Human Judgement and Investment Manias

VOICEOVER
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JENNIFER COOK
Hello and welcome to Up Close coming to you from the University of Melbourne, Australia. I?m Jennifer Cook and in today?s episode we?re going to burst some bubbles. But not just any kind of bubbles, These are what economists call asset bubbles and their creation and the effect when they pop has far reaching and often devastating consequences for financial markets. Joining me to explain this intriguing phenomenon which strikes at the heart of what drives us to make the decisions we do, are two experimental economists Dr Charles Noussair a Professor of Economics from Tilburg University in the Netherlands and Adjunct Professor Department of Economics here at the University of Melbourne. Also in the studio is Dr Tom Wilkening from the Department of Economics, University of Melbourne. Welcome to the program gentlemen.

DR CHARLES NOUSSAIR
Thank you.

TOM WILKENING
Thank you.

JENNIFER COOK
Now Charles if I could begin by asking you to explain to us as best you can, what are asset bubbles?

CHARLES NOUSSAIR
Well there?s no strict consensus on what should constitute the definition of a bubble but in general, a bubble occurs when the price of an asset greatly exceeds its underlying value, or its intrinsic value. So it starts when the price of an asset goes up
for some kind of basic fundamental reason. So it might be like a change in the law that increases the value of homes or a cut in interest rates which make stocks a bit more attractive. The price will increase for some fundamental reason. Then usually what happens is that participants in the market notice the price has been going up and they jump in with the expectation the price will keep going up, so this is called momentum trading. So people jump in and then what happens is prices will continue to increase and the market price will bear no resemblance to some kind of fair estimate of the asset’s intrinsic value.

JENNIFER COOK
That’s the key, isn’t it? The key instability of the bubble, would you say Tom?

TOM WILKENING
Yes that’s right. So I think bubbles are always the case where, in the beginning everybody feels like they want to stay in the market because the price continues to go up and they think there’s somebody else out there who’s willing to purchase from them at a higher price so one of the things that we typically look for in studying bubbles is situations where people are staying in the market, expecting that there’s somebody else who’s going to buy from them and what ends up happening in these situations is not only is there a great rise in prices, but eventually they reach a point where things crash and they crash relatively spectacularly.

JENNIFER COOK
And all hopes are dashed?

TOM WILKENING
Yes that’s right.

JENNIFER COOK
How about some examples, historically, that may make this more concrete for us?

TOM WILKENING
Sure. Well there’s classic ones that we’ve seen in things like stock markets. So the dot com bubble in 1995 till about 2000, this was a case where there was a lot of uncertainty about the actual valuations of all these new internet stocks and so there’s a starting price rise that’s occurring because people don’t actually know how valuable these things are and it continues with these momentum traders who see the price going up and will continue to buy into it. Now historically there’s been bubbles that have gone back into the medieval times.

The one that I like the best is a bubble on tulips. So in Holland in the 1600s tulips were a relatively new flower so the Turkey Empire sent tulips to the Dutch and the Dutch started growing them. And to begin with, tulips had a relatively high price they were a valuable flower, they were relatively rare but what happened in the mid 1600s is a virus came and the virus actually changed fundamentally changed what these tulips looked like. So the virus would attach on to some of the tulips and would change their colouration so original tulips had a single colouration and after the virus
these tulips ended up having relatively amazing patterns to them.

JENNIFER COOK
So that increased their value?

TOM WILKENING
Yes that’s right. So it made all these assets look very different. So now we have very rare things and what ended up being specifically rare about these is the only way to reproduce these was to actually get the bud from the original tulip. So we have a situation where there’s a very scarce number of assets. They came more and more valuable over time and that led to a relatively large price range. In fact, by the end of the tulip bubble, some tulips were being sold for roughly $70,000. A single tulip was enough for some people to bankrupt.

JENNIFER COOK
So you just have this wonderful excitement and exuberance about a product, or in this case a flower and then this sort of not really knowing where it’s going to go but this great faith that it is going to go somewhere and then bang. So how do economists? how have they traditionally studied this phenomenon?

TOM WILKENING
So traditionally there’s been two approaches. The approach that’s most classical I think is one that actually views bubbles as being somewhat rational. So the idea is these assets have intrinsic valuations that we don’t actually know. People guess those valuations which leads to price rises and as long as we don’t expect those prices to come down it may be rational to play into the bubble for a certain amount of time. I think more and more were viewing bubbles as a behavioural force, so we’re looking and seeing that people have differences and opinions about what’s going to happen and things like overconfidence actually leads these bubbles to appear. So I think these are sort of the two traditional approaches. One is viewing things as close to classic economics as we possibly can and a second one where we’re actually seeing behavioural or psychological forces changing how people view assets as they own them.

JENNIFER COOK
This is where your field comes in doesn’t it, this behavioural economics? Could you explain that to us Charles?

CHARLES NOUSSAIR
Yes, so as Tom said, there’s kind of two ways to try to explain these bubbles. So the classical approach has been trying to establish rationales where you suppose everyone is rational but somehow you get these bubbles. There has been attempts to explain away the Dutch tulip bubble as saying, well you know the values are really high but if you think of the bulb as not just the bulb itself but you can replant and grow lots and lots of these flowers forever and then actually really is worth a lot and then the crash after the tulip bubble has been explained away by a change in Dutch law when the government observed how high the prices were for tulips they said
that, well if someone actually had to pay this contract they actually only had to pay 10 per cent of the price that they contracted. That?s one explanation for the crash so that?s been sort of one approach to explain why these happen with traditional economics. The behavioural approach, as Tom said uses psychological factors. So the approach that I?ve taken in my research is to use experimental economics. What this is, is the use of laboratory methods. So you bring in a group of people and you create a market. It?s a real market you?ve a simulated asset, maybe they?re trading a good called X or A or you just call it anything. But people get real money from this.

JENNIFER COOK
That?s important to the experiment isn?t it? Because it has to matter and I think this is the key to these bubbles, it?s always something that people want.

CHARLES NOUSSAIR
Yes there has to be real value to what they?re doing otherwise you can?t argue you?ve made a real bubble. So let?s take a simple example. Suppose we brought in a bunch of people and we had them trade in a market, they?re going to trade in a say, computerised market and the good they?re going to trade is going to pay off a dividend of $1 in a half hour and another $1 dividend in one hour and that? it. So that mean that in the first half hour of the market, there?re going to be two dividend payments that should be worth $2 and then in the last half hour it should be worth $1 because there? s still one of these payments left.

So you can think of that $2 over the first half hour and $1 over the second half hour as its intrinsic value. That?s a fair value that?s really what the thing?s worth but if you run an experiment you?ll find that sometimes this asset will trade at $5, $10 and the pattern it?ll have looks just like the bubbles that you see in the real world so the prices might start low and they?ll go up to like $10 and then five minutes before the end of the asset?s life they?ll just crash down to $1. So the experiments show pretty convincingly that this is the way markets behave. If you get some people and you put them in a market, they?re going to create a bubble and a crash.

JENNIFER COOK
Why?

CHARLES NOUSSAIR
There? s various explanations advanced. The behavioural economic explanations seem to be the most convincing. There are two types of people that appear in these markets. One is the momentum traders, so once the price starts going up, some people just buy after it?s been going up and then they sell when it starts crashing and then there?s some people who speculate, they just ride the bubble so they anticipate the market?s going to continue to go up and they buy and they just fuel the bubble. So there?s some people that just buy because it?s been going up and others who know that other people are going to do this and they buy because they think it?s going to go up. Eventually there isn?t any time left and the market crashes. But if you have one of these things go long enough like many hours or even a couple of days what you?ll get is the price will bubble and crash and bubble and crash and bubble
and crash and that’s just what it does.

JENNIFER COOK
It’s just a fascinating insight isn’t it? What you’re trying to get to is why we do what we do? What motivates us and why do people behave differently. Is this really something that can be tested in a lab? Do you think you’ve cracked it?

CHARLES NOUSSAIR
Well what you can say from the lab is it’s pretty clear that the markets tend to bubble and crash. There’s this momentum and speculative trading that people are overconfident, they think they’re going to beat the market so you can give people a bunch of questions to test how overconfident they are and those are the people that try to ride the bubble. They think they’re going to be able to sell early and they try to do that. I think even though it’s a simple market it does capture the essence of created these bubbles and crashes. In the real world there are other things that come into play so the more liquidity you put in the market the more it’s going to bubble. So if we take people in this experiment, give them a lot more money to play with, you get even a bigger bubble. If you let them borrow money then they make even a bigger bubble.

JENNIFER COOK
You’re listening to Up Close coming to you from the University of Melbourne Australia. I’m Jennifer Cook and I’m talking with Dr Tom Wilkening and Professor Charles Noussair about asset bubbles. Tom, what can we get from your experimental paradigm that we can’t get just from this observation?

TOM WILKENING
I think the biggest thing you get out of an experimental approach is control. So in an experimental I actually know the underlying valuation of the assets and this makes it easier for us to be able to detect patterns and detect things that are just coming out of that valuation. So an example of this is if I’m looking and trying to figure out whether the dot com bubble is actually a bubble or not, I actually have to know what peoples’ perceived valuations of this asset is over time. So if we think something like Amazon.com, it’s very hard for us to actually determine whether people buying it believe they’re buying it because of its true valuation or believe they’re buying it because they view it as a bubble that they’re trying to gain on.

Whereas in a laboratory, we actually know everything about the valuation of these goods so we can detect what is the valuation, how much of it is actually over that intrinsic valuation. So I think this is really important. The other thing that we get out of an experiment is we actually can replicate the same market a number of different times and see what happens and this is something you can’t actually do in the real world, you only get one chance at studying a bubble. It’s occurred one different time so you don’t know how robust that finding actually is. In a laboratory we can actually detect that.

JENNIFER COOK
That brings us to the question of money illusion and what that actually is. Could you explain that to us Charles?

CHARLES NOUSSAIR
Yes. So money illusion is the tendency to think that just because you have more money that you’re wealthier and you make your decisions in that way. So suppose there’s a lot of inflation and your income goes up but also the price of everything you buy goes up too. Sometimes that’ll make people spend more money because they think they have more money.

JENNIFER COOK
 Isn’t that okay to think that you’re wealthy if you have more money? I think I would, if I got more money I’d think I was wealthy. Would I fall under this money illusion?

CHARLES NOUSSAIR
Well if the prices of everything you buy went up by the same percentage then it would be a money illusion so this is one way that in a recession, central banks exploit money illusion to get activity going again. So they might say increase the money supply or lower interest rates, it’ll make people think they have more money and then they’ll spend more but it’s also going to make prices go up by the same amount. So actually things didn’t really get cheaper compared to your income but you just end up spending more and that sort of launches the economy going. So in some ways it’s a good thing that people have money illusion.

JENNIFER COOK
So let’s talk about those nominal and those real variables. Tell us about those Tom.

TOM WILKENING
Sure. So a nominal variable is something that’s in terms of money. So if I go in to the store, I’m trying to buy something like a candy bar, the nominal value is how much I’m actually spending in terms of the cash that I hand over the counter. Real is adjusting for the fact that there’s inflation. So if I’m being paid 10 per cent more but the candy bar in the store is also ten per cent more, it’s actually the same cost to me but I may perceive it very differently.

So this is sort of the idea of money illusion that as we change what we have in money it can also change our decisions because we view things differently. A simple example as this is, I’m from the US and I have just moved over here, right, I am used to paying everything in dollars in the US and when I see all the prices here in Australian dollars that makes it more difficult for me to actually figure out how valuable something is. So it takes me time to actually figure out how expensive something is relative to what I used to and this changes my decisions in a number of ways.

CHARLES NOUSSAIR
Another example of this is when a number of the European countries changed over to the Euro in 2002. The actual prices people paid actually went up and people spent
more money than they did before, even though prices were actually higher just because the currencies got converted to a new unit. So for example the Netherlands we went from the Dutch guilder to the Euro and the real value, the prices actually went up quite a bit but people spent more anyway.

JENNIFER COOK
We are just such fickle, fickle things aren’t we? But let’s take this knowledge and this discussion and apply it to what it actually means for traders.

TOM WILKENING
What we see is laboratories is if we change the currencies, so we change the actual dollars and in terms of the assets payments and also its cash, it can actually change and create bubbles. So the way this occurs is it turns out that if the underlying assets valuation is increasing over time, we don’t really see very much bubbles. People track it relatively well. But what happens is, if the valuation of things are going down, it doesn’t track it very well and we actually end up with bubbles. So what we see in terms of money illusion is, if it’s a case that both the number of dollars changes and the valuations change it can actually create or spur bubbles and it’s changing because we’re not immediately forecasting the actual differences and in our minds it’s changing how we act.

JENNIFER COOK
So you’re hoping through your experiments to maybe educate traders to this, is that right Charles? It has implication of training for traders?

CHARLES NOUSSAIR
Yes it has implication also I would say the big implications are for policy and how to try and prevent bubbles. In [an] experimental market, the more money you let traders borrow, the more they can buy on margin and use in the market, the worse the bubbles get. So this is a similar phenomenon to what happened in the US mortgage market while the recent housing bubble was going on so the lending standards were relaxed, people could borrow a lot more money and pour it into their house and that exacerbated the bubbles. In the high tech bubble the 1990s there were many people saying it’s a new economy and things are different now. The markets don’t crash anymore and that was not true and then in the last decade we heard a lot about how housing prices never go down, it’s a one way bet. Don’t believe that, no price always goes up.

JENNIFER COOK
So the rules haven’t changed? It’s still the same old economy and I think what you’re saying is until human beings fundamentally change, markets aren’t going to change.

TOM WILKENING
That’s exactly right. I think it’s in our nature, this is what we find in all these experiments that we trade assets in a way that creates bubbles and the only thing that seems to get rid of this is experience, but typically there’s always going to be a
new trader in the market eventually and that’s going to create a bubble somewhere.

JENNIFER COOK
You’re listening to Up Close, coming to you from the University of Melbourne, Australia. I’m Jennifer Cook and I’m talking with Dr Tom Wilkening and Professor Charles Noussair about asset bubbles. So gentlemen, where next with your research? Tom?

TOM WILKENING
So I’m really interested in when is it that markets actually create information and when that information does exists or not. So there’s an awful lot of talk on things like environmental policy about markets that are not responding to underlying incentives, right. When I’m really interested in ? when do we actually learn something from markets and when do we not? So I’m interested in more complex markets that have what’s called moral hazard. Moral hazard is a situation in which people can take action and those actions change the fundamental value of products. So a simple example of this would be something like a used car market.

For selling used cars, some of those used cars are not going to be in good condition. Some of them are going to be in bad condition but they can also be repaired to be good in the future. That makes these markets very difficult to actually trade in, because you’re always going to be dealing with somebody who has a bad car. They’re going to dress it up so it looks nice, they’re going to make it look like it’s something better than it is and that’s going to change how these markets work so it’s going to leave for prices to decline and it’s also going to sometimes eliminate these markets.

So what I’m really interested in is what happens when we impose things like certification so we can go and actually have these cars certified. What happens both to the market, what does the market structure look like and what happens to the information that we can learn about the underlying values in these markets?

JENNIFER COOK
How do you do that?

TOM WILKENING
So it’s again using experiments as a way of building markets. We take people into the laboratory, we give them a relatively complicated market that has both high and low quality things we call them goods but we can think about them as cars and we let them both trade and change that valuations and we see how the market adapts. So what we’re learning here is what do people learn from the markets. We’re trying to find out what can they learn about the underlying valuations of things and what is the final outcome? Do we reach efficient outcomes or can we get stuck in places where we have inefficient markets? People start in the beginning trading and that trading leads to an efficient market but in the long run we run into a situation where that efficiency may be dissipated because we stop learning as a population.
JENNIFER COOK
That’s fascinating. And Charles, how about yourself and your research?

CHARLES NOUSSAIR
So what I’m working on now is extending the bubble research to look at how a market crash affects the broader economy. So what I’m working on is having bigger experiments where there’s one of these markets that make a bubble and see what the crash does to other parts of the economy. To have a bigger economy and put the bubble within a bigger economy and to see what happens. So some crashes really hurt the broader economy and some don’t and some have less negative impact and I’m interested in why.

JENNIFER COOK
How on earth are you going to do that?

CHARLES NOUSSAIR
With experimental methods, something like the simple experiments I’ve been doing but I just put that in a more complicated setting where there are other things going on. So a big economy where there are some people who are consumers and there’s some people who are companies and some people are workers and they all are in this big experimental economy and we just see how it operates and see what a market crash will do to it.

JENNIFER COOK
So taking that into account, Charles, and also yourself Tom, I’m really interested to know do you think the US crash in this housing market could have been prevented and what can we learn from it?

CHARLES NOUSSAIR
Markets naturally tend to bubble and crash. Some of the damage to the broader economy could have been prevented and the bubble would have been smaller if the lending requirements weren’t so loose. So one problem was that the lending requirements were so loose that a lot of people defaulted and all the losses ripple through the financial system because people use their houses as collateral on other loans and the people who bought the houses didn’t have much at stake and they had very little wealth. So it was very easy for them to default and so the people who lent them the money had to eat the losses and then their loans to other institutions went bad too. So it really has to do with the defaults. Anything that would reduce the chance of the defaults would have been a good idea so they should have had tougher lending standards I think.

In the US the central bank is also at fault because they kept interest rates very low for a long period of time so that meant that people would deplete their savings because they’re getting such low returns in their bank accounts and they would just put the money to something else and once housing prices went up a bit they would put more into housing and inflate the prices. So in the US if there was better thought-out central bank policies and interest rates were kept higher and the lending
standards weren’t relaxed so much then the bubble probably wouldn’t have happened, at least with the same severity.

JENNIFER COOK
Yes, do you agree Tom?

TOM WILKENING
Yes I think there are two things that we learn here. One is that we shouldn’t generate policy that encourage bubbles. So a number of the things that are going on in the housing markets in the US were to encourage people to buy houses. There was a large amount of policy that was regulation that was there to try to get the middle and lower middle class people into houses as opposed to rental and that encouraged people to buy things they potentially couldn’t afford.

The other thing is that the rating agencies are people that should be pricing assets correctly didn’t do a very good job of this. There are a lot of reasons for that but I think the biggest one is there was quite a large amount of foreign money that was moving through the US and that foreign money just wanted a safe home. So people found ways of creating assets which appeared on the surface to be very safe, but underneath weren’t very safe and nobody was calling them on that and so I think we really do need to be careful about the types of things that ensure that the assets have the valuations we believe and that we try to prevent an increase in the types of instruments that are being created in the long run.

CHARLES NOUSSAIR
It’s great to buy a home but you’ve got to buy one you can afford.

JENNIFER COOK
Alright thank you gentlemen for joining me today and discussing bubbles? why they grow, why they burst and why it can be so devastating. We’ve been speaking today with Dr Charles Noussair, a Professor of Economics from Tilburg University in the Netherlands. He is also an Adjunct Professor at the Department of Economics here at the University of Melbourne and with him is Dr Tom Wilkening. He is from the Department of Economics, the University of Melbourne and their field is experimental economics. Gentlemen, thank you for your time today.

TOM WILKENING
Thanks Jennifer.

CHARLES NOUSSAIR
Thank you very much.

JENNIFER COOK
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