

Making money out of psychology

Can we predict economic beh

THE first part of my title is of course a con: a shameless attempt to get you to read the rest of this article. But we are an ethical profession with a code of conduct, so shame showed through by the time I got to the subtitle, and I hope no one will read any further under false pretences.

Do you sincerely want to be rich? I am afraid I am not going to tell you how. What I am going to do is to reflect on why it is that I can't tell you how, and in general why psychology cannot tell us how. I will also examine what psychology can tell us about economic behaviour — and vice versa.

Those who know my research and



In the C.S. Myers Lecture at the Society's Annual Conference STEPHEN E.G. LEA asked 'If you're so smart, why aren't you rich?'

teaching interests will not be surprised to find me writing about economic psychology. But why is this topic appropriate for the C.S. Myers Lecture? The connection is straightforward. Myers was one of the founders of UK 'industrial psychology' or, as we should now call it, occupational and organisational psychology. His introductory books on that subject (Myers, 1920, 1926) were somewhere on the bookshelves of most psychologists of the generation that is now retiring. And work is the economic activity with which psychology has been longest, most intimately and most thoroughly involved.

This article explores how psychology and psychologists interact with the economic world. Not just how we *do* currently interact — I also want to reflect on how, as psychologists, we *should*

interact with the economic world. That will lead us into a consideration of why the academic links between the disciplines of psychology and economics are relatively weak, and exactly why it is that the first part of my title has to be a con: why it is that we as psychologists don't and can't make ourselves rich by using our psychological knowledge to predict economic behaviour.

Economics and psychology
Economics and psychology have a good deal in common. Economics of course has a more closely specified subject matter — technically the allocation of scarce resources — and it operates on the level of whole societies as well as of the individual. Nonetheless many definitions of both would include words about predicting and explaining human behaviour.

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Furthermore our dominant Anglo-Saxon schools of economics and psychology share philosophical origins: both descend from the same school of British empiricist philosophy. Leading and founding members of both disciplines (such as Adam Smith in economics and William James in psychology) began their intellectual careers as philosophers within that broad school.

Even today there are theorists who cross the divide between the two disciplines. The names of Herbert Simon and Amos Tversky are probably known to everyone who has done any cognitive psychology. They are both prominent in the list of the 100 most influential works of 20th century cognitive psychology (see Center for Cognitive Science, University of Minnesota, 2000). Yet Simon was also awarded the Nobel prize for economics, and it is surely only because of Tversky's untimely death that he will not come to share the same honour.

But any working academic in either discipline knows that in a modern university economics and psychology have little to do with each other — even in those branches where they should. How many books on industrial psychology include any material from labour economics? How

many books about the economic theory of demand refer to the empirical psychology of choice?

You will also find that if you make the effort to compare the approaches of economists and psychologists to questions where they both have something to say, as we have repeatedly sought to do (e.g. Lea *et al.*, 1987), you find that they take radically different approaches and often reach different conclusions. Why?

Part of the reason is that economics is driven by theory, specifically by the theory of rational self-interest: that people will do everything they can to secure for themselves the greatest quantity of the most valuable goods and services, and that they will do this in the most efficient way possible. In contrast modern psychology has largely discarded grand theories, from psychoanalysis to radical behaviourism, and is driven much more strongly by data. To this extent the possibility for a rapprochement between economics and psychology looks less good at the beginning of the 21st century than it did at the beginning of the 20th.

However there are at least some hopeful signs of common ground. A small but

significant number of economists have started to work experimentally. Their results are leading them to question the adequacy of rational self-interest theory, and to propose smaller-scale theories that are much more compatible with the ways psychologists think (e.g. Güth, 1995; Thaler, 1992).

Within psychology too, while we are not returning to grand theories, there are some broad ideas that have been deployed on a wide range of problems. Interestingly a number of these ideas, from social exchange theory (Homans, 1961) to sociobiology (Crawford *et al.*, 1987), involve concepts like cost and benefit, and research approaches, such as game theory, that resonate with economists.

A second part of the reason for the gaps between economics and psychology may be the contempt for the applied (especially the commercially applied) of which academic psychologists are always being accused. As we have already seen, the largest area where psychology is brought to bear on economic behaviour is the study of work. The next largest, though much less well recognised, is the study of marketing and consumer psychology.

While academic psychologists have generally been happy to run courses in these areas, and to send graduates out to find employment in them, they have been slower to take their results and feed them back into the core theoretical concerns of psychology.

How much of the evidence cited in a conventional university course on social psychology comes from people's actual behaviour in the workplace or marketplace, rather than the laboratory — real behaviour, documented by occupational psychologists, rather than the author's lay ideas of what workers and consumers do?

How often does a conventional course on operant psychology use real data from the two kinds of instrumental behaviour humans spend most time doing, working and buying?

In general then we have failed to create what Cialdini (1980) called a 'full-cycle social psychology', in which the results of applications of psychology to powerful real-world phenomena are fed back to improve the discipline's general theory.

Again though, we are beginning to see some successes. For example, one of the most trenchant and effective critiques of operant psychology has been mounted by Deci and others working on the 'overjustification effect' and 'intrinsic motivation' (for a recent review, see Deci *et al.*, 1999). They have argued that overt rewards sometimes reduce the future frequency of rewarded behaviour, instead of increasing it as reinforcement theory suggests. Although this argument is supported by laboratory experiments it also has origins in the failure of the most naive applications of operant psychology in practical educational and industrial contexts.

'If you're so smart, why aren't you rich?'

So it looks as if there is nothing intrinsically impossible about drawing psychology and economics together. The interdisciplinary study of economic psychology has had a modest but growing success, with the necessary badges of academic self-esteem all in place — its own master's courses, conferences, journals, textbooks and learned society (Van Raaij, 1999).

But, as McCloskey (1990) so pointedly asked of economists, 'If you're so smart, why aren't you rich?' Surely if we really understand economic behaviour — our own or other people's — we can modify it to our economic advantage? While

becoming rich may not be a particularly edifying goal, it does have a certain face validity as a test of our understanding of economic behaviour.

In reality part of the problem of integrating economics and psychology at an academic level is that at least to a small extent you *can* make money out of psychology. Applications of psychology in industry came in with the 20th century; despite chronic mockery they have stayed in throughout the century, and show no sign of going out in the 21st.

It is the same story in marketing: large numbers of psychologists are employed in finding out what consumers think they want, what they actually buy, and what factors affect those processes. The reason this is a problem is that if psychologists working in this kind of marketing context discover useful generalisations about consumer behaviour, they are curiously

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unlikely to rush to the next academic conference, or the nearest learned journal, to announce it.

So while consumer psychology is a lively academic field, attempts to raid its literature for information tend to throw up unexpected thin patches and even gaps in its knowledge — gaps that anyone in reasonable contact with practitioners knows do not really exist.

Information that can make you rich, in other words, tends to lose its commercial value if shared; so it is often not shared.

You do not go round telling people if you know where treasure was buried — especially if your listeners include a JCB owner when all you have is a trowel.

This leads on to a much more subtle and fundamental point: the most general reason why it is impossible to 'make money out of psychology' by using it to predict economic behaviour. In the human sciences predictions can become known to other human actors, and this is a general limitation on psychological science — indeed on all social science. Attempting to observe the world inevitably modifies it. As Dewey (1930) recognised, this is as fundamental a limitation of knowledge in human science as Heisenberg's uncertainty principle is in physical science, which it somewhat resembles.

This problem is particularly acute in economics, just because if you *are* smart about economics you *can* become rich. McCloskey (1986) argues that economic prediction is made impossible by 'the very economics used to make the prediction. The economist for a big bank predicts that interest rates will fall after Christmas. If before making the prediction he has not placed his net worth in margin loans on bonds, properly hedged and insured against variance, he is behaving either irrationally or self-deceivingly.' (p.15.) And if enough people do this, interest rates will not fall after Christmas after all.

It is no accident that one of the most recent, and lucid, statements of the principle comes from George Soros (1994), the financier and global currency gambler. He calls it 'the principle of reflexivity'. He holds for example that financiers collectively cannot possibly discount the future correctly — they do not merely discount the future; they help to shape it. Although many more academic sources could be quoted, Soros's evidence has one great merit: he is seriously rich.

So what can economic psychology do?

So does the reflexivity principle mean that economic psychology is necessarily self-defeating? It does not, for a whole series of reasons.

Most fundamentally the reflexivity principle only makes certain ways of knowing unavailable. As Dewey (1930) concludes, '... the fact that man participates as a factor in social affairs is no barrier to knowledge of them. ... Human intervention for the sake of effecting ends is no interference, and it is a *means* of knowledge.' (p.203, italics mine.)

You may be able to dig it ...



... but share the knowledge and others may have the resources to dig it at a much deeper level

Does George Soros know less about the currency markets because his actions modify them? Dewey would think not, and I would think not. Because our investigations act upon the social world we cannot passively collect unchanging laws about it; but by acting on and within it we can learn to know it better than we ever could as spectators.

Much more pragmatically not all knowledge comes into the public domain immediately, so the action of the reflexivity principle need not be immediate. We saw in the last section that it is possible to make a useful living in occupational and consumer psychology at the price of sometimes not publicising your results. The same applies to the activities of those of us who actually call ourselves economic psychologists. We tend not to be concerned just with work or buying, but with other economic behaviours, such as saving, investing, gambling, giving, and so forth.

But this kind of study too has a commercial value. We know: we have more requests to act as consultants than we can handle. But in many cases we have to turn those requests down, because of the tension between our academic obligation to bring research results into the public domain, and the loss of their commercial value that would result if we did.

To some extent psychological

knowledge of economic behaviour really can make you rich, even if you do eventually publish your results. An entertaining example is given by Borges *et al.* (1999) in a book significantly titled *Simple Heuristics That Make Us Smart*. They attempted to predict the behaviour of the New York stock exchange from two very simple psychological principles: (i) people are ignorant and (ii) experts are vain.

They used the first principle by asking passers-by in the Frankfurt streets to identify large American companies, relying on the fact that only the largest and most successful would be named. They used the second (which they were not quite as explicit about) by investing their own money in the shares of these companies. The portfolios they chose reliably outperformed the market.

Why did backing the big fish work? Surely the investment experts who advise the financial institutions whose behaviour

determines that of the stock market (big banks, insurance companies, and so on) would know if large, well-known companies reliably outperform all others? Probably they do; but probably also, like all experts, they do not like to state the obvious.

Borges *et al.* surveyed expert opinion and found that they were recommending investment in smaller, less well-known companies, whose shares consistently performed less well than the portfolio selected on the basis of the German in the street.

Of course you could not play this trick for long: certainly by now the better-informed experts are swallowing their pride and returning to doing the obvious. The reflexivity principle is no doubt kicking in. But in the meantime Borges *et al.*, by being smart, have indeed made themselves significantly richer than they were.

However personally satisfying that might be, it does seem somewhat dissatisfying at an academic level. Do we just have to recognise that as soon as we publish a 'law' it will become untrue, in any case where it is about anything that matters?

In some cases, though scientifically frustrating, it might be socially desirable if that did happen; it depends on what field you are studying. The problem of reflexivity can be stated, perhaps rather grandiosely, in the form that by studying the social world, you are apt to change it. It may be immodest to think we can change the world, but it is not necessarily a bad goal.

Consider for example the research that one of my colleagues at Exeter carries out. Carole Burgoyne has done a series of studies on how financial arrangements are related to married (and cohabiting) couples' relationships (e.g. Burgoyne & Morison, 1997). It doesn't take a psychologist to tell you that disagreements about money can destroy relationships. But by careful psychological analysis you can get a better view of what form those disagreements are likely to take, and in what sort of relationship.

Anyone getting into a relationship,

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Journal of Economic Psychology: www.elsevier.nl/inca/publications/store/5/0/5/5/8/9/

International Association for Research in Economic Psychology: www.ex.ac.uk/~SEGLea/iarep/

Economic Psychology Training and Education Network: www.ex.ac.uk/~PWWebley/dfee/

or seeking to improve one, could do a lot worse than read those papers and think about ways of avoiding or minimising the problems. But if people were to do that in large numbers, the patterns that Burgoyne and her collaborators have carefully charted would probably begin to break down. The reflexivity principle would take hold. Should we mind? On the contrary, we should be glad.

Public and private knowledge
Quite apart from struggling with the reflexivity principle there is a second equally important role for academic practitioners of economic psychology. It is perfectly legitimate for those employed in the commercial world to try to put information on market psychology into the service of their employers or clients. But those of us employed in the academic world have a different responsibility — to the public at large.

Economic growth and the profitability of commercial concerns are on the whole a public good (so long as social and environmental sustainability are properly considered). But most commercial

activities involve some zero-sum games: what one party gains, another party must lose. Where these games are being played by large organisations on one side, and individual people on the other, there is an imbalance of power — in, among other things, the power to engage psychologists.

As a result occupational psychology consists largely (not wholly) of the kind of psychology of use to employers, and consumer psychology consists largely (not wholly) of the kind of psychology of use to marketeers.

Let me give a bit more detail of what I mean about this imbalance of psychological power. A large firm can afford to engage industrial psychologists and ask them to adjust conditions in its plant so as to get the greatest possible amount of work from its employees for the least amount of pay.

There is nothing wrong with an employer doing this — except that it would be equally legitimate for the employees to engage psychologists on their side to tell them how they can adjust their behaviour so as to get the greatest possible amount of pay from their employers for the least

amount of work. But unless they have a remarkably strong trade union this is very unlikely to happen.

Our job then is to put into the public domain the kind of information that will level the playing field. It would be nice to believe that we might also have a role as independent mediators, helping to show both parties how they can escape from playing zero-sum games, and choose behaviour that will be advantageous and just for all parties. But don't hold your breath. One of the reasons why economics works as well as it does, without the assistance of psychologists, is that it has at its heart a psychological principle that, if not 100 per cent true, is true a lot of the time. People are greedy.

Employers vs. employees is not the only zero sum game in the economy. Marketeers vs. consumers is another game in which there is a marked imbalance of power, which extends to the ability to employ psychologists. So academics studying consumer psychology need to ask what there is that consumers need to know to do better in this game.

Doing better means avoiding being sold

what you do not want, avoiding being made to want what you do not need, and getting the best value for money when you buy what you do want and need. To do this, much of what we need to know is precisely what the opposition is up to — what aspects of consumer psychology the marketeers are using.

Completing the full cycle

As we have seen, the reflexivity principle does not prevent us getting useful generalisations about the psychology of economic behaviour that will have at least temporary force. But what should economic psychologists be trying to do with that body of knowledge? Why would any other psychologist be interested in it?

Economic behaviour is important because we do a lot of it. In a modern economy work takes up about half the waking hours of about half the population. Buying takes up another large chunk of time. Thinking about them both takes up yet more time. If psychology is to have any real claim to explaining behaviour it cannot leave behaviour in the economy out of its field of study.

It follows that psychological theories should be able to account for economic behaviour — not just for behaviour in the laboratory or the consulting room. Economic psychologists therefore have a responsibility to our colleagues in the discipline to examine how such theories fare when applied to economic data, and to try to use such data to improve theory.

Let me take a simple example from our own research. One of the topics we have been investigating in recent years is the impact of the shift from grants to loans on students' money management. When we started we expected this project to illuminate theoretical questions in the somewhat technical area of inter-temporal choice (see Ainslie, 1992). But more or less the first thing we found was some evidence on one of the hoariest controversies in social psychology: which comes first, attitudes or behaviour?

In our first study (Davies & Lea, 1995) we reported both the levels of debt of undergraduates in different years, and their attitudes to debt. Both debt and tolerance of debt grew steadily across years of study. But there was a discontinuity in each, with a large jump between years. The large jump in debt levels came between the first and second years. The large jump in debt tolerance came between the second and third.

These findings (and other data we have

collected since on attitudes of students before arriving at university and after graduation) strongly suggest that people come to university with hostility towards debt, find they have to borrow, and then change their attitudes to debt in consequence. Behaviour change leads to attitude change.

'Psychologists have been wrong to neglect economic behaviour'

Conclusions

That brings me back to the start of my article, and to its title. If I used a con to get you to start reading this article you can now see why. For the space of about 4000 words, you have been behaving as if you were interested in economic psychology. If my conclusions are right, you will now change your attitude to my subject and become interested in it. As a result of course you are likely to buy books about it, and since I am about to publish one (Webley *et al*, in press), you will thus be helping me, at least, to make money out of psychology!

But what I really want to say is that that is *not* what economic psychology is all about. The take-home message is that psychologists have been wrong to neglect economic behaviour. Wrong for three

reasons: the general public needs impartial information about it; it constitutes a large part of what people do; and studying it illuminates general points of psychological theory.

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