

# Identity and the Economics of Organizations

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**O**n plebes' first day at West Point, called R-Day, they strip down to their underwear. Their hair is cut off. They are put in uniform. They then must address an older cadet, with the proper salute and with the statement: "Sir, New Cadet Doe reports to the cadet in the Red Sash for the first time as ordered." Plebes must stand and salute and repeat, and stand and salute and repeat, until they get it exactly right, all the while being reprimanded for every tiny mistake. In the summary of David Lipsky (2003, pp. 145–154), who spent four years tracking a company of cadets at West Point: "On R-Day you surrender your old self in stages." But R-day is just the beginning of the training and personal re-engineering that is to come, so that West Point graduates emerge four years later as loyal officers in the U.S. Army. Lipsky shows that, despite some failure, this tough program is remarkably successful in creating officers with the will to lead in battle.

Economists' current picture of organizations and work incentives has no place for the West Point program and the motivations it seeks to inculcate in recruits. In a standard economic model, an individual's preferences are fixed, and utility depends only on pecuniary variables. The Army's aim at West Point is to change cadets' preferences. They wish to inculcate non-economic motives in the cadets so that they have the same goals as the U.S. Army. Alternatively stated, the goal of West Point is to change the *identity* of the cadets, so they will think of themselves, above all else, as officers in the U.S. army. They will feel bad about themselves—they will lose utility—if they fall short of the ideals of such an officer. This change in identity

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is a way to motivate employees, different than incentives from monetary compensation. Indeed, a change in identity is the ideal motivator if, as in the army, the effort of a worker is either hard to observe or hard to reward. The West Point example, which shows a missing motivation in economists' current depiction of organizations, suggests a need to modify our models, just as physicists' discovery of "missing matter" has led them to alter their model of the universe.

The goal of this paper is to construct an economic model of identity and work incentives and hence capture these missing motivations. Through the model we make explicit what must be added to the current economic framework in order to capture sources of motivation central to the psychology and sociology of workers and organizations.<sup>1</sup> We present a principal-agent model that incorporates the notion of identity, where employees may have identities that lead them to behave more or less in concert with the goals of their organizations. With such an identity, workers are willing to put in high effort rather than low effort with little wage variation. We further consider the possibility that, as at West Point, management can alter workers' identities.<sup>2</sup> We will give many examples to argue that this identity-enhanced model gives an accurate and even surprisingly subtle description of motivation in both the military and the civilian workplace.

Bringing the concept of identity into the economics of organizations can change our understanding of policies such as incentive pay and supervision. Our models and examples suggest that from the classroom to the boardroom, inculcat-

<sup>1</sup> The framework in this paper both extends and synthesizes previous work on nonpecuniary sources of worker motivation. Lazear (1991) reviews psychological explanations for different organizational practices—such as pay equality—and shows how they can emerge from standard economic models. Other researchers have explored how status, morale, team spirit, preferences for cooperation or fairness may all affect incentives and job performance. For status, see, for example, Frank (1984), Fershtman, Weiss and Hvide (2001) and Auriol and Renault (2002). For morale, see Bewley (1999). For team spirit, see Kandel and Lazear (1992). For preferences for cooperation, see Rob and Zemsky (2002). For fairness, see Akerlof and Yellen (1990). Our approach can provide a common language to study such aspects of workers' utility. For example, "morale" would embody the extent to which workers identify with the firm. Workers' preferences for cooperation or for team spirit would be, in our language, workers' identification with their organization or workgroup. Their preferences for "fairness" as in Akerlof and Yellen (1990) would be the desire to live up to an ideal. Our framework could describe "corporate culture," but our modeling is quite different from prevailing economic views, such as Kreps (1990), where corporate culture is an equilibrium of a repeated game between management and employees, Cremer (1993), where culture is shared information, or Lazear (1995), where culture is common beliefs or preferences that emerge from an evolutionary process. Hermalin (2001) offers a review and critique of the approach we take. In our view, corporate culture would be the division of the workers into different groups, the prescribed behavior for each group and the extent to which workers identify with the organization or with the workgroup and adopt their respective goals.

<sup>2</sup> The classic sociologists Barnard (1936) and Selznick (1957) discuss such motivation. For example, Selznick (p. 26) described "The leader's responsibility [as] defin[ing] the mission of the enterprise . . . Truly accepted values must infuse the organization." Kogut and Zander (1996), who are modern expositors in this tradition, describe the role of *identity* for worker motivation.

ing in employees a sense of identity and attachment to an organization is critical to well-functioning enterprises.

We argue that identity is an important supplement to monetary compensation, which as sole motivator can be both costly and ineffective.<sup>3</sup> Reviews by Prendergast (1999) and Gibbons (1998) indicate the pitfalls of monetary incentive schemes. Economic theorists have derived the best ways to use available information to construct incentive pay for workers. But monetary incentives remain a blunt instrument. First, compensation schemes can be based only on variables (such as output or profits) that are observable to management. But such variables are most often imperfect indicators of individual effort, as when—for example—output derives from workers' collective efforts in a team (Holmstrom, 1982; Baker, 1992; McLaughlin, 1994). Moreover, many monetary incentive schemes create opportunities for workers to game the system. For example, most jobs involve *multiple tasks*. In this case, workers will have incentive to overperform on the tasks that are well rewarded and to underperform on the tasks that are poorly rewarded (Holmstrom and Milgrom, 1991). *Tournaments*, where pay depends upon relative performance, solve one management problem by reducing its need for information, but create another problem because workers have the incentive to sabotage one another (Lazear and Rosen, 1981; Lazear, 1989).<sup>4</sup>

Empirical work validates these theoretical concerns. People respond almost too well to monetary incentives. That is, “firms get what they pay for” (Gibbons, 1998), but since the schemes cannot be targeted well, what firms get is often not what they want.<sup>5</sup>

These problems indicate that if an organization is going to function well, it should not rely solely on monetary compensation schemes. We argue that the ability of organizations to place workers into jobs with which they identify and the creation of such identities are central to what makes organizations work. Besley and Ghatak (2003) and Prendergast (2003) argue similarly that production is enhanced when organizations hire workers who share the organization's mission. An employee who identifies himself as an insider in an organization needs little monetary inducement to perform his job well.

<sup>3</sup> A new theoretical and experimental literature explores a yet further departure from standard economic theory. It shows how pecuniary incentives can “crowd out” nonmonetary incentives, such as fairness, reciprocity and adherence to social norms, thus leading to worse overall performance (Frey and Jegen, 2001; Rob and Zemsky, 2001; Huck, Kübler and Weibull, 2003; Gneezy and Rustichini, 2000; Fehr and Gächter, 2002).

<sup>4</sup> Workers' concerns with *fairness* introduce yet another reason why they will resist variation in monetary compensation (Akerlof and Yellen, 1990).

<sup>5</sup> Gibbons (1998) argues that subjective performance criteria and repeated interactions could improve outcomes. But these latter formulae involve their own set of difficulties—for example, employees have the incentive to use productive time to influence their supervisors' evaluations, and new circumstances can lead firms to renege on long-term implicit promises to workers.

## What is Identity and a Model of How it Affects Work Incentives

We begin by explaining what we mean by identity. We build our explanation on notions of tastes and preferences that depart from the standard neoclassical view. The first such notion is *norms*, which have been well described by a famous economist, Vilfredo Pareto (1920 [1980]), who noticed that much of utility depends not only on what economists normally think of as *tastes*, but also on *norms* as to how people think that they and others *should* behave. That conception, profound as it is, results in very little change in economics until it is combined with yet another observation, that these views as to how people should behave depends upon the particular *situation*—that is, when, where, how and between whom a transaction takes place.

It has been long accepted in sociology and psychology that people's notions of how to behave depend on the situation, and researchers discern norms for behavior by varying aspects of the situation. One key aspect is who is interacting with whom. Is the person a man or a woman? A black or a white? A manager or a worker? Researchers use the term *social category* to describe types of people and argue that social categories matter to behavior because people often think of themselves (perhaps to greater or lesser degree and more or less consciously) in terms of social categories. Moreover, norms as to how they and others should behave vary with their social category and the situation. The term *identity* is used to describe a person's social category—a person is a man or a woman, a black or a white, a manager or a worker. The term identity is also used to describe a person's self-image. It captures how people feel about themselves, as well as how those feelings depend upon their actions. In a model of utility, then, a person's identity describes gains and losses in utility from behavior that conforms or departs from the norms for particular social categories in particular situations.

This concept of utility is a break with traditional economics, where utility functions are not situation-dependent, but fixed. In our conception, utility functions can change, because norms of appropriate and inappropriate behavior differ across space and time. Indeed, norms are taught—by parents, teachers, professors, priests, to name just a few. Psychologists say that people can *internalize* norms; the norms become their own and guide their behavior.

Identity is useful to economists because it suggests a natural way in which behavior can vary within a population. Since people think about themselves this way, identity corresponds to their own self-classifications and also to their classifications of others. People's speech, dress and demeanor typically convey how they think of themselves. Indeed, some identities, such as by gender, race or national origin, are so much taken for granted in everyday life that researchers do not even feel any obligation to explain why they should assume that behavior (and therefore the utility that determines it) should vary with them. For example, empirical studies commonly include dummy variables for gender, race or ethnicity without justification or comment. In general, identities, which can be much more subtle than

gender and race, consist of commonly understood classifications and are possible to observe.

Identity is also useful because it gives us a way to think about *how* behavior should vary across types. Associated with social categories are particular norms for behavior. Sociologists often describe this behavior by referring to *ideals*, who are real or imagined characters who personify how someone in a given social category should behave. A person who identifies with being a member of a respective social category then loses utility insofar as her behavior differs from that of the *ideal*. She may also lose utility insofar as associates fail to live up to ideals—a loss that sometimes can be alleviated by a retaliatory response.

The combination of *identity*, *social category*, *norm* and *ideal* allows parsimonious modeling of how utility functions change as people adopt different mental frames of themselves—that is, as they take on different possible identities. Economists have recently adapted from psychology the idea that utility depends upon how a situation is *framed* (Kahneman and Tversky, 1979). Identity describes one special way in which people frame their situation.

### A Model of Identity in Organizations

We use these concepts to build an illustrative model of work incentives and organizations.<sup>6</sup> A basic economic model would have a worker's utility depend on income and effort, with no relation to how she thinks of herself as a member of the firm. We allow for the possibility that the worker takes on an identity as part of the organization. She then loses utility to the extent she does not act in the best interests of the organization. We show how such an identity affects incentive pay. In later sections, we discuss workgroup identities and supervisory policy.

We amend the basic principal-agent model, which serves as a benchmark of current economic thinking about motivation in organizations. The model depicts the interaction between a firm and a worker. The firm wishes to devise the optimal contract to maximize its expected profits, which are expected revenues net of expected wage payments. The contract will optimally trade off the worker's wages, which reduce the firm's profits, against incentives for work, which increases the firm's revenues. The worker wishes to maximize expected utility. She has diminishing marginal utility from income (which we represent functionally as  $\ln y$ , where  $y$  is income); and she loses utility from effort (which we represent simply as disutility  $e$ , where  $e$  denotes effort). The firm and the worker face the following production technology. The worker can take only two actions: a high-effort action, denoted  $A$ , and a low-effort action, denoted  $B$ . The high-effort action increases the likelihood that the firm's revenues will take on a high value rather than a low value. The firm (that is, the principal) cannot observe the effort of the agent, but it can observe whether revenues are high or low. The firm's profit function, the employee's utility,

<sup>6</sup> A detailed version of the model is available at <http://www.wam.umd.edu/~rkranton/identityandorganizations.pdf>.

the relation between worker effort and firm revenues, and the information available to the firm, as described, are sufficient to determine the firm's optimal wage payments to the worker.<sup>7</sup> To give the worker the incentive to take the high-effort action, the firm will pay a high wage when it observes high revenues and a low wage when it observes low revenues. With a sufficiently large difference in these wages, the worker will do the high-effort activity, *A*.

How can we add identity to this model? Say that a worker can take on two different identities. In one case she identifies with the firm. She is an insider, an *N*. The norms for insiders are to act in the interest of the firm and to do the high-effort action *A*. When an employee has this identity, she loses some utility insofar as she deviates from the ideal action of *A*. On the other hand, the worker may not identify with the firm. She is an outsider, an *O*. The norm for an outsider is to do the least possible effort on the job, and she will lose identity utility insofar as she deviates from the low-effort ideal of *B*.

Adding together the economic and the identity components of utility yields a formula that summarizes our discussion of workers' utility. We suppose the worker can take on only two categories,  $c = N$  or *O*. Then the overall utility of the worker will be summarized by

$$U(y, e; c) = \ln y - e + I_c - t_d |e^*(c) - e|,$$

where *U* is the worker's utility, *y* is her income, *e* is her actual effort, *c* is her social category,  $I_c$  is her identity utility from being in category *c*, and  $t_d |e^*(c) - e|$  is the disutility from diverging from the ideal effort level for category *c*, denoted  $e^*(c)$ .

The preceding formula captures two important ideas not represented by utility functions of standard economics. First, it captures psychologists' and sociologists' view that decisions depend on *social category*. In the formula, the worker's utility varies with her category *c* as either an *insider* or an *outsider*. Second, the formula captures the notion of *norms* and *ideals*, since the worker's utility depends on the deviation of her effort from the ideal for her respective social category, according to the worker's identity and situation.

The addition of identity-utility in this fashion greatly affects the contract between the firm and the worker. It is straightforward to derive the following result: if the worker has an identity as an insider, the presence of identity utility will *reduce* the wage differential needed to induce the worker to take the high-effort action *A*. Correspondingly, if the worker identifies as an outsider, the presence of identity

<sup>7</sup> This information is sufficient to describe the *incentive compatibility constraint*, which is the condition that the worker will prefer to pursue the high-effort activity *A* to the low-effort activity *B*. The optimal contract must also give the worker at least as much utility as she could gain from other employers. In standard terminology, it must satisfy the *participation constraint*.

utility will *increase* the necessary variation of the contingent rewards.<sup>8</sup> The explanation is straightforward: When the agent sees herself as an insider, she maximizes her identity utility by exerting the high-effort level. She does not need a large difference in monetary rewards to induce her to work hard. When an agent sees herself as an outsider, she requires a higher wage differential to compensate her for the utility she loses when she works in the interests of the firm. We will see these features in our discussion of incentives in the military and in civilian firms below.

The model indicates possible interactions between identity and monetary incentives. Here, even though the identity-related goals of the  $N$  worker coincide with the goals of the organization, there is still a need for variable compensation as long as the worker's identity utility from taking action  $A$  does not completely outweigh the economic disutility of work effort. Identity flattens the optimal wage schedule, indicating identity and monetary incentives are substitutes. But this is not a general result. In a model with more than two effort levels, if identity reduces the employee's effort costs, the firm may find it optimal to elicit yet higher effort. In this case, we could well imagine that when a worker is an insider, the firm would *increase* rather than *decrease* the variation in compensation used to motivate the employee. In this sense, monetary incentives and motivation by identity can be complements, rather than substitutes.

Might a firm be willing to invest to change a worker's identity from an outsider to an insider? The answer is yes. In our model, a worker who derives identity from her job is willing to work for lower overall pay. In addition, less variation in wages is needed to induce her to take action  $A$ , and this lower wage variation results in additional cost savings for the firm. (The worker in this model is risk-averse, so she dislikes variation in wages. To compensate for the variation, the firm must pay higher wages on average for a worker to be willing to take the job. Hence, there is a cost advantage for firms when workers require less wage variation.) If these two cost advantages are high enough, it can be worthwhile for the firm to undertake a costly program to change workers' identities.

Comparative statics of our model can show when identity could play a bigger role in motivating workers and hence when a firm would be likely to invest in changing workers' identities. Changes in each parameter of the model, and any extension to it, will affect the firm's profits from investing in identity. If inculcating identity is cheap, if there is much uncertainty, if workers' effort is hard to observe, if revenues/output depend upon special exertion at peak times, if workers are especially risk averse, if high effort is critical to the organization's output, we would expect a firm to find it more profitable to use an identity-oriented incentive scheme.

<sup>8</sup> This outcome follows directly from the difference in costs of effort for different workers. The result, as such, is nothing new. What is new is the source of the cost difference—whether or not the worker identifies with the firm.

As one possible check on the model, consider military-civilian differences in the preceding list. It is relatively cheap to impart identity to soldiers and officers, since many self-select into the armed services and thus are open to its methods, and it is very costly to quit (for example, Lipsky reports that West Point is the only economically viable college education for many cadets). In the military, it is hard to observe effort, especially when it is most crucial—in battle. In addition, military personnel are especially susceptible to indoctrination because of their isolation. Hence, the model would predict that the military would rely more on identity than on monetary compensation, and this prediction is consistent with described differences between military and civilian organizations, which we discuss further below.

Lipsky's (2003) study of West Point offers a case study of how investments in identity are made, and social psychology and sociology have described the principles underlying the technology of such investments. Experiments in social identity theory have shown that it is surprisingly easy to induce attachment to an experimental in-group and animosity toward an experimental out-group. In the first such experiment, two groups of boys who had been placed in separate cabins in an Oklahoma state park broke into the eleven-year-old equivalent of war when brought together after one week. A large number of laboratory experiments, beginning with the work of Henri Tajfel (1978), have shown that subjects prefer members of their in-group, even though told that their group assignment is random. An earlier literature in social psychology, with greater emphasis on cognitive biases, explored the psychology of persuasion. For example, cognitive dissonance theory suggests why people who are led to choose an unpleasant experience will change their image of themselves: they need a consistent explanation why they made such a choice. Such changes in self-perception can be used to manipulate identities, as in fraternity initiations that induce loyalty to the fraternity. A large number of other perceptual biases can be used to alter subjects' self-perceptions. Recent experiments on adaptivity and durability bias indicate that organizations could ratchet changes in self-perceptions, especially if employees can be isolated.<sup>9</sup>

In formulating our notion of identity and building our model, we drew insights from the wide and varied literature outside of economics that describes and analyzes the military and civilian workplace. We give a distillation of this work here and show the match between our model and the described motivations of military personnel and civilian workers.

<sup>9</sup> Haslam (2001) describes in great detail social identity theory in social psychology, an approach that has been underemphasized by social psychologists because of their traditional emphasis on cognitive biases. There are numerous excellent reviews of the psychology of persuasion including those by Aronson (1984), Brown (1990) and Aronson, Wilson and Akert (2002). All of the biases described by Mullainathan and Shleifer (2003) in the interpretation of news are also of use to organizations in changing the self-perception of their employees. Wilson (2002) reviews the recent developments in adaptability and durability bias.

### Illustrations of the Model: The Military

Many different sources, including officer guides, autobiographies, sociological studies and military history, demonstrate the match between motivation in the military and the preceding model. Members of the military make an important distinction between *insiders* and *outsiders*—in this case, between military and civilian. They have an ideal of how a member of the military *should* behave, by placing “service before self” and following the directives of superiors. In a properly functioning military organization, soldiers think of themselves as soldiers (insiders) and ascribe to the corresponding ideal. Military academies and training purposefully inculcate the distinction between “military” and “civilian,” as they also instill the military code of conduct. Finally, the military relies on these ideals, rather than on incentive pay, to motivate its officers.

Every account and study we read of military life emphasized the military/civilian distinction. For example, in Omar Bradley’s (1999) autobiographical account of the Allied invasion of Europe in World War II, he speaks of the *soldier* as a social category. He takes this social category as his own identity in his title, *A Soldier’s Tale*. Bradley’s highest praise, which he reserves for exceptional officers such as Patton, Alexander and Hodges, is to call them *soldiers*.

Bradley’s *soldiers* epitomize the characteristics of members of the military and how they should behave. Moskos, Williams and Segal (2000, p. 1) describe the ideal soldier as “war oriented in mission, masculine in make-up and ethos, and sharply differentiated in structure and culture from civilian society.” Official and semiofficial documents in all branches of the services describe the norms for behavior. For example, the *Air Force Guide* tells its readers that soldiering is a profession with “a sense of corporate identity [*sic*]” (pp. 2–3).<sup>10</sup> The officer must obey the rules of the organization and follow orders given in the chain of command. He should not follow those orders passively, but should have “faith in the system.” Indeed, “[t]o lose faith in the system is to place self before service” (Benton, 1999, p. 8) and, thus, is a betrayal of the Air Force motto of “service before self.”

Military organizations actively promote such military identity. Military ideals and prescriptions for behavior are clearly stated and taught in basic training and military academies. In the terms of our model, the military makes investments to turn outsiders into insiders. Initiation rites, short haircuts, boot camp (Bradley, 1999, p. 14), uniforms and oaths of office are some obvious means to create a common identity (see the essay by General Malham Wakin at <http://www.usafa.af.mil/core-value/service-before-self.html>). The routine of the military academies shows some of the tools used to inculcate military identification. Lipsky describes the training and rituals at West Point in detail. Harsh training exercises, one might call them hazing, like what we describe in the introduction, are just one way the army stamps a new military identity on plebes (Janowitz, 1961, p. 129). Of course,

<sup>10</sup> Here we also see the notion propounded by Samuel Huntington (1957) of the military as a profession. Lipsky (2003) describes the popularity of this idea among the West Point brass during his stay there.

training can serve a direct teaching purpose. But cognitive dissonance theory suggests why such harsh training and hazing causes cadets to take on a different self-image, as they explain to themselves why they have (seemingly willingly) accepted such treatment.<sup>11</sup>

The military's stress on "service before self" and its deemphasis of pecuniary rewards suggest—as in our model—that military identity can substitute for incentive pay. Historically, the Army and Navy used an "up-or-out" system. Reflecting the officer code's emphasis on service, rank and pay for those who remained was based almost solely on seniority (Janowitz, 1961, pp. 61–62; Rostker, Thie, Lacy, Kawata and Purcell, 1993). Recent studies suggest that pay differentials between higher- and lower-ranking officers are much smaller than corresponding pay differentials in corporate hierarchies (Asch and Warner, 2001).<sup>12</sup> Ethnographies record live expressions of the ideal of service: An Army officer, Matt, briefly explored a return to civilian life upon completion of his five years of obligatory service after West Point. But among the companies he interviewed: "None of them ever really talked about what was important to me and that was service. All they talked to me about was money" (as quoted in McNally, 1991, p. 101).

Military personnel are also turned from outsiders to insiders as a byproduct of normal operations, which include separation from the civilian world and ongoing interactions within combat units. Here we see that the nature of an organization itself—dividing people into groups and workgroups—can affect identity and hence preferences and incentives. (We will later describe similar processes at work in the civilian workplace.) *The American Soldier*, a study of combat soldiers in World War II, finds soldiers' major incentive to fight came from adherence to the ideal fostered in the combat unit of being "a man." It meant showing "courage, endurance and toughness, . . . , avoidance of display of weakness in general, reticence about emotional or idealistic matters, and sexual competency" (Stouffer et al., 1949b, volume 2, p. 131). While initially the recruit behaved in this way to avoid the ridicule of his peers, ultimately, he internalized the ideal himself (volume 1, p. 412): "The fear of being thought less than a man by one's buddies can be as

<sup>11</sup> There is some dispute regarding the nature of the military ideal for enlistees and for officers. For example, Huntington (1957) sees the officer corps even after World War II as imbued with the military values of duty, honor, country, while Janowitz (1961) sees the military ideal as evolving toward the ideal of civilian organizations. Ricks (1997) claims that the military has become increasingly different from civilian society.

<sup>12</sup> The paucity of monetary incentive is seen not only within the military, but in comparison between military and civilian pay. For example, a 1955 comparison between Air Force brigadier generals and civilian executives of seemingly comparable rank showed the civilians had 60 percent fewer supervisees and charge over 94 percent less inventory, yet they received five times the pay of their military counterparts (Janowitz, 1961, p. 184). However, Asch and Warner (2001) offer an explanation for the low dispersion of military pay that is different from ours. They emphasize that the lack of lateral entry into the military means that the military has to recruit its managerial talent early in their careers and at the bottom of the hierarchy. This restriction results in relatively high entry-level pay in the military. In their model, the option value of talent also explains "up or out" and the unusual levels of retirement pay given to military employees.

powerful a control factor as the fear of the guardhouse. [The] process . . . is internalized and automatized in the form of ‘conscience.’”

Finally, military discipline as described in the *Air Force Guide* further supports our characterization. Discipline can reveal a community’s ideal for behavior: since disciplinary proceedings not only punish offenders, they also define proper conduct for nonoffenders (Erikson, 1966). The *Air Force Guide* is explicit about this role of discipline (Benton, 1999, p. 41): “[The] constraint [of discipline] must be felt not so much in the fear of punishment as in the moral obligation that it places on the individual to heed the common interests of the group. Discipline establishes a state of mind that produces proper action and cooperation under all circumstances, regardless of obstacles.”

We see here a stark contrast between this idealized response to discipline and the imagined response to punishments in standard economic models, like fines in Becker (1968), dismissal in efficiency wage models (Shapiro and Stiglitz, 1984; Becker and Stigler, 1974) and pay variations in a principal-agent model. In these models, the state of mind is invariant: for all punishments and rewards, the agent maximizes the same utility function, and discipline operates only through a reduction in income. These economic models have no place for the agent to feel moral obligation. In contrast, following the *Air Force Guide*, punishment and reward change individuals’ preferences so they desire to accomplish the task assigned by their superiors. In terms of the model, the disciplinary process defines ideal behavior (corresponding to the ideals of effort in the model).

Of course, very harsh discipline in the armed services also plays a direct role in the operation of a successful army. We view a small amount of such harsh punishment as controlling mavericks who do not adhere to the military ideal. A realistic extension to our model would include workers with varying susceptibility to military indoctrination, with punishment to keep the mavericks from burgeoning out of control as an epidemic. Lipsky’s (2003) *Absolutely American* emphasizes cadets’ internalization of West Point values, but an important subtext describes the harsh punishments given to those who do not live up to the standards.

### **Illustrations of the Model: The Civilian Workplace**

Our model is not only consistent with descriptions of the military, it also captures described motivation in the civilian workplace. The difference between outside workers,  $O$ , and of insider workers,  $N$ , in our model corresponds to a central dichotomy in the management literature, between extrinsic and intrinsic motivation.<sup>13</sup> Almost any account of the history of organizational behavior contrasts the theory of Taylorism from the early twentieth century with the human relations movement that began with the study of the Hawthorne works of Western Electric in

<sup>13</sup> Adler and Borys (1996), whose “Two Types of Bureaucracy: Enabling and Coercive” correspond respectively to the *insider* and *outsider* branches of our model, suggest that this dichotomy is reproduced in the business literature on the role of bureaucracy.

the 1930s. According to Taylor (as quoted in Hodson, 2001, p. 29), management should define tasks, determine the best way to accomplish them and pay accordingly. Some jobs, especially those involving easily monitored tasks, are still managed this way. But since the 1930s, management theory has emphasized the difficulties of monitoring tasks and, therefore, the importance of individual or group-oriented motivations.

Current theories of management emphasize management's role in changing employee objectives (or in terms of the model, encouraging workers to be insiders, *N*, who identify with the goals of the firm, rather than outsiders, *O*). Aligning the objectives of workers and management is the goal in Management by Objective, where employees are given a role in setting their own goals. Management by Objective works largely by changing self-motivation, as summarized by a manager in the study of an accounting firm, "After a while [striving to exceed targeted objectives] had nothing to do with the bonuses. . . .It's the concept of having people fired up" (Covaleski, Dirsmith, Heian and Samuel, 1998, p. 313). With Total Quality Management (TQM) workers are said to identify with organizations whose goals give workers pride in their work. Peters and Waterman (1982) describe how a corporate mission—such as commitment to service or to product quality—pays off because of increased employee motivation. Thus, Caterpillar's commitment to deliver parts within 48 hours anywhere on the globe or McDonald's disposal of fries that are warm but not hot are argued to be cost-effective because workers' self-images are enhanced when they accomplish the firm's goals.

Some of the most famous taskmasters in industry and commerce have been known for their ideas about instilling company loyalty. Sam Walton (1992, p. 103) of Wal-Mart wrote, "If you want the people in the stores to take care of the customers, you have to take care of the people in the stores." Thomas Watson (Rodgers, 1969, p.100) of IBM said, "Joining a company is an act that calls for absolute loyalty." But identity and loyalty are not just features of firms with unusual charismatic leaders. Truman Bewley (1999) finds loyalty and identity in most of the Connecticut firms he studies. He argues (p. 2) that concerns about "the capacity of workers to identify with their firm and to internalize its objectives" explain why firms did not cut wages during the early 1990s recession when other workers were clearly available at lower pay.

Not only is self-motivation and identification with the firm important to professionals and managers, it is also important to workers far down the occupational ladder. Hodson's (2001) review of U.S. work ethnographies and the litany of workers' stories in Stud Terkel's classic *Working* (1972) show the importance of identity.

Consider Mike, a steelworker from Cicero, Illinois (Terkel, 1972, p. xxxi–xxxv). His interview affirms the validity of the model, but in an unexpected place. Mike is an *outsider*; he dislikes his job intensely, he feels insulted by his foreman. For fear of unemployment, he contains his anger on the job, showing only minor resistance, by not "even try[ing] to think," by refus[ing] to say "Yes, sir" to the boss

and by occasionally “put[ting] a little dent in [the steel] . . . to see if it will get by.” But his anger builds up, and after work he frequently gets into tavern brawls, “Because all day I wanted to tell my foreman to go fuck himself, but I can’t.”

Mike’s behavior exactly fits the model. He is an outsider, *O*, who performs the high-effort action *A* rather than the low-effort action *B* because of the monetary rewards. He then loses identity utility because of the gap between the effort he expends and what he ideally would like to do. His hostility both on the job, and also off of it, is a way of partially restoring this loss of identity (Akerlof and Kranton, 2000, 2002). This example shows that even when pecuniary incentives are all that motivate a worker, identity does not lie dormant. Its consequences are still visible.

We now turn to Shirley, who is the opposite of Mike. Despite daily insults, she is a motivated worker, an insider, who takes pride in her position. Smith (2001) observes employees of Reproco (a pseudonym), which subcontracts on-site mail-room/photocopy work. Recognizing the potential for conflict between its employees and the professionals in the companies it serves, Reproco trains its employees to deal with insult from clients. An exchange at a Philadelphia law firm between a white lawyer and Shirley, an African-American photocopyist, illustrates: After the lawyer has expressed her impatience with the time to finish an order, Shirley responds by using her calculator to estimate the length of the queue. The lawyer walks off in a huff, saying (p. 30): “Shirley, you always bitch about these things. You are always just pushing those little buttons [on the calculator]?” Shirley maintains her composure by calling on her work identity as “a Reproco person.” With her pride in that identity (even in the presence of the lawyer’s contempt for it), she complies with the ideal to treat the client with respect. Shirley’s identification with Reproco causes her to engage in the high-effort action *A*, which here is holding her temper. Had she taken the easy way out and vented her anger (the low-effort action *B*), as an insider she would have lost identity utility for failing to live up to her own ideal. Her behavior and her explanation of it thus conform to the model.

We chose Shirley and Mike as illustrations. Yet every work ethnography we read showed that workers either identify with their jobs (like *insiders* in the model) or they are frustrated (like *outsiders* in the model, who only put in high-level effort because of monetary incentives). Here are a few snippets. Delta Airline stewardesses, for the most part, practice what they are taught in company training sessions: to be representatives of the airline, which entails a permanent smile, even in the face of “irates”—the company’s term for angry passengers (Hochschild, 1983, p. 250). Terkel (1972, pp. xlv–xlix) tells of a stone mason who takes pride in each and every job that he has ever done. Juravich (1985, pp. 135–136) tells of a worker in a wire factory whose in-your-face supervisor denies him permission to buy a new screwdriver to finish a job. The worker then damages equipment and further retaliates by hammering to pieces a spare part worth hundreds of dollars. Newman (2000, pp. 96–99) describes fast food workers in Harlem and Washington Heights who—despite the grease, heat, customer disrespect and low wages—still take pride in their uniforms.

Is there any way to measure the extent to which workers identify with their organizations? The General Social Survey (GSS) is a national survey of demographic and attitudinal variables with a current sample size of about 3,000 people. It asks employees about job satisfaction, and the 1991 survey includes a module about work organizations. According to our tabulations, 82 percent of employees disagree, weakly or strongly, with having little loyalty toward their work organization; 78 percent agree that their values and those of their organization are similar; 90 percent say they are proud to be working for their organization; and 86 percent are very satisfied or moderately satisfied with their jobs. These fractions differ only marginally across gender, race and blue-collar versus white-collar occupations. Of course, these responses do not tell us why workers feel this way. Perhaps firms invest in identity. Perhaps workers select organizations that share their values. Perhaps workers adopt their firms' values to minimize cognitive dissonance. But all of these explanations fit our general framework, in which identity is a component of a worker's utility.

## Identity and Workgroups

We now modify the model of the previous section to capture different levels of identity within an organization. Following the findings of classic studies in industrial sociology, we allow for workers to identify with their workgroup, rather than with the organization as a whole. We examine the implications of workgroup identity for incentives and supervisory policies. The revised model allows us to see an economic tradeoff in the interactions often seen in the literature. Supervisors that report workers' actions to management can help management fine-tune incentive pay and punishments. But there is a cost. Like Mike the steelworker, workers resent being monitored, and they are less likely to identify with the firm and its goals. They will then require higher pay to perform. On the other hand, when a supervisor does not actively monitor workers, workers cooperate more within their work units. But this cooperation and workgroup identification can also subvert management goals.

### A Model of Supervision and the Workgroup

Such tradeoffs can be considered with only slight modification of our previous model. We add a supervisor who can observe workers' actions and report (although noisily) on those actions to the principal. There are two possible supervisory regimes: "strict" supervision, where the supervisor provides information to the principal, and "loose" supervision, where the supervisor does not report on the worker's action. With *strict supervision*, the worker distinguishes herself from her supervisor, who she views as part of management: In reaction she becomes an *outsider*. With *loose supervision*, the worker views the supervisor as part of the

workgroup, as “one of us.” The worker identifies with the workgroup. We label her a *G*. As in the previous model, the norms for an outsider are to exert as little effort as possible on the job. The ideal effort level for the workgroup is less than the firm desires, but possibly greater than that of outsiders. The model is completed with only slight change from before.<sup>14</sup>

The model yields a tradeoff. Consider the firm’s choice between strict and loose supervision. Strict supervision used to attain high effort leads to a high wage bill for two reasons. The firm must compensate the worker for her loss of identity utility from performing in the interests of the firm. The firm must also compensate the worker for variation in pay. In the face of these costs from tight supervision, the firm may choose loose supervision, so that workers identify with the workgroup with its middle-level effort norms.

Realistically, firms have many ways to choose the intensity and nature of supervision. The employer could affect supervisor-worker relations and workgroup identity by policies such as job rotation (that is, keeping groups together or breaking them up systematically), workgroup composition, physical arrangements and firm-sponsored activities including group lunchrooms, sports teams or company gatherings. Affinity or discord between workers and supervisors may also derive from sources outside the workplace, such as education, ethnic backgrounds or family ties.

Classic sociological studies on civilian workgroups and evidence from the military show the existence of workgroup norms and of management’s frequent reluctance to engage in strict supervision. The behavior in these examples, and the adherence to workgroup norms in our model, is ultimately observationally equivalent to a cooperative equilibrium of a repeated game (Carmichael and MacLeod, 2000). The studies below, however, indicate that identity and sense of belonging, not repeated strategic interaction, is often behind worker behavior.

### Dual Observations of a Chicago Machine Shop

The interactions observed in a Chicago Machine Shop show the correspondence between workers’ motivations in the real world and the motivation in our workgroup model. By coincidence, sociologists Michael Burawoy (1979) and Donald Roy (1953) wrote participant observer accounts of the same small-parts machine shop. Both studies offer clear evidence how loyalty to the workgroup

<sup>14</sup> Either as members of a workgroup or as outsiders, workers lose identity utility insofar as their effort departs from their respective ideal. Also, two revenue outcomes are observable to the principal, high and low, and the probability of high revenues increases with the level of effort. Rather than just *two*, there are now *three* possible levels of effort: the ideal effort as perceived by the firm (the ideal effort of insiders), the ideal effort of the workgroup and the ideal effort of outsiders. The principal’s belief that the worker put in high effort depends on observed revenues and the signal sent by the supervisor regarding the worker’s level of effort. As before, the principal must give the worker as much utility as she can obtain elsewhere.

results in the middle-level productivity associated with the norms of the workgroup.

In this shop, a worker's pay was the maximum of an hourly wage rate and a job-specific piece rate. Management aimed to set piece rates that would equalize the difficulty of reaching a monetary target across jobs. But they apparently did a bad job of it: a large fraction of jobs were "gravy," where meeting the target—or "making out" in the language of the shop floor—was very easy. In Roy's time, there were also quite a few "stinkers," where the piece rate was so low that meeting the target was impossible.

In the model, workers have an ideal level of effort; they also lose utility insofar as they deviate from this ideal. We see both in the machine shop. The norm, known to all employees in the shop, was to earn no more than 140 percent of base pay, a level that was feared to trigger an investigation by the time study men (Burawoy, 1979, p. 51; Roy, 1952, p. 430). Moreover, norms of behavior were to "make out" and to aid others in evading the rules in order to make out. Such evasion involved beginning a new job before clocking out on the previous one (known as chiseling), avoiding production in excess of the output quota and fooling the time study men. Indeed, both Roy and Burawoy see the operators as having turned their work into a game, whose goal is to "make out." The pay from making out was less an end in itself than the score in the game (Burawoy, chapter 4, especially, p. 82 ff.; Roy, p. 511 ff.). Burawoy holds that winning at this game was central to the self-concept of a machine operator (Burawoy, p. 84, quoting Roy, p. 511). "Making out" was a "form of self-expression," as it was also "an end in itself." These feelings were shared among all the machine operators. "As Roy and I soon came to appreciate: *if we were to be anyone in the shop, we had better begin making out*" (p. 88, italics added). Thus, while the workgroup norms subverted management's goal of fine-tuning job completion times (corresponding to the goal of an *insider* in the model), they did involve finishing a job in the time allocated (corresponding to the middle-level goals of a member of the workgroup in the model). Note also that, as in the model, the worker loses utility insofar as he deviates from the ideal effort; here in the machine shop, workers are unhappy both if they fall short of making out, and they are unhappy if they also produce too much.

Roy's and Burawoy's accounts both pose the natural question: why didn't management run a tighter shop? The shop floor was crowded with many auxiliary workers whose duties made them aware of the machinists' chiseling. Yet management failed to press any of these potential informants for information. Occasionally, it sent time study men onto the floor, but these management representatives allowed themselves to be hoodwinked by a variety of fairly obvious strategies. Why did management not try to collect information on chiseling from the many observers on the shop floor? The model suggests an answer: the workers, with their own norms, produced results that were satisfactory to management, which feared that strict supervision would reduce productivity.

### **The Bank Wiring Observation Room, a Midwest Manufacturing Plant and Lincoln Electric**

Another classic sociological observation of workgroups, the Bank Wiring Observation Room experiment, shows what we could only guess from the Chicago machine shop: that worker response to strict supervision may result in a decline in output. In 1931, the Western Electric Company, at the behest of the pioneering industrial sociologists Mayo, Roethlisberger and Dickson, observed a small group of workers in an isolated room within a communications equipment assembly plant (Homans, 1951). These workers formed a workgroup who produced telephone switches. As in the Chicago machine shop, they established a clear norm for effort, producing two switches per day. However, when a strict supervisor tried to take a hard line on them, via tough inspections, the workers retaliated. They sabotaged his work, and the two-switch norm fell apart. The company had to transfer the supervisor elsewhere.

Seashore's (1954) study of workgroups in a heavy machinery plant gives statistical evidence suggestive of both the existence and influence of workgroup norms. In this plant, assignment to work units was close to random.<sup>15</sup> From questionnaire responses, Seashore constructed an index of workgroup cohesion and then analyzed the relation with individual worker productivity. If workgroup norms exist and affect productivity, we would expect greater independence of individual productivity in noncohesive groups than in cohesive groups. This prediction of the workgroup model is borne out by a low variance in productivity in high-cohesion groups. Also, because independent factors can cause considerable variation in workgroup norms across groups, we might expect that, across groups, the variance in productivity of cohesive groups will be greater than the variance in productivity of noncohesive groups. Such a prediction is also borne out by the data. Seashore's study also supported variability in strictness of supervision, as workers gave dispersed scaling regarding whether their foreman was "closer to the men" or to "management."

Lincoln Electric, which has long been a poster child for incentive pay, poses questions about our theory. All base pay at Lincoln Electric is on a piece-rate basis, and productivity is estimated as three times that of comparable manufacturing plants (Milgrom and Roberts, 1992, p. 393). But further description of Lincoln Electric suggests that its success may not depend just on piece rates. Accounts of Lincoln also emphasize its special community. Workers at Lincoln, like Lipsky's West Point cadets, are quick to indicate that they are in a special place. As at West Point, Lincoln Electric management prides itself on being tough but fair and on showing unusual concern for their workers. This pattern contrasts with the large

<sup>15</sup> Of course, the assignments could not have been totally random since similar jobs demand similar characteristics, and friends may seek to be in the same work section. The problems here are the usual ones concerning self-selection regarding the identification of peer effects on individual behavior (Manski, 1993; Durlauf, 2002).

social distance between management and workers in the Chicago machine shop. Furthermore, while base pay is from a piece rate, half of workers' compensation comes from a bonus based on management's subjective evaluation of workers' respective overall performance, including their cooperation (Fast and Berg, 1975, p. 6; Gibbons and Waldman, 1999, p. 2388). Management has a special ability to allocate these bonuses fairly at Lincoln because the openness of the plant gives them information to do so. But also, like the West Point cadets, workers are unusually accepting of the system. Why is the incentive system so successful at Lincoln? Our model suggests a possible answer: beyond its special piece rate system, management at Lincoln also has created unusually committed insider ( $N$ ) workers. According to company president James Lincoln, "there is no such thing in an industrial activity as Management and Men. . .being two different types of people" (Fast and Berg, 1975, p. 8). In this way, Lincoln has trumped the usual problems with incentive pay. It also presents a special case of the possibility mentioned earlier: that worker commitment and pay differentials may be complements.

### **Group Identity in the Military**

Accounts and memoirs also illustrate the role of loyalty and workgroup identity in the military and the tradeoffs of loose versus strict supervision. We previously discussed how interaction in a combat unit instills an ideal for behavior. In their description of a battle in Vietnam, Moore and Galloway (1992, p. xiv) emphasize the incentives instilled in the combat unit: Soldiers fight for their buddies. The authors write that they went to Vietnam because of a sense of duty to country. But in battle, a tight bond developed among the soldiers, giving them the inspiration to fight: "We discovered in that depressing, hellish place, where death was our constant companion, that we loved each other. We killed for each other, we died for each other . . . . We held each other's lives in our hands." Such feelings appear to be quite general. Stouffer et al. (1949b) give similar poignant accounts of soldiers' loyalty for their buddies, as expressed, for example, by a soldier wounded in Sicily: "You would rather be killed than let the rest of them down" (volume 2, p. 136). In the terms of the model, this code of conduct is the ideal behavior of the workgroup.

This loyalty serves the organization since soldiers exert more than minimal effort, but as in the model, it also has costs. In an interview on National Public Radio, General Theodore Stroup described the problems that arise from loyalty to the unit (Stamberg, 2001). When a member of their unit does something wrong, soldiers face a conflict: "When they get in a stress situation[. . .] [s]ubconsciously they may have their own internal argument that says, 'I know I must be loyal to my unit, but I must be loyal also to a higher authority, which is standard of conduct, rules of justice, rules of law.'" He illustrates with the crew's reluctance to reveal the events that led to the *USS Greenville* colliding with a Japanese fishing trawler when

the submarine surfaced off the coast of Hawaii in the winter of 2001.<sup>16</sup> Stroup cites the loyalty of the crew to its skipper as typical of small working groups in the military. This cover-up illustrates the potential costs to the organization of adherence to workgroup norms.

Stouffer et al. (1949a) show statistical evidence of the model's choice between loose or strict supervision. In questionnaires, officers, privates and noncommissioned officers were asked their opinion regarding appropriate discipline in different situations. These questions frame the classic dilemma of military officers between loyalty to their men or to higher command. In every case, reflecting the ambiguous position of the "supervisor" pictured in the model, the noncommissioned officers took a middle ground between the officers and the enlisted men. For example, interviewees were asked how they would behave "as a platoon sergeant [who] find[s] that one of the men in your barrack has brought a bottle of liquor into camp." Seventy percent of privates, 59 percent of noncoms, but only 35 percent of officers, said they would just "warn him to be careful and not do it again" (volume 1, Table 13, p. 409).

## Conclusion

This paper argues for an expanded economic model of work incentives and organizations to include the concept of identity. The identities of employees, who may (more or less) identify with their firms, workgroups or jobs, are central to the study of work in sociology, psychology, anthropology and management. We construct two prototype models to show how we can include these missing motivations in an economic analysis. We formalize the notions of identity, social category, norm and ideal. We incorporate these ingredients into simple principal-agent models, and the analysis reveals interactions between identity and traditional economic variables such as pay and disutility from work effort. For example, we show that a worker who identifies with his firm requires less incentive pay: the firm need not give as much reward nor as much punishment in order for a worker to do his job well. In addition, since identification with a firm can lower average wages, a firm could find it profitable to invest in the identity of its workers. Like military academies, firms could find it profitable to transform workers from outsiders into insiders, who feel an affinity and responsibility toward the organization. A second model shows possible tradeoffs in supervisory policy. A strict supervisor who reports on workers' actions allows management to match pay to work effort in a better way.

<sup>16</sup> Nine Japanese fishermen on the *Ehime Maru* were killed. It was eventually revealed that a group of oil executives and their wives were on an excursion on the *Greeneville*. The *Ehime Maru* had been sighted 71 minutes prior to the accident, but the presence of the civilians crowded into the control room is believed to have resulted in failure to recheck its position; thus, the collision. For details, see (<http://emperors-clothes.com/articles/jared/sink.htm>).

But there is a cost. Workers will identify less with the firm and require more incentive pay to do their job. A supervisor who does not report on workers' actions does not create a division between himself and the workers. Workers then identify with the workgroup and adhere to a workgroup productivity norm. The examples from the U.S. military and from civilian firms that run through this paper demonstrate that these two models reflect the motivation of real people in real situations.

The models we have in this paper just scratch the surface of the implications of identity for the economics of work incentives and organizations. We believe identity-enhanced models would allow a new view of a variety of management policies, organizational behaviors and employment policies. For example, one well-known conclusion from the economics literature is the importance of connecting pay to firm performance in the form of pay differentials. This conclusion has been popularly applied to chief executive officer (CEO) compensation packages, where pay differentials are achieved through stock options. Yet an economic analysis would also indicate a problem with this policy. As in the multitasking models, the more a CEO's compensation is tied to the stock price, the more he will act to maximize the stock price to the detriment of other important tasks. In this case, what can work? Our analysis suggests one possibility: like Army officers, CEOs would have better incentives if their identity were bound up in their position in the firm.

Identity could have implications well beyond the evaluation of incentive schemes. First, as discussed above, identity considerations could affect an organization's optimal supervisory policy. Second, the concept of identity could help us formulate a better model of management—management could serve to motivate workers by changing or affirming workers' identity. Third, identity is likely to have implications for merger policy, since the operation of a merged organization would be affected by the identities inherited from the merged components. Many a promising merger has failed because of such a clash. Fourth, by modeling an employee's attachment to a firm and motivations to act in the firm's interest, we can represent the legal concept of a *fiduciary*. Thereby, we can expand the scope of economic theory to examine legal policy concerning responsibilities of people in both subordinate and oversight positions within a firm. Finally, it is now widely accepted among economists that institutions are a major determinant of economic wealth and growth. Our study of worker identity suggests possible differences in organizational behavior across rich and poor economies.

We see identity as the next step in the evolution of the economic modeling of organizations. In the simplest representation, an organization is equated to its physical capital. A more sophisticated view, following the work of Gary Becker, adds the specific human capital of employees to the description of the firm. Contract theory adds the contracts with its labor force, suppliers and customers as further characteristics of the organization. Information theory adds information flows. Our picture of motivation adds a further dimension. An organization has a set of jobs or situations where it can place employees. The organization then has the opportunity

to make investments that cause workers to identify with the organization, with their job within it or with their workgroups. Including identity in such fashion captures Max Weber's (1914 [1978], pp. 958–959) view of successful bureaucracies, where “An office is a vocation” and “entrance into an office. . . is considered an acceptance of a specific duty of fealty to the purpose of the office.” It captures as well the motivational flow charts of March and Simon (1958, pp. 34–111), who also emphasized the role of identity. Insofar as the firm can profitably motivate its employees through such attachments, these investments should be considered a part of the capital of the organization, its *motivational capital*. Beyond that label, which may be useful, identity considerations yield a much richer portrait of organizations than currently in the economics literature—a portrait that we believe is truer to life.

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