)	(814.680)	(1,005.822)	(1,056.165)	(1,064.164)	(1,883.041)	(2,265.526)	(2,511.661)	(2,598.918)	(2,582.387)
Observations	126,707	91,522	68,528	68,528	68,528	20,143	15,297	13,986	13,986	13,986
R-squared	0.107	0.174	0.183	0.183	0.184	0.146	0.159	0.160	0.162	0.166

*Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Table 3. Econometric findings - CSR effort and Added value per worker – OLS estimates (cont'd)

	Large Firms					All Firms				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
Worker Wellbeing Mission		9,509.355***	9,589.696***	6,947.201**	5,930.189*		6,103.572***	5,770.127***	5,357.870***	4,778.269***
		(2,898.539)	(3,007.223)	(3,105.937)	(3,105.195)		(480.391)	(584.952)	(635.427)	(625.075)
Team Working Priority			-5,718.845*	-5,482.008	-5,471.956			1,884.866***	1,887.936***	1,710.780***
			(3,429.221)	(3,428.264)	(3,422.158)			(529.362)	(529.095)	(527.843)
Initiative for Local Business Strategic				15,754.811***	13,618.683***				3,969.767***	2,687.293**
				(4,034.354)	(3,857.120)				(1,069.032)	(1,063.327)
Initiative for Local Business not Strategic				7,612.166**	6,044.551**				2,173.656***	1,240.852
				(3,129.985)	(3,062.736)				(777.970)	(780.916)
CSR Involving Stakeholders					15,062.283***					13,196.425***
					(3,853.950)					(1,436.793)
CSR not Involving Stakeholders					7,752.608**					5,965.867***
					(3,253.438)					(813.215)
Employees	-0.131	-0.149	-0.116	-0.225	-0.294	-0.207	-0.639	-0.821	-0.874	-1.024
	(0.181)	(0.199)	(0.191)	(0.189)	(0.198)	(0.842)	(1.118)	(1.154)	(1.157)	(1.190)
Age	232.912***	216.548**	207.598**	198.509**	187.089**	256.032***	254.353***	307.232***	305.697***	296.293***
	(74.150)	(85.934)	(89.230)	(88.607)	(88.695)	(15.667)	(17.144)	(20.648)	(20.691)	(20.711)
Non Eu competitor	3,691.140	3,988.597	3,918.393	3,695.440	3,035.555	12,385.529***	12,154.118***	12,935.490***	12,908.249***	12,410.345***
	(3,700.774)	(3,926.700)	(4,009.212)	(4,007.322)	(3,942.253)	(976.796)	(1,085.351)	(1,259.671)	(1,258.879)	(1,258.179)
Digitalisation	13,801.364***	10,463.188**	11,086.907**	10,101.955**	8,569.552**	8,394.003***	7,071.420***	6,875.346***	6,637.934***	6,062.203***
	(3,196.088)	(4,096.498)	(4,335.134)	(4,352.104)	(4,359.944)	(445.148)	(491.028)	(616.918)	(611.989)	(624.354)
Family Own	-831.472	185.234	-889.823	-1,425.673	-1,636.773	-7,027.529***	-7,625.231***	-8,280.705***	-8,301.452***	-8,324.108***
	(2,270.879)	(2,666.605)	(2,734.306)	(2,730.829)	(2,727.466)	(438.542)	(498.416)	(590.833)	(592.074)	(592.004)
Delocalize	7,758.183**	8,283.238*	6,940.997	5,868.334	4,707.438	18,649.629***	18,750.609***	17,122.851***	16,825.007***	15,420.638***
	(3,669.128)	(4,320.963)	(4,454.144)	(4,478.727)	(4,525.491)	(2,661.138)	(3,184.121)	(3,335.183)	(3,337.803)	(3,321.543)
External Finance	-9,675.767***	-11,248.618***	-10,194.234***	-10,248.550***	-10,231.504***	-1,258.512***	-2,163.413***	-3,470.759***	-3,528.679***	-3,834.394***
	(2,833.071)	(3,231.933)	(3,332.375)	(3,317.349)	(3,299.217)	(447.265)	(521.692)	(641.552)	(638.579)	(640.932)
Province FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
NACE2 FE	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Constant	62,209.498***	63,773.257***	68,368.747***	65,289.341***	64,338.646***	44,595.092***	44,616.654***	47,116.060***	46,397.908***	46,270.843***
	(3,849.609)	(4,884.091)	(5,420.082)	(5,607.593)	(5,584.819)	(587.674)	(759.492)	(978.382)	(948.776)	(951.411)
Observations	3,324	2,710	2,574	2,574	2,574	150,166	109,524	85,084	85,084	85,084
R-squared	0.298	0.283	0.287	0.292	0.297	0.092	0.112	0.113	0.114	0.115

*Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1*

Table 4.1 Principal component analysis and extraction of the relational component – Small Firms

Panel A. Eigenvalue and proportion of variance explained by each component

COMPONENT	Eigenvalue	Difference	Proportion	Cumulative
First principal component	2.1063	.6310	0.2340	0.2340
Second principal component	1.0938	.0780	0.1639	0.3980
Third principal component	1.0158	.0712	0.1215	0.5195
Fourth principal component	.9446	.1841	0.1129	0.6324
Fifth principal component	.7605	.0697	0.1050	0.7373
Sixth principal component	.6908	.0372	0.0845	0.8218
Seventh principal component	.6536	.3942	0.0768	0.8986
Eighth principal component	.6536	.3942	0.0726	0.9712
Ninth principal component	.2593	.	0.0288	1.0000

Panel B. Correlation of relational variables with the first two principal components

Principal components (eigenvectors)	Component 1	Component 2
Worker Wellbeing Mission	0.0946	0.5632
Team Working Priority	0.0726	0.1332
Initiative for Local Business Strategic	0.1205	0.5961
Initiative for Local Business not Strategic	0.0629	-0.5233
CSR Involving Stakeholders	0.0813	0.0813
CSR not Involving Stakeholders	0.0230	0.0409
Support to Worker Families	0.5710	-0.0836
Extended Parental Leave	0.6219	-0.0770
Limited Extended Parental Leave	0.4973	-0.0374

Table 4.2 Principal component analysis and extraction of the relational component – Medium Firms

Panel A. Eigenvalue and proportion of variance explained by each component

COMPONENT	Eigenvalue	Difference	Proportion	Cumulative
First principal component	2.1756	.6618	0.2417	0.2417
Second principal component	1.5137	.3474	0.1682	0.4099
Third principal component	1.1663	.1609	0.1296	0.5395
Fourth principal component	1.0053	.0856	0.1117	0.6512
Fifth principal component	.9197	.1724	0.1022	0.7534
Sixth principal component	.7473	.0760	0.0830	0.8364
Seventh principal component	.6713	.0430	0.0746	0.9110
Eighth principal component	.6283	.4557	0.0698	0.9808
Ninth principal component	.1726	.	0.0192	1.0000

Panel B. Correlation of relational variables with the first two principal components

Principal components (eigenvectors)	Component 1	Component 2
Worker Wellbeing Mission	0.0505	0.5482
Team Working Priority	0.0059	0.1058
Initiative for Local Business Strategic	0.0988	0.6049
Initiative for Local Business not Strategic	0.0449	-0.5331
CSR Involving Stakeholders	0.0530	0.1805
CSR not Involving Stakeholders	-0.0077	0.0059
Support to Worker Families	0.6018	-0.0507
Extended Parental Leave	0.6289	-0.0449
Limited Extended Parental Leave	0.4744	-0.0314

Table 4.3 Principal component analysis and extraction of the relational component – Large Firms

Panel A. Eigenvalue and proportion of variance explained by each component

Panel B. Correlation of relational variables with the first two principal components

COMPONENT	Eigenvalue	Difference	Proportion	Cumulative	Principal components (eigenvectors)	Component 1	Component 2
First principal component	2.2330	.601665	0.2481	0.2481	Worker Wellbeing Mission	0.0445	0.5196
Second principal component	1.6313	.373191	0.1813	0.4294	Team Working Priority	-0.0061	0.0431
Third principal component	1.2581	.254685	0.1398	0.5692	Initiative for Local Business Strategic	0.0946	0.6193
Fourth principal component	1.0034	.157052	0.1115	0.6806	Initiative for Local Business not Strategic	0.0512	-0.5516
Fifth principal component	.8464	.144407	0.0940	0.7747	CSR Involving Stakeholders	0.0229	0.1921
Sixth principal component	.7020	.0430	0.0780	0.8527	CSR not Involving Stakeholders	0.0031	-0.0030
Seventh principal component	.6590	.1243	0.0732	0.9259	Support to Worker Families	0.6091	-0.0407
Eighth principal component	.5346	.4023	0.0594	0.9853	Extended Parental Leave	0.6266	-0.0271
Ninth principal component	.1323	.	0.0147	1.0000	Limited Extended Parental Leave	0.4715	-0.0336

Table 4.4 Principal component analysis and extraction of the relational component – All Firms

Panel A. Eigenvalue and proportion of variance explained by each component

Panel B. Correlation of relational variables with the first two principal components

COMPONENT	Eigenvalue	Difference	Proportion	Cumulative	Principal components (eigenvectors)	Component 1	Component 2
First principal component	2.1222	.6308	0.2358	0.2358	Worker Wellbeing Mission	0.0951	0.5593
Second principal component	1.4915	.3847	0.1657	0.4015	Team Working Priority	0.0646	0.1347
Third principal component	1.1067	.0907	0.1230	0.5245	Initiative for Local Business Strategic	0.1234	0.5955
Fourth principal component	1.0160	.0774	0.1129	0.6374	Initiative for Local Business not Strategic	0.0564	-0.5178
Fifth principal component	.9386	.1863	0.1043	0.7417	CSR Involving Stakeholders	0.0812	0.1707
Sixth principal component	.7523	.0708	0.0836	0.8253	CSR not Involving Stakeholders	0.0196	0.0372
Seventh principal component	.6814	.0350	0.0757	0.9010	Support to Worker Families	0.5764	-0.0843
Eighth principal component	.6464	.4017	0.0718	0.9728	Extended Parental Leave	0.6216	-0.0820
Ninth principal component	.2447	.	0.0272	1.0000	Limited Extended Parental Leave	0.4927	-0.0430

Table 5. Econometric findings - CSR effort and Added value per worker – IV estimates

	Small Firms			Medium Firms		
	(1)	(2)	(3)	(1)	(2)	(3)
	Base	First Stage	Second Stage IV	Base	First Stage	Second Stage IV
Local Relational Gap		-1.006***			-0.997***	
		(0.005)			(0.005)	
Second Principal Component	1,711.410***		3,208.761***	3,896.735***		4,474.659***
	(332.178)		(515.455)	(634.535)		(945.818)
First Principal Component	-31.174	-0.011***	-11.208	-149.631	0.004	-152.338
	(235.821)	(0.003)	(214.508)	(302.153)	(0.005)	(446.442)
N. of Employees	406.098***	0.004***	398.152***	43.298***	0.000***	42.737***
	(31.604)	(0.000)	(27.563)	(15.221)	(0.000)	(14.824)
Age	240.189***	-0.000	240.683***	235.324***	-0.000	234.887***
	(23.734)	(0.000)	(24.889)	(55.156)	(0.000)	(40.275)
Non EU Competitor	12,057.065***	0.036**	11,953.564***	7,917.394***	0.018	7,902.052***
	(1,903.503)	(0.014)	(1,588.220)	(1,900.276)	(0.020)	(1,800.665)
Digitalisation	5,024.148***	0.076***	4,865.975***	11,558.732***	0.067***	11,483.671***
	(735.092)	(0.008)	(571.642)	(1,244.746)	(0.018)	(1,348.989)
Family Own	-6,527.717***	-0.012	-6,482.789***	-7,110.394***	-0.017	-7,081.747***
	(1,583.423)	(0.008)	(720.993)	(2,460.432)	(0.015)	(1,182.090)
Delocalize	21,159.967***	0.063	21,037.718**	6,308.160**	0.033	6,202.872*
	(5,354.987)	(0.053)	(8,250.065)	(2,476.125)	(0.040)	(3,411.842)
External Finance	-2,973.758***	0.033***	-3,056.809***	-8,965.148***	0.018	-8,984.151***
	(475.590)	(0.008)	(647.895)	(1,926.030)	(0.017)	(1,642.694)
Province FE	YES	YES	YES	YES	YES	YES
NACE2 FE	YES	YES	YES	YES	YES	YES
Constant	6,090,510.553	-0.163***	6,092,170.122	66,546.741***	-0.162**	65,270.812***
	(4,400,961.843)	(0.041)	(4,369,348.844)	(4,851.840)	(0.064)	(6,247.828)
Observations	68,528	68,893	68,528	13,987	14,097	13,987
R-squared	0.183	0.303	0.183	0.160	0.504	0.160

Local relational gap: difference between the national average of the relational principal component and its average at province/Nace 2 level of the considered firm. Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1
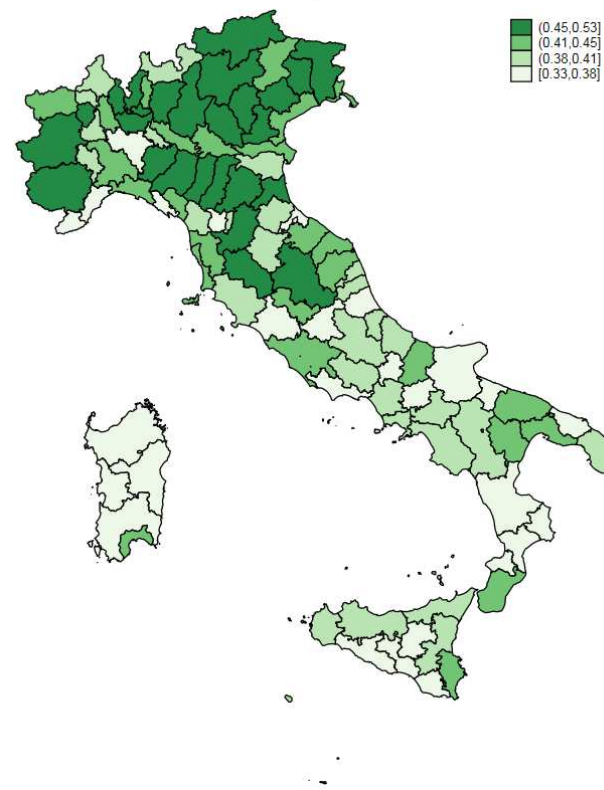
Table 5. Econometric findings - CSR effort and Added value per worker – IV estimates (cont'd)

	Large Firms			All Firms		
	(1)	(2)	(3)	(1)	(2)	(3)
VARIABLES	Base	First Stage	Second Stage IV	Base	First Stage	Second Stage IV
Local Relational Gap		-1.000***			-1.004***	
		(0.008)			(0.004)	
Second Principal Component	4,602.393**		4,680.520***	2,374.205***		4,256.018***
	(1,788.750)		(1,416.041)	(439.366)		(563.911)
First Principal Component	-118.974	-0.006	-119.603	311.298*	-0.009***	331.673*
	(813.655)	(0.011)	(940.053)	(164.405)	(0.003)	(188.465)
N. of Employees	-0.168**	0.000	-0.169	-0.848	0.000*	-0.932
	(0.077)	(0.000)	(0.188)	(0.758)	(0.000)	(1.163)
Age	204.434*	-0.000	204.301**	306.092***	0.001***	304.070***
	(118.719)	(0.001)	(86.726)	(24.461)	(0.000)	(20.760)
Non EU Competitor	3,794.698	0.059	3,789.255	13,028.717***	0.061***	12,850.254***
	(5,305.830)	(0.038)	(3,884.869)	(1,534.285)	(0.012)	(1,255.889)
Digitalisation	10,920.275	-0.026	10,910.344***	6,944.824***	0.098***	6,694.336***
	(6,575.923)	(0.047)	(4,174.031)	(760.731)	(0.008)	(629.246)
Family Own	-997.442	-0.037	-993.689	-8,311.748***	-0.037***	-8,185.312***
	(3,779.804)	(0.034)	(2,635.530)	(1,689.955)	(0.008)	(592.548)
Delocalize	6,647.170	0.000	6,639.580	16,876.010***	0.174***	16,383.524***
	(4,048.750)	(0.049)	(4,293.415)	(1,870.940)	(0.034)	(3,335.330)
External Finance	-10,434.466***	0.007	-10,432.887***	-3,424.570***	0.038***	-3,540.466***
	(3,402.478)	(0.038)	(3,235.240)	(523.229)	(0.008)	(647.084)
Province FE	YES	YES	YES	YES	YES	YES
NACE2 FE	YES	YES	YES	YES	YES	YES
Constant	214,468.064***	-0.028	214,303.750***	2,543,516.431**	-0.007	2,541,375.168
	(48,200.748)	(0.160)	(41,636.935)	(1207913.783)	(0.413)	(2182008.978)
Observations	2,581	2,591	2,581	85,084	85,569	85,084
R-squared	0.288	0.679	0.288	0.113	0.273	0.113

*Local relational gap: difference between the national average of the relational principal component and its average at province/Nace 2 level of the considered firm. Robust standard errors in parentheses *** $p<0.01$, ** $p<0.05$, * $p<0.1$*

Figures 1.1-1.4 Geographical distribution of the four corporate relational skill variables
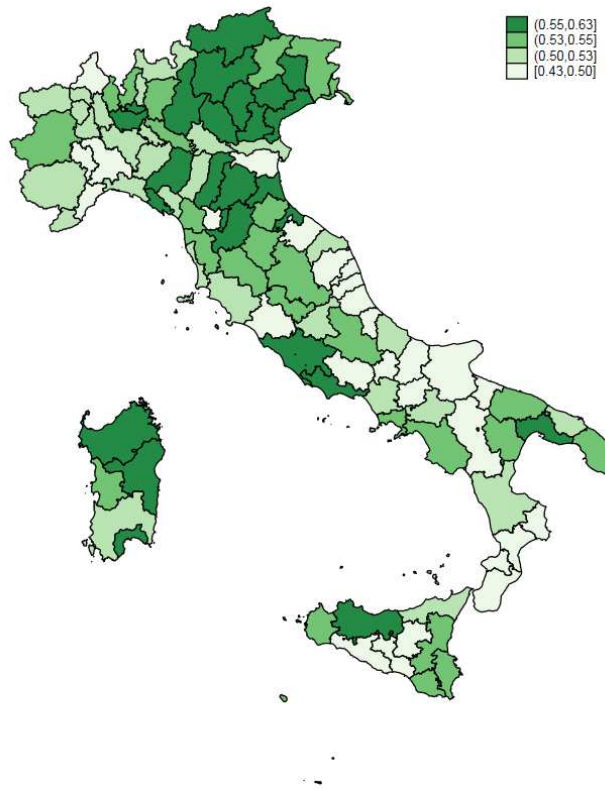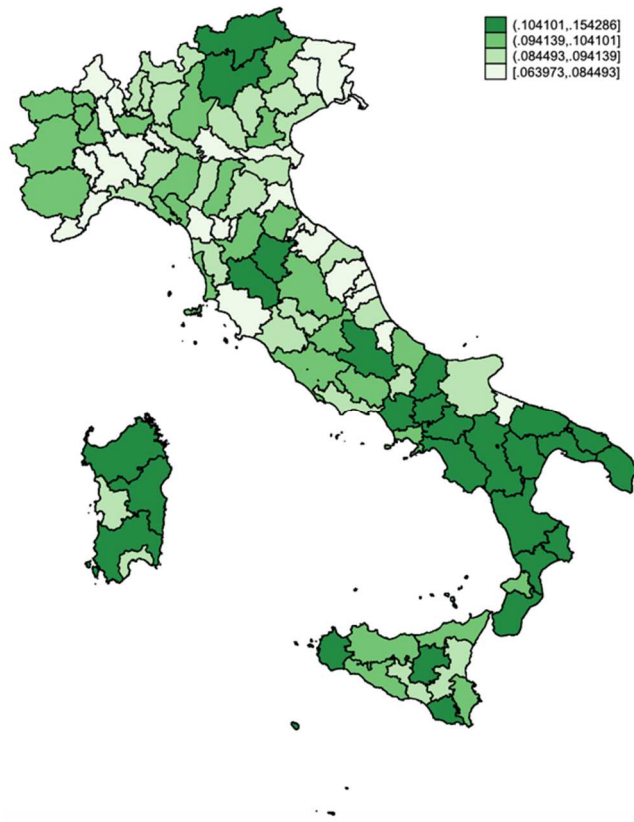

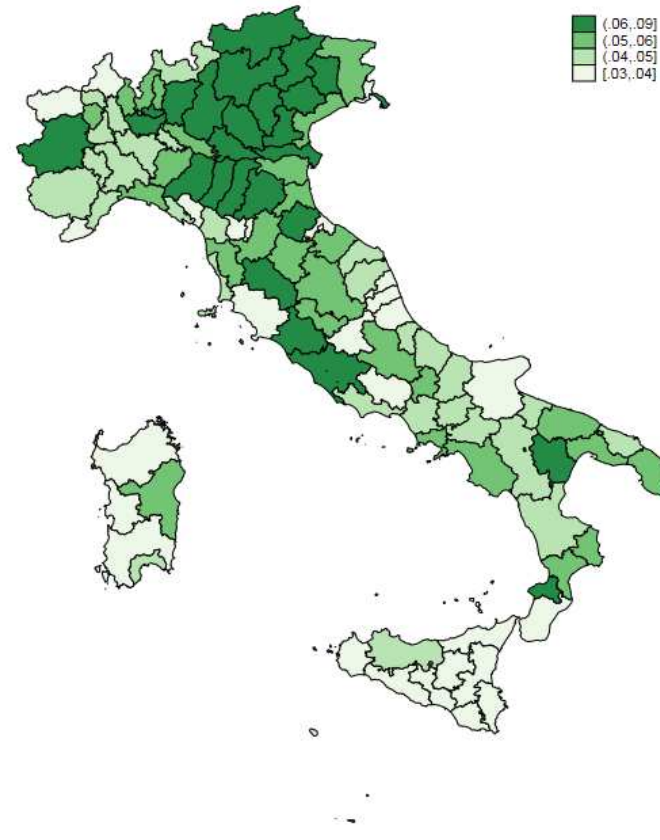|	
1.1 Team Working Priority	*1.2 Workers Wellbeing Mission*

Figures 1.1-1.4 Geographical distribution of the four corporate relational skill variables (cont'd)

(.104101,.154286]	(.06,.09]
(.094139,.104101]	(.05,.06]
(.084493,.094139]	(.04,.05]
[.063973,.084493]	[.03,.04]

1.3 Initiative for local business strategic   *1.4 CSR Involving Stakeholders*

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