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5. Awards: a view from economics

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AWARDS ARE WIDELY USED

Awards are ubiquitous in all countries of the world irrespective of whether a country is a monarchy or a republic, a democracy or a dictatorship, a traditional or modern society or governed by a party with a left-wing or right-wing ideology. As is well known, in the United Kingdom the Queen and the government bestow many lordships and knighthoods (with the title 'Sir') each year. But many people are unaware that also in the United States the President and Congress bestow orders in the form of medals, namely the Presidential Medal of Freedom, the Presidential Citizens Medal and the Congressional Gold Medal, as well as a great number of military awards such as Purple Hearts, Bronze and Silver Stars. A flood of orders, medals and titles was handed out in communist countries, such as the Soviet Union or the German Democratic Republic.
Awards are also popular in the corporate sectors of market economies. Firms honor their employees as 'Employee of the Month'. The media also supports this activity and regularly chooses the 'Person of the Year' (*Time*), or at least 'Best Managers' (*Business Week*) or 'CEOs of the Year' (*Financial World*).

In sports, athletes receive the honor of being chosen 'Sports Personality of the Year' (the BBC has no less than seven categories), and of being admitted into one of the many Halls of Fame. In the arts, culture and the media, awards are also of central importance. A few prominent examples are the prizes handed out by the film festivals in Cannes, Venice or Berlin, as well as the Academy Awards (Oscars), the Grammy awards for artistic significance in the field of recording and the Prix Goncourt in literature or the Pulitzer Prize. In the world of science awards are held in particularly high esteem. Universities and academies have an elaborate and extensive system of awards. They bestow titles such as Honorary Doctor, Professor or Senator, and professional associations award an enormous number of awards such as the Fields Medal in mathematics and, most importantly, the Nobel Prizes.

THE SOCIAL SCIENCE LITERATURE ON AWARDS

Most of the existing literature is devoted to presenting the historical facts about individual orders as well as the rules according to which an order is handed out. Few works cover orders across several countries. Awards or related issues have to some extent been discussed in sociology. Examples are Bourdieu (1979), Elster (1983), Braudy (1986), Marmot (2004) and de Botton (2004). However, with few exceptions, these works address awards and distinctions in a general and abstract way (and not as incentives). The psychological literature provides important insights into the mechanisms through which awards work on the individual level. However, this literature mainly focuses on isolated stimuli and is largely silent about the types of tasks and situations for which one can expect awards to be successful motivators.

Despite the importance of awards in society, economists have largely disregarded them, with the exception of the early contribution by Hansen and Weisbrod (1972) whose lead was not taken up by other researchers until recently.[3] Some literature in economics provides insights into specific aspects of awards. A typical way for (standard) economists to look at awards would be in terms of the signal emitted (see Spence, 1974), in terms of the competition induced (for example Lazear and Rosen, 1981), and in terms of incentives in a principal–agent relationship in a firm (a survey is provided by Prendergast, 1999). In psychological economics, combining economic methods with insights from psychology will produce several useful approaches illuminating special aspects of awards. Of particular relevance are the works on esteem, identity, status and reputation. Examples of recent economic works addressing aspects related to awards are analyses of status incentives (for example Auriol and Renault, 2001; Dubey and Geanakoplos, 2005; Ederer and Patacconi, 2004; Loch et al., 2001 and Fershtman et al., 2001), of rewards as feedback (Sururov and van de Ven, 2006), of social recognition (Brennan and Pettit, 2004; English 2005), of reciprocity (for example Fehr and Gächter, 2000; Fehr and Schmidt, 2004), of identity (Akerlof and Kranton, 2005), of conventions (for example Young, 1993), of superstars, and of positional goods (Hirsch, 1976; Rosen, 1981; Frank, 1985).

There may be various reasons why economists have so far neglected awards:

- They are not fungible; compared to monetary compensation awards may therefore be considered inferior instruments to induce effort.
- Awards may just be one result of high motivation and success and not a contributing cause.
- Awards may not be perceived as different from monetary incentives. It could be assumed that they are only valued by the recipients for the ancil-

lary bonus connected to them or to the extent that they may induce increases in future income. This assumption certainly has some truth to it. However, it has also been demonstrated in experiments that people value status independently of any monetary consequence; they are even willing to incur material costs to obtain it (Huberman et al., 2004).

One of the goals of this chapter is to demonstrate that awards have many characteristics that make them different from monetary rewards, and that they are therefore a useful subject to study.

DIFFERENCES BETWEEN AWARDS AND MONETARY COMPENSATION

There are important differences between awards and monetary compensation. These make it worthwhile to analyze awards separately. Consider the following differences between awards and monetary compensation:

First, accepting an award establishes a special relationship, in which the recipient owes (some measure of) loyalty to the donor. However, the respective contract is tacit, incomplete and difficult or impossible to enforce by the donor. Monetary compensation in contrast typically does not demand loyalty. Quite the opposite is true: payments can easily be used as justification to work for an organization that one publicly denounces.

Second, awards are superior incentive instruments to monetary payments when the recipients' performance can be determined only vaguely. The qualification criteria for awards are typically broad and not clearly specified. Therefore, performance can be globally evaluated *ex post*. Monetary compensation on the other hand almost always needs to be clearly specified contractually *ex ante*. Hence, the principal has no room to take other than the stipulated performance dimensions into account or to adjust the weights of the different performance criteria in determining the winner according to realized business needs. This is often perceived as unfair or inadequate when performance is difficult to contract and measure.

Third, awards are always made public. In the case of companies, award recipients may be announced on the intranet, displayed on bulletin boards or celebrated in a specially arranged ceremony. In contrast, the size and details of monetary compensations (that is, salaries), tends to be covert.

Fourth, awards are less likely to crowd out the intrinsic motivation in the recipients than monetary compensation. Typically, awards are perceived as supportive rather than controlling. This lies in the social nature of awards, and the fact that the associated *ex post* performance measurement is less intrusive and allows for the consideration of input factors such as motivation and working

morale as well as a broad assessment of performance dimensions that are hard to measure. Further, unlike pure monetary payments, awards are less likely to destroy the signal value of actions requiring special commitment, or of actions beyond what is typically expected. When payments are involved it is not clear for observers whether the behavior was driven by dedication and commitment or solely by the money. In principle the same is true for awards because they are also extrinsic incentives. However, awards are less powerful extrinsic incentives, so that the signal value of special behaviors is reduced less.

Fifth, the material costs of awards may be very low or even nil, for the donor, but the value to the recipient may be very high.[4] In contrast to monetary compensation, award givers need to take into account that the value of an award decreases with the number of awards in circulation since the prestige associated with winning an award depends on it being scarce.

Sixth, awards are not taxed, while monetary income is. In countries with high marginal taxes it is therefore relatively more attractive to receive an untaxed award than to receive a highly taxed monetary compensation.

These considerations make clear that there are indeed many major differences between awards and monetary compensation that are well worth inquiring into.

THE CHARACTERISTICS OF AWARDS

Awards work as incentives via a number of channels that have been shown to influence human behavior. Among other reasons, awards motivate because:

- Winning an award makes the recipient feel good about himself or herself irrespective of monetary or status consequences, hence even without others knowing about the award.
- Awards are typically conferred by a principal whose opinion the agent values.
- They generate social prestige and bring recognition within the peer group.
- Awards are typically set up as tournaments and many persons enjoy competing; that is, working towards an award generates process utility (for example Frey et al., 2004), and hence pleasure irrespective of the outcome.
- There are monetary compensation or other material or immaterial benefits associated with winning the awards. However, awards do not only work as incentives; they also work *ex post*. Awards create and establish role models, they distribute information about successful and desirable behavior and create loyalty. Depending on the specific award analyzed the

various award channels mentioned above are salient in differing degrees. While the general term 'award' implies that the different existing honors and prizes pertain to the same group of incentives, specific awards differ vastly from one another in terms of what component is most salient. Some awards are clearly competition prizes, while others more closely resemble feedback or praise. Some awards are valuable in monetary terms, while others come with neither monetary nor other material benefits. Enormous differences exist between state orders that are governmental or monarchical acts, and prizes granted by non-profits, foundations or clubs, and awards in for-profit companies such as the title 'Employee of the Month', to name just a few. But even within this large realm of awards there are considerable differences. They differ greatly with respect to the social recognition and prestige they will bring to the recipient.

These considerations show that awards are omnipresent in all spheres of life, which suggests that they perform important functions, and that awards can be defined according to a set of criteria despite the myriad of specific forms they take. Thus, awards can and should be studied as a unique phenomenon in psychology as well as in economics.

AN INTERNATIONAL COMPARISON OF AWARDS

The prevalence of awards can be analyzed across countries. Specifically, it is interesting to identify the factors that render an award important or unimportant in a country, be it as an incentive, as a visible symbol of social recognition or as a signal. A major problem confronting researchers trying to analyze awards systematically across countries is the lack of internationally comparative data. Wikipedia is the only source we found that offers an extensive list of prizes, medals and awards across many different countries.[5] This source is of a somewhat doubtful quality, and it is quite obvious that some countries are covered more completely than others. In view of this data problem we turn to individuals' own reports to identify how many awards they possess. We use the awards specified by individuals in the *International Who's Who* (IWW) (Neil, 2006), a work of reference comprising a list of the most important personalities in 212 countries. The persons included are, for example, every head of state, all directors of international organizations, heads of leading universities, chief executive officers (CEOs) of the Global 500 and Fortune 500 companies, prize winners of distinguished awards (such as the Nobel Prize and the Pulitzer Prize) and important sports personalities, as well as prominent individuals from the film and television industry. The data source provides information on person-specific characteristics such as nationality, occupation and age as well as information

Table 5.1 Average number of awards per individual per country

	Total awards		Domestic state awards		Business awards
Mean	2.66	Mean	0.43	Mean	0.06
Variance	1.96	Variance	0.11	Variance	0.01
Top 5 countries in each category					
Canada	6.82	Poland	1.78	Canada	0.52
UK	6.78	France	1.32	Singapore	0.46
Poland	6.16	Tunisia	1.05	USA	0.34
Australia	5.66	Egypt	1.02	Saudi Arabia	0.27
Senegal	5.30	Malaysia	1.00	Australia	0.26
Lowest 5 countries in each category					
Honduras	0.83	Nicaragua	0.05	Trinidad & Tobago	0.00
Bangladesh	0.78	Honduras	0.04	Uganda	0.00
Uganda	0.76	Uruguay	0.04	Ukraine	0.00
Tanzania	0.62	Switzerland	0.02	Uruguay	0.00
El Salvador	0.30	El Salvador	0.00	Venezuela	0.00
Information on 7 additional countries					
USA	3.80		0.22		0.34
Canada	6.82		0.86		0.52
UK	6.78		0.78		0.04
France	3.60		1.32		0.04
Germany	2.46		0.48		0.06
Spain	4.20		0.70		0.06
Italy	1.96		0.22		0.04

Source: Own calculations using data constructed from the *International Who's Who 2007* (Neil, 2006).

about the number and kinds of awards each person has received. For a subsample of 82 countries, we coded the available information for a random sample of 50 individuals per country.

In order to document the importance of awards in a globalized world, Table 5.1 shows the average number of awards handed out per country per individual sampled. The table lists the total number of awards as well as two specific, and very different, types of awards: domestic state awards (often called 'orders' or

'medals') and business awards (such as 'Manager of the Year' or 'Business Executive of the Month'). In addition to the average and variance over all 82 countries, the five countries with the highest average, and the five countries with the lowest average, are listed. In addition, information on all three categories is provided for the United States and Canada, and for the United Kingdom, France, Germany, Spain and Italy. This 'elite' (as defined by the *International Who's Who*) lists, on average, between two and three awards per person. The largest number of awards per person is given for three Anglo-Saxon countries (Canada, the UK and Australia) as well as for Poland and Senegal, averaging between five and seven awards. The lowest average number of awards per person are reported for some small South American, African and Asian countries (such as El Salvador and Tanzania) with substantially less than one award per person.

The average number of awards per member of the elite (3.8) in the United States is considerably higher than the average of 2.7 over all 82 countries. Americans thus seem to enjoy bestowing and receiving awards. Awards enjoy a similar importance in France and Spain (3.6 and 4.2, respectively). This is surpassed by Canada and the United Kingdom (6.8). As can be inferred from the high number of awards handed out in such staunch republics as the United States and France, awards are not only a matter of tradition or monarchic regimes. Rather, the data indicate that awards are of importance and general relevance today in many countries of the world.

The ranking of the countries with respect to the average number of awards changes when awards bestowed by national governments (in particular national orders, medals and decorations) are considered. Not surprisingly, the average number of national government awards received by the individuals listed in the *International Who's Who* is much lower (less than every second individual sampled received such an award). Also, different countries now lead the list of handing out the highest numbers of awards per person (except for Poland which heads the list in this award category). The top five are now comprised of Poland, France, Tunisia, Egypt and Malaysia. The smallest numbers of these awards are bestowed by a similar set of nations as the overall number of awards. Switzerland joins the ranks because the nation is the only country in the world not to bestow any governmental awards (not even to its soldiers). There is one individual in the data set with an honorary citizenship from Lausanne, Switzerland that causes the coefficient to be greater than zero.

Business awards have, of course, a quite different character from national government awards. They refer to awards handed out for private sector activities and comprise honors such as 'Most Powerful Woman', 'Manager of the Year' or 'Arabian Business Achievement Award'. On average, only a few persons in the *International Who's Who* elite have such awards (the average number of business awards per person is 0.06 over all countries).[6] The largest number of

business awards goes, on average, to persons in three Anglo-Saxon countries – Canada, the United States and Australia – and to individuals in Singapore and in Saudi Arabia. In a considerable number of countries (33 of the 82 countries in the sample) no business awards are reported.

In the United States, the awards are divided very unequally between national governmental awards and business awards: with respect to domestic state awards US-Americans are clearly below average in international comparison, but for business awards they are nearly at the top. With an average number of awards per person far above the worldwide average, this suggests that in the US the large number of business awards compensates for the small number of state awards. A different pattern holds, for instance, in Canada. In that country, both the number of domestic state awards as well as the number of business awards a person in the *International Who's Who* has are above average. In Europe, France, Germany, Spain and the UK rank above average with respect to national government awards (between 0.5 and 1.3), and below average with respect to business awards (between 0.04 and 0.06). These findings are consistent with the notion that in the United States business affairs are of central social importance, while in European and Commonwealth countries awards bestowed by the state are held in great esteem.

Awards are handed out for activities in many different areas. This shows that the relevance and importance of awards is not limited to certain narrow fields or spheres in a society. Three areas comprise the largest share of the awards handed out in the 82 countries of the sample. The two major sectors are social welfare and academia, followed by culture. The remaining sectors (armed forces, sports, media, business and religion) make up only 10 per cent of all rewards bestowed.

The largest share of awards is bestowed to persons for activities that can be broadly summarized as belonging to the category of social welfare (37 per cent). This category includes awards such as state orders and peace prizes. This large proportion of awards for social welfare can be attributed to the fact that these activities – while being socially desirable – are often not or only inadequately compensated in monetary terms. Often, monetary compensation could even be counterproductive as means of rewarding these kinds of activities (see for example the literature on motivation crowding: Frey, 1997; or Bénabou and Tirole, 2004). Hence, awards work better to motivate and reward persons active in these kinds of activities. Individuals working in academia receive the second-highest share of awards (32 per cent). These data suggest that individuals in the scientific sector, though a place of rational discourse, are quite happy to receive awards. A significant, but clearly lower, share of awards (19 per cent) is bestowed in the cultural sector. Similar arguments explaining the intensive use of awards in this sector as in the case of social welfare may be adduced. In addition, the cultural sector, which includes film,

television and writing, is particularly skillful in using the media to promote its own importance. This is reflected in the great attention received by the award ceremonies such as the Oscar, the Grammy and Emmy or the Pulitzer or Brooker prizes.

AWARDS AS MOTIVATORS IN FIRMS

This section presents a survey experiment in the form of a vignette study on awards as incentives in principal–agent relationships (for a more extensive discussion of the methodology, the theories guiding the design, details of the design and the results see Neckermann and Frey, 2007).

The vignette study was conducted online during a two-week period in January and February 2007 with the employees of the IBM research laboratory in Rüschlikon, Switzerland. The facility has 255 employees, 177 of which are researchers from more than 20 different nations (primarily from European countries). The lab in Rüschlikon is one of the eight labs that IBM operates worldwide, with about 3550 employees in total. In collaboration with clients and universities, researchers at these labs conduct basic as well as applied research in chemistry, information technology, physics, electrical engineering and materials science, among others. To date (2009), four researchers have been awarded Nobel Prizes in physics for research they conducted during the time they were employed at the IBM lab in Rüschlikon.

The management hands out the approximately 20 different awards that are available in all IBM research labs. The awards are broadly divided into two main categories: formal and informal awards. Formal awards recognize outstanding scientific contributions and innovations and they are rewarded with substantial monetary compensations. Recipients of these awards are always announced on the worldwide intranet of IBM research and have the possibility to move up on the award ladder, culminating in either the admission into the IBM academy (about 500 persons worldwide) or in the nomination as an IBM Fellow (about 40 persons worldwide).

Informal awards, on the other hand, honor exceptional motivation in general; examples are contributions to teams, knowledge-sharing, passion for work and customer service. According to the human resource manager at IBM Rüschlikon, informal awards are also used to motivate researchers during times in which no major scientific breakthrough is pending. Informal awards are typically rewarded with smaller monetary bonuses or gifts such as vouchers for dinners or weekend city trips. Only the more important informal awards are publicized on the local intranet of the Rüschlikon lab.

Given this large number of established awards at IBM, the respondents to this study can be assumed to be familiar with their own behavior and feelings

with respect to striving for and receiving awards. This is an advantage for this study, since it increases the reliability and predictive power of our findings.

The survey focused on the quantitative effect of introducing an award on work behavior and analyzes which award characteristics determine the size of the effect. The behavioral response of the employees was measured via a question asking about the willingness to share an important finding immediately with their team[7] in their current work environment, as well as in four different scenarios, each of which represented the introduction of a new award for international cooperation at IBM. The awards differed with respect to whether they were accompanied by cash bonuses or gifts, the monetary value of the bonus or gift, the number of award recipients and the degree of publicity associated with winning the award. Further, we simulated a situation in which the respondents were informed that they either did or did not receive the award. This addresses the question about the behavior of both winners and losers upon the receipt of an award.

Each vignette describes the introduction of a new incentive for all employees at the IBM research lab in Rüschlikon. All vignettes – that is, reward descriptions – are identical in their basic set-up; they only differ in the realized values of the five different reward characteristics, which we analyze. Those five independent reward characteristics have been chosen according to what seems to be vital to the effectiveness of a reward.

First, the incentive is framed either as a purely monetary bonus or as an award. The difference is that the former is almost completely deprived of a social component. In this scenario, the management decides who will receive the bonus without any employee participation in the nomination process. The money is subsequently transferred to the selected employee's bank account together with the next paycheck. The winners are neither specifically notified nor congratulated by the management. If the incentive, however, is designed as an award the opposite holds. Since we assume that the social approval associated with winning an award matters greatly, we expect to find a larger behavioral response to the introduction of an award as compared to the introduction of a monetary bonus.

Second, the reward is randomly described as being accompanied with a cash payment or a gift. Where the reward was framed as a monetary bonus it always came with cash. For this factor there are two opposing behavioral predictions. On the one hand, standard economic theory predicts that cash should work better than a gift because it is fungible (Waldfogel, 1993). On the other hand, the psychological and management literature cites a number of reasons why a gift should work better than cash (Jeffrey and Shaffer, 2007). Examples of such reasons are evaluability (the perceived value of the gift is higher than its actual value) and justifiability (recipients value the gift more than the equivalent payment in cash, but would not have bought it for themselves; for example luxuries).

Third, the degree of publicity is varied among three different types. First, the list of recipients remains undisclosed. Second, the list of recipients is published on the intranet. Third, in addition to publicizing the list of recipients on the intranet, the company arranges a formal ceremony in which the award is handed to the recipients. Where the incentive is framed as a monetary bonus, the third type of publicity involving the ceremony is excluded, as this would not have been realistic. Since status and social recognition can only be gained when others know about the reward, we hypothesize that the effect of a reward is greater when it is publicized. Further, the effect should be even greater when there is a ceremony in addition to the announcement of the winners on the intranet.

Fourth, the value of the accompanying cash payment or gift was varied between CHF 0 and CHF 10 000. In line with standard economic theory and psychological reinforcement theories, we hypothesize that the behavioral impact of the reward increases with its monetary value.

Fifth, the maximum number of award recipients per year was varied between 1, 2, 6, 10, 16 and 20. The number of recipients is an interesting variable because the value of an award changes with its scarcity. The effect of a reward should therefore decrease with an increased number of recipients. However, there is a countervailing effect as an increase in the number of reward recipients *ceteris paribus* increases the chances of an individual employee being a winner. Therefore, we hypothesize an inversely U-shaped relationship between the number of recipients and motivation. As long as the quality of the award is not diluted by too high a number of recipients, additional recipients will increase effort by raising the perceived chances of winning the award. Beyond a certain threshold number of recipients, the negative effect of decreased reward quality outweighs the positive effect of an increase in chances to win.

After specifying the dimensions (award characteristics) and their values, the vignettes can be constructed by choosing one value of the variable for each of the independent dimensions.

Following the scenarios introducing the rewards, the subjects were asked to indicate their behavior in a public-good situation, that is, a situation in which subjects face a trade-off between individual and collective benefit. In particular, we asked about their willingness to share an important finding with their team before publishing it under their own name. They were told that sharing the finding now would increase the quality and speed of the team project, but expose them to the personal risk that the finding could be used and published without giving them the appropriate credit for the discovery. Alternatively, they could wait and publish the finding in a scientific journal under their own name before sharing it with the team colleagues. Respondents marked their willingness on a ten-point scale ranging from 1 meaning 'I definitely would not share now' to 10 meaning 'I would certainly share now'. Employees were familiar with this type of public-good situation in their everyday work life, as was confirmed in

interviews preceding the study. In the survey about 84 per cent of the respondents rated the situation description as realistic or very realistic.

To control for individual specific effects we generated multiple observations per person by presenting each subject with four different reward scenarios. First, however, we asked the respondents to state their willingness to share the finding assuming they were working in their current work environment (status quo). This gives us the baseline motivation of each respondent. Then subjects were confronted with the vignettes – that is, the reward introduction scenarios – and were asked to indicate for each of them their willingness to share their finding. The rewards were granted for extraordinary efforts with respect to cooperation on international teams. Hence, the behavior in the public-good situation described above was relevant for winning the award. The descriptions of rewards 1, 2, 3 and 4 were different for each respondent. The individual subject was presented with a random set of four reward descriptions out of the total pool of over 100 different reward descriptions.[8] The total pool was comprised of all possible combinations of values in the five dimensions that characterize each reward. After having stated their motivation in the public-good situation after the fourth award vignette, we described a scenario in which the individual either did or did not receive the reward that was described to them as reward 4. Then we asked them again to indicate their willingness to share the finding when they knew whether they had received reward 4 or not. The questionnaire ended with a survey section in which respondents were asked questions about their perception of the role of awards in organizations and the determinants of award effectiveness in motivating employees. Further, we inquired about personal characteristics such as gender, age and award history at IBM. These questions were the same for all participants.

During the survey period, 52 researchers completed the online questionnaire, resulting in a rate of return of 30 per cent. The respondents were representative of the workforce with respect to all objective criteria available from the company.[9]

The results described in the following refer to the *ceteris paribus* impact of individual award characteristics. These impacts were calculated using the responses of the subjects to the different reward descriptions, each of which contained a multitude of different award characteristics. Our design therefore closely resembles 'real-world' organizational reward programs, where rewards always consist of more than one incentive dimension (such as monetary compensation, feedback, social recognition).

The monetary value of the reward has a robust, significant and positive impact on the willingness to share the finding. It turns out that CHF (Swiss franc) zero and small monetary values do not have a significantly different impact on motivation. The same is true for medium and high values. Compared to the latter, CHF zero or small monetary values lead to a motivation that is approximately

half a point lower on a ten-point scale. This difference is significant. In the qualitative survey conducted after the vignette study, the responding employees confirmed the importance of the monetary value of rewards. Almost all indicated that they considered it to be essential for an award to be accompanied by a substantial monetary bonus.

Publicity has a significant positive effect on stated contributions to the public good. As compared to a situation with no publicity, contributions are on average 0.44 points higher when publicity is involved, which is substantial. Naming the recipients and having a ceremony increases contributions by as much as increasing the value of the award from CHF 0 to about CHF 1000. The coefficient of having a ceremony and announcing the winners on the intranet is substantially larger than the coefficient of an announcement on the intranet alone. Hence, the larger coefficient on the combination of intranet and ceremony indicates that employees value the ceremony per se.

For a given monetary value, gifts do not work as well as payments in cash. Holding the value of the reward constant, a gift leads to a willingness that is 0.3 points lower than the willingness induced by an equivalent payment in cash. For a gift to induce the same willingness to share as does a payment in cash of CHF 50, it needs to increase in value from CHF 50 to CHF 2000. This is in line with remarks by the respondents in the last part of the questionnaire. In the comment section a substantial number stated that they preferred money or a paid vacation to other kinds of prizes.

We do not find a significant effect of the factor 'type of reward'. The pure framing of the reward as a bonus or an award *ceteris paribus* does not make a difference on the motivation of the employees. This insignificance might be due to the fact that bonuses in our design were very similar to awards. Since each reward description presents a combination of values for all characteristics, bonus scenarios also contain a maximum number of recipients and in half of the cases an announcement of the recipients on the intranet. This is very uncommon for monetary bonuses at IBM and might have rendered them too similar to established IBM awards for us to find a significant effect. Also the number of recipients does not have an effect that is significantly different from zero. We hypothesize that an increase in the number of recipients has two countervailing effects on motivation: an increase reduces the scarcity value of the award, but raises perceived chances of winning. This could cause the insignificance. The baseline motivation has a highly significant positive effect on the willingness to share the finding. The coefficient of 0.9 implies that a person with a one-point higher willingness to share the finding in the current work environment is about 0.9 points more willing to share the finding after incentives have been introduced. Demographic variables such as age, gender and experience with international teams do not play a role. The same holds for the award history of the participants: that is, the number and value of the IBM awards received in the past.

Hence, the analysis shows that in a public-good situation that participants were very familiar with in their work experience, awards have significant and systematic effects on the stated contributions of employees. Specifically, we find that the effect of rewards is increased by the degree of publicity associated with winning the award and by the monetary value of the reward. Rewards at IBM work better when they are accompanied by a payment in cash rather than a gift. The study shows that it is important also to consider the effect of awards after conferral, as it was shown that non-recipients substantially decrease their contributions even if the award is granted yearly and is hence open to them in the future. Winners, on the other hand, increase their contributions even further.

CONCLUDING REMARKS

Awards are a relevant phenomenon deserving the attention of economists. This chapter has presented several approaches to beginning to understand the phenomenon of awards. Awards cannot be equated with monetary compensation. We have presented two different empirical avenues to the study of awards. The first is an international comparison based on the information provided by the recipients. The second is a vignette study in a particular firm showing that awards substantially and systematically change stated work behavior. The economics of awards is only at its beginning, but it has already become clear that it deals with an important phenomenon. It allows us to see motivation in a broader context than considered so far, ranging from the extremes of extrinsic monetary compensation to intrinsic motivation, with awards as extrinsic but non-material incentives in between.

NOTES

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3. See the contributions by Frey (2005, 2006, 2007), Frey and Neckermann (2006, 2008), Neckermann and Frey (2007, 2008), Neckermann et al. (2009).
4. Often, there is some monetary compensation tied to winning an award that entails corresponding costs to the giver. However, these costs are typically very low when compared with wage payments and can also be deducted from taxable profits.
5. http://en.wikipedia.org/wiki/List_of_prizes%2C_medals%2C_and_awards, accessed 30 November 2007.
6. This may be due to the way the *International Who's Who* defines its 'elite'. Business persons, and hence the persons most likely to receive business awards, may be under-represented since only CEOs and chief financial officers (CFOs) of the top 500 companies worldwide and the top 500 US companies are included in the book.

7. Specifically, we inquired into their willingness to share an important finding in their work with their work group. Sharing increases team productivity, but entails the risk of losing part or all of the personal scientific credit that a researcher would certainly receive when publishing the finding first and only sharing it with the team later.
8. Vignettes were sampled without replacement from the pool of all possible vignettes for a given subject. It is not important that all possible vignettes are actually answered as long as the levels are uncorrelated and there is sufficient variation in the vignettes drawn. In the sample of vignettes drawn in our study both of these conditions were met. While the attribution of vignettes to individual respondents was random, we ensured that the four award descriptions each subject was confronted with differed sufficiently in the realized values of the factors (that is, we ensured that each person received awards with zero, small, medium and high monetary value). Further, each person received at least one bonus, one award that came with a cash payment and one award that came with a gift. This was necessary to ensure that subjects were not confused by the potential close similarity of award realizations caused by a purely random assignment. Further, we randomized the order in which the different factors appeared in the award description to control for order effects (only the type of reward – bonus or award – always remained at the beginning of the vignette).
9. Average age, percentage of female workforce and length of employment at IBM were 41 years, 13.2 per cent and 12 years, respectively, among the workforce of the IBM lab in Rüschlikon and 42 years, 10 per cent, and 12 years, respectively, in our sample of respondents.

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