Lecture 1
General Introduction

I praise Thinking Fast and Slow and note little has been picked up by macroeconomists We are really up to where they were in 1974
I will discuss it a little (do read the whole book when you have time)
Mainly behavioral macro is about bubbles manias and panics, following Minsky and Kindleberger. It will sound very unlike mainstream macro and rather like what you read in newspapers.
The problem is that, once you allow irrationality, you can fit anything and explain nothing and will forecast badly. There must be discipline. The idea (oddly1973 when K and T were noting it was wrong) was to assume rational expectations. This is a very strong assumption (not what people normally mean by "rationality"). The idea (officially was to check if the strong, clearly not true assumption was useful).they asked for 30 years (which expired 20 years ago).
Before going on, assuming rational expectations is assuming that people think in a way which is not supported by introspection and not consistent with experimental evidence.
To have discipline without agreeing on strong standard assumptions, one must turn to data. The problem is that we can't wait for the psychologists to finish psychology (also sociologists actually). There are some empirical results which are possibly useful, but they are not all that we would need to attempt realistic subjective expected utility maximization.

But also, to do that we need beliefs (or assumptions about others' beliefs) about the whole intertemporal joint probability density (so we know subjective distributions and future possible distributions conditional on future information). This is far beyond anything psychologists have explored.
The temptation (into which I will fall) is to take the equations based on the assumption of rational expectations and substitute not so rational subjective expectations. This does not follow. Only with strong (implausible) assumptions can you get to where we want to be from where we are.
Under RE we can get an Euler equation which relates consumption, the distribution of future consumption, nominal interest rates and the distribution of the one period ahead price level. But this might not hold for subjective one period ahead consumption and one period ahead price level. This is a hard problem and I have cheated (assumed that agents assume things so that they follow an Euler equation with subjective probabilities in the place of objective probabilities). The empirical work (with which I am familiar) is all on one period ahead forecasts. That is not enough to maximize subjective expected utility.
Another problem is given simple rule of thumb type forecasting, it matters whether they forecast a level, a rate of change or the rate of change of a rate of change. If people have RE for one of these, they have RE for all. Not so with any non rational forecasting rule. This really matters (I am sure it is a real world problem and issue). I will keep track of how often I mention huge problem one and huge problem two.
The basic story about forecasting.
One very interesting result of psychology experiments is that people make systematic errors when presented with a random walk and asked to forecast the next observation. The implications for macroeconomics have been explored at length in the almost main textbook for this course "Behavioral Macroeconomics" by Paul de Grauwe.
The work began either as pure psychology or as psychology applied to finance. Predicting a change which is hard to predict (or impossible to predict for a random walk) is exactly what investors do when they trade financial assets. For some of the experiments, the series were actual daily closing prices for stocks.

Of course it is very hard to predict if a share price will go up or down between today and tomorrow. However, experimental subjects predicted changes.
Usually they predicted that what had just gone up would go down (and vice versa). That is, when presented with a random walk, they forecasted assuming it was a mean reverting process.
However, if the series increased for several periods in a row, they predicted that it would continue to increase.
One way to put this is that people consistently predict that the near future will be like the recent past. However, sometimes they predict that the level in the near future will be the recent average level and other times they predict that the rate of change in the near future will be the recent average rate of change.
(see big problem 2 above, if people use a simple rule of thumb it makes a huge difference whether they think of the level, the first difference, the rate of change, or the rate of change of the rate of change).
Another way to put it is that, when looking at a random walk, people assume that the series is stationary around a broken trend. In fact, time series econometricians have noted that it is almost impossible to distinguish a random walk from a process which is stationary around a broken trend.
A third way to describe the behavior is that people think the series is stationary around a shifting level. The single period ahead forecasts of people who believe the level has shifted (the variable has gone up and will stay up) and people who think the trend has shifted (the variable has started to increase and will increase and increase up to infinity) are almost indistinguishable.
This is the first big problem. The data (of which I know and I may be ignorant) all concern forecasts of the next observation. To decide what to do, people have to think also about the more distant future. This is hard for economic agents (so the assumption of rational expectations are extreme) but it is also hard for psychologists to measure and understand what people think about the whole future (not just the next period) so valid behavioral economics is and always will be very hard (or impossible).
The current research builds on, reflects, and often echoes what Kahneman and Tversky wrote almost 50 years ago. They concluded that people can not handle statistics and think that the law of large numbers applies to small numbers too. Their paper " Judgment under Uncertainty: Heuristics and Biases" (Tversky and Kahneman 1974 (which is one of the most cited papers ever) contained solid evidence and vivid stories (Kahneman thinks the vivid stories explain the huge number of citations).
One way to put it is that people have a sense of what random numbers look like – sometimes high, sometimes low, they go up and they go down. This will always happen with a large enough sample. People guess it will happen also with a small sample.
When asked to make random numbers, people write numbers with too few runs – to few cases of high, high, high, and high and especially too few cases where the number goes up, up, up and up.
Importantly people give the wrong answer to questions like
"which is more likely if you flip a coin
a) heads, heads, heads, and heads or
b) heads, heads, tails, heads, then tails. "
The correct answer is a (probability 1/16) not b (probability 1/32)
It is possible to tell that apparently random numbers were, in fact, made up by a person using the fact that made up numbers have too few runs (a bogus pollster was caught using this technique – he is now unemployed).
The hot hand in Basketball. Everyone believes that basketball players sometimes have a "hot hand" so they are more likely to get the ball through the hoop than usual. This belief affects actual behavior (team mates pass to someone assessed to have a hot hand). Statistical analysis shows no significant pattern – insignificant correlation between making one shot and making the next one. This is true also for free throws (stand on a line no defense always the same). This shows how people see patterns which aren't there in random data. People automatically believe in a simple causal story (here the ball

went in because he has a hot hand and not something about millimeters and velocity differences of a tenth of a kilometer per hour).
This matches the error made when forecasting a random walk (a time series where the change is an iid random number)
People act as if they think (the change might be random (it is) so it will go up and down (quite possible and just as likely as up and up). Then when the series goes up and up and up, they think (the change is not random after all, there is a new trend (or convergence to a new higher long term average level)).
This can be critically important for finance and therefore, macroeconomics.
A final way of describing it is that investors will cause asset prices to have speculative bubbles. People think increase in the past implies increase in the future, then they buy driving up the price. This causes prices to go up and up, but not forever. They can't increase forever, and when they start to decrease they crash.
You might note that I used the indicative mode. I assert that this happens.
One aim of behavioral macroeconomics is to write down models in which something like that can happen and see if they correspond more closely to economic history than standard models in which that can't happen.
To me a big frustration is that economics have only considered the work of psychologists roughly up to 1974. They have continued to do research and have learned amazing, surprising things. I am going to talk about some of that, but must make two warnings.
I am an economist who dabbles in psychology so I might be confused, confusing and misleading. Also the applications to economics are pure speculation. Mostly I will eventually get back to applying Tversky and Kahneman 1974 and discussing the work of de Grauwe. But I am going to have some fun (and I hope entertain you) ??? and over the next two weeks.
Will go to more psychology much of which I won't apply