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24 Motivation and Awards

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24.1 Introduction

Money is necessary to survive. Moreover, income is taken to be an indicator of success. Pay-for-performance has been widely used to incentivize employees to put in more effort at work. Economic theory has been built on the idea that monetary incentives are primordial instruments to induce people to work. Accordingly, the focus has for a long time exclusively been on extrinsic motivation, while intrinsic motivation has either been totally disregarded, attributed to a "do-gooder" ideology, or at best taken to be an irrelevant constant.

With the advent of economic psychology and behavioral economics (for a review of each respectively, see Kirchler and Holzl, 2017, and Thaler, 2016), it has increasingly been understood that for many activities – most importantly in the voluntary sector, but also in normal economic areas – intrinsic motivation is crucial. Even more significantly, it has been understood that intrinsic motivation may be undermined by extrinsic interventions. In particular, this "crowding-out effect" (Frey, 1994), as it is called in economics, applies when monetary payments are used for activities partly or mainly based on intrinsic motivation.

As a consequence, instruments beyond monetary compensation, enhancing rather than destroying intrinsic motivation, have received increasing interest by economists. As individuals are known to crave recognition by their peers and a wider public, awards present a suitable instrument to raise intrinsic motivation: awards specifically honor persons for performing above and beyond the call of duty.

Our chapter presents a survey of the analyses undertaken in economics with respect to human motivation and awards. We focus on empirical work in the form of experiments as well as econometric analyses in the field. The first part is devoted to motivational crowding effects, and the second part focuses on awards.

24.2 Motivation in Economic Theory

The "economic approach to human behavior" (Becker, 1976; Frey, 1999), which has allowed economics to enter and shape the intellectual territory of other disciplines (see also Lazear's discussion of "economic imperialism"; Lazear, 2000a), has skillfully applied the relative price effect. It stipulates that an incentive from outside induces an extrinsically motivated person to act in a predictable manner. All other things being equal, an action becoming more expensive is undertaken less than if the price rise had not occurred. In contrast, psychologists focus more on the intrinsic motives leading a person to action. People are intrinsically motivated when they behave in a certain way because they want to do so by their own volition and inherent interest in the task, or because they are induced to do so due to an internalized social norm.

Economists do not normally differentiate between various sources of motivation. Motivation is assumed to be the underlying preference for the reward that is associated with a particular action. Intrinsic motivation is taken to be an exogenously given constant, and is therefore often neglected. The theory of motivation crowding bridges the gap between the standard economic approach based on extrinsic motivation and psychological theories considering intrinsic motivation. Motivation crowding theory proposes a systematic relationship between extrinsic and intrinsic motivation.

Two different branches of literature in the social sciences suggest that monetary rewards may crowd out intrinsic motivation. In his book *The Gift Relationship* (1970), Richard Titmuss argued that paying for blood undermines intrinsic social values and as a result diminishes or even eliminates people's willingness to donate blood. His proposition was not based on any systematic empirical evidence. A second strand of literature was developed in psychology: under specific conditions, extrinsic rewards undermine intrinsic motivation (Deci, 1971; Deci and Flaste, 1995; Deci and Ryan, 1985). Providing monetary rewards for more and better work may result in people reducing, rather than increasing, their work effort. There are "hidden costs of rewards." These psychologically based theories on intrinsic motivation have over the last decades been integrated into economic theory (Bénabou and Tirole, 2003; Frey, 1992, 1997). The "hidden costs of rewards" have been generalized in two dimensions:

1. Extrinsic rewards (material and symbolic) as well as sanctions may undermine intrinsic motivation. As the polar opposite to intrinsic motivation, high-powered rewards may also lead to manipulation as well as choking under pressure, whereby increased effort leads to lower performance.
2. Extrinsic rewards impair image motivation because they put the motives underlying one's behavior into question; this holds in particular for prosocial behaviors.

The "crowding-out effect" belongs to the most important anomalies in economics. It proposes the exact opposite effect to the relative price effect on which standard economics is founded. In particular, increasing monetary incentives does not necessarily raise effort, but may even decrease effort, thus leading to a counterproductive outcome. The relative price effect may be reversed if there is intrinsic and/or image motivation that is crowded out.

This chapter surveys the theoretical and especially the empirical evidence on crowding-out and crowding-in effects on intrinsic motivation (Section 24.3). Section 24.4 considers awards as an important case of a positive external intervention systematically affecting individual behavior in the economy. The following section looks at awards in the public realm, that is, at awards such as state orders or prizes in the academic sector.

24.3 Crowding Effects

24.3.1 Processes

The possible negative impact of external interventions on intrinsic motivation has been attributed to three psychological processes. Firstly, self-determination can be impaired. Individuals perceiving an external intervention to impair their self-determination experience diminished autonomy. Their intrinsic motivation risks being substituted by extrinsic control. The locus of control is shifted from inside the person to forces outside the person. Individuals following their intrinsic motivation may feel overjustified if they are led to behave in a specific way by an outside intervention, and in response may lower their intrinsic motivation. They can attribute their past behavior to the existence of the reward, even if that behavior had originally emanated from intrinsic motivation to perform the task. Secondly, self-esteem is reduced. A person's intrinsic motivation is rejected if an outside intervention suggests that the actor's motivation (or ability) is insufficient (Bénabou and Tirole, 2003). The person perceives that his or her involvement and competence are either not appreciated or indeed lacking. Related to the undermining of self-esteem is the crowding out of image motivation. People cannot display their involvement if an activity is rewarded from outside, or if they are ordered to do so. Due to the forgone opportunity to gain social esteem, individuals put in less effort. Note, however, that the image motivation being crowded out is distinct from intrinsic motivation. Thirdly, the fact that an extrinsic reward needs to be offered at all may signal that the task as such must be uninteresting.

The first two processes determine the directions in which crowding effects take place:

a. External interventions *crowd out intrinsic motivation* if people perceive them to be *controlling*. Self-determination and self-esteem are impaired. The individuals respond by reducing their intrinsic motivation in the activity.
b. External interventions may *crowd in intrinsic motivation* if people perceive them to be *supportive*. Self-esteem is fostered. Individuals perceive a larger extent of freedom to act, enlarging their self-determination.

24.3.2 Policy Implications of Motivation Crowding

Crowding effects may be important in many different economic realms. An important case is the labor market, where the effect of higher pay on work effort is in question. This holds most strongly in the case of pay-for-performance systems, which have become an almost uncontested instrument for eliciting higher performance from employees. This trend is well supported by the theoretical economic literature. Following principal–agency theory, the incentives of employer and employee can be aligned when the latter's pay is performance-based. Empirical studies for a special work environment (mounting glass windshields in cars) seem to support the effectiveness of pay-for-performance (Lazear, 2000b). However, generalizing these findings to other work contexts, and in particular those involving complex tasks, it was wrongly concluded that price incentives have a general positive effect on work performance. Motivation crowding theory serves as a warning against premature generalizations of conclusions based on effects found in simple task environments, where intrinsic motivation is absent or at least weak. As a consequence, crowding-out effects are far less likely to occur than under complex working conditions.

In environmental policy, pricing instruments, such as pollution charges, may drive out environmental ethics. In social policy, monetary incentives may crowd out the need to assume responsibility for one's own fate. Monetary subsidies may negatively impact entrepreneurship and innovation. Crowding out may also be relevant in contract theory, where relational or "psychological contracts" rely on intrinsic motivation. (Further examples are provided in Frey, 1997, and Osterloh and Frey, 2000). To summarize, standard economics, which largely relies on a skillful application of the price effect, tends to overrate the power of payment-based instruments and policies because it neglects intrinsic motivation and its variability.

24.3.3 Empirical Evidence

The relevance and direction of crowding effects on intrinsic motivation have been analyzed in extensive laboratory and field experiments (see Frey and Jegen, 2001).

24.3.3.1 *Laboratory Evidence*

Psychologists have undertaken a large number of laboratory experiments on crowding effects.

A meta-study collects the evidence on the "hidden cost" phenomenon in social psychology (Deci, Koestner, and Ryan, 1999). The reported results are based on 128 controlled experiments and suggest consistent effects of extrinsic rewards on intrinsic motivation. Tangible rewards are shown to have a significant negative effect on intrinsic motivation for interesting tasks. On the other hand, supportive verbal rewards have a significant positive effect on intrinsic motivation. However, tangible rewards do not crowd out intrinsic motivation if they are unexpected. The survey concludes that rewards are able to influence people's behavior in a systematic way. On average, rewards tend to undermine self-regulation, and people take less responsibility for motivating themselves.

Economists have also tested motivation crowding theory in laboratory experiments. They find that sanctions may crowd out human altruism (Fehr and Rockenbach, 2003). Crowding effects in contract enforcement have also been analyzed in the framework of evolutionary repeated contract game models (Bohnet, Frey, and Steffen, 2001). The experiment inquired how the participants' motivation and behavior evolved depending on the institutional setting. When contracts were closely enforced, first movers could rely on the fines imposed by the legal system to deter second movers from breaching the contract. Institutional trust replaced personal trust. In contrast, low levels of legal enforcement, that is, a small probability of getting caught when breaching a contract, crowded in the intrinsic motives to treat others fairly. When first movers offered a contract even though both parties were aware that there was only a low probability of being fined for noncompliance, they signaled that they trusted that the second mover would not breach the contract. The analysis reveals that the number of contracts offered rose in the course of the game, which contradicts expectations in standard economics. The possible negative effect on individual intrinsic motivation of externally imposed institutions is also found in a series of other experiments designed as contributions to a pure public good (Frohlich and Oppenheimer, 1998).

24.3.3.2 *Field Evidence*

Barkema (1995) studies the behavior of managers as agents in a firm. When managers are controlled by the parent company, that is, by an impersonal relationship, managers' performance is raised because intrinsic motivation is little or not affected. In contrast, when the firm's chief executive officer controls the managers, there is a personalized relationship that tends to reduce the agents' effort. The external intervention shifts the locus of control toward external motivation. When agents perceive that their superiors do not acknowledge their competence, their intrinsic motivation is crowded out.

Intrinsic motivation is of great importance when it comes to volunteering (Frey and Goette, 1999). Monetary rewards are found to undermine volunteering. The size of the effect is considerable. Interventions giving money or commands were found to backfire, resulting in less volunteering.

Practitioners seem to be aware of the possible traps of pay-for-performance schemes (see the survey by Bewley, 1995). They have experienced that external interventions via monetary incentives can be perceived as controlling, and that they may undermine intrinsic motivations in the form of work morale or creativity (on the latter, see also the research by Amabile, 1998). Managers are aware that workers have so many opportunities to take advantage of employers that it is unwise to only employ coercion and financial incentives as motivators.

This is in particular the case where performance cannot be perfectly observed (e.g., in the case of creative work).

Crowding effects are also of great importance with respect to social and public policies.

Day-care centers face the problem that parents sometimes arrive late to pick up their children. This forces teachers to stay after the official closing time. The economic approach suggests introducing a fine on parents collecting children late. Such a punishment is predicted to induce parents to pick up their children on time. However, in a well-known study, Gneezy and Rustichini (2000a) analyzed the effects of a monetary fine that was introduced by a day-care center to deter parents from collecting children late. The authors found that, contrary to the declared goal, after some time, the number of late-coming parents rose substantially. The monetary fine seems to have transformed the relationship between parents and teachers from a nonmonetary into a monetary one. The parents' intrinsic motivation to respect the time schedules was crowded out. The teachers were now perceived to be "paid" for the disamenity of having to stay longer. Parents' intrinsic motivation seems to have been crowded out for good since the number of late-coming parents remained constant at the lower level even after the fine was removed. (See also Gneezy and Rustichini, 2000b, for another study by the same authors, where low monetary incentives were found to lead to lower performance compared to offering no incentives at all.)

Signs for crowding-out effects were also found in the airline industry (Austin and Hoffer Gittell, 1999). Carriers use a variety of instruments to deal with delays. Principal–agency theory suggests to attribute a single delay as exactly as possible to its source. Evidence shows that this principle is negatively correlated with the airline's on-time flight performance. The most successful company in terms of departing on time was a carrier that used the general term "team delay" to indicate the source of a delay caused by the personnel, independent of whether a single employee, or one specific unit, was in fact responsible. A loose attribution to the source of delay seems to have crowded in the employees' intrinsic motivation to help out other units and groups.

A further study on crowding effects reports results of an econometric test of the consequences of offering communes compensation in return for accepting to host hazardous waste disposal facilities. The dilemma is known as the "Not In My BackYard," or NIMBY, problem. In general terms, there is a wide consensus that such projects are worth being undertaken. However, no commune is prepared to tolerate the vicinity of such projects. Frey and Oberholzer-Gee (1997) analyzed the reaction to monetary compensation offered for a nuclear waste repository in Switzerland. A survey among the population of the community that was chosen as a site by the national government revealed that half of the respondents (50.8 percent) agreed to having the nuclear waste repository built in their community, despite the fact that it was mostly seen as a heavy burden for the residents of the host community. The level of acceptance dropped to 24.6 percent when compensation was offered. The offer of money changed the perceived nature of the siting procedure. It reduced the intrinsic motivation to permit the construction of such a facility. A similar effect was found for the siting of a nuclear repository in Nevada, where higher tax rebates failed to increase acceptance (Kunreuther and Easterling, 1990).

Crowding effects also occur as a result of regulations. An example is provided by a field experiment conducted in Colombia, South America, where a regulatory approach was imposed from the outside with the aim of preserving the local tropical forest. However, this intervention was shown to have produced more egoistic behavior on the part of the population involved, and the destruction of the forest ended up being intensified (Cardenas, Stanlund, and Willis, 2000).

Crowding theory is also relevant to how constitutional and other legal rules affect individual citizens. Intrinsic motivation in the form of civic virtue is supported when public laws convey the notion that citizens are trusted, which is reflected in extensive rights and possibilities for political participation. In contrast, a constitution conveying a fundamental distrust in its citizens, and seeking to discipline them, crowds out civic virtue and the observation of basic laws. The effects of such a distrustful constitution are visible in various ways. The citizens are dissatisfied with the political system and respond by breaking the constitution and its laws whenever they expect to be able to do so at a low cost (Frey, 1997). Distrustful public laws reduce tax morale and, as a consequence, may lead to tax evasion (Feld and Frey, 2002). Econometric research shows that the extent of taxpaying cannot be explained in a satisfactory way without taking tax morale into account. Similarly, government employees in many countries are prepared to work for a significantly lower salary than their peers in the private sector. This may be attributed to the higher intrinsic motivation of people seeking employment in the public sector. There are teachers who want to work in state schools because they believe in the virtue of public education for society. The increasing tendency to closely supervise government employees and to curtail their discretion, however, risks crowding out their work morale.

A cumulative body of research indicates that people's perceptions of how they are treated by the authorities strongly affect their evaluation of authorities and laws, and their willingness to cooperate with them. Citizens considering the constitution and its laws, and the authorities upholding them, to be fair and to treat them respectfully tend to be more compliant than those with more negative perceptions of government (Tyler, 2006). In contrast, the extensive use of adversary institutions for resolving public conflicts tends to crowd out civic virtue (Kelman, 1992).

24.4 Awards

Awards express appreciation in public, and thus simultaneously provide *honor* and *esteem* to the recipient. They can take many different forms, ranging from orders, crosses, medals, decorations, trophies, certificates to honorary titles, and prizes. Awards can be found in virtually all spheres of life, extending their reach far beyond politics and the military. There are awards in the humanitarian sector, architecture, arts and entertainment (film, television, radio, dance, music, literature, design), education, journalism, advertising, games, and sports, as well as in academia.

Awards provide an alternative to the monetary bonuses that over the past few years have come under strong attack in the popular media as well as among scholars (e.g., Frey and Osterloh, 2012). In the top echelons of many parts of society, including the financial and business sectors, medical professions, sports, and academia, performance pay has sharply increased. This has led to grave concerns about the increasingly unequal distribution of income. Awards and public recognition can play a significant role as they offer an alternative to monetary pay.

There are mixed reactions to awards and honors in some quarters. An ironic example is *The Economist* (2004), which featured an article on the British honors system entitled "A Ridiculous, Outdated System That Cannot Be Improved Upon" (p. 31). We argue that it is important to draw a distinction between different forms of awards, and that in several regards awards are an important complement to the incentives normally considered in economics.

Awards have prominent advantages over monetary compensation in several respects. Most importantly, we argue that awards may *support intrinsic motivation* because the giver explicitly expresses that the recipient has performed well and with distinction. For that reason, they are less likely to crowd out intrinsic motivation. Awards have greater *visibility* than bonuses and other monetary rewards since they are given in public and often draw media attention. This visibility makes the signal of recognition more credible as the award givers put their own reputation at risk. We therefore argue that awards express recognition far better than mere transfers of money. These automated money transfers not only lack any emotional and personal context; they are also oftentimes a strictly private matter because many organizations prohibit employees to reveal their salary and bonuses to colleagues. A third advantage of awards is that they can be bequeathed for *broad achievements*, and the performance they honor need only be vaguely specified. With awards, the givers are able to recognize performance that is difficult or impossible to exactly define and measure. This applies in particular to future performance whose content cannot be determined beforehand. Such vagueness is typical for qualified occupations in modern economies. Only menial work can be exactly defined, measured, and given a one-dimensional value.

A further advantage of awards is that they can strengthen *employees' commitment* to the organization honoring them. The intrinsic motivation to perform well and in the interest of the employer is strengthened. In contrast, performance pay conveys the notion to the employees that all that matters is to reach the criteria in order to get the bonus. The content of work becomes secondary. As a consequence, employees are induced to disregard everything not covered by the criteria imposed – even if they know this is bad for the organization they work for. That this matters greatly was well expressed by

Napoléon Bonaparte, who reportedly stated: "Le ruban d'un ordre lie plus fortement que des chaînes d'or." He believed in the capacity of awards to produce loyalty above and beyond material incentives.

Award givers may of course also strategically exploit the bond of loyalty established. They can put designated awardees in an uncomfortable and even dangerous situation by presenting them with an award. This situation occurs when the would-be recipient does not agree with, or even opposes, the donor's ideas, behavior, or policies, and yet has to accept the award in public. Outsiders interpret acceptance as a sign of association and agreement with the donor. However, in particular in authoritarian or dictatorial states, refusal of such an "honor" risks angering the giver and can be denounced as a disloyal action toward the state. Not accepting an award may therefore produce heavy costs for the person refusing the honor. Under such conditions, the giver has a strategic advantage when using awards. However, the *bond of loyalty* between the givers and recipients can also affect the former. The givers are to some extent held accountable for the recipients' conduct as they considered the latter worthy of being honored. At the same time, a public refusal to accept the award has negative reputational effects on the giver if the person refusing the award is held in esteem by others.

Another function of awards is that they can be used to *structure and shape a field*. This applies, for instance, to the Grammy Awards (Anand and Watson, 2004), whose verdict of what is to be deemed high quality has had a great influence on the music industry. In the reasons given for bequeathing an award as well as in the ceremony accompanying the award's conferral, the givers have an opportunity to communicate what is important to them, what should be achieved, and how this should be done. In that sense, awards have an expressive function that givers can use to influence the values people hold. Bequeathing an award also provides a suitable opportunity for *networking* with persons engaged in the same or related fields. As a result, joint actions can be undertaken, therewith furthering the goals of the award-giving organization.

Awards are a *low cost* way to honor persons as well as organizations. The cost can be as low as that of a piece of ribbon given at an award ceremony. While such ceremonies may take an opulent form (such as in the case of the Nobel Prizes), awards are often given in the context of a meeting primarily serving another goal (e.g., an annual assembly or employees and clients). Moreover, awards as such are *not subject to taxation* (they are only taxed if accompanied by money, as is the case, for instance, with the Nobel Prize). In contrast, monetary bonuses and other material rewards, including fringe benefits such as expensive company cars or luxurious apartments, are taxed. This is most relevant when the marginal tax rate that applies is high.

Finally, awards provide *private benefits* to the decision makers (e.g., jury members) and award givers and sponsors. The media and the social attention gained raise their status in society, making them coveted in particular among those who hope to receive the award in the future. Oftentimes, the decision makers also reap private reputational benefits by having their names associated with that of a notable award recipient.

These characteristics of awards put them in contrast to mere pay raises. Income, of course, is a necessary part of work and cannot be dispensed with. However, just relying on money to foster people's motivation is a mistaken approach, in businesses as well as in society.

There are other alternatives to using money as an incentive, besides awards. One is *personal praise* or *positive feedback* given to persons acting in a way desired by the superiors. While this is a form of appreciation often valued by the recipients, it has little or no visibility among coworkers and the public at large. For personal praise and feedback, the status effect and the attention received in the general public are considerably lower than for awards.

Another motivator is *gifts* given to those employees considered to work well and in the interest of the organization. Gift giving confronts the giver with a problem similar to that encountered with monetary pay: the determination of the appropriate size and value of the gift to match the services performed. It is noteworthy that in almost all societies, an effort is made to conceal the price paid for gifts. This moves gifts closer to awards, which have no monetary value as such and are appreciated mainly for their symbolic content. Gifts can be employed to motivate employees, in particular if they signal that the superiors have made an effort to personalize them. Similar to awards, gifts are tangible and can serve as reminders of the recognition received. The effects on motivation can thus be more sustained than in the case of money, where people even tend to forget the exact amount received.

Employees can also be motivated to perform in the interest of an organization by *punishment* of deviant behavior. In most if not all societies, this approach has been extensively used, as the respective criminal law codes show. Such negative sanctions often endeavor to closely monitor and determine human behavior, but it is well known that this is possible only to a limited extent. People often invest a lot of effort and originality in circumventing and cheating on laws and regulations. Tax fraud is a case in point. To react by increasing punishment is only partly effective, as this induces people to move to other areas in order to circumvent the fines. There is an important negative consequence of forcing people to act in a particular way by threatening punishment. Intrinsic motivation in work is crowded out as it becomes unnecessary. Commitment, trust, and loyalty are lost, though they are of crucial importance in all societies, in particular in modern ones based on a large measure of independence at work.

24.5 Awards in the Public Realm

24.5.1 Origins and Literature

Many different principals, ranging from monarchs, presidents, and other public authorities to leaders in public and private organizations, hand out awards, often in large numbers. A science called *phaleristics* is devoted to the study of particular orders, gathering and documenting minute information on their statutes, history, and insignia (e.g., Pedersen, 2009, on the Danish Order of the Elephant). In sociology, there is a rich literature on concepts related to awards, such as fame and esteem, status, and social distinction (e.g., Bourdieu, 1979; Elster, 1985; Sauder, Lynn, and Podolny, 2012). In economics, a first and early endeavor to build a theory of awards was made by Hansen and Weisbrod (1972). Other economists came some time later (Besley, 2005; Frey, 2005; Gavrila et al., 2005). General accounts of awards have subsequently also been developed in Frey (2006, 2007), Frey and Neckermann (2008), Frey and Gallus (2017, 2016), and Gallus and Frey (2016, 2017). For other studies empirically evaluating the effects of awards, see Ashraf, Bandiera, and Lee (2014), Gubler, Larkin, and Pierce. (2016), Kosfeld and Neckermann (2011) on the *ex ante* incentive effects of awards, and Gallus (2016) and Chan et al. (2014) on their *ex post* effects.

The *demand* for distinction and therewith awards seems almost limitless. The First Duke of Wellington, Arthur Wellesley (1769–1852), for example, received an almost uncountable number of titles of nobility and military ranks. In addition to being the first Duke of Wellington, he was also Baron Douro, Viscount, Earl and Marquess of Wellington, Conde de Vimeiro, Duque de Vitoria, and Marques de Torres Veras in Spain, Duque de Ciudad Rodrigo in Spain, and Prins van Waterloo in the Netherlands, to name just a few titles. He received most of the major orders of his time; Knight of the Order of the Garter, Knight of the Most Illustrious Order of the Golden Vlies, and Knight Grand Cross of the Order of the Bath are just some of them. More recent examples of persons accumulating a mass of awards are the German Reichsmarschall Göring or the Soviet Marshal Zhukov, whose uniforms were almost fully covered by orders and medals. Today, this applies, for instance, to generals in North Korea. But it is not only true for the military personnel of dictatorial countries. The American four-star general David Petraeus carried more than twenty decorations on his uniform. Strong demand for awards is also exerted in other areas, including the arts, film, sports, business, and academia.

24.5.2 Confirmatory and Discretionary Awards

Two very fundamental types of awards can be distinguished. *Confirmatory awards* are bequeathed for already well-defined performance. Donors have little leeway whether to give or to withhold a particular award. The people achieving or surpassing a predetermined performance level can be certain to be awarded. Examples of such awards are Knight Bachelors regularly given to Nobel Prize winners. Confirmatory awards are much used in the diplomatic, military, and public services as well as among politicians. They may, however, invite strategic behavior by contenders because the criteria to win an award are made obvious. Much as with monetary incentives, people may be led to focus on meeting these performance criteria while disregarding other important dimensions of performance (see Holmström and Milgrom, 1991). They may even fake their performance and manipulate the criteria in their favor (Osterloh and Frey, 2000).

In contrast, *discretionary awards* allow givers to decide whether, what for, and to whom an award is bequeathed. They provide one of the few cases in which even today the decisions by givers cannot be brought to court. It is, for instance, impossible to go to court in order to be appointed Knight of the Garter. And in any event, the act would almost certainly defeat its purpose.

Discretionary awards are analyzed in the following because they clearly differ from monetary bonuses. An essential question is to what extent discretionary awards influence *subsequent* behavior. Do the recipients raise their work effort and performance, or do they possibly reduce it because they have already been rewarded, start resting on their laurels, or because the external intervention crowds out their intrinsic motivation?

24.5.3 Empirical Evidence on the Effects of Awards

It is not easy to analyze the effect of awards on performance, because it is normally the best performers who receive an award. Is a superior performance after receiving an award due to the increased motivation, or is it because the recipients are just better performers? These two causal relationships are difficult to distinguish, but the research reported in this section takes a significant step into that direction, to find out under what conditions handing out awards indeed raises intrinsic motivation for future performance.

Malmendier and Tate (2009) look at awards given to CEOs by the business press (for instance, Manager of the Year). They conclude that such honors induce their recipients to invest less work effort in the CEOs' original firms, and that recipients rather turn their effort to activities such as writing books or sitting on other companies' boards (see also Siming, 2012). Borjas and Doran (2015) find that the productivity of the recipients of the major award in mathematics, the Fields Medal, subsequently declines compared to the comparison group of similarly brilliant contenders. The authors attribute this result to the winners' stronger inclination to study unfamiliar topics that are less likely to be published.

Chan et al. (2014) use a novel technique to investigate other prestigious honors in academia, such as the John Bates Clark Medal, which is given to the most promising economists in the United States. To distinguish the aforementioned causal relationships, the synthetic control method is used to build a comparison group of nonrecipient researchers with similar profiles (i.e., similar publication and citation performance and comparable time-invariant academic characteristics). This procedure allows the authors to contrast the winners' and control group's performance trajectories after the event of award bestowal. It turns out that the winners publish significantly more articles (their publications were raised by 13 percent after five years) than had they not received the Clark

Medal. The articles published are also cited considerably more (the citations to previously published articles were increased by 50 percent).

The voluntary sector crucially relies on intrinsic motivation for people to engage. Money stands a high risk of crowding out volunteers' intrinsic motivations. A case in point is Wikipedia, whose authors do not receive any monetary compensation and contribute under pseudonyms. While this online public good has been a surprising success, it is now severely struggling with declining retention rates, particularly among new authors. In a large-scale natural field experiment, Gallus (2016) shows that a purely symbolic award without any material or career-related implications increases the retention rate among new Wikipedia authors by 20 percent in the following month. The effect persists for an entire year after the initial award bestowal. Even in the context of for-profit firms, voluntary extra-role behaviors (e.g., helping a colleague) are important. While it would be unsuitable or even impossible to compensate such behaviors financially, feedback and awards can be used to reward employees for such desirable behaviors. Neckermann, Cueni, and Frey (2014) find that an award given to employees at a call center for voluntary work behaviors motivates better performance even on core tasks of the job.

While there is at present only a limited number of serious empirical analyses on the effects of awards, existing research results suggest that meaningful awards indeed tend to raise subsequent performance. If awards are given for meritorious past behavior and kept limited in their numbers, they seem to have a positive effect on people's motivation and behavior. This may be because recipients feel supported, because they are reassured that what they are doing is of value, and/or because they want to live up to the honor received.

24.6 Conclusions

This chapter documents how strongly economics has evolved, from considering money as the major, and often only, motivational instrument, to taking crowding-out effects seriously, and (slowly) to seeing nonfinancial awards as a relevant instrument to maintain and raise intrinsic motivation.

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