Transcript
Fed Talk: A New SORCE: Timely Insights into the Region's Economy
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Presentation

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Stephan Whitaker:

Good afternoon. Thank you for joining us, and welcome to today's *Fed Talk*. I'm Stephan Whitaker. I'm a senior policy economist at the Federal Reserve Bank of Cleveland. And for those of you who haven't attended a *Fed Talk* before, this is our speaker series in which we share research that's relevant to our community. So, some past recent events have covered subjects such as small businesses as economic drivers, safety, and soundness of banks, and research on closing the skills gap. All of our past events, and upcoming events can be found on our website clevelandfed.org. Today's program is going to introduce, and give a lot of background regarding the SORCE indicator, and this is a newly released measure of economic activity in our district, and SORCE stands for Survey of Regional Conditions and Expectations. So, we're going to hear about how we find our business contacts, how we engage with them throughout the year, and then specifically we're going to talk about the eight surveys that we conduct each year, and then the indexes that we calculate that summarize the survey responses, and how those can be of use to you now that they're publicly available.

So, I'll cover a few housekeeping items before we begin. We usually have a pretty good-sized audience, so we're not able to have your audio, or video on, but we do encourage you to put your questions in the chat, and at the end of the program, we've reserved time for question, and answer, and we'll try to answer as many of those questions as we can. If the Zoom app drops off for any reason, there's also a dialing number that you can find in your invitations, so you can call, and hopefully continue to follow should there be any technical problems.

So, before we begin the program, I have to remind you that any views expressed today by myself, or any of the panelists, they're our views only, and not necessarily those of the Federal Reserve Bank of Cleveland, or the Federal Reserve System. So, the three panelists that we have today are Russ Mills, who's our regional executive officer at the Pittsburgh branch. Then Brooke Dirtzu, who's an economic analyst in the regional group, and Jayme Gerring who's a research analyst. So, at this point I'm going to turn it over to Russ who's going to start off by talking to us about the engagement with our business contacts.

Russell Mills:

Thanks, Stephan. Let me share my slides here, and I'll get going. Great. So, thank you all again for attending today's *Fed Talk*, and my task today is to tell you a bit about how our team at the Cleveland Fed interacts with businesses in our region, to get the data that forms the content for the SORCE indicators. Myself, Stephan, Brooke, and Jayme are all part of the regional analysis group at the Cleveland Federal Reserve Bank, and we have three main tasks that are part of our group. The first I would say is really to monitor, and report on regional economic conditions through our Facebook, and also our new SORCE indexes, which we're going to spend some time talking about today. Myself, and my counterpart, Julian Dunn, who oversees our Cincinnati branch, our main function is to conduct outreach with businesses, and community organizations really to gain insights into economic conditions across the fourth district, which you can see there on the map at right covers all of Ohio, Western Pennsylvania, Eastern Kentucky, and the Panhandle West Virginia.

Stephan Whitaker:

Russ, I hate to interrupt you, but we're not seeing your slides. [inaudible 00:04:21]

Russell Mills:

Did it work that time? [inaudible 00:04:31] Okay. It looks like it's coming up. [inaudible 00:04:34] We just go to full screen then. That good now?

Stephan Whitaker:

Yes, we can see that now, Russ, thanks.

Russell Mills:

Yeah. So, as I was saying, our main job is to conduct outreach with businesses, and community organizations to gain insights into the current economic conditions across the fourth district. In addition to recruiting for the summary, the, excuse me, the survey of regional conditions, and expectations, or SORCE, which we're going to spend time talking about today. We also recruit members for our business advisory councils, and our boards of directors. And finally, our group, one of the other main tasks that we engage in is really publishing, and disseminating research on longer term conditions, and trends in the fourth district through our district data briefs, which are also available on our website.

What information are we out collecting? Well, we use surveys, which we're going to talk a bit about today, but also conversations, and anecdotal data from our business advisory council meetings, and also our board of directors to brief our bank President Beth Hammack on conditions across the fourth district. And again, the way we do that is really through our survey of regional conditions, and expectations. We have one-on-one interviews throughout the year with different contacts, and as I mentioned our BAC meetings, and also our board of direct. I want to spend a minute to talk bit about our business advisory councils. You can see here at the map on the right that we have a variety of business advisory councils throughout our district. We have a total of nine of them at the moment. And again, these groups are really meant to have more in-depth conversations on some of the trends that we're noticing within the SORCE, but also some of the comments that come out of the survey that may raise questions that we weren't aware of.

Our business advisory councils are really good places to have further conversations on those issues. Council members are recruited annually, and represent a cross-section of businesses from across the fourth district. They'll also include labor organizations, economic development organizations, chambers to ensure that data collected on our economy is representative of the entire district. And again, you can find more information on our current council than council members on our website. But again, I think it's also interesting to note that many of our business advisory council members start off as folks who are taking the SORCE, and from that engagement, they become interested in serving more in having their voices heard more through the Business Advisory Council. I'll also note that our board of directors, so we have three different boards.

We have our main board for the Federal Reserve Bank at Cleveland, which is a nine member board, also our branch boards in Pittsburgh, and also in Cincinnati. Those directors are also, each of their board meetings, a component of that meeting is spent discussing economic conditions both in their businesses, but also their communities. The director's insights are also used to brief President Hammack on economic conditions across the board. I wanted to, before I turn it over to Brooke to talk about the SORCE survey. I think it's important to spend a minute talking about why are these reports, and the information that many of you on the call today provide to the Cleveland Fed, why are those so valuable to us? I think the first, and probably the thing that might come to mind first is that when we're talking to all of you, and having our conversations, or you're filling out the SORCE survey, right? It's interesting that many of the data that our economists, and our forecasters use in the bank, those have lags particularly for regional data, right?

So, data on county level unemployment, or county level GDP, or even state GDP, gross domestic product can be lagged by several months. You could see that not being collected for six, or even 12 months at a time. When we have conversations, and get the survey data from all of you that helps overcome that lag, and provides more recent information on emerging trends. Also, real-time data, and feedback on what you're seeing in your businesses, and communities. The other thing I would note is many of much of the data we collect from our contacts provides information that's specific to the fourth to our regional economy, which may, or may not be similar to national trends. And that's an important thing to note, because if you think about it, all of the 12 reserve bank presidents, and then the seven governor, the governors from the Board of Governors in Washington, when they come together for the federal open market committee meetings, each of those presidents is bringing their unique perspectives from their districts to that meeting to help craft monetary policy at the national level.

So, it's important that the data that we're collecting is really representative of our regional economy, and representative of a variety of industries from across our regional economy. And then finally, I always like to say that the national statistics often tell us what, but they don't allow for much of an opportunity to explore the how, and why. And our conversations with our business contacts, and also in the comments that many of you provided in the open-ended questions to our survey really help us sort of explore why we might be seeing some of the trends that we're seeing in the day. And so I think that's another benefit to us having these kind of conversations, and also through the surveys that we collect, and operate on a routine basis. And so with that, I'm going to turn it over to my colleague, Brooke Dirtzu, who's going to talk a bit more about our SORCE, which is the survey of regional conditions and expectations. So, Brooke, I'll turn it over to you.

Brooke Dirtzu:

Thank you, Russ. I'll share my slides quickly. All right, I hope everybody can see that.

Stephan Whitaker:

Yes. Looks good, Brooke.

Brooke Dirtzu:

Thank you. All right, so first I want to start out with a heartfelt thank you to any of our current survey respondents who are on this call today. I thank you for your time regularly, and thank you for coming today for this presentation. Also, thank you to anybody who's coming, taking your time out to learn about the work that we do. First I want to start out with giving some background on our survey of regional conditions and expectations known as SORCE. The survey is conducted eight times per year annually, or eight times per year, and we began compiling this data using our current standard questions in June 2014, and have been collecting... Excuse me. Have been collecting the survey online since March 2016. As I mentioned, the survey is filled with eight times a year, which aligns with the Beige Book publication, and FOMC our Federal [inaudible 00:11:31] Committee Cycle. It's an online survey, and it takes about seven minutes.

We always want to be aware of the length so it doesn't become burdensome to our respondents. Our respondents are asked to report on economic indicators that impact their business in particular, and their region, their geography within the fourth district. And now about how do we use these results? We use these results to monitor emerging economic trends that are going to inform monetary policy process. We use them to write the Cleveland Fed's Beige Book summary, and we also use it to develop the panel data that we will show you in our index. Just as a note, the survey is designed to measure directional change. It's not designed to measure magnitude of that change, or get exact details about that change. Talking a little bit about our sample, we use convenience sampling, which is non-probability non-random sampling technique where respondents are selected based on their availability, and ease of access.

Our panel includes about 250 respondents who make up a diverse set of businesses, our business industry, and community leaders. This mix helps us achieve visibility into a broad portion of our regional economy. However, because it is a convenient sample, we want to just be aware that there are potential biases associated with this kind of technique, and understand that if this is not completely representative of the larger business population in our region. We do have some inclusion criteria considering we want to measure activity in our region, and we want to measure turning points within the business cycle. Therefore, we focus on industries that are cyclical, or are sensitive to interest rates such as manufacturing, construction, and auto dealerships.

We look to get respondents who are either the business owner, or key financial decision makers to respond to the survey just because of their view of the whole firm, and the firm should be located in, or have a large presence in our region just to focus on that exact regional activity. Finally, we recruit on an ongoing basis, and we would be really happy if anybody is interested in becoming a respondent to the survey. We are going to drop in a link in the chat, and at the end of the chat we'll have a QR code that you can use to express your interest. So, I really hope that you consider joining our panel. As I mentioned, we do have a diverse set of firms, multiple different industries, typically sensitive to the cycle, or sensitive to interest rate changes. As you see, manufacturing represents the largest share of these respondents, and it fits that criteria exactly.

We also have the next largest share is business services, which is accounting firms, or legal services firms, firms that provide services to other businesses. Retail includes wholesale, it includes food, and hospitality, and the out-of-dealerships that I mentioned earlier. And then construction, and real estate includes both residential, and non-residential construction, and real estate banking is all of our financial services firms, our bankers, and this other industry includes education, healthcare, civic, and agriculture contacts. Transportation includes passenger, and cargo firms that serve passengers, and transport cargo. And finally we have energy which says 0% here, but we do have a handful of contacts in that sector.

So, just as a note, our industry mix varies somewhat round to round because survey is voluntary, but it has been relatively stable since March of 2018. Okay further describing our sample, the largest share of our contacts have about 100 to 499 employees. However, we do over sample contacts with about a thousand, or more employees ever within our district. And in terms of geography, the largest share of our contacts are in the three major metros of Ohio, Cleveland, Columbus, and Cincinnati. However, we are looking to recruit in all areas of our district, including both urban, and rural.

Okay. This graph shows our response rates for the SORCE since it's June 2018 survey. And something to keep in mind here is that the response rate of 30% is considered good for an emailed online survey. Our response rate has been consistently above 44% since June of 2018, and has averaged around 61% in 2024. It has remained high throughout the pandemic while other establishment surveys from BLS, and census declined during that time. And we have seen some upward trending for the past two years in our response rates. We're really were really grateful for people consistently responding to the survey. Another survey metric our panel has remained relatively consistent, in June 2024, we had 116 responders to start the year, and by the end of the year in December 2024, we had 84 of those original 116 respondents, which means that we retained about 72% of our panel.

Shifting to the survey questions, respondents are asked to report on nine core questions, a set of industry-specific questions, and a set of special questions that are based on policy priorities of that cycle. The nine core questions ask about business conditions, employment, non-labor costs, wages, prices, and planned expenditures. And I'll show you those in just a moment here. But this is a picture of what our actual survey looks like on the computer on the left, and the smartphone on the right. Most questions use a five-point Likert scale ranging from greatly increased to greatly decreased, and most of them are followed up by a open response question.

Here are our SORCE index titles on the left-hand side, and the underlying survey question behind those indexes. So, the first one is business conditions, which is a current conditions question, and you'll see that all of our current conditions question asks about changes in the last two months. So, business condition is really asking about how has customer demand for your firm's products, or services changed in the last two months, and then it has this Likert scale of greatly increased to decreased. We have outlook prices which ask about prices of products, or services, how they have changed employment asks about changes in staffing levels in the last two months. Wages talks about changes in wages, and salaries that a firm pays how they've changed in the last two months. Non-labor costs talks about how input costs, so excluding employee compensation, how that's changed in the last two months.

And finally, planned expenditures is our last current conditions question. And this question is unique because it doesn't ask about actual changes in the expenditures. It asks about changes to the fiscal year's capital investment plan in the last two months. Then we have some near-term expectations questions which mirror the current condition questions, and they ask about the remainder of the current quarter, and into the next. So, it's really just near-term expectations. We ask about the expected business conditions, which is expected customer demand, how it's expected to engage over the remainder of the quarter, and into the next. Expected employment is about changes, expected changes to staffing levels over that time period, and expected non-labor costs, again, is expected input, cost changes. So, excluding lay compensation. In terms of outlook, we have, or outputs, we have two different outputs at the moment that are coming out of the survey.

One is the Beige Book summary, and one is the SORCE index. So, the Beige Book summary, and this is a comparison, a side-by-side comparison of those two outputs. The Beige Book summary is really a written description of our diffusion index, so those changes that we talked about, and a summary of the open responses that we hear in our survey. And then the SORCE index is a numerical description of those diffusion indexes. The frequency they're both published eight times per year. So, the data is collected eight times per year, and either published, or updated. What do they measure? So, the Beige Book summary discusses period over period change where the SORCE indexes talk about the panel data. The Beige Book summaries are available in an archive from 1970 until the most recent publication in 2025, and those are located at the Federal Reserve Bank of Minneapolis.

And the SORCE will be available for 2014 to 2025 on our website. In terms of what the content is, Beige Book summary talks about these directional changes, and the synopsis of firm reports for six economic indicators, and the community conditions section, which is written by our community development group. In the SORCE indexes, you can see that there are nine economic indicators, and we do not include the community conditions section because community development has their own reports of that information. Here in the sector detail, you'll see that in the Beige Book summary, you'll receive detail on the comments from our retail contacts, and consumer spending section manufacturing contacts, real estate, and construction, financial services, and non-financial services. And on SORCE page, you'll see that those have been condensed into two different sectors, the manufacturing, and transportation, and other industries. Okay, now I'm going to this pass this along to Jayme to talk about the SORCE indexes.

Jayme Gerring:

All right, let me just share my screen, and can everyone see my slides okay?

Stephan Whitaker:

Yes, those are looking good, Jayme.

Jayme Gerring:

Okay. Thanks, Brooke, for information about our survey. Hey, everyone, my name is Jayme Gerring, and I'm a research analyst on the regional team of the Cleveland Fed. Thank you so much for your interest in SORCE. And this slide just gives an overview about some of the questions I'm going to try to answer today. So, first we're going to tackle what are diffusion indexes, how does the Cleveland Fed calculate SORCE indexes? How can I use the SORCE indexes, and how should I interpret them? And then finally, where to end with a demo of the SORCE index page on the Cleveland Fed's website. All right, there we go. We publish results from SORCE as a fusion indexes organized into three sectors, total meaning all respondents, manufacturing transportation, meaning respondents, and the manufacturing transportation sector, and other respondents that aren't in the manufacturing, or transportation sector. We publish a total of nine indexes for...

Stephan Whitaker:

Jayme, I think you need to advance the slide.

Jayme Gerring:

Oh, it's actually working as planned. Sorry. Yeah. We publish a total of nine indexes for each of the three sectors, which each of the which each index corresponding to specific survey question, business conditions, expected business conditions, output prices, employment, expected employment wages, non-labor costs, expected non-labor costs, and plan capital expenditures. Diffusion indexes give us an easy, and useful way to summarize, and interpret economic data collected from surveys. Simply put, a diffusion index is a share of positive responses to a question minus a share of negative responses to a question. For example, if 65% of respondents said that business conditions improved while 10% of respondents said that business conditions worsened, the diffusion index measure would be 55. Diffusion indexes can be negative as well. For example, if 45% of respondents reported conditions improved while 50% of respondents said their conditions deteriorated, the diffusion index would be negative five.

It's important to understand that diffusion indexes only give us an idea of how many firms supported change. Diffusion indexes don't inform us directly about the amount of change. So, to calculate the SORCE indexes, the Cleveland Fed uses the formula mentioned before percent of positive responses, minus percent of negative responses, and applies it to each question across all three sectors provided in the SORCE index data. The first step in this process is to find the percent of positive responses, and the percent of negative responses. To find the percent of positive responses, we divide the number of respondents who answered greatly increased, or increased to a question by the total number of respondents. We then multiply this by 100 to get the percent. The same goes for negative responses, meaning participants who answered, decreased, or greatly decreased for ease of use, we refer to the share of positive responses as percent up, and the share of negative responses as percent down, and just to note response can answer no change to a question.

While it's important to gather these responses, and use them to inform our interpretation, they're not directly used in the SORCE index calculation. However, no change is a common response, and sometimes is the most frequent response to a question. Before we subtract down from up, we seasonally adjust both the up, and down percentages using a process called STL. Seasonal adjustment helps us remove trends in the data that may be a result of typical fluctuations in demand, allowing the regional team to better compare the SORCE indexes across periods. For example, home builders typically report that sales are slow during the winter months, so is not uncommon to see downward movement in the unadjusted business condition responses during these periods. Seasonal adjustment alters the data so that we can get an accurate picture of trends outside of typical up swings, and down swings in demand. In this way, business conditions improve, or worsen.

We know it's the most accurate reflection of demand, and not the result of something like the weather, or holiday shopping season. We calculate seasonal factors once a year in July, and revise the entire series of data with the updated factors. Additionally, we still publish a not seasonally adjusted percentages, and indexes for public use, and the data download available on the SORCE landing page. After we seasonally adjust the up percentages, and down percentages, we subtract the seasonally adjusted share of negative responses from the seasonally adjusted share of positive responses. The result of this calculation is what becomes a SORCE index. Okay, let's look at what a SORCE index looks like on a graph, and how to read the results. So, if you look at the Y-axis right here, you'll see that the units are in seasonally adjusted percentage points while the X-axis down here is labeled as average survey response date. Average response date is an easy way for us to organize responses by a period, and could be thought of as a typical day response answer to the survey.

You'll also notice that zero is bolded along the X-axis right here. This helps us quickly visualize whether an indicator had a positive, or negative reading during a certain cycle. Keep in mind for diffusion index to have a reading of zero that shares a positive, and negative responses must be equal. Now how do we go about interpreting these numbers? So, on this slide is a table of results from the last period. On the top line we can see that the SORCE index for business conditions amongst all sectors was negative three right here. This means that after seasonal adjustment, 3% of more firms reported that business conditions deteriorated over the past two months than firms that said conditions had improved. This number also doesn't include percentage of firms that reported conditions were unchanged over the past two months. Simply put, we can interpret this number as more firms reported that conditions were flat, or worse over the past two months compared to firms that said that business conditions had improved.

If you look in the published SORCE data, you can see the actual reported components behind the index. For example, 28% of firms reported that business conditions improved. 41% of firms said that conditions were unchanged while 31% of respondents said that business conditions had worsened over the past two months. Interestingly, out of three possibilities, most firms said that conditions were flat over the past two months. So, what use do these numbers have to everyday people? A business owner may ask themselves, "Wow, the wages I've paid to employees have increased recently. Are any other local business owners experiencing this?" They can go to SORCE, and confirm right here on the wage indicator that yes, indeed firms are reporting increases in wages over the past two months. The Beige Book can also be used concurrently with SORCE to gain more insight about the context behind the numbers reported in SORCE.

For example, the non-labor cost index was 46 right here. Indicating increase in costs, and in the Beige Book we noted that firms across industries continue to note the rising cost of healthcare, and other insurance. All right, now onto the validation SORCE. So, what kind of explanatory power do the SORCE indexes have? Well, we can't infer about the magnitude of change reported for each indicator. We have found that SORCE does correlate with broader economic data such as GDP, unemployment, hourly earnings, fixed investment, and inflation. SORCE also performed as expected to the oil price shock of 2015, and the economic ups, and downs of the COVID-19 pandemic.

We can also look at period over period changes to make inferences about the direction of economic trends. For more information about the validation of SORCE, please see the district data brief titled Introduction to the Cleveland Fed Survey of Regional Conditions Expectation Indexes on the Cleveland Fed website. All right, so let's turn over to the SORCE webpage, and see how to use the tools provided by the Cleveland Fed to better understand economic conditions in the fourth district. So, let me just get rid of my laser pointer. All right, can everyone still see my screen? It's on the Cleveland Fed webpage now.

Stephan Whitaker:

Yes, we can see it.

Jayme Gerring:

Okay, perfect. Okay, so the main thing we want to highlight on the page is the SORCE graphing tool. The graphing tool allows you to visualize all of our published indexes at once, which allows for easy comparison across indexes. You might ask how are output prices, and non-labor costs related? So, we go over here, and we select output prices, and non-labor costs right here. And you can see as expected output prices, and non-labor costs typically move very closely together. The graphing tool allows us to witness national trends on a district level as well. For example, firms reported that they increased their selling prices as we emerged from the pandemic recession, and into 2022. So, if we look here, this is firms reporting increases in selling prices rate, and then during the summer of 2022, I wouldn't say that this also mirrors kind of what we saw nationally for inflation. And then during the summer of 2022, inflationary pressure started to cool nationally, and we can also see that in our reports like here.

However, I'll note again that we cannot make any inferences about the actual rate of inflation. We can only draw conclusions about the share of firms increasing, or decreasing their selling prices. Additionally, on the page you can download the data behind the graphing tool. So, that would be this link right here, click, and download, and it's an Excel file. Great. Hopefully everyone can see that. I'm trying to make it bigger. There we go. Okay. So, what's really cool about this is you can see the more detailed information about each survey period, including the proportion of firms as certain indicator was flat, which would be right here. We also make the unseasonally adjusted data available so you can see exactly the numbers we get from the survey results. So, that would be over here. However, I should note that most people should focus on the ceiling adjusted values as these numbers are what the Cleveland Fed uses to interpret data.

But I should also note that using a seasonal adjustment is also very common when working with economic data. The last thing I want to point out on the webpage is a district data brief that I mentioned before. So, it's called the introduction to the Fed survey of regional conditions, and expectation indexes. And this district data brief serves as a very detailed user guide to SORCE, and goes into more detail about the history of SORCE, how it's calculated, and its applications. There's also an extensive appendix that further explains the seasonal adjustment process, and how to evaluate SORCE against nationally reported data. That's the end of my presentation. Thank you so much everyone. Let me unshare.

Stephan Whitaker:

Okay. All right. Thank you Jayme, and Brooke, and Russ for those interesting presentations, and we've left yourself quite a bit of time for questions. So, you may have noticed when you registered there was a chance to put in questions ahead of time, and several people did. So, I'm going to start off this section by trying to answer one of those questions myself. We had one participant ask, "Is the Cleveland Fed planning to publish this data for more localized geographies such as MSAs, metro areas?" So, the short answer to that is we hope to someday we're not at a point where we can right now, and that is due mainly to the sample sizes. So, you'll notice if you go back to that spreadsheet that Jayme was showing just a minute ago, we give standard errors, and we also give the P-values the probability values that are associated with a couple tests.

We test whether the DI value, or the index value for this round, or well all of the rounds that all of the results are presented there, whether they are statistically significantly different from zero. And we also test whether they are significantly different from last round. And so that helps us think about, okay, we saw a move, do we want to take this as a strong indicator that things are really getting better, or weaker? Or is it that knowing how large our sample is, and how large our standard errors are that big a move could be just random noise, and so we might be cautious about how we're taking that up, or down. So, we want to be able to make those decisions, and have confidence in the estimate, and that requires a certain sample size. The larger the sample size, the smaller the standard errors get, the more precise those tests get.

So, you'll notice that, for example, we only are presenting the SORCE indicators right now for a combination of transportation, and manufacturing, and then all other industries, and we had to even combine manufacturing, and transportation to get that sample size up to where we were really confident about that DI value. Internally, we sometimes look at up to six different industries, but we have to keep in mind that when we cut it up that way, the sample sizes are all smaller, and there's the random noise is larger relative to the signal that we're really trying to read. So, the same all would hold true, in terms of the metro areas. So, we do have respondents from all metro areas, but we don't have a lot from each of the metro areas. So, as we continue to recruit more people to the survey, hopefully some of you today will join.

We're going to get those numbers up, and when they reach a level that we can give a fairly precise estimate for the Cincinnati area, or the Pittsburgh area, then we will hopefully someday be able to release those metro-specific estimates. In the meantime, we are working on something called the Business Outlook and Trend survey, and this is something that some of the other reserve banks have already been doing, and it's partnering with the chambers in a metro area. And of course the chambers have a lot of members, and so we can send out a survey to all of those members even if we get a small fraction of them replying, that's going to still be a pretty large sample. The trade-off, and Brooke, and Russ can fill me in if I'm not characterizing this exactly. I think the trade-off is that those surveys are probably just going to be annual at least to begin with. So, they can tell us something about a smaller geography, which we would like to have, but they won't be as frequent as the SORCE.

So, again, as we continue to develop our samples, hopefully we will someday get to frequent measures for geographies like metro areas, or certain rural areas of the district. So, among the questions that we received ahead of time, there were several people that were asking about the hot topic of the day, just like we have special questions that we ask our contacts about, people wanted to know what we could, and couldn't say about tariffs. So, I think Russ has had a chance to read through all those questions, and I'm going to turn it over to him to say a little bit about what we know, and what we're still trying to learn.

Russell Mills:

Well, thanks, Stephan. I think many of the questions that we've received are really evident that the environment around tariffs continues to remain very fluid, and the information we have collected on the impact to prices, or economic activity, or even employment continues to evolve.

I mean, so we've really started asking questions of our contacts, and we're starting to get that information in. I would say the thing that we've shared publicly was in the last Facebook, and that was sort of a summary of the information that we got from the last SORCE survey where we have comments, and special questions about the differences in trade policy. And what we reported there was contacts generally expected costs to grow at a strong pace in those coming months. A circumstance which many of our contacts, and those of you who take the survey attributed to the impact of evolving trade policies.

So, for now, I think all that said, I mean we'll have to see how the final policies look when they're implemented, and what their impact would be then on economic activity. Some of the important questions still to answer are how long would tariffs be in place, what the effect that import prices would be, how much would we pass along to consumers? Will inflation expectations respond? You can see some of that taking place. Then some of the other surveys like University of Michigan Inflation Expectations survey, and also would this be a one-time change in the price level, or a more persistent rise in inflation rates?

Those are some of the questions that really remain to be seen, but that's the latest that we have, and what we've reported in the Beige Book. And again, we always are looking for comments from our contacts, and I get asked the tariff question a lot when I'm out doing outlet talks. The answer I typically given, and I'll give here, is a lot of what we're learning about how tariffs are impacting the economy is coming from our contacts by having survey questions, and also having conversations about the responses that they're taking, or that they're purchasing their goods from are taking in response to tariffs, or potential tariffs. So, I think that is what we can say at the moment. It doesn't address everybody's specific questions, but that's where we are at this point in time.

Stephan Whitaker:

Okay, thank you, Russ. So, I've got another question from the chat, and either Brooke, or Russ, if you feel like you can answer this. So, one of the audience member asked if we could speak to why participation from the energy sector was fairly low, and if anyone wants to mention the energy round table, let's see if we can fill in some background on that.

Brooke Dirtzu:

Russ, do you want to take it, or should I?

Russell Mills:

Go ahead, Brooke.

Brooke Dirtzu:

Okay, so the participation is low because we do have another survey where we survey only energy contacts, and we haven't folded that survey into SORCE yet. It is something that we're considering, but it directly feeds our energy roundtable that Russ leads. So, that's why I asked him if he wanted to take the question, and it's coming up. So, that feeds information for that discussion, and that report goes to the president to learn about what's happening in our energy sector. So, a lot of those contacts are in the other survey at the moment.

Russell Mills:

Yeah, I'll just add, it's really the title of the roundtable is called the Appalachia Oil and Gas Roundtable, and it's really a lot of the executives from the oil, and gas companies that operate here in western Pennsylvania, northern West Virginia, and eastern Ohio. And so we meet with them twice a year, and in advance of that meeting, we also release a survey on that particular topic. At the moment, it's not publicly available. And so, again, back to the point Stephan was making earlier about sample size right now we have a small sample on that, and so that's another goal of ours is to increase that survey as well over time so we can get that to a point where we are with SORCE where we can publicly release the available data.

Stephan Whitaker:

Right. Thank you. Thanks Russ. So, the next question, I'm going to read this, it's regarding something that Jayme said. I'll take a quick shot on that, and Jayme, maybe you can tell me if I'm characterizing it right, or you want to add anything. So, someone asked if the results of this SORCE index on prices suggest that more firms are charging higher prices, doesn't that mean inflation? And so what's the difference between that, and inflation? So, just imagine two possibilities. One is that we've got 60% of our respondents raising their prices by 2%, and they're saying we are increasing our prices, because that's what the question asks, and that's accurate, and they're telling us that. And at the same time, lowering prices is not as common. So, let's say we've got 10% that are saying that they're lowering their prices, so it gives you a DI of 50.

Fast forward a few years, and you've got 60% of our respondents are raising their prices, but they're raising them 7%, then we've still got 10% that are lowering. Again, you've got a DI of 50, but maybe 7% inflation versus 2% inflation. So, I think the point that we're making is that the DI isn't going to show you that difference between a 7%, and a 2% inflation rate it's just going to tell you in both those periods that you've got a lot more funds raising the price than lowering. So, Jayme, anything you want to add?

Jayme Gerring:

No, that was pretty perfect. Exactly. That's exactly what I meant. That we know that inflation is occurring, but we can't make any kind of true discernment about the rate of inflation.

Stephan Whitaker:

Okay. All right. Then we had another question. Are the Cleveland Fed macroeconomists using the SORCE data in their forecasting models efforts? And actually this is two parts. The first part I think that it's just beginning to happen now. There actually is, I believe, a working paper that came out of our research department, probably it's been a year, and a half ago at this point. Where they took coding of the text in the Beige Book, and they coded it for positive, and negative statements, converted that into a numeric measure, and then they put that into forecasting models, and showed that it improves those models. So, that's very similar to using the DI index, but it was based on the text. And of course, as Brooke mentioned, the base books go back much further. So, you have several more business cycles that you can make that calculation, and then you've got a lot more variation to work with, and it makes the forecasting, and nowcasting models easier to fit more accurate.

So, the SORCE indexes, I believe certainly we do intend for people to use them in forecasting, and nowcasting. The history is relatively short, but every passing round it gets a little bit longer.

And so I am 100% sure that that will be done both internally, and externally now that we've made the indexes publicly available. All right, the second part of the question was could you publish an Ohio-only version of SORCE? That is probably be feasible? Just because Ohio is the largest portion of our district, and the sample size in Ohio is probably big enough, just like sample size, and manufacturing plus transportation is big enough. We will have to take that into consideration, see whether we can go ahead, and do that. Now, unfortunately, our Kentucky, and Pennsylvania constituents might feel a bit little bit left out if we're not able to do it for the portion of the district that overlaps with their states as well.

But we will look into it, we'll look at those sample sizes, and those standard errors, and see whether that's something that we feel comfortable doing. And there is one more question here following up on the energy. Okay. Is there information from the energy sector publicly available in the SORCE data? The only way it's contributing right now is the context that are in the energy sector, as Brooke showed, they were a small fraction of our current respondents to the SORCE surveys. Their responses are used in calculating the DIs, so they're in that other industry, and they're in the, it's titled total, but it's the all industry index that we release. Okay. All right. So, I guess that's it for the chat questions right now. Let's see, I had a couple of things, oh, wait. All right. So, someone has asked, "Will this be used by other districts in the Fed system?" I think it's very likely. So, just like in our own preparation for our briefings at the president, we take a look at the New York Survey of manufacturers, the one from the Federal Reserve Bank of Philadelphia.

We look at indexes, and survey results collected by other reserve banks. And in some cases those are national surveys, but in a lot of cases they're like ours that cover their district. We do take a look at those, because it's timely information. And so I think that a lot of the other reserve banks will... You want any information that's available. They know that if things are going in one direction in the fourth district, that represents both what's happening here. And then the demand that we're experiencing as products, and services are sold across district lines. So, there's information there, and I think it's very likely that other reserve banks will make use of it. Okay. So, we have a question about the planned capital expenditures. Is this understating investment due to megaprojects? I don't know if, Russ, if you have any thoughts about this, or Brooke? I feel like I've been answering a lot of these. Go ahead, and if you have anything to share, if not I'll see what I'm thinking as well.

Russell Mills:

Well, Joe, I forget who asked the question, but I think it's a really good question. And what we're doing is asking our existing firms, and our sample, what their plans are for capital expenses. So, if it's a company that for instance, is in the district, and is working on one of these mega projects, whether it be an energy project, or something else, and then that's part of what they're responding to that question to, it would capture that. If it's somebody who's not so like Intel, and Columbus, or one of these other big projects where we probably haven't asked Intel about their capital expenditure plans for instance, then that probably wouldn't be captured in our diffusion index for that. So, really, the essence of the capital expenditure question is for the firms that we're talking to, what are their plan capital expenditures for things like equipment, maybe a facility expansion, et cetera, right?

And so that's really the essence of that one. I don't know that it's really great at capturing the attraction effort of our outside that our economic development teams in the district we're working on. That said, we do talk to those folks quite regularly through our business advisory councils, our boards of directors, to really get a sense of outside of the SORCE index, but from a more anecdotal perspective, what the investment in the region looks like given some of those projects that those teams are working on bringing into the region. So, again, this is why I always think it's important to look at both. We have the index is one piece of the puzzle. The other are the conversations that we have with folks outside of it to really put that what our research director at NoTech calls the mosaic of what's going on across the district at any one period in time.

Stephan Whitaker:

Great. Thanks Russ. We have another question, Jayme, I'll let you take a shot at this one if you like. So, someone was asking, "Is there a way to make some sort of comparison to national data with the SORCE indexes that are available on our web page?" So, how would you recommend somebody does that kind of comparison if they want to see?

Jayme Gerring:

Thank you so much for your question, Heather. So, to answer your question quickly on the Cleveland Fed website, no, not directly. You can't compare national indicators unless you download the data, and use something like e-Views, or Stata, or [inaudible 00:53:19] to make that comparison by hand.

Stephan Whitaker:

Or Excel, right?

Jayme Gerring:

Yeah, or Excel. Thank you. [inaudible 00:53:25]

Stephan Whitaker:

Everybody's got Excel.

Jayme Gerring:

Yeah, sorry, I was just talking to econometrics for a second. And then I'd also say that we are in discussion to make the series more available. I know there was maybe talks about making available on FRED, which is provided by the Federal Reserve Economic Data, which is provided by the St. Louis Fed. We also are in talks about making available via Haver Analytics. So, that also allows you to make use comparisons, drag, and drop, and select multiple indicators across different data sources.

Stephan Whitaker:

Yeah. Thank you, Jayme. Yeah, I don't know exactly how long that process takes, but just as I said, I think it's very likely that other Federal Reserve banks are going to be using this series. I think eventually we'll be on FRED, and then you can do direct comparisons on graph. If you want to graph them both, you could do it there, but if you want to do it right now, you can take any source you have of any national indicator, just merge it based on the date. Now one thing that's a little bit tricky, and we've come across this while we were doing our own validation, is that the timing of the source indicator is by FOMC round. And we give the date, that's the average date that people respond because we give our respondents what is it, Brooke? About 10 days to respond to the survey.

So, a lot of people respond right, and they get it, and then you have some in the middle days, and then a lot of people, the deadlines coming, so they respond to it sort of at the end. So, we average it to try to say, "When were we hearing this report?" So, you end up with two measures per quarter. So, if you want to correlate that with a quarterly, something like GDP that comes out, and represents a order, then you might have to either average, or place the quarterly value in three months, or some way to make those dates line up. So, there's just an issue to keep in mind there. But you've got all of the data available in that Excel. Is it a CSV file when it downloads? So, it can go in any statistical package, but Excel opens it very easily. So, that gives you a way to look at it immediately with any other series that you want to compare it to create the download.

Jayme Gerring:

Just a quick question, it's an Excel XX, but works the same way.

Stephan Whitaker:

Great. So, we're getting short on time, and I think we've gotten the questions answered. So, I have some closing comments that I need to get to. First of all, I want to thank the panelists for preparing their presentations, sharing this great information, and also for taking on a number of questions here. So, thank you Russ, Brooke, and Jayme. In the chat you'll see a link to a post-session survey. The survey will also pop up in the browser after the Zoom session is closed. So, we invite you to please take a moment, complete the survey that helps us know what you liked, what we could do better, and improve the *Fed Talks* going forward. There's also going to be information about today's program will be sent to you via email. So, a lot of the links have been put in the chat if you had the chat open, you've seen all those.

We're going to try to consolidate those in an email that'll go out to everybody who registered, and attended. Video, and audio recording of this event as well as all the other *Fed Talks* is available at clevelandfed.org/fedtalk, and if you want to just listen to the audio of this, or other *Fed Talks*, they're on podcasting platforms. So, maybe that's the most convenient way for you to reach it. Our next event is April 17th at 3:00 PM, and that *Fed Talk* will cover financial literacy, and career exploration. So, I want to thank you all for joining us today. I hope you have a great rest of the day, and join us again for future *Fed Talks*. Thank you.