# THE NEW BAZAAR

**September 2, 2021**

**EPISODE 4: OUR INESCAPABLE EXPERIENCES**

*ULRIKE MALMENDIER ON HOW MOMENTS LAST A LIFETIME*

---

**CARDIFF GARCIA:** Hey, I'm Cardiff Garcia. Welcome to The New Bazaar. Coming up on today's show.

**ULRIKE MALMENDIER:** What we are saying is you need to change people's reality. You need to change what they see on a daily level, and then they will come around.

**CG:** Ulrike Malmendier on the inescapable effects of our experiences.

I have been looking forward to this conversation for a very long time. Ulrike Malmendier is the premier economic scholar for understanding how our experiences in life end up having a big effect on how we make decisions. And what's crucial is that in her research, she's found that this effect can last for decades and sometimes even for the rest of our lives. And so in our chat, we get into a lot of the nuances of her ideas and the subtle ways that they apply.

But I wanna tease out just one of her big ideas here, which is that we can't think our way out of our experiences. And here's what I mean. A lot of us probably like to believe that for certain kinds of decisions, the really deliberate decisions where we take our time and we analyze the relevant facts or circumstances that we can get outside of ourselves and make a decision that is sensible and, and purely pragmatic, a choice that is not affected by our psychological makeup.

And you would think in particular that this would apply to economic decisions where there's numbers and data and analysis that we can use in choosing what to do. So questions like, can we afford to buy this house? Should we invest in the stock market? Should we save more money? Should we borrow money for college? But Ulrike finds that this is simply not the case. That our experiences affect choices like these in ways that we may not always recognize, even if we had those experiences long ago. And in fact, even people who run companies and experts in their field are also influenced by their experiences in their professional lives. We just cannot outrun or out-think our experiences. What we can do is expose ourselves to new experiences that might lead us to make better choices in the future. But that's tricky. That is a lot trickier than just being able to think harder about something.

It means that we have to change our environment from time to time and to take some risks that we instinctively might shy away from. And it also raises some thorny questions for policymakers about how much they can do, how much they should do, really, to help people make better choices.

All that said, on a personal note, I gotta say there's something kind of touching about this idea, something tender. Even when we don't notice just how we are affected by our past, even possibly when we don't even remember our experiences, they're always with us and they stay with us. So I am just so glad that we made this chat with Ulrike happen. And I think you're gonna really enjoy it. Here it is.

**CG:** I think a lot of people might look at your body of work and will find it obviously very interesting, but might not immediately see the connection to economics. So can you kind of tease that out for people? What is the relationship between the study of decision-making and psychology and economics?

**UM:** Uh, great question. So when people hear economics, um, they often think about, uh, I think what we would call macro economics, unemployment rate, uh, currency, uh, exchange rates and, uh, stock market, uh, et cetera. Now there's also microeconomics, meaning literally what you just said, human decision-making. And it is truly at the basis also of macroeconomics. What we economists really are here to do, is to understand why people make decisions, how they make decisions, how they form beliefs, that is really economics, um, before we even get to the psychology part.

Now, what has happened, however, is that, uh, because in economics, uh, mathematical tools and models were extremely useful, continues to be extremely useful, we- we've kind of fallen into a pattern of having a certain model with a certain set of assumptions, um, which is super powerful and explaining lots of things, but which assumes a very high level of rationality, of absorption of information, et cetera.

And over the last couple of decades, people have started challenging it. That's where psychology comes in. People have started to say, "We have to be more serious about individuals making mistakes, being overconfident, being under confident at other times. We have to systematically incorporate those in our models." Of course, we were always aware of that, but we kind of thought about it like physicists think about noise, something that's kind of, you know, out and we were therefore ignoring it. It was disturbing our beautiful way of modeling the world. And, um, I am, you know, part of the clan who has been very serious at trying to incorporate it into our modeling of decision-making. So that's how we get to the psychology.

**CG:** Do, do you think of yourself as a kind of iconoclastic economist or a heterodox economist in any way?

**UM:** I, I think when I started my PhD, I definitely felt that I was part of a group, which was shaking up these standard frameworks we were just using everywhere. And they're powerful. They were super useful, but they had their limitations and it was hard to get the rest of the profession on board and say, "We need to go beyond that, even if it's more messy, if we can't always use the Bayesian framework, the way we are used to it." So in that sense, yes, I was part of the group that was bringing in different views, but honestly, um, I think right now it's really spreading into all areas. It's not even something you have to kind of spell out much. If you're saying, "No, I'm making this different assumption about updating of beliefs, how we look at the world, then we, we have been doing." Um, people will nod and not pause too much anymore. That's quite beautiful.

**CG:** Yeah. Maybe that rebellious label would have applied two to three decades ago, but precisely because a lot of work like yours has had such a widespread impact, now it's just kind of another part of the profession. I wouldn't say it's a dominant part of the profession, but it's, it's one of many different ways of approaching economics. Is that about right?

**UM:** Yeah, and I think two things have helped. So first of all, there were many wonderful, smart people who deeply cared about getting the psychology right, getting human decision-making right, who have, you know, led us on, on that path, including, uh, Richard Thaler and it didn't hurt either that he got the Nobel prize in 2017, but also people like Matthew Rabin, David Laibson, I mean, many, many wonderful, uh, people who are just very strong and, and worked really hard.

Now, the other thing that helped is, uh, it's a little sad, but it's all these recent crisis, you know, uh, financial crisis, um, helps, uh, pandemic, helps to wake up people and say, "These existing models just don't capture very important aspects of human decision making of economic decision-making." And I, I think I've kind of profited from that. I feel a little bit bad about that, but I think that topic how, uh, our experience has shaped us, um, I'm not sure I would have published it in top journals. It was out of the financial crisis to tell you the truth.

**CG:** Yeah, I can, I can certainly understand that kind of conflicted feeling. As a journalist, I am most useful when things are kind of falling apart everywhere else. And I can understand how a sort of wing of economics that is challenging some of the orthodoxies of the past would in a way benefit from those prior orthodoxies being shown to be flawed in some way, which seems to be what has happened throughout all these crises.

**UM:** Exactly.

**CG:** Okay. Ulrike, I think that a good way into your work is through one of your most recent studies, because the study itself is quite relatable. It's about something that quite a lot of us do, which is grocery shopping and how our experience of grocery shopping ends up so heavily influencing our understanding of the economy. So give us a sense of what you did in that study and what you found?

**UM:** So, um, together with, uh, colleagues, um, Michael Weber and Franceso D'Acunto, who were actually former Berkeley PhD students, I want to proudly say, we were able to connect, uh, uh, big data sets and Nielsen dataset on what people purchase, uh, in grocery stores and some other outlets, to a dataset about beliefs of where prices are going. Um, so inflation beliefs. Do prices go up, down, stay the same, how much will they change?

**CG:** So you were studying how they're shopping, other specific experiences of shopping would influence their expectations for how much prices would rise, future inflation in other words?

**UM:** Exactly. So the fact that we are the first to, who had access to both datasets in a linked way, that we're able to combine it, then allowed us to do exactly what you said. Is there an inference? And of course there should be some influence, right? If I ask you, "Oh, are prices increasing, decreasing?" Yes. Grocery prices matter. But what we, um, paid particular attention to, or why we were so interested in grocery prices is those are prices which at least some of us see a lot, right? So they are important prices like house prices and, uh, prices of major, um, uh, more durable items like washing machines and dishwashers in the house.

**CG:** Refrigerators, cars, right? Yeah.

**UM:** Exactly. Um, however, if we think about prices we see on a daily basis, we see a lot of grocery prices. And the question was, does that influence us... Does that influence us maybe even too much because our environment shapes that the signals we receive on a daily basis, "Oh, that price increased again," might have an influence that is out of proportion? And that's fundamentally what we found. We found that when people are asked about price levels in general, not about bursaries prices par- particularly, their brain tends to go to, "Well, what prices did I reasonably see? Oh, there was a lot of increase." And therefore, um, they tend to generalize it and apply it to the general views of the economy and where prices are and where inflation is, et cetera. Now grocery prices, uh, this is a little bit nerdy, but they're particularly interesting because they are so super volatile.

Most items you could purchase have a, kind of a more stable, um, price level, the ups and downs, and then it moves over time, but grocery prices go so much up and down that in fact, when the general statistics about nationwide inflation are put together, we tend to take groceries because they're just found where the general price levels are. We humans do the opposite. We just look a lot at what signal did I recently get? That's where our brain goes to. And therefore we apply it to our general views. And that's precisely what we found, that there was an enormous influence of grocery prices on people's belief about where the general price level is. And of course it was particularly strong among those who are more likely to grow grocery shopping, et cetera.

**CG:** Yeah. And there's a few things interesting about this, one is this idea that, you know, I might be influenced in terms of my expectations for inflation more by whether or not, like, the price of apples goes up. Even though I don't spend that much of my salary on apples versus whether or not, you know, my rent goes up by a certain percentage or a refrigerator goes up by a certain percentage or it goes down, right?

I'm more influenced by the thing that I buy more of rather than the actual share of my income of my money that goes to that thing versus to other things. That's interesting. The second thing that's interesting is that this really matters because one of the ways that policy makers try to steer the economy is by influencing people's expectations of how the economy is gonna perform. And if we're getting a kind of distorted understanding of how the economy is doing based on this psychological variable, it seems like it might make policymakers jobs a little harder.

**UM:** Yeah. Both points are great. And I'm just gonna quickly add something to both of them. The first one, namely that it's the frequency with which I see a certain price is exactly right. And it's even right within grocery shopping. So you are totally right that the price of apples, um, will affect the overall price increase of my consumption bundle much less than the price of, um, a car or a housing, et cetera. And so I'm already making that mistake of, of, um, enlarging the role of, of those groceries. Even within groceries, we actually found, if you look not just at the influence of the expenditure weighted grocery spending, so I take into account that bag of apples was $5 and here on milk I spent so-and-so much, but instead the frequency, the frequency with which I buy things. So there was a, you know, 5% increase on $100 item versus a 5% increase on a $1 item.

If I buy that $1 item a lot, I'm just gonna pay a lot of attention to the ups and downs of that item. So, so that, um, emphasizes yet again, it's the frequency with which we see price movements, not how big the share is in general and within groceries. And then on the second point, that's precisely the conclusion to which we get or which we want to present to policymakers when thinking about, um, how to influence people's beliefs about inflation and ultimately about the economy, consumer optimism, et cetera.

There's a lot of thought put into, uh, you know, rates that are being said, uh, monetary policies in terms of what's happening between banks and what financial tools are available. And then sometimes, um, they're great quotes from Bernanke earlier from Volcker, sometimes the Federal Reserve people are just puzzled, why on earth they can't convince people that this will lead, you know, uh, to inflation coming down again? And what we are saying is you need to change people's reality. You need to change what they see on a daily level, and then they will come around.

**CG:** Yeah. There's, there's another implication of this finding, which I thought was fascinating, which is the way that this leads to a difference in expectations of the economy based on gender. Why? Because we still live in a world where women do more of the grocery shopping. And this is interesting for a few different reasons, but I wanna sort of ask you to just kind of draw the connection for us and what you think is the wider consequence of this finding.

**UM:** Yeah. Apparently people who work in the Federal Reserve system have known for decades that there is this puzzling persistence of men and women having different beliefs, uh, about inflation, about price increases, decreases. This extends by the way to other economic variables, the stock market, how well the economy is doing, um, indebtedness of the government of the state. There seemed to be some persistent gender specific differences.

And, uh, they've been wondering, where does that come from now? I can't answer the, the general question. Other, um, differences, other gaps in belief formation across genders, but we were able to zoom into inflation beliefs and inflation expectations, as you are saying, because our very data set allowed us to do that. We're able to, uh, identify whether a person is male or female. And, um, it turns out that we, when we start by just seeing, do we see systematic differences between the beliefs of men and women about future price increases, decreases?

Yes, we replicate what people at the Fed apparently have known for decades. Uh, women are more pessimistic. They tend to think that, um, inflation is gonna go, uh, gonna increase, the price is going to go up more. Now, when you now ask where may that come from? Well, our hypothesis is exactly, as you said that at least in traditional couples, um, you know, following traditional gender norms, it is often the woman who goes, uh, grocery shopping. And so now when we analyze, when we're trying to predict beliefs about future price increases, decreases, and are trying to predict it by gender, as I said, we replicate, yes, women predicts... If you're a woman that predicts you have higher beliefs.

If you then throw into the estimating framework also a variable that captures how often you go grocery shopping, this one is very powerful, it predicts that you have higher inflation beliefs. That's the first result. But the second aspect, which is so important is, the gender variable becomes completely insignificant. So what we are finding in other words is it's not gender. It's not that men think differently about prices than women, that they draw different inferences from the prices they're seeing about future price increases and decreases. It is just the fact that men and women tend to see different prices in their daily life, for sure, in these traditional gender roles.

And when we think about how to make sure that women, um, have access to the same opportunities as men, that women have the same level of education, that women are drawn into, uh, more, you know, mathematical fields, um, like economics and, and many other ones, we tend to often think about the hurdles, the hurdles that prevent women from kind of entering these fields and that lead them to have distorted views about themselves and about the world.

What we are saying here is that even once you have removed all the hurdles, you still need to observe the world the woman lives with. If she gets daily signals and this case it's about prices, but we can, you know, it's easy to generalize, that say one thing, it doesn't matter that hurdles are removed, that there's no glass ceiling, uh, et cetera, it will still affect her. So the daily reality you live in, whether it's grocery shopping, whether it's being at home, instead of at a, uh, job environment, will continue to influence and, and, and, uh, increase the persistence of gender specific differences.

**CG:** Yeah. And, and I loved these findings as a way into discussing the kind of through line that goes, uh, into all your work, right? This sort of broader intellectual project that you've been, that you've been pursuing. So let's do that. Um, in so much of your work, this idea of the experience effect is present. I would in fact, go so far as to say that you are the premier economic scholar of the experience effect. So why don't you just take our listeners through what that means in simple terms, and maybe give us, uh, a couple of examples where we- we've seen it throughout, you know, modern economic history?

**UM:** So the notion of experience effect is this notion, um, of, uh, acknowledging that what we've personally experienced in our lives so far, uh, what we've seen happen around us, uh, to us will shape ho- how we look at the world and how we form beliefs and how we make decisions, uh, going forward.

**CG:** For a long time by the way, for a long time, possibly for decades.

**UM:** Yes, exactly. For, uh, for not just, uh, the next couple of days or weeks or even months, but experiences throughout our lives reshape us in a way that we can detect the influence if the experience was strong enough decades later. At first, that might sound maybe quite natural. Yes, we are shaped by the experiences we make our, eh, in our lives. Why is Ulrike so excited about that? Or why is it so controversial among economists? Well, we economists tend to think that when we are predicting, um, what choices you're gonna make that many important variables, um, thinking about the grocery purchases again, um, do you go to an upscale or downscale outlet? What kind of items do you buy? The organic ones, not organic ones.

Well, uh, what may matter is your income, uh, your family situation, your education. So there a lot of, there are lots of social economic variables which we understand are very important and they are very important. Um, and we tend to think about a world as if we've only found all these variables, which describe you right now, who you are right now, um, then, you know, we have a best shot at predicting the decisions you make.

And now I come along and say, "No, it's not enough." I also want to know how you got there. You might have an excellent college education, but did you come to that from a background where it was standard that everybody gets his college education, or was it an unusual thing? Did you grow up in a world where you got lots of signals that that's not what you're going to do?

Um, you might have a perfectly good income right now, but is that something that's typical for the socioeconomic, eh, class you grew up in, or do you come from a background where you experienced poverty and, and, uh, unemployment, um, unemployment of your parents of yourself, et cetera? These experiences will stay with you and will influence you in all your future decision-making. And even if I had all the variables we economists love to have about you right now, they fully describe your right now, it's not gonna be enough.

**CG:** Yeah, but Ulrike, it's not just the economist... Sorry, if I can just jump in real quick. It's not just economists who think that way. It's also a lot of us who wanna believe that we are very deliberate, at least in certain decisions where we've taken in a lot of information, we've applied our knowledge, our education, our intelligence, and we've thought carefully about something. And we'd like to believe that our decisions are the outcome of that process, right? Whereas I think what you're saying here is that maybe all those things matter, but what also matters and what's also underappreciated is the experiences we've had and how they will lead us to make certain decisions even if we believe that those decisions are the result of having applied all of this, like deliberate judgment and deliberate thought.

**UM:** Yeah. I completely agree with that. And in fact, um, your point is so important because I, I want to make sure that I get across the message that this is something that is happening to us, to our brains, to the wiring of our brain, as we are walking throughout life. And it's happening to everybody. It's not just happening to the uninformed person who doesn't know about inflation statistics, who doesn't have information available to them. It is happening to even the highly informed person. And that too points to the fact that there are some re, um, formatting [laughs] of our, our brains happening as we walk through lives, which we, um, all might want to be more aware of and, um, have some empathy for, and utilize it going forward and understanding ourselves.

**CG:** Yeah, and why don't we look at some examples that you've found in your papers. So if we start with investing, you know, in something like the stock market or the bond market or the housing market, can you just give us a little bit of a flavor of how the experience effect can influence people's decision-making when it comes to investing in some of these markets?

**UM:** Yeah. Um, so one of the first examples, uh, we worked on was, um, the stock market. And in particular, we were motivated by this notion, uh, here in the US, this notion of Depression babies. So there's a notion that people who lived through the Great Depression, um, experienced the crash of the stock market and all of the economic downturn happening at the time, that these people are changed forever and hate the stock market. Are very averse to ever invest in the stock market again, and that this experience is staying with them hence the name, Depression babies. Now for starters, we realized actually nobody had looked at data to figure out, "Is that true? Is that true that, um, this generation has a much lower inclination to invest in the stock market than later generations?" And the starting point of our research is yes, it is true.

It's actually quite drastic. Um, of course it has been an upward trend over time as access to stock market investment became easier and cheaper. But the Depression babies are at about a 13%, um, participation in the stock market, uh, at less than half the rate of even nearby, uh, late- later generations. And, um, this data about stock market investment then allowed us to study in a little bit more detail what's going on here. We found that if you look at a person's lifetime so far and are trying to predict from the events, uh, in this case stock market events that have happened in that person's life so far, their future inclination to invest in the stock market, to invest at all, to participate, or... Oh, what's the question? How much of their liquid assets are they willing to put in the stock market that you can do a very simple approximation to get a good prediction?

And that approximation is, take that person's birth year, get all the data on how the say S&P 500 did over their life so far, and then average it. Average it with, you know, some with weights that put some more weight on more recent years, but roughly speaking, just leverage, average their lifetime experience, and you get strong, predictive power on whether they invest in the stock market at all and how much of their liquid assets they are willing to invest.

**CG:** I wanna just be super clear about this real quick. I wanna be super clear about this. So for example, somebody, um, who is now 60 years old, and let's say the stock market has averaged, I don't know, 7% a year for their whole life versus somebody who's, let's say 25 years old and the stock market has averaged like 4% throughout their whole life, 4% a year in annual gains. The older person who has the better experience of the stock market making more money each year on average will have more money invested relative to what you would expect them to have at that age than the 25 year old. Is that about right?

**UM:** Exactly. And it's really important that you said, uh, relative to what you would expect them at that age, um, because the example allows me to emphasize that we are not trying to say that other determinants are not important. They are so-called lifecycle determinants. As, you know, as I'm growing older, I'm earning more money. I- I'm more able to invest money in the stock market. I'm not just kind of trying to cover my basic needs. So age matters, uh, where I'm at in my career matter, uh, wealth matters, all of that is true.

But a 60 year old person at a point in time by the lifetime average was 7% will act differently from a 60 year old person where the lifetime average was 4%, it is not all age. And you can see that beautifully with your 20 year old versus 60 year old example, by following them over times, uh, over time, excuse me. There are times when the 20 year old person will be more optimistic and invest more than the 60 year old. And there would be other times where it will be the opposite. And those changes over time kind of show you directly it is not all age. It is not all lifecycle. It is not all wealth or income, et cetera.

**CG:** Yeah. And so you found that these experiences that have affected people's, um, willingness to invest in the stock market over time that these similar findings apply also to other markets like the bond market for example. You also found something interesting, which is that the experience effect seems not to contaminate decision-making outside of the specific experience that people had, which is a weird abstract way of saying that if you lost a ton of money in the stock market, you might be less willing later to invest in the stock market, but it doesn't change your willingness to invest in the bond market, for example, or in housing or in some other asset. Uh, economists have this terrible word for it known as cross-fertilization they say, instead it's domain specific. We can do away with that and just say that it seems not to influence your decision-making in other areas of life. It is limited to the kind of experience that you had, which is fascinating, I think.

**UM:** Yes, it's fascinating and it is complicated for other economists, you know? Imagine for starters, people like me working in this area have to convince our colleagues that our past experiences stay with us and matter for our decision-making for years to come. Uh, even though we have all these beautiful control levers and proxies already in our estimation or in our model. So I have to do that for us. And once I've convinced my colleagues that this is really important, then I need to tell them, "But by the way, it's not that you're generally like updating your belief. Like that all risky assets, you're putting more weight on the negative outcomes now, say after a crisis. No, it's specific to this asset stock market. And if we want to predict what's happening in the bond market or other risky asset markets, sorry, guys, we need to go back to the data and figure out what happened in that market over your lifetime so far. Did you have any experiences? How were they, et cetera?"

Now, the beautiful thing I'm discovering is that, um, neuroscientists are much less, uh, surprised about this. They think about, you know, stimuli arriving in our brain, not as some mathematical processes that might be correlated or not correlated over time, right? For them, it makes sense. It's very specific to, uh, reports about the stock market, visuals about, uh, stock market, stock prices, courses crashing, et cetera. And that I don't translate that into some other markets where the sensory, visual, whatnot, stimuli are different. It's not as, you know, puzzling to them. It makes sense to them. And I'm really hoping we can take that into economics, but as with so much of my work I'm of course messing up the simplicity of the beautiful basic model we had to explain everything.

**CG:** Yeah. And one question that comes to mind then is whether or not positive experiences can offset the influence of early negative experiences, which sounds like it would be true if people are in fact averaging out their lifetime experiences, as opposed to just having this one experience very early in life and having that being the determinant factor for the rest of their lives. So what, what does your work find about the sort of offsetting possibility of, of a favorable experience after a really big negative experience?

**UM:** This is super important. Uh, it is, uh, important to be aware of the fact that if you believe in experience effects, uh, if you see the evidence and, and, and a- are ready to acknowledge that our exposure to events throughout our lives alters us, then that means this effect keeps going throughout our lives. So in fact, sometimes people describe the experience effect research, a little too simplistic as if exposure to some event basically puts you in a certain place and you're stuck there forever.

In fact, the notion of Depression babies, sometimes, you know, like used in that way, and say, "No, the same process that made you a Depression baby continues over your life so far. If you now get a lot of exposure to positive effects, you keep averaging over what has happened over your life so far, you know?" Great Depression was a big, pretty big negative so it will continue to matter.

But if there are lots of positive experiences afterwards, post-World War II boom, et cetera, then it, it will be undone. It will possibly be undone. The, the difficult aspect here to wrestle with is that an early negative experience can sometimes lead to withdrawal from that tank kind of environment, that kind of market, where you could be making the positive experiences. So to put it really simple, you've got burned in the stock market, um, you lost everything, you hate the stock market, you are super afraid of the stock market, it's not surprising that the last thing you want to do is try again and invest a little bit in the stock market.

Now, of course you might still be absorbing some signals from newspapers, et cetera, but it would be so good to put yourself out there again, maybe not with all your wealth, but take $100, play with them, put them in the stock market and some low fee fund and expose yourself to positive experiences. That's the implication of our research that this would be a really powerful way to undo these early experiences.

**CG:** Yeah,nd that brings up another issue, which is that in your research, you have sometimes distinguished between the direct experience, for example, of having lost your own money in the stock market versus just being alive and cognizant of the fact that the stock market has collapsed. And it seems like both of those variables can have an effect on your decision-making, but I'm wondering if the magnitude of the effect is different based on whether you yourself lost your own money, or you were just around to see the fact that like a lot of other people were losing their money in the stock market and the stock market was collapsing, even though you maybe weren't invested either because you were too young or you didn't have any money or you just had chosen not to participate?

**UM:** Yeah, my personal experience matters and what is happening around me matters. It is also the case that personal experiences tend to be more powerful. So not just in the stock market, I've also looked at unemployment experiences. I've, um, looked again back to the inflation example, right? The wh- what's happening around you and, and how your own spending, uh, is affected. So both tends to matter, uh, your personal experiences are more powerful. However, generally speaking, even though I'm emphasizing that personal experiences tend to be more powerful in the various datasets I've looked at, I've actually been puzzled by how powerful the non-personal experiences are. The stuff that is happening closely around you. And I'm trying to understand how it influences you. In general I tend to contrast personal experiences with just learned abstract information.

You know, I, I might teach in my class about the equity premium puzzle. I don't think it has as much of an impact, eh, even close to as much of an impact on people's investment behavior than them experiencing some nice, earning some nice gains from their stock market investment. And yet absorbing the news around you, absorbing what's happening to people close to you seems to be very powerful. And one angle we are getting to right now in our research is that emotions seem to be an important, um, conduit, an important aspect of how I'm anchoring these, these memories, um, inside of my brain.

So if I'm absorbing, um, the information of what's happening around me, um, while experiencing strong, positive, or negative emotions, I'm shocked, uh, by the crash of the stock market, or I am really excited about the boom, um, the US is experiencing right now. Apparently it goes deeper and it seems to be, um, the reason why this events around us also can have, eh, experienced effect type long run influences on me.

**CG:** There- there's a real world application of this right now too, which is that, you know, in the financial crisis of 2008, 2009, which originated with a housing market crash, there were a lot of young people at the time who either were young adults and may have either had a terrible experience of the housing market, perhaps lost their home to foreclosure, or they at least knew people who had or knew of the simple fact that it was happening all around them. And there was a worry that this would lead to like this generation of people who would never buy a house, you know, or a lot more than you would have otherwise expected if there had been no financial crisis.

And it looked like that was happening until a few years ago, you know? There was a, a big decline in home ownership rates, and it wasn't clear that that was gonna recover. But a couple of years ago they did start recovering. Home ownership rates did start recovering, and they're certainly not back to where they were before that financial crisis, but it looks like there's positive progress being made there. And, uh, and in particular, even a lot of the young adults who have a very clear memory of that crisis in their later millennial years, you might say, their late 30s, early 40s, they're starting to buy houses more now as well. And it made me think of this idea that experiences, positive experiences can start to cancel out negative experiences, even though that negative experience was absolutely enormous. So wh- what is your sort of take on what's been happening in the US housing market as it relates to, to your research?

**UM:** Ye- yes. So the, the same principle, uh, we discussed before of us updating our beliefs about the housing market as we walk through, through life, um, in this case, um, a place in my mind. So, um, I very vividly remember the crash of, of house prices because, um, we had to move, uh, buy a house, um, I think I was eight months pregnant and we, we needed a place to, to, to be when the, when the, when the first kid arrived. We were literally aware of the fact that, okay, if we buy this house in Berkeley now, it's gonna crash down, but there weren't many choices and, you know, I didn't like that feeling. We went ahead, bought a house and then however, now being so closely tied to the housing market, following like what's going on there, I was, you know, checking out the Zillow prices much more frequently than I would have probably done otherwise.

We saw how unbelievably well the housing market recovered. So what I believe has been going on is both the initial effect, the missing generation of homeowners, the,

the Wall Street Journal kept complaining about. That was real. As, as you said. There were people who were in the typical home buying age who were shying away from it and waiting a little longer, but then we were also closely tied to these numbers, um, coming out of the housing market.

We were spending maybe more time reading about it, thinking about it more and feeling about it more, I would think, uh, plays a role here to seeing what happens to our friends who, um, who, who did buy a house and as the housing market, you know, recovered, um, uh, so amazingly well, we kept updating our views of the housing market and we're willing to go into it.

So that's how I, um, how I think about, um, what has happened there. And indeed you can, um, study it. I have studied on how past realization of, um, macroeconomic variables affect your inclination to buy a house. Um, I've not studied it with US data yet I have to say I've, I've used, uh, European data and it has been really interesting to see using data [inaudible 00:40:34] from several different countries that you can just look say at the generation of 40 year old people and around 2008, uh, 2010, and look at what had happened in their country over the last 40 years, which, which differs, say even between France and nearby Spain, et cetera, and you get strong, predictive power of whether this generation is willing to buy a home or continues to rent a little bit.

**CG:** Well, I wanna use that to transition into the next topic, which is your study of how the experience effect could influence policy makers themselves. Because one of the findings you've made is that expertise is no guarantee of immunity from the experience effect, including the kind of expertise that requires a PhD and advanced sophisticated thinking about the economy. So let's talk about the Federal Open Market Committee, the FOMC, um, which is within the federal reserve and it is the part of the Federal Reserve that actually sets monetary policy interest rates and is responsible for managing the economic cycle. A lot of people don't realize just how much we are all at the mercy of the decisions made by the FOMC. So, um, let me give a little bit of an overview of why this matters so much, the Fed, the FOMC is supposed to balance roughly two different variables.

One is, full employment, which means that people who want a job can get a job. It means lowering the unemployment rate and really sort of supporting a strong and healthy labor market. And then on the other hand, you have inflation, which is believed to be at risk of taking off, of going higher, if in fact, the labor market becomes too strong. In other words, if a lot of people have jobs and they're getting wage gains, they're getting raises and that kind of thing, then they'll start spending the money and that could boost inflation if in fact, the labor market is "too healthy."

These variables are tricky and economists even right now are debating the extent to which that relationship exists. But in terms of decision-making, that is the framework that the FOMC has traditionally used, which means that if the members of the fed who vote on the FOMC are worried that inflation is gonna take off, they might deliberately take steps to slow down the economy to prevent that. And this is where the experience effect comes in because it turns out that the experiences of the individual members of the FOMC can lead them to make decisions on whether or not they're worried about whether inflation is in fact gonna take off and then would lead them to slow down the economy. So with that as a framing, uh, tell us what you found in your study of the FOMC?

**UM:** Um, so what we found looking at the decision-making of members of the Federal Open Market Committee is that information about their personal lifetime experience of inflation has strong predictive power towards their beliefs about future inflation and then their voting behavior in the committee meetings, where they decide about either raising or lowering interest rate being either, you know, making decisions more towards, um, trying to limit inflation versus, um, encouraging, um, employment.

Um, the reason, um, why this setting is so important is that very often, there's a little bit of a question of whether people are really shaped by their experiences, because it alters their way of thinking how they look at the world as I would be arguing, or instead whether this is simply a shortcut for information. So people might not have, have all the, uh, information they need to have access to, to make a good prediction about future inflation, right? You might think. And you might think, oh, personal experience, even at the grocery shops with which we started today, it's just a proxy for the type of information they have access to. But otherwise they're just processing this information, uh, rationally.

Now the FOMC is such a beautiful example because as far as I understand the job, people on the committee have, you know, on their desk all the available data about past and recent, uh, inflation, all the possible models. They have big teams, uh, uh, of staff helping them to put it all together. So trying to think that limits in terms of the access to information in explaining behavior is, you know, pretty outlandish.

And I think nobody would put that forward. Um, now finding that even those folks are influenced by what they have personally experienced was actually pretty powerful. We weren't quite sure ourselves whether we would find that. So basically what I'm saying is get the FOMC members' birth year, calculate the lifetime average, um, inflation over the lifetime so far, and you get a better understanding of where they stand, whether they are fearing, uh, ever increasing inflation or whether they're not so worried about it.

And correspondingly in these, uh, committee meetings where the chairperson makes a proposal, where they want to set, um, the fed funds rate, that's the, the rate, uh, they set there for, you know, between banks overnight lending, they might vote against it or for it influenced by what they've seen in their lives so far.

And there's one anecdote, um, which I think illustrates this pretty powerfully, it's an extreme anecdote. It's a guy, uh, born in Germany into a family of bankers, uh, who actually experienced the German hyperinflation, growing up as, as a teenager and the family immigrated to the US. He became a super successful economist, ended up on the Federal Open Market Committee and he still holds the record of dissenting with the chairperson and, and putting forward his concerns that people don't understand and how inflation can creep in and how terrible it is, et cetera.

This is a highly intelligent man who knows he's in a different country, in a different monetary regime. Um, he has all the data available and still he couldn't shake it. That experience stayed with him. Now it's an extreme example, but basically we found, uh, a similar effect at work, um, uh, for all the members who are part of the FOMC.

**CG:** Yeah. And, and in particular, we have to remember the experiences of people who lived through the 1970s when inflation was incredibly high and into the early 1980s. Inflation in the US, since that time has been quite quiescent. And so when you average out people's experiences over their lives, well, obviously if you didn't become an adult until let's say the mid 1980s, or even the 1990s, your experience of inflation is that it has been mostly quite low for most of your life.

Whereas if you did live through that experience of the 1970s, well, ups the average for lifetime, for inflation over your lifetime. And so that could be the thing that is contributing to your decision making. And what's so intriguing about all this is precisely what you noted, uh, at the beginning of your introduction to the topic, which is that these are people with access to all of the information that they need to make a decision like this.

And also they have plenty of time to make these decisions. Most decisions made by the FOMC are not in fact rushed. They have teams of people helping them to analyze the data. And there's something I gotta say that's a little bit sad, or at least a little bit worrying about the idea that none of us is immune to our historical experiences, that we can't really think our way out of them, even as we love to believe that that is precisely what we're doing when we make decisions like this and this even applies to some of the smartest people on the planet, the people on [laughs] that committee. And it is, it's fascinating. I have to be honest with you, it's, it's a little bit concerning, I think. Uh, what do you think?

**UM:** Um, yes and no. So, uh, on the one hand, uh, I, I, I can see where you're coming from. You, you would've thought that if, if I give every- everybody on that committee in that instance all the, um, relevant information they're going to optimize, they're going to form rational expectations and optimize, um, their decision making. And I'm now here saying nope, uh, we are all affected by what has happened in our past even, uh, those folks. Um, now the upside, I think which, which is an implication of, of our research is step number one, we are more aware of it now, right?

So we, we, we, we can start to realize that this approach of only believing in abstractly taught information of availability of information that our beliefs of how much this would do were exaggerated, right? Of course, information is important. I'm a teacher. I do believe in the power of teaching, um, facts and methodologies and mechanisms, et cetera, but they are not going to go as far as some of these personal experiences in influencing us.

And, and just being aware of that, I think will be helpful, will be helpful when we think about who we put on a committee, for example, right? In this day and age, where we are more concerned about, um, racial balances, gender balances, and more heterogeneity in the composition of their various committees, sometimes, um, this argument that, oh, uh, we need more heterogeneity. We need different points of views. I don't know, it sometimes feels as, as if some people don't really believe in it.

And I'm now here saying, no, this is very valid and very valuable, different lifetime experiences will lead to, to different views of the world, different belief formation, and, and different decision making. So it is powerful to have all these views represented because theoretically taught information won't undo that. So this awareness, I think, has a positive implication as well.

And the second positive implication, which we mentioned earlier is that now, you know what to do about it. So if you look back at your life and say, "Oh, I, you know, immigrated from Argentina and lived through the high inflation there." Now I'm aware that this fear of inflation is something I won't easily shake by sitting in, in macroeconomics 101 and learning about the autocorrelation underlying the inflation time series, then you can say, "Okay, so let's make sure I expose myself to prices. I work with prices, I actively, uh, consume or absorb signals from a world that will convince my brain to get rewired." And, um, now I'm able to do that. I find the right approach, which is different from the approach I may have chosen otherwise, which might have been just reading about, you know, reading macroeconomic textbooks, um, et cetera. As much as I do think our macro classes are very useful. Let me add that.

**CG:** Yeah. You also noted this kind of lovely symbiosis between the members of FOMC and their own experiences, because we understand on the one hand that the decisions they make influence all of our lives and influence the experiences that we have. But on the other hand, the experiences that they've had influence the decisions that they make, which then go on to influence the rest of us. And so on, it's a kind of cyclical thing. And, and I think, uh, quite a fascinating way to think about it. Here's another, uh, extension of your work, I think, which is that it implies that there really is societal learning, the potential for societal learning because obviously societal learning is a, is the aggregate of, of all of our individual learning. So if a lot of people go through a stock market crash or a depression, which is an event that affects so many people, that there is a way for people to learn from that, that they will change how they approach decision making in the future.

Um, but it strikes me that there's also something, I don't mean to be pessimistic the whole time, a little sad about that, which is that it seems like we really have to learn from experiences rather than learning from the warnings of people who have gone through these experiences. You see what I mean? Uh, and so it's like there is a potential to learn, but we have to learn from mistakes rather than from people warning us about the mistakes that they have made. And that is both, I find a little bit sad, but also potentially dangerous. If you think about it in the context of something like, I don't know, climate change, where if we have to learn from the mistake, well, by the time the mistake is made, the consequences are really quite bad. It would, it would, it would be better to just learn from the warnings of people who study this, uh, and do something about it in advance. Uh, what do you think?

**UM:** Yeah. Um, let me try to turn it around again. In terms of the research offering possibly a better way to, um, make people learn and really take it in and, and speed up the process of us coming, um, to better conclusions. For starters, I do think there is some intergenerational transmission that is possible. So if a generation of our parents experienced something and we didn't, well for sure between parents and children, we do think that there are some transmission. Famous example is, um, the obsession of the Germans pe, uh, like me, uh, about inflation.

So Germany left to the hyperinflation. Subsequently the German nation became very, very obsessed with, uh, rates of inflation and concern that the, uh, European Central Bank may not have a tighter, as tighter a grip on inflation as the good old German, uh, bank or, or, or German, uh, Central Bank, uh, uh, was able to have.

And somehow that fear of inflation, uh, is transmitted through generations. I don't know exactly how it's happening. It happened to me, for sure. And again, the, all those macro classes didn't really help. I was always still suspicious that, you know, people are not, uh, don't have enough concern about inflation. And why did that happen? When does, uh, intergenerational transmission, um, from one to the next happen?

Uh, we don't know yet, so there's a, is still, still going on, but we have some clues like, um, that clue of the role, about the role of emotions I pointed out earlier. The, the, the notion that when I take information in and it is happening in a way that I feel positive or negative emotions, I have a vivid story in front of my mind, that seems to work better than telling me, "Oh, these are the statistics about like German inflation over the last, you know, 100 years."

So can we maybe learn from that, that, um, rather than just teaching people the, um, scientific, underlying processes and mechanism, having very vivid scenario development, simulations of things that could happen, having vivid individual stories is more powerful than we, what we might have thought before. So going towards climate change, the, the topic you brought up, highlighting and featuring in ways, uh, that will feel really close, um, areas of the world where climate change has already negatively affect people's life or where, um, huge changes in, in nature, um, are visible already and thinking hard about how we can make those areas and the people who live there relevant to us, connect to us on emotional level could lead to very, you know, scientific, uh, sci- scientifically provable processes in our brain happening and us anchoring on that information differently.

So this is clearly beyond my research, uh, the last part, but that is a possible implication, which I, I hope to make progress on. I hope other people will make progress on and that could ultimately help us. So you're writing your pessimism. It is frustrating to see, you know, that, um, somebody said to me, uh, in my, regarding my work on banking, that these banking crisis tend to happen, you know, every 80 years when basically the people are not around anymore, I've lived through the, through the last one. That is frustrating, but maybe we can start finding ways to transmit those across generations, which goes away from the raw abstract, um, numbers, more towards stories and scenarios and, and vivid experiences.

**CAG:** Yeah. Well, I appreciate you, uh, trying to give me hope, uh, and I am almost persuaded. Um, Ulrike, I wanna close with what I think is sort of, uh, the big obvious question, which is about the potential implications of your research for how people will be influenced by the experience of the COVID pandemic over the last couple of years, and how it might influence us, you know, well into the future. And here's how I would set up the issue, COVID was not primarily an economic event.

It certainly had a massive economic component, but it was largely a healthcare catastrophe. It is certainly a societal catastrophe. It has been dominated by enormous loss, uh, loss of life, um, you know, illness, you know, anxiety. Um, and it has had, certainly, a lot of societal effects in terms of, like, who we can see and who we can interact with.

The economic experience was kind of complicated actually, because the actual recession that resulted from COVID lasted a very short period of time. There was a huge shock to employment that we have not yet recovered from. But the overall economic experience, and again, I'm just talking about the economic experience, has not been universally negative. It hasn't been universally positive either, but it is quite mixed depending on where you were, you know, in, in terms of your job, where you were in terms of, you know, uh, your ability to say work from home, whether you were a man or a woman.

It just, it seems like there were so many different experiences of COVID that it's hard to draw any conclusions about its effects on us, but I'm curious to know, um, what you thought about it, uh, as you were thinking through your own research and the potential implications, uh, for COVID.

**UM:** Yeah, it's a question I'm very interested in. Um, so first, um, my, my research, my personal path, uh, through studying all these different markets gave me maybe, um, the tools or at least an understanding of people coming out of this being different people, right? Having had some, some rewiring happening to their brain. So that even when there are aspects of our lives, where say, we go back to "normal" we go back to a world how it was before, we’re going to be living in that world as different people now.

So a simple example is return back to your workplace. Uh, one which is much discussed as my, at my university and universities across the country, and of course, uh, many, many other employers right now. And I, I recently had a conversation with our Dean where she expressed some frustration that now that people have worked from home for so long it seems to be really hard to get them back to work on site.

And it's important to, to emphasize here that these discussions are not about, uh, fear of infection, um, and, and other health related risks. So those might, of course also be going on in particular with the spread of the Delta variant. But in those instances where I'd had conversations, it was really this frustration employers and managers felt that even when they reestablished the conditions they were before, people were trying to negotiate for more work from home now, et cetera.

And so from a standard economic modeling perspective, that doesn't make sense, right? We have certain preferences and the, we, we, why are we different people now? But from the perspective of just having been thrown in this different environment where you realize personally, you felt personally the upsides of not having to do the commute, being more around with your family, being more available to your kids, um, just made us into different people.

So understanding that, and then taking that into account as you're setting up your new, hopefully at some point post COVID, uh, uh, reality, I think is important. It, it, it gives each other more empathy for each other more and more understanding. And, and, and I hope it can, you know, the negotiations and, and deliberations can be more productive.

Now in, in terms of the economic aspects in particular unemployment experiences, COVID has really highlighted the aspect of inequality in experiences as, as, as, as you were going to. Um, so far in our discussion we, we mostly focused on kind of macro variables, which to some extent apply to everybody. So exposure to what's happening to the US stock market or the German stock market, or US inflation or German inflation, et cetera, which, you know, to some extent affects everybody. But a crisis like COVID led to these hugely different experiences, or in terms of what's happening with your employment across different sectors.

Uh, people have been highlighting particular, you know, hospitality industry, Uh, fo- food industry where all of a sudden we went from a high level of returns, uh, to nothing. A lot of people lost their jobs and they will be differently scarred than, you know, a tenured university professor like me who, you know, had some concern about what's gonna be happening to our university, but overall felt pretty safe and secure and with the tools at the tips of our, our fingertips to kind of deal with teaching, et cetera, throughout, throughout the pandemic.

And, um, thinking therefore about the pandemic as not a thing that made everybody more scared, more scared, but that had hugely heterogeneous, uh, effects on different levels of socioeconomic strata of immigrant versus non-immigrant of different, uh, racial groups, uh, in this society is really, really important. And, um, just because you've been a little pessimistic throughout, I do want to emphasize that it's not all negative.

So take, uh, one of the groups that has been strongly affected, say people in the food restaurant business, um, simple jobs, low level jobs is, um, in terms of cleaning up the table, bringing water and so on all of a sudden disappearing. Well, it can be helpful to be shaken out of that. So maybe, you know, your environment, the, the, the families and, and the social environment you live in are such that that's a typical type of job you apply. You go through.

There's some kind of not so high risk... For sure, not so high upside, but traditionally very stable type of jobs, uh, with which you won't advance much in your life. But, you know, people go through that. So you do that too. Now you have seen what can happen with that type of job. And now maybe you pause and you realize more what the value of education is, or you realize more that you could take things in your own hand and do something as risky as starting your own company, uh, starting your own business, which you were shying away be, from before because you're worried about the risk.

Well, you just saw the risk in that traditional, you know, little upside type of career path. So maybe that is now the moment where you go out and do that. And we are starting to observe that. Um, there're people have started to notice that, um, there're groups in particular, also, uh, among immigrants, where there's mo, a higher prevalence right now to go out and, you know, star, try to start your business, be more entrepreneurial about what you do with your lives. We do tend to often see after these crises an increased interest in education. Say, if you come, um, like in Berkeley, we have a lot of students from a, uh, uh, Latino background where they made it into Berkeley.

The families are not quite sure whether they want to let their kid go. In fact, they often called their kid back to come back home and, you know, help with the restaurant. And so on, not putting a lot of, not as much value maybe on, on the education as, as, as we sometimes wish. Of course there are also constraints. Maybe the attitudes have changed, are changed now. So I do see some upsides coming out of this heterogeneous experience even for those who have been, um, hardest hit, if, if they make it through. That's my hope at least.

**CG:** No, that- that's such a great point. And I think this point about how this has been a volatility shock is especially important because of course, the thing about volatility is that the swings can go up and the swings can go down. And we've seen both depending on who you are. So to, to make it even more concrete, I think, you know, there's been a disproportionately big employment shock to, for example, black and Latino workers.

Um, a lot of women in particular have been knocked off their career path because they had to stay home disproportionately to take care of children when the schools were closed. And so there have been some pretty terrible negative effects on a lot of people. And then on the positive side, you have a very high quits rate right now, which suggests a ton of confidence in the labor market. People quitting their jobs to try something better.

The startup rate, as you noted, is through the roof. And by the way, you are talking to somebody who left a very stable job to try to start a new company, that's happening literally as we speak, right? And I, I wonder if the specific experience effect of this crisis will be to convince a lot of people that the world is a volatile place, maybe more volatile on average than they perceived it to be before.

And that that can be both a good and a bad thing, but that it is a less stable environment that they live in than they did before. So that rather than returning to a kind of post COVID normality that resembles the pre COVID normality, what we'll be living through is something a little bit different where people are maybe a little bit more experimental, right? Some may react differently. Maybe they'll take actually less risks because they perceive the environment to be more unstable.

But that, that is the thing that people will be left with going into the future, that we don't live in quite the stable world that we maybe thought we had in the time, at least since the financial crisis. That is my best guess for how people will be, will be, um, affected by this. And I suspect it's a very difficult thing to study with kind of like heterogeneous experiences there. Um, if you had to just guess, I know this is not scrupulous economic work, just as, as somebody who's like studied experiences in their aftermath, so what do you think?

**UM:** Yeah, I think that describes really well how I'm thinking about, um, the effects of COVID, uh, going forward. Um, it is possible for us in this day and age to study heterogeneous experiences. Data has become so, so much better, and I'm really keen and excited now to study the different trajectories, the different career paths of different groups of the population and hopefully have a more definite answer for you if we talk again in a couple, couple of years.

But, um, um, the emphasis you were putting on people perceiving the world as more uncertain, more volatile, institutions and ways of leading our life, which we thought would remain unchanged forever have been changed. It's started from kids for whom the world of schooling and, and how you interact with your friends, uh, fell apart to, you know, everybody else in, in, in the population. And as you were saying, that can increase people's withdrawal, attempt to withdraw from any type of risk, that might be a possible reaction.

But what I think you and I are both hoping for and, and anticipating is that it leads to the realization that, well, there was a stable part, was formerly presumed to be stable part, which we now realize is more volatile. There are other aspects or other career paths, other trajectories, which we always knew had high volatility and by the way typically also higher upside, you know, going back to the stock market and the equity premium, there's more volatility in the stock market.

But if you, you know, go for along horizon, it's totally worth it to do that in a broadly diversified way. This applies to many other aspects of life. And so maybe it's not worth it for me to stay in that presume to be stable world, which isn't stable anyhow, but has little upside. So maybe I'm shaking out of it and willing to experiment, as you said, to explore, um, other, other possibilities with my education, with, with my career, with the interest that I pursue, that would be a wonderful outcome I'm really curious to study going forward.

**CG:** Ulrike Malmendier, uh, this was so great. Thank you.

**UM:** This was a lot of fun. Thank you so much for having me.

**CG:** And that is it for today's show. You can find links to Ulrike's papers in the show notes for this episode. The New Bazar is a production of bazar audio for me, and executive producer, Aimee Keane, and if experiences lead us to make better decisions, then let me tell you I'm gonna be making outstanding decisions for the rest of my life because no experience compares against that of partnering with Aimee on this show. Thanks for everything, Aimee. And thanks also to Adriene Lilly, our terrific sound engineer and to Scott Lane and DJ Harrison of Subflora Studios who composed this brilliant theme music that makes me smile every time I hear it.

Please follow or subscribe to The New Bazar on your app of choice. And if you enjoyed today's show, write us a review or tell a friend or tell all your friends and tell them to leave reviews. That really is how people find out about us, and it's a great way to ensure that we can keep making the show. And if you want to get in touch, I'm on Twitter as @CardiffGarcia, or you can email us at hello@bazaraudio.com. That's hello@B-A-Z-A-R-A-U-D-I-O.com and we'll see you next week.