

Nonmonetary Incentives and the Implications of Work as a Source of Meaning

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Economists typically assume in their models that work involves an exchange of time and effort for money. Work is considered “painful” because it requires “costly” effort and because of the opportunity cost of reduced leisure time. The economic implications of this view are straightforward. For incentive theory, the solution to any agency problem will be to design the optimal *monetary* incentive scheme. The role of human resource management boils down to offering the right monetary incentives. In addition, labor supply will be determined uniquely by the trade-off between utility from income and utility from leisure.

Nonmonetary job characteristics have received limited attention by economists when thinking about productivity and willingness to work. But the assumption that monetary compensation is what mainly matters for motivation at work is at odds with a number of observations. Close to home, what drives most academics to the university on a given day (including evenings and weekends) is not the money (otherwise we would work in the private sector) or the stability of the income stream (because the probability of losing a job is close to zero for a tenured academic). In fact, Stern (2004) shows that “scientists pay to be scientists.” What motivates academics is the drive to contribute to our subject, applying our skills in solving intellectual challenges, the satisfaction of conducting our own research agendas, and what feels like an imperative to explain these ideas to others. Similarly, entrepreneurs often face

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low risk-adjusted returns (Astebro, Herz, Nanda, and Weber 2014). One potential explanation for this phenomenon is that there are nonpecuniary aspects of being an entrepreneur, like a “utility premium” from being self-employed that seems to be related to the freedom to make autonomous decisions (Hamilton 2000; Benz and Frey 2008b).

Indeed, workers in many jobs act as if they care about more than just the highest paycheck. Consulting firms, like Great Places to Work, advise companies about creating motivating corporate cultures and create rankings about the best companies to work for based on comprehensive surveys about employees’ attitudes toward their workplace. Such ratings abound, including the “Fortune 100 best companies to work for” and “Best Small & Medium Workplaces.” Workers seem to care about more than income. In surveys of students and workers, 72 percent and 53 percent, respectively, say that “A job where I can make an impact” is very important or essential to their happiness (Net Impact 2012). Among chief executive officers, 59 percent think that “top talent prefers to work for organizations with social values which are aligned to their own” (PricewaterhouseCoopers 2016, p. 13).

In the past, there has been a disciplinary split in the attention paid to topics like nonmonetary compensation and benefits, workers’ satisfaction, and intrinsic motivation to work. On one side, textbooks in human resources, management, or organizational behavior devote considerable attention to these issues; on the other side, these topics are covered only marginally, if at all, in textbooks about labor economics, contract theory, and organizational economics (for example, see Bolton and Dewatripont 2004; Gibbons and Roberts 2013; Cahuc and Zylberberg 2004).

But empirical research in economics has begun to explore the idea that workers care about nonmonetary aspects of work. In an early study, Ichniowski, Shaw, and Prennushi (1997) used data from steel production lines to show that a combination of incentive pay and flexible job assignment leads to substantial productivity increases compared to the more traditional practice of narrow job definition, strict working rules, and hourly pay with close supervision. Monetary incentives mattered, but were not the only motivator (for discussion in this journal, see Ichniowski and Shaw 2003). Since then, an increasing number of economic studies using survey and experimental methods have shown that nonmonetary incentives and nonpecuniary aspects of one’s job have substantial impacts on job satisfaction, productivity, and labor supply. By drawing on this evidence and relating it to the literature in psychology, this paper argues that work represents much more than simply earning an income: for many people, work is a *source of meaning*.

In the next section, we give an economic interpretation of meaningful work and emphasize how it is affected by the mission of the organization and the extent to which job design fulfills the three psychological needs at the basis of self-determination theory: autonomy, competence, and relatedness (Deci and Ryan 1985, 2000; Ryan and Deci 2000). We point to the evidence that not everyone cares about having a meaningful job and discuss potential sources of this heterogeneity. We sketch a theoretical framework to start thinking about how to formalize work as a source of meaning and how to incorporate this idea into agency theory and labor

supply models. We discuss how workers' search for meaning may affect the design of monetary and nonmonetary incentives. We conclude by suggesting some insights and open questions for future research.

Meaning in Work beyond Money

A long tradition in organizational behavior and organizational psychology argues that individuals get meaning from their work that extends beyond financial compensation (for a review, see Rosso, Dekas, and Wrzesniewski 2010). But in economics, there has been relatively little discussion about the desire for "meaning," although some notable exceptions include Loewenstein (1999), Karlsson, Loewenstein, and McCafferty (2004), and Chater and Loewenstein (2016).

A growing body of evidence suggests that nonmonetary factors are potentially important for motivation and productivity. As a starting point, Frank (1996) assembles some interesting facts: Cornell undergraduates report taking a 50 percent pay cut as an ad copywriter for the American Cancer Society compared to Camel Cigarettes; witnesses favoring cigarette regulation appear as volunteers while witnesses in the same lawsuits for the cigarette lobby have to be heavily compensated (even though the former are more qualified experts); and public interest lawyers accept much lower wages than associates in private law firms. According to Dur and Lent (2018), close to 77 percent of responders in their sample of 100,000 respondents across 47 countries from the International Social Survey Program Work Orientations Waves report that a job useful for society is important or very important for them. Bryce (2018) uses the American Time Use Survey and the UK Annual Population Survey and finds that work is reported to be more meaningful than consumer purchase, socializing, relaxing, or leisure. Jobs that are both high on personal autonomy and direct pro-social impact are rated as the most meaningful, including the jobs of health professionals, therapists, nurses, midwives, teachers, lecturers, and social workers.

Of course, survey evidence will always have difficulty in showing a causal connection between meaningful work and motivation or productivity, but evidence on this point is emerging, especially in the experimental literature. Ariely, Kamenica, and Prelec (2008) conduct an experiment in which performance and labor supply are affected by whether the job has some sort of point. The authors manipulate the meaningfulness of a task—specifically, assembling a Bionicle Lego—by varying whether the output resulting from subjects' work was destroyed immediately after completion, or whether it was kept intact. When the output of the task is destroyed, subjects have a 40 percent higher reservation wage to do the task compared to when the output is not destroyed. Chandler and Kapelner (2013) extend these results to a field experiment (see also Kosfeld, Neckermann, and Yang 2017). The authors hired M-Turk workers to label tumor cells, but some workers were explicitly told the purpose of their task was to help researchers identify tumor cells while other workers were not. When the task was framed in terms of meaning, workers were

more likely to participate and, conditional on participating, they labeled a higher quantity of images.

What factors are likely to increase workers' feeling of meaning in their job? Here, we first discuss the role of the mission of the organization and then turn to three main aspects of job design.

The Role of the Mission

The mission of an organization, or the lack of a mission, can affect how employees perceive their own purpose. In general, an organization or a job with a social mission will be more likely to fulfill workers' drive for sense-making in their actions as part of a bigger social context, and for creating social bonds between the workers and the rest of the world. Both this act of sense-making and the connection to others are important ingredients of meaning (Karlsson, Loewenstein, and McCafferty 2004).

Evidence from nonprofit organizations shows that many people place a high value on working in a job with a pro-social mission and alter their work effort accordingly. For example, in a field experiment with fundraising callers, Grant (2008) shows that making the social purpose of the callers' job more salient increased the number of pledges earned by 124 percent and the amount of donations raised by 152 percent. In addition, workers appear willing to give up money to work in the nonprofit sector. Several studies suggest that nonprofit workers earn less than for-profit workers in comparable occupations (Preston 1988; Handy and Katz 1998; Leete 2001; Jones 2015). Furthermore, nonprofit workers are more likely to report a higher ideal number of hours worked (Lanfranchi, Narcy, and Larguem 2010).

While many organizations (or tasks within the organization) do not have an obvious and direct social purpose, they can nonetheless seek to create this meaning or purpose through "a concrete goal or objective for the firm that reaches beyond profit maximization" (Henderson and Van den Steen 2015, p. 327). For example, an investment bank might seek opportunities to create meaning through socially responsible business practice or by engaging in philanthropic activities. Indeed, an increasing number of companies are paying attention to corporate social responsibility, and not just companies with a long history of doing so, like Patagonia. For example, SABMiller, until recently the second-largest brewer in the world, invested heavily in reducing water usage in its beer production and in promoting sustainable water management where it operated (Mennel and Wong 2015). Many large firms like Deloitte or Bank of America are growing their pro bono volunteering programs (Novick O'Keefe 2016). Among the largest 250 companies in the world, 92 percent produced a corporate social responsibility report in 2015, up from 64 percent in 2005. Fortune Global 500 firms now spend around \$15 billion a year on corporate social responsibility activities (Smith 2014), while US and European markets have over \$2 trillion and €200 billion in certified socially responsible assets (Kitzmueller and Shimshack 2012).

These investments not only serve to make the firm's image more attractive to (socially responsible) costumers; sustainability initiatives, corporate foundations,

employee volunteer programs, and donations to charity are also serving as tools for attracting and motivating employees. Firms such as IBM, General Motors, or Microsoft explicitly use their corporate social responsibility efforts to attract potential employees (Kitzmueller and Shimshack 2012). Other firms explicitly mention the impact of their work. For example, Medtronic says in the “career opportunities” section of their website (at <http://europe.medtronic.com/xd-en/about/careers.html>): “Careers that change lives: Do meaningful work, make a difference, and improve lives—starting with your own.”

Such pro-social initiatives can increase effort, increase retention, and even lower employees’ wage demands. For example, Burbano (2016) hired workers on two online marketplaces, provided them with either a message about the corporate social responsibility activity of the firm or with information about the work, and then elicited reservation wages. Being provided with information about an employer’s social responsibility reduced reservation wages by 12 percent in one marketplace and 44 percent in the other. In a field experiment, Hedblom, Hickman, and List (2016) show that data-collecting jobs having a social mission (benefiting underprivileged children) increased the number of interested candidates by 26 percent. Moreover, the social mission component attracted more-productive workers with higher-quality work output who choose to work longer hours. Bode, Singh, and Rogan (2015) looked at management consultants engaged in social initiative projects, which involve the same tasks as commercial projects but are conducted with nonprofit organizations. Consultants accepted a lower wage while on those projects, and their probability of leaving the firm decreased by about 30 percent after participating in a social initiative program.

In general, social initiatives and mission increase job satisfaction. The earlier survey evidence suggested this connection, but Gosnell, List, and Metcalfe (2016) provide causal evidence from a field experiment with Virgin America pilots. They randomly offered charitable contributions for meeting fuel emission targets. While this treatment had the same effect on fuel efficiency as just providing the target (which is not surprising given that meeting the fuel emission target is already an environmental friendly action), job satisfaction increased by 6.5 percent.

Other studies also show that pro-social incentives in the form of charitable donations linked to work activity, where the financial reward is not paid to the worker but rather donated to a charity, increases the effort of workers both in the lab and in the field. In an online real-effort experiment, Tonin and Vlassopoulos (2015) finds that pro-social incentives lead to a 13 percent rise in productivity, regardless of their form (lump sum or related to performance) or strength. A positive effect of charitable donations on workers’ effort is also found in Imas (2014); Charness, Cobo-Reyes, and Sánchez (2016), DellaVigna and Pope (2018), and Cassar (forthcoming). In particular, Imas (2014) and Charness et al. (2016) also show that when stakes are low, pro-social incentives lead to higher performance than standard incentives schemes.

Firms and business schools are noticing. The *2018 Deloitte Global Human Capital Trends* report summarizes: “Based on this year’s global survey of more than 11,000

business and HR leaders, as well as interviews with executives from some of today's leading organizations, we believe that a fundamental change is underway. Organizations are no longer assessed based only on traditional metrics such as financial performance, or even the quality of their products or services. Rather, organizations today are increasingly judged on the basis of their relationships with their workers, their customers, and their communities, as well as their impact on society at large—transforming them from business enterprises into social enterprises.” This trend is reflected in top business schools' curriculums. Between 2003 and 2009, the number of courses on “social entrepreneurship” (enterprises with an explicit social mission) at top US MBA programs increased by 110 percent (Beal 2017). Business schools increasingly recommend that companies align their corporate social responsibility strategy with their business interest (for example, Porter and Kramer 2007) or use it to motivate workers and win the war for talent (for example, Bhattacharya, Sen, and Korshun 2008). Economists have also started to devote their attention to social enterprises (Besley and Ghatak 2017).

The organizational mission, however, does not need to be charitable or “social” in a strict sense to increase meaning: it can represent any mission that is valuable to the workers (as modeled in the seminal paper by Besley and Ghatak 2005). In a recent field experiment, Carpenter and Gong (2016) shows that workers who stuffed letters to raise funds for political campaigns were 72 percent more productive if they worked for their favorite party rather than for the opposite party. People devote considerable amount of time and effort to open source initiatives, often anonymously and without financial returns, because they believe in the free diffusion of knowledge. For instance, Wikipedia is the world's sixth most popular website, comprising more than 35 million articles written by more than 55 million registered editors (Gallus 2016). Gartenberg, Prat, and Serafeim (2016) use a broader definition of meaning based in part on whether employees perceive that the management of a firm exhibits a high degree of clarity in setting goals. Firms with employees that perceive their job to be meaningful perform better financially (as measured by return on assets and Tobin's q) if the firm's management has a clear strategy.

Taken together, these findings and facts point to the importance of job mission as a source of meaning and, in turn, of intrinsic motivation to work.

The Role of Job Design

A growing body of evidence suggests that workers highly value certain nonmonetary job dimensions rooted in the three human psychological needs at the basis of self-determination theory (Deci and Ryan 1985, 2000; Ryan and Deci 2000): the needs for autonomy, competence, and relatedness.

Workers' autonomy in decision-making is an important determinant of job satisfaction, which in turn predicts economic behavior such as labor market mobility (Freeman 1978; Clark 2001) and productivity (Oswald, Proto, and Sgroi 2015). Freeman and Kleiner (2000) uses the Workplace Representation and Participation Survey, a nationally representative survey of nongovernment employees carried out in 1994–95 by Princeton Survey Research Associates, to show that workers in

“Employee Involvement” programs report themselves as very satisfied with “the influence they have in company decisions that affect their job or work life” compared to other workers. Similarly, Benz and Frey (2008a) use the nationally representative German Socio-Economic panel to show that people who work in smaller firms are more satisfied with their job and that this effect can be attributed to flatter hierarchies and higher levels of independence on the job. Using the same dataset, Bartling, Fehr, and Schmidt (2013) find that work autonomy and absence of monitoring is strongly associated with higher job satisfaction, even after controlling for several sociodemographics and occupational characteristics.

The literature on self-employment also shows that workers assign high value to autonomous decision-making. Using US data, Hamilton (2000) finds that people choose to become self-employed in spite of the low average return because self-employment offers nonmonetary benefits such as “being your own boss.” Using data from 23 countries, Benz and Frey (2008b) show that the utility premium from self-employment is attributed to more interesting work and greater autonomy. In general, many people seem to value autonomy and flexibility. Chen, Chevalier, Rossi, and Oehlsen (2017) estimate for Uber drivers that their supplier surplus is about twice that of a less flexible arrangement. In a 2012 report (Gandia 2012), 64 percent list as main reason for becoming a freelancer the greater flexibility and freedom, while only 7.5 percent give a financial reason, such as higher income. Finally, experimental evidence indicates that reducing individuals’ decisional autonomy negatively affects their work effort (Falk and Kosfeld 2006; Bartling, Fehr, and Schmidt 2012; Fehr, Herz, and Wilkening 2013).

It is then not surprising that many innovative companies seek to establish an organizational culture that favors workers’ autonomy and entrepreneurial spirit. For Silicon Valley companies, promoting “entrepreneurship” rather than a “stewardship” culture among their employees is a prerequisite for success (Hamel 1999). Talented people do not need to be monitored. They need to be empowered.

A feeling of competence arises when workers are able to apply their talents, skills, and/or knowledge to achieve a certain goal. In fact, engaging in an activity that one is good at is generally pleasant (Loewenstein 1999). Personal and social recognition can play a substantial role in fostering a feeling of competence (as extensively discussed in Ellingsen and Johannesson 2007) and, in turn, of doing meaningful work.

Survey evidence shows that skill utilization is associated with job satisfaction and occupational choice. Using national US surveys, Eden (1975) and Hundley (2001) find that self-employed workers are more satisfied with their jobs than employees, because their work provides more skill utilization in addition to autonomy and flexibility. Using a nationally representative survey in Chile, Cassar (2010) shows that feeling competent and autonomous in one’s job increases satisfaction and can explain the utility premium from self-employment. In addition, experimental studies show that social recognition in the form of nonmonetary awards increases workers’ effort. In a field experiment in which students had to solve a data entry task, Kosfeld and Neckermann (2011) show that symbolic awards increase performance

by 12 percent. Gallus (2016) shows in a field experiment involving Wikipedia that symbolic awards increase the share of new editors that remain active by 20 percent. Similar effects of awards on motivation are found in a number of studies (Gibbs, Neckermann, and Siemroth 2017; Ashraf, Bandiera, and Jack 2014; Chan, Frey, Gallus, and Torgler 2014). For a review of research on the effect of awards, see Gallus and Frey (2016).

Worker's feelings of relatedness and being connected with colleagues are another important aspect of meaning, which Karlsson, Loewenstein, and McCafferty (2004) refers to as “meaning as social extension of oneself.” Social identity theory argues that workers who identify with the members and goals of their organization exert more effort, provide more public goods, coordinate their efforts better, and therefore, will be more productive (Akerlof and Kranton 2005, 2008). Empirical evidence shows that group identity increases public good provision (for example, Goette, Huffman, and Meier 2006) and facilitates coordination (for example, Chen and Chen 2011), and having positive social relations at work increases job satisfaction (Morgeson and Humphrey 2006). However, Bandiera, Barankay, and Rasul (2010) show that the effect of social incentives may depend on peers: in their setting, workers are more productive only when working with more able friends.

Whether workers feel connected to the organization and its members will obviously also depend on whether they feel treated fairly. A large body of evidence shows that workers want to be treated fairly—in particular, with regard to varying financial compensation across coworkers (Kahneman, Knetsch, and Thaler 1986; Bewley 1995; Fehr, Goette, and Zehnder 2009; Kaur 2014). In a month-long field experiment with Indian manufacturing workers, Breza, Kaur, and Shamdasani (2018) show that unequal pay that is perceived as unjustified has negative effects on both labor supply and work morale. As such, nepotism and favoritism within a company are likely to be detrimental for workers' productivity even beyond the standard monetary arguments. Nagin, Rebitzer, Sanders, and Taylor (2002) show that for workers who feel treated fairly, reducing monitoring did not lead to an increase in shirking and they summarize that “management's perceived empathy and fairness in dealing with employees may play an important role in reducing workplace opportunism” (p. 870).

Who Cares About Meaning?

Not all individuals search for meaning. Some do seem largely driven by financial motives. Many studies find heterogeneity in preferences about job attributes (for example, Wrzesniewski, McCauley, Rozin, and Schwartz 1997; Clark 2001; Bode, Singh, and Rogan 2015). Survey evidence from Net Impact (2012) *Talent Report* found that while 53 percent of workers consider making an impact as essential for their happiness, 47 percent do not seem to care as much. In a survey of science and engineering PhD candidates, Sauermaann and Roach (2014) investigate how much they care about one nonpecuniary aspect of their future job—whether their future employer allows

publishing. Slightly more than 20 percent do not care, although the median PhD candidate would be willing to give up 18 percent of base wage to be able to publish on the job. Fuchs-Schündeln (2009) finds that preferences for independence are heterogeneous across the population: for example, not all self-employed experience higher satisfaction in their job. In fact, self-employment can even decrease job satisfaction for “hierarchical types.” In various lab and field experiments, the fraction of individuals who care about meaning and exhibit pro-social preferences varies from one-third to two-thirds (Fehr and Schmidt 1999; Fehrler and Kosfeld 2014; Tonin and Vlassopoulos 2015). The more recent evidence by Bruhin, Fehr, and Schunk (2016) actually suggests that other-regarding preferences are the rule rather than the exception.

The ultimate determinants of these variations in preferences remains an open question, but a number of important correlates have been discussed: age, income, ability, and other-regarding preferences.

Younger individuals tend to care more about meaning in their work (for example, Bode, Singh, and Rogan 2015; Clark 2001). One conjecture is that as people accumulate life experience, illusions about the meaning of work diminish and they are more likely to seek meaning in social relationships and other dimensions of life. However, it is extremely difficult to disentangle an explanation from possible omitted variables or from cohort effects. For example, financial responsibilities often rise with age, or preferences might shift with age, or different birth cohorts may have distinctive values.

One might conjecture that work meaning only matters for higher-income individuals—after basic needs are fulfilled (along the lines of Maslow’s 1943 theory of human motivation). But the evidence for this thesis is unclear. For example, workers with higher incomes work more hours and are more likely to become workaholic (Hamermesh and Slemrod 2005). Perhaps higher pay provides more incentive to work, or perhaps this higher-income group has higher intrinsic pleasure from work (Freeman 2008), or perhaps high-paying occupations are more meaningful in feelings of autonomy, competence, and relatedness. As we discuss in the section below, perhaps monetary compensation and work meaning are complementary.

Some studies show that most-productive and more pro-social individuals are also more interested in meaningful job attributes (for example, Bode, Singh, and Rogan 2015; Hedblom, Hickman, and List 2016; Serra, Serneels, and Barr 2011) and/or reacted more strongly to the addition of meaning (for example, Burbano 2016). Independent of the underlying explanation for such an association, these correlations could point to the importance of offering a meaningful job in the war for high-performing talent—beyond just offering a competitive financial compensation package.

In sum, heterogeneity in preferences for meaning is substantial—not only in terms of whether individuals care at all about work meaning, but also in terms of what aspect of the job they value. While the correlates and causes of this heterogeneity need further study, the key point in the next section is that the existence of heterogeneity has implications for human relations strategy, in terms of sorting of workers and designing incentive and screening devices by firms.

Implications for Incentive Theory and Labor Supply

How does the meaning of work affect models of incentive theory and labor supply? To tackle this question, we sketch a conceptual framework that incorporates work meaning and that allows consideration of the relationships between nonmonetary incentives, monetary compensation, effort, and labor supply. To date, the literature on nonpecuniary motives for work has been quite fragmented, and we hope that this approach can provide a unifying and coherent framework.

A Utility Function with Work Meaning

In a standard neoclassical model of work motivation, a worker's utility function depends on two arguments: utility from income as a means to consumption, which is generated by a combination of financial compensation w and a level of effort e (which can be interpreted as hours and/or intensity of work), and utility from leisure, which, in the case of incentive theory, is typically modeled as the disutility or cost of effort. A worker chooses the effort level that equalizes its marginal benefits in generating income with its marginal costs in giving up leisure.

We propose to extend this basic neoclassical model to include work meaning as the third argument in the utility function, which then includes: the utility from income Y as a means to consumption, a cost C of providing effort (or foregoing utility from leisure), and the utility from meaningful work. Modeling the meaning of work as a separate term from effort cost is consistent with the interpretation of effort costs as preferences for leisure in a labor supply model and with previous theoretical work on intrinsic motivation (for example, Besley and Ghatak 2005; Delfgaauw and Dur 2007, 2008; Cassar 2016).¹ Here we focus on the case where work meaning enters positively into the utility function, so that work is a source of intrinsic motivation. However, a severe lack of work meaning (or "alienation") would enter negatively into the utility function. This utility function can be written as:

$$U = Y(w, e) + M(\boldsymbol{\theta}, \mathbf{x}, e) - C(e),$$

where M is the production function of meaningful work and \mathbf{x} is a four-dimensional vector of the four aspects of job meaning (mission, autonomy, competence, and relatedness), which can be treated as exogenous or as endogenously chosen by the employer. The 4-dimensional vector $\boldsymbol{\theta}$ captures the weight assigned by the agent to each of these four aspects: thus, it captures the heterogeneity in preferences for meaning.

¹Furthermore, this approach allows us to keep the standard assumption of increasing and convex effort costs and still predict a positive amount of effort even in the absence of monetary incentives or threat to be fired. This prediction seems more compatible with our work experience as academics, with the huge numbers of volunteers worldwide, and with the fact that many public organizations are still operating in spite of the near-impossibility of firing their employees.

Notice our assumption that M depends on the worker's effort e . The earlier evidence suggests that meaningful work translates not only into job satisfaction, but also into higher productivity and effort. Hence, we do not interpret the meaning of work as a stock variable, or a fixed characteristic, or as an additional constant in the utility function. Rather, we interpret *work meaning* as a flow, in the sense that it happens simultaneously with *work*. In other words, we see work with meaning as an intrinsic output that needs some ingredients to be generated—one of which must be that the agent is actually exerting effort to work. We assume that the meaningfulness of work increases with each of the four job dimensions, as well as in the agent's effort.

In this framework, the marginal effect of effort on producing meaningful work should be nondecreasing in each of the four dimensions of job meaning. This assumption matters: if my job is meaningless, no matter how much effort I will put in, it will not generate much meaning. If my job is meaningful, by working more I can also produce more meaning in this work. As an example, if my job has a strong "competence" dimension, in the sense that it allows me to apply my skills to solve challenges, then by working hard I can derive very high meaning from work. On the contrary, if my job has a weak "competence" dimension, such that I do a repetitive and unskilled task with little acknowledgment, then no matter how much effort I exert, I will not derive much meaning.

Depending on the application, some dimensions of job meaning may be affected by the wage and, therefore, M can also be a function of financial compensation w . For example, the feeling of relatedness in a job may depend on the wage level. Similarly, the sense of competence could be affected by the wage if wages are interpreted by workers as a signal or recognition of the worker's talent. If financial compensation affects both consumption and work meaning, it suggests the possibility of complementarities between financial pay and job meaning.

This framework links previous (otherwise disconnected) theoretical models of workers' intrinsic motivation (for a review, see Rebitzer and Taylor 2011). For example, Delfgaauw and Dur (2007, 2008) assume that workers vary in their intrinsic motivation to exert effort, but they do not model where this intrinsic motivation comes from. Compared to these models, we endogenize intrinsic motivation by making it dependent on the four dimensions of job meaning. Benabou and Tirole (2003) consider how performance incentives offered by an informed principal can adversely affect an agent's perception of ability to perform a task, and in turn intrinsic motivation. In our framework, this aspect of workers' utility would be captured by workers' preferences over the competence dimension of meaning. Besley and Ghatak (2005) study the effect that matching an organization's mission to the agents' preferred mission has on monetary incentives, hence it focuses on our first dimension of meaning. Prendergast (2007, 2008) assumes that bureaucrats care about the well-being of their clients, which can also be synthesized as bureaucrats having mission preferences. Akerlof and Kranton (2005, 2008) and Henderson and Van den Steen (2015) emphasize the role of corporate identity for the design of incentives, which in our framework would be captured by workers'

preferences for relatedness. The behavioral contracting model with reciprocal agents by Englmaier and Leider (2012) can also be incorporated in our framework through workers' preferences for relatedness. Our notion of job design also captures some aspects of "corporate culture" (for a review of an economic analysis of corporate culture, see Hermalin 2012). However, our modeling of job meaning does not focus on what are often taken to be common ingredients of organizational culture, such as repeated interactions, shared information, and convergence toward common beliefs and preferences (Martinez, Beaulieu, Gibbons, Pronovost, and Wang 2015). Rather, it emphasizes how a culture with a strong focus on mission, autonomy, competence, and relatedness increases job meaning and thus can be highly valued by the employees.

A productive research agenda could be devoted to deepening our understanding of the four nonmonetary incentives and of the function that generates work meaning. For instance, are these different dimensions complements or substitutes? Armouti-Hansen, Cassar, and Dereky (2018) take a first step by studying contracting in a setting where agents can be motivated both by the social mission of their job and by reciprocity concerns towards the principal. One of their findings is that these two dimensions of job meaning are complementary in sustaining efficiency wages and in increasing effort. As another question, is the feeling of being competent more relevant for autonomous tasks or in teamwork? The answer is not obvious. One might argue that autonomous decision-making and feeling of competence go hand in hand, or one might argue that designing a job that gives a feeling of competence is particularly relevant in teamwork, because the sense of acknowledgment and recognition will motivate workers to continue doing their share even in settings where free-riding might be tempting.

When Should Firms Invest in Meaning?

In a framework that includes these dimensions of job meaning, decisions of both workers and firms become more complex. Workers may face new trade-offs between different dimensions of job meaning, while companies will have to form beliefs about workers' preferences and decide whether and how to invest in job meaning. In general, a firm's decision to invest in job meaning will depend on the cost of providing meaning, the relative marginal return on the effort of adding meaning versus increasing income, and the composition of the labor force.

Providing job meaning is likely to be costly for the firm in both time and financial terms. It can also restrict firms' choice sets in terms of incentive schemes and monitoring activities. Tournaments and employee rankings are likely to increase pay inequalities, which undermines the bonds between co-workers (Cassar and Klein 2017) and can have negative consequences in terms of lower effort and anti-social behavior (Harbring and Irlenbusch 2011; Goette, Huffman, Meier, and Sutter 2012). Monitoring can be perceived as a lack of trust and undermine the sense of relatedness. However, job meaning can increase firms' benefits from investing in training and technologies, the use of which could potentially help workers to build more competence. Workers' desire for impact can make it profitable for firms to give workers more autonomy (Dur and Glazer 2008).

Finally, job meaning will affect the design of compensation schemes. Given the utility function with job meaning described above, it is straightforward to show that it is optimal for a profit-maximizing employer to invest in job meaning and to offer a lower piece-rate compared to the benchmark case. Hence, consistent with previous work on intrinsic motivation (like Besley and Ghatak 2005), identity theory (Akerlof and Kranton 2005), and behavioral contracting with reciprocal agents (Englmaier and Leider 2012), job meaning is likely to flatten the optimal wage schedule, emphasizing the role of substitution between job meaning and performance-based monetary incentives.²

Given budget constraints, firms compare the marginal return of monetary incentives on effort to the marginal return of nonmonetary incentives. Several experiments have compared the relative impact of offering more money versus offering higher pro-social mission in the form of higher charitable donations. Tonin and Vlassopoulos (2015) and DellaVigna and Pope (2018) find that monetary incentives are more effective in boosting effort than charitable incentives, while Imas (2014) and Charness, Cobo-Reyes, and Sánchez (2016) find that the opposite is true for lower incentive levels. But all these studies find that workers' responses are insensitive to the size of the charitable incentives: that is, stakes matter less for charitable than for monetary incentives.³ While this evidence is extremely preliminary and specific, it may suggest that firms that start with high pay and no social mission should find a greater payoff from investing in meaning—as long as their employees care to some extent about job meaning. Conversely, industries or occupations characterized by high pro-social mission and low pay—perhaps nonprofits or occupations like teachers and social workers—have relatively less to gain by increasing job meaning than by increasing pay.

Seeking to create meaning through a change in mission or job design may require some fundamental changes in the organization. In terms of mission, it is widely believed that greenwashing, or pretending that a product is environmentally friendlier than it actually is, backfires. Carlos and Lewis (2017) show empirically that some firms even decide *not* to publicize environmental certifications to avoid a risk of being perceived as hypocritical. In Cassar and Meier (2017), we collaborated with an Italian company to hire workers on M-Turk to create slogans for the company's products. In this setting, introducing pro-social incentives caused workers to react negatively by creating fewer slogans. Nonmonetary incentives, when used instrumentally, can be worse than ineffective.

Finally, firm decisions about adding meaning might not only be about increasing effort, but about attracting certain types of agents. However, targeting motivated agents may not be simple, especially if the agents' preference over job meaning are unobservable (for examples, see Delfgaauw and Dur 2007, 2008; Prendergast 2007; Cassar 2016). Delfgaauw and Dur (2008) show that if effort is unverifiable,

²The results may be different in a setting where higher piece-rates can serve the purpose of increasing the feeling of competence and, therefore, job meaning.

³See also the evidence and structural model in DellaVigna, List, Malmendier, and Rao (2016).

nonmotivated workers will find public sector jobs highly attractive and may crowd out motivated workers. If effort is verifiable, it becomes possible to screen the workers, which will affect how much job meaning a principal wants to offer. Cassar (2016) allow job meaning (in the form of the project mission) to be endogenous and show that an organization will invest more in job meaning in environments in which effort is noncontractible. On the contrary, unobservable heterogeneity in workers' preferences for meaningful work will lead employers to underinvest in job meaning relative to the socially optimal level. It will also induce them to offer separating contracts on the meaning dimension. Journalism offers an example of such a practice, in which journalists can be employed either as staff, and thus benefit from a higher pay but enjoy less project flexibility, or as freelance workers, who would typically earn less but have more freedom in choosing how to write their articles.

However, the extent to which firms will be able to screen for workers who care about job meaning will depend on the nature of the relationship between job meaning and financial incentives—namely, on whether meaning and monetary incentives are complements or substitutes. As we discuss in the next section, this question remains open.

Paying Less for a Meaningful Job?

In principle, job meaning could be either a substitute or a complement to monetary compensation, which in turn will influence whether people accept lower pay for a meaningful job, or whether job meaning and pay tend to rise together. The evidence on this point is mixed.

One source of evidence would be to look at nonprofit jobs, based on the assumption that they are more likely to offer meaningful work. However, the evidence on wage differentials for nonprofit jobs is mixed (for example, Mocan and Tekin 2003; Ruhm and Borkoski 2003; Preston 1988). Apparently, such wage differentials only exist for certain positions or certain industries, and it depends on the share of meaning-driven workers in the market (Leete 2001; Jones 2015). Moreover, comparisons between the nonprofit and the private sector will be biased if more productive employees self-select into the private sector.

There is also evidence that firms that invest in corporate social responsibility are able to offer lower wages (Nyborg and Zhang 2013). Again, such studies do not represent a random sample of firms and employees, but instead are subject to sorting and self-selection biases. Some experimental evidence confirms that it can be possible to offer lower wages for meaningful jobs and that sorting can matter. As mentioned before, Burbano (2016) shows that providing information about an employer's social responsibility reduced reservation wages. In a principal-agent laboratory experiment, Cassar (forthcoming) shows that agents exert more effort when effort generates a donation to a charity (pro-social mission) and that profit-maximizing principals take advantage of this intrinsic motivation by offering 20 percent lower monetary incentives. However, this study also finds that principals who care a lot about charitable giving offer higher piece-rates in the presence of, rather than in the absence of, the donation. This finding suggests that jobs with

meaning do not necessarily pay less than jobs without meaning, and that the preferences of the employer matter too.

In general, if job meaning and financial compensation were substitutes, and informational asymmetries make it hard to learn about the meaningfulness of the job, then a low wage would also function as a signal about the job being meaningful (Benabou and Tirole 2003; Sliwka 2007). Additionally, if individuals care about having a meaningful job as a signal to others and/or to themselves that they are pro-social, then high monetary incentives may weaken this signal (Frey 1997; Bénabou and Tirole 2006; Ariely, Bracha, and Meier 2009). For a discussion of crowding-out of intrinsic motivation, see Gneezy, Meier, and Rey-Biel (2011) and Frey and Jegen (2001).

Evidence from experimental studies is mixed regarding whether lower incentives affect the pro-sociality of the applicant pool. Dal Bo, Finan, and Rossi (2013) and Ashraf, Bandiera, and Lee (2015) do not find that higher monetary incentives affect the pro-sociality of the applicant pool for government positions in Mexico and Zambia, respectively. However, Deseranno (forthcoming) shows that more-lucrative positions offered by a new health promoter nongovernment organization in Uganda were perceived as being less pro-social and discouraged agents with high pro-social preferences from applying. As the positions in the latter study were new and the ambiguity about the task higher, it is possible that the difference in information asymmetry created differences in the results between the studies. However, if lower wages cannot attract more motivated agents, then offering low compensation might not be possible—even for meaningful jobs.

On the other side, some studies point towards complementarities in human resources management practices (for a recent overview, see Englmaier and Schuessler 2016) and thus between job meaning and financial compensation. The Ichniowski, Shaw, and Prennushi (1997) study mentioned earlier has shown in an industrial context that the *combination* of incentive pay with a flexible job assignment increases productivity, which implies that for one context, at least, the complementarities between monetary and nonmonetary incentives are important. Bartling, Fehr, and Schmidt (2012) show in an experimental study that such complementarities can endogenously lead to two different types of jobs: “‘bad’ jobs with low discretion, low wages, and little rent-sharing, and ‘good’ jobs with high discretion, high wages, and substantial rent-sharing” (p. 834). The experiment shows the importance of screening for motivated agents and how competition for motivated workers leads employers to offer good jobs. In this experiment, “motivated” workers reacted negatively to low wages—even in the presence of high autonomy. Within this experimental setting, low wages cannot be offset by other meaningful job characteristics (in this case, offering a contract with full discretion) if they violate fairness norms.

How should the evidence about the meaning of work affect our thinking about monetary incentives in the workplace? Lazear (in this volume) reviews a wide range of evidence that workers care about financial compensation and that monetary

incentives can increase effort. We view the evidence on job meaning as complementary with the evidence on monetary incentives in the workplace. For example, to the extent that job meaning and financial compensation are complements, our analysis gives reasons, beyond consumption, why employees may value higher wages: it shows recognition for a person's work.

Moreover, our theory offers predictions for when monetary incentives are likely to be effective. For instance, in a work environment deprived of job meaning—that is, the task is repetitive and boring, effort is not acknowledged, no control is given over the production process—monetary compensation will be the only remaining motivator. Unfortunately, there seems to be many jobs that provide little meaning. According to Gallup polls, more than 67 percent of US employees and more than 86 percent of employees worldwide report being not engaged in their jobs over the past 15 years (Mann and Harter 2016). Dur and Lent (2018) find that 8 percent of workers consider their job to be socially useless, while an additional 17 percent are doubtful on the issue. Most of these workers work in private-sector jobs involving simple and routine tasks, as well as jobs in finance, sales, marketing, and public relations. Technological advances might increase the number of workers who still face the problem of alienation in the modern workplace. *The Economist* magazine (2015) published an article called “Digital Taylorism: A modern version of ‘scientific management’ threatens to dehumanise the workplace.”⁴

An interesting and open question is whether monetary incentives are likely to prove as effective in environments that are characterized by a high level of job meaning (including a sufficiently high wage that satisfies workers' need for both relatedness and competence). The answer depends on how much weight workers attribute to consumption relative to job meaning and how these terms enter into the utility functions. Perhaps if job meaning is already high, financial incentives can still be very effective in incentivizing people to work harder in order to increase their consumption. Alternatively, perhaps when the role of job meaning is already quite powerful in motivating effort, monetary incentives cannot really add much in this context. Either way, the answers will be very relevant for firms that want to win the war for talent.

How Meaning Affects Labor Supply

Preferences over work meaning also have implications for labor supply. One can apply the utility function described earlier to a model of labor supply by substituting the variable “effort” with “hours” and by replacing the cost of effort with the utility derived from leisure time. A worker maximizes this utility function by deciding how many hours to work. In a model that did not include work meaning,

⁴For other empirical evidence of alienation at work, Shantz, Alfes, and Truss (2014) use data from 227 employees in a manufacturing organization in the UK and find a strong positive association between lack of perceived job meaning, skill utilization, and decision power, on the one hand, and work alienation, on the other, which, in turn, is found to be positively correlated with emotional exhaustion and lower levels of well-being.

the marginal benefit of an additional hour worked is the wage. Hence, the wage would be set equal to the marginal rate of substitution between leisure and income. In a model with work meaning, the worker will gain additional meaning from more hours worked, which will raise the number of hours worked compared with the standard neoclassical optimality condition. In this setting, any reduction in employment will hit utility on two margins: lower income and lower meaning derived from work.

This perspective has policy implications. When government is thinking about the value to place on reducing unemployment, it should take into account both the loss of income and the loss of meaning caused by unemployment. In addition, workers who gain meaning from work will be less likely to reduce their hours than workers motivated by income alone. For this reason, work meaning makes labor supply (and thus employment) less procyclical than otherwise.

There is some evidence to support the connection from quantity of labor supplied to a sense of meaning. Research from happiness surveys has established the negative relationship between unemployment and well-being beyond income effects, and monetary unemployment benefits do not seem to fill this gap (for a literature review, see Frey and Stutzer 2010). Moreover, unemployment and retirement can be detrimental for health (for example, Kuhn, Wuellrich, and Zweimüller 2010; Fischer and Sousa-Poza 2009). However, we are still lacking empirical evidence that clearly shows that the channel through which unemployment affects well-being and health is in fact the reduction in meaning.

How should one reconcile a positive effect of job meaning on labor supply with the evidence that many people choose to take early retirement (Lazear 1986)? Again, we have to consider the heterogeneity in people's preferences over work meaning. Perhaps early retirement choices are mainly driven by those workers who derive little meaning from their jobs. In fact, research studies in health and sociology suggest that low job control—defined as “workers’ authority to make decisions concerning their own activities and skill usage”—and bureaucratic workload (such as paperwork and meetings) are predictors of early retirement (Elovainio et al. 2005; Van Droogenbroeck and Spruyt 2014). Furthermore, even if workers with meaningful jobs chose to retire as soon as Social Security benefits begin, we do not know the counterfactual—namely, how early they would have chosen to retire if their work did not have any meaning.

Finally, notice that the connections from work meaning to labor supply sketched here make the big assumption that meaning is derived from work, and not from leisure. This assumption is in line with views that individuals get “Sunday neurosis,” “that kind of depression which afflicts people who become aware of the lack of content of their lives when the rush of the busy week is over and the void within themselves becomes manifest” (Frankl 1959, p. 107). Of course, leisure activities can provide meaning, too. But it seems worth reconsidering the emphasis and interrelationships that economics has traditionally given to “work,” “leisure,” and “human goals.” Perhaps the focus has been too narrow.

Conclusions and Directions for Future Research

Many workers care about more than financial compensation in their job. Nonmonetary incentives often matter, too. A firm's mission and the design of one's job can create meaning and purpose for employees. As a result, firms will have reason to care about meaning of work. We believe economists can usefully contribute to the debate about the implications of meaningful work. We are not arguing that financial compensation is unimportant. Lazear (in this volume) provides an excellent review of monetary incentives in certain organizations. But we believe that in order to manage modern organizations and understand the future of work, studying workers' nonmonetary motives will be crucial.

As the discussion in this paper has shown, there are a large number of open questions both theoretically and empirically about the effects and the limits of meaning as a nonmonetary incentive. Here are some aspects worth exploring.

First, although the framework of work meaning sketched here can serve as a starting point, a crucial step will be to develop formal models of work meaning. For example, we need to explore how the four dimensions of meaning interact with each other, whether they are substitutes and complements, and how monetary incentives are affected and affect the different dimensions. We have also argued that work meaning is valuable *per se*, but if some individuals care about meaning in order to signal a certain image to others or themselves, the implications can be quite different (Kosfeld, Neckermann, and Yang 2017). Additionally, workers might care about meaningful work because it serves as a signal of an unobservable characteristic, like a firm's trustworthiness. In a field experiment on eBay, Elfenbein, Fisman, and McManus (2012) show that tying charity donations to a product serves as a signal that the seller's product will be of high quality. If firms that emphasize meaningful work are sending signals by doing so, then even workers who react little or not at all to job meaning *per se* might find nonmonetary incentives to be relevant.

Second, we need to collect more detailed data on the four dimensions of job meaning proposed in this paper. Just focusing on (and trying to measure) GDP per capita and income inequality is too limited. Recently, economists have started measuring preferences for workplace attributes beyond income, such as flexibility, particularly in students or call center employees (Wiswall and Zafar 2017; Mas and Pallais 2017). This is a great start, but more systematic measures (both objective and subjective) of all different dimensions of work meaning for a representative population are needed.

Third, heterogeneity in workers' preferences for meaning is important. Because the most meaning-driven agents have been shown to be the most productive and the most likely to contribute to public goods within organization, nonmonetary incentives become an important tool in the war for talent. Competition for such employees, informational asymmetries, and the possibility of screening are likely to play roles and should be further investigated (Kosfeld and von Siemens 2011; Bartling, Fehr, and Schmidt 2012). Also, while we considered heterogeneous preferences for meaning as exogenous, preferences for meaning might also be

endogenous—that is, created and reinforced (Ashraf and Bandiera 2017). This opens new ways of thinking about how organizations might be able to foster preferences for meaning or how past experiences and education can influence people's motivation to work.

Fourth, the tradeoffs between nonmonetary and monetary incentives need to be better understood. This means measuring the relative importance of different types of incentives, and also studying the interaction and substitutability between meaning, financial incentives, and other human resources/management practices. For example, an issue not addressed in this paper is how sustainable it is to motivate employees through work meaning. Some aspects of meaning, like the job design elements of autonomy, competence, and relatedness affect how work is done daily. In contrast, corporate social responsibility investments may affect workers who are choosing between two employers, but have less effect on daily productivity (or they might even have negative consequences as discussed in List and Momeni 2017). However, we have been struck by the evidence that even when meaning is artificially added, it can affect people's effort and labor supply (think of the Lego experiment by Ariely, Kamenica, and Prelec 2008), and we suspect that the positive results from such artificial additions of meaning represent a lower bound of the effects of meaning on people's motivation to work.

Finally, technological advances seem likely to affect the meaning of work. New technologies can increase job meaning in that they enable a more flexible organization of work (such as telecommuting), eliminate repetitive tasks, and help employees develop competences. But technological advance can also be detrimental for job meaning in that it can increase division of labor and monitoring. More broadly, if technology affects job meaning of various jobs differently, it might not only affect income inequality but inequality in work meaning. Economists can inform both firms and public policy by integrating work meaning as one essential ingredient in their theories of work motivation and by studying its implications for organizational economics, labor policies, and beyond.

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