

The Economic Way of Thinking and the Training of Economists

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Abstract—The choice of studying economics instead of another subject should be motivated by the fact that economics training equips students with skills and knowledge that other disciplines do not provide. Which are these skills and knowledge, however, is not always very clear. This article clarifies such issue by first exploring the philosophical foundations and the defining features of the discipline, and then by investigating in which ways these are transferred to the students. In other words, we study what is meant by the ‘economic way of thinking’ that is passed on to the students.

Keywords— Economists, Expertise, Politics, Surveys.

I. INTRODUCTION

THE choice of studying economics instead of another subject should be motivated by the fact that economics training equips students with skills and knowledge that other disciplines do not provide. What are these skills and knowledge, however, is not always very clear. This article clarifies such issue by first exploring the philosophical foundations and the characteristic features of economics, and then by investigating in which ways these are transferred to the students. In other words, we study what is meant by the ‘economic way of thinking.’ Since individual behaviour is the direct consequence of subjective representation of a situation, moreover, this way of thinking affects the individual behaviour of economists.

II. THE POLITICAL PHILOSOPHY OF ECONOMICS

The political philosophy of economists largely follows from the teachings of the philosopher John Locke, according to whom humanity is born free and endowed with its natural rights in an original state of nature. A political state is then created in order to maintain rights and property. No state or organization (or those individuals acting on behalf of states and organizations) should be allowed to modify the social outcome of freely interacting individuals, so long as it was reached without violating any individual rights. Among the

natural rights of each human being is “a property in his own person” and in “the labour of his body, and the work of his hands.” “Whatsoever then he removes out of the state that nature hath provided, and left in it, he hath mixed his labour with, and joined to it something that is his own, and thereby makes it his property” [1]. So individuals have ‘property rights’ nobody is entitled to act upon but themselves.

Whenever the state intervenes to alter the status quo, it is accountable for whether individuals are made better or worse off after the new policy. In order to investigate such effects, economists need to be able to compute individual values of some sort, that are affected by the policy, change in consequence of it, and can be measured. Such value is nowadays commonly termed interest, preference, or utility.

Since “the interest of the community [... is] the sum of the interests of the several members who compose it” [2], and since individual preferences cannot be measured in absolute but only in relative terms, the utilitarian goal of granting the greatest satisfaction for the greatest numbers amounts to devising policies and laws that increase the sum of individual utilities. Individual utilities, however, cannot be interpersonally compared [3]. A policy that increases John’s happiness, but decreases Harry’s, cannot be resolved as being desirable (or not), because there exist no ways to rank John’s utility against Harry’s. There surfaces the need for a criterion to compare alternative policies that variously affect the happiness of many individuals.¹

In the past, economists tended to agree with the conservative sociologist Vilfredo Pareto who established a criterion to judge among alternative outcomes of social policies or multilateral exchanges, which took the name of Pareto-optimality. Among different states of the world, the one is preferable in which everybody is either happier than, or at least as happy as in every alternative scenario. If a society can unanimously support a change – i.e. nobody would be motivated to veto the change, if given a chance – then that change is justified. The problem, therefore, is to identify those social changes that only affect individuals positively (or neutrally), but never damage them. And this only seems to happen in voluntary market-like exchanges among individuals who freely choose whether to accept, if the trade pleases them, or refuse, if it does not. The individualist perspective mentioned above, already shows the way to the superiority of

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¹ For a more thorough reconstruction of economics’ political philosophy, see [4] and [5].

markets over alternative forms of social coordination. What is not necessarily true, however, is that by embracing this position an economist ought to be in favour of free markets or against government. A predilection for the price system does not commit economists to a singular political outlook.

Because win-win situations admissible under the constraints of Pareto optimality, if they may be presumed to occur at all, are very rare in the case of state intervention, those economists who endorse governmental action support a variation of the Pareto criterion called 'compensation principle' [6]. The transaction between one state and another is commendable if, after the new state is achieved, those who benefit from it realize gains larger than the losses of those who suffer from it. So that the winners can (at least in principle) compensate the losers but still report a positive net outcome. Winners support the policy if its expected gains are superior to the bribe they have to offer to those who oppose it. Losers accept the policy if they expect a compensation that is superior to the damage determined by the policy. An economist, even when pro-government, is pro-pricing, in that he structures his reasoning, devises his criteria, and establishes superiority all based on relative prices.

James Buchanan was then probably right in his proposal of a 'conceptual experiment' for "classifying economists and distinguish them from the general public" [7]. Ask everyone to comment upon the maxim 'anything worth doing is worth doing well.' Buchanan believes that there would emerge "a characteristic economist's response to the adage which would not be shared by large numbers of other persons" (ibid.). Particularly, an economist would argue that "there are, of course, many things worth doing that are not worth doing well since he is trained, professionally, to think in terms of a continuous scale of variation both in doing things and in criteria for judging them done well" (ibid.).

In the follow-up study to *The Making of an Economist* [8], Colander argues that, as they grow older, economists "have become less activist and more market oriented" [9]. Although the causal relationship might be reversed so that the more market oriented remained economists, the general portrait of nowadays economists ought to feature this prominent characteristic. Nor this should suggest that economists are generally in agreement with each other! On the contrary, we disagree about most of the issues that fall within the scope of our inquiry [10]. Most issues, but not all. A large survey conducted among economists employed in universities, governmental bodies, and business enterprises exposed profound disagreements concerning questions of macro and normative nature [11]. The same questionnaire, however, revealed that questions of micro and positive nature elicit significant consensus, and in particular those "which involve interference with the price mechanism and exchange."

Economics' fascination with the pricing system is such that even the socialist school of market economics of Oskar Lange and Abba Lerner in the '30s advocated the emergence of perfectly competitive prices, whose unfair outcomes would later be corrected by income transfers, organized by a central

authority. A more libertarian approach is to be found in Paul Samuelson, who regarded the market mechanism as the instrument through which (American) society could solve the three problems faced by every economy: what, how, and for whom to produce. And the tool he wished for as a social arrangement rested on a firm belief about individuals: "if one can know but one fact about a man, knowledge of his income will prove to be the most revealing" because that explains "his political opinion, his tastes and education, his age, and even his life expectancy" [12]. This awkward opinion makes sense because price is everything: price is the measure of individual incentives and individual choices are incentive-driven.

III. THE ECONOMIC WAY OF THINKING

Some time ago, the following test was circulated via email:

A woman went to the funeral of her mother. There she saw a man with whom she immediately fell in love. She believed the stranger to be the love of her life. Unfortunately she didn't have a chance to talk to him and ask his name or telephone number. She thus had no hope of ever seeing him again. A few days later, this woman killed her sister.

Why did she kill her?

Think hard as one might, making sense of the test is not easy. And most people are unable to even suggest a haphazard answer. Later, however, we were told that this question is used to test whether a person has a murderous personality and it seems that many serial killers respond promptly. In case you are not a serial killer, you may want to know that the answer is not at all difficult: she hoped to see the man again at her sister's funeral.

When we informally tried this quiz with our acquaintances, it became evident that, just like us, a large majority of the respondents struggled to even make a guess. And, just like us, they failed to guess correctly. The two persons who gave the right answer – both women, if this means anything – came up with the answer very fast, almost instinctively. If they had known the quiz already, one would expect them to at least pretend reflecting on the matter before uttering the response. Both, however, swore they never heard the question before. (And dealing with potential killers, it felt unsafe to question their sincerity.)

Most people are incapable of answering correctly, or at all, because we cannot conceive of such reason as the explanation of a murder, even less so the murder of one's relative. Every economist can, however, describe this act as coldly rational. How sorry is she for having forever lost the man of her life? Say -100. Now estimate the joy of seeing her beloved to be worth 100 and the chances that he turns up for the funeral to be 70%. The suffering from her sister's death could be -40, the displeasure of being imprisoned -20, and the risk of being caught might be 50%. (Note that these are haphazard values.) Then it's easy to see that the action itself has an expected utility for the killer of 20.

$$ExpU = (0,7 \cdot 100) - 40 - (0,5 \cdot 20) = 70 - 40 - 10 = 20$$

Compared to the alternative, the assassination seems to be the best choice, because $20 > -100$. Of course one can add all sorts of further concerns, like the chance that her nephew develops an insane attraction to the smell of incense, so that he will later kill her to enjoy another funeral. One can also consider many more alternatives to murdering, for instance buying a self-help manual or checking into a SPA for the weekend. But insofar as the expected utility from the sight of her beloved is higher, killing her sister remains the most rational choice to make. And everybody else, in her shoes, can be expected to sacrifice the poor sister as well. One week into Econ 101, every student can defend this point (although hopefully no economist would actually praise or advise such act – unless they, too, have a murderous personality). The risk to end up in jail is nothing but the price to pay for the chance of seeing the charming stranger again.

And one must pay the price for everything one does. All actions have costs and they have benefits. An example: for just a modest amount of cash and with a little spare time, one can learn economics. With titles such as *Naked Economics*; *Sex, Drug, and Economics*; *Freakonomics* and *More Sex is Safer Sex* struggling to capture the customers' attention, the experience might even be fun [13-16]. Bookstores witness an ever-expanding supply of popular scientific accounts of economics, corresponding to an ever-expanding (curious in its own right) curiosity about the counterintuitive solutions some brilliant minds can conjure to worldly problems no less imperative than: what name would be best for your daughter [15], why baseball managers, but not basketball ones, wear uniforms [17], why popcorn is so expensive at movie theatres [18], how to enjoy the best possible food [19], and how to show up as a smart person for not having a clue about the politics of your country [20].

All these books are both entertaining and accessible accounts of "how economists think" [18] and whose goal is to help the reader "see the world like an economist" [21]. After perusing them, therefore, the reader will be left with much more than the solution to a handful of riddles: she will have discovered her "inner economist" [19] and become an "economic naturalist" [17] by means of having learnt a veritable "method for thinking about any subject" [22].

Brainwash, anyone?

This popular economic literature is certainly a fitting reflection of what is going on in the more formal contexts of university economics teaching. For instance, several textbooks of microeconomics try to "help students develop economic intuition" [23].

How do they accomplish that?

By encouraging "the reader to develop the distinctive mindset known as thinking like an economist" [23]. Therefore, they routinely feature a section or entire chapters devoted to the economic way of thinking. Recently, an economics textbook even took the title of *How to Think like an Economist* [24].

David Colander admits to the poor performance of most economics models at capturing the complexity of the real

world, to the point that "[t]he models we teach in economics are often irrelevant in understanding particular issues" [25]. Yet, he celebrates them as a successful "callisthenics of the mind," or training exercises to learn how to think like a proper economist, because they are "useful in training one's intuition and in increasing one's ability to understand economic issues." In an extensive commentary on the economics major in American universities, John Siegfried and his colleagues confirm that "broad consensus exists among economics faculty that enabling students to 'think like an economist' is the overarching goal of economics education" [26].²

Yet, how does an economist think?

The European edition of Robert Frank and Ben Bernanke's introductory textbook, *Principles of Economics*, is very explicit. The book engages the students "to see each feature of their economic landscape as the reflection of an implicit or explicit cost-benefit calculation" [27].

The economic method for thinking about any subject amounts to looking for and recognizing the costs and benefits hidden behind every decision. And its strength comes from another pillar in economists' outlook: scarcity. There never is enough of anything to satiate all who want it, so that people ought to make choices. If we assume people to be intelligent and sensible, as economists respectfully do, we may go quite some way towards understanding, predicting, and affecting their behaviour. Because they always strive to make the best choice available and they react to incentives, economic agents can indeed be easily dealt with. In other words, people do not act randomly, but react in a systematic and predictable fashion to incentives. Incentives represent the larger or smaller advantage or disadvantage of possible choices, as reflected in their relative prices. If something costs relatively more, people will buy relatively less of it: if one has to pay a fine for double-parking, the higher the fine the less often one will do so. Conversely, when price of some good goes down, people fill their shopping bags to the limit.

It was in the nineteenth century that, for the first time, social scientists became aware of the possibility to manipulate individual behaviour, not through coercion, but through a change in incentives [28]. So, says Dr. Econ, change the economic incentive and you will get your favourite behaviour smoothly delivered at your doorstep [29]. Economic agents make their decisions by the direct comparison of the advantages and disadvantages of several alternatives in the set of possible choices.

Let's consider again the lady in love from the above example: should one want to prevent this lady from killing her sister, one could campaign for more and more severe police. This way, the chances that the killer gets caught would jump up (perhaps to 75%). This would perhaps still not be enough for our lady to exert self-restraint, but spice it up with longer sentences and harsher jail conditions (now setting the displeasure of being caught at -40), and she should now reason that there are more sober ways to cope with an aching

² "All other virtues follow," they further remark.

heart, like keeping a journal or giving in to daytime TV.

Incentives, however, are not synonymous with a faith in the free-market. If you saw a \$ 500 bill on the ground, you would bend down and pick it up, because the benefit from the action overcomes its costs by far. Independently of whether or not you 'believe in the market' [30]. There is an undeservedly obscure restaurant in Milan (Italy), which prides itself on serving abundant portions of good food for very affordable prices to everyone who wants to eat it. Why the emphasis? Well, the food is so cheaply priced that many people would find it most convenient to stuff their plates to the limit with every food they find appealing and then help themselves as they see fit from a large selection. No wonder most food would go to waste. (In Italy it is not customary to request a 'doggy bag' with the leftovers.) To reduce the amount of wasted food, the owners could find no better way than to charge extra for any food that is left in the plates at the end of the meal. If one enjoys one's food responsibly, it is cheap, but if one wastes it, it suddenly becomes expensive.... The choice is with the customer, though the pricing system switches the incentives.

The only reason someone should care, on the other hand, is that his disposable income – i.e. the sum of current wealth and assets plus potential credit – is limited, or scarce. And so are her time and both physical and mental energies. She must use them wisely. If someone were totally exhausted and barely capable of taking another step, and she had but a handful of seconds to reach for the emergency exit before the flaming roof collapses, she would find the incentives from picking up the \$500 bill insufficient to make her bend down. If one had infinite energies, time, and resources, one would not need to make a reasoned choice because one could simply choose to have, consume, and enjoy everything. But the combination of scarce resources and the relative prices of different goods and services produces the incentives individuals respond to. Rationality, self-interest, incentives, and scarcity together may explain all human actions. Individuals only do something if its net incentives are positive and advantageous to them. But individuals also do whatever has the most favourable incentives or whose cost-benefits are the most advantageous to them... in other words, they maximise. So much for the theory, but when it comes to reality do they maximise... or, more specifically, who does maximise?

IV. THE ECONOMISTS' WAY OF THINKING

The economic view of individual behaviour has been long criticized as inaccurate and inadequate for capturing and addressing social problems, and recently it is being largely softened and modified by the new field of behavioural economics. Its effect on the decisions of individual economists, however, may be large regardless of its accuracy. Many surveys and empirical studies have indeed shown that economists entertain different opinions from the rest of the people, not only when it comes to strictly economic matters [30, 31, 32, 10], but also political [11, 33] and moral ones [34,

TABLE I
PROFITS FORECAST, BY EMPLOYEE

Number of workers who will continue to be employed	Expected annual profits in NIS million
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

Source: Rubinstein (2006, selected entries)

35].

An experiment by Ariel Rubinstein very aptly investigates this matter [36]. Six groups of subjects were involved: undergraduates in Law, Philosophy, Economics, and MBA students at Tel Aviv University, and Economics undergraduates at the Hebrew University in Jerusalem. They were informed that each of six participants would be randomly assigned a reward consisting in NIS 150 (circa \$ 33) worth of coupons for their local bookstore. The subjects are presented with a scenario wherein they are the vice president of ILJK, a family-owned business facing a recession, and they have to make up their mind concerning the number of workers who should be laid off in order to restore profitability, based on the following information [36]:

Until recently, the company was very profitable. As a result of the continuing recession, however, there has been a significant drop in profits though the company is still in the black. You will soon be attending a meeting of the management at which a decision will be made as to how many workers to lay off. ILJK's Finance Department has prepared the following forecast of annual profits.

The decision is thus based on the forecasts reproduced in table 1. The responses given by economists differ sharply from those given by non-economists (table 2).

As the author comments the experiment, "[t]he question was intended to present the respondent with a dilemma which would force him to weigh his commitment to profit maximisation against concern for the fired workers" [36]. Such concern appears to be lowest among economics students, perhaps because "the study of economics through mathematical exercises conceals the need to balance between conflicting interests" [36].

This reflection is corroborated by the observation that some students of Economics, Mathematics, and Business Administration were randomly assigned either the question above or the following (ibid.: C3): "The Finance Department has prepared a forecast of profits according to which the employment of x workers will result in annual profits (in NIS millions) of: $2\sqrt{x} - 0.1x - 8$." (The formula can be employed to calculate values identical to those in table 1.). The responses, this time, are much more homogeneous (table 3).

The subjects in the Formula version of the experiment seem to see the problem differently from those in the Table version (except economists!). In other words, they maximised profits

TABLE II
RESPONSES, TABLE VARIANT

RESPONSE / GROUP	EconHU	EconTA	MBA	Law	Math	Phil
N =	94	130	172	216	64	88
100 ^I	49%	45%	33%	27%	16%	13%
144	33%	31%	29%	36%	36%	19%
170	7%	9%	23%	18%	25%	25%
196 ^{II}	6%	13%	12%	13%	11%	36%
other ^{III}	4%	2%	3%	6%	13%	7%
avg layoff	69	63	54	52	45	31

Source: Rubinstein (2006, selected entries)

Notes: I) profit maximisation; II) no layoffs; III) answers below 100 (i.e. keep less workers than needed to maximise profits) are obviously mistaken, the large majority of these answers, however, appear to derive from a misunderstanding (i.e. 'layoff' instead of 'continue to employ'), see Rubinstein (2006: C4).

even though most of them were aware of the trade-off. Indeed, while they selected the maximising response, they expected a real manager to fire fewer workers than they would. Indeed, when asked what did they think a real vice president would do in that situation, participants gave very homogeneous answers. Circa 50% of the students expect the real manager to maximise, 25% expect him to fire 52 workers (keep 144), 15% expect him to fire 26 (keep 170), whereas only 5% expect the manager to recommend no layoffs (this is a rough summary, see *ibid.*: C5 for the actual data).

Why do economists behave almost as if they are deciding on the basis of a formula, even when we are apparently not?

This is the way economists learn to think. The economic way of thinking has four predominant features [27]. First, we think deductively, logically deriving meaningful conclusions from a set of premises. Second, we parsimoniously and selectively focus on some important economic forces and not all. Third, we believe the economic principles to be universal and true of the world in which we live. Fourth, we put special emphasis on the results of individual decisions as they may be derived from collectively observed phenomena and traced back to rational agents. We therefore examine tradeoffs, measure opportunity costs, maximise utility under constraint, and exploit limited resources as efficiently as possible (allegedly disregarding any normative issue). Because the core set of the economic approach is highly structured and quasi-mathematical even when described by means of stories and examples, and since it constitutes a system of training for thinking about everything, it is not surprising that economists think precisely in that way.

More generally, the acquisition of expertise in a domain is

TABLE III
RESPONSES, FORMULA VARIANT

RESPONSE / GROUP	EconHU	EconTA	MBA	Math
N =	62	79	131	48
100 ^{II}	74%	77%	73%	75%
101-195	10%	9%	11%	15%
196 ^{III}	16%	14%	15%	10%
avg layoffs	76	78	76	79
n	62	79	131	48
100 ^{II}	74%	77%	73%	75%

Source: Rubinstein (2006, selected entries)

Notes: I) does not include answers below 100, see Rubinstein (2006: C4); II) profit maximisation; III) no layoffs.

associated with specific 'knowledge structures': both the content of expertise and its structure are characteristic of each particular domain [37]. Another important feature of expertise is that it affects not only what is stored in memory but also how things in the world are perceived and categorized.

Experts have highly organized memory structures such as schemas, templates, and retrieval structures [...]. As information about a new problem is perceived, this information automatically activates relevant domain knowledge and processes. This allows experts to easily categorize information and recognize solution schemas in their domain.

The core set of theoretical principles, analytical methods, and quantitative skills are first taught in introductory courses and later repeated, reinforced, and refined in intermediate courses and then extended in elective courses. "This repetition and apparent redundancy is essential because 'application' of economic principles (in contrast to learning economic 'technique') is very difficult to master and requires practice over an extended period of time and across several courses" [27]. It appears that introductory economics courses are successful in equipping the students with an increased understanding of economic processes [38, 39]; and this understanding is a lasting effect [40]. Indeed, when the questionnaire from Rubinstein's experiment above was administered to the readers of an Israeli business newspaper, the readers with a background in Economics would lay-off 56 workers on average, and 36% of them maximised, only 25% of those with neither Economics nor Business background maximised, and they laid-off 47 employees on average.

This is, indeed, both the way economists learn to think and the way we want to learn to think, because it makes us progress in our career. In the late '80s, when David Colander and Arjo Klamer surveyed the graduate students in economics at major universities in the USA about a number of items that made an economist successful, 53% of said that 'excellence in maths' was very important, 40% said it was moderately important [8]. Fifteen years later, 15% say it is moderately important and 83% believe it is very important [9].

V. SOME CONSEQUENCES OF ECONOMICS THINKING

Our peculiar way of thinking also means that economists

TABLE IV
RESPONSES, WATER VARIANT

RESPONSE / GROUP	Adv. Econ.	Beg. Econ.	General
N =	148	304	472
Completely Fair	10	11	5
Acceptable	33	46	17
Unfair	45	34	44
Completely Unfair	12	9	34

Source: Frey et al. (2003, selected entries)

differ from others in terms of evaluation of situations and circumstances, and therefore, presumably, also in terms of moral judgment and behaviour.

For one example, in a series of experiments, economics students have been shown to behave differently from students of other disciplines: Gerald Marwell and Ruth Ames found that economists contribute 24% of their endowments to a public good, while non-economists contribute 49% [41]; John Carter and Michael Irons found that economists make and accept smaller offers in an ultimatum bargaining game [42]; Robert Frank, Thomas Gilovich, and Dennis Regan found that 60.4 % economists defect in a prisoner dilemma experiment, compared with 38.8% non-economists [43]. (On the same topic, the reader should consult [44-47] for additional evidence either confirming or disconfirming these findings and [48-50] for surveys.

For another example, it may be expected that we believe that distributive arrangements based on relative prices are appropriate to regulate the transactions occurring in those situations. We can be expected, therefore, to approve of the pricing system and to consider it fair and adequate more than non-economists do. A direct way to test differences in attitude towards the pricing system is to investigate the responses to simple surveys. For instance, Bruno Frey, Werner Pommerehne, and Beat Gygi asked a sample of students drawn from German and Swiss universities and of random citizens in Berlin and Zurich how do they feel about a price increase in face of a situation of excess demand. When there is not enough of a given good to satisfy everybody, economic theory suggests that the price will be driven upwards by competitive bidding. This way the scarce good goes to whoever cares for it the most – and is thus willing to pay the highest price for it – while the seller makes a hefty profit, so that both are smiling at the end of the day.

Who agrees with this view?

To answer, Frey and his colleagues asked the following questions [34]:

[WATER] At a sight-seeing point, reachable only on foot, a well has been tapped. The bottled water is sold to thirsty hikers. The price is one SFr (or one DM) per bottle. Daily production and therewith the stock are 100 bottles. On a particularly hot day 200 hikers want to buy a bottle. As a consequence the supplier raises the price to Sfr/DM 2 per bottle. How do you evaluate the price raise?

[SNOW SHOVELS] A hardware store has been selling snow shovels for SFr/DM 30. The morning after a heavy snow

TABLE V
RESPONSES, SNOW SHOVEL VARIANT

RESPONSE / GROUP	Adv. Econ.	Beg. Econ.	General
N =	58	115	159
Completely Fair	10	10	2
Acceptable	52	49	16
Unfair	33	31	42
Completely Unfair	5	10	40

Source: Frey et al. (2003, selected entries)

storm, the store raises the price to SFr/DM 40. How do you evaluate this price raise?

The responses (Table 4, Table 5) confirm that a larger proportion of economists indeed consider pricing a fair solution to tackle scarcity than the general population does. The authors conclude that perhaps “economics students represent a special group of people who prefer the price system more than the general population does” [34].

The experimental evidence mentioned above, together with the discussion conducted thus far seems therefore to suggest that the problem at hand is not specifically to find out whether economists differ in their moral inclinations or preferences from non-economists. Fairness is a matter of doing something that is appropriate for a situation of a certain type. But when economists and non-economists face the same situation, they may be seeing it, as it were, from different perspectives. And it would be normal that this should translate in different observed behaviours.

This interpretation would suggest we do not differ from others in terms of what kind of people we are or how we behave, strictly speaking, but in terms of how we see situations. When someone reasons in terms of cost-benefit, trade-offs, or relative prices it is socially accepted (and therefore likely) for her to enact self-serving behaviour.³ Perhaps we do, as seems probable in the light of the dominant features in our discipline, rather often frame situations as market-like. Consequently, our behaviour can be expected to be properly attuned to such frame (but if others were to think of the situation as being market-like as well, many of them may be expected to behave roughly as economists do). Therefore, indeed, studying economics equips a student with skills and knowledge that other disciplines do not provide.

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³ But even if behaving selfishly in market-like situations is acceptable, it might not be acceptable to think each situation to be market-like.

REFERENCES

- [1] J. Locke, *Two Treatises of Government*. Cambridge: Cambridge University Press. 1960 [1690].
- [2] J. Bentham, *An Introduction to the Principles of Morals and Legislation*. Oxford: Clarendon Press. 1907 [1823].
- [3] J. Elster and J. Roemer, *Interpersonal Comparisons of Well-Being*. Cambridge: Cambridge University Press. 1991.
- [4] A. Schotter, *Free Market Economics*, 2nd ed. Oxford: Blackwell. 1984.
- [5] J. Davis, *The Theory of Individual in Economics: Identity and Value*. London: Routledge. 2004.
- [6] N. Kaldor, "Welfare propositions in economics and interpersonal comparisons of utility," *Economic Journal*, vol. 69, pp. 549-552. 1939.
- [7] J. Buchanan, "Economic and its Scientific Neighbours" in *Moral Science and Moral Order. The Collected Works of James Buchanan: Volume XVII*. Indianapolis: Liberty Fund.
- [8] A. Klammer and D. Colander, *The Making of an Economist: Studies in the History, Method and Boundaries of Economics*. Boulder: Westview Press. 1990.
- [9] D. Colander, "The aging of an economist," *Journal of the History of Economic Thought*, vol. 25, no. 2, pp. 157-176. 2003.
- [10] A. Klammer, *Speaking of economics: How to get in the conversation*. London: Routledge. 2007.
- [11] J. Kearn, C. Pope, G. Whiting, and L. Wimmer, "A confusion of economists?" *American Economic Review*, vol. 69, no. 2, pp. 28-37. 1979.
- [12] P. Samuelson, *Economics*. New York: McGraw-Hill. 1948.
- [13] C. Wheelan, *Naked Economics: Undressing the Dismal Science*. Norton & Co. 2002.
- [14] D. Coyle, *Sex, Drug, and Economics: An Unconventional Introduction to Economics*. Texere. 2004.
- [15] S. Levitt and S. Dubner, *Freakonomics: A Rogue Economist Explores the Hidden Side of Everything*. New York: William Morrow. 2005.
- [16] S. Landsburg, *More Sex is Safer Sex: The Unconventional Wisdom of Economics*. New York: Free Press. 2007.
- [17] R. Frank, *The Economic Naturalist: In Search of Explanations for Everyday Enigmas*. New York: Basic Books. 2007.
- [18] S. Landsburg, *Armchair Economist: Economics & Everyday Life*. New York: Free Press. 1993.
- [19] T. Cowen, *Discover Your Inner Economist: Use Incentives to Fall in Love, Survive Your Next Meeting, and Motivate Your Dentist*. Dutton Adult. 2007.
- [20] D. Friedman, *Hidden Order: The Economics of Everyday Life*. Collins Business. 1997.
- [21] T. Harford, *The Undercover Economist: Exposing Why the Rich Are Rich, the Poor Are Poor--and Why You Can Never Buy a Decent Used Car!* Oxford: Oxford University Press. 2006.
- [22] D. Coyle, *The Soulful Science: What Economists Really Do and Why it Matters*. Princeton University Press. 2007.
- [23] R. Frank, *Microeconomics and Behaviour* 6th edition. McGraw-Hill / Irwin. 2005.
- [24] R. Arnold, *How to Think Like an Economist*. Florence, KY: South-Western College Publishing. 2004.
- [25] D. Colander, "Caveat Lector: Living with the 15% Rule" in *The Stories Economists Tell*, New York: McGraw Hill. 2006.
- [26] M. McDowell, R. Thom, R. Frank and B. Bernanke, *Principles of Economics*. McGraw-Hill Higher Education. 2006.
- [27] J. Siegfried, R. Bartlett, L. Hansen, A. Kelley, D. McCloskey and T. Tietenberg, "The status and prospect of the economics major," *Journal of Economic Education*, vol. 22, no. 3, pp. 197-224. 1991.
- [28] A. Hirschman, "Rival Interpretations of Market Society: Civilizing, Destructive, or Feeble?" *Journal of Economic Literature*, vol. 20, pp. 1463-1484. 1982.
- [29] T. Schelling, *Choice and Consequence: Perspectives of an Errant Economist*. Cambridge: Harvard University Press. 1984.
- [30] D. McCloskey, *If you're so smart. The narrative of economics expertise*. Chicago: University of Chicago Press. 1990.
- [31] B. Caplan, "What Makes People Think Like Economists? Evidence on Economic Cognition from the Survey of Americans and Economists on the Economy," *Journal of Law and Economics*, vol. 44, no. 2, pp. 395-426. 2001.
- [32] P. Rubin, "Folk economics," *Southern Economics Journal*, vol. 70, no. 1, pp. 157-171. 2003.
- [33] D. Fuller and D. Geide-Stevenson, "Consensus on economic issues: a survey of republicans, democrats, and economists," *Eastern Economic Journal*, vol. 33, no. 1, pp. 81-94. 2007.
- [34] B. Frey, W. Pommerehne, and B. Gygi, "Economics indoctrination or selection? Some empirical results," *Journal of Economic Education*, vol. 24, pp. 271-281. 1993.
- [35] J. Haucap, and T. Just, "Not Guilty? Another Look at the Nature and Nurture of Economics Students," *University of the Federal Armed Forces Economics Working Paper* No. 8. 2003.
- [36] A. Rubinstein, "A sceptic's comment on studying economics," *Economic Journal*, vol. 116, pp. C1-C9. March 2006.
- [37] J. Moss, K. Kotovsky and J. Cagan, "The Role of Functionality in the Mental Representation of Engineering Students: Some differences in the Early Stages of Expertise," *Cognitive Science*, vol. 30, no. 1, pp. 65-93. 2006.
- [38] J. Siegfried and R. Fels, "Research on Teaching College Economics: A Survey," *Journal of Economic Literature*, vol. 17, pp. 923-969. September 1979.
- [39] J. Siegfried and W. Walstad, "Research on Teaching College Economics," in P. Saunders and W. Walstad (ed.) *The Principles of Economics: A Handbook for Instructors*. New York: McGraw-Hill. 1990.
- [40] P. Saunders, "The Lasting Effects of Introductory Economics Courses," *Journal of Economic Education*, vol. 12, no. 4, pp. 1-14. 1980.
- [41] G. Marwell and R. Ames, "Economists free ride, does anyone else? Experiments on the provision of public goods, IV," *Journal of Public Economics*, vol. 15, pp. 295-310. 1981.
- [42] J. Carter and M. Irons, "Are economists different, and if so, why?" *Journal of Economic Perspectives*, vol. 5, pp. 171-7. 1991.
- [43] R. Frank, T. Gilovich and D. Regan, "Does studying economics inhibit cooperation?" *Journal of Economic Perspectives*, vol. 7, pp. 159-71. 1993.
- [44] M. Faravelli, "How Context Matters: A Survey Based Experiment on Distributive Justice," *Journal of Public Economics*, vol. 91, pp. 1399-1422. 2007.
- [45] B. Frey and S. Meier, "Are political economists selfish and indoctrinated? Evidence from a natural experiment," *Economic Inquiry*, vol. 41, no. 3, pp. 448-62. 2003.
- [46] A. Lanteri and S. Rizzello, "Ought (only) Economists to Defect? Stereotypes, Identity, and the Prisoner Dilemma," *Quaderni SEMEQ*, 21/07. 2007.
- [47] A. Yezer, R. Goldfarb and P. Poppen, "Does studying economics discourage cooperation? Watch what we do, not what we say or how we play," *Journal of Economic Perspectives*, vol. 10, pp. 177-86. 1996.
- [48] A. Lanteri, "Why Self-Select in Economics?" *Erasmus Journal of Philosophy and Economics*, vol. 1, no. 1, pp. 1-23. 2008.
- [49] S. Ball and P.-A. Cech, "Subject Pool Choice and Treatment Effects in Economic Laboratory Research," *Research in Experimental Economics*, vol. 6, pp. 239-92. 1996.
- [50] G. Kirchgaessner, "(Why) Are economists different?" *European Journal of Political Economy*, vol. 21, no. 3, pp. 543-562. 2005.

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