

Transcript
Fed Talk: Understanding Inflation Expectations
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Presentation

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Chuck Soder:

Good afternoon, everyone. And thank you for joining us and welcome to today's Fed Talk. My name's Chuck Soder. I'm the senior media relations specialist here at the Federal Reserve Bank of Cleveland. And it is my pleasure to kick off today's Fed Talk session titled, Understanding Inflation Expectations.

Fed Talk is the Cleveland Fed Speaker Series in which we share research that is relevant to the public. Past events have covered such subjects as the economy, access to the labor market and financial literacy. Our events can be found on our website at [Clevelandfed.org](https://clevelandfed.org).

Just a few housekeeping items before we begin. During this event, your microphone and camera are disabled. Please type and submit questions on inflation expectations to our panelists in the chat box. And if the Zoom meeting drops, please use the dial-in info provided in the invitation to join the call.

Now, the most important part of the presentation, the disclaimer. I would like to state that the views shared today by myself, and our panelists are our own and not necessarily those of the Federal Reserve Bank of Cleveland or the Federal Reserve System.

Now in today's economic landscape, understanding the importance of inflation expectations is valuable for everyone. From everyday consumers, business owners, and policymakers. Inflation expectations are what people think will happen, the prices for goods and services in the future. And this Fed Talk aims to demystify that concept. Expectations about inflation matter because they play a critical role in economic decision-making, which in turn can influence actual inflation.

For example, if consumers expect higher inflation, they might spend more now. And if businesses expect higher inflation, they might raise prices preemptively. Both actions can contribute to higher inflation. Both of our panelists today are from the Cleveland Fed's Center for Inflation Research. Damjan Pfajfar is a vice president in our research department, and Rob Rich is a senior economic and policy advisor.

There will be a Q&A, so if you have questions on the topic of inflation expectations, please drop them in the chat and we'll get to them after the presentation. And now gentlemen, I will turn it over to you.

Damjan Pfajfar:

Thank you very much, Chuck. It's a pleasure to be here and I would like to welcome everybody to this presentation. I have to say, inflation expectation is something that we are very passionate about here at the Center for Inflation Research. So, it's our pleasure to talk about inflation expectations and try to explain the role of inflation expectations in our decision. As Chuck mentioned, the views are own views and not official views of the Federal Reserve system.

Rob and I will talk about inflation expectations. I will switch a few times during this presentation. Here is the outline of presentation just to set grounds. Rob will begin by talking a little bit about what is inflation, so that we can actually first understand a little bit what is inflation and then talk about inflation expectations and about the role of inflation expectations in the process for inflation.

In this process, he will detail demand conditions, the role of demand conditions, the role of supply conditions, and the role of inflation expectations in the determination of inflation. Then I will talk a little bit about what is the role of inflation expectations in our everyday decisions. For example, when we decide to buy a house or when we decide to buy a car and how inflation expectations might play a role in this process.

And then we will outline some of the standard measures of inflation expectations that talked about differences between household firms and professional forecasters, inflation expectations, and try to see how we elicit inflation expectations, as well as what determines inflation expectations. And then I'll pass the baton back to Rob, who will again try to explain the role of inflation expectations within the Fed. In particular, he will focus on the concept of anchoring of inflation expectations. So, without further ado, I think we will start. Rob will continue with explaining a little bit about what is inflation.

Rob Rich:

Thanks, Damjan. And good afternoon to everybody. Thank you for joining us and as Damjan said, we're very passionate about inflation expectations. So, we hope you'll find today's presentation interesting and hope learn a few things in terms of its importance. In spite of the fact that we're going to be talking about inflation expectations. I actually think it's useful just to do a bit of a review in terms of background and terminology, just to ensure that we're all starting at the same point, in terms of understanding what inflation is and what determines it.

I think this will help further when we do our presentation for some of the parts of it. So I think a good starting point is just ... As a reminder, to look at a very standard definition of what inflation is. And so I've put up here the very basic definition. So inflation is sustained increase in the general price level of goods and services in an economy over time.

And you'll notice that there are two underlined words there, sustained and also general price level. So let me begin with the second underlined, general price level. I think it's very important to understand that when we're thinking about inflation and measuring inflation, you really don't want to think about inflation as being associated with the price of a single item moving higher.

So while it's very natural to think of the fact that if you see energy prices moving up or food prices moving up. You say, "Oh, that's inflation." It isn't really as we'll see with the definition.

It's not really the movement in single items, rather it's much of a broader scope of prices, a much wider range of goods and services. So again, when we're thinking about inflation, it's not an individual price, but it's going to be a collection of prices that are really important.

And then that sustained increase, so inflation should be associated with the prices of many items moving higher and continuing to rise. So again, just in terms of thinking about inflation and how we measure. It's a collection of goods and services. It's the idea that the overall cost of living that we're going to try to measure is increasing and it's continuing to rise over time. So again, that's what we mean by inflation.

Okay, Damjan. You want to advance to the next slide please? So that begs the question, how do we think about measuring inflation? So the way that we measure inflation is that first, government statistical agencies gather information on the prices of goods and services. And these statistical agencies are then going to combine these prices of goods and services to produce what's called a price index. And that reports the cost of buying what we think of as a market basket for a relevant group.

So another way of thinking about this is a price index is really trying to measure the cost of living. And so again, this idea of the cost of living is a very broad-based collections of goods and services. So when I talk about goods, I'm talking about items like new and used cars, apparel and furniture. When I'm talking about services, I'm talking about things like shelter, medical care, airfares and restaurants.

But again, as the diagram shows on the right there, the picture, we're really thinking about a wide range of scope of items of goods and services. A cost of living. And that's what a price index is really trying to provide. It's trying to give us some way of measuring the cost of living.

Hey, Damjan. You want to proceed to the next slide please? Thanks. However, a price index itself is not a measure of inflation. Inflation is actually measured as the growth or the percentage change in a price index over a particular time period of interest. So again, when we think about measuring inflation, it's not the cost of living, but rather the growth or the percentage change associated with that price index or the cost of living.

Moreover, you can think about measuring inflation over different periods of interest. So for example, we can talk about a monthly inflation rate or a quarterly inflation rate or an annual inflation rate or a five-year inflation rate. But again, it's a percentage change in the cost of living. It's not the cost of living at a point in time, rather the growth or the increase or the percentage increase associated with that.

Now, one other thing to be very clear about is that there are many price indices. Many price indices exist and are designed for specific groups or different stages of production. So in the case of measuring the inflation rate that households face, you're probably familiar with price indices like the Consumer Price Index or something called the Personal Consumption Expenditures Price Index. And those are designed to measure inflation for households, but there are other price indices that are designed for other parts of the economy to measure businesses, imports, exports. That again, just goes to show that there isn't one particular price index used, but actually there's a variety of indices.

Okay, Damjan. Can you go to the next slide please? So let's now think a little bit about more about what determines inflation. So I'll suggest to you to think about the determinants of

inflation as there being three. So what economics presentation would there be if we don't talk about demand and supply? So there'll be demand conditions influencing inflation. Supply conditions, and then the topic of today's presentation inflation expectations.

Now, one of the things that's important to think about is that while we have these three components, and it may be true that at certain times certain components receive more attention. It's really important that when you're thinking about movements in inflation, you need to think about how all three of these determinants are behaving. So again, demand, supply and inflation expectations need to be thought about in conjunction, in terms of their influence on inflation, rather than thinking about them in isolation.

Okay. Next slide please, Damjan. So let's turn to the first component, demand conditions in an economy. So there are various ways of trying to measure demand pressures or demand conditions in the economy, but a very useful measure or variable to use is the unemployment rate. So one measure used to gauge the strength of demand is the unemployment rate. Typically, when demand is strong, the economy usually shows low unemployment and high inflation. When demand is weak, the economy tends to show high unemployment and low inflation.

And then this relationship between high inflation, low unemployment or low inflation, high unemployment, that's typically known as the Phillips curve. So again, one determinant of inflation will simply be what the state of aggregate demand happens to be in the economy.

Okay, Damjan. Next slide please. Thanks. But besides demand, it's also important to think about supply conditions. So inflation can also be influenced by what are called supply shocks, but really that's just a way of capturing events or developments that result in a sharp change in business costs. And one thing to also think about is that while you ... When you think of the word supply shocks, you might think of something that's always bad, that's not actually true in the case of supply shocks. Yes, there can be some supply shocks that in some sense are adverse, but there can also be supply shocks that are beneficial.

So I've just listed here some examples of what these supply shocks can be thought of. So we can think of energy prices being impacted by a pipeline shutdown, that would be an adverse supply shock disruption, something that we're all familiar with, especially during COVID, and perhaps a little bit right now. As also being something that could be an adverse effect on the economy and boosting inflation. But we could also have food prices. They could be impacted by a drug, which would obviously be an adverse supply shock. There could also be a bumper harvest, in which case you could see the prices of commodities going down. So again, just as we think about demand influencing inflation, supply can also influence inflation.

Now, when some of these adverse supply shocks happen, if they're extremely large, they can actually generate and cause high unemployment and high inflation. The term for this is stagflation, and we've actually had two bouts of stagflation in the US, for those of you as myself that are old enough to remember some of these supply shocks in the '70s, 1973 to 1975 and the 1980 recessions were associated with episodes of stagflation. So again, it's not very common, it's atypical, but it can take place, which is when you're actually seeing high unemployment and high inflation coexisting.

All right. Damjan, next slide please. So that brings us now to the third determinant of inflation, but also the topic of today's talk, which is inflation expectations. So I think it's very important to understand that probably one of the most important developments in economics over say since

the 1960s had been this idea of the role that expectations can play, not just in general decision making, but especially the role that inflation expectations can play.

And what this is really getting at, is that while economic decisions will depend on past and current events, there's also this forward-looking component associated with them. That is, I'm going to make decisions and undertake actions today based on what I think will actually happen in the future. And so actions based on expected inflation will and can have an influence on current inflation. And this reflects this self-fulfilling aspect associated with this.

So again, past events will influence what happens, current events will influence it, but it's also very important to understand that what I see today may actually also reflect expectations of the future and that in particular actions based on expected inflation will also influence current inflation.

And Damjan, go to the next slide. And before I turn it over to Damjan, I thought I would share the following quote with you, and I think there's going to be two or three important points that I want to bring out of this, and we will revisit some of these points later in the presentation. So I'm going to bring a quote up from Paul Volcker back in 1979, and while this is 45 years ago. I think it's extremely important in understanding the role that expectations play, why the Fed cares about them, and again, some recent policy decisions. Why so much attention was being paid to inflation expectations.

So again, for those of you who may remember what it was like in the late 1970s, here's Paul Volcker described in the following quote. "An entire generation of young adults has grown up since the mid 1960s knowing only inflation. Indeed, an inflation that has seemed to accelerate inexorably. In these circumstances, it is hardly surprising that many citizens have begun to wonder whether it is realistic to anticipate a return to general price stability and have begun to change their behavior accordingly. Inflation feeds in part on itself. So part of the job of returning to a more stable and more productive economy must be to break the grip of inflationary expectations."

So I just want to sort of highlight maybe three points here. The first is that hopefully this quote puts into context this idea of this forward-looking behavior and also, that if you are exposed in an environment of high inflation, how that could then impact your expectations, which then in turn will impact your behavior and decisions. So there's that component associated with it.

Another important component to come out of this is then also to simply recognize that while this quote is from 45 years ago, the experience of the late 1970s in the US has been a very valuable and important lesson to policymakers. This is still in some sense retained when it comes to thinking about inflation expectations and trying to avoid episodes, where you're operating in a high inflation environment and the impact on expectations. So again, this particular quote and this episode in the US actually had a very profound impact.

The other reason why this has also been important is that what this event and in particular, this episode of high inflation and high inflation expectations resulted in what sometimes we refer to as the Volcker disinflation. That is an episode of extremely tight monetary policy and a very costly recession to try to bring inflation down. And so all of that is serving as background for us, as we'll go through the discussion today. Why policymakers care about this, why this component of forward-looking behavior is so important and why policymakers really want to avoid this situation. And again, we'll return to this later in the presentation. With that, I'll be very happy to turn it back over to Damjan.

Damjan Pfajfar:

Thank you very much, Rob. So my part here is to first tell you why your inflation expectations actually matter. Inflation expectations, as Rob said, are forward-looking and we see that it was important that ... They're important for policy decisions because your actions actually are influenced by inflation expectations and which actions are especially important.

For example, when you're deciding to buy a car or a house, even if you don't think about inflation expectations, you might take your inflation expectations into account to make this decision. And why is that? For example, when you buy a car, you have to decide whether you will take out a loan to buy a car, or would you pay cash for your car? The cost of doing that is extremely important for us. How you view these costs, how you view the benefits and costs of any decisions will partially depend on your inflation expectations.

Let's start with a very simple example, which is when you want to renegotiate your wage. So what you're really concerned about is that you can buy the same or larger amount of goods that you did last year, for example. So you have to ensure that your wage that you will negotiate for next year will at least be able to buy you the same amount of goods that you bought this year. And for that you have to think, "Oh, how will the price level of goods change over the next one year?" And for that, you take into account your inflation expectations.

Inflation expectations might be different for different individuals, as we will see later on, different groups of people focus inflation differently. And why is that? What we find in research is that different groups of people have different consumer baskets, different items that they buy on a regular basis. Some people are buying different things than other people, and therefore it means that potentially the perceived inflation of different people can be different. Not everyone has the same inflation expectations and your particular inflation expectations might be important for this, for these decisions.

One of them, as I mentioned, is setting wages or negotiating about wages. The second one, as I've also mentioned it before, is buying a car or a house or any other durable goods that you might require financing for it. Savings and investment decisions. So in that part, you're comparing the expected part of the interest rates that you're going to be paid, but you're paying the nominal interest rate. But nominal interest rates, it's influenced by inflation expectations as well. What one does is ... Those usually would have higher inflation expectations, would have higher interest rate expectations as well, and that will determine whether it's beneficial or not for you to take, for example, financing for durable goods that you might consider buying.

So general terms, when we talk about the interest rate expectations, this has two components and one of the components is expected inflation. And that part of the decision is ... Your interest expectations might influence the decisions. Take the financing or to not take the financing out for a specific good. It's also the case, for example, when you're buying a house, you have to decide what mortgage would you want if you decide that you need a mortgage. Either is it a fixed rate mortgage or is it a variable rate mortgage or ARMs as we commonly call them?

And there again, your interest rate expectations and your inflation expectations will play a crucial role in this decision, whether you will decide to get a variable rate mortgage or a fixed rate mortgage. And these are some of the most important decisions, at least financial decisions that the household makes. Especially in those particular circumstances, when it really matters what you will decide. It's good to be informed about inflation, so that you have the best possible

forecast for inflation, that you think carefully, how does this influence your particular situation? And then try to decide based on the full set of information that you have.

And here, for example, as I'll review at the end, the Center for Inflation Research has a number of different resources on our website that may help you make this decision. At the end of this presentation, I will show you exactly where you can get this type of information. We have information both on what inflation now cost, what inflation current is and about different forecast of inflation that we collect using different surveys.

And that brings me to the next point that I want to make. How do we measure inflation expectations? As I mentioned, everyone has different inflation expectations. They will depend on your circumstances. That will depend on the type of goods that you're buying. And then they will also depend ... At least that's what research are showing, partially on your social demographic status. They will depend on how informed are you about inflation, how much you follow news about inflation and so on.

But let's think about how to measure inflation expectations. And generally there are different ways. So you can measure inflation expectations from financial markets. That's one of the options. And usually we do that using the treasury inflation protected securities. There, we use statistical methods in order to infer what expected inflation means in financial markets. And recently this became more and more popular, especially in the last 10 years. We have a lot of surveys. As you're going to see, the Center for Inflation Research is also administering a number of different surveys. And these surveys can be surveys of households, they can be surveys of firms, and they can be surveys of service of professional forecasters and all these expectations matter, for example, for different things.

So the research has also shown that we can actually make a direct link between inflation expectations of households and their purchasing decisions. So that actually really means that ... For example, if you think that inflation will be very high next year, perhaps you might anticipate some of your consumption of durable goods. And one of these things is ... As I show you later on, this year, on average, inflation spending has increased. And we also know that, for example, a lot of cars have been sold in the first half of the year of this year.

And one of the potential reason ... How to link these two things because households are dissipated, that inflation would increase, or at least the prices of cars would increase over the next months or years. They anticipated their purchase and they make this purchase earlier. This is one of the very simple example of how inflation expectations matter. But then we also have expectations of firms, which are very important for pricing decisions of firms and which also influence inflation at the end of the day. So that's why it's important that we survey firms, that we relate also inflation expectations and firm's decisions and try to understand how firms are making their own decisions.

And then lastly, we also have professional forecasters, those who are responsible in their respective firms to forecast inflation, to forecast economic conditions and to check what they forecast, what their forecasts of inflation are. As I said, these different forecasts are all very interesting and all equally important, but they also give us potentially different signals about inflation and about how households, firms behave in different inflation environments.

Then the question is also, which inflation expectations matter? In this stack, we'll review two different inflation expectations. We'll review the short-run inflation expectations, which are inflation expectations one year ahead and more long run inflation expectations. And what Rob

will be talking at the end of this stack is that especially long run inflation expectations are important for monetary policymaking. They're important for the concept of the anchoring inflation expectations that Rob will talk about and explain it in just a few minutes.

But let's go on. Let's look at a few examples about inflation expectations. So there is also not a uniform way. I will focus now on survey inflation expectations for a little while. First I want to show you how we usually elicit these inflation expectations. So these are usually longer surveys that are filled into households where we ask them a lot of questions about economic conditions, about their backgrounds, about consumption habits and so on.

And one of the questions is a question about inflation expectations. What I want to point out here, there is not a uniform way how to ask about these questions. And one of the things that is important is that you have to understand that the answers that we'll receive will depend on the type of the question that we ask. And I will show three different options that are most standard in the literature. The last one was actually developed in-house, here at the Center for Inflation Research.

But let's start with the question that has the longest tradition among the surveys. So one of the longest running surveys in the US of households is the University of Michigan Survey of Consumers. And there the question is the following, and I'll read it and then I can explain some differences within these questions. During the next 12 months, do you think the prices in general will go up, down or stay the same, where they are now? So this is the first question that consumers are asked. And then they have three or four options depending on the subject.

It says, "Stay the same, go up at the same rate as before, lower or higher." So these are the four options. And then as a follow-up question, we tend to ask them about their quantitative expectations for inflation, which is, by about what percentage do you expect prices to go up, down on average during the next 12 months? And this has been one of the standard questions.

However, when Federal Reserve Bank of New York started their survey consumer expectations, they've done extensive research on how exactly to visit inflation. Because as Rob explained at the beginning of the talk, there is a difference between price level and inflation. This is a distinction that a lot of households still struggle with how to distinguish. And that's why what Rob actually told you, what's the definition of inflation is actually quite important.

So the Federal Reserve Bank of New York decided that in their survey consumers, they will ask directly for inflation and not for prices. So the question is, over the next 12 months, do you think that there will be inflation or deflation? Deflation is the opposite of inflation or negative inflation, if you want. Like that.

And then after this qualitative question, there is a quantitative follow-up question, where they ask, "What do you expect the rate of inflation or deflation to be over the next 12 months?" And then there is a third question, it was developed at the Cleveland Fed, as part of the Center for Inflation Research, and that is the indirect consumer inflation expectations. And here the idea is really that some people might not be directly ... They might not be intimately related to inflation.

The idea was to ask inflation in indirect fashion. And this is that you ask them by how much their income would have to increase in order that they would be able to buy the same amount of goods as they were in the past. So let me read this question. We are asking you to think about changes in prices during the next 12 months in relation to your income, given your expectations about developments in prices of goods and services during the next 12 months, how would your

income have to change to make you equally well off relative to your current situation, such that you can buy the same amount of goods and services as today?

So this is indirect way to ask about inflation expectations and what we found, what research found. When compare these three questions you tend to see that ... If I compare the first two questions, whether you elicit prices on inflation directly. The answer to prices questions, tend to be a little bit higher than the prices for inflation question and that could be connected with memories about what prices used to be and not about price increases or inflation increases in [inaudible 00:33:08].

So what the research found is that when you ask the first question, the Michigan survey question, that you will get a touch higher answers about 50 basis points or half of a percentage points higher answer than when you ask questions about inflation directly.

As you will see in one of the next figures. Also, the answers to the indirect question about consumer inflation expectation, tend to produce even higher results than the question about the price level. And here I want to point out, it's extremely important that the respondents to the survey actually understands the distinction between the price level and inflation.

So let's have a look a little bit about what in practice people tend to answer when they ask these questions about inflation expectations. So here I'm plotting the University of Michigan's Surveys of Consumers. Inflation expectations, I'm plotting the median inflation expectations. Actually, it could be the mean actually of inflation expectations. And I'm comparing this to the professional forecasters. Rob talked about Volcker disinflation, we see that at the time. For example, consumer inflation expectations decreased even more rapidly than those of the professional forecasters.

And then in the next two decades they were very, very similar. However, a distinction between those two started to emerge towards the end of the 1990s, where we see that from about 1997 onwards, there is a mark upward bias in the University of Michigan Surveys of Consumers that persists even today. We also see that consumers inflation expectations tend to be a little bit more volatile than inflation expectations of professional forecasters. As we'll see now, there is also a spike in inflation expectations that happened very recently. I'll talk a little bit more in a second.

If you compare the three measures of inflation expectation that I discussed, three different types of questions. Here are the plots over the last four or five years, and we also could see that in green line, which are the indirect consumer inflation expectations, those numbers of those reported values tend to be significantly higher than those of the other surveys. That's the New York Fed survey consumers is reporting a little bit lower numbers.

So there is difference also on how these expectations are aggregated because we are asking each individual for these expectations. And there are different ways how to aggregate these expectations in order to report the minimum. But I will not go into much of the details about this, at this talk. I'm just trying to say that it will matter how you pose the question.

I also want to show you a survey of firm's inflation expectations. At the Cleveland Fed, we administer SoFIE, which is the Survey of Firms' Inflation Expectations, where we ask the CEOs or CFOs what their inflation expectations are. And those tend to behave a little bit differently. Again, both from consumers and from professional forecasters. As you might remember, we saw that consumer's inflation expectations were quite volatile and there was a big spike at the beginning of 2025, while firm's inflation expectations did not change and they remained relatively stable over the last year and a half.

So next thing that I'm going to show you is another survey of professional forecasters that is called the Blue Chip forecasters. And here on the left-hand side of this figure, what I'm plotting is the realized PCE inflation, which is one of the measures for inflation, the one that actually the Federal Reserve is paying particular attention to. As it sets the objective with respect to this particular price index. So the objective of the FOMC is to achieve two percent inflation expectations in term of the PCE price inflation.

So what I want to show you on this figure is that there is a wide dispersion even among forecasters for the Blue Chip. So each diamond in orange that I'm showing here is ... Well, the diamonds that I'm showing here are either the top 10 or the bottom 10 averages for the Blue Chip survey. In solid line here, I'm plotting the mean forecast, but then I'm plotting the inflation expectations of those that are on the top, on the high side for inflation. So it's these diamonds here and those that are on the bottom side or on the left-hand side of the distribution of all inflation expectations for the Blue Chip forecast.

So the only thing that I'm trying to say here is that even professional forecasters disagree where inflation is heading, and these are the current numbers. Some see that it will go up and increase. Some think that it will remain ... Just slightly increase and then remain at about the same level before starting to decelerate over the next few quarters. But there is a wide disagreement among even professional forecasters.

So how are inflation expectations formed? Very quickly. They're influenced by similar factors as inflation, but we know that they tend to respond more to changes in frequency price, purchased goods. There is one fun fact here is that men tend to respond disproportionately to gasoline price changes, while women or female respondents to our service tend to respond more to grocery price changes. In particular milk prices. And that can be associated with which prices are they particularly exposed to.

And we also know that inflation expectations are correlated with other macroeconomic expectations, and that's also your lifetime experience for your age, your memory of previous episodes of inflation. If you lived through the '70s, you might have different inflation expectations, if you were born in 2000s and other socioeconomic factors are also correlated with inflation expectations.

Very quickly, just to show you some differences. I'm showing our in-house daily survey of households inflation expectations, and I'm showing you the differences between men and female. So for example, especially in the periods of more stable inflation, the research has shown that female inflation expectations tend to be higher, which could be associated with a little bit higher food inflation over the last 30 years or so. And men have a slightly lower inflation expectation.

There is also a distinction between age and I will just note here that ... Especially the older respondents, those that are age of 60 plus, they have lower inflation expectations than, for example, younger respondents or those who are in the middle age. Actually, if you look at the research, we see that the relationship within the level of inflation expectations and age is often U-shaped or inversely U-shaped. That's where older people have lower inflation expectations and we see the highest inflation expectations for those between the ages of 29 and 44.

So another distinction is here that ... They also vary across education level, and I will not spend too much time, but one fun fact that I want to show you. If we distinguish inflation expectation across political affiliation or self-reporting political affiliation. We see that those who are

identified as Republicans, those who are identified as Democrats, they had very similar inflation expectations before the election. But then after election, there is a pronounced difference. That means that overall pessimism or optimism about future economic conditions might influence your inflation expectations as well. And now I will turn to Rob to talk about Fed and what role inflation expectations have within the Feds.

Rob Rich:

Thanks, Damjan. So I'm going to turn back now to ... So the question about, how does this all fit into the policymaker and policymaking decisions? I think the first starting point for this is just, why are inflation expectations important to policymakers? Well, they actually turn out to help policymakers in terms of forecasting inflation. And also as we'll see, they also are a way to gauge whether or not the credibility of a central bank's inflation objective is being met or not.

So just to be very clear, in 2012, the FOMC and the Federal Reserve announced a two percent inflation objective in terms of PCE inflation. So if you look out at longer horizons and you look at what people's expectations are out there, the question is, are those expectations consistent with the stated two percent goal?

So again, these expectations are valuable, they help forecast inflation, but they also give a central bank an opportunity to gauge whether or not if they have in fact stated an inflation objective, is that being believed or not? That is, are those longer term inflation expectations consistent with that objective or do they differ?

So then how does the Fed then actually help control or influence inflation expectations? The Federal Reserve controls the federal funds rate and when there are changes in the federal funds rate, that directly influences inflation expectations. And what is the channel? Well, changes in the federal funds rate affect aggregate demand, which is one of the determinants of inflation. So we previously talked about demand, supply and inflation expectations. If you change the federal funds rate, raising or lowering it, that will impact aggregate demand. That will then change people's expectations of inflation.

But there's another way that the Fed can actually influence expectations, and that's just through communication policy. So we know that inflation expectations do react to media reports, particularly to unfavorable news about inflation. So as a mechanism or as a channel to influence inflation expectations, you'll see and hear about Federal Reserve presidents going out and giving speeches, making statements and other reports transmitted by any of the media to again, influence expectations beyond actually changing the federal funds rate.

And again, as we'll see now, as I'll turn, this is aimed at maintaining what are called well-anchored long run inflation expectations. So this idea of well-anchored to anchored inflation expectations has been probably in the news quite a bit, and I want to turn to going into a little bit more detail of exactly what that means.

So Damjan, if you go to the next slide please. So anchoring of inflation expectations, what does that mean? What are well-anchored inflation expectations? Well, the first bullet point I put up there is to try to give you the definition. So well-anchored inflation expectations refer to inflation expectations that are stable and consistent with a central bank's inflation objective. In essence, it's expectations that are in some sense remaining fairly steady and consistent with the central bank's inflation objective.

Now, why are those steady and well-anchored inflation expectations helpful? Well, they actually help to limit the impact of shocks. And again, these shocks are the realization of sudden, unpredictable events in an economy. So again, to go through ... I think a theme that we've been touching on at several points, if people think high or low inflation is temporary and will not be entrenched, then they are less likely to react by raising or lowering prices or asking for higher or lower wages, which could lead to more persistent inflation.

So this idea is that if you have well-anchored inflation expectations, if there's a temporary rise or inflation below what that objective happens to be, people are not going to react to it. But as we'll see shortly, and Damjan probably showed this to you earlier. Inflation expectations became unanchored during the 1970s. And that experience has proved to be a valuable lesson to policy makers. That again, goes back to that quote I showed you earlier by Paul Volcker.

So Damjan, if you go to the next slide. So I want to go through and give you a couple more quotes about expectations anchoring. And the first one is where the term anchoring came from. And it was actually from a speech that Ben Bernanke gave back in 2007. He being the chairperson at the time.

And so what chairperson Bernanke said was, "In this context, I use the term anchor to mean relatively insensitive to incoming data. So for example, if the public experiences a spell of inflation higher than their long run expectations, but their long run expectations of inflation change little as a result, then inflation expectations are well-anchored. If on the other hand, the public reacts to a short period of higher than expected inflation by marking up their long run expectation considerably, then expectations are poorly anchored." So again, this is trying to get at the idea of, how are people reacting, whether or not their expectations are essentially remaining stable and steady, or whether in fact those expectations are moving in response to the current environment.

And one more quote, and this is something to show you. Again, something very relevant and very recent. Here's a quote from Chairperson Powell at the end of July of 2025. "Near term measures of inflation expectations have moved up on balance over the course of this year on news about tariffs, as reflected in both market-based and survey-based measures. Our obligation is to keep longer-term inflation expectations well-anchored and to prevent a one-time increase in the price level from becoming an ongoing inflation problem."

So again, the idea that when shocks or events hit the economy and move inflation, the idea is to try to make sure that people don't incorporate this into their behavior over a longer planning horizons. Okay, Damjan. Go to the next slide. So I'm going to finish up with a couple pictures here to again, perhaps put more of a historical picture here to give you a sense of what happened in the US. And this is a picture of three measures of inflation.

So in green is long run inflation expectations. This is the 10-year CPI expectations, which is essentially asking people at a point in time in the survey, what do you expect inflation to be over the next 10 years? The blue line is total or headline CPI. And then the red line is something called core CPI. It's a measure of inflation that strips out food and energy prices. And the point I want to make here is looking at this picture, which goes back to roughly the late 1960s. I want you to ... If you could draw an imaginary vertical line in 1995 and look at the behavior of the three series on the left side of that and the behavior of the three series on the right.

And what I'd like to try to emphasize and draw your attention to is, notice that on the left side of that 1995 point of demarcation, notice how long-term inflation expectations were rising during

the '70s and then declining during the '80s. And then if you look at the blue and the red, what you'll notice is headline inflation was rising, but with inflation expectations moving up, the difference between the blue and the red lines are essentially food and energy shocks. The blue line was moving up, but notice that the red line tended to move up and follow the blue line.

And so what you saw was when you had food and energy shock sitting in the '70s that was being incorporated or passed through to other non-food and energy items. And then of course, what you see starting in the early 1980s is the Volcker disinflation. You see the sharp drop in inflation, you see inflation expectations moving down, and then you tend to see the two series again moving down with headline inflation moving lower and core moving in tandem with it.

But if you look on the right-hand side of that 1995 marker, what you'll see is how steady inflation expectations became. And the key point I want to emphasize here is, notice the different relationship between the blue and the red line. Even though headline inflation is moving around long-term inflation expectations, you generally don't see the red line moving as much. And that again, is getting at the idea that when you have food and energy shocks hitting the economy, but people's expectations are well-anchored, then you're not going to see that feeding into core inflation.

So again, the illustration is ... The idea here is that the blue line is moving back and forth, the red line is tending to move much less, and again, that's a consequence of those inflation expectations remaining fairly steady.

The last slide that I'll talk about here is to then think about what happened during the pandemic. Again, this will be somewhat repetitive, but again, the key emphasis here is how policymakers during the pandemic looked at inflation expectations and use that information to help them think about how they should respond. And so what I have here in green is the quarterly annualized change in PCE inflation. And then I have two different measures of inflation expectations. A measure of what people thought the inflation rate would be over the next five years, and that was in orange. And then in blue you have something that's described as a five-year, five-year forward inflation expectation series.

So what does that mean? You're asking people what they think the average rate of inflation will be over a five-year period starting five years from now. So unlike the orange line, which is, what do you think inflation will be over the next five years? The corresponding blue line is, what will inflation be ... What do you expect inflation to be over a five-year period starting five years from now? And the key takeaway from this is to note, that we did see five-year PCE inflation expectations moving up during the pandemic, that yellow or orange line moving up. But notice how the five-year, five-year forward measure didn't move at all. And the way that policymakers then interpreted this is, "Yes, we did see some near-term or short-run inflation expectations moving up, but the fact that we didn't see the five-year, five-year forward or these longer-term expectations moving in tandem." They viewed as being evidence that in fact they did not think that the inflation was going to be persistent or in some sense stay persistent and be long-lived.

So this is one way that policymakers viewed the inflation dynamics during the pandemic is indicating that for the most part that was going to essentially pass. And so with this, I'll pass it back to Damjan, who maybe have some time to very quickly run through either resources or perhaps we can go and take some questions.

Damjan Pfajfar:

Yeah, I'll just very briefly say that ... As I mentioned before, we have a lot of resources on our websites and you have different inflation expectations. You can see what others think about what inflation will be. We have surveyed inflation expectations. We have models that would now cost what inflation currently is or will be in the next month. There is plenty of resources on our website. Go visit. We have simple explanations about inflation expectations about what inflation is, why the Fed is targeting two percent inflation and so on. So all this information you can get on our website.

I will also point out that we have a number of indicators on our website about inflation expectations from financial markets, households, and firms. Before you make any important decisions, do check what others think about what inflation will be. Thank you. We'll go back to Chuck. Yeah.

Chuck Soder:

Yes, thank you folks. We don't have too much time, but we will get in a few questions. One actually that just came in, and I'm going to start with this one because it was a question on my mind as well. How do you think central bank's communication strategies influence the short-term versus long-term inflation expectations and is that important for monetary policy effectiveness?

Rob Rich:

That's a great question. I'll go first and just very quickly just mention a few things. Part of this is then the communication strategy is to ensure that if there is some shock hitting the economy. Those communications again, are probably trying to do their best to keep long-term inflation expectations from moving. And the implications for monetary policy effectiveness is the following, when in fact, long run inflation expectations are very stable in some sense the Fed doesn't have to do as much to see inflation return back to what its objective is going to be.

So one of the benefits of having very stable, long run inflation expectations is that you don't really have to think about ... In the case of inflation going up, you don't necessarily have to think about raising the federal funds rate as much, in some sense because long run inflation expectations are acting as an attractor and helping to then eventually pull inflation back down. So it's a very important point.

And again, the idea that when things are happening in the economy, communicating this to the public, but with the idea of trying to keep those long-term inflation expectations steady and around the inflation objective.

Chuck Soder:

Okay, a couple questions on this next topic. We're going to combine them. What impact have tariffs had to the extent that we can tell on inflation expectations?

Damjan Pfajfar:

Yeah. So I can speak a little bit about that. First of all, this is difficult to make a causal relationship with inflation expectations and tariffs. And we are doing some research currently on that topic. Generally we see that around the tariff announcements, inflation expectations have increased because people have start thinking that most likely tariffs will result in higher prices.

And when enough prices become higher than as Rob explained at the beginning of the talk, this will result in inflation. It could be said that it's likely that inflation expectations increase when the tariffs were announced, as people were expected that prices of goods ... At least prices of goods will go up. Yeah.

Rob Rich:

So I'll just add to that just very quickly. One of the things that I hope that quote from Chairperson Powell was trying to say, Chairman Powell was trying to say was in fact the Federal Reserve was very cognizant of the fact that those tariffs were acting as a supply shock. And the whole idea was to try to prevent that supply shock from becoming ingrained in people's expectations and then having people act upon that.

So again, by that particular speech and communication, the idea was try to maintain expectations that we were aware of the fact that tariffs, but to try to make sure that those effects were not going to become entrenched in people's behavior and their expectations.

Chuck Soder:

Got you. I'm going to try to get to two questions before we cut it off. And so we'll consider them lightning ground. So consumer expectations, regular people, somebody asked if you can compare them to actual inflation, and I'm pretty sure they run a little bit higher than actual inflation. So maybe you could also talk just a little bit about why that is and if it even matters. Maybe they can run a little bit higher without having a big negative impact, but I'll turn it over to you.

Damjan Pfajfar:

So yeah. Perhaps, I can start with that. So as you saw in one of my figures that I show, is especially in the last 20 years or 30 years, we see that consumer inflation expectation on average did run a little bit higher. However, the bias in inflation expectation, that is the difference between inflation expectations and the realizations of inflation one year after. If we're talking about short run inflation expectations, it depends on the number of things. It depends on your social demographic status.

So we see that those more educated, those with higher income tend to have inflation expectations that are closer to the actual inflation. It will depend on your reform-ness about inflation in the public. Those that observe news tend to have somewhat better inflation expectations than those who have not observed news on inflation. It will depend on the number of things. We also know that before you make a big purchase, people do tend to look up what inflation is, and those tend to be a little bit better informed, which is good news for the consumers and for their economic decisions.

So those who have more skin in the game, they tend to have a little bit better inflation expectations, but it will also depend on the overall optimism or pessimism regarding the future economy and on your shopping baskets. So whether those goods that you are often buying, they experience recently higher inflation. It will depend on your inflation experiences and many other things and many other factors.

Chuck Soder:

And lastly, before I get into the basic ending, tell me one memory or history point that can paint the picture of the 1970s, when inflation expectations were much higher. Was there something that ... A little piece of history that could illustrate for people how it can affect everyday life.

Rob Rich:

Well, Chuck. Speaking from personal experience from the 1970s, which I don't know is a good or bad thing. The response during the 1970s, for example, there were a variety of them, but let me just go through some of them. You saw greater use of indexation that people use to try to protect their cost of living. You also saw firms then adjusting prices more frequently, rather than changing them at the regular rate that they happened to be. And again, this also then went into their decisions in terms of what they were asking for in terms of increase in wages and things along those particular lines.

So the 1970s was again, bad experience, the high inflation environment generated marked changes in both institutional behavior and also in people's expectations. And again, as I said, just to close this out. In spite of it being almost 45 to 50 years ago, that particular episode is still very valuable and something that policymakers around the world still think about and try to avoid, simply because bringing inflation down from those levels was extremely costly in terms of unemployment and the recessions that went with it. Thanks for flashing me back to the '70s there, Chuck.

Chuck Soder:

Yes. Right, right. Yes. No bell-bottoms involved this round. Anyway. Guys, thank you for the informative discussion. In the chat, you're going to see a link to a post-session survey. Please fill it out and we invite you to take a moment to complete it and share your feedback.

Information on today's program will be sent in a follow-up email. There's going to be video, there's going to be an audio recording of the event at clevelandfed.org/fedtalk. You can listen to this and other Fed Talk programs wherever you get your podcasts as well by listening to the Fed Talk podcast. And we're going to have another session, another Fed talk coming up in November. November 5th at 3:00 PM. We're going to discuss regional business outlook and trends survey.

If you want to make sure you get updates on that Fed Talk and future ones, go to clevelandfedtalk.org/fedtalk. Not TED Talk, Fed Talk. Subscribe and get the updates. And thank you everyone for joining us today.

Rob Rich:

Thank you.