2025 College Fed Challenge: Pace University Presentation
Federal Reserve Board

SURAJ SHARMA. Good afternoon and welcome to our discussion on an unbalanced dual mandate in monetary policy. Today, we will be discussing how the Federal Reserve should achieve its goals of maximum employment and price stability in the context of sluggish output growth, a deteriorating labor market and above-target inflation. We will first begin by examining the state of broader macroeconomic conditions by analyzing output, the labor market and price stability, and then assessing the state of the financial system to guide us in determining the appropriate monetary policy.

GIANNA BECK. Starting with output, real GDP grew modestly over the first half of this year and came in below the Fed's estimate of potential growth. This suggests weakening output.

BROOKLYN BYNUM. Underlying trends such as real final sales to domestic purchasers, which excludes volatile elements such as inventories and net exports, also declined over the same period, further suggesting overall growth will continue to slow.

ALEX TUOSTO. It is important to note that the Congressional Budget Office suggests sharp decreases in immigration have reduced the growth of the labor force and, therefore, the growth of potential GDP. This indicates actual growth may be in line with new estimates of potential.

GIANCARLO RASPANTI. However, at the same time, the unemployment rate has risen above the Fed's estimate of its natural rate. According to Okun's law, unemployment above natural must mean output growth is below potential. This indicates, even despite the drop in potential GDP, actual growth is still weak.

ALEX TUOSTO. Within GDP, part of the growth in Quarter 2 came from consumption, which makes up 70 percent of output. Consumer spending was driven mainly by wealth, particularly in housing and the stock market, which continued to grow relative to income.

GIANNA BECK. However, consumer confidence and sentiment levels are historically low, emphasizing consumer caution on economic health. Additionally, consumption is constrained by a fall in real income, partly due to tariffs inflationary effects, leaving less room for households to spend. Due to these developments, consumption growth is expected to slow.

SURAJ SHARMA. Investment was also a tailwind to growth over the first half of this year. However, as noted by Chair Powell, much of the growth in nonresidential investment came from artificial intelligence and computers, even though these sectors are only a small share of overall GDP. This suggests growth in nonresidential investment is likely to remain strong in the near term but is unlikely to last as the AI sector matures.

BROOKLYN BYNUM. Additionally, residential investment faced two consecutive quarters of negative growth. Leading indicators remain low and the 30-year mortgage rate remains historically high. This suggests residential investment continued to pose headwinds to overall growth.

GIANCARLO RASPANTI. After declining in the first quarter in anticipation of tariffs, net exports surged in the second, contributing significantly to growth over the first half of this year. Given that exports are expected to stabilize after tariffs settle in, we do not expect them to contribute notably to growth moving forward.

ALEX TUOSTO. Rounding out the picture of output, the CBO projects government spending will not support growth over the next several quarters.

GIANNA BECK. Conclusively, in the medium term, where the Fed's policy has its largest effect, indicators of consumption and investment suggest overall growth is not likely to continue. That, combined with new tariff policy, leads us to view the balance of risks as tilted towards the downside.

SURAJ SHARMA. Contributing to the downside risks to output is a deteriorating labor market. Monthly growth in nonfarm payroll employment has declined steadily since the beginning of this year, with notable downward revisions. As Governor Waller notes, while the breakeven rate needed to hold the unemployment rate constant has fallen due to declining immigration, the recent dismal jobs numbers cannot be explained by supply side changes alone, indicating we are definitively below breakeven.

BROOKLYN BYNUM. Over the past year, the U-3 unemployment rate hovered around the SEP's projection for its longer-run natural rate and now slightly exceeds this estimate. The U-6 rate, which captures those marginally attached to the workforce and people working part time for economic reasons, increased as well, signifying broader labor market cooling.

GIANCARLO RASPANTI. Looking at demographics, unemployment gaps were historically narrow, a welcome sign considering full employment is a broad-based and inclusive goal. However, the recent rise in unemployment was most pronounced amongst persons of color and the less educated. Maintaining this restrictive stance of policy for longer than necessary risks undoing the progress made on reducing longstanding disparities in distributional labor market outcomes.

GIANNA BECK. Taking a deeper look into labor supply, the prime-age labor force participation rate, an indicator of underlying labor supply trends, has stagnated while overall LFPR has declined notably over the past year. This decrease in labor supply is due to stricter immigration policy as the participation rate of foreign-born workers exceeds that of U.S.-born workers.

ALEX TUOSTO. The decreasing labor supply has coincided with decreasing labor demand. While initial claims a leading indicator of unemployment remained low, the hiring rate has slowed significantly. Additionally, the quits rate and job openings for unemployed persons ratio are steadily declining, indicating future continued deterioration of the labor market.

SURAJ SHARMA. This fall in vacancies and weakening labor demand may indicate an inflection point on the Beveridge curve. Currently, we are descending towards a flatter portion of the curve, meaning we expect any further declines in the job opening rate to now be met with higher rates of unemployment.

BROOKLYN BYNUM. Labor market weakening as evident through slowing payroll growth, falling labor supply and demand, and an inflection point on the Beveridge curve, lead us to view the balance of risks as tilted towards the downside.

GIANCARLO RASPANTI. Despite a cooling labor market, the other leg of the Fed's dual mandate, defined as 2 percent growth in the annual headline PCE measure over the long term, has remained above target. Twelve-month headline and core PCE, which strips volatile food and energy components to determine underlying trends, appear to have stalled.

SURAJ SHARMA. Shorter dated annualized measures, which provide more timely and relevant signals of recent underlying trend inflation, have also stagnated above target since the beginning of this year. Specifically, three-month core PCE has increased above its six-month measure, indicating inflation has recently accelerated. These trends are further confirmed in the CPI.

ALEX TUOSTO. The recent upward pressure on inflation is largely attributed to core goods due to recent tariff policy. This is made more visible in the core PCE measure as durable goods make up a greater share of spending in this index.

GIANNA BECK. However, supply side factors, such as tariffs, are not influenced by monetary policy. Therefore, tariffs may be a temporary source of upward pressure on inflation and not a long-term trend, which is more important for policy given its long and variable lag.

BROOKLYN BYNUM. As noted by Chair Powell, core services have not contributed as much to recent inflation, indicating the Fed's contractionary stance is having its intended effect when excluding the impact of tariffs.

GIANCARLO RASPANTI. Additionally, housing inflation, which makes up a large component of core services, is likely overstated as the standard BLS measure reflects lease assigned months ago. If PCE reflected current housing demand through new rental contracts, core inflation would be lower, as shown by the Penn alternative inflation measure.

ALEX TUOSTO. Looking at inflation demographics by race, Hispanic and Black Americans have experienced higher inflation, while Asian or Pacific Islander and White Americans have experienced lower inflation relative to the average. High inflation magnifies disparities in price increases faced by varying groups of people, emphasizing the need to facilitate an economy that works for everybody.

SURAJ SHARMA. As noted in the Phillips curve relationship, actual inflation depends partly on expected inflation, which guide wage and price setting. Currently, short-term market and survey-based inflation expectations are elevated above target due to tariff uncertainty. If these expectations stay above target, actual inflation may rise.

GIANNA BECK. Long-term market and survey-based inflation expectations have remained well anchored throughout recent periods of excess inflation, showing trusted forward guidance and, thereby, enhancing the committee's ability to achieve its dual mandate, even in the face of significantly high inflationary disturbances.

BROOKLYN BYNUM. It is important to note that high wage growth has not yet manifested into higher price inflation due to the growth in productivity. Considering productivity growth is inherently volatile, elevated short-term inflation expectations could soon put upward pressure on wages and, therefore, price inflation.

GIANCARLO RASPANTI. With shorter dated annualized measures above target, tariff policy, increasing goods inflation, rising short-term inflation expectations and unreliably volatile productivity growth, we view the balance of risk as tilted towards the upside.

GIANNA BECK. Let us now assess the state of the financial system, since financial conditions transmit monetary policy to the real economy. Nominal short-term rates are elevated and real long-term rates, which directly influence investment, remain historically high, tightening conditions.

ALEX TUOSTO. But other elements of financial conditions have loosened considerably. The exchange rate has fallen due to greater policy uncertainty in the U.S. while credit spreads mean narrower than their pre-COVID levels.

SURAJ SHARMA. Additionally, asset prices remain elevated, stock prices are high relative to earnings and housing prices are high relative to rents. These elevated asset prices are easing financial conditions through the wealth effect, but these conditions only transmit monetary policy to the real economy if the financial system is stable. These notably high valuations relative to fundamentals increase the risk of an outsized price correction, risking financial instability and weak transmission of monetary policy.

BROOKLYN BYNUM. Another potential vulnerability is leverage in the financial sector. Leverage has been on a declining secular trend and tier 1 capital as a share of risk-weighted assets has risen to historic highs, indicating increases in loss-absorbing capacity. These developments lower the risk that market shocks will cause fire sales and falling asset prices.

GIANCARLO RASPANTI. Similarly, excess borrowing risks remain moderate, household delinquencies have fallen and interest payments as a share of income remain low by historical standards. On the non-financial business side, interest coverage ratios suggest robust debt servicing capacity, reflecting resilient earnings and healthy balance sheets.

GIANNA BECK. Lastly, funding risks are modest. The share of uninsured deposits remain below pre-COVID levels, ensuring most American deposits are safe in the event of a shock. Furthermore, short-term borrowing by nonbank financial institutions also remains near pre-COVID levels, suggesting they are not notably exposed to outsized runs.

ALEX TUOSTO. Despite mixed financial conditions and vulnerability in high asset prices, we view the overall financial system as stable and able to provide credit access to market participants in the event of adverse shocks.

SURAJ SHARMA. With sluggish output growth, a deteriorating labor market, above target inflation, varied financial conditions and a stable financial system, how can we use our analysis and assessments to determine the appropriate monetary policy?

BROOKLYN BYNUM. We should start by noting that current policy is relatively tight. Currently, the real effective federal funds rate is notably above short-run r-star and long-run r-star, which excludes short-term headwinds and tailwinds. This would explain the deterioration of a once tight labor market.

ALEX TUOSTO. It is important to note that inflation has stalled well above target as seen through shorter-dated annualized measures and despite the contractionary policy level. Additionally, tariff policy continues to put upward pressure on expected and overall inflation as noted by Chair Powell. Tariff policy acting like a supply shock has led to an upward shift in the Phillips curve, where now the same level of unemployment is met with a higher rate of inflation. Perhaps the continued contractionary policy level is appropriate.

GIANCARLO RASPANTI. However, when looking through the effect of tariffs by only analyzing core services, we see that they are no longer contributing as much to inflation. This suggests if tariffs are to be a transitory phenomenon, monetary policy can look through their temporary inflationary effects.

SURAJ SHARMA. While we do recognize the upside risks to price stability, we have to consider the other leg of our dual mandate. Even though the unemployment rate has only seen slight upticks, falling immigration clouds the health of the labor market. As both labor supply and demand fall at the same time, any weakening in labor demand is being masked by declining supply. Evidence of this is the unemployment rate only increasing at the same pace as 2024 even though we're adding far fewer jobs. As Chair Powell notes, this unusual situation suggests downside risks to the labor market are rising. And, if those risks materialize, they can do so quickly in the form of sharply higher layoffs and rising unemployment.

GIANNA BECK. Evidence of these downside risks materializing can already be seen through payroll numbers rapidly decelerating since the beginning of this year with current payrolls printing well below breakeven. These developments indicate an inflection point on the

Beveridge curve, for any further declines in the job openings rate were met with higher rates of unemployment. Additionally, concerning labor market risks are supported by significant slowdowns in the quits rate, job openings per unemployed ratio and the hiring rate.

BROOKLYN BYNUM. Therefore, we aim to have the EFFR to be roughly 3.6 percent by year end with a further .2 percentage point decline over 2026. This is in line with solid GDP growth over the next several years. It is also in line with the unemployment rate returning to natural over the medium term. And, lastly, we project headline PCE will rise in the near term before falling and hitting 2 percent in 2028.

ALEX TUOSTO. Before deliberating policy alternatives, we should note that the Fed has reduced its holdings of Treasuries and mortgage-backed securities through quantitative tightening over the past three years, with the goal of returning from an abundant to an ample reserves regime without distorting the market for long-term fixed income securities.

GIANCARLO RASPANTI. Because the data does not all point in one direction, we should consider two policy alternatives when fulfilling our dual mandate. Our first option is to hold the target federal funds range at 4 to 4.25 percent, whereas our second is to cut the target federal funds range to 3.75 to 4 percent. For both recommendations, the pace of QT remains unchanged as it permits the continuation of our transition from abundant to ample reserves.

SURAJ SHARMA. Given our analysis and assessments, the committee chooses policy option B, lowering the target range 25 basis points and continuing the current pace of QT. While there is uncertainty surrounding tariffs and inflation, there are currently definitive signs of a deteriorating labor market. Conditions could rapidly weaken further making it important for the FOMC to not risk falling behind in setting the appropriate monetary policy. Therefore, we view the dual mandate as unbalanced where potential upside risks to price stability are outweighed by the materializing downside risks to the labor market.

ALEX TUOSTO. But less contractionary policy level would be better prepared to respond to developments in either leg of the dual mandate given above-target inflation and a deteriorating labor market. In communicating our decision to the public, we will emphasize that policy is still restrictive and that will remain attentive to risks. Thank you.

MATTHEW LUECKE. Thank you for your presentations. We wanted to focus in a little bit on something that you covered related to the labor market. We've seen monthly job gains move sharply lower this year relative to last year's period while, at the same time, the unemployment rate has moved up only a bit. How are these observations consistent and what are the implications do you think to the monetary policy?

BROOKLYN BYNUM. So, right now, we're seeing a fairly consistent unemployment rate and far fewer job gains. As my colleague mentioned, Waller stated that this was definitively below the breakeven number of job gains. The reason we're seeing this is because there's a fall in labor supply that is masking the weakening in labor demand. This fall on labor supply is due to a number of different reasons, for example, an aging workforce, of stricter immigration policy, so this is making it more difficult to assess the health of the labor market and making it so the Fed has to look more deeply into labor demand trends to see where the labor demand is.

SURAJ SHARMA. Yes. And it's also important to note that we do speculate that labor demand is falling faster than labor supply. Therefore, falling job gains and increasing unemployment does make sense in the current context, especially considering the most recent jobs report where we saw that the unemployment rate has now ticked up to 4.4 percent. That's .2 percentage points above what the SEP projects is natural at 4.2. So it does make sense that if labor demand is falling fast in supply and we see that job gains are below the breakeven number, that the unemployment rate would continue to rise. The only time the unemployment rate would remain stagnant is when job gains would match the breakeven rate. And, in that case, you would not see a rise in unemployment or a fall.

GIANCARLO RASPANTI. And, just to emphasize, we do believe that this is a big component of labor demand falling. As Governor Waller noted in a recent speech of his, a lot of business contacts have noted that hiring is not as encouraged by these businesses, they're not as gung-ho to go hire workers. And this means that, although we are seeing a fall in labor supply, this is a largely labor demand issue where businesses aren't going out to find these workers. And this is coming up, again, in qualitative data sources such as these business contacts. So this is why it may be important for monetary policy to respond to these developments because, although labor supply is masking this decrease in labor demand, it's something that you could see through servers of the economy itself.

ALEX TUOSTO. Additionally, we have seen labor demand indicators such as the vacancies per unemployed ratio, the quits rate and the hiring rate slowing, declining over this year, signifying, as my colleagues mentioned, that there is a broader labor market cooling and that we are seeing a falling labor demand within the economy.

KAREN PENCE. Thank you for that very helpful analysis. Two-part question on financial markets, financial conditions and financial stability. How should policymakers take into account signals of financial markets, you know, such as the stock valuations and credit spreads you referenced, when deciding on the appropriate stance of monetary policy? And the second part. If changes in financial markets have different implications for monetary policy and financial stability, how should policymakers weigh the tradeoffs?

GIANNA BECK. So I'd like to start by talking about the stock valuations that you've referenced. Currently, we are seeing that asset prices are high relative to fundamentals as through Robert J. Shiller's CAPE ratio. And the reason this is important for monetary policy is because, currently, the top 10 percent like of wealth, people who hold wealth, are driving consumption and they have a lot of their wealth in the stock market. And so, if we were to see a drop in these asset valuations, this could mean that they've gone to consume less because of the wealth effect, and so this causes a fall in consumption, a fall in output and, if output falls below potential, we would see a fall in inflation, which is important because we have our dual mandate of price stability the Fed needs to be like conscious of.

SURAJ SHARMA. It's also important to note that President Jeffrey Schmid, in his most recent dissent with the recent FOMC meeting, had noted that financial conditions are showing that perhaps we aren't modestly restrictive if you look at estimates of r-star. So you mentioned how should we look at the signals of financial conditions. Well, it's important to look at what they're doing. Currently, we see that equity prices are at all-time highs, high yield corporate bond issuance at also very high and credit spreads are narrow. But it's also important to note that credit -- excuse me, financial conditions aren't directly affected by one particular thing, like monetary policy or a change in rates, there are a variety of factors that go into things like a stock price, for example. The Gordon Growth Model estimates things like GDP, the real interest rate, of course, amongst dividend payouts and other factors that go into a stock price. Same thing with credit spreads or high yield debt issuance, sometimes there are factors that affect the economy, of course, that monetary policy cannot directly control. So financial conditions play a role in indicating to us how contractionary or expansionary we are, but, certainly, not the defining benchmark. That's why we use estimates of r-star and other indicators at the Fed to ensure that we have a holistic view of the economy and not one that's being given to us by a particular set of financial markets.

ALEX TUOSTO. And, additionally, just to touch on the second point of how do policymakers actually weigh their decisions and the balance of trade-offs, it's important to note that, as my colleague previously mentioned, the Fed targets their dual mandate of maximum employment and price stability. Now, they don't essentially target asset prices and, although they are high relative to fundamentals, it's not something that they seek to really change. It's just a matter of monitoring any underlying risks, excuse me, and responding accordingly to when they are to come into the scope of the dual mandate.

SURAJ SHARMA. Additionally, I think it's also important to note that, when we look at financial stability, the Federal Reserve monitors financial stability in when it conducts monetary policy. Financial stability itself is defined as being able to channel credit access to market participants in the event of an adverse shock as cited by the most recent Financial Stability Report. The reason why we state that is because, if the financial system is stable, a change in rates and monetary policy would not influence the credit access to market participants in the event of said shock. Therefore, when we're evaluating the tradeoffs of different implications on financial markets, of course, we look at financial stability, we look at the tradeoff between the dual mandate, which can directly be seen through things like the Phillips curve and indirectly through a variety of indicators, and then we use all the assessments to come to a more holistic and appropriate recommendation for our policy.

FRANCISCO VAZQUEZ-GRANDE. Thank you very much. I was interested by -- in your two options, do you have the same advice for the balance sheet policy? I was curious to see which data points made you change your recommendation and if you could elaborate a little bit of how did you reach the conclusion that you have [inaudible].

SURAJ SHARMA. Absolutely. It's first important to note that we submitted the presentation before we saw upticks in money market rates, before we saw a variety of indicators that showed that we were approaching an ample reserve regime, which is defined as a change in level of reserves, not materially -- excuse me, yeah, not materially affecting money market rates, but allowing for technical adjustments. However, some data points we would change is currently the ones we're observing. Right now, one of the data points is the difference between the IORB, Interest on Reserve Balances rate. This is the rate paid out to banks to hold their cash in the reserve balance accounts at the Fed and SOFR, the Secured Overnight Financing Rate, which is the volume-weighted median of all the different interest rates charged in repo markets on any given business day. And the reason why that spread matters is currently the IORB is 3.9 percent, whereas SOFR is printing at around 3.98 percent. That is a positive eight basis point difference. And the reason why it matters is Dallas Fed President Lorie Logan states, the Fed should not have -- or aim to have money market rates above an administrative rate, like the IORB, asked to not put excess pressure on funding markets and, therefore, excess upward pressure on borrowing costs. So, if we follow her advice, it's clear that we are not closer to a level that we deem as ample and this spread continues to widen even on non -- excuse me, on Treasury settlement auction days. So, even when you account for the temporary drainage in the levels of reserves on those days, there is still demand for liquidity, indicating that we are at ample. And so we would now change recommendation to say stop the balance sheet runoff.

BROOKLYN BYNUM. Additionally, we're seeing upticks in the effective federal funds rate, which is the volume-weighted median of all transactions within the federal funds market.

This has ticked up from roughly five to seven basis points below -- or in between the ONRP and the IORB, much closer to the IORB, which is only a two basis points spread as we are currently. So this is due to a variety of different reasons. One of which is that there's an increased amount of domestic banks that are borrowing in this market. Usually, the main borrowers in this market are domestic branches of foreign banks as they don't have to pay FDIC fees on any of their transactions in this market. So this is why we're seeing an increase for reach for liquidity in this market and, in addition, to why we would stop the pace of QT instead of just continuing to slow it, as we said in the presentation.

GIANNA BECK. Additionally, we're seeing an increase in SRF usage on non-settlement days. As my colleague noted, settlement days are when Treasuries are issued and banks buy them. So we would expect a drain in reserves during that time because they need that money to buy these treasuries. However, we're seeing banks use an increase in the SRF when there's not settlement days, meaning that they need this liquidity for day-to-day transactions, which is an indication of liquidity pressure, which is another reason maybe they may want to stop the pace of QT.

ALEX TUOSTO. Additionally, on the topic of the standing repo facility, Dallas Fed President Lorie Logan also notes that we have seen participants in the money market -- in money markets borrowing at rates higher than that offered by the SRF. Essentially, this is just indicative of liquidity pressures in money markets. But financial participants don't want to get a stigma effect that's associated with going to the standing repo facility. So, essentially, we're seeing a need for liquidity, but also a, I guess, disdain with letting other participants know about strained liquidity situations.

GIANCARLO RASPANTI. And, just as a final note about how the Fed will be conducting its balance sheet policy, because of other non-reserve liabilities, such as the Treasury general account or the growth in currency, we could see a passive drain of reserves from the system. And, given that we are much closer to ample than we originally anticipated with our QT policy, it may be more prudent for the Fed to now stop the pace of quantitative tightening and conduct reserve management purchases where they can go into these secondary bond markets and purchase maybe shorter-dated treasury securities that are more frequently issued in order to replenish reserves in the system, ensuring that we don't go into a scarce reserves regime, which could create unnecessary liquidity pressures across financial markets and make it very hard for monetary policy to translate into the real economy effectively.

FRANCISCO VAZQUEZ-GRANDE. Thank you very much.

THOMAS LUBIK. All right. That was very clear. Thank you. I have two follow-up question. One is very short, so please only one answer. On one of your slides on your outlook, you produced a forecast, your own projections. So how did you do the projections?

BROOKLYN BYNUM. So we looked at the Summary of Economic Projections that the Federal Reserve publishes after every other meeting, we looked at their forecasts for the future, a few years. And, for the quarterly estimates, we -- for GDP, for example, we saw that over the first half of this year GDP grew at 1.6 percent and the Fed estimates that GDP will grow 1.6 percent for the rest of this year, so we just carried that over for the next few quarters. So we did a similar process for the other rates, we just took the average of what it would be over those years and projected it onto those graphs.

THOMAS LUBIK. Thank you. So now a slightly longer question. R-star came up a few times in your presentation and you mentioned a difference between short-run r-star and long-run r-star. So can you please distinguish between these two, define them, and what is their relevance for policy and what are the determinants short run versus long run r-star?

SURAJ SHARMA. Absolutely. So short-run r-star -- well, first, r-star is the real neutral rate at which policy is neither contractionary nor expansionary. Shor-run r-star includes economic developments, like headwinds and tailwinds, whereas long-run r-star is simply this intersection between the supply of savings and the demand for investment as cited by the Bank of England in 2015. The reason why it matters is we can use short-run r-star to determine how expansionary or contractionary our policy is. And we can use long-run r-star to determine how much space monetary policy has to be expansionary in the event that we are constrained by the zero lower bound. To better explain this, the Fisher equation states that the real interest rate equals the nominal interest rate minus inflation expectations. Assuming the nominal interest rate is zero, the real interest rate can really only ever be negative 2 percent assuming we'll anchor inflation expectations, which is what we call the effective lower bound or real rate of negative 2 percent. If the real -- short-run real interest rate is -- excuse me. So negative 2 percent is the effective lower bound. And then long-run r-star, let's assume it's 1 percent right now. That means we have between negative 2 percent and 1 percent to be expansionary, which isn't a lot of space. So, if long-run r-star rises and it goes to 2 percent, for example, now we have between negative 2 percent and 2 percent, four percentage points of expansionary policy that we can count on if we're constrained by the zero lower bound. So those are the differences between the two.

BROOKLYN BYNUM. And -- you go.

GIANCARLO RASPANTI. And, to just address your -- the other part of your question about the determinants of something like short-run r-star, this is something that is, as we said before, impacted by short-term headwinds and tailwinds in the economy, and we've seen some recent upward pressure in r-star. One of the reasons for this is the growth in productivity we've seen from things such as AI, for example. This has been noted by Governor Cook in one of her more recent speeches. And the breakdown of this is, if AI were to increase productivity gains, you would see a greater return on investments in the United States, which could increase the demand for investment. And, as my colleague mentioned before, this is an intersection point between investment demand and the supply of savings. If we see a rightward shift in the investment demand, this will put upward pressure on this real neutral interest rate and this is currently what we're seeing in the economy given those productivity gains.

ALEX TUOSTO. Another short-term headwind to overall r-star -- or, excuse me, tailwind rather putting upward pressure on r-star is the widening fiscal deficit. Now, essentially, as the government needs to borrow more to, you know, fund this deficit, it's going to be a short-term economic tailwind to aggregate demand, essentially just -- I don't want to say artificially propping it up, but giving it a little boost in the short term. So this is -- now, for the same economy that we're currently in, we would have to have a higher neutral rate -- a higher real rate to be neutral, excuse me. So that's another determinant I'm sure on r-star currently.

KAREN PENCE. I'm trying to see if you're about to put up the stop. Thirty seconds. I'll give you speed question. What would have to change for you to think inflation was a bigger problem than the labor market?

GIANCARLO RASPANTI. If we did see that, for example, tariff policies have been placing upward pressure on actual inflation, if we saw a de-anchoring of inflation expectations, this could lead to a response from the Federal Reserve as this could harm their credibility in their ability to achieve their price stability portion of their dual mandate. So, if we saw upward pressure on these longer-term expectations, we might want to consider responding to inflation developments more sharply.

JUDGE. Thank you very much.

STUDENT. Great, thank you.

STUDENT. Thank you so much.

STUDENT. Thank you.