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Not Guilty? : Another Look at the Nature and Nurture of Economics Students

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Not Guilty? Another Look at the Nature and Nurture of Economics Students

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Not Guilty? Another Look at the Nature and Nurture of Economics Students

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May 2003***

Abstract

In this paper, we examine students' attitudes towards various allocation mechanisms for a scarce resource. For this purpose, we have run a survey among officers of the German military who are enrolled in different courses of study (such as economics) at the University of the German Federal Armed Forces. We find that significantly more economics than non-economics students judge price increases as fair. Moreover, this tendency strengthens as economics students advance in their studies. In addition, fewer advanced economics students judge allocation through the local community as fair when compared to first-year economists or other students. These results stand in contrast to results obtained by Frey, Pommerehne and Gygi (1993) on the same survey. In summary, we find evidence for both nature *and* nurture effects.

Keywords: Economists, fairness, learning, selection, attitudes

JEL Classification: A12, A13, A20, D63

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1 Introduction

Whether economists are different from other individuals and if so, whether these differences are due to their nature or nurture has been the subject to a far reaching debate among economists at least since Marwell and Ames (1981). They found that economics students tend to be less cooperative than students from other disciplines. While there appears to be some consensus that economists behave differently in many experiments and also tend to hold different views and attitudes than other individuals, there is much less agreement on the sources of these differences.[1]

Quite a number of economists apparently hold the view that economics students are initially not much different, but that they become different over the course of their studies (see Frank, Gilovich and Regan 1993, 1996). According to Frey and Meier (2001), this "indoctrination hypothesis" and the according evidence seem "to have convinced most of the academic community." If this view is correct, it may be somewhat of a tragedy from an ethical point of view since we know that cooperation and mutual trust are often beneficial for society as a whole as cooperation saves on transaction costs and helps to overcome market failure in many instances (see Arrow, 1970; Fukuyama, 1995). If economics really makes students less cooperative, one is also left to wonder about the social benefits of teaching economics.

A related debate is not directly concerned with economists' behaviour, but with their personal values (see, e.g., Gandal and Roccas, 2002). While there is some agreement again about the very issue that economists tend to hold different values than non-economists (see, e.g., Frey, 1986), there is much less consensus whether this is due to economists' nature or their nurture.

In fact, many economists plea for "not guilty" in this context. As is argued, "economists are born, not made" (Carter and Irons, 1991). According to the "self-selection hypothesis" economics students are already more selfish and more convinced of market forces *before* they start studying economics. More precisely, the argument is that economics students deliberately choose to study economics because they are already different or have different views than other students (see Carter and Irons, 1991, or for a recent corroboration Frey and Meier, 2001, 2002).[2] If this alternative view is correct, teaching economics does not make students "bad citizens"; they are "naturally born economists".

The plea for "not guilty" may be somewhat surprising, as it implies that the (more or less) intensive study period of several years has no major effect on the students' value system. This would be in line with the crystallization thesis of Hess and Torney (1967), which postulates that values are determined in one's first 13 years of life and that these values remain, to a large extent, stable thereafter. At least most sociologists tend to reject this view of value formation as being too simplistic and static. Instead it is argued that one's (political) socialization is an ongoing process (Hurrelmann, 2002). This would also be consistent with Becker's (1996) model of man's values and attitudes, according to which values and attitudes result from ongoing investment in human and social capital. According to these models, university education should have a strong impact on one's values, and differences in education should lead to different value sets.

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1 However, it is not even clear whether economists are really more selfish and less cooperative, as Marwell and Ames (1981) and others have suggested. For example, Yezer, Goldfarb and Poppen (1996) find in their experiment that economics students are more cooperative than students from other disciplines.

2 Other studies supporting this view are Cadsby and Maynes (1998) and Frank and Schulze (2000).

Among economists, Stigler (1959, p.528) has been an exemplary advocat of the "learning" or "indoctrination" hypothesis, as he states that, regarding economists' attitudes, "the main reason for the conservatism [of economists] surely lies in the effect of the scientific training the economist receives. He is drilled in the problems of all economic systems and in the methods by which a price system solves these problems." Again, while there is also some empirical support for this hypothesis (see, e.g., Scott and Rothman, 1975, Soper and Walstad, 1983), there is also empirical support for the counter hypothesis that differences are mainly due to selection effects (see Frey, Pommerehne and Gygi, 1993).

More precisely, Frey, Pommerehne and Gygi (1993) have surveyed three different groups about their views about price increases and other allocation mechanisms. The first group consisted of a random telephone book selection from the general population, the second group of students in introductory economics classes at three different universities in Germany and Switzerland, and the third group consisted of advanced economics students. While the authors found differences between economists and the general population, they did not find much difference between first-year and advanced economics students.

There are, however, a number of problems with the above study as Frey, Pommerehne and Gygi (1993) could not control for (expected) income, the level of education, and other demographic factors such as gender, nationality and age - all of which may be quite different between economics students and the general population.

Hence, in order to check the robustness of the above results we have run almost exactly the same survey conducted by Frey, Pommerehne and Gygi (1993) among officers of the German military who are enrolled in various courses of study (such as economics) at the University of the Federal Armed Forces (U FAF) in Hamburg, Germany.[3] A survey among this group has the advantage that we do not need to control for (expected) income, education level, gender, nationality or age, as the students are extremely homogeneous in these respects.

The question how attitudes towards different allocation mechanims are shaped may not only be important for shedding more light on economic education, but also be useful for understanding the often observed aversion towards market-based allocation mechanisms. This is important as policy reforms are, in practice, not only judged on efficiency grounds, but also under fairness aspects, which are usually less well understood by economists.

The rest of this paper is structured as follows: Section 2 explains the survey design and the data obtained, before our results are presented and analysed in section 3. The fourth section briefly discusses framing effects, and section 5 concludes.

2. Survey Design and Data

Our survey has been conducted among officers of the German Armed Forces who were enrolled at the U FAF. These students have to commit themselves to the German military for 12 years in order to be allowed to study for 3-4 years at the U FAF. While the U FAF is exclusively open to students who are also officers of the German military, the courses taught and the degrees granted are exactly the same as at German civil universities. That is, students can study education, history, political science, mechanical and electric engineering, and also

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[3] While it is not (yet) common practice in economics - as opposed to most natural sciences - to re-run experiments in order to reproduce experimental results, we belive there is a major merit in this exercise in order to check the results' robustness.

business and economics. The courses are not specific for the military, and the content does not differ from many other universities.[4]

In order to compare our results in this setting to those of Frey, Pommerehne and Gygi (1993), we have asked almost exactly the same question as they did in their survey,[5] namely:

> *At a sight-seeing point, reachable only by foot, a well has been tapped. The bottled water is sold to thirsty hikers for 2 Euro per bottle. The maximum daily production are 100 bottles. On a particularly hot day, 200 thirsty hikers are expected. Please judge the following measures for allocating the water among the thirsty hikers:*
>
> *(a) The price is increased to 4 Euro per bottle.*
>
> *(b) Selling the water for 2 Euro per bottle to the first 100 hikers according to "first come, first served".*
>
> *(c) Selling the water for 2 Euro per bottle to the 100 hikers whose last name by chance happens to start with the letters A to K.*
>
> *(d) The local community buys all bottles for 2 Euro per bottle and distributes them as it sees fit.*
>
> *(e) Selling half-sized bottles for 1 Euro per bottle to all hikers (one bottle per hiker only).*

The idea behind this question is that while a price increase tends to be efficient in such a situation as it allocates the scarce resource to the hikers with the most intensive wants,[6] economics is presumed not to teach us anything about the fairness of various allocation mechanisms.

The survey was conducted in the autumns of 2000, 2001 and 2002 among 527 students who were asked to indicate, for each allocation mechanism, whether they find the proposed measure "completely fair", "acceptable", "unfair" or "very unfair". In addition, students were asked to give a number of personal and social details such as their major study course, years of study already completed, a self-assessment of their political position (ranging on a scale from 0 for the extreme left to 100 for the extreme right) and their regional provenance, i.e. the federal state (or *Bundesland*) where they graduated from high school. In addition, a subsample of 206 students was also asked to indicate their age.

We received 505 usable responses that contained all the data that we requested. Among the usable responses 311 were from economics, business and business engineering students ("economists") and 194 from other students (other social sciences and engineering). Of the 311 economists, 166 were first year students surveyed in their first week of class, and 145 were more advanced economics students.

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4 The underlying idea of the U FAF is to make it more attractive for young people to join the military for 12 years by offering them a university education and an according degree which is useful for the officers when they leave the military after 12 years.

5 We have added a question about rationing as allocation mechanism (e), which was not included in the original survey conducted by Frey, Pommerehne and Gygi (1993).

6 Note that the question is not about a life-threatening situation and the price is comparatively low so that income effects or income differences should not matter much in this case; especially as income levels are not expected to differ much in our sample. Also, while the proposed price increase may ensure static efficiency we do not imply anything about dynamic adjustment affects.

The students surveyed were all male, and the 206 students asked for their age were between 20 and 27 years old. The median age was 23, and less than 10 percent were either younger than 21 or older than 25. Among all respondents 272 students had graduated from high school in West German states while 208 went to high school in East Germany. The remaining 25 students are from Berlin.

Regarding the students' political position the average rating was 61.1 with a median of 60. The left-most fifth of all students indicated that their position was 50 or lower, while the right-most fifth indicated it was 75 or higher. Hence, students tend to cluster slightly right from the centre as one might expect at a military university.[7]

3. Results

3.1 Descriptive Data Analysis

Table 1 summarises the survey results for all respondents as well as for various subgroups. Among all subgroups, rationing is considered "completely fair" or "acceptable" by a large majority, which exceeds 90 percent in all cases. The random procedure on the other hand is considered the least fair measure for allocating the water. There also appears to be somewhat of a consensus regarding the first-come, first-served principle, which is considered fair by more than two thirds in all groups.

Table 1: Respondents Who Judge a Mechanism "Completely Fair" or "Acceptable"

Group	**n**	**(a) Price Increase**		**(b) 1st come, 1st served**		**(c) Random**		**(d) Local Community**		**(e) Rationing**	
All Respondents	505	41.6%	(210)	73.7%	(372)	9.7%	(49)	43.4%	(219)	94.5%	(477)
Economists	311	49.8%	(155)	73.6%	(229)	8.4%	(7)	39.2%	(122)	94.9%	(295)
Advanced Economists	145	60.0%	(87)	69.0%	(100)	9.0%	(13)	34.5%	(50)	93.8%	(136)
1st year Economists	166	41.0%	(68)	77.7%	(129)	7.8%	(13)	43.4%	(72)	95.8%	(159)
Business Students	236	45.8%	(108)	73.7%	(174)	8.1%	(19)	41.5%	(98)	93.6%	(221)
Economics Students	46	69.6%	(32)	71.7%	(33)	2.2%	(1)	41.3%	(19)	97.8%	(45)
Non-Economists	194	28.4%	(55)	73.7%	(143)	11.9%	(23)	50.0%	(97)	93.8%	(182)
Other Social Scientists	132	22.0%	(29)	68.9%	(91)	11.4%	(15)	44.7%	(59)	93.9%	(124)
Engineering Students	62	41.9%	(26)	83.9%	(52)	12.9%	(8)	61.3%	(38)	93.5%	(58)
West Germans	272	43.8%	(119)	78.3%	(213)	11.8%	(32)	41.5%	(113)	94.9%	(258)
East Germans	208	39.4%	(82)	69.2%	(144)	8.2%	(17)	45.2%	(94)	94.7%	(197)
Most Left-wing 20%	101	35.6%	(36)	79.2%	(80)	8.9%	(9)	53.5%	(54)	92.1%	(93)
Most Right-wing 20%	101	51.5%	(52)	69.3%	(70)	9.9%	(10)	45.5%	(46)	95.0%	(96)

The main disagreements appear to exist over the fairness of price increases and community allocation. While only 22 percent of other social scientists and 28.4 percent of all non-economists find a price increase fair or acceptable, 41 percent of first year economists and even 60 percent of advanced economists consider a price increase fair or acceptable. χ^2-tests indicate that all these differences are significant at the 99 percent level.

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7 Note, however, that we do not know whether the distribution within the overall population would be much different.

It is also interesting to note that there does not appear to be a major difference in views between first year economists and engineering students while there is (already) a major difference between first year economics students and other social scientists. This indicates that both nature and nurture impact on economists' views regarding the fairness of the price mechanism.[8] Furthermore, we find that within the economics profession, more students who study pure economics tend to consider the price mechanism just when compared to business students. While almost 70 percent of the students in pure economics find a price increase fair or acceptable, only 45.8 percent of all business students hold this view.

Regarding community allocation we find that overall more economists tend to favour a price increase over community allocation. The difference, however, is driven by the advanced economists, as in fact slightly among the first year economists more students find community allocation fair than a price increase. This again points towards nurture effects, as students learn about the perils of state intervention and Government failure.

In contrast to the economists, among non-economists more respondents find a community allocation fair or acceptable than a price increase. While this holds for both engineering and non economic social sciences students, among the engineering students more respondents find both a price increase (41.9%) and community allocation (61.3%) just. While the difference between first-year economists and other social scientists is negligible, there is a significant difference between them and the advanced economists. [9]

Overall, it appears that economists tend to naturally like the market, but this preference is nurtured over the course of their study. In addition, economics students apparently become more sceptical regarding local community allocation.

3.2 Comparison with Frey, Pommerehne and Gygi (1993)

In Table 2 we compare our results (HJ) with those obtained by Frey, Pommerehne and Gygi (1993) (henceforth: FPG) in the survey they conducted in 1987. As can be easily seen, our results differ markedly form theirs, even though some results correspond. Like FPG we find a ranking from fairest to most unfair from first-come, first-served over price increase to community allocation and random among economists and a ranking from first-come, first-served over community allocation to price increase and random among non-economists. However, many other findings are different, as can be easily seen from Table 2.

Somewhat surprisingly, FPG report significantly fewer advanced students considering a price increase to be fair when compared to first-year economics students, which they interpret, together with results of some other surveys they conducted, as evidence in favour of the self-selection and against the indoctrination hypothesis. In contrast, we find that an increasing number of economics students find a price increase fair, as they advance in their studies. FPG also find that more advanced students tend to find a random or administrative allocation

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8 While we have only 16 advanced other social scientists in our survey, which does not allow for a robust comparison between first year and advanced students in other social sciences, we have 30 first year engineering students and 32 advanced ones. In both groups 13 students find a price increase fair or acceptable which represents 43.3 and 40.6 percent, respectively, which is an insignificant difference.

9 A summary of various χ^2-tests is given in Table A1 in the Appendix.

mechanism fair than first-year students,[10] while in our survey advanced and first-year students do not differ much in their judgements about (the unfairness of) a random procedure. However, in our study fewer advanced students find an administrative allocation mechanism fair, which points towards nurture effects.

Table 2: Comparison between our study (HJ) and FPG (1993)

Group	**Price Increase**		**First come, First served**		**Random**		**Local Community**	
Study	*HJ*	*FPG*	*HJ*	*FPG*	*HJ*	*FPG*	*HJ*	*FPG*
Advanced Economists	60.0%	49%	69.0%	64%	9.0%	38%	34.5%	49%
1st year Economists	41.0%	65%	77.7%	68%	7.8%	18%	43.4%	38%
Population/Others	28.4%	27%	73.7%	76%	11.9%	13%	50.0%	42%

One possible explanation for these differences may be that FPG have only a comparatively small sample of advanced economics students with n=45 (and n=105 first-year economics students) – even though this sample should be large enough for statistic testing. Another factor is that times may have changed since FPG conducted their survey in 1987. The general view towards Government and/or the dominating economic ideology in classrooms may have changed since 1987. Also, as universities enjoy freedom of teaching, there might exist strong differences between economic faculties – or even between teachers within the same faculty - concerning the content and "ideology" in class. Finally, FPG conducted (an unknown) part of their survey in Switzerland, which may explain differences in students' attitudes toward local community allocation, especially when they learn about the benefits of direct democracies.

3.3 Cultural Influences and Political Attitudes

In order to control for other factors such as the students' origin and their political attitude, let us compare both the value judgements of East versus West German students and the left-most versus the right-most quintile. As various studies have indicated, there may still be significant differences between East and West Germans' attitudes (see Ockenfels and Weimann, 1999; Suhrcke, 2001). In our survey, however, we only find differences in East and West German students' views regarding the fairness of the first-come, first-served principle, where the fraction of West Germans considering such an allocation fair is larger than the corresponding number of East Germans (see Table 1). In particular, differences in view about the price mechanism or community allocation are not significant. The difference in East and West German students' view about the fairness of the first-come, first-served principle may possibly be due to the experience East Germans had to make with queuing.

Given the results obtained by Ockenfels and Weimann (1999), the finding that East and West German students do not differ much in their views may be somewhat unexpected. However, an explanation may be that students at the U FAF are extremely homogeneous in terms of their disposable income and their career expectations, independent from whether they are originally from East or West Germany. In contrast, the students examined by Ockenfels and

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10 FPG (1993) speculate that there may be some learning effects regarding random allocation mechanisms, as economics students learn about the efficiency of lotteries (see, e.g., Boyce, 1994).

Weimann (1999) at various East and West German universities probably differ with respect to their disposable income and their career expectations.[11]

We did, however, find differences in opinion between the left-most and the right-most students. While the right-most fifth of the students surveyed, whose average political attitude is 81.7, prefer a price increase over community allocation, the reverse is true of the left-most fifth, whose average political attitude is 40.0. In addition, to the differences in fairness judgements regarding price increases (35.6 versus 51.5 percent) and local community allocation (53.5 versus 45.5 percent), there is also a difference regarding the first-come, first-served principle, which is judged fair or acceptable by 79.2 percent of the left-most students, but only by 69.3 percent of the right-most ones. A possible explanation may be that first-come, first-served and other queuing devices tend to favour low income groups within the population (also see FPG, 1993, p.277).[12]

3.4 Regression Analysis

In order to single out the different factors that appear to shape students' judgements about the fairness of various mechanisms, we have run binary logit regressions for all the five proposed allocation mechanisms. As explanatory variables we have used students' political attitude and dummy variables for (a) West German students, (b) first-year economists and (c) advanced economists. To correct for heteroscedasticity we estimate robust standard errors using White's method. The results are summarised in Table 3.

The regression results indicate that there are selection or "nature" effects, as being a first-year economist already increases the likelihood of finding a price increase fair or acceptable. However, the likelihood increases even further when students are advanced economists. In addition, being an advanced economist also increases the likelihood of finding local community allocation unfair or very unfair. Hence, the logit regression indicates there are also learning or "nurture" effects.

As expected after looking at the descriptive analysis in section 3.3, we cannot find differences between East and West German students regarding their judgements about a price increase or community allocation. The only differences concern the first-come, first-served principle and the random mechanism, where more West Germans tend to find the mechanisms fair. As mentioned, this may possibly be due to the negative experience East Germans had with non-price allocation mechanisms until unification. As the students' age in our samples ranges from 20 to 27 most of them should have gathered vital experience before 1989. In addition, students from East Germany have been socialized within environments where memories about non-price allocation mechanisms are still vivid.

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11 Moreover, one may speculate that the students we are examining are now all living in Hamburg , i.e. in West Germany, while the students examined by Ockenfels and Weimann (1999) still live in the East, so that the differences they established may also be due to these differences. Note, however, that the vast majority of the first-year students in our sample have only been living in Hamburg for one week when we conducted the survey so that it appears rather unlikely that their moving to Hamburg already had an impact on their views.

12 However, we have to be rather carefull here, as the "left" quintile is actually more a centrist group and not a typical leftist group of people. At the same time, the right-wing does not always opt for free markets; actually the extreme right often prefers strong Governments to promote other, non-economic objectives.

Table 3: Binary Logit Regression[13]

Endogenous Variable	Constant	West German	Political Attitude	Advanced Economist	1st-year Economist
Price Increase	-1.637***	0.271	0.009	1.311***	0.543**
	(-3.82)	(1.42)	(1.47)	(5.52)	(2.42)
First come, First served	1.108**	0.409**	-0.006	-0.159	0.260
	(2.46)	(1.99)	(-0.80)	(-0.64)	(1.04)
Random	-2.774***	0.556*	0.006	-0.198	-0.375
	(-4.24)	(1.68)	(0.57)	(-0.52)	(-1.01)
Local Community	0.285	-0.208	-0.003	-0.621***	-0.238
	(0.74)	(-1.13)	(-0.54)	(-2.69)	(-1.12)
Rationing	2.769***	0.171	-0.005	0.209	0.581
	(3.00)	(0.46)	(-0.43)	(0.48)	(1.24)

In parentheses z-ratios based on heteroscedasticity consistent standard errors,
* (**) [***] significant at 90% (95%) [99%]-level.

Maybe more surprisingly, students' political attitude does not add any explanatory power, given their course of study and the years completed. Hence, we have checked whether economists are possibly more right wing in general than other students, and, indeed, the economists' average political attitude (62.7) is significantly different from other students' average political attitude (58.5). Similarly, the average attitude of students finding the price mechanism fair or acceptable is 63.2 is significantly different from the value for the students who find the price increase unfair or very unfair (59.7). In addition, first-year economists appear to be less right-wing (60.9) than advanced economists (64.8). Hence, economists may not only favour the price mechanism, but also become more conservative as Stigler (1959) already suspected. Nevertheless, the regression results suggest that both nature and nurture effects cause economists to be different.[14]

4. Framing Effects

In a third sample, the initial survey was varied for another group of 267 students in order to test the robustness of our results with respect to potential framing effects. In this survey, the price system was not compared with alternative allocation mechanisms. Instead students were only asked how they evaluate a price increase, but not how they rate other allocation mechanisms. As one may expect, the general tendency among all subgroups was that fewer respondents found the price increase unfair or very unfair. In fact, the level of approval for a price increase rises by around 15 to 20 percent in all groups if fewer alternatives are mentioned.

The results of this second survey are summarised for a variety of subgroups in Table 4.

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13 The reported results do not differ qualitatively to those of a binary probit regression. For a comparison see the respective results in Table A2 in the Appendix.

14 We have also estimated ordered logit and ordered probit regressions. Again the results confirm our analysis. The respective results for the endogenous variable "price increase" are reported in Table A3 in the Appendix.

Table 4: χ^2-test for framing effects

	Approval Rate	χ^2-test (significance level)
Economists (1) vs. Economists (2)	49.84% 65.29%	16.241 (>99%)
1st-year Economists (1) vs. 1st-year Economists (2)	40.96% 55.32%	8.015 (>99%)
Advanced Economists (1) vs. Advanced Economists (2)	60.00% 77.63%	9.844 (>99%)
East German Economists (1) vs. East German Economists (2)	48.98% 63.41%	6.837 (>99%)
West German Economists (1) vs. West German Economists (2)	50.61% 67.05%	9.510 (>99%)
Other Social Scientists (1) vs. Other Social Scientists (2)	21.97% 37.97%	11.804 (>99%)

In survey (1) participants were confronted with all five allocation mechanisms; while in survey (2) they were only asked to judge about the price increase.

Hence, while the levels of approval tend to rise, the systematic differences in approval rates that we have observed between the different student groups persist even if students are not confronted with alternative allocation procedures.[15] This is reassuring for our conclusion that first of all economists are different and that secondly, while economists are already different when they begin their studies, they tend to be nurtured over the course of their economic studies. That is, studying economics does not seem to be without impact on students' fairness judgements regarding the price system and Government allocation, once they have decided to become trained economists. In view of the socialization theories we also reject the strong crystallization thesis of Hess and Torney (1967).

5 Summary and Conclusion

In general we can conclude that, based on our results, both nature *and* nurture are significant in explaining economists' views regarding the price mechanism and community allocation. These results stand in contrast to Frey, Pommerehne and Gygi (1993) who find that there are no nurture effects, but that economists' different views can be entirely ascribed to selection effects.

Four reasons immediately spring to mind that may partly explain these different findings. Firstly, since the students we have surveyed are part of the military and used to hierarchical relations where they have to obey orders, they may possibly be more susceptive to "indoctrination" when compared to other students. Secondly, there may also be different teaching methodologies, and the contents and emphases may differ between different universities and university teachers. Thirdly, times have changed between the two surveys, and so may have economics students. Fourthly, Frey, Pommerehne and Gygi (1993) have not controlled for other demographic factors such as nationality, income expectations, gender or age, which may have affected their results. Whatever the reasons for the different findings are,

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15 In yet another sample, our story was varied in that the sales booth did not sell tapped water, but soft drinks and beer. We did not find significant differences in the results between these two cases though.

our results indicate that the pure selection hypothesis cannot easily be generalised. At least some students' value judgements appear to be affected by studying economics.

Overall, our study would reject the hypothesis that training in economics does not affect students' judgement about what is fair and unfair, i.e. that we as academic economists are "not guilty". However, since there are also selection effects, indicating that economics students already hold different views than others when beginning their studies, we can claim that our students' views are not entirely "our fault" as economics teachers either. In addition, it should be noted that obviously we cannot deduce economics students' behaviour (whether this is more or less cooperative or selfish than that of other students) from their attitude towards various allocation mechanisms.

Regarding future research it may be interesting to analyze other factors that affect students' attitudes towards various allocation mechanisms. For example, if students' values depend to a large degree on their socialisation agents it could be interesting to control a similar survey for parents' jobs, business and income, as these may play a crucial role for the students' attitudes.. Furthermore, students may react differently in different social contexts. To give an example, students may hold different views about an increase in prices for consumer goods when compared to an increase in wages. In our view, these issues may be interesting topics for further research.

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Appendix

Table A1: χ^2-test for differences in approval rates for price increases and community allocation for various subgroups

	Price Increase		**Local Community**	
	Approval Rate	χ^2-test (significance)	Approval Rate	χ^2-test (significance)
Economists vs. Non-Economists	49.84 28.35	70.702 (>99%)	39.23 50.00	9.439 (>99%)
Advanced Economists vs. First-year Economists	60.00 40.96	23.340 (>99%)	34.48 43.37	3.967 (95.4%)
Business Students vs. Economics Students	45.76 69.57	11.652 (>99%)	41.53 41.30	0.009 (7.6%)
Other Social Scientists vs. Engineering Students	41.94 21.97	18.711 (>99%)	64.29 44.70	6.903 (>99%)
East Germans vs. West Germans	39.06 43.75	2.086 (85.1%)	45.49 41.54	1.500 (77.9%)
East German Economists vs. West German Economists	48.98 50.61	0.156 (30.7%)	37.41 40.85	0.718 (60.3%)
Left-wing (lowest 20%) vs. Right-wing (highest 20%)	35.61 51.49	10.154 (>99%)	53.47 45.54	3.317 (93.1%)

Table A2: Binary Probit Regression

Endogenous Variable	Constant	West German	Political Attitude	Advanced Economist	1st-year Economist
Price Increase	-0.994*** (-3.89)	0.167 (1.43)	0.006 (1.44)	0.809*** (5.59)	0.329** (2.39)
First come, First served	0.659** (2.51)	0.318*** (2.60)	-0.004 (-0.86)	-0.078 (-0.52)	0.151 (1.03)
Random	-1.157*** (-4.78)	0.275* (1.70)	0.003 (0.57)	-0.102 (-0.52)	-0.191 (-1.02)
Local Community	0.175 (0.73)	-0.128 (-1.12)	-0.002 (-0.53)	-0.385*** (-2.70)	-0.149 (-1.12)
Rationing	1.585*** (3.92)	0.092 (0.54)	-0.003 (-0.55)	0.107 (0.51)	0.278 (1.29)

In parentheses z-ratios based on heteroscedasticity consistent standard errors,
* (**) [***] significant at 90% (95%) [99%]-level.

Table A3: Ordered Logit and Ordered Probit Regressions for Price Increase

Methodology	West German	Political Attitude	Advanced Economist	1st-year Economist
Ordered Logit	0.140 (0.86)	0.006 (1.00)	1.304*** (6.11)	0.528** (2.68)
Ordered Probit	0.075 (0.78)	0.003 (0.82)	0.756*** (6.15)	0.305** (2.64)

In parentheses z-ratios based on heteroscedasticity consistent standard errors,
** [***] significant 95% [99%]-level.

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