

- 1 Explain the main assumptions and results in the classical Principal-Agent model.

Fill in your answer here

The classical Principal-Agent model describes two rational and selfish utility maximizing entities. The principal receive utility from production of a commodity (or service etc) X, produced by an agent. This agent get no utility from the X he produces. The Agent gets utility from the wage he receives and gets negative utility from the effort he makes in producing X. The production of X is partly determined by the agents effort but also random shocks and the agents ability.

The principal wants to receive as much X as he can while paying as little as he can to the agent. The best way to this would be to pay effort. More precisely pay effort equal to the cost of effort experienced by the agent on the margin.

However effort is not observed by the principal. Next best solution is to pay the agent by how much X he produces. That is a wage which is solely determined on performance.

Flat wage gives no incentives to the agent to induce effort. A production independent wage would therefore give zero effort.

Besvart.

Knytte håndtegninger til denne oppgaven?

Bruk følgende kode:

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2

In the following questions we ask for design and results of some papers. We do not ask for fine details like exact numbers or significance levels, only the main outline, e.g. with a verbal description of the main results. Relevant criticism of the design or the results in the paper will count positive in the grading.

- (a) Gneezy and Rustichini (2000), "A fine is a price", report an experiment to test the classical deterrence argument: if you want less of some activity X, punish those who do X.

How did they conduct their test?

Fill in your answer here

Gneezy and Rustichini (2000) conducts an experiment at an Israeli child care.

Before the experiment the parents where supposed to pick up their kids before 16:00, but received no monetary or other explicit punishment if they was late.

The experimenters then sat up a sign that informed the parents that the parents that was more than 10 minutes late would get a fixed fine, that would be billed at the end of the month together with the ordinary monthly payment.

After some time the fine was removed.

The parents did not know they was part of the an experiment and it is unlikely that some shock should influence parents to come late. The change in late coming is therefore likely to be due to the change in policy.

Besvart.

Knytte håndtegninger til denne oppgaven?

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Bruk følgende kode:

- (b) Gneezy and Rustichini (2000), "A fine is a price", report an experiment to test the classical deterrence argument: if you want less of some activity X, punish those who do X.

What did they find and how did they explain their findings?

Fill in your answer here

They found that after a while with the new fine, late-comings increased significantly.

After the fine the late-comings did not fall back to the level before the

fine, but stayed significantly higher than before the treatment.

Standard economic assumptions assume that the such a fine, all else equal, would increase the cost of late-comings and therefore people will come less late.

They suggest several explanations for why they find an increase in late comings after the fine.

One explanation is that the parents learned something from the fine. They might have had a belief that late-comings could have severe consequences. For example that the child would lose its place in the child care. The fine informed the parents that the consequence is actually a moderate fine and the parents then rationally increase late-comings because they have learned the consequences and they were less harsh than they thought before. This can also explain why the late-comings did not fall after the fine was removed. This explanation fits with the standard principal agent model with rational individuals, the only difference is that the fine altered the information available.

A second explanation is that the cost of being late on the staff decreases when other parents are late as well. So there could be different equilibria. This explains why the late-comings stayed high, but not why the fine shifted the equilibrium. There might be something to it, but we need another explanation as well.

Another explanation, the one they use most space on in the article explains the findings with social norms. This breaks the standard assumption about rational utility maximizing agents (at least in a monetary way). The explanation goes something like this: The parents had an agreement and paid for the child care until closing time. If they came later than closing time they broke the agreement and the staff voluntarily watched the kids. The parents try not to exploit this kind

gesture for some reason, it can be moral integrity, the cost of being disliked by staff or simply because of a norm which is internalized. However when the fine is introduced this may shift the parents view on the situation to a transaction. If the staff watch the kids longer than 16, then the parents pay for this service, just as they do before 16. This norm can be called "a fine is a price".

This does not explain the finding that the late-comings stayed high after the fine was removed. The authors therefore propose another norm, that is "once a commodity, always a commodity".

Besvart.

Knytte håndtegninger til denne oppgaven?

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Bruk følgende kode:

- 3(a)** Several papers in the curriculum have studied the effect of autonomy on productivity. In one of these studies, Bernstein (2012), The transparency paradox, studies a Chinese factory: Precision Mobile. He finds that production lines behind curtains are more productive than the other lines.

Give some more detail about how the experiment was conducted and the results.

Fill in your answer here

The experiment was conducted in a big Chinese factory with several production lines. The management had deliberately made the factory transparent, so the management could easily inspect the lines and the workers could see each other.

The researchers then put up a curtain on a part of the factory. They were still under inspection from the management, but they now had to go all the way and behind the curtains. Giving the workers more privacy. This privacy then gave the workers more autonomy, without surveillance they could do the tasks as they pleased.

The fact that this increased privacy led to higher productivity was very complex, but I will try to explain it here shortly.

Over the years the workers had developed "tricks" that were not a part of the standard guidelines from the management. The workers were actively hiding these tricks from management, switching to the standard way when

management walked by. Inside the curtains the noise of the curtains being drawn worked well as a signal to change behavior.

The management was actively encouraging the workers to come with new ideas and the "tricks" did in fact increase productivity without decreasing quality. The reason for this "tricks" to be held away from the management was explained by the workers to be that it helped them reach the production goals. The management must have been pushing the workers quite hard and these "tricks" helped them reach the goals and the workers might have feared that production targets would have increased if the management knew that there is a more productive technique.

The privacy of the curtains therefore made the assembly lines more productive by giving them more time to freely use the techniques they thought were best. And they also got more autonomy in experiment with new techniques and actually testing out which was best.

The authors argued that the workers did not understand that they were an experiment. They argue for this partially by reporting that the night shift workers thought the curtains were something that was a part of the day workers and did not matter to them and they found similar results for the night workers.

The authors found that the workers behind the curtain was more productive than the other lines.

Besvart.

Knytte håndtegninger til denne oppgaven?

Bruk følgende kode:

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- 3(b)** Several papers in the curriculum have studied the effect of autonomy on productivity. In one of these studies, Bernstein (2012), The transparency paradox,, studies a Chinese factory: Precision Mobile. He finds that production lines behind curtains are more productive than the other lines.

Do you think this show that autonomy is good for productivity?

Fill in your answer here

The study was very specific and might not be externally valid to a lot of other firms. In other situations more autonomy would likely lead to more shirking.

I think that mechanism described in this paper that lead to higher productivity from more autonomy can be quite general. That is that it reduces the cost of experimenting. The workers explained in the interviews that to go to the management would start a slow, bureaucratic and expensive process of maybe getting this trick into the standard. By giving more autonomy to the line in what would be the standard (at least informally) you greatly reduce the costs of trying out different methods. So you could say that autonomy can be used to develop better techniques. It is unclear however that this was the mechanism in Bernstein however.

It is hard to generalize this. In other factories such "tricks" may decrease quality and the management may be best served by decreasing autonomy.

Besvart.

Knytte håndtegninger til denne oppgaven?

Bruk følgende kode:

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- 3(c)** Several papers in the curriculum have studied the effect of autonomy on productivity. In one of these studies, Bernstein (2012), The transparency paradox, studies a Chinese factory: Precision Mobile. He finds that production lines behind curtains are more productive than the other lines.

The Bernstein-paper also describes a qualitative study. Explain briefly how it was done and what the main findings were.

Fill in your answer here

The Bernstein paper consist of both an experiment and several interviews. Was i supposed to just write about the experimental setup leaving all the interviews out in a). And describe the interviews here? In that case i have partly described the qualitative part in a).

One aspect i have left out is the fact that they had an "undercover student". A student at the university in US that was conducting the experiment that was from china and therefore had the looks and knew the language to blend in. They found how deliberately they hid their tricks from the management walking around and also was teached the tricks from the other employees.

Besvart.

Knytte håndtegninger til denne oppgaven?

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Bruk følgende kode:

- 3(d)** Another paper by Gjedrem and Rege (2017), "The effect of less autonomy on performance in retail", studies a Norwegian chain store. In some stores, sales persons where requested to approach all customers entering the store.

How did this affect sales?

Fill in your answer here

It increased sales.

Besvart.

Knytte håndtegninger til denne oppgaven?

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Bruk følgende kode:

- 3(e)** Another paper by Gjedrem and Rege (2017), "The effect of less autonomy on performance in retail", studies a Norwegian chain store. In some stores, sales persons were requested to approach all customers entering the store.

What does this tell us about the effect of autonomy?

Fill in your answer here

In this study decreasing autonomy lead to increased productivity.

You could think that the sales people had some expertise in which people you should approach and when that was limited by the decrease in autonomy and therefore reduced productivity.

The opposite was true so the most reasonable explanation is that to approach customers had some cost for the employees so with autonomy they did this less frequently than what was beneficial for the profit of the company and the reduction of autonomy "forced" them to approach customers at a rate that was more profitable for the firm.

Besvart.

Knytte håndtegninger til denne oppgaven?

Bruk følgende kode:

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- 3(f) Another paper by Gjedrem and Rege (2017), "The effect of less autonomy on performance in retail", studies a Norwegian chain store. In some stores, sales persons were requested to approach all customers entering the store.

This was a field experiment without a random assignment to control and treatment.

What did the authors do to rule out other explanations?

Fill in your answer here

The program contained a "clicker" which the sales person had in his pocket. He was supposed to click on this every time he approached someone. They also registered how many that got into the store. They were supposed to approach everyone so the two numbers should be the same. They counted and registered this data every day. This program was enrolled in many stores all over Norway. They were introduced at different dates so the researchers could use the enrollment date to rule out other explanations. There is unlikely to be a shock in productivity that comes together with the enrollment at all the stores at different times.

Besvart.

Knytte håndtegninger til denne oppgaven?

Bruk følgende kode:

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3(g) A paper by Falk and Kosfeld (2006), "The hidden cost of control", argues that there is a hidden cost of control.

Describe the basic design of their experiment and the key finding.

Fill in your answer here

Falk and Kosfeld (2006) conducted a lab experiment. It was a principal agent game where the agent received 120 units and he could give away x units to the principal. The principal received twice as many units as the agent gave, that is $2x$.

Standard rational selfish agents would not give away anything.

The experiment was conducted in three different ways. One just as described above, one where the principal could choose to set a lower bar on contribution and one where the minimum contribution was set externally.

They found that agents gave away endowments to the principal. The agents gave away less when they were under control of a minimum requirement. They gave less when the minimum requirement was chosen by the principal than when it was set externally.

Many principals expected this and chose not to induce minimum requirement. In many cases the decision to not set a requirement resulted in a higher contribution.

Besvart.

Knytte håndtegninger til denne oppgaven?

Bruk følgende kode:

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3(h) A paper by Falk and Kosfeld (2006), "The hidden cost of control", argues that there is a hidden cost of control.

What is your overall assessment of the impact of autonomy on employees' productivity? (Here you can cite other studies as well, if you want.)

Fill in your answer here

The finding of Falk and Kosfeld (2006) shows an important aspect of the impact of autonomy, when people control us we find this as a negative signal of distrust. This is something many of the agents told the experimenters after the experiment.

I think this finding can be generalized to a large share of the employees, maybe especially in Norway. In most jobs the employees have great deal of freedom and generally a huge unused possibility to slack. Doctors, professors, teachers have all a lot of freedom and they are employed by the government so they can do a extraordinary bad job without getting fired, but most people does in fact induce a lot of effort. The social mechanism behind this can be reciprocity to the employer, or some utility in the output (most likely true for both doctors and teachers). Control may shatter this fragile social contract and damage more than we gain. If we for example put up cameras in the class room or do monitor the professors computers, the reciprocity from receiving freedom and be trusted may be shattered.

In other professions where the task is simpler and perhaps more physical (how do we know what is productive activity for a professor) control is easier, and in some professions the utility of the output produced is not as likely. If you clean cars you may have pride in what you produce, but i will believe that slacking is more likely than in child care or a hospital. Then control may increase productivity. But even in situation like a car wash, control may give som negative consequences. I would consider performance pay where this is likely to work before control.

Besvart.

Knytte håndtegninger til denne oppgaven?

Bruk følgende kode:

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