

### Lecture III

Other Things Psychologists have learned which economists might apply (but mostly haven't).

Anchoring: If people start with an estimate and get information which causes them to raise or lower that estimate, their final guess is higher if the initial estimate is higher. This is true even if the original number very explicitly is a random number from a wheel of fortune. This is a robust experimental result (the one trick is that the wheel used by Kahneman and Tversky was designed so it always stopped on one of two numbers – this made the analysis of the data simpler). The result was that final estimates differ depending on the initial number by about half the difference between the initial numbers. This makes no sense.

This bothered me, because it seemed to me to contradict the representativeness story from the second lecture. To me ignoring baseline frequencies means the opposite of anchoring – one should start with unconditional probabilities and update with Bayes formula. The librarian v farmer story tosses the anchor completely.

My key mistake was “should”. Maybe we should start with unconditional probabilities and update with Bayes formula, but we surely do not do that. I reconcile the Kahneman and Tversky discoveries by noting that baseline frequencies are numbers and we don't like numbers. The librarian v farmer story is a story about how narratives beat numbers (and I am sure audio-video beats written narratives & also all people who work in advertizing are sure of this).

A very very strange fact about real people in the real world is that we are sensitive to priming. The experiment had two steps one conducted in one room and the next down the hall. The first involved words. The actual dependent variable was the time subject took to walk from one room to the other. The experimental variable was whether the words in the first stage were related to old age and ill health. If they were the subjects took longer to walk to the next room. This is a robust result. Another robust result reported by Kahneman is that students generally find it very hard to believe that the priming effect exists and have to be shown the data.

It doesn't seem to have much to do with economics, although one of the priming experiments shows that if people are shown photographs with money in them (as in banknotes) then their behavior in the test phase is less cooperative and altruistic than if they are shown photographs without money.

A very important fact about people is that, on average, we think we are smarter than average. This is one aspect of subjective overconfidence. It is a very clear pattern that when people are asked for a 90% interval containing a verifiable fact (say how many square kilometers is the mediterranean) then they give intervals such that less than 90% of people give an interval which contains the correct number (I think it is typically more like 50%). This should not occur even if people know almost nothing about the topic (the actual question was the area of lake Superior in square miles and I guess many of you would have trouble guessing). If people had rational expectations they would still be able to give a 90% interval – the result of ignorance would be that the 90% interval would be huge but not that it would contain the correct answer with probability less than 90%.

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Here again, I personally, have a problem with cognitive psychology (see anchoring and the representativeness heuristic above). If the subjectively overconfident people talked to the people described by cumulative prospect theory, they would actually succeed in communication. People overweight extreme events, so they treat a 99% interval as if it were a 95% interval. People are subjectively overconfident so they give a 50% interval when asked for a 90% interval.

One way to describe this is that it is all a failure of communication (between psychologists and normal people). In ordinary English, 90% does not mean 0.9 it means strongly supported by evidence. 99% doesn't mean 0.99 it means "I am very confident". If there is the terminology of mathematical probability and the English language which contains the word "probability" and they are just not the same, it isn't clear that anyone is being irrational (except for the psychologists who expect ordinary people to use the words the way mathematicians do).

I am fairly sure that this is not what is going on, but that is a hard question which has been answered actually by economists.

One sign of subjective overconfidence is the volume of trading of financial assets. Person A buys an asset from person B at a price which A thinks is less than the fundamental value and B thinks is more than the fundamental value. A knows that B must think this. One average B knows as much as A. A should think that if this guy is as willing to sell as I am to buy, we are both probably about equally wrong and probably on average neither of us gains from the deal. But if, on average, people think they are smarter than average, than A thinks he has outsmarted B and B thinks he has outsmarted A and they trade.

If one attempts to write down a model of financial markets with fully rational agents, it is easy to come up with a model in which the trading volume is zero – no trades are made. The price (called out by a Walrasian auctioneer) changes, but no one buys and no one sells. In the real world trading volumes are gigantic (much higher than GDP). This sure seems to suggest subjective overconfidence.

There is an interesting (empirical) gender aspect

BOYS WILL BE BOYS: GENDER, OVERCONFIDENCE, AND COMMON STOCK INVESTMENT\* BRAD M. BARBER AND TERRANCE ODEAN Theoretical models predict that overconfident investors trade excessively. We test this prediction by partitioning investors on gender. Psychological research demonstrates that, in areas such as finance, men are more overconfident than women. Thus, theory predicts that men will trade more excessively than women. Using account data for over 35,000 households from a large discount brokerage, we analyze the common stock investments of men and women from February 1991 through January 1997. We document that men trade 45 percent more than women. Trading reduces men's net returns by 2.65 percentage points a year as opposed to 1.72 percentage points for women

<https://faculty.haas.berkeley.edu/odean/papers/gender/boyswillbeboys.pdf>

This has macroeconomic implications. One very dramatic macroeconomic period was 2008 and one country which outdid many others was Iceland (which ended up in debt for \$5000 each and wisely defaulted). Iceland deregulated banks. They had a major boom. At one point some women decided to set up a new bank with all top officers female. In 2008 all but one Icelandic bank failed. The country did OK anyway (the Icelandic prime minister was also a woman and way back when people first arrived on Iceland the person in

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charge was a woman – the widow of a guy who tried to conquer Scotland and found out that his invasion plan was based on a bit of overconfidence (soon before his death).

Here, I think there is an actual point to economic data (and maybe to economists). In economics there is a bottom line (profit or loss). It shows a number. That people make mistakes can be demonstrated if other people (say those with more X chromosomes) end up on average with higher profit or lower loss.

There is one aspect of subjective overconfidence which I am very confident is important for macroeconomics (am I subjectively overconfident of this?). One challenge is forecasting turning points – peaks and troughs. Notoriously macroeconomists are very very bad at this (but so is everyone else). It matters if there are speculative bubbles.

I may decide that an asset price increase is a bubble which will burst – that the price has gone up for no good reason and will not stay up forever – and yet choose to buy. This makes sense if I plan to sell to someone else before the bubble bursts. This is called the greater fool strategy (insert quote).

If the average person thinks he can time the popping of the bubble better than the average person, then he will think it safe to buy during a bubble, planning to get out before everyone is trying to get out. In the history of bubbles, crashes and panics, there are frequent quotations of people who make it clear that they know that there is a bubble, yet they buy anyway.

Lecture IV Try to get to macroeconomics. This is tell the general DeGrauwe story without math.

V Consumption

VI Investment

VII Manias

VIII Panics and Crashes

IX back to just deGrauwe now with the model. The course will be more in MatLab and less in English from now on.