Beliefs and Demand for Employee Ownership Among Young Adults*

Gabriel Burdin† Fabio Landini‡

September 1, 2025

Abstract

Employee-owned firms with majority workforce control—such as worker cooperatives—remain rare in market economies, despite evidence that they perform at least as well as investor-owned firms across various contexts. Why does capital typically hire labor, rather than the other way around? We argue that beliefs help explain this puzzle. In a preregistered experiment with 2,000 young Italians, participants were randomly exposed to information from an international expert survey. Respondents held more pessimistic prior beliefs about worker cooperatives relative to experts. Information exposure led to more optimistic beliefs, increased support for pro-cooperative policies, and shifted career preferences relatively toward cooperatives, though not in absolute terms. Text analysis of open-ended responses shows fewer negative and more positive first-order concerns about cooperatives in the treatment group.

Keywords: Beliefs, Career Intentions, Job Attributes, Preferences, Employee Ownership, Cooperatives, Information Experiment

JEL Codes: C91, D83, J24, J54

*We thank Giacomo Degli Antoni for his initial involvement and input during the early stages of this research. The experiment and detailed pre-analysis plan are registered in the AEA RCT Registry as trial number 13785 (see https://www.socialscienceregistry.org/trials/13785). This work was funded by the International Center for Studies on Cooperation (CISC) - University of Parma, project "Youth and Cooperation" (minutes of the Council held on April 22 2024). The IRB approval was obtained from the University of Parma.

†University of Siena & IZA

‡University of Parma, Department of Economics and Management

1 Introduction

Worker ownership—through cooperatives, professional partnerships, or other employee-led models—has long attracted academic and policy interest. As early as John Stuart Mill[1], advocates promoted employee-owned firms (EOFs) as a viable and more equitable alternative to investor-controlled enterprises. Policymakers across the political spectrum have also shown growing support, backed by research indicating EOFs offer more stable employment, reduce pay inequality, increase employee well-being and perform on par with conventional firms in various settings (Kruse, 1992; Ben-Ner and Jones, 1995; Craig et al., 1995; Jones and Kato, 1995; Pencavel, 2013; Blasi et al., 2013; Burdin, 2016; O'Boyle et al., 2016; Dow, 2018; Montero, 2022; Kruse, 2022; Young-Hyman et al., 2023; Sockin et al., 2024). More broadly, worker ownership and workplace democracy have become prominent themes in current debates on the future of capitalism and corporate governance (Ferreras, 2017; Anderson, 2017; Henderson, 2020; Mazumder and Yan, 2024).

However, despite these favorable academic and policy views, EOFs with majority workforce control remain a relatively rare form of organization. For instance, worker cooperatives account for no more than 4% of private sector workers in any country (Benveniste, 2024), and only a minority of employee stock ownership plans (ESOPs) are majority employee-owned (Sockin et al., 2024). In most economies, when present, EOFs tend to cluster in specific regions or professional activities, with limited capacity to scale or diversify across sectors. Moreover, EOFs in the form of worker cooperatives tend to be perceived as relatively unattractive business options by many new entrants in the labour market. In a recent poll conducted by the International Cooperative Alliance, for instance, 63% of young respondents revealed to have very little to no knowledge of business models based on employee ownership. Furthermore, they considered the participation and integration of young people into EOFs to be largely

[1] 'The form of association, however, which if mankind continue to improve, must be expected in the end to predominate, is not that which can exist between a capitalist as chief, and work-people without a voice in the management, but the association of the labourers themselves on terms of equality, collectively owning the capital with which they carry on their operations, and working under managers elected and removable by themselves.' (Mill, 1867: book IV, chapter III).

inadequate (ICA, 2021).

Building on these considerations, the aim of this paper is to investigate the factors underlying the rarity and perceived lack of attractiveness of EOFs. While existing explanations have emphasized various economic factors (Dow, 2003, 2018), we argue that the limited diffusion of worker ownership can be more fully understood by considering the role of biased beliefs about its economic viability relative to other work arrangements. Drawing on a standard preference-belief framework, we propose a microfoundation for decisions related to EOF membership and support. We discuss several potential channels through which the rarity and lack of information about EOFs may distort beliefs about their economic attributes (e.g., limited organizational legitimacy due to low density, self-serving biases, availability and representativeness heuristics). When such biases are present, individuals may perceive employee ownership as a less favorable option compared to alternative work arrangements, even when their true attributes are comparatively similar. Consequently, the perceived viability of EOFs is significantly diminished.

To establish causal evidence on the influence of beliefs, we conduct a pre-registered information provision experiment (Haaland et al., 2023). We recruit a representative sample of 2,000 Italian young adults aged 18 to 30. Since worker cooperatives represent the most common form of EOFs in Italy, we frame our experiment around this organizational model.[2] We begin by eliciting respondents' priors about the economic performance of worker cooperatives, relative to conventional investor-controlled firms, along four dimensions: i) firm productivity, ii) firm survival, iii) intra-firm pay inequality, iv) employment stability. Then, we randomly assign subjects to either a treatment or a control group. To create exogenous variation in beliefs, we expose respondents in the treatment group to experts' assessment of scientific evidence on the performance of worker cooperatives vis-a-vis conventional firms along the same dimensions listed above. Finally, we analyze whether treated individuals change their

[2]Italy has a relatively small worker cooperative sector, but it is large by international standards. According to Benveniste (2024), in 2021, there were 17,857 worker cooperatives employing 441,897 workers, accounting for 3% of all private sector workers.

beliefs, policy preferences and career intentions in relation to the cooperative sector. To mitigate concerns about experimenter demand effects, we conducted an "obfuscated" follow-up survey, allowing us to assess whether the treatment effect persists in the context of a seemingly unrelated questionnaire.

We obtain three main results. First, we document more pessimistic prior beliefs toward worker cooperatives among our sample of Italian young adults relative to international experts, suggesting that, on average, our treatment induced a large information shock. Second, treated respondents change their beliefs about the economic effects of worker cooperatives and increase their support for government interventions favoring the creation of these firms. The information shock shifts policy preferences by 0.1 of a standard deviation, an effect size roughly equivalent to the gap in support for worker co-ops between left- and right-wing respondents. This effect persists in a seemingly unrelated, obfuscated follow-up questionnaire administered a week after our main study, suggesting that experimenter demand effects are unlikely to account for our results. Interestingly, text analysis of open-ended responses also shows fewer negative and more positive first-order concerns about worker cooperatives in the treatment group. Finally, while intentions to work in cooperatives in absolute terms—our pre-specified outcome—do not change significantly, we find suggestive evidence of a relative shift in career preferences toward worker cooperatives over conventional firms and self-employment.

The paper contributes to three main streams of literature. First, it engages most closely with theoretical and empirical work on the viability and diffusion of EOFs. Organization theorists have long studied this issue, identifying several factors that may limit the efficiency of this corporate model. Key explanations include weak work incentives due to free-riding behavior (Alchian and Demsetz, 1972), suboptimal investment decisions (Furubotn, 1976; Jensen and Meckling, 1979), high bargaining and collective decision-making costs (Williamson, 1980, 1985; Hansmann, 2000), inefficient redistribution (Kremer, 1997; Abramitzky, 2008) and incentive misalignments (Grossman and Hart, 1986; Hart and Moore, 1990). However, many of these theoretical con-

cerns have not been substantiated by empirical evidence. Indeed, EOFs have been found to perform at least as well as conventional firms in various contexts (Craig et al., 1995; Jones and Kato, 1995; Fakhfakh et al., 2012; Kruse, 2022; Young-Hyman et al., 2023; Benveniste, 2024), and they exhibit similar survival rates (Pérotin, 2006; Park et al., 2004; Burdín, 2014). Thus, it is unlikely that market selection alone explains their limited diffusion. Our work offers an alternative explanation, focusing on the low rate of market entry. Complementing traditional explanations based on wealth constraints, risk aversion, and credit market imperfections (see Bonin et al., 1993; Bowles and Gintis, 1994, 2002), we use an information provision experiment to investigate the role of beliefs and misperceptions about the economic viability of EOFs. These misperceptions may reduce individuals' willingness to seek employment in such organizations and help explain their low entry rates at the aggregate level. To our knowledge, this paper is among the first to empirically investigate behavioural factors related to worker ownership using a causal experimental design (Putterman, 1982; Ben-Ner and Ellman, 2013).

Second, the paper contributes to the broader literature studying the sorting of individual workers into specific sectors (e.g., health, finance, immoral jobs) and organizations, such as public sector jobs and not-for-profit firms (Serra et al., 2011; Fisman et al., 2015; Hanna and Wang, 2017; Barfort et al., 2019; Friebel et al., 2019; Gill et al., 2023; Holmén et al., 2023; Schneider et al., 2024). While these contributions mainly focus on the role of preferences (e.g., trust, trustworthiness, and other forms of social and moral preferences), we examine the role of beliefs in shaping policy views and career intentions in relation to the distinct yet understudied organizational setting of worker cooperatives.

Finally, the paper adds to the literature on how beliefs affect job search intentions and behaviour. Recent works have highlighted that job seekers face incomplete information across multiple dimensions (e.g., wages, career opportunities, search costs) when comparing alternative work opportunities. As a result, their final decisions rely heavily on beliefs (Cooper and Kuhn, 2020), which are frequently biased (Dohmen

et al., 2009). On this ground, several studies investigate whether information-based interventions can help to readdress such biases and improve matching processes in labour markets, with effects on career intentions and job search strategies (Altmann et al., 2018; Belot et al., 2019; Gee, 2019; Jäger et al., 2024). More in line with our work, Jones et al. (2014) consider beliefs anchored to firm-level characteristics, having a particular focus on corporate social performance. In a lab experiment they randomize information about the firm's community involvement and pro-environmental practices and find that such intervention increases the firm's attractiveness as a prospective employer.

To the best of our knowledge, however, no prior study has investigated the role of beliefs in shaping the evaluation of work opportunities across different ownership structures. Our research fills this gap by analyzing how targeted information provision can influence perceptions of EOFs' economic viability and desirability as a workplace arrangement. In doing so, we contribute not only to academic debates on the viability of EOFs, but also offer actionable insights for policymakers, practitioners, and employee ownership and cooperative associations aiming to support the expansion of EOFs. By identifying belief-based frictions in workers' decision-making processes, our findings point to low-cost, scalable interventions that can enhance awareness and interest in employee ownership, thereby addressing some of the constraints that limit the growth of this model.

The remainder of the paper is organized as follows. Section 2 reviews existing theoretical arguments explaining the scarcity of worker ownership in market economies and develops our preference-beliefs microfoundations framework, emphasizing the role of biased beliefs in explaining the low demand for worker ownership. Section 3 describes our experimental design, and Section 4 presents our main findings. Section 5 concludes.

2 Theoretical framework

2.1 Why is employee ownership so rare?

The ownership of a firm usually entails three fundamental rights: the right to earn a profit, the right to make managerial decisions, and the right to transfer these rights to another party (Putterman, 1993). While in conventional firms this bundle of rights is placed in the hand of capital investors, in EOFs they are possessed by workers. In the real world, employee ownership can take different forms, such as worker cooperatives, professional partnerships, and employee stock-ownership plans (ESOPs). While differing in the modalities through which ownership shares are held and managerial decision are made, in all these forms workers are granted with an extended set of rights compared to conventional firms along at least one of the three dimensions outlined above (Pierce et al., 1991; Connelly et al., 2010; Hansmann, 2000).

From the theoretical viewpoint, several arguments have been put forward to explain the fact that employee ownership is relatively rare.[3] By following Alchian and Demsetz (1972), for instance, it is often argued that the joint ownership of physical assets (say machines) by a large team of workers exposes firms to free-riding problems, which may induce low effort and poor maintenance of equipment. Similarly, theories developed within a transaction cost framework (Williamson, 1975, 1980, 1985) suggest that, in the presence of incomplete contracts and specialized assets, collective ownership of capital assets by a group of workers undermines efficiency, as it induces costly ex-post bargaining over the stream of quasi-rents generated by production—bargaining that could be easily avoided under alternative ownership schemes. The same conclusion is achieved by contributions relying on the property rights approach (Grossman and Hart, 1986; Hart and Moore, 1990), which show that, even in the absence of bargaining costs, employee ownership of specialized assets can still be largely inconvenient, because it undermines the incentives to invest in skills that are

[3] Dow (2003, 2018) offers the most comprehensive assessment of the literature.

complementary to the assets.[4] All these views contribute to characterize employee ownership as a relatively costly and inefficient model of corporate governance, which make it unsuited to survive market competition (Williamson, 1980; Jensen and Meckling, 1979).

Over the last decades, however, several studies supplied evidence that partially challenges these theoretical predictions. Firms with employee ownership do not seem to exhibit worse economic performance compared to other types of organization, along a number of dimensions including productivity, survival and investment rate. Craig et al. (1995), for instance, in their pioneering work on the US plywood industry, failed to detect any significant difference in productivity between worker cooperatives and conventional firms. Later on, this result has been extended to other countries and industries (Fakhfakh et al., 2012; Young-Hyman et al., 2023; Montero, 2022; Benveniste, 2024), and it has been shown to hold also when considering other forms of employee ownership, such as ESOPs (Jones and Kato, 1995). With respect to survival, a number of empirical studies consistently report that EOFs do not experience higher exit rates compared to conventional firms (Pérotin, 2006; Park et al., 2004), and in some cases (e.g., in low-capital-intensive industries) their chances of survival can actually be higher (Burdín, 2014). Overall, based on the best of the available evidence, one is inclined to conclude that, along each of the dimensions mentioned above, EOFs tend to perform at least as well as conventional firms (Dow, 2018; Kruse, 2022). Thus, it cannot be a gap in performance that explains their rarity. But if performance differences do not explain the phenomenon, what other factors might?

One possible explanation—central to this paper—is that the rarity of EOFs stems from their low rate of market entry, a relatively underexplored aspect in the existing literature. Indeed, while the formation of EOFs has received some attention, much of the existing work has focused on documenting heterogeneous patterns of EOF creation

[4] An additional argument that is specific to worker cooperatives is put forward by Hansmann (2000), who stresses the cost of collective decision making as the main driver behind the inefficiency of EOFs. While capital suppliers unanimously support maximization of profit or present value, workers tend to have heterogeneous attitudes toward effort and working conditions. On this ground, majority voting among co-workers in EOFs is likely to incur costs that do not arise in conventional firms.

across industries and business cycle phases (Pérotin, 2006; Podivinsky and Stewart, 2007; Belloc, 2017). Moreover, the explanations commonly offered emphasize the interplay between credit market imperfections, wealth constraints, and risk aversion—all identified as key factors that hinder workers' willingness to pursue ownership of their firms (Bonin et al., 1993; Bowles and Gintis, 2002). As argued by Dow (2018), however, none of these variables can provide the full story, particularly because they do not explain the evidence documenting similarities in capital-to-labor ratios and risk exposition among existing EOFs and conventional firms (Pencavel et al., 2006; Fakhfakh et al., 2012), nor the paucity of EOFs in labor-intensive industries with relatively low capital requirements. On this ground, some additional factors need to be considered, which account for the low demand for worker ownership. In the next section, we make some steps in this direction, proposing a micro-foundation for decisions related to EOF membership and policy support grounded in behavioral decision-making theory.

2.2 The behavioural foundation of demand for employee ownership

Preferences and beliefs. The decision to form, join, or support an EOF, as opposed to organizations with alternative ownership forms, can be modeled as the result of two fundamental components: preferences and beliefs (see Figure 1). Preferences represent the utility individuals assign to the attributes of a given ownership form and are often the result of institutional and cultural influences (Bisin and Verdier, 2001). Relevant attributes may include the economic behaviour of the organization (*e.g.*, productivity levels, pay inequality, survival probabilities, job security), but also the degree of compensation volatility (*e.g.*, predominance of fixed *vs.* variable pay), the features of work organization (*e.g.*, prevalence of teamwork *vs.* stand-alone positions) and the time horizon of monetary rewards (*e.g.*, short-term *vs.* delayed benefits). In contrast, beliefs refer to the subjective probabilities individuals assign to the realization of these attributes. While they may also be shaped by social norms and cultural values (see the horizontal arrow from preferences to beliefs in Figure 1), beliefs are frequently the

product of dynamic updating processes through which individuals interpret information derived from past experiences and direct observation (Elster, 2015).

Formally, let Θ be the set of attributes individuals take into account when evaluating the convenience of joining or supporting an organization with a specific ownership form. $\theta \in \Theta$ is a particular attribute, for example, its level of productivity. Given Θ, let $\bar{\theta}$ be the linear combination of these attributes, which provides a measure of average "quality". We index the quality that the individual i considers when making her choice as $\bar{\theta}_i$. Let $F_j(\bar{\theta})$ be the true probability distribution of quality for ownership form j. For convenience, and with a minor abuse of notation, we denote $F_j(\bar{\theta}_i)$ as the true probability that form j has a value of $\bar{\theta}$ equal to $\bar{\theta}_i$ and $E_i(F_j(\bar{\theta}_i))$ as the individual i's belief about such probability.[5] Finally, let us denote $U_i(\bar{\theta}_i)$ the utility that i's derive from $\bar{\theta}_i$. Depending on the choice context, the shape of $U_i(\bar{\theta}_i)$ can differ. For instance, the utility that individual i derives from working in organizations with average quality $\bar{\theta}_i$ may not be the same as the utility derived from supporting policy interventions in favor of organizations with the same quality. At the same time, we assume that the choice context does not affect beliefs about the probability that the organization has that level of quality.

On this ground, individual i's expected utility from ownership form j can be written as follows:

$$EU_{i,j} = E_i(F_j(\bar{\theta}_i)) \cdot U_i(\bar{\theta}_i). \tag{1}$$

Let us now assume that individual i faces the choice between two alternative ownership forms: employee ownership w and the best alternative option k. Based on Eq. (1), the individual i will prefer w over k whenever $EU_{i,w} > EU_{i,k}$. Re-arranging, we find that w will be chosen over k if and only if:

$$(E_i(F_w(\bar{\theta}_i)) - E_i(F_k(\bar{\theta}_i))) \cdot U_i(\bar{\theta}_i) > 0. \tag{2}$$

Eq. (2) highlights the central role that beliefs play in shaping the comparison be-

[5]For simplicity, and without loss of generality, we assume $E_i(x)$ to be a monotonic function of x.

tween ownership forms. Clearly, if the probability distribution of $\bar{\theta}$ for ownership forms w and k are identical and beliefs are unbiased, then the individual will be indifferent between them. However, if beliefs are systematically biased against one of the two forms, say w, it is entirely possible that an individual i will consistently prefer ownership form k over w, even if the true distributions of quality are exactly the same.

To provide some further structure to this argument, let us assume that the individual i forms her expectations for $\bar{\theta}$ by drawing from a sample S_w of organizations with ownership form w from the total population N_w. We also assume that this sample does not provide a true description of the underlying population, because its composition is biased or the individuals compute attribute probabilities relying on biased cognitive heuristics. In particular, we assume that the combination of such biases leads to a probability distribution $B_w(\bar{\theta})$ that tends to penalize w-form organizations with high value of $\bar{\theta}$ compared to the true distribution $F_w(\bar{\theta})$, as shown in Figure 2. As result, the subjective probability that ownership form w will have a value of $\bar{\theta}$ equal to $\bar{\theta}_i$ will be consistently underestimated, *i.e.*, $E_i(B_w(\bar{\theta}_i)) < E_i(F_w(\bar{\theta}_w))$. On this ground, we can directly infer from Eq. (2) that individual i will always prefer ownership form k over w, even if the latter have the same true distribution of quality.[6]

Sources of biased beliefs. The theoretical framework outlined above can be used to discuss the potential sources of biased beliefs that may undermine the individuals' willingness to form, join or support EOFs. To organize the discussion, let us divide the potential sources of bias into two groups: a) the distorted composition of information sources; and b) the existence of biased cognitive heuristics. In the language of the above model, these factors contribute to distort the shape of the probability distribution $B_j(\bar{\theta})$, and thus the process through which the latter feeds into the formation of beliefs E_i. [7]

With regard to the distortion of information sources, a key factor to consider is the

[6]To see why, we can exploit $F_w(\bar{\theta}_i) = F_k(\bar{\theta}_i)$ and rewrite Eq. (2) as follows $(E_i(B_w(\bar{\theta}_i)) - E_i(F_w(\bar{\theta}_i)) \cdot U_i(\bar{\theta}_i) > 0$. As long as $E_i(B_w(\bar{\theta}_i)) < E_i(F_w(\bar{\theta}_i))$, then Eq. (2) will never be satisfied. Hence, ownership form k will always be preferred over ownership form w.

[7]For comprehensive review on errors in probabilistic reasoning and biased beliefs, see Benjamin (2019).

role of *small versus large sample extrapolations*. As noted earlier, EOFs tend to be relatively rare in the real economy compared to other organizational forms. This scarcity implies that individuals must construct their subjective probability distributions based on limited exposure and small sample sizes, which increases the likelihood of extrapolation errors and biased beliefs (Tversky and Kahneman, 1971, 1974; Rabin, 2002). Suppose, for instance, that EOFs and conventional firms share the same productivity distribution, but the latter are several orders of magnitude more frequent in the overall population of firms. Sampling theory entails that the number of occurrences in which the productivity of sampled firms deviates from the true expected value is much larger for EOFs than for other firms, because large samples are less likely to stray from true values. As a result, the probability distribution of EOFs' attributes $B_w(\bar{\theta})$ has relatively high chances to deviate from the true distribution $F_w(\bar{\theta})$.[8]

Alongside a size effect on the computation of probability distributions, the low density of EOFs may also affect the shape of $B_w(\theta)$ through *biased heuristics*. One of them is linked with the perception of the so-called *organizational legitimacy*. A prominent paradigm in sociological research known as organizational ecology postulates that new forms of organization are more likely to flourish when they attain constitutive legitimation; that is, when they are widely understood and taken for granted by relevant audiences or stakeholders (Hannan and Freeman, 1977; Meyer and Rowan, 1977; Hannan, 2005). In particular, a key claim of this theory is that the mere density of organizations is a good proxy for such legitimation: the lower the number of organizations in operation in a certain population, the lower the level of social acceptance of their form (Bogaert et al., 2016). When applied to the case of employee ownership, this theory seems to suggest the existence of agglomeration advantages favoring the formation of EOFs (Pérotin, 2006; Joshi and Smith, 2008; Arando et al., 2012). Moreover, it implies that whenever these agglomeration processes are absent, EOFs lack legitimacy compared to alternative ownership forms, leading individuals to form more pessimistic beliefs about the value of their own attributes. In the above frame-

[8]Systematic biases in people's beliefs about the relationship between sample proportions and population rates may also arise in large random samples (Benjamin et al., 2016).

work, this may result in the application of a legitimacy discount in the computation of attribute probability, which would skew the overall distribution $B_w(\bar{\theta})$ leftward, as shown in Figure 2.

Another potential source of biased beliefs stems from a specific type of cognitive process used to estimate perceived probabilities, known as the *availability heuristics*. As discussed in Tversky and Kahneman (1974), when individuals attempt to assess the likelihood of an event, they often rely on how easily examples or instances of that event come to mind. While this heuristic is generally useful, because instances of larger and thus more frequent events tend to be recalled better and faster than instances of less frequent events, it can also lead to systematic biases (Lichtenstein et al., 1978; Eisenman, 1993; Hertwig, 2005; Pachur et al., 2012). This is because availability is often influenced by factors other than frequency and probability, such as familiarity and salience. For instance, consider an individual assessing the probability that an EOF has relatively high productivity levels. If EOFs are rare, occurrences of this event can hardly come to mind (independently of the true distribution of their attributes) and one may be induced to ground such judgment on the perceived familiarity with this type of organization. If the case of a highly productive EOF is unfamiliar, perhaps because the dominant image of a highly productive firm is that of an investor-controlled company, then the perceived probability of such event will tend to be low. This, in turn, biases the distribution $B_w(\bar{\theta})$ downward, distorting the associated belief formation process.

A similar effect may arise from another potential bias in the use of the availability, namely how individuals filter information from outside sources. In contexts where direct experience or accessible examples are scarce, such as when evaluating the probability that an EOF is highly productive, individuals may be induced to form beliefs collecting information from the surrounding environment. However, when the volume of available information is high, individuals face cognitive limitations in processing and attending to it effectively (Miller, 1956; Simon, 1971; Conway et al., 2001). As a result, they tend to rely on *ad hoc* cognitive shortcuts to filter and interpret this

information. Two such processes are particularly common: first, a tendency to prioritize information that aligns with preexisting beliefs, i.e. *confirmation bias* (Lord et al., 1979; Nickerson, 1998; Rabin and Schrag, 1999; Munro et al., 2002; Stanovich and West, 2008); second, a tendency to give greater weight to negative information than to positive information, i.e., *negativity bias* (Kanouse and Hanson, 1972; Baumeister et al., 2001; Sias et al., 2023). In our context, these cognitive filters have two important implications. First, pessimistic priors about EOFs are likely to be reinforced by selective attention to information that confirms them, making such beliefs resistant to revision (Schwartzstein, 2014). Second, exposure to negative information, such as reports of improperly structured EOFs (e.g., false cooperatives) or financial misconduct, can further distort belief formation, reducing the perceived likelihood that EOFs possess desirable attributes. Moreover, there is evidence that information presented as stories or narratives (e.g., qualitative accounts of individual cooperatives) shapes selective memory more than statistical data and significantly influences belief formation (Graeber et al., 2024). In this respect, anecdotal evidence suggests that negative narratives about EOFs do circulate in the information environment (Dorigatti et al., 2024), potentially eroding trust in these organizations and discouraging engagement with them.[9]

3 Experimental Design and Sample

The theoretical framework outlined above assigns a central role to biased beliefs about EOF's attributes as an explanation for their paucity and limited appeal as a career option or target of policy support. Our experimental design aims to test the relevance of these misperceptions by focusing on a specific and prevalent type of EOF in the Italian context, namely worker cooperatives. Specifically, we: (i) compare prior beliefs about

[9] An interesting historical account of how these factors may intervene in the formation of EOFs is provided by Berman (1967) when reviewing the emergence of plywood cooperatives in the US during the early 1950s. In many cases promoters of this type of organizations had no intention of working in plywood mills and were attracted by the prospect to capture fast capital gains by reselling their own shares. In the case of some cooperatives, this led to criminal trials and security frauds and mail frauds. As argue by Dow (2003), most observers linked the abrupt end of coop formations around 1956 with the publicity given to these events in the local media.

the economic performance of worker cooperatives, relative to conventional firms, with a benchmark derived from assessments by a sample of international experts; and (ii) test whether information treatments lead to revisions in related beliefs, policy views, and career intentions concerning worker cooperatives.

The study consists of two components: a primary experiment and an obfuscated follow-up study conducted a week after the main experiment. Below, we outline the sample along with the design of both the main experiment and the obfuscated follow-up study. Figure A1 presents an overview of the experimental structure.

3.1 Sample

We work with Bilendi, a professional survey firm that is regularly used by researchers to conduct academic studies, e.g., Aksoy et al. (2024). The survey draws on a pre-recruited panel composed of individuals who have previously agreed to participate in research studies. Recruitment for this panel is carried out through a variety of advertising channels (such as Facebook, Google Ads, and other websites), address databases, and referrals. New participants are regularly added to the panel. When a survey is ready to be conducted, Bilendi or its partner sends email invitations to panel members. These emails include details about compensation and the estimated time required to complete the survey, but do not disclose the survey topic. By clicking the link in the invitation, recipients are directed to the online questionnaire.

We recruited 2,000 respondents, stratified by gender and region, to ensure that the sample is representative of the Italian youth population aged 18 to 30. All respondents who finished the main study were invited to participate in the follow-up study, for which we received 1400 respondents (70% response rate). The experiment was run between mid-November and mid-December 2024. We registered a pre-analysis plan with the AEA RCT Registry before beginning data collection, outlining our intended sample size, empirical strategy, and hypotheses.[10]

[10]The study information and pre-analysis plan are available following this link: https://www.socialscienceregistry.org/trials/13785.

Our sample reflects the gender and regional distributions of the Italian youth population. In addition, the treatment and control groups are balanced across observable characteristics in both the main study and the follow-up (see Table A1 and Table A3. However, there is some indication of non-random attrition in the follow-up (see Table A2). As we explain in Section 4.6, reweighting the follow-up observations to match the covariate distribution of the main study does not alter the results.

3.2 Main experiment

In the first section of the survey, we ask subjects to complete a questionnaire on demographics, including gender, age, height, region, education, parental background, and left-right political orientation. Moreover, we collect information on preferences for job attributes. Finally, we elicit information on a wide range of behavioural traits (risk, time, and social preferences - altruism, reciprocity, trust), using experimentally-validated survey questions (Falk et al., 2023) and prior beliefs about worker cooperatives. Next, half of the respondents are randomly assigned to receive the information treatment. Following this, we gather their post-treatment beliefs, career intentions, and policy preferences in relation to worker cooperatives.

Pre-treatment beliefs about worker cooperatives. We provide general information about different work arrangements observed in contemporary labor markets, exposing the entire sample to the following text:

> *People work in different types of organizations. Some are employed in state-owned entities, such as public hospitals, schools, and government administrations. Others choose to start their own businesses and become self-employed. Still others work in worker cooperatives. Members of worker cooperatives not only perform the tasks for which they are employed but also share ownership and participate in managing the company. Most people are employed under standard labor contracts by conventional businesses, which are owned and managed by private investors. Please consider the following statements and indicate whether, in your opinion,*

they accurately reflect the real-world differences among these types of organizational forms.

We then elicit their beliefs about the economic behaviour of worker cooperatives vis-a-vis conventional firms. To be precise, we ask subjects to report whether they agree or disagree with a series of statements comparing worker cooperatives and conventional firms along four dimensions (productivity, firm survival, pay inequality, employment stability) on a 6-point Likert scale. All statements are framed in a negative way (e.g. *"worker cooperatives tend to be less productive than conventional firms in all sectors"*). To obscure the focus of our primary comparison, we also elicit priors comparing self-employment and the public sector to conventional firms.

Information treatment: experts' assessment of evidence on worker cooperatives. A few months prior to our main study, we distributed a short online survey among 164 experts on worker ownership and cooperative firms (see Appendix A.2.1).[11] To construct the expert database, we relied on the list of all papers published in academic journals between 1990-2019 as reported in a recent meta-analysis (Mirabel, 2021). We got a response rate of 38% (62 valid answers), which is higher than comparable expert surveys (e.g., Falk and Andre, 2021).

We collected information about experts' demographics, main discipline and preferred research methods. Most experts in our sample are economists (78%), male (72%), and reside in Europe (69%). Approximately half are aged 60 or older and have used quantitative methods in their research.

We asked experts to indicate whether they agree or disagree with four statements comparing worker cooperatives and conventional firms on a 6-point Likert scale. Statements were similar to those used to elicit respondents' priors, referring to the same performance dimensions (productivity, firm survival, pay inequality, employment stability). Specifically, we asked experts to indicate whether, to the best of their knowledge, the statements accurately reflect existing research evidence on worker cooper-

[11] The survey was active from June 24th to July 1st, 2024. Originally, we sent the survey to 181 experts, but 17 email addresses resulted invalid.

atives. Despite the existence of authoritative reviews summarizing the available evidence (Pencavel, 2013; Dow, 2018), we opt to survey experts' assessments of the evidence rather than present subjects with our interpretation of the literature. Importantly, empirical papers in this area refer to different contexts and firm samples, and they do not always provide clean causal evidence, as the conditions for an ideal random experiment are rarely met in observational settings. Therefore, we want our information treatment to capture the distribution of experts' opinions about the existing evidence rather than clear-cut judgments.

We randomize subjects' exposure to experts' assessments. Subjects in the treatment group receive graphical information (supplemented by explanatory notes) about the distribution of experts' responses and a reminder of their own prior belief about the performance of worker cooperatives in that specific dimension (see Appendix A.2.2, Section 3). Subjects in the control group do not receive any information. After completing the demographic information and reporting their priors about worker cooperatives, they proceed to answer the outcome questions.

Post-treatment beliefs and outcomes. Using the same questions to elicit priors and post-treatment beliefs may induce demand effects and create confusion among subjects in the control group (Haaland et al., 2023). Therefore, we elicit posterior beliefs about a related, yet distinct, outcome. We ask subjects about the potential impacts of expanding the worker cooperative sector on the Italian economy across five dimensions: overall economic effect, productivity, firm survival, pay inequality, and employment stability. Subjects report their beliefs on a 6-point Likert scale.

Second, we collect information on individuals' future career plans. To be precise, we ask about the likelihood of seeking a job in different economic organizations (conventional firms, public sector, self-employment, worker cooperatives) on a 6-point Likert scale.[12] Then, we explore subjects' policy views by asking whether they agree or disagree (6-point Likert scale) with the statement: *"The government should facilitate the*

[12]We recode our outcome variables so that higher values reflect more positive attitudes toward worker cooperatives and standardize them by subtracting the control group mean and dividing by the control group standard deviation for each observation.

creation of worker cooperatives." Finally, we also include an open-ended question to directly measure what comes to subjects' minds when they think about worker cooperatives (Haaland et al., 2024). The non-preregistered analysis of these text responses is presented in Section 4.6.

Pre-specified controls. As specified in the pre-analysis plan, the main analysis controls for gender, region of residence (Centre, North-West, North-East, South, Islands), parental education, country of origin, employment status, education, self-reported height[13], left-right political orientation, and self-perceived math skills. Moreover, it is worth noting that one of our main outcomes, individuals' intention to join a worker cooperative, may be influenced by their perceived likelihood of actually receiving a job offer in the cooperative sector. To capture this, respondents are asked to estimate the share of cooperative employment in their province of residence on a 0–100% scale. These subjective beliefs are compared to an objective external benchmark. To encourage greater cognitive effort and reduce biases (Haaland et al., 2023), we incentivize accuracy: respondents in the top decile of belief accuracy receive a €3 payment.[14] We include a measure of belief accuracy—defined as the gap between a respondent's estimate and the benchmark—in our analysis.[15] Control variables were coded as indicated in the pre-analysis plan. Importantly, we also report additional estimates that include (non-pre-specified) controls for pre-treatment beliefs about worker cooperatives and economic preferences.

Obfuscated follow-up survey. About one week after the main study, we conduct a follow-up survey with the same subjects to assess the persistence of any treatment effects. We obfuscate the purpose of the follow-up study by including demographic questions and a series of questions to elicit policy views on unrelated issues, such as minimum wages, nuclear energy, remote work, and youth self-employment pro-

[13]Height reflects genetic and early-life health and nutritional conditions, which in turn may correlate with personality traits, economic preferences and long-term career aspirations and outcomes (Persico et al., 2004; Dohmen et al., 2011).

[14]Information on the share of cooperative employment at the province level (as of March 2023) was provided by Centro Studi LegaCoop and is not easily available online.

[15]Interestingly, respondents systematically overestimate the share of cooperative employment (see Figure 3). This overestimation does not follow any clear regional pattern, see Figure 4.

motion. Among these, we also include an additional outcome question on worker cooperatives, changing the wording relative to the main study (see, Appendix A.2.3). We further reduce the risk of participants linking the follow-up to the main study by presenting the latter as research commissioned by the University of Parma, while describing the former as a standard opinion poll conducted by Bilendi. The visual design and color scheme of the two surveys were also modified to reinforce this distinction. Since subjects are not exposed to any treatment in the follow-up, we expect demand effects to be less of a concern in this context (Haaland et al., 2023).

4 Results

This section outlines our main findings. In our pre-analysis plan, we hypothesized that subjects in the treatment group who receive expert-validated information about the economic behavior of worker cooperatives will be more supportive of public policies aimed at promoting this type of firm and more inclined to search for a job in the cooperative sector than subjects in the control group. We also expect the treatment effects to be stronger among subjects with more pessimistic pre-treatment beliefs about worker cooperatives. We conclude the section with a discussion of the robustness of our findings.

4.1 Pre-treatment beliefs about worker cooperatives.

We begin by analyzing respondents' pre-treatment beliefs about worker cooperatives. Figure 5 shows the distribution of beliefs held by both respondents and experts across four performance dimensions: productivity, firm survival, pay inequality, and job stability. Respondents clearly hold more pessimistic views about worker cooperatives relative to experts, suggesting that the treatment induced a large information shock. In Figure 6, we show that respondents' pre-treatment beliefs are correlated with certain personal characteristics. For instance, self-identified left-wing individuals hold significantly more optimistic beliefs about worker cooperatives than right-wing indi-

viduals. In contrast, employed respondents and those with at least one non-Italian parent tend to hold significantly more pessimistic views.

4.2 Effect on post-treatment beliefs

Preliminary evidence, presented in Figure A2 (Panels A–E), indicates that the treatment influences respondents' beliefs about worker cooperatives. To further substantiate this finding, we estimate the following equation by OLS:

$$Y_i = \alpha_0 + \alpha_1 \text{ Treated}_i + \alpha_2 X_i + \varepsilon_i \tag{3}$$

where Y_i are our measures of posterior beliefs, Treated_i is an indicator for whether subject i received experts' information on worker cooperatives, X_i is a vector of pre-specified control variables; ε_i is the individual error term. We use robust standard errors in all specifications.

Table 1 reports estimates of equation (3) concerning respondents' posterior beliefs about the potential impacts of expanding the worker cooperative sector on the Italian economy. As described in Section 3.2, we elicit posterior beliefs on five dimensions—overall economic effect, productivity, firm survival, pay inequality, and job stability—using a 6-point Likert scale. In Panel A, we present estimates without controls. Panel B adds controls as specified in our pre-analysis plan. In Panel C, we report estimates that include both the pre-specified controls and additional controls for prior beliefs about worker cooperatives as well as job and economic preferences (risk, time, and prosocial preferences) .

Overall, the regression results indicate that our information treatment significantly shifts respondents' beliefs about worker cooperatives in a positive direction. Specifically, our pre-specified estimates reported in Columns 1–2 of Panel B in Table 1 show that the treatment increases respondents' optimism about the effects of worker cooperatives on firm productivity and survival by 0.10 ($p < 0.05$) and 0.13 standard deviations ($p < 0.01$), respectively. Moreover, the estimates reported in Columns 3–4

show a similar pattern for beliefs about worker outcomes such as pay inequality and job stability: the treatment increases optimism on these dimensions by 0.13 standard deviations ($p < 0.01$). Finally, Column 5 shows a positive treatment effect of 0.08 standard deviations (significant at the 10% level) on respondents' beliefs about the overall economic effect of worker cooperatives on the Italian economy. To contextualize the magnitude of the treatment effect, we can compare the observed effect size to the difference in beliefs between self-identified left- and right-wing individuals: the treatment's impact on posterior beliefs about the overall economic effect of worker co-ops is approximately 36% of the gap in beliefs between right- and left-wing respondents.[16]

4.3 Effect on policy views and career intentions

Having documented that experts' information changes respondents' beliefs about worker cooperatives, we next investigate whether it also increases support for public policies aimed at facilitating the creation of these organizations, as well as respondents' willingness to work in the sector.

First, we analyze whether respondents agree or disagree with the following statement on a 6-point scale: *"The government should promote the creation of new worker cooperatives in the coming years."* Descriptive evidence reported in Panel F of Figure A2 in the Appendix suggests that treated individuals respond more favorably to the above statement compared to individuals in the control group. This result is confirmed by Column 1 of Panel B in Table 2, which shows a significant increase in support for government intervention in favor of worker cooperatives. Specifically, policy support increases by 0.1 of a standard deviation ($p<0.05$). The effect is roughly equivalent to the gap in policy preferences about worker co-ops between left- and right-wing individuals.

Then, we look at potential shifts in career intentions. Figure A3 in the Appendix compares intentions to join or create a worker cooperative with intentions to pur-

[16]The fact that the effect appears larger for specific performance dimensions compared to the overall economic effect may reflect that our treatment explicitly referred to those specific dimensions rather than pointing to an overall net effect.

sue more traditional work arrangements (such as employment in a conventional private firm, the public sector, or self-employment) for the entire sample. The perceived chances of joining an existing worker cooperative are lower than any other potential career path. Moreover, the differences become even more pronounced when respondents evaluate the likelihood of establishing a new worker cooperative compared to other options, including self-employment.[17]

Column 2 of Panel B in Table 2 shows estimates for the intention to join an existing worker cooperative, while column 3 shows estimates for the intention to create a new worker cooperative. We find no significant differences between the treatment and control groups with respect to these variables. Interestingly, while the information treatment successfully shifted general beliefs and policy attitudes toward worker cooperatives, it did not influence youth willingness to engage directly with the cooperative sector in their careers. In other words, the treatment appeared to be ineffective in changing the outcomes where individuals had skin in the game.

We extend the analysis by examining the full set of correlates of career intentions, including individual preferences. The results are presented in Figure 7: Panel A refers to the intention to join an existing worker cooperative, while Panel B refers to the intention to create a new one. Preferences that are typically seen as barriers to entrepreneurial activity, such as risk aversion, are negatively correlated with both intentions: joining an existing cooperative and starting a new one. Similarly, impatience is negatively associated with the intention to join an existing coop, while a preference for high income is negatively correlated with the intention to create a new one. On the other hand, several factors show positive associations with cooperative career intentions. Prosociality is positively linked to both types of cooperative career choices. In addition, having optimistic prior beliefs about cooperatives is also positively associated with these intentions. Finally, residing in the South or on the Islands, regions where employment opportunities are generally more limited, is positively correlated with both types of cooperative career intentions.

[17]The comparison between worker cooperatives and self-employment as career paths suggests that the barriers to cooperative work arrangements may extend beyond perceived credit constraints.

In a series of exploratory, non–pre-registered regressions, we also examine participants' intentions to join a worker cooperative *relative* to other career options. To do this, we redefine the career intention variable by subtracting the intention score for conventional firms from the score for worker cooperatives. We apply the same approach to construct relative intention scores for self-employment and public sector employment. The intuition is that even if the treatment slightly increases cooperative intentions or slightly decreases intentions for other work arrangements, these small opposing shifts may combine to produce a larger effect in the relative score. Results from this analysis, reported in Table 3, indicate a significant positive shift in career intentions to join an existing worker cooperatives relative to conventional firms and self-employment, and no significant effect relative to public sector employment.[18] Reassuringly, as shown in Columns 4-6 of Table 3, we find no evidence of shifts in relative career intentions among other work arrangements (conventional firms. public sector, self-employment). Because this analysis was not prespecified, the results should be interpreted with caution.

4.4 Heterogeneous effects

In our pre-analysis plan, we conjecture that treatment effects may depend on respondents' prior beliefs and specific preference domains (job attributes, risk, time and social preferences). We test for differential responses by estimating an augmented version of equation (3) with an interaction term.

Pre-treatment beliefs. We dig into the process of belief updating by analyzing whether subjects with different prior beliefs about worker cooperatives respond differently to the information treatment. We find negative and statistically significant interaction effects between the treatment and respondents' pre-treatment beliefs about pay inequality in worker cooperatives compared to conventional firms (see Column 3 of Table A4). Consistent with our expectations, respondents with more (less) pos-

[18] Instead, we find no evidence of effects on relative career intentions regarding the creation of a new worker cooperative.

itive priors about worker cooperatives are less (more) responsive to the information treatment. We also observe negative interaction effects between the treatment and pre-treatment beliefs on posterior beliefs across other performance domains and on policy attitudes toward worker cooperatives; however, these additional effects are not statistically significant.

Preferences for job attributes. We analyze heterogeneous treatment responses by preferences for job attributes (high income, reduced working time, job security, career development, meaningful work). As indicated in the pre-analysis plan, we interact the treatment status with a dummy variable, *High Income*, which takes the value of one for respondents who indicate "earning a high income" as their most preferred job attribute, and zero otherwise. We find a negative interaction effect between the treatment and preferences for high income on posterior beliefs about worker cooperatives' performance regarding firm survival and overall economic impact. This suggests that respondents primarily motivated by extrinsic job rewards were less inclined to change their beliefs about cooperatives in response to the treatment. However, the estimated coefficients are only marginally significant (see Columns 2 and 5 of Table A5).

Risk, time and social preferences. We examine how treatment responses vary according to individuals' economic preferences, focusing on risk attitudes, time preferences, and prosociality.[19] We find that higher risk aversion and greater impatience are associated with less favorable beliefs and policy views toward worker cooperatives. Conversely, respondents with stronger prosocial preferences generally hold more optimistic beliefs and more supportive policy views regarding this type of firms. However, we do not find any evidence of heterogeneous responses to our information treatment across these dimensions (see Table A6-A8).

[19]Risk aversion and impatience were defined as dummy variables, while our measure of prosocial preferences combines the responses to questions about altruism, trust, positive, and negative reciprocity. Following Bietenbeck et al. (2023), we use an index of prosociality constructed as the unweighted average of these four dimensions of prosociality (standardized to mean 0 and standard deviation 1). See also Kosse (2020).

4.5 Robustness checks

Demand effects: obfuscated follow-up survey. An important consideration in information provision experiments is the risk of bias stemming from experimenter demand effects. In our setting, respondents in the treatment group may report more positive views about worker cooperatives to conform with the researchers' expectations. We believe our findings are unlikely to be driven by demand effects for three reasons. First, recent evidence indicates that bias from experimenter demand effects tends to be quantitatively small (de Quidt et al., 2018; Mummolo and Peterson, 2019). Second, the presence of significant positive effects for some outcomes but not others suggests that demand effects are unlikely to be a major concern in our study. Third, as shown in Column 4 of Panel C in Table 2, we find a positive treatment effect (significant at the 10% level) on policy support for worker cooperatives in the obfuscated follow-up study.[20] Among the subsample of respondents who completed both the main study and the obfuscated follow-up, the effect sizes on policy support for worker cooperatives in the follow-up are not significantly different from those observed in the main study (p = 0.892).[21] Since participants in this follow-up were not exposed to any treatment, as explained in Section 3.2, demand effects should be less of a concern in this context.

Non-random attrition and reweighting. As shown in Table A2, there is some indication of non-random attrition: female respondents, those with a college education, and individuals with two Italian parents were more likely to respond to the follow-up survey. To address this issue, we reweight observations in the follow-up survey to match the covariate distribution of the main study entropy balancing, as proposed by Hainmueller (2012). As shown in Table A9, reweighting does not alter the conclusions previously obtained from the unweighted follow-up survey: there is a positive treatment effect on policy support for worker cooperatives, which is statistically significant

[20] Reassuringly, we do not find any significant differences in policy views about unrelated (placebo) topics included in the follow-up survey (minimum wages, nuclear energy, remote working, and promotion of individual entrepreneurship). These additional results are available upon request.

[21] p-values obtained from seemingly unrelated regressions.

at the 10% in the specification that controls for prior beliefs and preferences.

Perceptions about the research setting. Following Haaland and Roth (2020), we include a few questions to assess respondents' perceptions of the research setting. First, we collect information on general attitudes toward scientific evidence: approximately 87% of respondents report a general trust in scientific research. Second, we measure respondents' perceptions of whether the study is politically biased. Panel A of Figure A5 in the Appendix compares the distribution of responses between the treatment and control groups. We cannot reject the null hypothesis that the two distributions are equal (Kolmogorov-Smirnov test: p-value = 0.885). Finally, we ask the treatment group whether they consider the information about worker cooperatives to be trustworthy. Panel B of Figure A5 shows the distribution of these responses, revealing that approximately 68% of respondents found the information trustworthy.

4.6 Additional analysis: first-order concerns about cooperatives

To further explore whether information shifts attention allocation among respondents, we elicit their first-order concerns about cooperatives using an open-ended question (Ferrario and Stantcheva, 2022; Haaland et al., 2024). Our aim is to understand which issues are most salient for young adults when they think about cooperatives in Italy and whether the information treatment influences these concerns. Specifically, we ask them to respond in an open-text box to the prompt: *"What is the first thing that comes to your mind when you think about cooperative firms in Italy? Please respond in one word."*

To quantitatively analyze the open-text data, we first create a coding scheme to produce two simple classifications. The first scheme categorizes responses based on whether they carry positive, negative, or neutral connotations regarding cooperatives. For the second scheme, we prompt ChatGPT to identify four main themes from the responses, resulting in the following categories: Economy and Work, Organization, Values, and Other Topics. In the next step, we instruct two research assistants to apply these coding schemes to the full set of text responses. Importantly, the human coders were blind to the research objectives and received training on how to apply the coding

schemes, including definitions and examples. Double-coding by two independent assistants enables cross-verification and the computation of intercoder reliability (ICR).

We assess the quality of the hand-coded data by computing Krippendorff's alpha as a measure of ICR (O'Connor and Joffe, 2020). Overall, agreement between reviewers is reasonably high but varies by coding scheme. For instance, the Krippendorff's α for the first scheme (positive, negative, or neutral words) is higher (67%) than for the more complex second scheme (economy and work, organization, values), which shows an ICR of 57%. ICR was particularly high for negative comments (Krippendorff α = 81%). A common practice in the literature is to resolve discrepancies through discussion with the research team and refinement of the coding scheme, recalculating ICR scores iteratively (Haaland et al., 2024). To minimize problems of "interpretative convergence" (Hruschka et al., 2004), we prefer instead to consolidate the classifications made by the two coders by using ChatGPT to adjudicate cases of disagreement.

We begin by presenting some descriptive evidence. Based on our consolidated classification using ChatGPT as adjudicator, 29%, 17%, and 53% of the responses are positive, negative, and neutral, respectively.[22] Panel A of Figure 8 displays a word cloud with the most frequently occurring unigrams and bigrams, with negative responses in red and positive ones in black. Panel B reports the word cloud with colors changing depending on the topics: gray for Economy and Work, blue for Values and green for Organization. The most frequent negative responses relate to Economy and Work, including exploitation (*"sfruttamento"*), low income (*"basso reddito"*), precarious (*"precario"*), instability (*"instabilità"*). Instead, positive responses usually refer to Values, such as solidarity (*"solidarietà"*), cooperation (*"cooperazione"*), collaboration (*"cooperazione"*), jobs (*"lavoro"*). This pattern is further confirmed in Figure 9, which shows the distribution of negative and positive responses by topic. Roughly 80% of negative comments refer to "Economy and Work", while most positive comments refer to Values.[23]

[22]Unless stated otherwise, we report classifications consolidated with ChatGPT. Figure A6 reports classifications disaggregated by coder.

[23]Figure A7 shows the word cloud including all words mentioned at least twice. For readability, we limit the display to 150 words.

Then, we assess whether the information treatment shifts first-order concerns about cooperatives. We compare word frequencies between the treated (target) and control (reference) groups and compute keyness for each word using a χ^2 test of independence, where the null is equal usage across groups (Gabrielatos, 2018; Ferrario and Stantcheva, 2022) . Larger χ^2 values indicate stronger association with one of the groups; direction is given by which group uses the unigram or bigram more often. In short, keyness captures how characteristic a term is of a group, whereas common terms used at similar rates in both groups have low keyness. Results are reported in Figure 11. Negative words related to the theme "Economy & Work", such as insecurity (*"insicurezza"*) and low income (*"basso reddito"*) are more often mentioned by respondents in the control group.

Second, we perform estimates from Linear Probability Models (LPM). In Columns 1–2 of Table 4, we define negative and positive responses as cases where both coder 1 and coder 2 agreed on the classification. In Columns 3–4, we use our consolidated classification, which adjudicates disagreements between coders using ChatGPT. The information treatment significantly shifts respondents' attention from predominantly negative concerns—mainly economic and labor market issues—toward more positive ones. Adjudicating disputes using ChatGPT does not change the results. The probability of mentioning a negative (positive) word about cooperatives is approximately 4 percentage points lower (higher) in the treatment group compared to the control group. This is consistent with the economics-based informational content of our treatment.[24]

5 Conclusions

In this paper, we present evidence that providing information on experts' assessment of worker cooperatives leads to more positive beliefs and policy views toward this

[24]Figure 10 displays the correlates of both positive and negative text responses. Optimistic prior beliefs about cooperatives and prosociality are positively correlated with positive words about cooperatives. By contrast, being employed, female, risk-averse, or having a preference for high-income jobs is associated with negative words.

type of organization among young adults. Although the treatment did not significantly affect the absolute intention to join a worker cooperative, we find suggestive evidence that it increased the relative attractiveness of cooperatives compared to conventional private firms and self-employment among youth respondents.

These findings carry important implications for policy design, particularly in the domain of economic education and labor market communication. Our results suggest that informational interventions, especially those that leverage the perceived credibility of experts, can play a meaningful role in shaping public perceptions of alternative organizational forms, such as worker cooperatives and, more broadly, employee-owned firms (EOFs). These interventions can take the form of targeted communication campaigns, public awareness initiatives, or educational content integrated into school and university curricula. Other promising formats include endorsements from academics or policymakers, informational videos on social media platforms, and the inclusion of EOF success stories in mainstream media or job search platforms.

By improving individuals' perceptions of the relative quality and desirability of EOFs, such interventions can foster greater public support for these models. Over time, this shift in sentiment may contribute not only to increased openness to employment in EOFs but also to a higher rate of EOF formation, particularly among younger cohorts who are still shaping their career preferences and entrepreneurial aspirations. These results highlight the potential of low-cost, scalable informational tools to complement broader policy efforts aimed at diversifying firm ownership structures and promoting more inclusive and participatory models of economic organization.

Future research may extend the analysis in many directions. First, it would be relevant to understand whether pessimistic beliefs about worker cooperatives are specific to the Italian context, where the phenomenon of false cooperatives appears to be a concern, or more widespread. In this sense, cross-national experiments using comparable information treatments could yield valuable insights into the cultural and institutional drivers of attitudes toward worker cooperatives. Second, it would also be interesting to analyze the features and the salience of quantitative beliefs about eco-

nomic variables, such as wages, in worker cooperatives among job seekers. Finally, future studies could assess the generalizability of our findings beyond worker cooperatives by exploring whether similar informational effects arise in relation to other forms of employee ownership, such as ESOPs. Such extensions would contribute to a broader understanding of how information and beliefs influences decisions about participatory firm models across institutional contexts.

References

Abramitzky, R. (2008). The limits of equality: Insights from the israeli kibbutz. *The quarterly journal of economics*, 123(3):1111–1159.

Aksoy, C., Barrero, J., Bloom, N., Davis, S., Dolls, M., and Zarate, P. (2024). Why does working from home vary across countries and people? *SSRN Electronic Journal*.

Alchian, A. A. and Demsetz, H. (1972). Production, information costs, and economic organization. *The American economic review*, 62(5):777–795.

Altmann, S., Falk, A., Jäger, S., and Zimmermann, F. (2018). Learning about job search: A field experiment with job seekers in germany. *Journal of Public Economics*, 164:33–49.

Anderson, E. (2017). *Private Government: How Employers Rule Our Lives (and Why We Don't Talk about It)*. Princeton University Press, Princeton, NJ.

Arando, S., Gago, M., Podivinsky, J. M., and Stewart, G. (2012). Do labour-managed firms benefit from agglomeration? *Journal of Economic Behavior Organization*, 84(1):193–200.

Barfort, S., Harmon, N. A., Hjorth, F., and Olsen, A. L. (2019). Sustaining honesty in public service: The role of selection. *American Economic Journal: Economic Policy*, 11(4):96–123.

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., and Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology*, 5(4):323–370.

Belloc, F. (2017). What deters labor-owned firm creation? evidence from italian manufacturing sectors. *Journal of Comparative Economics*, 45(1):139–153.

Belot, M., Kircher, P., and Muller, P. (2019). Providing advice to jobseekers at low cost: An experimental study on online advice. *The Review of Economic Studies*, 86(4):1411–1447.

Ben-Ner, A. and Ellman, M. (2013). The contributions of behavioural economics to understanding and advancing the sustainability of worker cooperatives. *Journal of entrepreneurial and organizational diversity*, 2(1):75–100.

Ben-Ner, A. and Jones, D. C. (1995). Employee participation, ownership, and productivity: A theoretical framework. *Industrial Relations: A Journal of Economy and Society*, 34(4):532–554.

Benjamin, D. J. (2019). Errors in probabilistic reasoning and judgment biases. In Bernheim, B. D., DellaVigna, S., and Laibson, D., editors, *Handbook of Behavioral Economics*. Elsevier. Chapter for the Handbook of Behavioral Economics.

Benjamin, D. J., Rabin, M., and Raymond, C. (2016). A model of nonbelief in the law of large numbers. *Journal of the European Economic Association*, 14(2):515–544.

Benveniste, E. (2024). Buying out the means of production: Wages, employment and productivity in labor-managed firms. *mimeo*.

Berman, K. V. (1967). *Worker-owned plywood companies: an economic analysis.* Pullman: Washington State University Press.

Bietenbeck, J., Sunde, U., and Thiemann, P. (2023). Recession Experiences During Early Adulthood Shape Prosocial Attitudes Later in Life. Working Papers 2023:9, Lund University, Department of Economics.

Bisin, A. and Verdier, T. (2001). The economics of cultural transmission and the dynamics of preferences. *Journal of Economic theory*, 97(2):298–319.

Blasi, J. R., Freeman, R. B., and Kruse, D. L. (2013). *The citizen's share: Putting ownership back into democracy*. Yale University Press.

Bogaert, S., Boone, C., Negro, G., and van Witteloostuijn, A. (2016). Organizational form emergence: A meta-analysis of the ecological theory of legitimation. *Journal of Management*, 42(5):1344–1373.

Bonin, J. P., Jones, D. C., and Putterman, L. (1993). Theoretical and empirical studies of producer cooperatives: will ever the twain meet? *Journal of economic literature*, 31(3):1290–1320.

Bowles, S. and Gintis, H. (1994). Credit market imperfections and the incidence of worker-owned firms. *Metroeconomica*, 45(3):209–223.

Bowles, S. and Gintis, H. (2002). The distribution of wealth and the viability of the democratic firm. In Pagano, U. and Rowthorn, B., editors, *Democracy and efficiency in the economic enterprise*, pages 96–111. Routledge.

Burdín, G. (2014). Are worker-managed firms more likely to fail than conventional enterprises? evidence from uruguay. *ILR Review*, 67(1):202–238.

Burdin, G. (2016). Equality Under Threat by the Talented: Evidence from Worker-Managed Firms. *The Economic Journal*, 126(594):1372–1403.

Connelly, B. L., Hoskisson, R. E., Tihanyi, L., and Certo, S. T. (2010). Ownership as a form of corporate governance. *Journal of management studies*, 47(8):1561–1589.

Conway, A. R., Cowan, N., and Bunting, M. F. (2001). The cocktail party phenomenon revisited: The importance of working memory capacity. *Psychonomic bulletin & review*, 8:331–335.

Cooper, M. and Kuhn, P. (2020). Behavioral job search. In Zimmermann, K. F., editor, *Handbook of Labor, Human Resources and Population Economics*. Springer.

Craig, B., Pencavel, J., Farber, H., and Krueger, A. (1995). Participation and productivity: a comparison of worker cooperatives and conventional firms in the plywood industry. *Brookings papers on economic activity. Microeconomics*, 1995:121–174.

de Quidt, J., Haushofer, J., and Roth, C. (2018). Measuring and bounding experimenter demand. *American Economic Review*, 108(11):3266–3302.

Dohmen, T., Falk, A., Huffman, D., Marklein, F., and Sunde, U. (2009). Biased probability judgment: Evidence of incidence and relationship to economic outcomes from a representative sample. *Journal of Economic Behavior & Organization*, 72(3):903–915.

Dorigatti, L., Iannuzzi, F. E., Piro, V., and Sacchetto, D. (2024). Job quality in worker cooperatives: Beyond degeneration and intrinsic rewards. *British Journal of Industrial Relations*, 62(3):591–613.

Dow, G. K. (2003). *Governing the Firm: Workers' Control in Theory and Practice*. Cambridge University Press.

Dow, G. K. (2018). *The Labor-Managed Firm: Theoretical Foundations*. Cambridge University Press.

Eisenman, R. (1993). Belief that drug usage in the united states is increasing when it is really decreasing: An example of the availability heuristic. *Bulletin of the Psychonomic Society*, 31:249–252.

Elster, J. (2015). *Explaining Social Behavior*. Cambridge, UK: Cambridge University Press.

Fakhfakh, F., Pérotin, V., and Gago, M. (2012). Productivity, capital, and labor in labor-managed and conventional firms: An investigation on french data. *ILR Review*, 65(4):847–879.

Falk, A. and Andre, P. (2021). What's worth knowing? economists' opinions about economics. *SSRN Electronic Journal*.

Falk, A., Becker, A., Dohmen, T., Huffman, D., and Sunde, U. (2023). The preference survey module: A validated instrument for measuring risk, time, and social preferences. *Management Science*, 69(4):1935–1950.

Ferrario, B. and Stantcheva, S. (2022). Eliciting people's first-order concerns: Text analysis of open-ended survey questions. *AEA Papers and Proceedings*, 112:163–69.

Ferreras, I. (2017). *Firms as Political Entities: Saving Democracy through Economic Bicameralism*. Cambridge University Press, Cambridge.

Fisman, R., Jakiela, P., Kariv, S., and Markovits, D. (2015). The distributional preferences of an elite. *Science*, 349(6254):aab0096.

Friebel, G., Kosfeld, M., and Thielmann, G. (2019). Trust the police? self-selection of motivated agents into the german police force. *American Economic Journal: Microeconomics*, 11(4):59–78.

Furubotn, E. G. (1976). The long-run analysis of the labor-managed firm: An alternative interpretation. *The American Economic Review*, 66(1):104–123.

Gabrielatos, C. (2018). *Keyness analysis: Nature, metrics and techniques*, pages 225–258.

Gee, L. K. (2019). The more you know: Information effects on job application rates in a large field experiment. *Management Science*, 65(5):2077–2094.

Gill, A., Heinz, M., Schumacher, H., and Sutter, M. (2023). Social preferences of young professionals and the financial industry. *Management Science*, 69(7):3905–3919.

Graeber, T., Roth, C., and Zimmermann, F. (2024). Stories, statistics, and memory*. *The Quarterly Journal of Economics*, 139(4):2181–2225.

Grossman, S. J. and Hart, O. D. (1986). The costs and benefits of ownership: A theory of vertical and lateral integration. *Journal of political economy*, 94(4):691–719.

Haaland, I. and Roth, C. (2020). Labor market concerns and support for immigration. *Journal of Public Economics*, 191:104256.

Haaland, I., Roth, C., and Wohlfart, J. (2023). Designing information provision experiments. *Journal of Economic Literature*, 61(1):3–40.

Haaland, I. K., Roth, C., Stantcheva, S., and Wohlfart, J. (2024). Measuring what is top of mind. Working Paper 32421, National Bureau of Economic Research.

Hainmueller, J. (2012). Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political Analysis*, 20(1):25–46.

Hanna, R. and Wang, S.-Y. (2017). Dishonesty and selection into public service: Evidence from india. *American Economic Journal: Economic Policy*, 9(3):262–290.

Hannan, M. T. (2005). Ecologies of organizations: Diversity and identity. *The Journal of Economic Perspectives*, 19(1):51–70.

Hannan, M. T. and Freeman, J. (1977). The population ecology of organizations. *American journal of sociology*, 82(5):929–964.

Hansmann, H. (2000). *The ownership of enterprise*. Harvard University Press.

Hart, O. and Moore, J. (1990). Property rights and the nature of the firm. *Journal of political economy*, 98(6):1119–1158.

Henderson, R. (2020). *Reimagining Capitalism in a World on Fire*. PublicAffairs, New York.

Hertwig, R., P. T. . K. S. (2005). Judgments of risk frequencies: Tests of possible cognitive mechanisms. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 31:621–642.

Holmén, M., Holzmeister, F., Kirchler, M., Stefan, M., and Wengström, E. (2023). Economic preferences and personality traits among finance professionals and the general population. *The Economic Journal*, 133(656):2949–2977.

Hruschka, D. J., Schwartz, D., St.John, D. C., Picone-Decaro, E., Jenkins, R. A., and Carey, J. W. (2004). Reliability in coding open-ended data: Lessons learned from hiv behavioral research. *Field Methods*, 16(3):307–331.

ICA (2021). Young people and cooperatives: a perfect match? Technical report, International Cooperative Alliance (ICA).

Jäger, S., Roth, C., Roussille, N., and Schoefer, B. (2024). Worker beliefs about outside options. *The Quarterly Journal of Economics*, page qjae001.

Jensen, M. C. and Meckling, W. H. (1979). Rights and production functions: An application to labor-managed firms and codetermination. *The Journal of Business*, 52(4):469–506.

Jones, D. A., Willness, C. R., and Madey, S. (2014). Why are job seekers attracted by corporate social performance? experimental and field tests of three signal-based mechanisms. *Academy of Management Journal*, 57(2):383–404.

Jones, D. C. and Kato, T. (1995). The productivity effects of employee stock-ownership plans and bonuses: Evidence from japanese panel data. *The American Economic Review*, pages 391–414.

Joshi, S. and Smith, S. C. (2008). Endogenous formation of coops and cooperative leagues. *Journal of Economic Behavior Organization*, 68(1):217–233.

Kanouse, D. E. and Hanson, L. (1972). Negativity inevaluations. In Valins, S., Kelley, H. H., Nisbett, R. E., and Weiner, B., editors, *Attribution: Perceiving the causes of behavior*, pages 47–62. Morristown, NJ: General Learning Press.

Kosse, F., T. M. (2020). Prosociality predicts labor market success around the world. *Nat Commun*, 11(5298).

Kremer, M. (1997). Why are worker cooperatives so rare? Working Paper 6118, National Bureau of Economic Research.

Kruse, D. (2022). Does employee ownership improve performance? *IZA World of Labor*.

Kruse, D. L. (1992). Profit sharing and productivity: Microeconomic evidence from the united states. *The Economic Journal*, 102(410):24–36.

Lichtenstein, S., Slovic, P., Fischhoff, B., Layman, M., and Combs, B. (1978). Judged frequency of lethal events. *Journal of Experimental Psychology: Human Learning and Memory*, 4:551–578.

Lord, C., Ross, L., and Lepper, M. (1979). Biased assimilation and attitude polarization: The effects of prior theories on subsequently considered evidence. *Journal of Personality and Social Psychology*, 37:2098–2109.

Mazumder, S. and Yan, A. N. (2024). What do americans want from (private) government? experimental evidence demonstrates that americans want workplace democracy. *American Political Science Review*, 118(2):1020–1036.

Meyer, J. W. and Rowan, B. (1977). Institutionalized organizations: Formal structure as myth and ceremony. *American journal of sociology*, 83(2):340–363.

Mill, J. S. (1867). *Principles of Political Economy with Some of Their Applications*. London: Longmass, Green, Reader, and Diver.

Miller, G. A. (1956). The magical number seven, plus or minus two: Some limits on our capacity for processing information. *Psychological review*, 63(2):81.

Mirabel, T. (2021). Past, present and future of empirical research on employee-owned firms: a structured literature review over 1970–2019. *Journal of Participation and Employee Ownership*, 4(1):1–25.

Montero, E. (2022). Cooperative Property Rights and Development: Evidence from Land Reform in El Salvador. *Journal of Political Economy*, 130(1):48–93.

Mummolo, J. and Peterson, E. (2019). Demand effects in survey experiments: An empirical assessment. *American Political Science Review*, 113(2):517–529.

Munro, G. D., Ditto, P. H., Lockhart, L. K., Fagerlin, A., Gready, M., and Peterson, E. (2002). Biased assimilation of sociopolitical arguments: Evaluating the 1996 u.s. presidential debate. *Basic and Applied Social Psychology*, 24(1):15–26.

Nickerson, R. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of General Psychology*, 2:175–220.

O'Boyle, E. H., Patel, P. C., and Gonzalez-Mulé, E. (2016). Employee ownership and firm performance: a meta-analysis. *Human Resource Management Journal*, 26(4):425–448.

O'Connor, C. and Joffe, H. (2020). Intercoder reliability in qualitative research: Debates and practical guidelines. *International Journal of Qualitative Methods*, 19:1609406919899220.

Pachur, T., Hertwig, R., and Steinmann, F. (2012). How do people judge risks: Availability heuristic, affect heuristic, or both? *Journal of experimental psychology. Applied*, 18:314–30.

Park, R., Kruse, D., and Sesil, J. (2004). Does employee ownership enhance firm survival? In Perotin, V. and Robinson, A., editors, *Employee participation, firm performance and survival*, volume 8, pages 3–33. Emerald Group Publishing Limited.

Pencavel, J. (2013). Worker cooperatives and democratic governance. In Grandori, A., editor, *Handbook of Economic Organization*, Chapters, chapter 24. Edward Elgar Publishing.

Pencavel, J., Pistaferri, L., and Schivardi, F. (2006). Wages, Employment, and Capital in Capitalist and Worker-Owned Firms. *ILR Review*, 60(1):23–44.

Pérotin, V. (2006). Entry, exit, and the business cycle: Are cooperatives different? *Journal of Comparative Economics*, 34(2):295–316.

Pierce, J. L., Rubenfeld, S. A., and Morgan, S. (1991). Employee ownership: A conceptual model of process and effects. *Academy of Management review*, 16(1):121–144.

Podivinsky, J. M. and Stewart, G. (2007). Why is labour-managed firm entry so rare?: An analysis of uk manufacturing data. *Journal of Economic Behavior & Organization*, 63(1):177–192.

Putterman, L. (1982). Some behavioral perspectives on the dominance of hierarchical over democratic forms of enterprise. *Journal of Economic Behavior Organization*, 3(2):139–160.

Putterman, L. (1993). Ownership and the nature of the firm. *Journal of Comparative Economics*, 17(2):243–263.

Rabin, M. (2002). Inference by believers in the law of small numbers. *The Quarterly Journal of Economics*, 117(3):775–816.

Rabin, M. and Schrag, J. L. (1999). First impressions matter: A model of confirmatory bias. *The Quarterly Journal of Economics*, 114(1):37–82.

Schneider, F. H., Brun, F., and Weber, R. A. (2024). Sorting and wage premiums in immoral work. *The Review of Economics and Statistics*, pages 1–46.

Schwartzstein, J. (2014). Selective attention and learning. *Journal of the European Economic Association*, 12(6):1423–1452.

Serra, D., Serneels, P., and Barr, A. (2011). Intrinsic motivations and the nonprofit health sector: Evidence from ethiopia. *Personality and Individual Differences*, 51(3):309–314.

Sias, R., Starks, L. T., and Turtle, H. (2023). The negativity bias and perceived return distributions: Evidence from a pandemic. *Journal of Financial Economics*, 147(3):627–657.

Simon, H. A. (1971). Designing organizations for an information-rich world. In Greenberge, M., editor, *Computers, communications, and the public interest*. Baltimore, MD: Johns Hopkins Press.

Sockin, J., Ben-Ner, A., Urtasun, A., and Adrianto, A. (2024). Sharing is caring: Employee stock ownership plans and employee well-being in us manufacturing. *IZA Discussion Paper Series 17233*.

Stanovich, K. and West, R. (2008). On the relative independence of thinking biases and cognitive ability. *Journal of personality and social psychology*, 94:672–95.

Tversky, A. and Kahneman, D. (1971). Belief in the law of small numbers. *Psychological Bulletin*, 76(2):105–110.

Tversky, A. and Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases: Biases in judgments reveal some heuristics of thinking under uncertainty. *science*, 185(4157):1124–1131.

Williamson, O. E. (1975). *Markets and Hierarchies*. New York: Free Press.

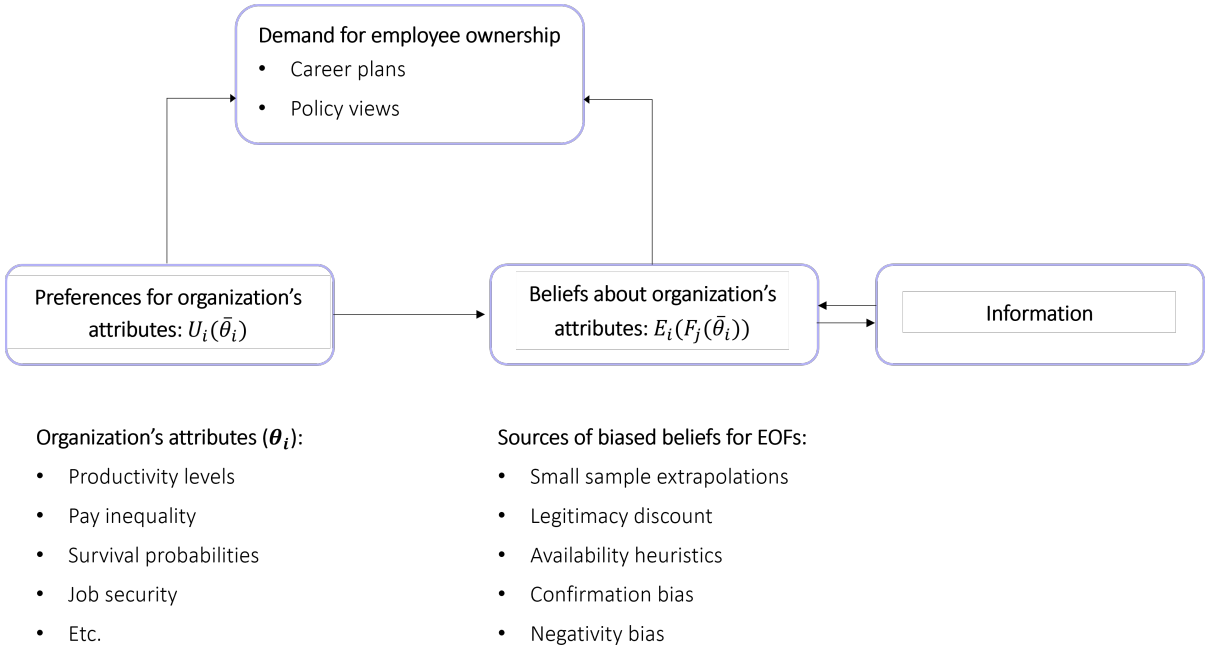
Williamson, O. E. (1980). The organization of work a comparative institutional assessment. *Journal of Economic Behavior Organization*, 1(1):5–38.

Williamson, O. E. (1985). *The Economic Institutions of Capitalism*. New York: Free Press.

Young-Hyman, T., Magne, N., and Kruse, D. (2023). A real utopia under what conditions? the economic and social benefits of workplace democracy in knowledge-intensive industries. *Organization Science*, 34(4):1353–1382.

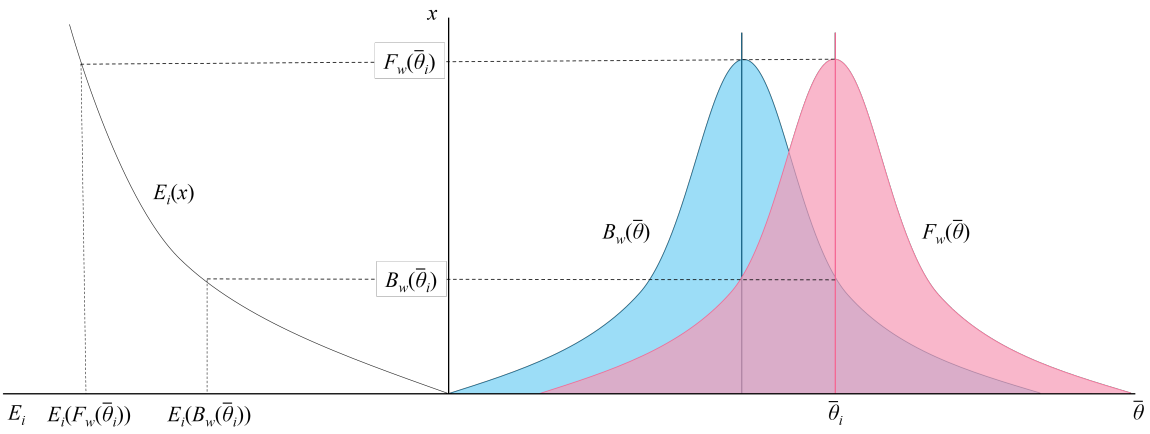
Figures and Tables

Figure 1: Theoretical framework



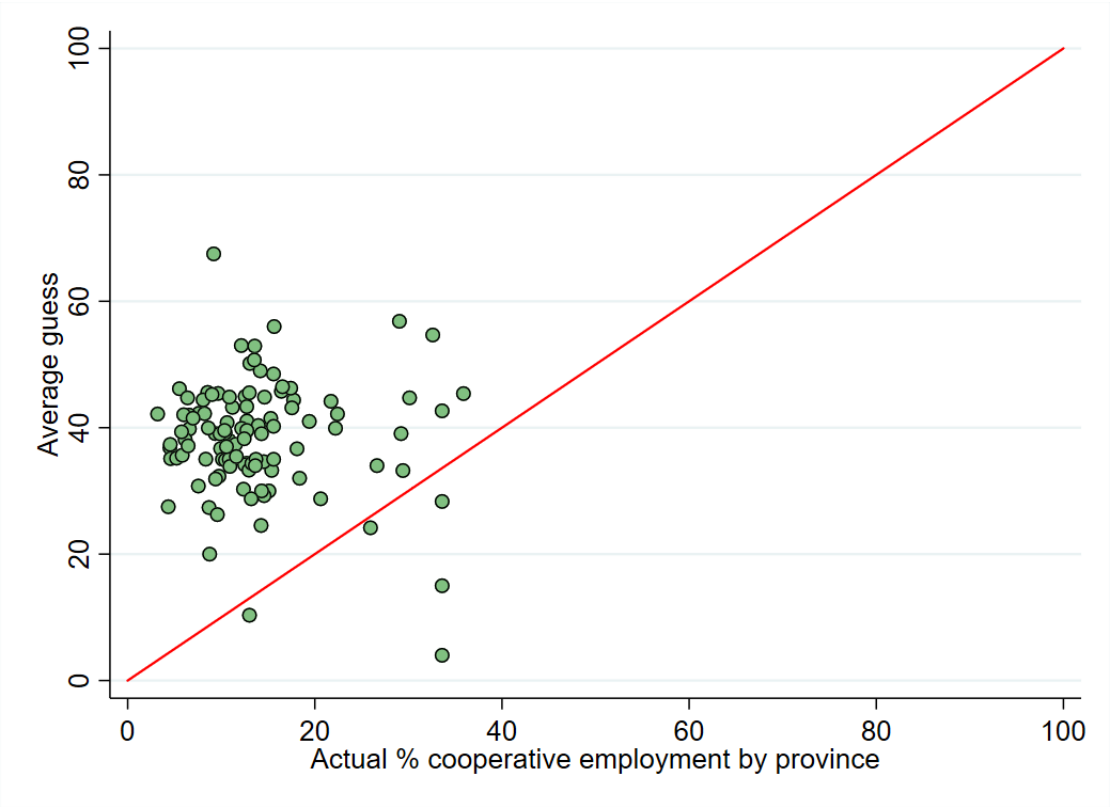
Notes: The demand for employee ownership is the result of the joint interaction between preferences and beliefs. Beliefs are not only shaped by underlying preferences but also by the extent of information-seeking behavior, which in turn is influenced by existing beliefs, such as when individuals estimate the expected costs and benefits of acquiring new information. For a similar approach to the modeling of the preference-belief framework see Elster (2015).

Figure 2: Perception of EOFs' attributes and biased beliefs



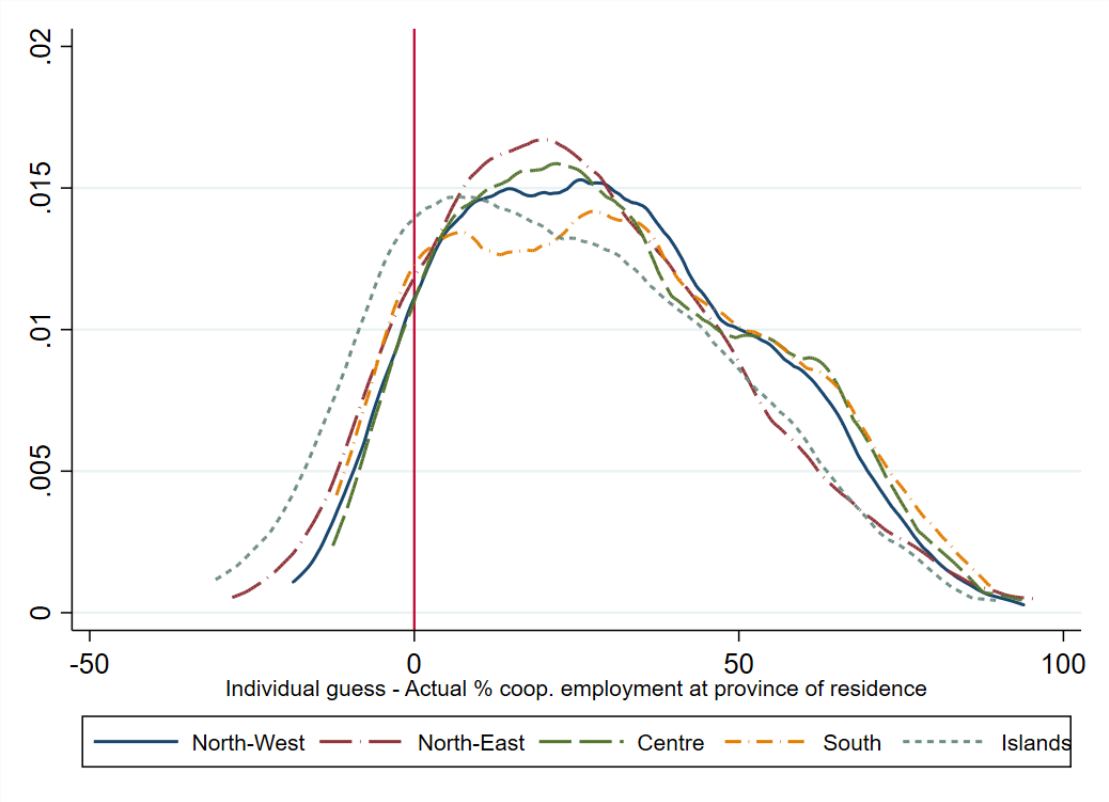
Notes: The figure shows the consequences of a change in the perceived distribution of ownership form attributes on belief formation. On the right part of the graph the true ($F_w(\bar{\theta})$ and the biased ($B_w(\bar{\theta})$) probabilities distributions are reported. The latter is characterized by a lower expected value compared to the former. The left part of the graphs reports the correspondent value of beliefs computed through the monotonic function of perceived probabilities $E_i(x)$.

Figure 3: Share of cooperative employment by province: actual share vs. average belief



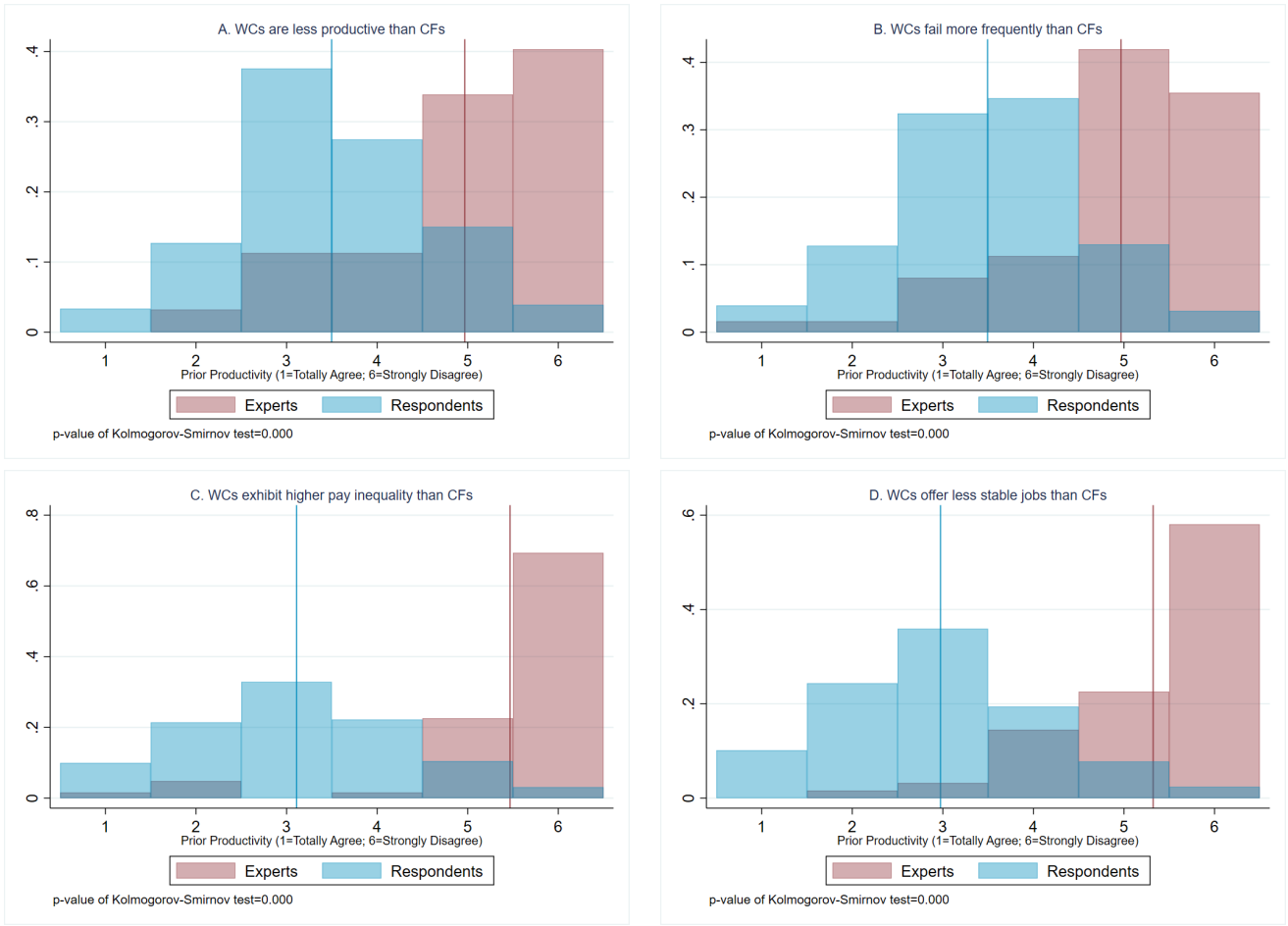
Notes: The figure presents a scatter plot of respondents' beliefs about the share of cooperative employment in their province of residence against the objective statistical benchmark, averaged at the province level.

Figure 4: Distribution of the gap between perceived and actual cooperative employment share by macro region



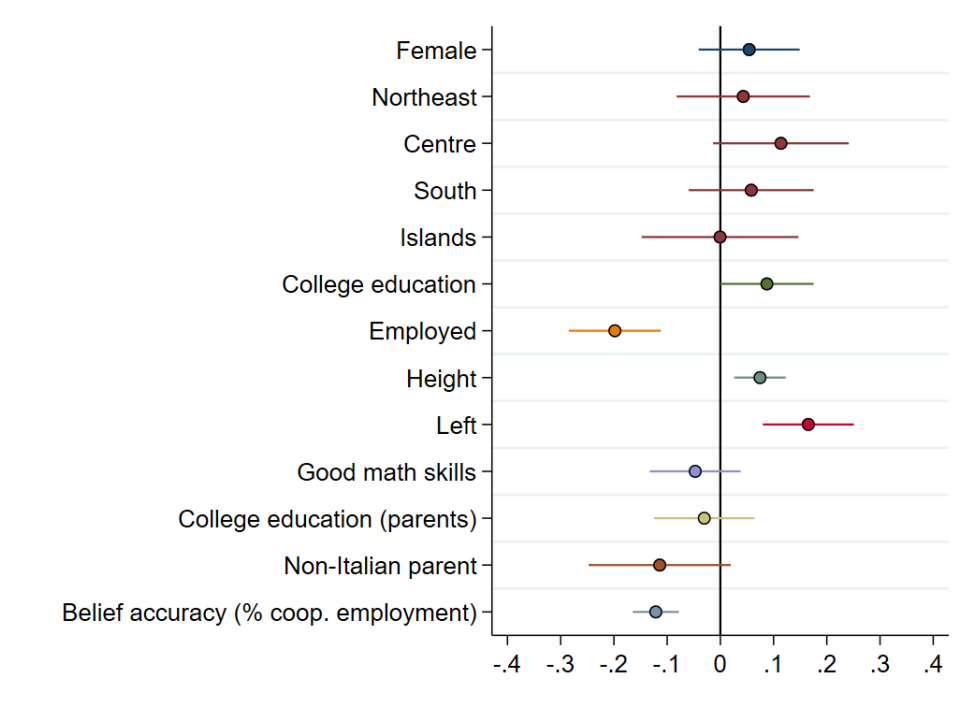
Notes: The figure displays the distribution of the gap between perceived and actual cooperative employment share by Italian macro regions.

Figure 5: Prior beliefs about worker cooperatives: Respondents vs. Experts



Notes: The histograms display the distribution of respondents' prior beliefs in comparison to experts' evidence-based assessments. Vertical lines indicate the average beliefs of respondents and experts, respectively.

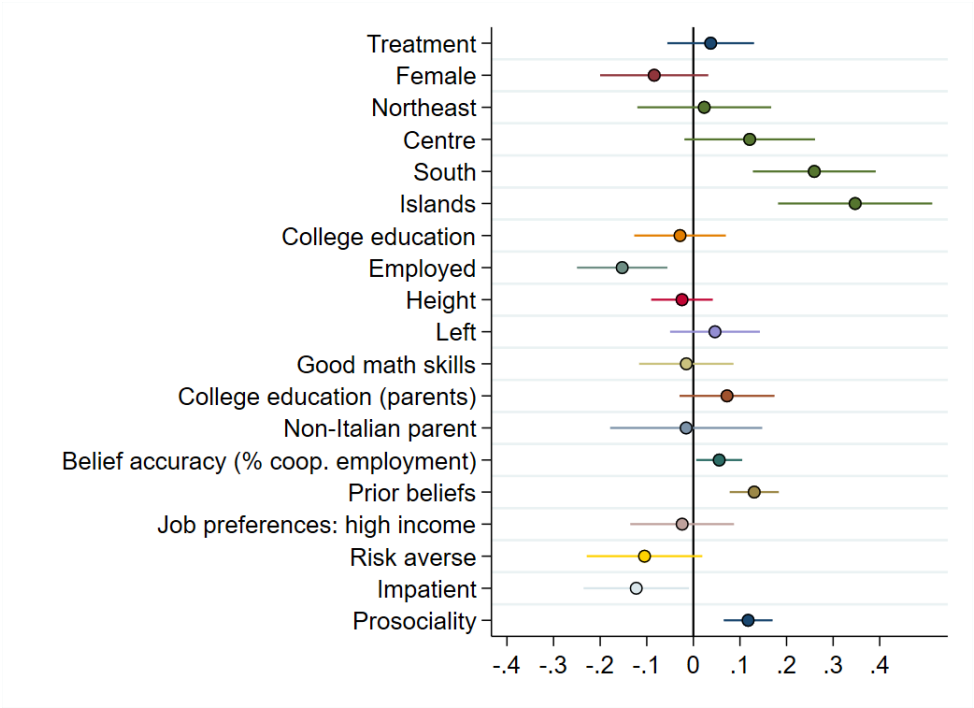
Figure 6: Correlates of pre-treatment beliefs about worker cooperatives



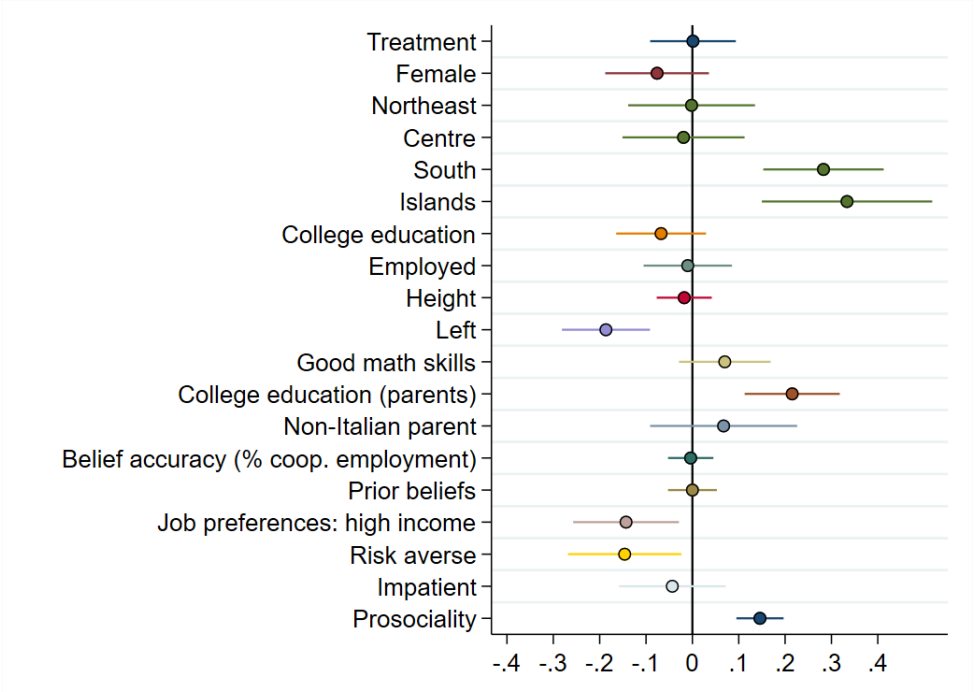
Notes: The outcome variable is the prior belief about the perfomance of worker cooperatives vis-a-vis conventional firms averaged across the four dimensions (firm productivity, survival, pay inequality and job stability). Mean values of the estimated multiple regression coefficients with 95 percent confidence intervals. Higher values correspond to more optimistic beliefs about worker cooperatives.

Figure 7: Correlates of career intentions in relation to worker cooperatives

(a) Intention to join existing worker coops



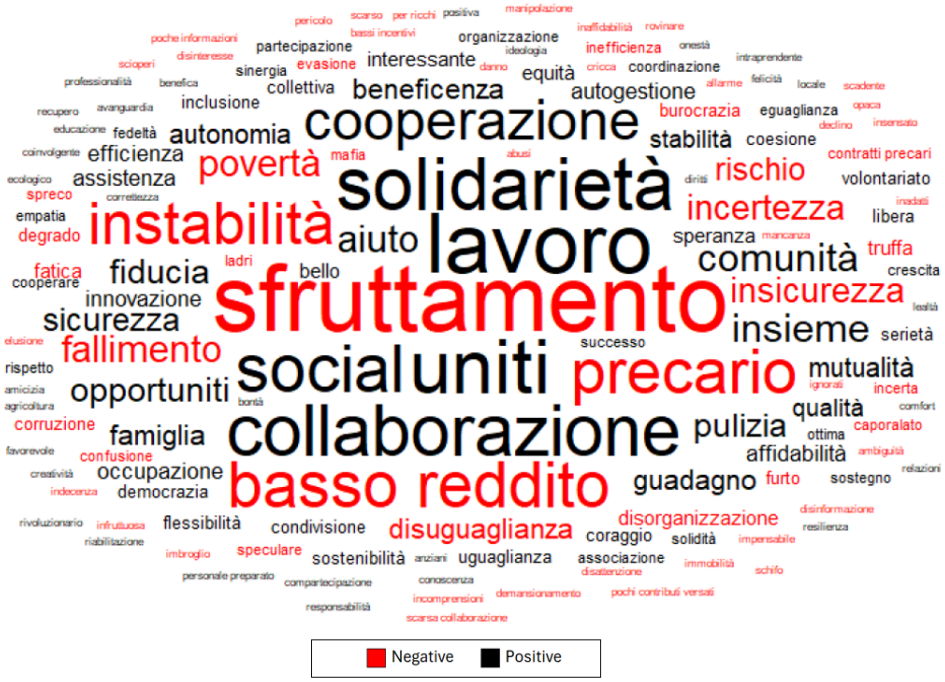
(b) Intention to create a new worker coops



Notes: The outcome variable is the career intention in relation to joining an existing worker cooperative (Panel A) or creating a new worker cooperative (Panel B). Figure plots all the coefficients with 95 percent confidence intervals corresponding to regressions reported in Panel C of Table 2, Columns (2) and (3).

Figure 8: Respondents' concerns about cooperatives

(a) Negative and positive words

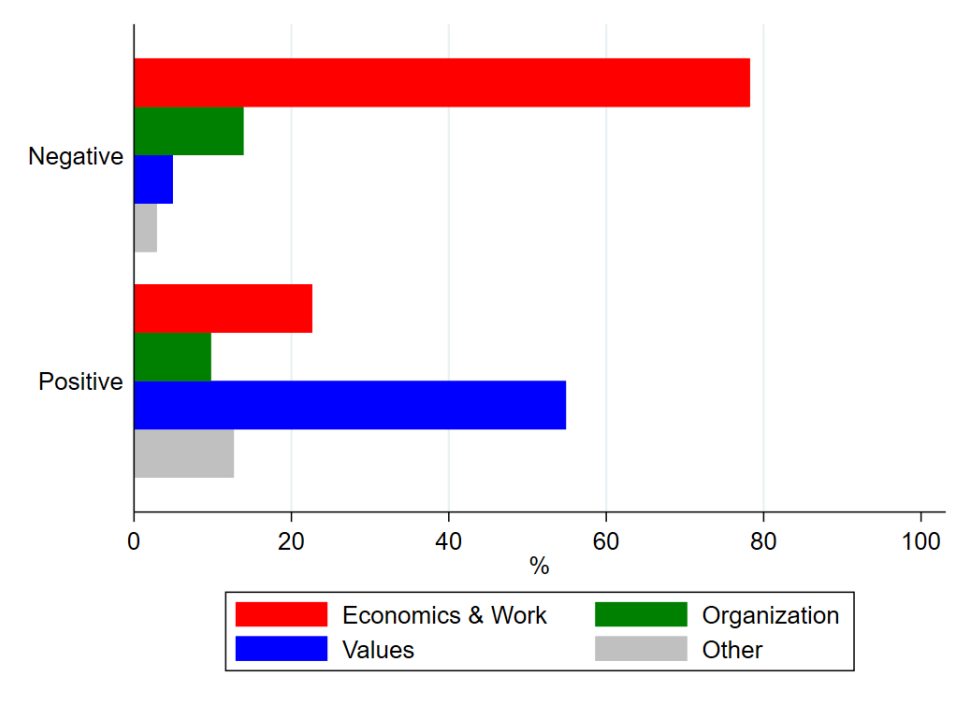


(b) Words by topics



Notes: Word clouds based answers to open-ended question about respondents' main considerations about cooperatives in Italy.

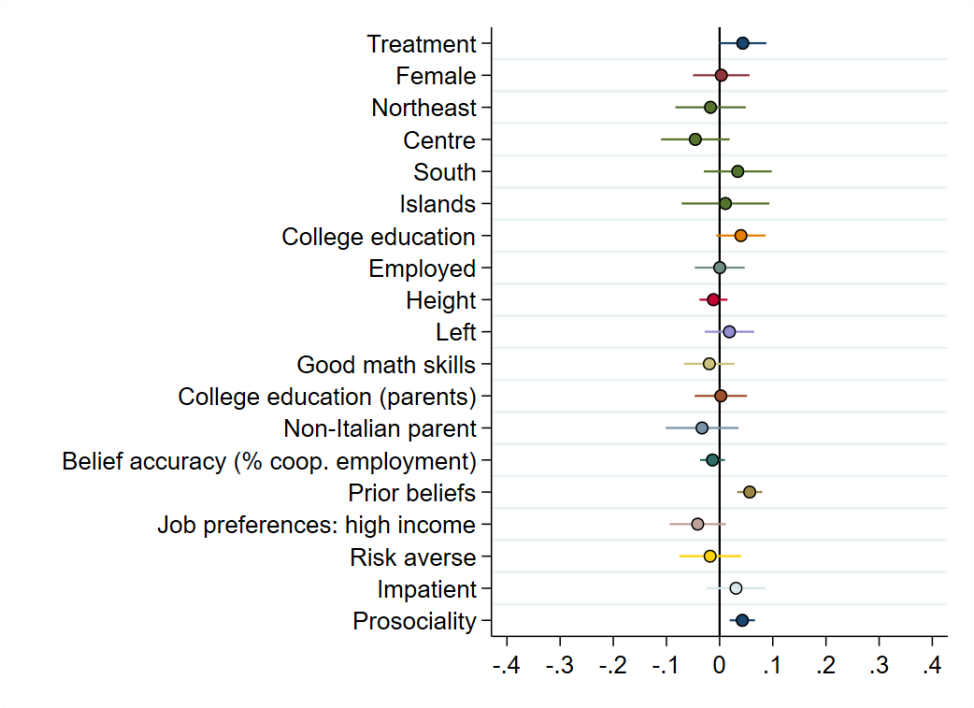
Figure 9: Composition of negative and positive words by topic



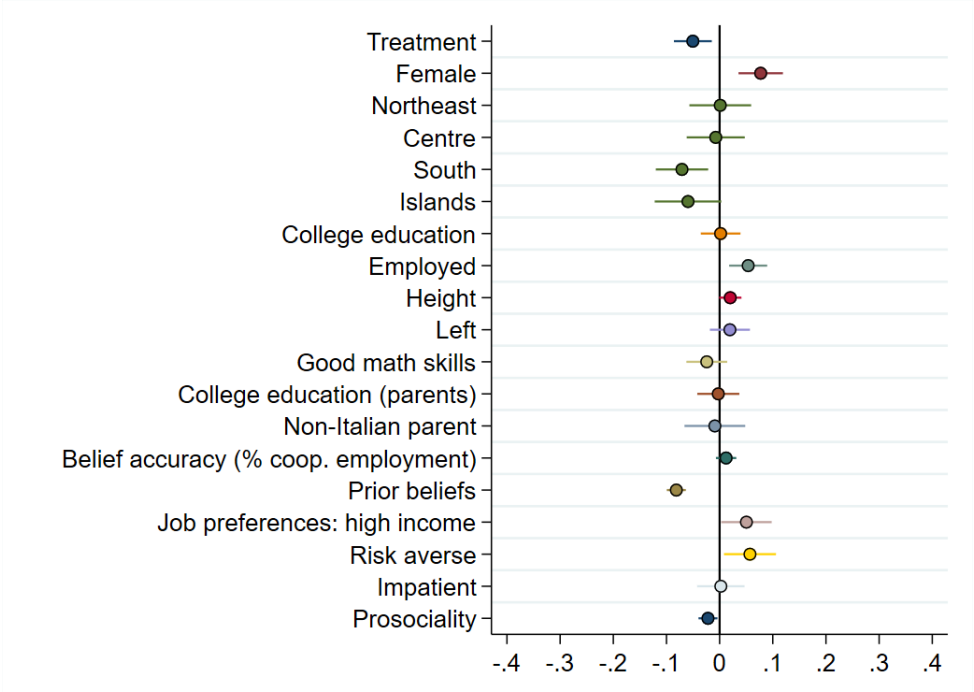
Notes: Composition of negative and positive words by topic, with cases of disagreement between human coders adjudicated using ChatGPT.

Figure 10: Correlates of text responses

(a) Positive comments

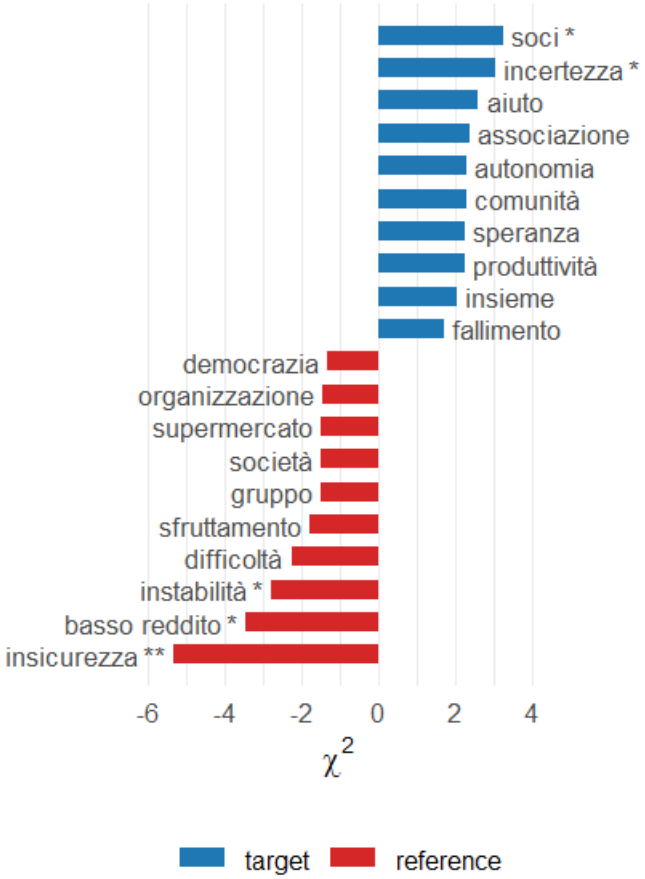


(b) Negative comments



Notes: The outcome variable is a dummy variable taking value 1 for positive (Panel A) and negative (Panel B) text responses about cooperatives. Figure plots all the coefficients with 95 percent confidence intervals corresponding to regressions reported in Panel C of Table 4, Columns (3) and (4).

Figure 11: Keywords mentioned by treated and control respondents about worker cooperatives



Notes: The figure displays keywords mentioned by treated and control respondents in their answers about first-order concerns with worker cooperatives. The reported keyness score is the χ^2 test statistic, which tests whether keyword occurrence differs between treatment and control groups. Significance levels: * 0.10, ** 0.05, *** 0.01.

Table 1: Post-treatment beliefs about worker cooperatives

	(1) Productivity	(2) Firm survival	(3) Pay inequality	(4) Job stability	(5) Overall
A. Without controls					
Treatment	0.093**	0.134***	0.139***	0.128***	0.087*
	(0.045)	(0.045)	(0.044)	(0.044)	(0.045)
Observations	1,999	1,999	1,999	1,999	1,999
B. Pre-specified controls					
Treatment	0.099**	0.129***	0.131***	0.133***	0.079*
	(0.045)	(0.045)	(0.044)	(0.044)	(0.044)
Observations	1,999	1,999	1,999	1,999	1,999
C. Pre-specified controls + priors + preferences					
Treatment	0.112**	0.150***	0.119**	0.142***	0.083*
	(0.048)	(0.048)	(0.047)	(0.048)	(0.046)
Observations	1,619	1,619	1,619	1,619	1,619

Notes: The table shows OLS regression results on post-treatment beliefs about worker cooperatives. The outcomes are z-scored using the mean and standard deviation in the control group. Robust standard errors shown in parentheses. Significance levels: * 0.10, ** 0.05, *** 0.01.

Table 2: Outcomes

	(1) "Government should support coops"	(2) Intention to join existing coop	(3) Intention to create new coop	(4) Support coops (follow-up)
A. Without controls				
Treatment	0.098**	0.051	-0.015	0.073
	(0.045)	(0.044)	(0.045)	(0.054)
Observations	1,999	1,999	1,999	1,400
B. Pre-specified controls				
Treatment	0.101**	0.053	-0.001	0.078
	(0.045)	(0.043)	(0.043)	(0.054)
Observations	1,999	1,999	1,999	1,395
C. Pre-specified controls + priors + preferences				
Treatment	0.118**	0.037	0.001	0.106*
	(0.049)	(0.047)	(0.047)	(0.059)
Observations	1,619	1,619	1,619	1,110

Notes: The table shows OLS regression results on policy views and career intentions to join a worker cooperative. The outcomes are z-scored using the mean and standard deviation in the control group. Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

Table 3: Intention to join a worker cooperative relative to alternatives

	(1) Coop-Conv Firm	(2) Coop-Public	(3) Coop-Self	(4) Conv. Firm-Self	(5) Conv. Firm-Public	(6) Self-Public
A. Without controls						
Treatment	0.107*	0.093	0.116**	0.009	-0.014	-0.023
	(0.057)	(0.059)	(0.056)	(0.063)	(0.060)	(0.064)
Observations	1,999	1,999	1,999	1,999	1,999	1,999
B. Pre-specified controls						
Treatment	0.113**	0.092	0.113**	-0.000	-0.021	-0.021
	(0.056)	(0.058)	(0.056)	(0.063)	(0.059)	(0.063)
Observations	1,999	1,999	1,999	1,999	1,999	1,999
C. Pre-specified controls + priors + preferences						
Treatment	0.103	0.073	0.111*	0.008	-0.029	-0.037
	(0.064)	(0.065)	(0.063)	(0.070)	(0.067)	(0.070)
Observations	1,619	1,619	1,619	1,619	1,619	1,619

Notes: The table shows OLS regression results on career intentions to join a worker cooperative *relative* to other work arrangements. Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

Table 4: Text responses: negative and positive comments about cooperatives

	(1) Negative	(2) Positive	(3) Negative Chat	(4) Positive Chat
A. Without controls				
Treatment	-0.042**	0.041**	-0.043**	0.040*
	(0.016)	(0.018)	(0.017)	(0.020)
Observations	2,000	2,000	2,000	2,000
B. Pre-specified controls				
Treatment	-0.043***	0.042**	-0.044***	0.040*
	(0.016)	(0.018)	(0.017)	(0.020)
Observations	1,999	1,999	1,999	1,999
C. Pre-specified controls + priors + preferences				
Treatment	-0.049***	0.046**	-0.050***	0.044*
	(0.018)	(0.020)	(0.018)	(0.023)
Observations	1,619	1,619	1,619	1,619

Notes: The table shows estimates from LPM models.... Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

A Online Appendix

A.1 Supplementary Figures and Tables

Figure A1: Overview of the information experiment

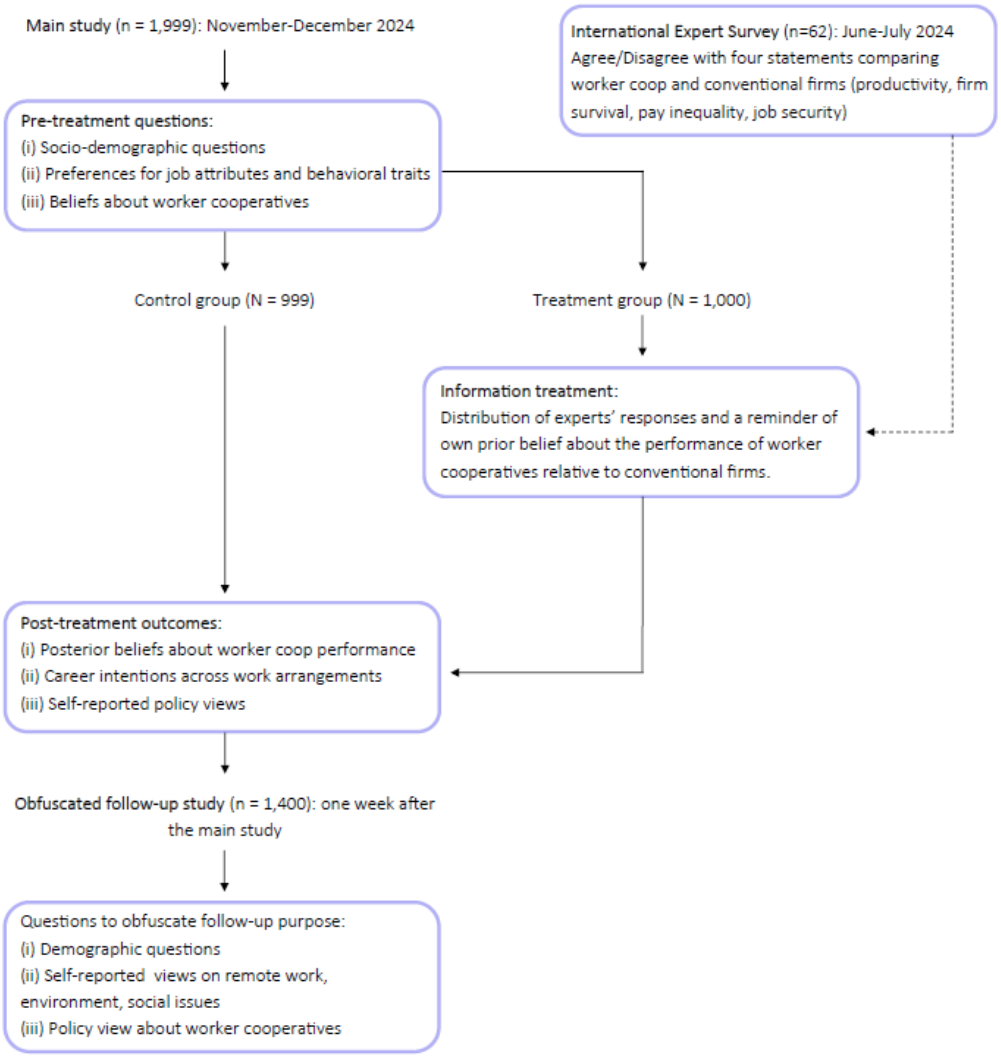
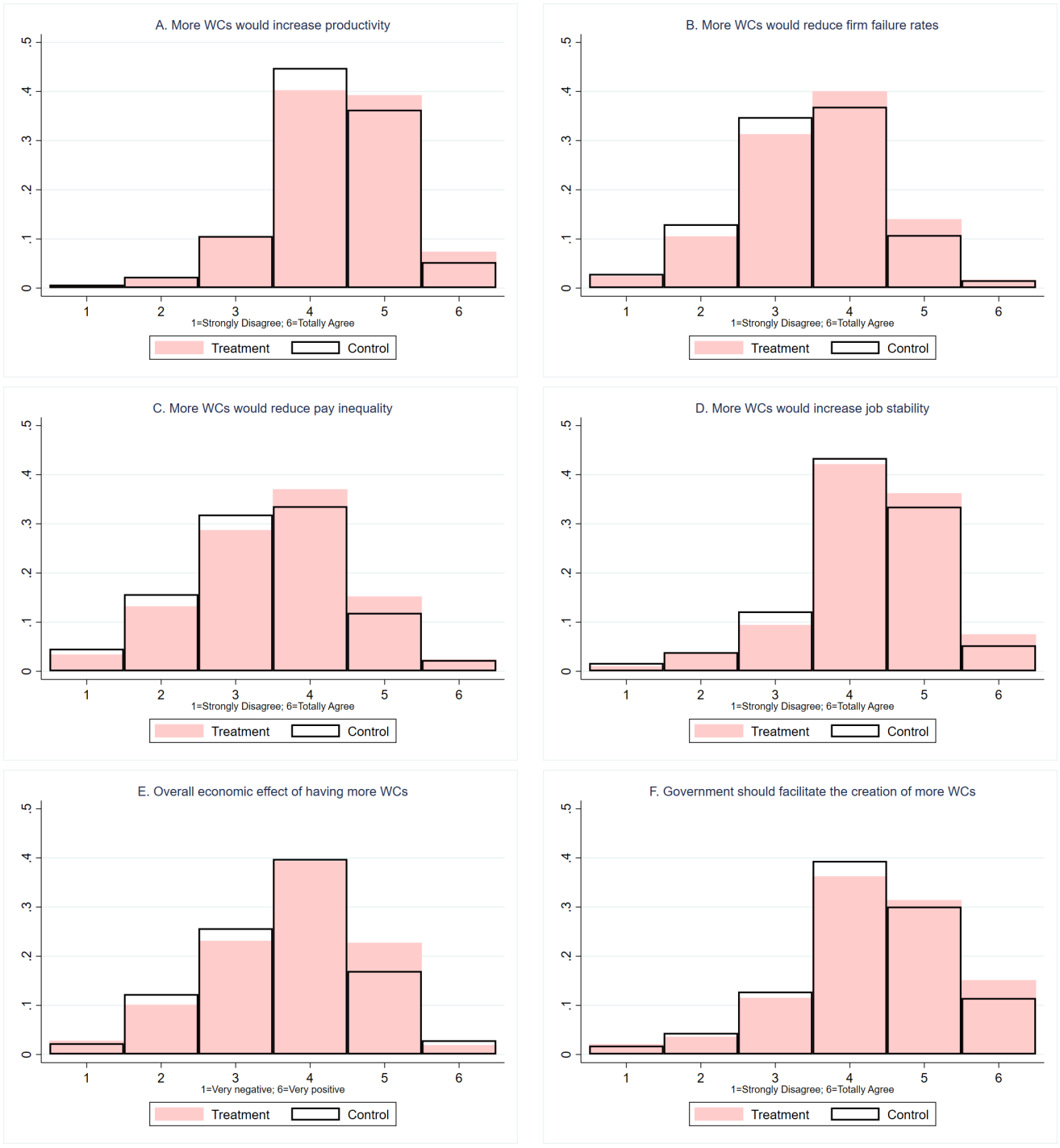
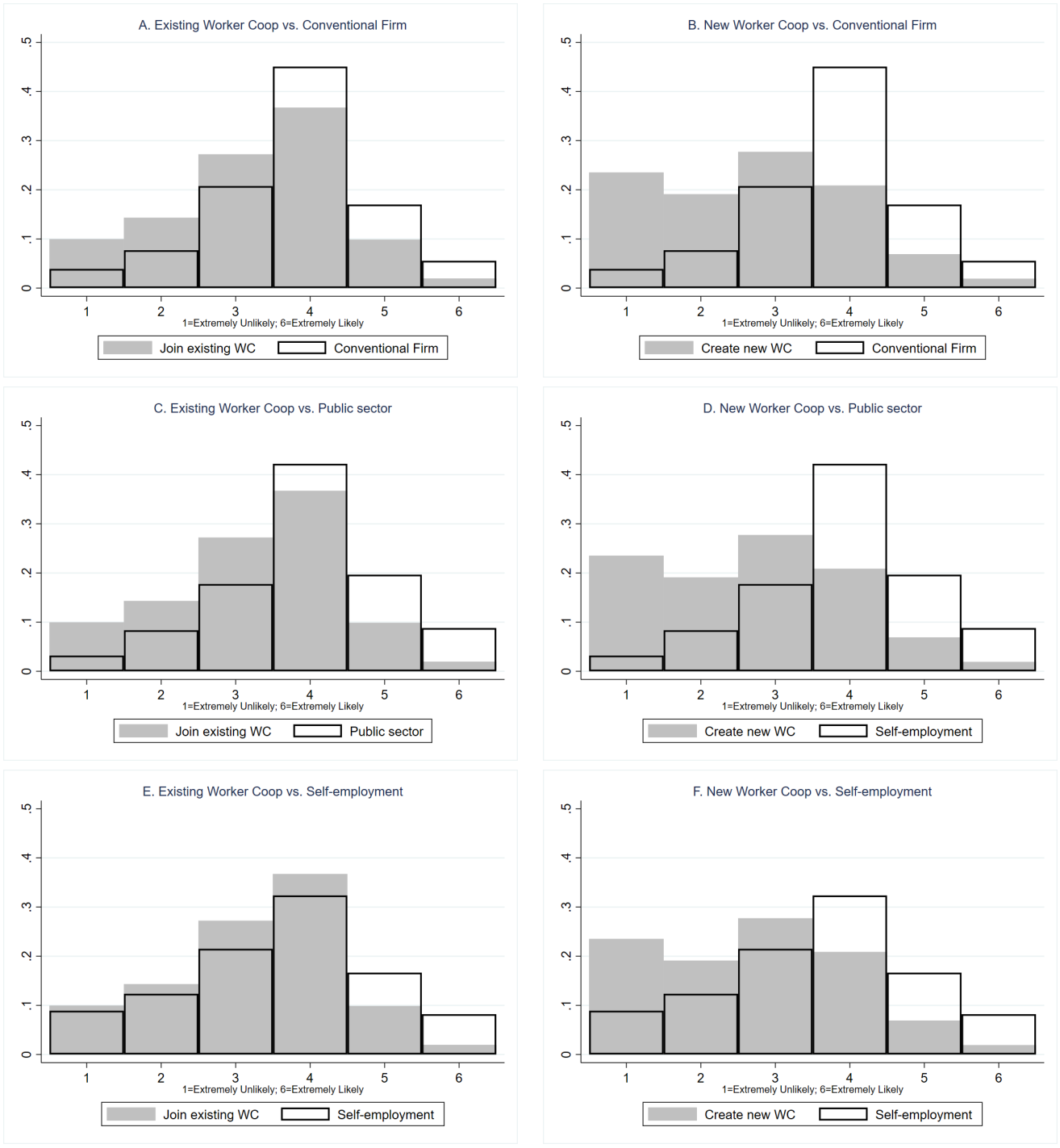


Figure A2: Post-treatment beliefs and policy views about worker cooperatives



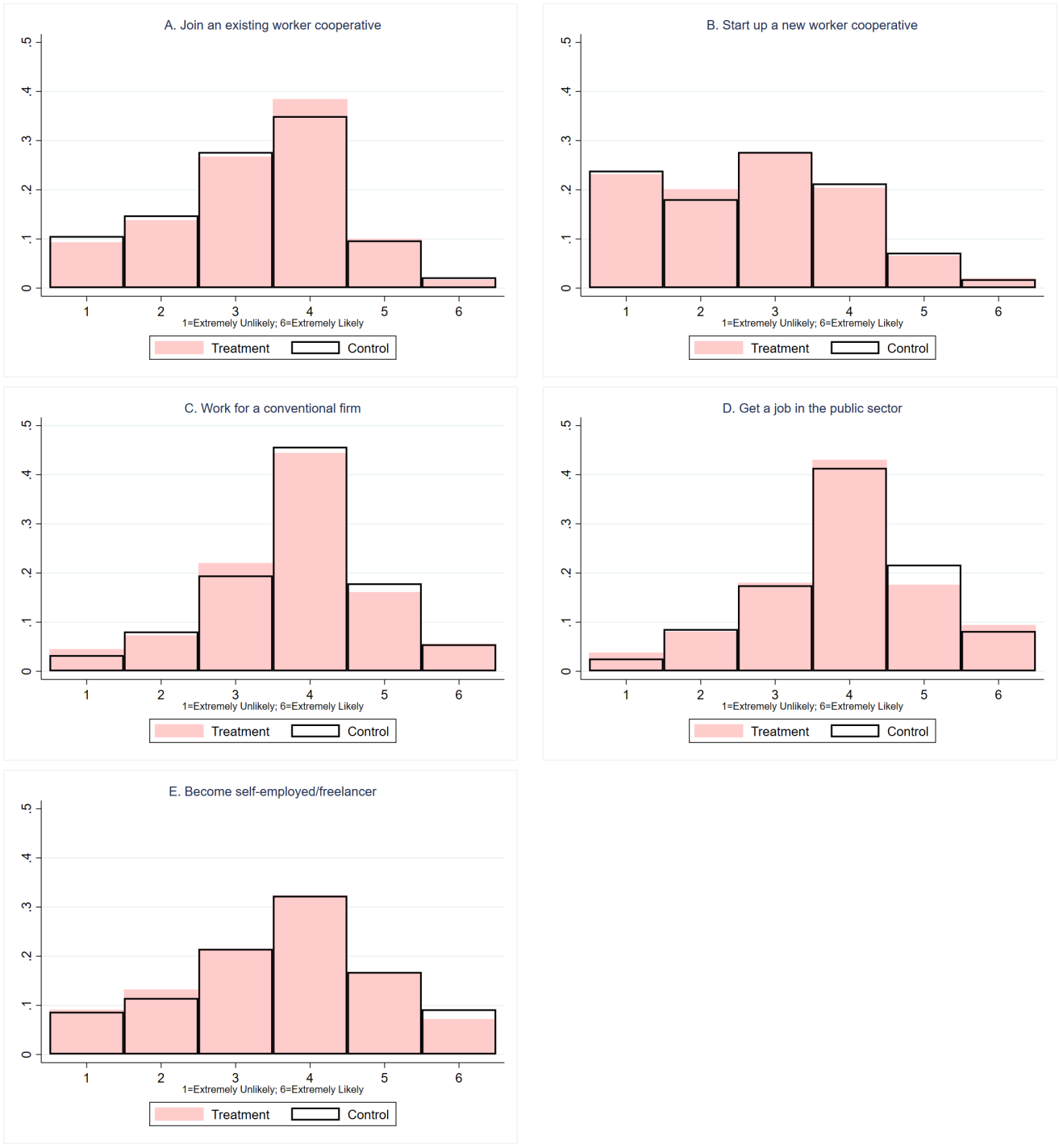
Notes: The histograms display the distribution of post-treatment beliefs and policy views about worker cooperatives, comparing respondents in the treatment and control groups.

Figure A3: Career intentions: worker cooperatives vs. other work arrangements



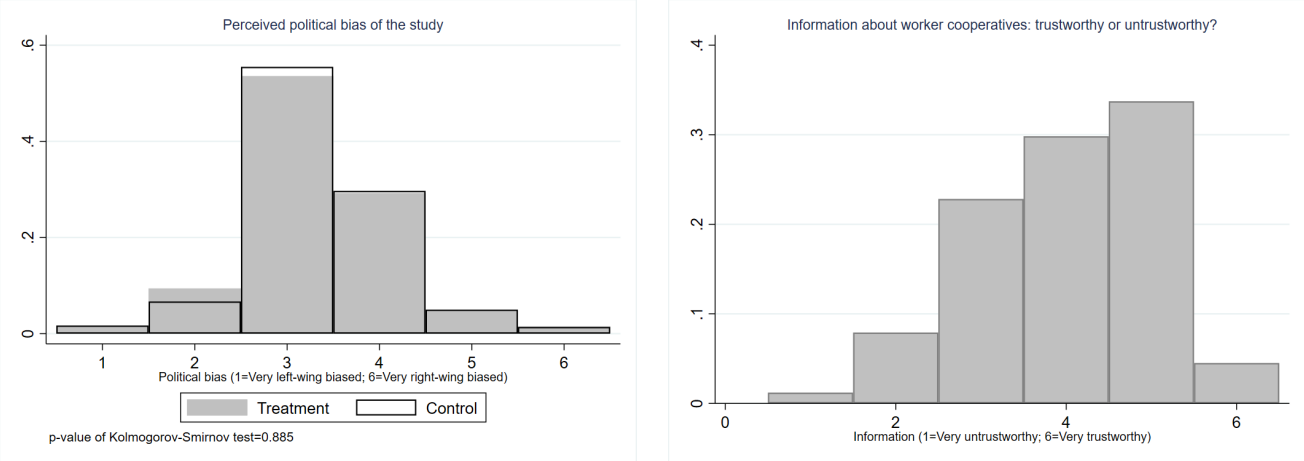
Notes: The histograms display the distribution of career intentions to join a worker cooperative compared to other work arrangements for the entire sample.

Figure A4: Distribution of career intentions for different work arrangements



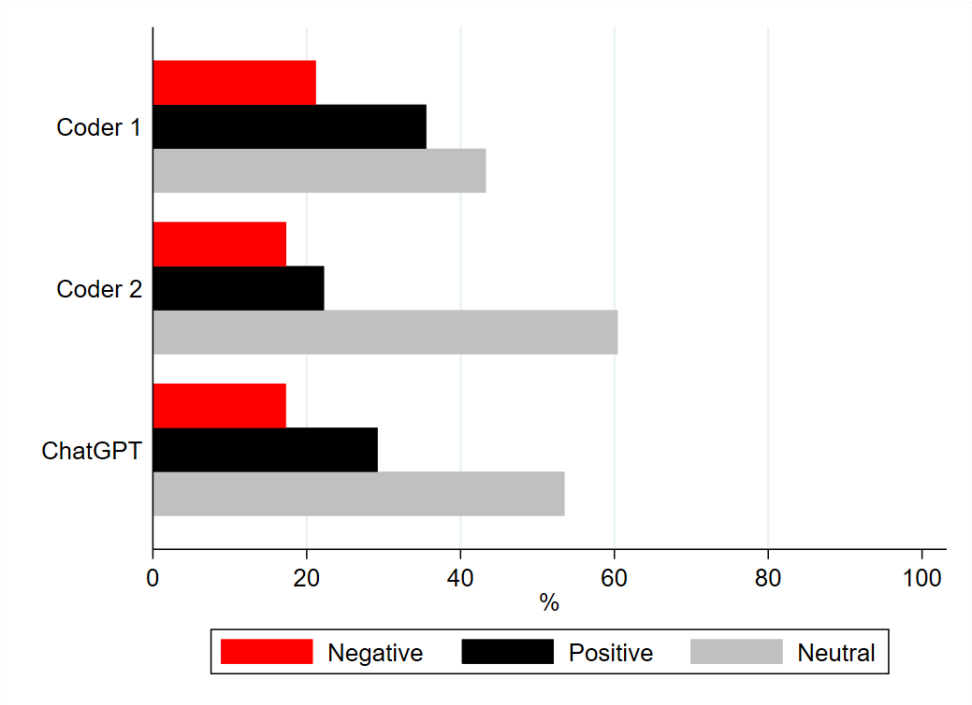
Notes: The histograms display the distribution of post-treatment career intentions, comparing respondents in the treatment and control groups.

Figure A5: Perceptions about the research setting



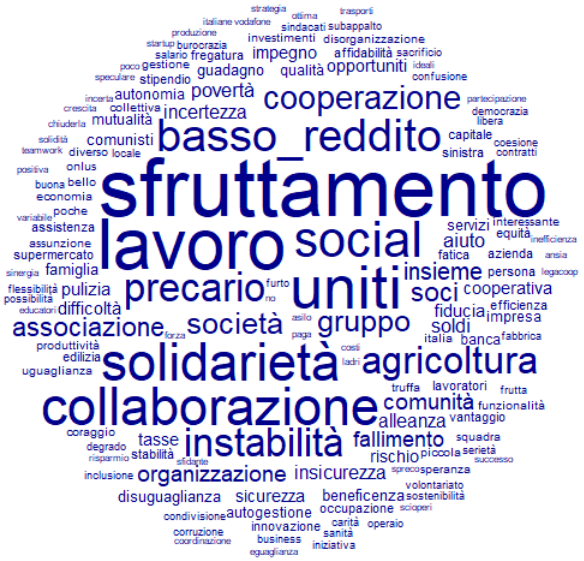
Notes: The histograms show the distribution of responses to post-treatment questions regarding respondents' perceptions of the survey's political bias and their trust in expert-based information.

Figure A6: Classification of text responses by coder



Notes: The figure displays the distribution of text responses about cooperatives (negative, positive and neutral words) by coder. ChatGPT refers to the final classification using ChatGPT to adjudicate disputes between Coder 1 and Coder 2.

Figure A7: Respondents' concerns about cooperatives



Notes Notes: Word clouds based answers to open-ended question about respondents' main considerations about cooperatives in Italy.

Table A1: Balance across the treatment and control group in the main study

	(1)	(2)	(3)
Female	0.484	0.475	-0.009
	(0.500)	(0.500)	(0.703)
Northwest	0.262	0.273	0.011
	(0.440)	(0.446)	(0.569)
Northeast	0.177	0.191	0.014
	(0.382)	(0.393)	(0.413)
Centre	0.194	0.189	-0.005
	(0.396)	(0.392)	(0.785)
South	0.255	0.236	-0.019
	(0.436)	(0.425)	(0.330)
Islands	0.112	0.110	-0.002
	(0.316)	(0.313)	(0.893)
College education	0.447	0.459	0.012
	(0.497)	(0.499)	(0.576)
Employed	0.568	0.554	-0.014
	(0.496)	(0.497)	(0.515)
Height	169.469	169.620	0.151
	(14.796)	(14.766)	(0.820)
Left	0.382	0.409	0.027
	(0.486)	(0.492)	(0.210)
Good math skills	0.621	0.632	0.011
	(0.485)	(0.483)	(0.623)
College education (parents)	0.319	0.312	-0.007
	(0.466)	(0.464)	(0.748)
Non-Italian parent	0.106	0.113	0.007
	(0.308)	(0.317)	(0.611)
Belief accuracy (% coop employment)	29.480	29.806	0.326
	(21.554)	(21.867)	(0.737)
Prior-productivity	3.464	3.532	0.068
	(1.121)	(1.106)	(0.175)
Prior-survival	3.476	3.513	0.037
	(1.095)	(1.090)	(0.455)
Prior-pay inequality	3.082	3.140	0.058
	(1.244)	(1.222)	(0.292)
Prior-job stability	2.939	3.010	0.071
	(1.181)	(1.160)	(0.175)
Confidence: prior-productivity	2.868	2.889	0.021
	(0.909)	(0.854)	(0.597)
Confidence: prior-survival	2.882	2.900	0.018
	(0.952)	(0.962)	(0.676)
Confidence: prior-pay inequality	2.800	2.817	0.017
	(1.012)	(1.033)	(0.713)
Confidence: prior-job stability	2.728	2.768	0.040
	(0.968)	(0.980)	(0.361)
Observations	1,000	999	1,999

Notes: The table shows covariate balance based on the sample of respondents for the main study *p<0.1, ** p<0.05, *** p<0.01.

Table A2: Attrition in the follow-up study

	(1)	(2)	(3)
Treatment	0.015	0.019	0.017
	(0.021)	(0.020)	(0.020)
Female		0.239***	0.240***
		(0.023)	(0.023)
Northeast		-0.060**	-0.061**
		(0.030)	(0.030)
Centre		0.004	0.001
		(0.029)	(0.029)
South		0.018	0.017
		(0.028)	(0.028)
Islands		-0.026	-0.028
		(0.036)	(0.036)
College education		0.064***	0.062***
		(0.021)	(0.021)
Employed		0.035*	0.038*
		(0.021)	(0.021)
Height		-0.000	-0.000
		(0.001)	(0.001)
Left		0.021	0.018
		(0.020)	(0.021)
Good math skills		0.018	0.018
		(0.021)	(0.021)
College education (parents)		-0.017	-0.019
		(0.022)	(0.022)
Non-Italian parent		-0.079**	-0.076**
		(0.033)	(0.033)
Belief accuracy (% coop employment)		-0.001	-0.001
		(0.000)	(0.000)
Prior-productivity			0.011
			(0.010)
Prior-survival			-0.015
			(0.010)
Prior-pay inequality			0.011
			(0.009)
Prior-job stability			0.013
			(0.010)
Confidence: prior-productivity			-0.002
			(0.014)
Confidence: prior-survival			-0.001
			(0.013)
Confidence: prior-pay inequality			-0.001
			(0.013)
Confidence: prior-job stability			0.004
			(0.014)
Observations	2,000	1,999	1,999

Notes: The outcome variables take value 1 for respondents who completed the follow-up study. 'Treatment" is an indicator equal to 1 if respondents received expert-based information. *p<0.1, ** p<0.05, *** p<0.01. Robust standard errors in parentheses.

Table A3: Balance across the treatment and control group in the follow-up

	(1)	(2)	(3)
Female	0.570	0.565	-0.005
	(0.495)	(0.496)	(0.843)
Northwest	0.265	0.277	0.011
	(0.442)	(0.448)	(0.633)
Northeast	0.165	0.180	0.015
	(0.372)	(0.385)	(0.461)
Centre	0.191	0.197	0.006
	(0.394)	(0.398)	(0.782)
South	0.271	0.238	-0.033
	(0.445)	(0.426)	(0.161)
Islands	0.107	0.108	0.001
	(0.310)	(0.310)	(0.973)
College education	0.481	0.495	0.014
	(0.500)	(0.500)	(0.589)
Employed	0.580	0.566	-0.014
	(0.494)	(0.496)	(0.599)
Height	168.325	168.271	-0.054
	(13.612)	(14.370)	(0.943)
Left	0.399	0.421	0.023
	(0.490)	(0.494)	(0.388)
Good math skills	0.612	0.634	0.023
	(0.488)	(0.482)	(0.385)
College education (parents)	0.314	0.296	-0.017
	(0.464)	(0.457)	(0.485)
Non-Italian parent	0.102	0.094	-0.009
	(0.303)	(0.292)	(0.591)
Belief accuracy (% coop employment)	29.976	29.259	-0.717
	(21.879)	(21.708)	(0.539)
Prior-productivity	3.490	3.584	0.095
	(1.125)	(1.105)	(0.114)
Prior-survival	3.491	3.489	-0.002
	(1.079)	(1.078)	(0.973)
Prior-pay inequality	3.126	3.153	0.027
	(1.251)	(1.222)	(0.682)
Prior-job stability	2.970	3.031	0.062
	(1.166)	(1.176)	(0.326)
Confidence: prior-productivity	2.890	2.905	0.015
	(0.888)	(0.837)	(0.744)
Confidence: prior-survival	2.888	2.915	0.026
	(0.923)	(0.924)	(0.592)
Confidence: prior-pay inequality	2.830	2.833	0.002
	(0.994)	(1.047)	(0.968)
Confidence: prior-job stability	2.762	2.780	0.018
	(0.932)	(0.956)	(0.725)
Observations	695	705	1,400

Notes: The table shows covariate balance based on the sample of respondents for the follow-up survey. *p<0.1, ** p<0.05, *** p<0.01.

Table A4: Heterogeneous treatment effects by pre-treatment beliefs

	(1) Productivity	(2) Firm Survival	(3) Pay Inequality	(4) Job Stability	(5) Overall effect	(6) Support coops	(7) Support coops (Follow-up)
Treatment	0.114**	0.151***	0.123***	0.143***	0.084*	0.119**	0.103*
	(0.049)	(0.048)	(0.048)	(0.048)	(0.047)	(0.049)	(0.061)
Treatment × Prior-Firm Productivity	-0.033						
	(0.052)						
Treatment × Prior-Firm Survival		-0.061					
		(0.053)					
Treatment × Prior-Pay Inequality			-0.155***				
			(0.053)				
Treatment × Prior-Job Stability				-0.068			
				(0.052)			
Treatment × Mean Prior					-0.020	-0.017	0.035
					(0.051)	(0.055)	(0.066)
Observations	1,619	1,619	1,619	1,619	1,619	1,619	1,110

Notes: The table shows OLS regression results on posterior beliefs and policy views about worker cooperatives. The outcomes are z-scored using the mean and standard deviation in the control group. Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

Table A5: Heterogeneous treatment effects by job preferences

	(1) Productivity	(2) Firm Survival	(3) Pay Inequality	(4) Job Stability	(5) Overall effect	(6) Support coops	(7) Support coops (Follow-up)
Treatment	0.084*	0.162***	0.125***	0.122**	0.097**	0.076	0.059
	(0.049)	(0.048)	(0.047)	(0.048)	(0.046)	(0.049)	(0.058)
Job Preferences (High income)	-0.134	0.039	0.009	-0.050	0.046	-0.092	-0.037
	(0.083)	(0.079)	(0.075)	(0.082)	(0.074)	(0.080)	(0.104)
Treatment × Job Preferences (High income)	0.050	-0.190*	-0.023	0.017	-0.198*	0.075	0.076
	(0.119)	(0.112)	(0.107)	(0.116)	(0.106)	(0.114)	(0.145)
Observations	1,999	1,999	1,999	1,999	1,999	1,999	1,395

Notes: The table shows OLS regression results on posterior beliefs and policy views about worker cooperatives. The outcomes are z-scored using the mean and standard deviation in the control group. Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

Table A6: Heterogeneous treatment effects by risk preferences

	(1) Productivity	(2) Firm Survival	(3) Pay Inequality	(4) Job Stability	(5) Overall effect	(6) Support coops	(7) Support coops (Follow-up)
Treatment	0.085*	0.131**	0.100**	0.121**	0.031	0.098*	0.032
	(0.051)	(0.051)	(0.049)	(0.050)	(0.048)	(0.051)	(0.061)
Risk averse	-0.190**	0.094	0.017	-0.162**	-0.055	-0.224***	-0.183**
	(0.078)	(0.073)	(0.074)	(0.078)	(0.070)	(0.076)	(0.092)
Treatment × Risk averse	0.073	-0.021	0.084	0.041	0.126	0.050	0.218*
	(0.112)	(0.104)	(0.102)	(0.108)	(0.098)	(0.104)	(0.129)
Observations	1,954	1,954	1,954	1,954	1,954	1,954	1,358

Notes: The table shows OLS regression results on posterior beliefs and policy views about worker cooperatives. The outcomes are z-scored using the mean and standard deviation in the control group. Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

Table A7: Heterogeneous treatment effects by time preferences

	(1) Productivity	(2) Firm Survival	(3) Pay Inequality	(4) Job Stability	(5) Overall effect	(6) Support coops	(7) Support coops (Follow-up)
Treatment	0.074	0.140***	0.102**	0.124**	0.029	0.075	0.072
	(0.050)	(0.051)	(0.048)	(0.049)	(0.048)	(0.050)	(0.061)
Impatient	-0.219***	0.071	-0.032	-0.170**	-0.057	-0.133*	-0.110
	(0.076)	(0.069)	(0.071)	(0.074)	(0.068)	(0.076)	(0.090)
Treatment × Impatient	0.078	-0.044	0.102	-0.003	0.157	0.064	-0.021
	(0.109)	(0.100)	(0.102)	(0.106)	(0.098)	(0.108)	(0.127)
Observations	1,977	1,977	1,977	1,977	1,977	1,977	1,377

Notes: The table shows OLS regression results on posterior beliefs and policy views about worker cooperatives. The outcomes are z-scored using the mean and standard deviation in the control group. Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

Table A8: Heterogeneous treatment effects by prosocial preferences (joint)

	(1) Productivity	(2) Firm Survival	(3) Pay Inequality	(4) Job Stability	(5) Overall effect	(6) Support coops	(7) Support coops (Follow-up)
Treatment	0.115**	0.151***	0.125***	0.144***	0.089*	0.123**	0.099*
	(0.049)	(0.048)	(0.047)	(0.048)	(0.046)	(0.049)	(0.059)
Prosociality	0.175***	-0.009	0.001	0.107***	0.040	0.124***	0.126***
	(0.033)	(0.037)	(0.035)	(0.034)	(0.035)	(0.034)	(0.041)
Treatment × Prosociality	-0.018	0.025	-0.017	0.004	0.010	0.031	0.007
	(0.049)	(0.051)	(0.050)	(0.049)	(0.050)	(0.051)	(0.062)
Observations	1,630	1,630	1,630	1,630	1,630	1,630	1,118

Notes: The table shows OLS regression results on posterior beliefs and policy views about worker cooperatives. The outcomes are z-scored using the mean and standard deviation in the control group. Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

Table A9: Policy views in the follow-up survey - reweighted

	(1) No controls	(2) Pre-specified controls	(3) Pre-specified controls + priors + preferences
Treatment	0.074	0.077	0.100*
	(0.056)	(0.055)	(0.060)
Observations	1,395	1,395	1,110

Notes: The table shows OLS regression results on policy views about worker cooperatives in the follow-up study. Observations are reweighted using entropy balancing (Hainmueller, 2012). The outcome is z-scored using the mean and standard deviation in the control group. Robust standard errors shown in parentheses. *p<0.1, ** p<0.05, *** p<0.01.

A.2 Questionnaires

A.2.1 Experts Survey

Thank you very much for participating in this study! We are contacting you as an expert on employee ownership and cooperative firms. You have been included in our sample because you have published relevant research in this field or hold a related editorial role.

The aim of this short questionnaire is to assess the scientific accuracy of four statements regarding the comparative behaviour of worker cooperatives and conventional (investor-controlled) firms. We want to know whether, according to the best of your knowledge, the following statements accurately describe the available evidence in this field.

The online questionnaire will take less than 3 minutes of your time and your responses will be completely anonymous. This means that we will not be able to link your responses to your name. Responses to this survey will be aggregated and used for research purposes as part of a project on youth employment. For further questions, please contact Prof. Fabio Landini (University of Parma, fabio.landini@unipr.it).

I have read and understood the above and want to participate in this study.

Yes
No

Please read the following statements and indicate whether you believe they accurately represent the available scientific evidence on the differences between worker cooperatives and investor-controlled firms.

Q1. Worker cooperatives tend to be less productive than investor-controlled companies in all sectors.

Completely Agree
Mostly Agree
Slightly Agree
Slightly Disagree
Mostly Disagree
Completely Disagree

Q2. Worker cooperatives are more likely to go bankrupt than investor-controlled companies.

Completely Agree
Mostly Agree
Slightly Agree
Slightly Disagree
Mostly Disagree
Completely Disagree

Q3. Pay inequality (e.g., the manager-to-worker pay ratio) is greater in worker co-

operatives than in investor-controlled companies.

Completely Agree
Mostly Agree
Slightly Agree
Slightly Disagree
Mostly Disagree
Completely Disagree

Q4. Worker cooperatives offer less stable jobs than investor-controlled companies (e.g., layoffs when demand falls are more frequent in worker cooperatives).

Completely Agree
Mostly Agree
Slightly Agree
Slightly Disagree
Mostly Disagree
Completely Disagree

Q5. Which of the following categories best captures how you think of yourself?

Women
Men
Other
Prefer not to say

Q6. How old are you?

20-29
30-39
40-49
50-59
60 or older

Q7. What is your region of residence?

Africa
Asia
Europe
North America
Oceania
South America

Q8. What is your main field of study or academic discipline?

Humanities (e.g., history, linguistics)
Economics
Other Social Sciences apart from Economics (e.g., sociology, political sciences)

Natural Sciences (e.g., biology)
Formal Sciences (e.g., mathematics, computer sciences)
Other Professions and Applied Sciences (e.g., education, law, social work)

Q9. Which of the following research methods do you primarily use?

Theoretical research
Quantitative research (e.g., econometrics of cross section and panel data)
Laboratory/field experiments
Qualitative case studies
Participatory action research
Other

A.2.2 Main Survey

SECTION 1 – DEMOGRAPHIC INFORMATION

Attention check I

The next question concerns the following problem. In questionnaires like ours, sometimes there are participants who do not read the questions carefully and just quickly click through the survey. This means there are a lot of random responses that compromise the results of research studies. To prove that you read our questions carefully, insert "elephant" as the answer to the next question.

What is your favorite animal? ——————————

1.1 Can you tell us your age?

1.2 Can you tell us your gender?

Male
Female
Other

1.3 Can you tell us where you were born?

Italy
Abroad

[if the answer to 1.3 is "Italy"] In which province?

1.4 Can you tell us your province of residence?

1.5 Were your parents born in Italy?

Neither
Only my mother
Only my father
Both

1.6 Are your parents graduates?

Neither
Only my mother
Only my father
Both

1.7 Can you tell us the highest qualification you have achieved so far?

Middle school diploma (lower secondary school)

High school diploma
Technical education diploma
Professional education diploma
Three-year degree
Master's or specialist degree
Single-cycle master's degree (5 or 6 years)
Research doctorate or first or second level master's degree

1.7-bis [if 1.7 >1] Can you tell us the grade you got in the final exam (esame di maturità)?

1.10 Could you tell us your height in centimetres?

1.11 Could you indicate your occupation?

Employed full time
Employed part-time
Self-employed
Unemployed looking for work
Student
Not in the workforce (not looking for work; full-time parent)

1.12 Consider the following list:

a. High income
b. No risk of being fired
c. Working hours are few, lots of free time
d. Career advancement opportunities
e. Work is important and gives a feeling of accomplishment

Could you please tell us which aspect of a job you consider most important, which one is second, and which is third?

1.13 How much do you trust scientific research?

I trust completely
I trust enough
I am uncertain
I don't trust much
I don't trust at all
Don't know/Does not answer

SECTION 2 – PREFERENCES, ATTITUDES

2.1 Please tell me, in general, how willing or unwilling you are to take risks, using a scale from 0 to 10, where 0 means that you are "completely willing to take risks" and 10 means that you is "very willing to take risks" . You can also use any number between 0 and 10 to indicate where your score is on the scale, using 0, 1, 2, 3, 4, 5, 6, 7,

8, 9, 10.

10. Very willing to take risks
9.
8.
7.
6.
5.
4.
3.
2.
1.
0. Completely unwilling to take risks
98. I don't know
99. Refuse

2.2 How do you perceive yourself: do you think you are more impatient or more patient? Please answer on a scale where 0 means very impatient and 10 means very patient

10. Very patient
9.
8.
7.
6.
5.
4.
3.
2.
1.
0. Very impatient
98. I don't know
99. Refuse

2.2 Now we will ask you about your willingness to act in a certain way. Please indicate your answer again on a scale of 0 to 10. A 0 means "completely unwilling to do so" and a 10 means "very willing to do so." You can also use any number between 0 and 10 to indicate where find its score on the scale, using 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

A) How much are you willing to punish someone who treats you unfairly, even if it might cost you?
0 1 2 3 4 5 6 7 8 9 10 99

B) How much are you willing to punish someone who treats others unfairly, even if it might cost you?
0 1 2 3 4 5 6 7 8 9 10 99

C) How much are you willing to donate for a just cause without expecting anything in

return?
0 1 2 3 4 5 6 7 8 9 10 99

2.3 How appropriate are the following statements to describe you? Please give me an answer using a scale from 0 to 10. A 0 means "does not describe me at all" and a 10 means "describe me perfectly". You can also use any number between 0 and 10 to indicate where your score on the scale, using 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10.

A) I generally act without thinking long and hard about things. In other words, I'm very impulsive.
0 1 2 3 4 5 6 7 8 9 10 99

B) When someone does me a favour, I am inclined to return it.
0 1 2 3 4 5 6 7 8 9 10 99

C) If I am treated very unfairly, I will take revenge at the first opportunity, even if there is a cost to doing so.
0 1 2 3 4 5 6 7 8 9 10 99

D) I assume that people have only the best intentions.
0 1 2 3 4 5 6 7 8 9 10 99

E) I am good at mathematics
0 1 2 3 4 5 6 7 8 9 10 99

F) Competition brings out the best in me.
0 1 2 3 4 5 6 7 8 9 10 99

2.4. Imagine the following situation: You won 1,000 euros in the lottery. Considering your current situation, how much would you donate to charity? (Values from 0 to 1000 are possible)
.....euros
9999999999 - (Don't know/No answer)

2.5. In political debate, a distinction is usually made between "left" and "right". Using the scale below where 0 indicates the left and 10 the right, you can indicate your political orientation:

0 1 2 3 4 5 6 7 8 9 10

Attention Check II

The next question concerns the following problem. In questionnaires like ours, sometimes there are participants who do not read the questions carefully and just quickly click on the survey. This means there are a lot of random responses that compromise the results of research studies. To prove that you read ourour questions carefully, please indicate green as the answer to the next question.

What's your favourite colour?————————————————

SECTION 3 – TYPES OF ORGANIZATIONS

People work in different types of organizations. Some are employed in state-owned entities, such as public hospitals, schools, and government administrations. Others choose to start their own businesses and become self-employed. Still others work in worker cooperatives. Members of worker cooperatives not only perform the tasks for which they are employed but also share ownership and participate in managing the company. Most people are employed under standard labor contracts by conventional businesses, which are owned and managed by private investors. Please consider the following statements and indicate whether, in your opinion, they accurately reflect the real-world differences among these types of organizational forms.

3.1 Worker cooperatives tend to be less productive than conventional businesses in all sectors

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

3.1.1 How sure are you of the answer given to the previous question?

Very sure
Sure
Somewhat sure
Unsure
Very unsure

3.2 Being self-employed allows you more flexibility in managing your work than working in a conventional company

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

3.2.1 How sure are you of the answer given to the previous question?

Very sure
Sure
Somewhat sure
Unsure

Very unsure

3.3 Worker cooperatives tend to fail more frequently than conventional businesses

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

3.3.1 How sure are you of the answer given to the previous question?

Very sure
Sure
Somewhat sure
Unsure
Very unsure

3.4 Pay inequality (e.g., the manager-to-worker pay ratio) is greater in worker cooperatives than in investor-controlled companies.

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

3.4.1 How sure are you of the answer given to the previous question?

Very sure
Sure
Somewhat sure
Unsure
Very unsure

3.5 Being an employee in a public organization offers fewer career opportunities than employment in a conventional company

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

3.5.1 How sure are you of the answer given to the previous question?

Very sure
Sure
Somewhat sure
Unsure
Very unsure

3.6 Worker cooperatives offer less stable jobs than conventional businesses (for example, during a recession, staff reductions are more frequent among worker cooperatives)

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

3.6.1 How sure are you of the answer given to the previous question?

Very sure
Sure
Somewhat sure
Unsure
Very unsure

The following question includes the possibility of obtaining additional compensation. The 10% of respondents who come closest to the correct answer will receive €3.

3.7. To the best of your knowledge, out of the total number of employees working for companies operating in your province of residence in March 2023, how many were employed by cooperative enterprises (considering all types including credit cooperatives, consumer cooperatives, retailer cooperatives, production cooperatives and work, social cooperatives, building cooperatives, agricultural cooperatives, consortia of cooperatives)?

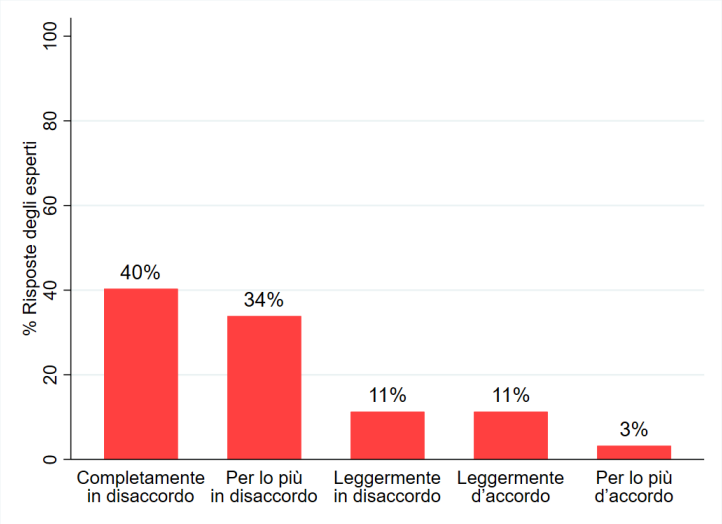
Please indicate, as a percentage, how many employees out of every 100 you believe were employed by cooperatives (from 1 to 100): .....%

INFORMATION TREATMENT

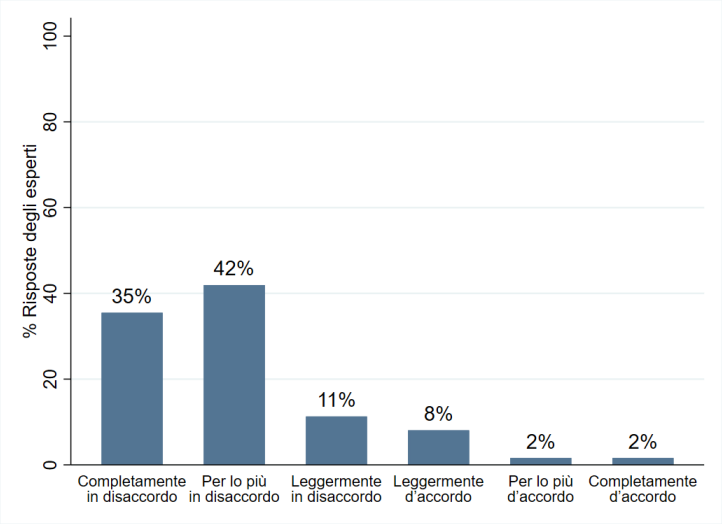
The researchers conducting this study interviewed a panel of 62 Italian and foreign experts (academics, social scientists, economists) who over the years have conducted in-depth research comparing conventional businesses and worker cooperatives. The information below compares your responses with the distribution of expert responses in our survey (bar graphs).

Most experts disagree with all four statements below.

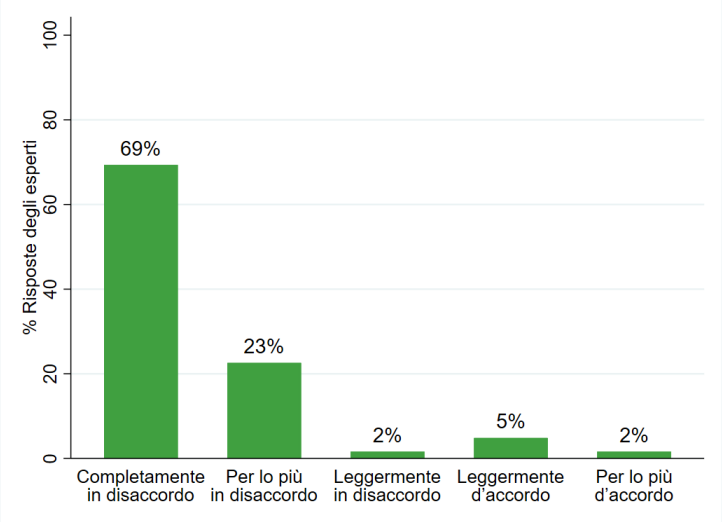
Worker cooperatives tend to be less productive than conventional businesses in all sectors
Your response: ”[Q3.1]”
Expert Responses:



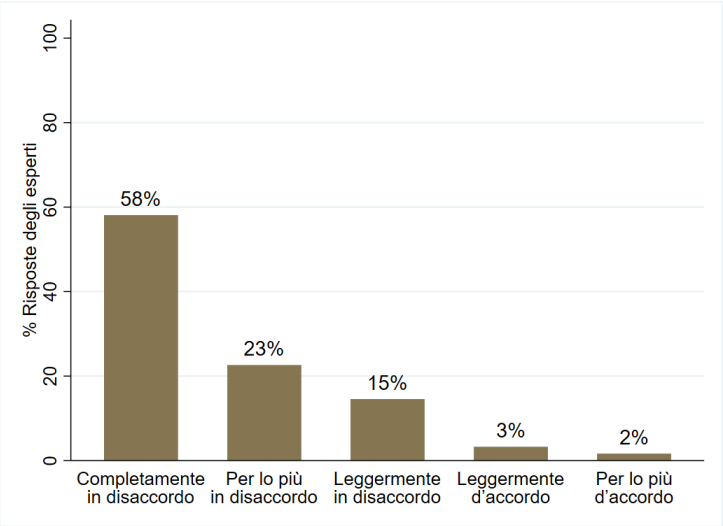
Worker cooperatives tend to fail more frequently than conventional businesses
Your response: "[Q3.2]"
Expert Responses:



Worker cooperatives pay their workers more unequally than conventional businesses.
Your response: "[Q3.3]"
Expert Responses:



Worker cooperatives offer less secure jobs than conventional businesses.
Your response: ”[Q3.4]”
Expert Responses:



SECTION 4 – OCCUPATIONAL INTENTIONS

4.1 Considering your occupational intentions for the future, how likely are you to consider the following options:

4.1.1 Working in a conventional business run by private investors

Extremely likely
Very likely
Likely
Unlikely
Very unlikely
Extremely unlikely

4.1.2 Working in an organization of the public sector

Extremely likely
Very likely
Likely
Unlikely
Very unlikely
Extremely unlikely

4.1.3 Joining an existing worker-managed cooperative

Extremely likely
Very likely
Likely
Unlikely
Very unlikely
Extremely unlikely

4.1.4 Founding a new worker-managed cooperative with a group of colleagues

Extremely likely
Very likely
Likely
Unlikely
Very unlikely
Extremely unlikely

4.1.5 Working as a self-employed/freelancer and/or creating your own business

Extremely likely
Very likely
Likely
Unlikely
Very unlikely

Extremely unlikely

What is the first thing that comes to mind when you think of a cooperative business in Italy? Please answer in one word

4.2 To what extent do you agree with the following statement: "The government should promote/facilitate the creation of new worker cooperatives in the coming years."

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

4.3 In your opinion, to what extent can the creation of a greater number of worker cooperatives contribute to productivity growth in Italy in the coming years? It would generate:

A strong decline in productivity
A decline in productivity
A small decline in productivity
A small increase in productivity
An increase in productivity
A strong increase in productivity

4.4 In your opinion, to what extent can the creation of a greater number of worker cooperatives contribute to improving job security in Italy (for example when the economy is hit by a recession)? It would generate:

A strong decline in job security
A decline in job security
A small decline in job security
A small increase in job security
An increase in job security
A sharp increase in job security

4.5 In your opinion, to what extent can the creation of a greater number of worker cooperatives contribute to reducing the failure rate of businesses in Italy in the coming years? It would generate:

A strong decline in the business failure rate
A decline in the business failure rate
A small decline in the business failure rate
A small increase in the business failure rate
An increase in the rate of business failure
A sharp increase in the rate of business failure

4.6 In your opinion, to what extent can the creation of a greater number of worker cooperatives contribute to reducing wage inequality in Italy in the coming years? It would generate:

A strong decline in wage inequality
A decline in wage inequality
A small decline in wage inequality
A small increase in wage inequality
An increase in wage inequality
A sharp increase in wage inequality

4.7 Thinking about all the potential positive and negative economic effects of promoting the creation of a greater number of worker cooperatives, do you think the overall effects would be positive or negative for the Italian economy?

The overall effects would be very negative
The overall effects would be negative
The overall effects would be slightly negative
The overall effects would be slightly positive
The overall effects would be positive
The overall effects would be very positive

SECTION 5 – QUESTIONS ON THE RESEARCH DESIGN

5.1 Do you believe that this questionnaire was influenced by political bias, either from the right or the left?

Very left-wing biased
Somewhat left-wing biased
Neither left-wing nor right-wing biased
Somewhat right-wing biased
Very right-wing biased

5.2 Did the information provided on the comparison between conventional businesses and worker cooperatives seem reliable or unreliable?

Very unreliable
Mostly unreliable
Slightly unreliable
Slightly reliable
Mostly reliable
Very reliable

A.2.3 Follow-up Survey

SECTION 1 – DEMOGRAPHIC INFORMATION

1.1 Can you indicate your year of birth?

1.2 Can you indicate your gender?
Male
Female
Other

1.3 Can you indicate your place of birth ?
Italy
Abroad

1.4 Can you indicate your province of residence?

1.5 Can you indicate the highest qualification you have achieved to date?

Middle school diploma (lower secondary school)
High school diploma
Technical education diploma
Professional education diploma
Three-year degree
Master's or specialist degree
Single-cycle master's degree (5 or 6 years)
PhD

SECTION 2 – POLITICS AND ORGANIZATIONAL MEMBERSHIP
2.1. Did you vote in the 2022 general elections?
Yes
No

Below is a list of possible volunteer organizations. For each type of organization, can you indicate whether you are an active member (1), an inactive member (2) or a non-member (3)?

2.2 Religious organization
2.3 Recreational organization in the sports field
2.4 Recreational organization in the artistic, musical or educational field
2.5 Union
2.6 Political party
2.7 Environmental organisation
2.8 Humanitarian organisation
2.9 Mutual help groups, solidarity purchasing
2.10 Other types of organizations

SECTION 3 – POLICIES FOR SOCIAL AND ENVIRONMENTAL SUSTAINABIL-

ITY

Recently, various interventions have been discussed in the Italian public debate to promote the transition towards a sustainable economy from a social and environmental point of view. In this regard, we ask you to express your level of agreement/disagreement with the following statements.

2.1 "In Italy, the introduction of a minimum hourly wage of 9 Euros is an intervention that can improve the employment conditions of many workers"

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

2.2 "The return to nuclear power is the only energy policy that can allow us to combine economic and environmental sustainability"

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

2.3 "Worker cooperatives – businesses owned and managed by their workers – are an effective tool for ensuring better employment conditions in Italy."

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

2.4 "Organizational practices aimed at encouraging a reduction in travel for work, such as remote working and short weeks, are a good tool for combining economic and environmental sustainability"

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

2.5 “The Italian government should introduce more incentives to make it easier for young people to start a new business or become self-employed”

Totally agree
Mostly agree
Slightly agree
Slightly disagree
Mostly disagree
Strongly disagree

A.3 Coding Schemes[25]

Instructions

You will be provided with a list of words that represent the responses given by a sample of young people to the following question: *"What is the first thing that comes to mind when you think of a worker cooperative in Italy? Please answer with one word."* You must classify the responses based on the two coding schemes described below. Each word must fall into one category for each coding scheme.

Below is a description of the categories included in each coding scheme.

Coding Scheme 1: Reference Area

- **Economy and Work**: the word refers to a characteristic, action, or subject whose meaning has a clear connection with the economic and work-related dimension associated with the functioning of a worker cooperative.
- **Values**: the word refers to a characteristic, action, or subject whose meaning has a clear connection with the values associated with the functioning of a worker cooperative.
- **Organization**: the word refers to a characteristic, action, or subject whose meaning has a clear connection with the organizational dimension associated with the functioning of a worker cooperative.
- **Other**: the word refers to a characteristic, action, or subject whose meaning has no clear connection to any of the previously defined reference areas.

Coding Scheme 2: Positive / Negative / Neutral Connotation

- **Positive**: the word refers to a characteristic, action, or subject that, in common understanding, is generally associated with a positive meaning for the individual or society.
- **Negative**: the word refers to a characteristic, action, or subject that, in common understanding, is generally associated with a negative meaning for the individual or society.
- **Neutral**: the word refers to a characteristic, action, or subject that, in common understanding, cannot be clearly associated with either a positive or negative meaning for the individual or society.

Instructions for the Excel Sheet

Given the attached Excel sheet, for each word and for each coding scheme, you must mark a **1** in the cell corresponding to the most appropriate category.

[25] Originally in Italian, translated by the authors with the use of Chat GPT

A.4 Chat GPT prompts[26]

A) Classification of the topics

Prompt: "We conducted a survey on people's opinions about cooperatives. Below is a list of words that respondents associated with the term 'cooperative.' Could you suggest a classification of the themes based on the meaning of the words?"

{ list of words supplied }

Answer: "Here is a possible thematic classification of the provided words, based on their meaning and context:

1. Work and Employment

Contracts and Working Conditions: hiring, contracts, unstable contracts, precarious contracts, temp contracts, work, precarious work, self-managed work, low wages, low salary, underpaid.

Professional Roles: employee, workers, laborers, educators, qualified staff.

Work-Related Issues: exploitation, worker exploitation, labor exploitation, job insecurity, job downgrading, slavery, dismissal.

2. Economy and the Cooperative Model

Economy: economy, mutualism, mutuality, capital, social capital, variable capital.

Cooperation and Mutualism: cooperative, cooperation, solidarity, mutual purpose, union, collectivity, sharing, participation.

Economic and Financial Aspects: income, savings, costs, investments, contribution.

3. Rights and Social Justice

Equality and Inclusion: equality, fairness, equal opportunities, inclusion, solidarity.

Rights and Protection: rights, protection, safety, respect.

Social Issues: inequality, exploitation, immigration, job insecurity, poverty.

4. Sustainability and Environment

Sustainability: sustainable agriculture, development, food and wine, local territory, circular economy.

[26]Originally in Italian, translated by the authors with the use of Chat GPT. We report a summary of the prompts. Full text is available upon request.

Environment: nature, agriculture, fruit, local products, WWF.

5. Organization and Structure

Management and Organization: management, coordination, structure, autonomy, self-management.

Types of Cooperatives: agricultural cooperative, social cooperative, consortium, Legacoop.

6. Values and Culture

Values: trust, solidarity, loyalty, transparency, sincerity, respect.

Ideology: communism, community, anarchism, revolutionary.

Cultural Issues: manipulation, corruption, ambiguity.

7. Issues and Criticisms

Economic Issues: tax evasion, underpaid, expensive.

Ethical and Legal Problems: slavery, mafia, fraud, corruption, exploitation.

Disorganization and Inefficiency: disorganization, confusion, inefficiency, opacity.

8. Areas of Application

Sectors: construction, agriculture, food industry, healthcare, transportation.

Specific Examples: nurseries, Manutencoop, social cooperatives.

9. General Impressions

Positive: initiative, opportunity, support, growth, resilience.

Negative: failure, decline, degradation, mistrust, insecurity.

Does this categorization seem useful to you? I can elaborate on or refine specific areas if needed."

Prompt: "Could you repeat the analysis, limiting the final classification to just five categories?"

Answer: "Here is a more concise classification, limited to five macro-categories:

1. Work and Employment Conditions

Working Conditions: contracts, precarious work, self-managed work, low wages, minimum wage, dismissal, job insecurity.

Work-Related Issues: exploitation, slavery, job downgrading, underpaid.

Professional Roles: employees, workers, educators, laborers.

2. Economy and the Cooperative Model

Economic Model: cooperative, mutualism, mutuality, mutual purpose, collectivity, participation.
Financial Aspects: social capital, investments, income, contribution, savings.

Economic Problems: tax evasion, expensive, crisis, underpaid.

3. Rights, Social Justice, and Values

Values: equality, solidarity, fairness, transparency, loyalty, trust.

Social Justice: rights, equal opportunities, inclusion, protection.

Social Issues: inequality, immigration, job insecurity, poverty.

4. Sustainability and Environment

Environmental Sustainability: sustainable agriculture, territory, nature, local products.

Environmental Field: WWF, circular economy, agriculture.

5. Organization and Management

Management: autonomy, self-management, coordination, structure, cooperation.

Specific Examples: social cooperatives, consortia, Legacoop.

Organizational Issues:disorganization, confusion, inefficiency.

This structure offers a concise and comprehensive overview, with broad categories that include related concepts. Let me know if you'd like further elaboration!"

Based on this outcome the authors elaborated the simplified classification based on four topics: 1. Economy and Work, 2. Values, 3. Organization and 4. Other.

B) Adjudication of coding disagreements

Prompt: "For a research project on worker cooperatives, we asked participants to write the first word that comes to mind when thinking about cooperatives. We now need to classify these words based on their meaning. I will provide you with a coding scheme

and the list of words. I gave the same coding scheme to two human coders who independently classified the words. For some words, the two coders agreed; for others, their classifications differed. I will ask you to resolve the discrepancies. Is everything clear?"

Answer: "Absolutely clear! The procedure is well explained: you have a coding scheme and a list of words associated with cooperatives, already classified by two human coders. For some words, there is disagreement between the coders, and you want me to analyze these discrepancies and suggest a consistent classification based on the scheme you will provide.

Go ahead and share:

1. The coding scheme you used.
2. The list of words and their respective classifications (at least those with disagreement, or the full list if you prefer).

Once I have them, I'll proceed with the resolution."

{ Coding scheme supplied }

Answer: "You can now provide me with the Excel sheet containing the words and the dual classifications (whether they agree or disagree). Once I receive it, I will analyze the words on which the two coders disagree and propose a single, consistent classification based on the scheme. Go ahead and upload the file."

Prompt: "Let's start with an example: "guadagno" was classified by coder 1 as positive and by coder 2 as neutral. How would you classify it?"

Answer: "Great example. Let's analyze the word *"guadagno"* according to Coding Scheme 2: Connotation (Positive / Negative / Neutral).

Common Semantic Context

- *"Guadagno"* is generally understood as obtaining an economic return or profit.
- In everyday language, it is often perceived positively, as it implies well-being, success, or a reward for one's work.
- It can carry ambiguous connotations (e.g., *"only interested in profit"* – negative), but in the absence of further context, the positive connotation tends to prevail.

Conclusion: I would classify *"guadagno"* as *Positive*, consistent with the generally positive meaning associated with earning through one's work.

Let me know if you'd like to proceed with more cases."

Prompt: "Okay. I will now provide you with an Excel sheet containing several columns:

- The first column contains the respondent ID.

- The second column lists the words to be analyzed.
- Columns starting with `c1_` refer to the classification provided by coder 1 (positive, negative, neutral).
- Columns starting with `c2_` refer to the classification provided by coder 2 (positive, negative, neutral).
- The column named `agree_acc` takes the value `0` for all words where there is a disagreement between the two coders.
- The last three columns contain the final classification, which for now is filled in only for words where there is agreement—that is, where `agree_acc` equals `1`.

I'll attach the file shortly. Before proceeding with the analysis, please let me know if everything is clear."

Answer: "Everything is perfectly clear! As soon as you upload the file, I'll review it to complete the missing classifications in the cases of disagreement. Go ahead with the upload."

{ Excel file supplied }

Answer: "All the words have now been automatically classified as positive, negative, or neutral based on their meaning. You can download the updated and complete file from here:

{ link }

Would you now like to proceed with Coding Scheme 1 (reference domain) for the same set of words?"

Prompt: "We can now move on to Coding Scheme 1. The Excel sheet I will provide contains more columns than before, as the reference domain can fall into four categories: *economy and work*, *values*, *organization*, and *other*.

The structure of the file is as follows:

- First column: Respondent ID
- Second column: Word to be analyzed
- Columns starting with `c1_`: Classification by Coder 1 (economy and work, values, organization, other)
- Columns starting with `c2_`: Classification by Coder 2 (same categories)
- Column `agree_amb`: Takes the value `0` for all words where there is disagreement
- Last four columns: Final classification, currently filled in only for the words where `agree_amb = 1`

I will attach the file. Before proceeding with the analysis, please confirm that everything is clear."

Answer: "Everything is perfectly clear! Ready to proceed with the analysis. Would you like to start with an example or go straight to examining the first words?"

Prompt: "Let's start with an example: 'multilocal' was classified as related to economy and work by coder 1, and as related to 'other' by coder 2"

Answer: "Perfect, let's analyze the example:

Word: *multilocal*

Received classifications:

- Coder 1: Economy and work
- Coder 2: Other

Semantic analysis in the cooperative context: "Multilocal" refers to an organization or activity operating in multiple locations. This may suggest:

- A broad operational structure ($\rightarrow$ organization)
- A territorial dimension related to expansion and market presence ($\rightarrow$ economy and work)

It does not directly relate to values or to something entirely unrelated ($\rightarrow$ "Other" is not the best choice if there is a link to cooperative activity).

Recommended final classification: *Economy and work*

Because "multilocal" implies an operational or commercial presence across different areas, which is closely tied to the economic and work-related dimension of a cooperative enterprise.

Let me know if you'd like to proceed with more examples or move on to batch analysis.

Prompt: "Okay, you can proceed with updating the file. Please make sure to define a final classification for all the words with a disagreement"

Answer: "The file has been updated: all the words with disagreement now have a final classification according to Coding Scheme 1 (reference domain). You can download it here:

{ link }

Let me know if you'd like a check for consistency and completeness, or if you'd like to proceed with further analysis."