

Behavioral Economics

Lecture IX - Behavioral labor economics

Matej Lorko

matej.lorko@euba.sk

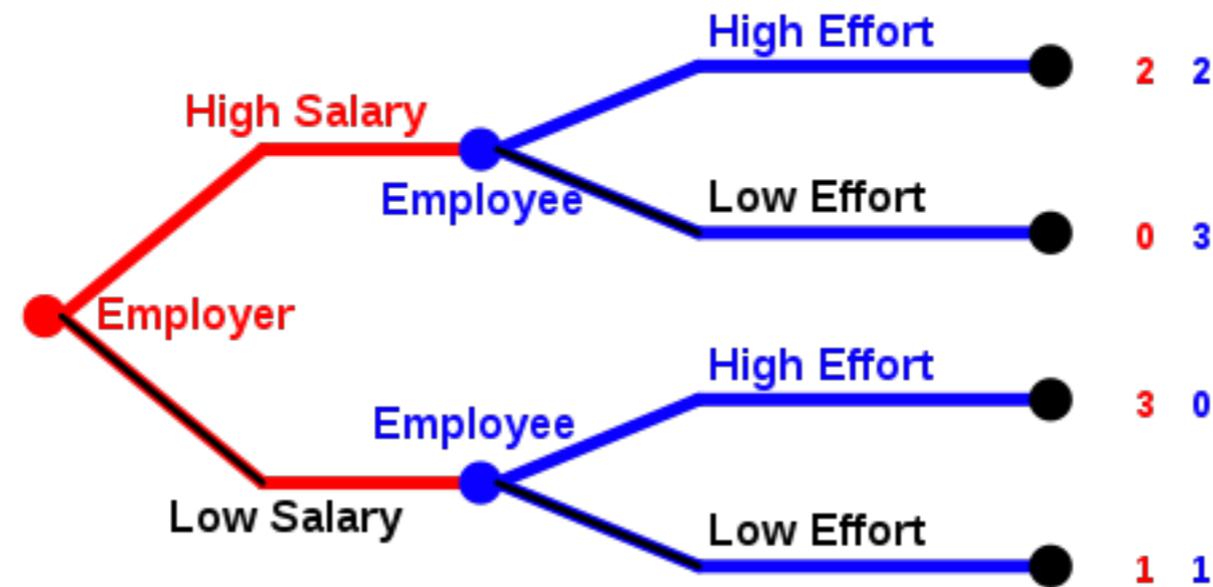
Student resources: www.lorko.sk

References: Charness, G., & Kuhn, P. (2011). Lab labor: What can labor economists learn from the lab?. In Handbook of labor economics (Vol. 4, pp. 229-330). Elsevier.

Labor markets

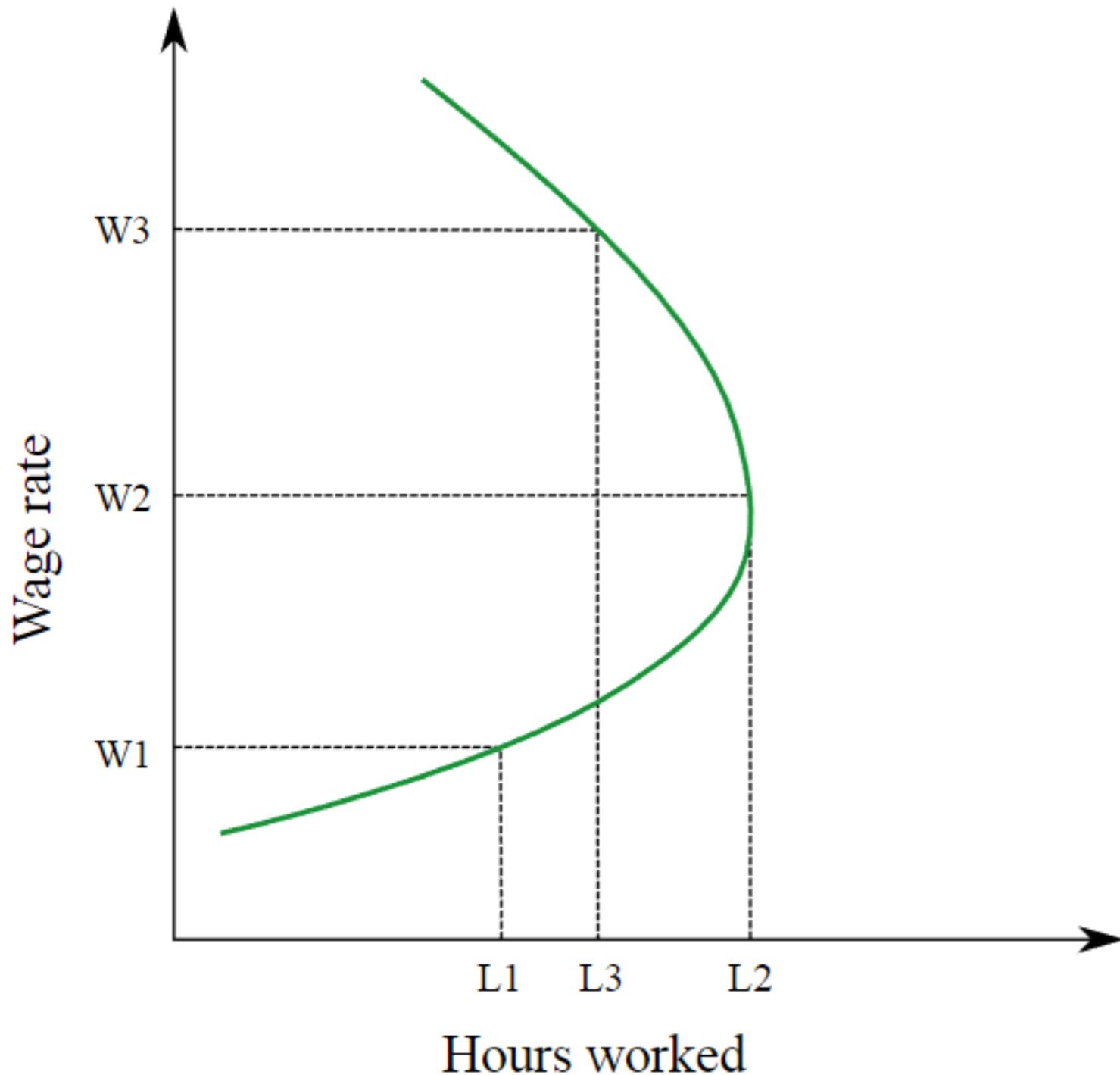
- Why do we observe involuntary unemployment in the world?
- Economic theory says that if the supply exceed the demand, then the price should fall and new equilibrium should emerge. However, in labor markets, we do not observe price (wage) falling too often, which is why oversupply of work (involuntary unemployment) arises.
- The main reason of employers to not decrease wages is that they fear that most productive workers would leave (an adverse selection argument), but a close second is that worker effort would decrease (a reciprocity argument). Along the lines of loss aversion, a pay rise is predicted to have some benefit, but it is clear that a wage cut is expected to have a significant negative effect. If employers are reluctant to cut wages because it will cause negative reciprocity then we have a plausible reason for wage stickiness.
- In laboratory, these predictions are usually tested using a gift-exchange game. The gift exchange model is used to explain workers' effort and wages provided by firms in the real world. George A. Akerlof described labor contracts as "partial gift exchange". Employees may exceed the minimum work required and firms may pay more than the market-clearing wage.
- According to Akerlof's model, this is because the worker's effort to some degree depends on the norm for effort. Thus, to affect these norms, firms may pay more. A worker may be willing to work hard if he believes the employer is being kind and offering a higher-than-equitable wage.

Gift exchange



- Two players are at least involved in such game – an employee and an employer. The employer has to decide first, whether to award a low or higher salary. Having observed her wage, the employee chooses how much effort to put into working. Higher effort costs the worker, but also means the employer receives higher revenues.
- Cost and revenue are usually designed in such a way that higher worker effort is mutually beneficial – i.e. the extra effort would earn enough extra revenue that the employer could pay a high enough wage to offset the worker's effort cost. A worker motivated solely by her own monetary payoff would not put in effort, however, because it is too late to do anything about her wage, and so all it would do is lower her payoff. Given this, why should an employer pay a high wage? He should not.
- Like in trust games, game-theoretic solution for rational players predicts that employees' effort will be minimum for one-shot and finitely repeated interactions. Therefore, there is no incentive for the employer to pay a higher salary. If the employer pays a higher salary, it is irrational for the employee to put extra effort, since effort will reduce his or her payoff. It is also irrational for the employee to put extra effort while receiving a lower salary. Therefore, the minimum salary and the minimum effort is the equilibrium of this game.
- The payoff matrix of the gift-exchange game has the same structure as the payoff matrix of Prisoner's dilemma. The difference constitutes by the sequentiality of gift-exchange game.
- Many experiments observe that workers in the gift exchange game provide substantially more efforts than the minimum required. The workers' choices appear to reciprocate the firm, in the sense that higher wages tend to lead to higher effort, which are against the standard assumption of strictly self-interested behavior.

Labor supply – neoclassical model



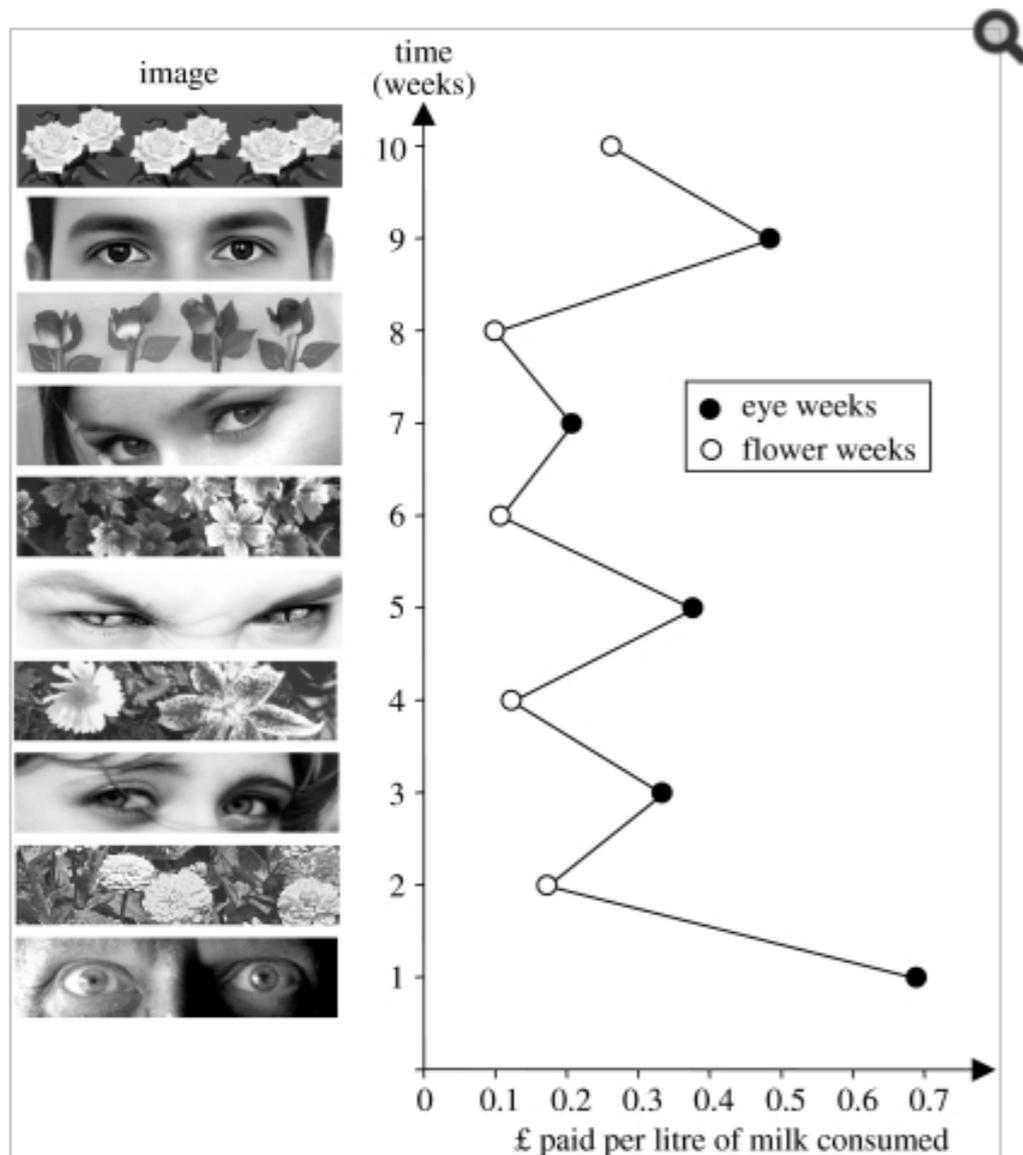
[https://www.youtube.com/
watch?v=vGazyH6fQQ4](https://www.youtube.com/watch?v=vGazyH6fQQ4)

[https://www.youtube.com/
watch?v=qyJomdyjyvM](https://www.youtube.com/watch?v=qyJomdyjyvM)

Behavioral findings

- Behavioral findings support the neoclassical model:
 - Compensated wage cuts reduce effort in animal labor supply studies
 - Uncompensated wage changes generate backward-bending labor supply curves
 - For humans, higher piece rates raise effort, agent self-selection into pay-for-performance schemes reinforces these effects. However, when the bonus size becomes very large, performance can decrease dramatically. This counterintuitive effect stems from the stress and fear of possibly not getting the bonus (choking under pressure).
 - However, for humans there exists a special case - voluntary unpaid work. Not paying at all can yield higher effort than low pay. People also care about the “meaning” of their work.
- Workers provide more (less) effort when they are paid higher (lower) wages, but the magnitude of the responses is asymmetric. The negative response to the decreased wage is twice that of the positive response to the increased wage. The negative reciprocity by wage cuts had stronger and more persistent impacts on productivity of workers than the positive reciprocity by wage raise. These results tell us that workers punish firms more for decreasing wages than they reward firms for increasing wages.
- In other words, higher wage is reciprocated by higher effort (“gift exchange”). On the other hand, explicit penalties in the contract might lead to reduction in voluntary cooperation among the workers. Thus, instead of carrot and sticks, common goals may be achieved on the basis of mutual trust and reciprocity between workers and employers.

Cheating and monitoring



- Self-reporting is very common in the workplace, particularly in skilled professions. Should employers monitor their employees so that they do not cheat?
- Experiments show that people are generally averse to lying. However, they tend to cheat a little bit when the opportunity arises. Especially sharp discontinuities in reward schedules induce workers to misrepresent their output.
- While we like to maintain positive self concept (to feel like good people), a lot depends on social norms. If everyone is cheating then I will be cheating too (monkeys and bananas).
- In any case, monitoring the agent can reduce agents' efforts (hidden cost of control). Unenforceable promises by principals to pay bonuses for 'satisfactory' worker performance can elicit surprising amounts of effort (trust).

Tournaments - relative performance pay

- Efficiency
 - Tournaments generally yield similar total effort but greater variance in mean output across agent groups in comparison with piece rates
 - Handicaps, or 'affirmative action' tend to improve the performance of tournaments between unequal agents
 - Decisions to enter into tournaments are often surprisingly close to optimal levels. However, entry can be sometimes excessive due in part to overconfidence
- Risk taking
 - Allowing risk-averse agents to self-select out of tournaments reduces the between-group variance in output
 - Tournaments can increase risk-taking
- Sabotage and collusion
 - Increases in tournament prize spreads can raise sabotage as well as effort; this effect can be strong enough to reduce total output.
 - Collusion is rare in anonymous tournaments with more than two contestants

Teams

- Equal shares
 - In the absence of communication and/or repeated interaction, teams in which agents are paid equal shares of the team's output perform poorly, with agents' efforts converging to low, individually rational levels after a few rounds of play. The forcing contracts (essentially group bonuses) typically fail to improve outcomes (co-ordination problems).
- Improving the team performance
 - When there is complementarity between the efforts of team members, loss of output due to co-ordination failures can be severe. Incentives based on the relative contributions of individual members to the team's output can improve teams' performance. Other mechanisms that have been observed to work include asymmetric incentives (while maintaining pay secrecy) and slowly adding new members.
 - Most importantly, communication in such situations can generate dramatic improvements, much more than strengthening financial incentives. In addition, adding competition between teams can be more effective than any of the above strategies (e. g. team sports).
- Teams also behave more rationally than individuals. This suggests that teams learn more quickly than individuals (three heads are better than one).

Discrimination

- Gender
 - Female workers receive significantly lower wages than male workers, even when women are in the role of the firm.
 - This doesn't pay for firms, as a high discrepancy between the wage requested and the wage offered leads to low effort.
 - Women are less inclined to compete.
 - The results in the patriarchal societies correspond closely to the results in Western cultures, however, comparison across gender goes in the opposite direction in the matrilineal society.
- Beauty
 - Physically attractive workers are more confident and higher confidence increases wages, these workers are also (incorrectly) considered to be more capable by firms, and these workers also have better oral skills that raise their wages.
 - However, there is also a "beauty" penalty as people expect more from attractive participants and "punish" them if the expectations are not met.

Motivation

- Imagine that all jobs could be characterized along two dimensions: the “countable” dimension comprises that which is concrete, well defined, and easily measurable (number of pins made, chips created, gadgets sold, and so on), and the “uncountable” dimension is somewhat ill defined and difficult to measure (improving a process, helping others, thinking brilliant thoughts, etc.).
- Of course, some jobs are more countable than others. When organizations attempt to create their compensation schemes, the first mistake they often make, as followers of the pin-factory doctrine, is to overemphasize the countable dimension. Managers are drawn to the subset of tasks that are easily measurable. As a consequence, they overemphasize those parts of the job and divert attention and effort away from the uncountable dimension.
- The second mistake managers often make is to treat the uncountable dimension as if it were easily countable. In fact, reducing labor to something simplistic and countable often misses the heart of motivation altogether. How many times are employees judged on the number of reports they have written, rather than on the quality of the work in the reports themselves?
- Persistence of an industrial-era view of labor - labor market is a place where individuals exchange work for wages (regardless of how meaningless the labor is) and that people typically don't really care what happens to their work as long as they are fairly compensated for it. Breaking tasks into components and letting people specialize in their specific tasks, bit by bit and hour after hour, yielded a lot of efficiency gains. But from the workers' point of view, this approach meant that they were nothing more than cogs in a wheel.

Motivation

- In the knowledge economy, the workplace relies heavily on trust, engagement, and goodwill—and as the autonomy of each person in the organization increases, so does the importance of making everyone feel deeply connected to the enterprise. Trust and goodwill influences your desire to deliver real progress - stayed late at the office, answered emails while on vacation, helped a colleague on a project unrelated to your work, or thought about work-related questions on the weekend.
- People are motivated by identity, the need for recognition, a sense of accomplishment, and feeling of creation. As people feel connected, challenged, and engaged; as they feel more trusted and autonomous; and as they get more recognition for their efforts, the total amount of motivation, joy, and output for everyone grows much larger.
- IKEA effect - when we work harder and spend a bit more time and effort, we feel a greater sense of ownership and thus enjoy more the fruits of our efforts.
- Good practices: invest in employees' education, provide them with health benefits, invest in their well-being both within and outside of work, invest in their personal growth, provide them with a path for promotion and development within the company.

Meaning

MEANINGLESS
WORK FEELS LIKE:



MEANINGFUL
WORK FEELS LIKE:



- <https://www.youtube.com/watch?v=5aH2Ppjpcho>

What kinds of external rewards are best at positively motivating people?

- Intel experiment, 4 conditions
 - Monetary bonus: On the first day of the work cycle, employees in this condition were greeted by the following message from their boss: “Good morning! If you reach or exceed X chips today, you’ll receive 100 NIS in cash. Good luck!”
 - Pizza voucher: This time, the boss wrote, “Good morning! If you reach or exceed X chips today, you’ll receive a voucher for pizza. Good luck!”
 - Compliment: In this condition, workers were greeted by a message that informed them that if they reached or exceeded their production target, they would get a text message from their boss telling them “Well done!”
 - Control: In this case, chip makers received no note and were offered no bonus.

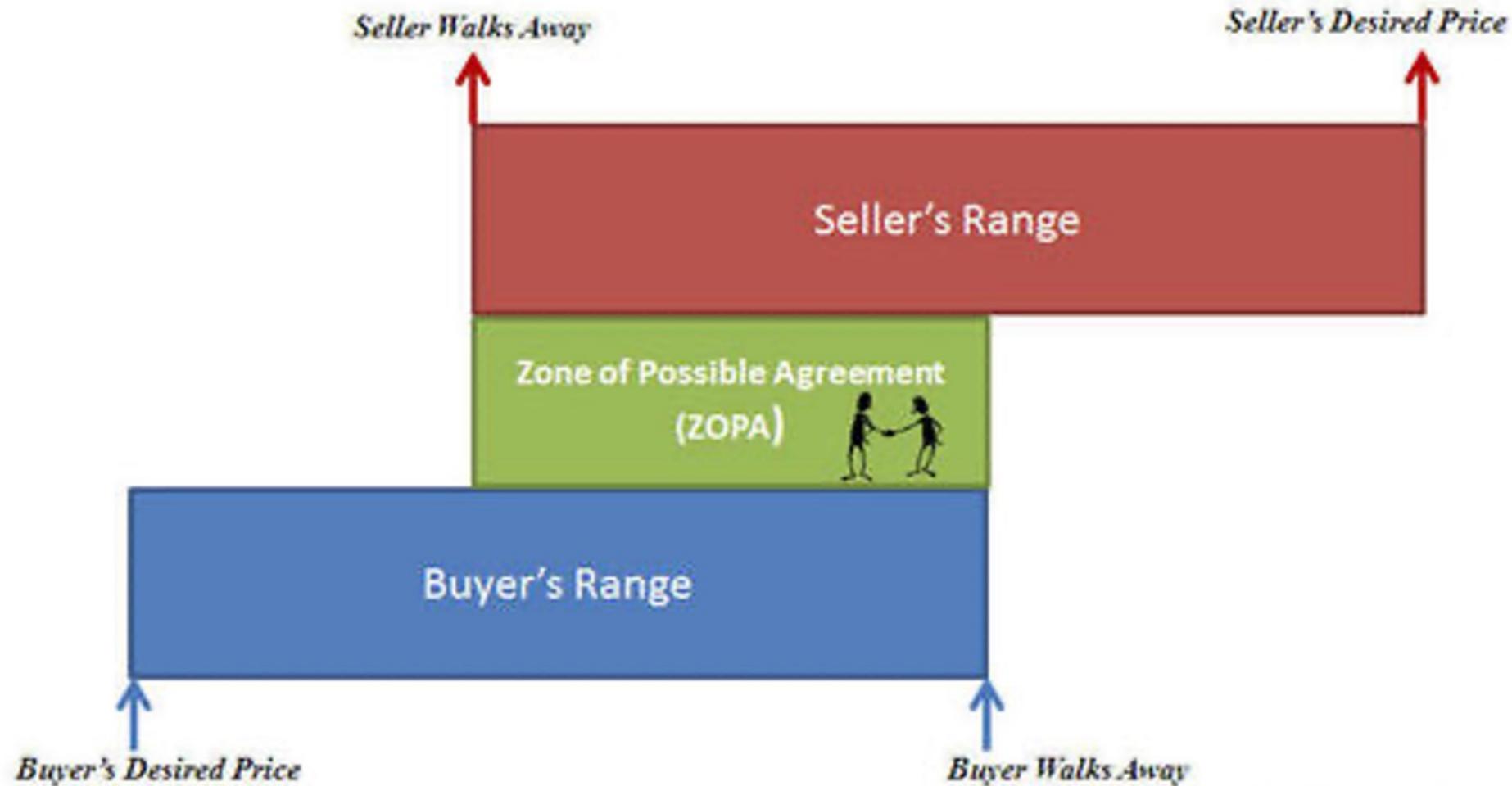
What kinds of external rewards are best at positively motivating people?

- The results from the first day of the work cycle were clear. Any incentive is better than no incentive, and the types of incentives we used (money, pizza, and a compliment) weren't very different from one another. But this analysis focused only on the first day of the work cycle. What about the next three days of the work cycle? Would there be a residual effect of the bonus on performance?
- On the second day of the work cycle, those in the money condition performed 13.2 percent worse than those in the control condition. "Yesterday they paid me a bit extra, so I worked harder. But today they aren't offering me anything special, so I don't care." On the third day, the news was slightly less bleak; those in the money condition dropped their performance by only 6.2 percent relative to the control condition. By the fourth day, productivity had drifted back toward the baseline. Overall for the week, the monetary bonus condition resulted in a higher pay (the bonus) and a 6.5 percent drop in performance compared with no incentive at all.
- As we mentioned earlier, performance in the compliment condition rose 6.6 percent on the first day of the work cycle. From there, it slowly drifted down toward the control condition over the next three days. And the pizza condition? It fell somewhere in the middle between the monetary bonus condition and the compliment condition.
- We think and behave on a longer time scale, which means that managers need to take into account (and measure) not only the direct effect of different incentives but also their delayed and enduring outcomes. The more a company can offer employees opportunities for meaning and connection, the harder those employees are likely to work and the more enduring their loyalty is likely to be.

Motivational crowd-out

- Economic theory has been built on the idea that monetary incentives are primordial instruments to induce people to work. With the advent of economic psychology and behavioral economics, 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” as it is called in economics, applies when monetary payments are used for activities partly or mainly based on intrinsic motivation.
- Thus, the reliance on explicit incentives can be counter-productive and detrimental because they crowd out intrinsic motivations and one’s latent desire to do the right thing even without any financial incentives to do so.
- Explicit incentives “crowd out” intrinsic motivation when there is:
 - Intrinsic interest of the task
 - Personal relationship of principal and agent
 - Participation of agent in principal’s decisions
- And when employees
 - are only rewarded for doing the work specified (no promotions, honours, prizes etc.)
 - Perceive rewards as ‘controlling’ rather than ‘supportive’

Negotiation



Negotiation

- Three key sets of information:
 - Each party's alternative to a negotiated agreement. Negotiator's reservation point (indifference point)—the point at which the negotiator is indifferent between a negotiated agreement and an impasse. If the two reservation points overlap, there is a bargaining zone.
 - Each party's set of interests. Positions are what parties demand from the other side. Interests are the motives behind these positions.
 - The relative importance of each party's interests. Sometimes a focus on deeper interests can suggest creative solutions that help each side get more of what they want.
- When a positive bargaining zone exists, it is optimal for the negotiators to reach a settlement. When the reservation points of the two parties do not overlap, no resolution should occur because there is no settlement that would be acceptable to both parties.
- Creating value: Whenever one party weighs the issues differently than the other party, there is the opportunity to find trade-offs across issues that make both parties better off than they would have been by simply compromising on both issues.

Negotiation - behavioral tendencies

- One reason for failing to reach agreements is the fixed-pie assumption. When individuals approach negotiations with a fixed-pie mentality, they assume that their interests conflict directly with the interests of the other side. Metaphorically, they believe they are both fighting for the biggest piece of a pie of fixed size. The assumption of a fixed pie leads us to interpret most competitive situations as win-lose.
- Framing: You bought your apartment for \$250,000. You have just put it on the market for \$299,000, with a real target of \$290,000 (your estimation of apartment's true market value). An offer comes in for \$280,000. Does this offer represent a \$30,000 gain in comparison with the original purchase price or a \$10,000 loss in comparison with your current target? The answer to this question is "both." Framing has important implications for the tactics used by negotiators. Framing effects suggest that, to induce concessionary behavior in an opponent, a negotiator should always create anchors that lead the opposition toward a positive frame.
- In negotiation, it is useful to know when to hold out for a better outcome. At some point, however, wise negotiators know when it's time to accept the deal on the table. Overestimating the chances that the other side will give you what you want can be a devastating negotiation error. You are most likely to overestimate your value in a negotiation when your knowledge is limited.
- Anchoring in negotiations – first mover advantage (price). if you think the other side has made an outrageous proposal, you should not come back with an equally outrageous counteroffer, creating a gap that will be difficult to bridge. Instead you should make a scene, storm out or threaten to do so, and make it clear that you will not continue the negotiation with that number on the table.

Principles of influence

- Reciprocation: People generally feel obliged to return favors offered to them. This trait is embodied in all human cultures and is one of the human characteristics that allow us to live as a society. Compliance professionals often play on this trait by offering a small gift to potential customers. Studies have shown that even if the gift is unwanted, it will influence the recipient to reciprocate. Similarly, a "door-in-the-face technique" is to ask for a particularly big favor. When this is turned down, a smaller favor is asked for. This is likely to be successful because a concession on one side (the down-scaling of the favor) will be reciprocated by a concession by the other party (agreement to the smaller favor).
- Commitment and consistency - People have a general desire to appear consistent in their behavior. People generally also value consistency in others. Compliance professionals can exploit the desire to be consistent by having someone make an initial, often small, commitment, known as the "foot-in-the-door technique". People also have a strong desire to stand by commitments made by providing further justification and reasons for supporting them. This pattern of behavior toward or resulting in a negative outcome is called escalation of commitment.
- Social proof - People generally look to other people similar to themselves when making decisions. This is particularly noticeable in situations of uncertainty or ambiguity. This trait has led compliance professionals to provide fake information on what others are doing. Examples of this are staged interviews on television advertisements or "infomercials".
- Liking - People are more likely to agree to offers from people whom they like. There are several factors that can influence people to like some people more than others: Physical attractiveness can give people a halo effect whereby others are more likely to trust them and to think of them as smarter and more talented. People tend to like people who are most like themselves. People tend to like those who pay them compliments. People who they are forced to cooperate with to achieve a common goal tend to form a trust with those people. People tend to like people that make them laugh. For example, many lectures start with a joke. Any one of the above methods may not help influence people, but used in combination, their effects can be magnified.
- Authority - People often react in an automated fashion to commands from authority and even to symbols of authority (such as academic degrees, uniforms, expensive cars, etc.), even when their instincts suggest the commands should not be followed.
- Scarcity - People tend to want things as they become less available. This has led advertisers to promote goods as "limited availability", or "short time only". It has also been shown that when information is restricted (such as through censorship), people want the information more and will hold that information in higher regard. Items are also given a higher value when they were once in high supply but have now become scarce.
- Unity - People value being part of a team or group. Used in a negative way, it can create an Us vs. Them mentality. Used in a positive way, it can make people feel that they are part of a group in which everyone looks out for one another.

Matching markets

- In first lecture we tried a double-auction market. The basic objective of these institutions is to match buyers and sellers so that they can do mutually beneficial deals. Double-auction markets are, typically, efficient. What that basically means is that we get the best match of buyers and sellers. Great! Our focus, however, was on a market where each seller had the same thing to sell; the goods were homogeneous. Often this seems appropriate; for instance, one share in a company, or one can of a particular brand of cola, is as good as any other, so a buyer should be relatively indifferent as to who they buy from. In many other cases, however, goods are not homogeneous. For example, no two houses, restaurant meals or used cars are exactly alike. This makes it much more difficult to match buyers and sellers efficiently.
- To illustrate the problem, we can look at the problem of matching workers to employers. In many professions, newly trained graduates simultaneously try to find entry-level jobs with employers. What we hope to see is the best match between the worker or supplier of labor and the employer or demander of labor. Workers will have different preferences over where they would rather work, however, and employers will have different preferences over who they would rather hire. It is very easy for this to become a bit of a mess, with great candidates getting no offers and great employers finding that no one accepts their offers. Obtaining the best match is far from easy. One profession that has tried hard to tackle this problem is the medical profession.
- The problem in the medical profession is to match newly trained doctors with hospitals willing to employ them. To demonstrate the problems there can be, we can look at the experience of the United States. Before 1945 the market for new doctors was decentralized, like a negotiated price market. The outcome was an unraveling of contract dates, in which the best students were being hired earlier and earlier as hospitals tried to get the best candidates before anyone else did. In the end, students were being hired two years before graduation. This meant that hospitals were hiring students before they had a chance to see how good they really were, or students had a chance to see what type of medicine they would most want to practice. This is inefficient.

Matching markets

- In 1945 medical schools banded together to try to improve matters, but a new problem arose. This time candidates who had offers from one place would wait to see if they got an offer at a preferred place. This might sound reasonable but, if everyone is doing it, then everyone is waiting for everyone else to make a decision. Nothing happens until the deadline for acceptance, and then there is a last-minute rush and decisions are being made with little time to think. This is also inefficient.
- In 1952 the National Resident Matching Program was set up as a central clearinghouse for applications. A way had to be found to match doctors with hospitals that would avoid the previous problems. Since 1998 the program has used a matching algorithm designed by economists, notably Alvin Roth, and the process is a lot more efficient. Let's look first at the algorithm used.
- After a process of interviews and visits, doctors submit a ranking of their preferred hospitals, and hospitals submit a ranking of their preferred doctors. Something like a deferred acceptance algorithm is then used. The algorithm is as follows: each doctor is assigned to his or her first choice of hospital. The posts at each hospital are then filled with the most preferred doctors assigned to them, and other doctors are rejected. Any doctor rejected at this stage is assigned to his or her second choice of hospital. The posts of each hospital are then refilled with the most preferred doctors assigned to them, and other doctors rejected. And so the process continues.
- The experiments confirm the advantages of the deferred acceptance algorithm. The deferred acceptance algorithm looks as if it does a good job both in theory and in the experimental laboratory. This has translated into success in the real world. The algorithm has proved successful in matching doctors to hospitals and is now being used in other areas as well, such as matching prospective students with schools. (The biggest mystery is why economists have not used it in their own profession to match junior faculty to departments!) In 2012 Alvin Roth won the Nobel Prize in Economics 'for the theory of stable allocations and the practice of market design'.

Matching markets



	1ST CHOICE	2ND CHOICE	3RD CHOICE
Ross	Rachel	Phoebe	Monica
Chandler	Rachel	Monica	Phoebe
Joey	Phoebe	Rachel	Monica

	1ST CHOICE	2ND CHOICE	3RD CHOICE
Rachel	Joey	Ross	Chandler
Phoebe	Ross	Chandler	Joey
Monica	Joey	Chandler	Ross

	1ST CHOICE	2ND CHOICE	3RD CHOICE
Ross	Rachel	Phoebe	Monica
Chandler	Rachel	Monica	Phoebe
Joey	Phoebe	Rachel	Monica



Ross – Rachel

Chandler – Monica

Joey – Phoebe

	1ST CHOICE	2ND CHOICE	3RD CHOICE
Rachel	Joey	Ross	Chandler
Phoebe	Ross	Chandler	Joey
Monica	Joey	Chandler	Ross



Rachel – Joey

Phoebe – Ross

Monica – Chandler

Leadership lessons from a dancing guy

- <https://www.youtube.com/watch?v=fW8amMCVAJQ>