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“A sceptic’s comment on the study of
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A sceptic comment on “A sceptic’s comment on the study of economics”

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Abstract

This paper provides a critical re-examination of Rubinstein’s survey in which he questions the way of teaching economics. The observations obtained in our new survey cast some doubts on the original findings, and in particular, question Rubinstein’s conjecture that our students’ views on economic issues are influenced by the way we teach economics.

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1. Introduction

Ariel Rubinstein's (2006) sceptic comment on the study of economics hits a nerve of many economists who worry that what they teach and the way in which they teach may indoctrinate students. Rubinstein conducted a questionnaire in which students had to decide whether to meet a company's goal of making high profits by laying off workers or to fire less, which, as a consequence, results in lower profits. In his survey economists turned out to put on average a much higher weight on the company's profit than non-economists. Rubinstein's conjecture is that economics students' "views on economic issues are influenced by the way we teach, perhaps without them even realizing it." This is a serious accusation and our immediate response to his article was astonishment. Is our way of teaching really flawed? There are some big clouds of doubts that made us reluctant to follow Rubinstein's recommendation to consider changing our teaching methods.

Firstly, the fact that economists put more emphasis on profit maximization in a survey may be attributed to a self-selection bias (i.e., economic studies attract certain types of students) rather than indoctrination through teaching. As Rubinstein admitted, his questionnaire did not allow for any conclusive evidence. It is thus important to separate these effects before questioning the way we teach economics.

Secondly, it is a general phenomenon that the way a problem is framed can substantially affect decisions. The frame used in Rubinstein's survey puts students into the role of a manager. The problem is that the potential effect of this framing is not controlled for in Rubinstein's paper. Do subjects only consider the workers' welfare and the profit of the company as Rubinstein suggests? Or do they also think about what might happen to a manager who does not act in the interest of the company's owners? In order to clarify this point, we added a second frame, which allows testing whether the particular role influences subjects' choices.

To deal with these questions we conducted a similar but modified survey with students from the University of Cologne and the University of Magdeburg in Germany. In the next section

we briefly describe the survey design and then discuss the main results in section 3. Section 4 concludes.

2. Modifying Rubinstein's questionnaire

We tried to design our online survey in a way that on the one hand allows us to compare our data with those generated by Rubinstein (2006), but on the other hand also allows us to gain some more insights.¹ In the first two questions we followed the experimental design by Rubinstein as closely as possible. In total we asked 469 students² to consider the following situation

“Assume that you are vice president of ILJK company. The company provides extermination services and employs administrative workers who cannot be fired and 196 non-permanent workers who do the actual extermination work and can be fired. The company was founded 5 years ago and is owned by three families. The work requires only a low level of skills so that each worker requires only one week of training. All of the company's employees have been with the company for three to five years. The company pays its workers more than minimum wage. A worker's wage, which includes overtime, amounts to 20,000 Euro per year and exceeds welfare benefit payments. The company provides its employees with all the benefits required by law.

Until recently, the company was very profitable. As a result of the recent recession, however, there has been a significant drop in profits though the company is still in the black. You will attend a board meeting at which a decision will be made as to how many workers to layoff.”

Analogously to Rubinstein, the first question was presented in two different ways. A total of 299 economics and non-economics students received the following information (Treatment Q-Table):

¹ Subjects earned €10 with a probability of 1/3 (every third answer was awarded).

² Note that we excluded 72 students from our analysis because their answers were mistaken. In most of these cases subjects mixed up the number of employed and laid off workers. Including these observations does not change our results, however

“ILJK’s Finance Department has prepared the following forecast of annual profits:

Number of workers who will continue to be employed	Expected annual profit in Euro millions
0 (all the workers will be laid off)	Loss of 8
50 (146 workers will be laid off)	Profit of 1
65 (131 workers will be laid off)	Profit of 1.5
100 (96 workers will be laid off)	Profit of 2
144 (52 workers will be laid off)	Profit of 1.6
170 (26 workers will be laid off)	Profit of 1
196 (no layoffs)	Profit of 0.4

Another 98 students who were either advanced undergraduate economists or advanced undergraduate engineers were informed that (Treatment Q-Formula):

“ILJK’s Finance Department has prepared a forecast of annual profits according to which the employment of x workers will result in annual profits of (in Euro millions):

$$2\sqrt{x} - 0,1x - 8.”$$

Both groups of students had to state the number of workers they would recommend to continue to employ (Q1). After that, we asked them to predict the recommendation of a real vice president (Q2). Q1 and Q2 are identical to the questions used by Rubinstein.

In contrast to Rubinstein, we asked a third question in order to test how answers are affected by the framing of the questions. Do students only consider the workers’ welfare and the profit of the company? Or do they also think about their own standing as the company’s vice president? Since it is not clear what students have in mind when answering Q1, Q3 puts them into a situation in which they need not care about their own future as vice president:

Assume that you are near retirement and you just have to make this decision. What would be your recommendation?

3. Findings

The most interesting message of Rubinstein’s paper is that economists care more about profit maximization than non economists and that they do not think much about the fate of the workers who loose their jobs. Figure 1 compares the numbers of workers who are still employed after the decisions of economists and non economists in treatment Q-Table:

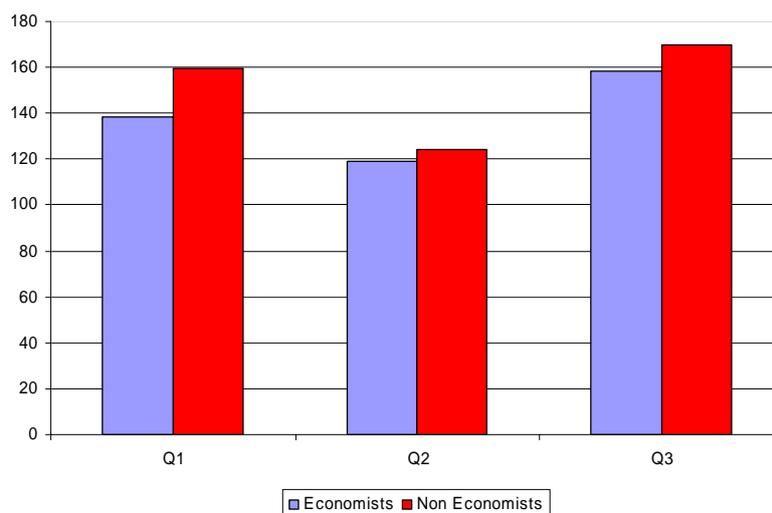


Figure 1: *Average number of workers who will continue to be employed*

For Q1, our study reproduces the results of Rubinstein’s experiment. Economists decided to employ significantly *less* workers than non economists when being confronted with a table.³

Table 1 compares the observations obtained in both surveys.

	Hebrew/Tel Aviv			Cologne/Magdeburg		
	Economists	Non-economists	Total	Economists	Non-economists	Total
<i>n</i> =	224	368	592	156	183	339
100 (profit maximum)	47%	22%	31%	38%	15%	27%
144/10	40%	53%	48%	44%	52%	47%
196 (no layoffs)	10%	18%	15%	14%	29%	21%
others	3%	7%	6%	4%	4%	4%
Average layoffs	66	46	53	61	40	51

Table 1: *Data obtained in Treatment Q-Table.*

Concerning the other two questions the differences between economists and non economists are much smaller and in case of Q2 insignificant. That is, both groups assess the behaviour of real managers in a similar way. When close to retirement (Q3), economists still decide to lay off more workers than non economists, though the average difference drops from 22 in Q1 to 11 in Q3.

³ Two-tailed Mann-Whitney-*U* tests are used for between-group comparisons, Wilcoxon tests are used for within-group comparisons. Differences are labelled as significant if $p < 0.050$ and are labelled as weakly significant if $0.050 \leq p < 0.100$.

This last observation leads to the question whether the frame of the questions is important. Remember that Q1 was presented in two different ways. 98 of our subjects were confronted with a profit formula while the other 299 saw a table displaying the number of employed workers and the corresponding profit. While we find no significant differences between the decisions of economists and non economists working with the formula, there is a strong and significant difference between the two frames. In the “table frame” on average 140.5 workers continued to work and in the “formula frame” only 109.6 were not laid off. The latter result reproduces the findings obtained by Rubinstein.

Figure 2 illustrates that with regard to Q3 (the specific situation of the manager), too, the frame turns out to be of importance. Particularly economists employ significantly more workers when they are forced to imagine that they are near retirement, i.e. are in a position in which their decision has much less personal consequences. Moreover, in Q3, the average decision of those equipped with the table is no longer significantly different from the average decision of students equipped with the formula.

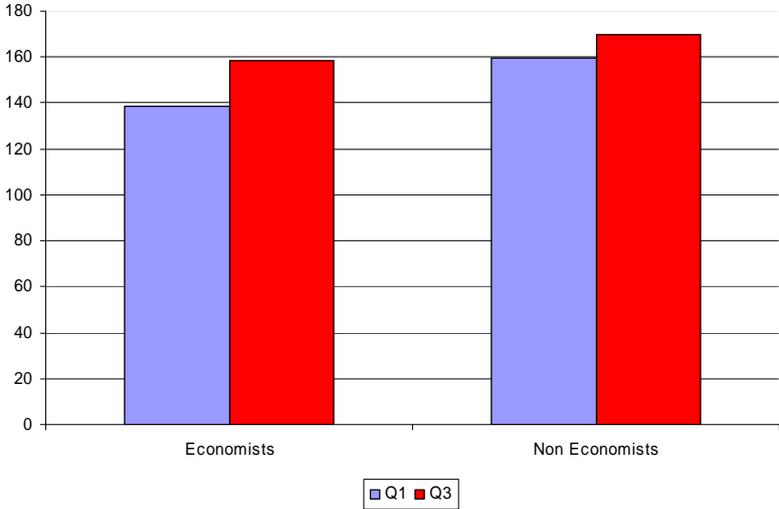


Figure 2: Framing effect: Q1 vs. Q3.

Rubinstein points out that economics students show a much stronger tendency to maximise profits than subjects in other groups, but he could not determine clearly whether differences are due to a self-selection bias or are the result of indoctrination. Since he found (significant?) differences between economics students and MBA students trained in doing case studies, he

tentatively concluded that the difference might indeed be the result of the way in which economics is taught at universities: “the study of cases might stimulate more comprehensive thinking about real life problems whereas the study of economics through mathematical exercises conceals the need to balance between conflicting interests” (Rubinstein 2006, C8).

To distinguish the self-selection bias from “indoctrination”, we compared decisions made by first-term economics students and advanced undergraduate economics students. Our results reveal that education does not significantly matter for economics students. Instead of becoming more interested in profit maximization they even seem to learn to give the worker’s welfare more weight – although the increase of employment is not significant ($p = 0.174$). Note that also the education of non economics students does not change their behaviour.

Figure 3 reports the results:

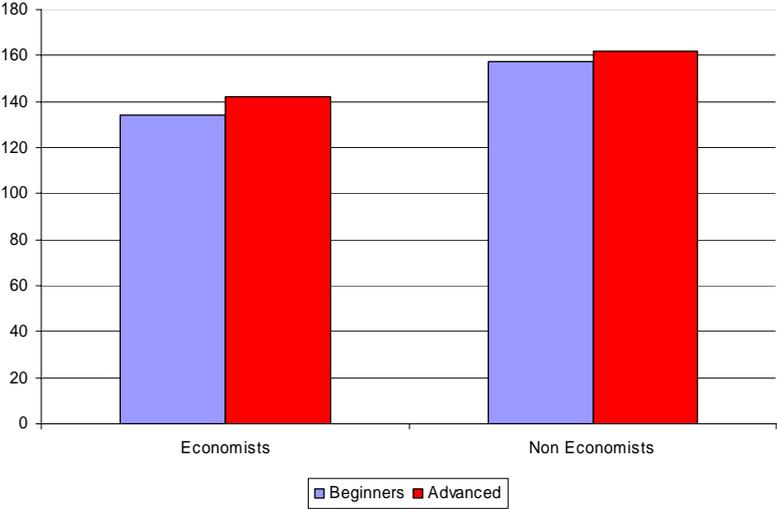


Figure 3: *Number of workers to be employed in Q1.*

4. Discussion

The comparison of our results and those obtained by Rubinstein shows that the empirical evidence is not as clear as Rubinstein’s paper suggests. First of all, we demonstrate that the frames of the original Rubinstein questions are of great importance. The first question in the questionnaires of both surveys unfortunately leaves much room for interpretations. What happens to the workers who were laid off? What consequences do employment decisions

have for the vice president himself? Subjects answering Q1 may or may not have particular answers to these and other questions in mind when they decide. The problem is, that we can not control for the individual interpretation given by each subject. The answers to our new question Q3 demonstrate that a different interpretation of the vice presidents situation makes a significant difference. Thus, we can not rule out the possibility that other parts of the frame also influence decisions and that economists and non economists differ systematically in their interpretations of the economic situation they are confronted with. For example, it seems plausible that students, who plan to become managers and who are educated in management and economics are more likely to have the fantasy that they are really involved in the situation as a *responsible* manager than students of other disciplines. The Rubinstein interpretation that economists systematically put a higher weight on profit maximization because they are trained to solve economic problems with the help of formal models is not coercive – other interpretations are even likely.

Another, more general question is how to interpret the observation that students of economics seem to care more about profit-maximization. The efficient use of resources is a core topic in economics and we emphasize this point over and over again. We also stress that markets can do (under certain circumstances) a good job in achieving efficiency and we should therefore not wonder that students of economics might perceive the social cost of firing workers lower than others do. It should be no surprise when both groups, on average, do not find the same answer. In no case, we can infer from that outcome an indoctrination bias. An elaborate discussion of this question is far beyond the scope of this comment, however, and leaves much room for future work.

References

Rubinstein, A. (2006): A sceptic's comment on the study of economics, *Economic Journal*, 116, C1-C9.