Peterson Institute for International Economics

Outlook for North American trade and immigration

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[00:05:14.17] - Mark Wynne

Good morning. Welcome to the Federal Reserve Bank of Dallas. My name is Mark Wynne. I'm a Vice President, Senior Economist, and Associate Director of Research in the Bank's Research Department. I'm also the Director Emeritus of the Bank's Global Institute. We're really delighted to be hosting this conference today on the outlook for North American trade and immigration with our colleagues from the Peterson Institute for International Economics. Today's conference is a— the first installment of a two-part conference series, with the second installment scheduled to be held at the Peterson Institute's headquarters in Washington this fall. One of my previous bosses, Richard Fisher, took office as president of the Dallas Fed exactly 20 years ago this month, in April 2005. Richard was, and I believe still is, a big champion of globalization and open borders. He liked to speak a lot to public audiences about their benefits. The early 2000s were very much the heyday of the modern era of globalization. Thomas Friedman's book, The World Is Flat, had been published in 2005, and Richard directed that we create a research program here at the Dallas Fed to explore the implications of globalization for monetary policy. A lot can change in 20 years.

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To the extent that the world ever was flat, it's looking a lot less flat today. Globalization has not been on a steady upward trajectory for some time, but rather looks to be at an inflection point. How did we get here? Well, at the core of the case for free trade and open borders is the idea that free trade is efficient. It maximizes national output. We all know that free trade creates winners and losers, with the efficiency gains from free trade being more than enough to compensate the losers. In principle. But all too often, maybe never, that compensation doesn't occur, which can mean that over time it becomes difficult to sustain the political support for a liberal trade regime. This has got to be one of the most understudied issues in international political economy. How does one convince a 55-year-old auto worker who has just lost her job to foreign competition to continue to support free trade? Autor, Dorn, and Hansen in a paper that received a lot of attention in 2021 argued that the China shock accounted for close to 60%

of all job losses in U.S. manufacturing between 2001 and 2019, and that more than 6% of the U.S. population experienced net losses in real income due to the China shock.

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In a much commented upon recent essay in the IMF's Finance and Development magazine in March 2024, Nobel laureate Angus Deaton wrote of how in recent years he has found himself changing his mind on many issues. Deaton wrote, and I quote, "I'm much more skeptical of the benefits of free trade to American workers and even skeptical of the claim which I and others have made in the past that globalization was responsible for the vast reduction in global poverty over the past 30 years. I also no longer defend the idea that the harm done to working Americans by globalization was a reasonable price to pay for global poverty reduction." because workers in America are so much better off than the global poor. I'd also seriously underthought my ethical judgments about trade-offs between domestic and foreign workers. We certainly have a duty to aid those in distress, but we have additional obligations to our fellow citizens that we do not have to others.

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End quote.

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Deaton expressed similar sentiments about his long-standing belief in the benefits of immigration to the US despite being an immigrant himself. As am I, and about 2/3 of my colleagues in the research department here and at the Dallas Fed. Now, whether one agrees with Deaton's thinking on these issues or not, his deeper point was that economics has become divorced from issues of philosophy and ethics that concerned the giants of the profession, from Adam Smith to John Maynard Keynes, Friedrich Hayek, Amartya Sen, and Milton Friedman. Modern graduate programs are configured in such a way that it's now more important for an incoming graduate student to have mastered the contents of Kolmogorov and Folman's Introductory Real Analysis than to have read Milton Friedman's Capitalism and Freedom or John Rawls' Theory of Justice. I think at the end of the day, this is all about having policies and processes in place that protect workers, not work. And this is true whether we are thinking about disruption due to trade or technological change such as the spread of Gen AI. We managed to do this to some extent during COVID Maybe we can manage it again. Okay, enough about that.

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On to logistics and introductions. So logistics: restrooms are across the hallway on the left-hand side of the auditorium out here. Wi-Fi is available. The password is on the slips of paper on your tables. Um, let me also mention, uh, next week we have the next installment of our Global Perspectives series, which we relaunched last year with Jerome Powell. And next week we will be hosting Kansas City Fed Jeffrey Schmidt here in Dallas. So I encourage you all to come to that if you can. In the event of an emergency, please follow staff directions to exit the building. If anyone needs any other assistance, there are several Dallas Fed staff members in the audience and by the desk in the hallway next to the coffee shop or Starbucks right outside the auditorium. They will be more than happy to assist you. The coffee shop also sells Dallas Fed swag if you're interested in that. So I'd now like to introduce Dallas Fed President Lorie Logan for her opening remarks. Lorie began serving as the 14th President and CEO of the Federal Reserve Bank of Dallas on August 22, 2022. Before that, she was Manager of the System Open Market Account for the FOMC.

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And an Executive Vice President at the Federal Reserve Bank of New York. In that role, she managed the Federal Reserve securities portfolio as it grew to more than $8 trillion and led the implementation of monetary policy as directed by the FOMC. She played a crucial role in the development and implementation of the Federal Reserve's actions in response to the COVID pandemic. She's a native of Versailles, Kentucky, and holds a bachelor's degree in political science from Davidson College and a master's degree in public administration from Columbia University. Lori.

[00:11:56.05] - Lorie Logan

Thank you, Mark, and good morning. Good morning to everyone who's here with us in person and to all of those who have joined us online as well. It's really My pleasure to welcome you to this conference on the outlook for North American trade and immigration, which we are hosting in collaboration with the Peterson Institute for International Economics. Today's conversation comes at a pivotal time as the new governance, both here in the US and in Mexico, adjust trade, immigration, and other policies. These policies will affect the national and global economies, international relations, and communities throughout the district the Dallas Fed serves. The goal of today's conference is to discuss economic relationships across the United States, Mexico, and North America and bring forth perspectives that can help inform the public about these timely issues. Here at the Dallas Fed, we value the opportunity to hear from and engage with people from a broad range of backgrounds. Including subject matter experts, business leaders, and community leaders. By bringing multidisciplinary views together, we deepen our collective understanding of these quickly evolving issues. And so it really is my pleasure to welcome so

many business and community leaders from across the 11th District, as well as some of the most published academics in this field with us this morning, and I look forward to learning from each and every one of you.

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Given our close proximity to Mexico, the Dallas Fed has the unique opportunity to engage in collaborative research, analysis, and conversations on cross-border issues. Our longstanding relationships with our neighbors in Mexico help us to effectively gather insights on the ground and engage in conversations that inform and guide research and analysis. These interactions enhance our understanding of the U.S.-Mexico relationship and allow us to better serve the public. And these conversations allow us to hear how policy changes transmit into daily life. Last year, the Dallas Fed launched the Global Institute. The Institute builds on the foundation of our previous Center for Latin American Economics, which played a pivotal role in enhancing public understanding of economic policy in Latin America. And the Globalization and Monetary Policy Institute which examined how economic integration affected monetary policy. With this relaunched global institute, we plan to grow the Dallas Fed's concentration and influence in the field of international economic research and be a center of policy-related research on global trade, international capital flows, and migration, with a particular interest in linkages with Mexico. One way we accomplish this is by collaborating with leading economists in the field, and organizations such as the Peterson Institute to produce impactful research and provide timely insights on the United States-Mexico relationship and broader global context.

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So I encourage you to visit the Global Institute's website where you can read our research on migration patterns, the pass-through of trade costs to consumer prices, and much more. Changes in trade and other policies will have substantial effects on the U.S. and global economies. Financial market prices have been quite volatile as market participants digest these implications, as well as the uncertainties about the specifics of policies and about how policies will work their way through the economy. Regarding the economic outlook, higher than expected tariffs would very likely raise both unemployment and inflation. The persistence of the effect on inflation would depend on how quickly companies pass through cost increases and on whether long-term inflation expectations remain well anchored. A sustained burst of inflation could lead households and businesses to expect further price increases, especially following the persistently elevated inflation in recent years. As mandated by Congress, the FOMC pursues both maximum employment and price stability. Both of those objectives benefit American families businesses, and communities. And missing on either dimension is quite costly. History

teaches that when higher inflation expectations become entrenched, the road back to price stability is longer, the labor market is weaker, and the economic scars are deeper.

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To sustainably achieve both of our dual mandate goals, it will be important to keep any tariff-related price increases from fostering more persistent inflation. For now, I believe the stance of monetary policy is well positioned. I look forward to robust discussions today that can deepen our collective understanding of the US-Mexico relationship, the North American economy, and the implications of recent policy changes. I look forward to continuing this conversation in the fall when we host the second installment of this dialogue in Washington. I want to thank you all again for being with us here today. We're especially pleased to have community and business leaders with us, and we look forward to hearing from you about how trade and immigration policies directly affect your companies, your organizations, and communities. And so it's my pleasure to be able to have the opportunity to introduce Marcus Nolan, Executive Vice President and Director of Students for the Peterson Institute. Marcus has been associated with the Peterson, Peterson Institute since 1985 and served as Deputy Director from 2009 to 2012. He's currently a senior fellow at the East-West Center and previously a senior economist at the Council of Economic Advisers. He's held research and teaching positions at universities including Yale, Johns Hopkins, and the University of Southern California.

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Marcus, thank you so much for joining us, and thank you to the Peterson Institute for partnering with us to develop today's conference. Thank you all again for being here.

[00:18:14.18] - Marcus Noland

Good morning. As, as Lori indicated, my name is Marcus Noland. I am the Executive Vice President, Director of Studies at the Peterson Institute for International Economics. For those of you who do not know what the Institute is, we are a private, not-for-profit public policy think tank located in Washington, D.C. I believe that we have the finest staff of international economists in the world. I like to believe that we are influential, but even I would not claim that we are responsible for President Trump wildly jacking around U.S. tariff rates. To generate interest in this conference. I grew up in Texas, and I am aware that for 150 or more years, our relationship with Mexico might be described as problematic. Mexico took the initiative to propose NAFTA, and NAFTA put that relationship on a new track of greater prosperity and reduced political tension. Now, the successor agreement to NAFTA, the US-Mexico-Canada Agreement, is under stress due to policy changes emanating from Washington. I think today what we are going to

discuss is extraordinarily important and extraordinarily timely. I believe that the agenda we have and the people we have will, I am confident, will lead to an interesting and informative conference.

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And with that, I turn things over to Alejandro Werner for the first panel.

[00:20:47.26] - Alejandro Werner

Hello, good morning. I'm Alejandro Werner, a senior non-resident fellow at the Peterson Institute. I'm from Mexico, so let me follow some of the comments that were done by Marcus and President Logan. Let me thank first the Dallas Fed for this initiative. I think we need a lot of discussion and thinking about the key issues related to trade and migration between Mexico and the US. Let me just say that following Marcus' words, maybe we move in '94 when NAFTA was signed, from a relationship that was signaling its will to strengthen economic and social integration between the two countries, similar to what a marriage is. Now we are in the middle of couples therapy, but I think we're all recognizing that the logic of integration is so powerful He has been so beneficial to this partnership that even, and I will be speaking more from the Mexican side, we have had political changes that have bring into power sectors of society that originally completely rejected NAFTA. Now they have became the most arduous defendant of I wouldn't say the free trade agreement, but the trade integration relationship that we have built. And I think the same thing happens here in the US, and obviously happens here in Texas.

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So we have a great panel to begin this conference. I think the 3 topics that we'll be covering in this panel are at the center of the discussion. The first one by Jeff Schott from the Institute, basically discussing the review that supposedly will take place in 2026. But I would say it has already started with the change in trade policy in the US. Now there will be a review on the trade agreements of the US, and hopefully the negotiations will continue throughout 2025, and hopefully the uncertainty can be concluded relatively quickly. But we will hear from Jeff, who you can see his long CV in the website, but I would only say that he had just put out with co-authors this year a great microsite on NAFTA in the Peterson website that is available and I think has the best information that you can wish for regarding the treaty and the main issues that should be part of this review. Secondly, we have Enrique Martinez Garcia talking about Mexico's nearshoring yet to yield big investments despite global trade tensions. I think we have moved from thinking that the logic of nearshoring was reversing given the increasing tariffs vis-à-vis Mexico, etc.

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This week to a position in which in Mexico we think that on relative terms, Mexico is coming out or the Mexico-US trade relationship will be coming out strengthened and maybe the logic of trade diversion will be stronger than trade creation for the Mexican side and therefore the logic of nearshoring is back in place and maybe strengthened. We will hear from Enrique on that topic. And finally, I mean, one of the key issues in the relationship, and Enrique here from the Fed, he's the Vice President. Let me get this right. Enrique is a Vice President here at the Fed. He has been here for for a long time and let me just highlight that he received in 2023 the Central Banking Award in Economics. Finally, Pia Orenius will speak about cracking down on the immigration surge implications for the US. I think this is also at the center of integration between Mexico and the US. There's almost 40 million Mexicans or descendants from Mexico living in the US. And I would say that there's more and more US citizens living in Mexico every year. I think in the last few years, US citizens in Mexico have been increasing by around between 10 and 20%, depending on the year.

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So I think the logic of two-way migration between our two countries, it's very powerful for integration as demographic transitions advance at different speeds, they will become even more important. And I think we couldn't have a more interesting panel. So we will have 20-minute presentations. I will be in charge of keeping each of the speakers up to the 20 minutes so we can have a Q&A session at the end. So we'll start with Jeff.

[00:26:27.13] - Jeffrey J. Schott

Good morning, everyone. Jeffrey Schott from the Peterson Institute. And when I was asked to participate in this, in this meeting, I thought this is pretty simple. We'll talk about the progress to date and what has happened under the US-Mexico-Canada Trade Agreement. A few specific problems that we have with products, particularly corn, with Mexico and some energy issues. And we'll sort of try to set the table for talks starting over a year from now. And then things happened. And so I've recast my presentation. Hopefully I will keep it short so we have more time for more discussion. But what I'm trying to do is talk a little bit about the background of North American economic integration, but very quickly with a very few slides with tables, talk about what the USMCA review actually is meant to do and how it is being challenged by the new protection that has been introduced over the past couple of months. So if I can get this to work, uh, the background will be, uh, talk about integration review, but the last couple of slides

are the most important, looking at how we deal with what, what, uh, the mess that we're in right now.

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So, but there are two important questions which made this presentation a little more challenging. Uh, will we even have a review? Will the USMCA survive the new US tariffs and retaliation by its partners ahead of the mandated review in July of 2026? And, uh, if so, could an expedited review or renegotiation of the pact take place even starting this year? And I think Some of the developments of the past few days indicate that there may be an interest in moving forward more quickly and perhaps having more cooperation and coordination and a quicker renegotiation of some of the key elements of the pact. Now, what we have is 60 years of trade integration in North America. It's, it's over 60 years because it's the US-Canada Auto Pact was in January of 1965, but free trade agreements have been in place for over 30 years. And so we have had this deepening of our integration of our markets, deepening of supply chains, and therefore the introduction of broad-based new restrictions can be much more disruptive than would have occurred when NAFTA first started in January of 1994. And this table, very simple, what's happened over 3 decades in trade.

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The red, orange is with US exports and imports from Canada and the blues are export and imports from Mexico. The numbers obviously have become quite large and the growth has been very substantial since NAFTA was introduced in 1994. This shows where we were last year with Mexico, with imports from Mexico now being the number one source of imports for the United States, more than China, and Canada not that far behind. Total imports from Mexico and Canada almost a trillion dollars, exports to Mexico and Canada almost $700 billion. So a trade balance, something President Trump likes to look at very closely, a trade balance with our neighbors of $236 billion— trade deficit of $236 billion last year out of a total global US trade deficit of $1.2 trillion. So Mexico, Canada account for about a third of total US merchandise exports and almost 30% of merchandise imports. A good portion of that trade is in the automotive sector— cars, special purpose vehicles, trucks— but a lot of auto parts that come, go back and forth across the border in the context of production of vehicles. And you can see how much this trade has grown over the past 30 years, but particularly in auto parts.

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Which is very significant, and particularly in auto sector imports from Mexico. This gives a little bit the numbers. Canada and Mexico together account for over 60% of total U.S. auto sector

exports and about half of U.S. auto sector imports. So a very significant part of our automotive trade worldwide, but obviously with important implications for our bilateral trade relations. Agriculture, though smaller numbers, are also important both economically but importantly politically. And here we've had a sharp percentage increase in trade with, uh, with both Canada and Mexico. These slides are all available on the conference website, so you can look at the numbers more closely when you have a chance. But in the interest of time, let me just move forward and show you the numbers. Here, Canada and Mexico together account for over a third of total U.S. agricultural exports. And over 40% of total U.S. agricultural imports. And we're talking here about total back and forth North American trade of almost $140 billion and a U.S. trade deficit of about $32 billion. And then I would be remiss if I didn't include a a table on energy, which is very important. Canada and Mexico together account for around $66, $67 billion of energy exports, US energy exports, and $141 billion of total US energy imports.

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A lot of this is in the top line with crude petroleum and petroleum products trade with Canada. Which supplies a lot of, uh, of those goods to the U.S. market. Uh, U.S. deficit of about $91 billion last year. But even the small numbers can be important, and if you look at the next line, Canada— U.S. imports $2.3 billion of electricity from Canada, and that was where Ontario Prime Minister Doug Ford threatened retaliation. Just a few months ago that would have particular negative effects on a few U.S. states. So you have to focus not only on the big numbers but sometimes the small numbers that have very concentrated effects. Now, let me turn to the topic that I was asked to talk about. Only a few minutes into my talk. The background of the USMCA review is the terms are in Article 34 of the agreement. There's a review because the USMCA is supposed to terminate within 16 years in July of 2036 unless it is extended by the parties. So the three parties included a 6-year review of the operation of the PAC, uh, and to provide an opportunity to judge how things are going, where adjustments are needed, and, and where improvements and new, new provisions might be included to take account of the new developments in the marketplace.

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Uh, during this review each member shall confirm its desire to extend the pact for another 16 years. And so if there is a positive review, the pact rolls over another 16 years. And so instead of 16 years, it then becomes 22 years. And, uh, and then the next subject review would be 16— uh, 6 years after that. Uh, that was a way of trying to make sure that the pact stays relevant and glitches in the pact are remedied before they become big problems.

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I'm sorry, I've got to skip that.

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So that's what I just said. Now, what if a country doesn't commit to extend and review? And that's certainly a threat that President Trump might might issue concern about what is happening in trade with Canada and Mexico. In that case, the parties will conduct joint reviews every subsequent year until the pact expires after a 10-year phase-out period. But during each subsequent review, there is a chance to revise the agreement and then reconfirm its extension for another 16 years. But that creates a great deal of uncertainty, and it is a situation that I think three partner countries and certainly businesses operating in the North American market would like to avoid. Now, why did the first Trump administration include a review process in the new trade agreement and include a a kick-out clause or a withdrawal clause if one country didn't like what was going on. The USMCA, like almost all trade agreements, has a standard withdrawal clause that allows any partner for whatever reason to leave the pact within 6 months. And so you can just say, "I'm out of here," and it's finished. The 6-year review, as I said, is useful if it benchmarks progress, exposes problems, and thus provides information for the better functioning of the pact.

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But adding the withdrawal option and the 10-year phase-out of the pact seems to have a different objective. And it seems to me that this was included by the Trump administration, in the first Trump administration, to provide U.S. officials leverage to force changes and additional concessions by its trading partners. And that seems to be the situation where we are in right now. So what is happening? And this will probably set the table for a lot of the discussions that we have for the rest of the morning. And Mark Snowlin will provide much more detailed analysis of what has happened in his presentation in the next session. But current US tariffs affect Canada and Mexico. I'm not a lawyer, so I can give you free legal advice. You can take it as you like. From an economist's perspective and from a non-lawyer's perspective, the U.S. is violating both the spirit and the letter of the USMCA. There are some, uh, annexes about exemptions for national security reasons in the USMCA, and so there are legal arguments on a few of the U.S. restrictions that have been introduced, but by and large, most of the restrictions are clear violations of the agreement.

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What has happened so far? The US has introduced 25% tariffs, 10% for Canadian energy and potash, on imports from Canada and Mexico that are not USMCA compliant. This is related to

concerns about smuggling of fentanyl and border security. This has been addressed for the last few months. If these tariffs are removed, then the USMCA non-compliant goods would be subject to a 12% tariff. That is included because Canada and Mexico are not subject to the April 2nd 10% tariff baseline that the President introduced. And not mentioned in the reciprocal tariffs that were also introduced recently. But Mexico is— Canada and Mexico are subject to the 25% tariffs on imports of steel and aluminum, including derivative products, and those tariffs are already biting producers in the United States. And affecting production in particularly in Canada. There's also a 25% tariff on non-US content automobile imports from USMCA. There's a little bit of confusion on how to measure USMCA-compliant parts and non-USMCA-compliant parts. And so these will remain tariff-free until U.S. officials establish a process to apply tariffs to non-U.S. content. I should say that there's more of a problem to this than just developing the rules. There is a capacity constraint in actually implementing these rules over such a broad range of products affecting a wide range of of countries.

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And so Customs and Border Patrol are really going to be challenged by this. There are also potential tariffs that are coming, that are on train as US investigations proceed under Section 232, the national security exemption. On lumber, copper, semiconductors, and pharmaceuticals. This could result in new tariffs and secondary 25% tariffs on US imports from Mexico if Mexico imports Venezuelan oil. And finally, Mexico will be affected by the elimination of de minimis tariff exemptions for small packages that currently will be applied to China and Hong Kong and probably extended to other countries. So my final slide, Mr. Chairman, is the implications of Canada— for Canada and Mexico going forward. Clearly, Canada and Mexico, by not being included in the April 2nd tariffs, are being treated less bad than other US FTA or major trading partners. And so the questions I asked at the beginning of the presentation hopefully are being more muted. Likely that the USMCA will survive, but probably with an expedited review and renegotiation. And so Trump is less likely to withdraw from USMCA? I'd say the answer is probably yes. Though one has— there's a great deal of uncertainty attached to that estimate.

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The USMCA review is likely to be conducted on an expedited basis and aim to limit demands for Canada and Mexico changes. I think those will be limited to specific sectors: dairy, corn, energy, softwood lumber. But compared to the, the broader tariffs that would be widely disruptive for trade among the three partner countries in North America, this would be manageable and I think something that at least the three countries can sit down on the table and talk about rationally. And so I suspect Canada and Mexico may constrain their initial retaliation to encourage moderation of U.S. restrictions and improve prospects for USMCA review this year and perhaps

a modest renegotiation and renewal of the USMCA. Mr. Chairman, I hope this sets the table for our discussions throughout the morning, and I thank everyone for their attention.

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Thank you.

[00:44:57.05] - Alejandro Werner

Thank you very much. Now we turn to Pia on cracking down on the immigration surge implications for the US. Pia is a labor economist and manages the regional and micro group at the research department here at the Dallas Fed.

[00:45:12.05] - Pia M. Orrenius

Thank you, Alejandro. So nice to see everyone. Good morning. I'm happy to hold up the immigration side of things today. So I know trade is kind of taking most of the stage here, but this I think is also important. So this is joint work with Madeline Zvadny at the University of North Florida and Qiaocheng Zhu, who's here at the Dallas Fed with me. So let's start with an overview. As many of you know, we've been through a huge immigration surge that resulted really in record-high immigration. And that was really post-pandemic from about 2021 to 2024. But in a dramatic reversal, migrant encounters at the border are now down 95% if you look year on year from February. So this crackdown on surge migration, it didn't just begin now. It certainly began earlier in late 2023, I think, under the Biden administration. They turned to Mexico for help in stemming the flow since so much of it was coming up through Mexico. And I think that, you know, we looking at the data, you can see that those efforts were pretty effective. But in terms of the crackdown, it's really intensified, of course, under the beginning here of the Trump administration.

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What are some of the things that have been done? Well, CBP One app, which allowed migrants to request appointments to for asylum screening, those have been canceled. So the app is gone. The Remain in Mexico, which if you still approach the Border Patrol on the U.S.-Mexico border, you can ask for asylum, but you will wait in Mexico. So the Remain in Mexico program has been reinstated. Also, various humanitarian parole provisions have been canceled, like the parole for Cubans, Haitians, Nicaraguans, and Venezuelans, and also certain TPS provisions have been reversed, in particular TPS for Venezuelans and Haitians, although some of those I think are caught up in court. There have also been plans announced and beginning to be implemented for increased deportations. So from what I can glean from news reports, initial

goals for ISAR to try to get to about 1,200 to 1,500 arrests per day. If those arrests result in deportations at 1,500, that'll run you about 550,000 removals per year, which is more than we've ever been able to accomplish. So it's a lofty goal, and that's only the beginning goal. Um, so what can we say about the economic impact of the surge migration?

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Of course, it was super controversial, but in terms of the macroeconomic effect, they were pretty large and pretty positive, especially on the labor market. And we know that from various studies that have been done. So of course, now the natural question is, what is the impact of the reversal of the surge or the end of the surge and the promised deportations? So I'll share with you today a structural VAR model, which is basically, you know, a statistical methodology that's going to try to predict using different scenarios of net migration. It's going to predict the effects on GDP growth and inflation. And what we find, just to preview those results, is a negative effect on GDP growth and a slight positive effect on inflation. Okay, so what did the migration surge look like? You've probably seen these charts, but this is basically in the blue line Southwest border encounters, and so those really reached record highs after the pandemic. And in the red line, those are the releases and transfers into the U.S. interior. So what was really— two things really stood out during the migration surge. First of all, an unprecedented volume of migration at the southwest border, and then an unprecedented generous policy that actually allowed many of the asylum seekers and, you know, into the U.S. to seek asylum, or people fleeing, for example, as I mentioned before, Cuba, Haiti, Nicaragua, and Venezuela, allowed them to be paroled into the country.

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So they came and they were, you know, they were let in. So that's really unprecedented. As a result of these policies, we've seen really, if you want to try to quantify the number of immigrants that are in some kind of vulnerable status that may be subject to deportation, we think that there may be as many as 7 million. And this is not kind of including your traditional undocumented immigrants. These are people with quasi-legal status. These are the people that were paroled into the country or are seeking asylum. And so as you can see here in the blue, are asylum seekers, and the green are people that were paroled. And then there's other categories in here just to show you, TPS and DACA, for example. But basically, this gives you an idea of 7 million people in quasi-legal status that could theoretically be approached, you know, due to their tenuous legal status in this country. In addition to this, again, you still have sort of the 11 million or so of sort of the more traditional undocumented migrants, which are of course always vulnerable to deportation or removal. Okay, so speaking of removals, it's not easy to remove people.

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So this is ICE removals. So this goes back to— it goes back about 20 years, the data, and you can see here the blue line is the removals by ICE at the border. And so those are much more common than removals in the interior, which is the orange line, especially in more recent years. So it's actually really hard to find people, to arrest people, to detain people, and to deport people. It's costly, resource-intensive, and we don't do it a lot, I think, for those reasons. Now that said, we have seen with the incoming Trump administration a real large a spike in ICE arrests. Now, I would love to show you removals so far, but that data is no longer being published. So hopefully it'll come back soon. But what we have been able to get in terms of some kind of measure of enforcement under the new administration, we can see ICE arrests. So they're running about 640 arrests per day. And so again, that's gonna be about, That's not enough to get you even to half a million removals a year, certainly not to a million. That's more on par with about 250,000 removals per year if you can arrest everyone and deport everyone, but of course a lot of these individuals are probably, you know, not deportable, at least not without, you know, court review.

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All right, so there's a lot of DHS strategies that are being put in place to amplify the effectiveness of the crackdown. So the need to make it easier to arrest people. So they're broadening the places where they can go, for example, to arrest individuals, things that have been kind of off, where typically ICE has not gone into schools and churches and immigration courtrooms for kind of obvious reasons. So those are now in play. Also, they're pulling resources from other agencies, which this is a very labor-intensive operation. So that certainly has to be done. They're relying more on local law enforcement where they can. And then, of course, they've canceled a lot of programs. So there's now more undocumented people out there to target. A huge constraint for the administration, certainly that this goes back many, many years, there's just not enough detention space. We have about, I think, 42,000 spaces in immigration detention centers, and I think they're pretty much full. And then, of course, funding. We need more money to have more space, to hire more people, and to sort of launch this more broader enforcement effort. So in terms of detention space, we're using then military bases, state jails and prisons to the extent possible.

[00:54:01.14]

And as you've probably heard, prisons even in other countries. More funding is on the way, a lot more funding. So if you look at the budget reconciliation proposals, you know, anywhere from

$90 to $175 billion more for Department of Homeland Security and border enforcement measures. So that is huge increases if those come to be realized. Also, speeding up court proceedings is going to be key to getting this effort underway. Some of the ways that authorities can do that is to expand expedited removal, which means that the immigrant does not get access to review in court, and then also to encourage self-deportation. I think there's even an app where if you self-deport, you can go into the app and say, "My name is such and such, and I just self-deported myself back to—" I don't know how that works. Apparently, like, about 5,000 people have reported their self-deportation. Okay, so what can we expect to see in terms of the macroeconomic effect of reversing this immigration surge? So this is where I'm really relying on the work of my co-author Xiaoqing Zhou, who's developed this model where really we're focusing on two different immigration policy scenarios.

[00:55:20.07]

So here you see the time series really for net unauthorized immigration. So that's everybody who comes in minus everybody who leaves. And here we're trying to include estimates of also the people that we don't observe entering. So the, you know, the sort of the traditional undocumented immigration or immigrants that kind of sneak across the border. So if you, okay, so we have this data here in the black line, and then we have these two scenarios that we're gonna model. The blue is the, The red is the severe scenario. What are the assumptions behind these two scenarios? So in the mild scenario, we continue with the arrest rate and removal rate that we're currently at. So I told you we're running about 640 arrests per day. If we assume that those people are also removed, then that's gonna be our estimate of deportations under the mild scenario. In the more, Severe scenario, we're gonna reach eventually about 3,000 deportations per day. That'll happen by early 2028. The reasoning there is it's gonna take again a while to create the detention space and hire the manpower. And that's, if we ever got to 3,000 a day, that would be about a million a year or a little more.

[00:56:36.07]

So it's probably not a feasible goal, But we just want to have it in there to sort of— so you can see the differences. Under both scenarios, we're going to assume that net inflows at the border go down to near zero. So we're almost there in terms of unauthorized immigration. So we've really been deterring unauthorized immigration here in the last couple of months. OK, so then the empirical approach to try to estimate the economic effects of these two different scenarios. Again, we're gonna use this structural VAR model, which is gonna use data to estimate the effect of the decline in net unauthorized immigration on US inflation and US GDP. We're gonna use annual historical data because that's all we have. And then we're gonna compare the projected effects I'm gonna show you are gonna be relative to the baseline. And for the

baseline, we're gonna use actually the Congressional Budget Office's baseline for their immigration outlook that was published in November 2024. And so that's a pretty bullish estimate. Actually, it's 2.1 million of these surge migrants over the next 3 years. So you see the baseline is going to play into how big our estimates are as we run this model.

[00:57:50.26]

You're going to have to make some key assumptions to believe the causality of these results. So if I'm going to tell you a decline in immigration is going to cause you— cause a decline in GDP growth, then you're going to have to make the assumption that these flows of immigrants across the border are not, you know, are exogenous to contemporaneous economic conditions in the U.S. So the key assumption is conditional on past data, net unauthorized immigration does not respond to unexpected changes in U.S. inflation or GDP growth within the same year. And so we think that this is largely supported by research findings that are out there in the literature. Migrants do tend to respond to economic pull factors, but they do so with a lag. And also other factors are also really important, such as US immigration policy or home country conditions. So what do we get? Well, first let me show you what the data look like. This is what we feed into the model. This is the historical data. It goes back, it's, you know, annual inflows across the US-Mexico border. In red are the outflows. So those are the, returns and the removals.

[00:58:58.22]

And then the black line is kind of the net inflow. And then, of course, we're going to use the data through 2019 because, as you can see, the data at the end of the chart is huge outliers that you really can't put into the model. So in terms of— that is the immigration surge. It's really astounding when you look at it this way. This is all expressed as a percent of the US population in the prior year. So it really does kind of normalize this and show you just what an outlier the immigration surge period was. Anyway, so running these regressions on this historical data, this is what we find. We find under the mild scenario a slight inflationary effect and a large negative growth effect in the near term. So the table kind of summarizes the results, and these graphs kind of show you what they look like. As you project out over the next few years. In the severe scenario, you get also a large negative growth effect and it's more persistent. If you look in the GDP growth chart, you see that in the mild scenario, that blue line, it goes down, that's the negative GDP effect, and then it goes back up.

[01:00:13.10]

You erase it for the most part within a few years. But in the severe scenario, it's a large enough negative immigration impact that you're actually getting a sustained negative effect on GDP growth. I will say there's a number of caveats. We're actually— these estimates are actually pretty big. So first, you know, especially on GDP. So what are some caveats? Remember, we're using data that goes back to 1960, so you could make the feasible argument that the relationship between immigration and GDP was very different, you know, 60 years ago than it is today. So Yeah, point taken. And also on the inflation effect, we have very large standard errors. So I really, you know, the way we're kind of couching this is that the inflation effect is probably closer to zero, but, you know, the tendency is toward to be a positive impact, but really the, again, it's an imprecise estimate. So how do these estimates compare with other, you know, GDP effects that are out there in the literature? You know, here I'm kind of summarizing our mild scenario effect. So -1%age point, you know, effect on GDP in 2025. Most of that is accounted for by the reduced inflow at the border.

[01:01:31.07]

Very little of it is accounted for by deportations. Other estimates that are out there range from about -0.7 to -0.1. Percentage points of GDP. So here, and you can see those are from the, you know, Brookings Institute, Hamilton Project, the American Immigration Council, and some investment bank newsletters have these types of estimates. So you might ask what explains the difference. I gave you some of the caveats already to our model, but it's a different baseline in many of these cases. So we're using a pretty robust estimate for immigration for our baseline. That's the CBO baseline that I mentioned. So that explains part of the size, the magnitude of our GDP effect. We're also just looking at unauthorized immigration, which you're seeing a bigger drop there than you are in total immigration. So some of these projections are including total immigration, not just unauthorized immigration. And then we're really using— I think one advantage to our method is actually that we're using an empirical model, not not some kind of back-of-the-envelope calculation or a theoretical model. So the nice thing about the empirical approach is that the data is telling you what has typically been the relationship between these variables.

[01:02:47.14]

And so it does capture both direct effects of immigration on employment, you know, and therefore on GDP and other things, and the indirect effects, like what's the impact on investment. So, you know, we just have a broader it captures broader effects than kind of these more narrow calculations that maybe some of these other estimates are based on. Okay, great. So let me summarize then. Unauthorized migration is down sharply as you saw in the data. And the biggest reason is not deportations. The biggest reason is a decline in inflows. Obviously

increasing outflows, so these deportations, will take a lot of time and resources. I think published estimates suggest like for every person that you arrest, detain, eventually deport, the average cost is something like $15,000 per migrant. So that's a lot of money. Surge migration, we know from going through this historic migration inflow after the pandemic, we know that it increased job and output growth significantly. So here, so then obviously the reversal of migration is going to do the opposite. And that's what we found in our model, right? We found that, you know, there'll be a near-term decline of GDP of about 1%age point.

[01:04:12.25]

And of course, you should put this in the range of other estimates, which tend to be a little bit lower. That's point to decline of between 0.1 and 0.7. So what's the outlook then? What's the bottom line here? So we think the pace of arrests and removals will increase, but they will likely not reach the target. If the target is 1 million removals a year, we're probably not gonna get there. We probably may not even get to half of those. The other impact we believe is that there's gonna be, as a result of so much enforcement in the interior of the country, there'll be a larger, more entrenched, and really shadowy undocumented population in the sense that they'll be hiding. They'll be fearful. They'll be less likely. We've already seen effects on children's attendance at school. We've seen likely effects on the labor force participation rates of immigrants that also may have this quasi-legal status or undocumented status. It may have an impact on just basic things like shopping and going to church. Of course, as this population goes underground, they're gonna be even harder to find. And then you'll have some other negative consequences of that.

[01:05:26.21]

Will they be seeking medical attention if they need it? Will they, you know, other things that may result. And then in the end, really the bottom line is there is a negative economic impact here. It really is more related to implosion and deportation. So I wouldn't hold my breath on the deportations. I think the negative economic effect of lower immigration is already being realized. That's all I had.

[01:05:59.29] - Alejandro Werner

Thank you, Pia. We have time for questions. So if you have a question, I think we have microphones on both sides. So just line up there and and make your question.

[01:06:30.28]

Okay, let's pick up 2 or 3 questions and then we go back to the panel. Please.

[01:06:43.27]

Yeah, yeah, please go ahead.

[01:06:45.06] - Audience

Yes, um, for the last speaker, um, you made a statement that, uh, this uncontrolled immigration to the U.S. was large and positive. I'm not sure many American workers would agree that it's positive for them as it suppressed their wages. So how do we get, get that? And you refer to GDP, we don't refer to productivity. Right? And then I've seen numbers, uh, $40,000 a year in federal subsidies for these people versus $15,000 for, for exit. Seems something's missing here.

[01:07:22.05]

Yes, my question is about how the Fed might adapt its policy to safeguard domestic firms given foreign investment, especially in liquidity securities like Treasuries.

[01:07:36.18] - Alejandro Werner

You want to repeat the question?

[01:07:39.11] - Audience

Yes.

[01:07:39.25]

How might the Fed adapt its policy outlook to safeguard domestic firms and institutions that rely on U.S. securities for liquidity concerns? Okay. Given foreign investment.

[01:07:55.16] - Alejandro Werner

Let's go to the last one and then we go back to the panel.

[01:07:59.01] - Audience

Hello, um, can you hear me? So referring to the, um, the first question also, what will be the role of the government with regards to if China is going through Mexico, for example, by nearshoring, in terms of how are we gonna do like anti-money laundering on all of that, in terms

of what will be the impact, um, the, the how are we gonna be working on tackling those AML, BSA regulations. Thank you.

[01:08:37.27] - Alejandro Werner

Thanks. So we can maybe start in reverse order. We start with Pia, then with Enrique, and then with Jeff. I'll add my 3 questions. I guess on the VAR embedded, you have a monetary policy reaction function. Any information that you can give us on how high interest rates might go to contain— I mean, you get strong effects on GDP, almost no effects on inflation, then the Fed is doing its job, but maybe interest rates are going up how high they should be, or we can know anything about what would be the reaction in interest rates. I mean, looking at Enrique's numbers, it seems that the reallocation of trade flows has been huge without significant effects on world growth. I mean, the last 3 years we have had relatively smooth average for the post-global financial crisis growth with a huge distortion, let's say, on trade. No, I mean, we forced the trade system to reshuffle in a very important way so far without at least so many visible effects on GDP growth at the world level. To Jeff, at least from my side, also give us a hint of where do you see the revisions in the USMCA, especially on this China issue that we have been seeing that might be at the core of the renegotiation now, especially with such a big imposition of tariffs on China and the numbers that we have seen on reallocation of world trade.

[01:10:46.15]

So we start with Pia.

[01:10:50.14] - Pia M. Orrenius

Thank you, Alejandro. Okay, I'll start with the question from the floor. So I think when I remarked that the surge migration has been largely positive, I was very careful to say on the macroeconomic aggregates. So I was referring to job creation and GDP. So I think there's a lot of evidence, you know, that points to that. I mean, I think, The estimates are that the surge migration may have increased the monthly job creation by something like 80,000 jobs over the last 3 years. So I was strictly speaking to the macro aggregates. In terms of their impact on US workers, that really, we haven't looked at that and I haven't really seen anything recent on, on that exactly, but I will say this past period after the pandemic was really characterized by labor scarcity, by record low unemployment rates, and by really high GDP growth. So I think it's not the environment where you would normally be able to see large negative impacts of immigrants on native workers. So I'll put that caveat in there. But, you know, again, I was speaking strictly to sort of the macro aggregates. On Alejandro's question on interest rates, I think we did not look at interest rates in terms of outcomes specifically, you know, in the model.

[01:12:20.01]

I agree it's an interesting question on how these GDP effects might differ across the business cycle. So if the economy is slowing right now, certainly the impact of immigration on GDP and then you know, in a phase of the business cycle where you have labor slack, which, you know, we don't have yet, but if that's where we're headed, then I think probably the effects of immigration will not be as large as the model would predict. The model is kind of using average economic conditions and not really looking at the business cycle effect. So I think it's an interesting question that we should look into in future work.

[01:13:00.18] - Enrique Martínez-García

Thank you, Alejandro. So I'll respond to a few of the questions that came up. And then in the spirit of nearshoring, I farm out some of the answers to my colleagues.

[01:13:18.05]

So in terms of China's footprint in Mexico, it's very hard to assess for a number of reasons. There are limitations on the data that we have available. When we look at the balance of payments, for instance, on the aggregate, What we see is the ownership of the firm at the end of the process, the firm that brings the factory, let's say, to Mexico. Imagine a situation where you have a firm that is controlled by a Chinese enterprise, but it's headquartered in the US. it will show up in the balance of payments as a US foreign direct investment in Mexico if it decides to build a new factory in Mexico. But in reality, it could be traced to China. There are some estimates out there, and there is some uncertainty exactly about the precise way of doing this that suggests that China's footprint in terms of investment is a lot larger than those aggregate numbers in the balance of payments will tell us. The aggregate numbers, I think they put the Chinese share at around 1% or 2% of all foreign direct investment installed in the country. That's a very small number, and I would consider it a lower bound, but To put a precise number is a difficult proposition.

[01:14:52.22]

The same way, I want to draw attention to some of the things that Luis Torres' research has done, which I discussed. They can trace some of those trade relationships to China. The OECD has done also some accounting to try to assess the value-added content of Chinese inputs into Mexican exports, and they are pretty substantial. All those are clues, they are not precise numbers, but they are clues that the footprint of China in Mexico's manufacturing sector and in

Mexico's exports is very significant, probably in terms of exports, second to that of the US by now and has been growing over the past 10, 15 years at least.

[01:15:56.23] - Jeffrey J. Schott

Well, China has been investing abroad in many countries for certainly the last several years and longer, and part of it is just getting, getting better opportunities and expanding its economic and political influence in different regions. Importantly, this has been in the Southeast Asian region with its partners in ASEAN, and China is also a member of the Regional Comprehensive Economic Partnership, even though that is a, a dumbed-down version of the comprehensive free trade agreements that, that the United States has. But this has allowed substantial Chinese investment in countries such as Vietnam, and some production that was exported directly from China to the United States and other countries now is produced in Vietnam. And so the United States had a very large bilateral trade deficit with Vietnam last year, one of the largest of all the countries. And so it is not surprising that when President Trump issued the reciprocal tariffs list that Vietnam was hit by a very high additional tariff of, I think, 46%. That will inhibit substantially the circumvention of products and directly into the U.S. market, but also there will be efforts, as alluded in another question, to go through Mexico. And here, I think there will be more pressure from the United States to get Mexico to act aggressively under its anti-dumping laws and to impose other border restrictions on certain types of Chinese products such as electric vehicles.

[01:18:01.12]

That's already been done. It gets more complicated as the story is more complex dealing with intermediate components, and that's a large part of the trade as we've discussed this morning. But I think there will be more first indirect pressure, but not necessarily having a common anti-dumping regime in a free trade area. That's very difficult, and I don't think the United States wants any Mexican or Canadian commentary on the way we do business in handling unfair trade practices. So I think that is a part of the more intrusive US-Mexico economic dialogue both on trade but also with the Treasury Department talking about anti-monetary— AML and the like. The final point on USMCA revisions, I mentioned one of my last slides, product or sector areas where there could be U.S. pressure to make changes in the agreement. I think there will be a general pressure from the U.S. in addition to increase the level of local content of goods qualifying for USMCA preferences. That's already occurred in the USMCA compared to NAFTA. In the automotive sector, and I think it will be more generalized, uh, and that will affect supply chains. The question is whether it will be phased in so that there's, there's an orderly adjustment, uh, uh, or, or not.

[01:19:57.23]

So that I think is, is the big one, uh, uh, tighter local content requirements and more bilateral U.S. pressure on, on, uh, uh, anti-dumping against China.

[01:20:12.10] - Alejandro Werner

Thank you very much. Let's take these two questions and then go back to the panel and then we wrap up.

[01:20:26.13] - Audience

Sharing information with the Department of Homeland Security regarding undocumented people filing taxes so that information may be used to expedite removals. Pia, you mentioned that there are about 7 million people who have some type of protected status, but the goal is to make them undocumented. So my question is, what do you think the impact on IRS revenues will be as a result of this? Because these people will likely stop filing taxes. That's my question.

[01:21:01.05] - Pia M. Orrenius

That's probably— I probably don't Oh, I'm sorry. I should have waited. Let me— let's take both questions.

[01:21:07.16] - Audience

You know, I live in Houston, and I go to these events at the Baker Center at Rice University. And they had an event like this, and their big concern was the change in Mexico from the— from an appointed judges to elected judges and how that might undermine the rule of law in Mexico. I was wondering if you have any thoughts about that.

[01:21:35.16] - Pia M. Orrenius

On the IRS, yeah, it's really interesting. I served a stint on the Council of Economic Advisers a long time ago, 20 years ago, under President Bush. And what I realized soon after getting there was, wait a minute, the government knows where everybody is because like the Social Security Administration in particular, they can see where everybody works. And of course, IRS, they can see tax returns and so forth. But really I thought, well, the Social Security Administration really knows this better 'cause they also know like what Social Security numbers are real versus not real or fake. They could probably guess which ones are borrowed. Anyway, it just struck me that it's really interesting in the US system, this decentralized system, that they don't share data. And they don't. I mean, but go to Europe. They all share data. Like, everybody— like, in Europe, the federal government and the local governments, all your data is there. Like, they're literally— if

you're a researcher, you can go and apply to use these data. And you can see everybody's work history, health history, you know, tax history, income, children, births, everything is all, you know, the government knows everything about you and they all share the information, but we don't do that here.

[01:23:00.11]

And it just, it's very interesting and it's very different from other countries. So, you know, it has advantages and disadvantages. So obviously it has advantages that, you know, in the US undocumented immigrants are actually many cases working on the books. Because there's really— we don't really enforce the laws at the worksite and nobody shares data in the federal government. So undocumented immigrants, we think a majority of them are working on the books and they're subject to income tax withholding. And obviously they pay their Social Security tax to the point where we have trillions in Social Security contributions or earnings, you know, that belong to people that we don't know who they are because their numbers are not real. So it's a really interesting system. But it does kind of have these benefits. But of course, it's very vulnerable to changes in, hey, give me your data. I want to know who's working where, where do they live, what do they earn, and this Social Security number, this taxpayer ID number, could this be an undocumented immigrant? Now, I think the IRS, they don't really know because they don't know your legal status. They don't share data with the Social Security or with ICE or, you know, they could easily go to ICE and say, hey, is that, or Department of Homeland Security and say, hey, is this a, you know, what's the status of this particular individual, but they don't.

[01:24:21.16]

So again, I'm not sure how helpful this will be in terms of the IRS. They can tell you like, oh, this person has a taxpayer ID, not a Social Security number, but they're not going to be able to tell you much more. I mean, I guess they can tell you their address, but I'm not sure that they know the legal status of the person filing the tax. I'm not sure they care to know. So it'll be interesting. I mean, again, it's part of these labor-intensive, difficult, complicated processes that are going to be costly and probably not yield a lot of results, I would guess, because we just don't have the manpower resources to act on these tips.

[01:25:06.08] - Enrique Martínez-García

If you don't mind, on the question about Mexico, one of the things that I touch in my presentation is this idea that Even when the tailwinds were in favor of Mexico, the outcomes or the gains were very much concentrated in the usual suspects, the maquilas and the particular

sectors in which there is a strong already built competitive advantage for the Mexican industry. Now, what that reveals in part is that there are reasons or domestic problems that are hampering the ability of these economies to grow, economies like the Mexican economy. You mentioned the rule of law, but that's just one out of many. Policy in general is going to be conducive to either make these gains more broad-based, or it can refrain them. And things like basic public infrastructure, electricity, access to water are a challenge in Mexico. Mexico, and that puts a limit to the ability to expand capacity in the country. So it's things like these that limit the ability for those gains to spread out. Now, this allows me to connect briefly to one question that Alejandro posed for me earlier. So we've seen significant trade changes happen even before the recent action, and yet not much of an impact on growth.

[01:26:39.21]

Trade is just part of the story. And in my opinion, even the particular tariff war or trade war that we are talking about, the 2018, 2019, it tended to accelerate trends that were already happening in the data. So that didn't happen, that doesn't necessarily mean to me that it's going to have very major effects on economic activity, broadly speaking. And that's in fact what we observe in the data because on the aggregate, there are sectoral differences, but on the aggregate, there is not much change before and after 2018. Now, having said that, we might test the limits at some point. of that proposition. But in principle, this, in my opinion, is better viewed as a catalyst or as a way of accelerating trends that were already ongoing.

[01:27:40.26] - Alejandro Werner

Yeah, and just, I mean, to complement the answer on the judicial system reform, I mean, it is a very substantial reform, basically removing all the federal judges or the Supreme Court judges, etc., in two stages, '25 and '27, and then reappointing them through a national election. Legal experts think that this will significantly deepen the problems of corruption, trust, inefficiencies of a judicial system that is already extremely flawed. I mean, according to the World Justice Project, I think the Mexican judicial system is ranked number 32 of 34 countries in Latin America. In the whole ranking of the world, Mexico also ranks extremely low. A lot of people say that the federal system was working much better and the main problems were at the local system. So we are actually reforming and going backwards on the part of the system that at least had a positive trend. And that is, as Enrique was saying, one of the elements that might delay, slow down, minimize the impact this effect of the reallocation of global value chains on top of all the other elements that Enrique mentioned. With that, I'm sorry for those of you that are in line.

[01:29:19.29]

I mean, we can continue the conversation through the coffee break and we will reconvene.

[01:29:29.15]

There was a break.

[01:29:31.08] - Marcus Noland

You got an early start.

[01:29:36.15] - Alejandro Werner

I say whatever the organizers tell me to say. You sure we take a break and then we can bring them back?

[01:44:46.28] - Kei-Mu Yi

Great, thank you. My name is Kei-Mu Yi, and I'm a Senior Vice President at the Dallas Fed, and I'm moderating this second panel, which is on tariffs and the economy. And I'm delighted that we have three very distinguished scholars to talk about Tariffs and the US and Other Economies. To my left is Aaron Flan, Principal Economist at the Federal Reserve Board. And then next to him is Markus Noland, who was introduced earlier and talked earlier. Again, Executive Vice President at the Peterson Institute and also Director of Studies at the Peterson Institute. And then to Markus's left is Mike Sposi, Associate Professor and Director of Doctoral Studies at SMU. So we really have 3 great presentations, and without further ado, I just want to start with Aaron Flan, who's going to talk about the effects of the US-China tariffs on the US manufacturing sector. Aaron.

[01:45:50.12] - Aaron Flaaen

Great. Well, thank you. Really happy to discuss the effects of the 2018-2019 tariffs on US manufacturing and just want to highlight the disclaimer that these are my own views. So the tariff actions that we saw in 2018 and what we're seeing now in 2025 are certainly without precedent for an advanced economy that is also globally connected to world supply chains. And one underlying purpose of those tariff actions back in 2018, and again is also true now, is an effort to revive U.S. manufacturing. And yet, in the current world of a globally integrated industrial activity, the overall impact of tariffs on U.S. manufacturing is complex. These impacts are not limited to a traditional import protection channel that would serve to make domestic industries more competitive relative to imports, thereby boosting domestic manufacturing output and employment, there are also other channels that may serve to have opposite effects. Tariffs

on intermediate inputs lead to rising input costs. And in addition, foreign retaliatory tariffs may also serve to further reduce US manufacturing competitiveness, thereby reducing manufacturing output and employment. Now, these additional channels have been identified by economists going back decades. But I think they are particularly relevant today, given the interconnected nature of global industrial activity that we have now.

[01:47:28.07]

So indeed, for some of us studying the manufacturing sector during that time of those tariffs, we observed output in blue, manufacturing employment in dashed red, start to level off and indeed decline a bit following a previous period of really healthy gains. And moreover, manufacturing employment share, shown there in green, actually fell more dramatically during the period subsequently to when the tariffs were implemented. So I'd like to just do two things with the short period that I have with you. First, I want to look back and prevent— present some of the evidence that we have on the short-run impact of those 2018-2019 tariffs on the U.S. manufacturing sector. To do that, we're going to construct industry-level measures of each of those three channels through which tariffs can affect U.S. manufacturing. That is that import protection channel, rising input costs, as well as foreign retaliation. And then we're going to jointly assess their impact on indicators of manufacturing activity. So we're going to look at manufacturing output, manufacturing employment, producer prices, as well as some broader measures of the labor market pertaining to the manufacturing sector as well. And what we find is that the overall impact of these tariffs was actually negative on U.S. manufacturing.

[01:48:53.06]

Specifically, that rising input cost channel, making inputs more expensive, hurting U.S. manufacturing competitiveness, outweighed the positive impacts that you might traditionally think would be true the impact of the US manufacturing sector. And the key takeaway is that those tariffs predominantly affected intermediate inputs. And so those intermediate inputs were directly then leading to higher costs for manufacturing that, at least in the short run, served to weaken the sector rather than strengthen it. The second thing that I'd like to do is then look ahead and apply the same analytical framework to then think about how the current tariffs that are being implemented right now may also play out for the manufacturing sector. And I want to highlight in particular the role of tariffs on Canada and Mexico and how they are integrated into the US manufacturing sector, and then highlight a few areas where US trade and US integration of manufacturing with Canada and Mexico are unique relative to other trading partners. I'll do that at the end. Okay, so a lot has happened in the last few months, so let me give you a quick refresher on how some of these tariffs looked like in 2018.

[01:50:08.24]

So those tariffs began in early 2018 with tariffs targeting solar panels and washing machines, then continued with tariffs on steel and aluminum, which are highlighted here in red, and then greatly expanded on tariffs targeting China in particular in all of those areas in blue. What I'm highlighting here is the 2017 import values from the United States that were hit by those tariffs during this time period. I also highlight that these actions triggered retaliatory tariffs as well from a host of trading partners, notably China, also highlighted here in blue. And what I'm highlighting here is the 2017 US export values that were hit by retaliatory tariffs during this time. And I've kept the scale the same just to highlight that the magnitude of US trade hit by retaliatory tariffs was smaller than that hit by, by the US tariffs at the beginning. Now, I want to slide back to imports to really highlight the one critical feature of what the United States hit by on a product-level basis with these tariffs, and that is that they were predominantly hit on intermediate inputs and capital goods, those areas shown in blue and red in this chart. The area in green, tariffs hitting consumer goods, was relatively small, and those were the tariffs that would be directly impacting consumer prices, um, whereas those tariffs targeting intermediates and capital goods would be first hitting U.S. manufacturing firms in the form of higher prices of inputs and investment goods.

[01:51:43.27]

This was a really critical feature that was true from the beginning. So for this analysis, what I'm going to do is I'm going to combine some of that data on trade, as well as a tariff list from a variety of sources, and then link that to industry-level data. So we'll be using the Annual Survey of Manufacturers for measures of output. And then we'll combine that with the most detailed input-output data from the Bureau of Economic Analysis that allows us to calculate the cost shares for a particular industry across a host of commodities that we can then link to imports to get their foreign share of those costs. In terms of outcome variables that we'll be studying, we'll be using the Industrial Production Index that's published by the Federal Reserve Board as part of the G17 publication. We'll be looking at employment with the CES program of the Bureau of Labor Statistics. And then also producer prices, also from the BLS as well. So before I get into the analysis, I do want to spend a bit more time discussing these channels that I'm going to be highlighting in this work. I'm going to spare you all the equations for these, but I do want to talk about it verbally to make sure it's clear what these measures are calculating, what they're capturing.

[01:53:00.17]

So first, the import protection channel. This is going to capture, capture what fraction of overall consumption of an industry's products are being covered by foreign sources that are then also

hit by US tariffs. This is going to make US industries of those products more competitive and lead to higher output, the kind of reshoring that's typically discussed in this context. Now, we also have the foreign retaliation measure. What we want to capture here is what fraction of US output is exported abroad but is also hit by retaliatory tariffs, foreign taxes that make that output less competitive in foreign markets. And then finally, this rising input cost channel. This one's the most complicated. And what we want to capture is what fraction of an industry's costs across all these commodities are imported, and then what fraction of those imports were also hit by US tariffs that have made them more expensive, aggregating them all up to an industry-level measure that serves to show whether that industry's cost became more expensive as a result of all of the tariffs that we experienced. This again just means that there was a more expensive supply chain covering US manufacturing industries.

[01:54:21.13]

So to illustrate how all of these kind of play out, what I'm going to show you is the top 10 4-digit NAICS industries that were affected by each of these channels. So we'll start with the import protection channel. And what you can see here is that steel and aluminum show up pretty clearly. You can see that aluminum is a first-ranked industry. Iron and steel mills is the fifth-ranked. You can see washing machines show up in household appliance manufacturing, ranked number 7. And then a variety of other electrical equipment, household, you know, furniture, things like that that were primarily hit with those Chinese tariffs later on in 2018. Moving to foreign retaliation, you can also see steel and aluminum show up here as well, as well as a number of other machinery and more advanced manufacturing in the NAICS 334 core industry— optical media, audio-video equipment, computers, and things like that— that kind of COVID some of those industries for which the United States has a comparative advantage that was hit by retaliatory tariffs. You can also see here, though, that household appliances shows up in the retaliation top 10 as well. When we look at the rising input costs here, you can see that predominantly this is downstream industries from a lot of the steel and the metals tariffs.

[01:55:44.06]

You can see that a lot of the fabricated metals, NAICS 332s, steel products, boiler tank, aluminum sheet plate, a lot of those show up here that had higher costs as a result, particularly of those Section 232 metals tariffs. Other inputs from other transportation equipment, other machinery. But sure enough, The household appliances shows up here in the top 10 as well. Now, that appliance point, I think, is a really important one because it underscores the need to jointly consider all three of these channels when estimating the overall impact of tariffs on U.S. manufacturing. And that's the approach that we take in the study. And so I promise this is the only equation I'm going to show you here. I know it's a doozy. What we do is we show each of

those three channels that we jointly estimate in this equation, along with some industry controls as well. We're also kind of allowing some flexibility with how those channels work in affecting an outcome variable of interest, which will be employment output and then producer prices as well. So let me just show you a visual of this. This is This is a visual of those coefficients pertaining to manufacturing employment.

[01:57:04.20]

So starting on, on the left here, on the import protection channel, what you can see is those coefficients turn positive, but with pretty big standard error bands around them following tariffs, where those vertical bars here show you the beginning and the end of when tariffs were implemented in the period that we're studying. In the middle panel, you can see the export retaliation. Is flat but then begins to turn negative pretty much right away when tariffs were, were initiated. And then that rising input cost channel on the far right shows that it also turns negative but with a bit of a delay as those tariffs kind of work their way through domestic supply chains, which makes sense as it takes a little bit longer for those negative effects to accrue in those coefficients. Let me show you the visual also for producer prices. Here, all the action is taking place in that rising input cost channel, where you can see that producer prices begin turning up pretty much right away when the tariffs were implemented. But one critical feature here is that it wasn't a one-off jump in prices and then things go back down. Things gradually move up for a period of about 9 to 12 months as tariffs were implemented.

[01:58:18.17]

That has implications, obviously, for inflation and the kinds of things that the Federal Reserve is interested in, in the impacts of tariffs. So I'm just going to show you that we do have point estimates for each one of these channels, for each one of these outcome variables. So you can see the positive impact that's marginally significant for employment on import protection, and then the larger, more statistically significant effects on foreign retaliation and rising input costs. Now, I know those coefficients don't mean a lot to you, so what I'm going to do is I'm going to translate those specifically for manufacturing employment using a scenario that would suggest, suppose all of those tariffs had gone to zero, what would be the implied effect of what tariffs were initiated on the level of US manufacturing employment? So what you can see here is that that import protection channel had a positive effect of about 0.3% of manufacturing employment. But the, the foreign retaliation channel had a -1% effect, and the rising input cost channel, the most significant, had a -1.8%. So all told, these tariffs overall seem to be consistent with a decline of about 2.5% in U.S. manufacturing employment.

[01:59:36.08]

That amounts to about 300,000 manufacturing jobs. That's kind of translating this. We can do a similar exercise for producer prices, and the number there is about a 3% gain, a 3% rise, 3%age point gain in U.S. producer prices as a result of these tariffs during this time period. Okay, there's a number of other additional results that we study in the paper. If you're interested, just take a look at the paper. But what I want to do is then kind of switch gears and look ahead to what's currently happening now and also highlight specifically our trading partners of Canada and Mexico. So what I'm going to do here is I'm going to take that same approach and highlight that rising input cost channel that was the most significant in 2018 and show you here the top 10 industries that are reliant on input costs coming from Mexico. And what you can see here, perhaps unsurprisingly, is that motor vehicles plays a pretty strong role here in what US manufacturing relies on coming from Mexico. But you also see some other areas of machinery, electrical equipment that are also important for how US manufacturing is related to Mexico.

[02:00:53.05]

If I do the same thing with Canada, you actually have a different industry mix. Here, what you have is a lot of US industries that are reliant on high energy content. So aluminum is famously reliant on energy, but you also have pulp, paper, wood products, and fertilizer also highly reliant on— it's very energy-intensive production, reflecting the high degree of imports we get in energy products from Canada. But it's not only that. You have some other industries there as well— transportation, and some other metals content there too. So what this gives you is kind of what we will be looking at in terms of US industries that could be potentially hurt by some of those tariffs applied on this rising input cost channel. I want to conclude by highlighting one final point about how the US relationship in manufacturing is unique when it pertains to trade with Canada and Mexico. It's often said that North American manufacturing is highly integrated. But what does that really mean? What it means to me is that it's very common for it to be the case that US exports an input to Mexico that is then further assembled in Mexico into a finished product that is then re-exported back to the United States.

[02:02:11.20]

And so what that means is that there is a lot of US content embedded in what we import from, from Mexico and Canada. So what I've done is I've constructed some measures of this in this, uh, in this chart here. So let's just focus our attention on the far left set of bars there that measures the U.S. content embedded in imports from Canada in red, Mexico in green, China in purple, and then that offset set of bars of all foreign countries in blue. And what this says is that there's a lot of US content embedded in our trade with Canada and Mexico specifically, about 20%. So that means that for every dollar we import from Mexico and Canada, about 20 cents of that is actually US content, US value-added embedded in those imports. And this is unique to

Canada and Mexico. You can see that for China, it's virtually nothing. It's about 1%, if anything. And then across all countries, including Canada and Mexico, it's about 6%. Moving to the other bars, you can see fabricated metals, electrical equipment, and then unsurprisingly, it's the highest for motor vehicles, reflecting the unique nature of that industry, unique level of integration of that industry in North America.

[02:03:30.27]

So what does this mean It means that tariffs on Canada and Mexico have unique repercussions for the US manufacturing sector. What I like to say is that retaliation is actually built in to when we put tariffs on Canadian and Mexican imports because it's going to already affect US content. And so it's good to see that in some of these tariffs that are being implemented right now, there are some provisions that would be able to net out US content. I think it's going to be really interesting to see whether US firms have significant— sufficient information to be able to have that to net them out and report that to Customs and Border Patrol. Okay, so let me just conclude. I've looked back, and what we've found is that in a globally connected manufacturing landscape, understanding the overall impact of tariffs on manufacturing is complicated. You need to control for many different channels through which US manufacturing is affected. And what we find actually is that the negative channels outweigh the positive channels. And the reason is that much of the tariffs were highlighted on intermediate goods. And because they were focused on intermediate goods, that amplified those negative effects hitting US manufacturing production.

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And we see that in the form of lower manufacturing employment and higher and higher prices. And then I'm just kind of drawing attention to some of those industries that could be impacted going forward. Forward exposed to Canada and Mexico, and that we want to have particular care being taken to the tight integration of U.S. manufacturing within North America. Thank you very much.

[02:05:07.23] - Kei-Mu Yi

Thank you, Aaron.

[02:05:12.26]

Our next presenter is Markus Noland, and he's going to do a look forward and talk about the economic effects of the North American tariffs.

[02:05:26.08] - Marcus Noland

Okay, well, they say that Americans start presentations with a joke and Asians start presentations with an apology, and I told my joke earlier, so I guess I'll start with an apology now. A few weeks ago when I pulled together this presentation, I thought it was a pretty good presentation, but looking at it today, I realized that some of the material in this presentation has been overtaken by by events because we've been modeling what President Trump has been announcing, and then he keeps on changing the announcements. But I think nevertheless, you'll get a sense of how these models work and what some of the results you should expect are. How do I get this to go forward?

[02:06:23.23]

It's not— that one. Okay. All right. It's a good thing my degree is in economics and not electrical engineering. So the work I'm going to be presenting is with Warwick McKibbin, an Australian economist. It draws on two publications that we have done, as well as some unpublished and possibly never-to-be-published material. Um, and the basic strategy has been to take President Trump at his word and not try to make political judgments because that's not our comparative advantage. And the results that we get from these models is that the imposition of protection will slow growth, increase unemployment, increase inflation and not lead to an industrial revival. Like Aaron, we get the result that these tariffs make the US a high-cost place of production, and so it actually hurts the industrial sector. Okay, so President Trump has promised tariffs galore. We have tariffs individual items. We have tariffs on Canada and Mexico, particular interest to this group. We have a 10% global tariff. We have pre-existing tariffs. We have— see, we had 60% plus tariff on China. We were pikers. It's now up to 125%. We have the China Permanent Normal Trade Relation revocation, which is actually interesting.

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And if anybody wants to ask me about it, questions, that would be great. We have a tariff on something called the BRICS, which he announced but hasn't actually implemented, which briefly made me famous in Brazil. And we then look at the possibility of retaliation in all cases. Now, one of the problems is President Trump has articulated multiple and contradictory motivations for these tariffs. They include protection of domestic industry, generation of revenue, and negotiating leverage. If it's negotiating leverage, then it can't be generating revenue because you either have to make them permanent or not. And so we've modeled a whole bunch of these things, and I will not go through all of them. The model is an interesting model in my senses that most of you are not academics, so I'm not going to go through this in great detail. It's, uh, it's what is called a dynamic stochastic general equilibrium equilibrium model combined with a computable general equilibrium model. So it's basically a forward-

looking macro model that has inter-industry linkages at its core. And what it does is it generates a steady state, and then we hit it with shocks which lead it to deviate from that steady state.

[02:09:14.21]

So back in the day, President Trump was talking about putting a 25% tariff on Canada and Mexico and a 10% tariff on China. So we wrote a blog piece which attracted a fair amount of attention in which we modeled a 25% tariff on Canada and Mexico, a 10% tariff on China, and retaliation by China. We didn't think Canada and Mexico would actually retaliate. And for some reason I chose to bring in a slide that has retaliation, whatever. What you see is that that policy, if it had been implemented, would have reduced US growth from baseline by about a few tenths of a percent. It would have had a much bigger impact— it would have had a bigger impact on Canada, much bigger impact on Mexico, because— and Mexico is the smaller, poorer economy, so definitely not good. Good for Mexico. I don't think the model adequately captures the globally integrated supply chains. And so I think that especially when we— if we start actually looking at a model with 125% tariff on China, I think we're probably going to underestimate the degree of disruption associated with that policy. And as you can see, it generates some inflation and so on.

[02:10:33.22]

Okay, now. The big kona. We looked at the so-called reciprocal tariff, the April 2nd liberation, hold your wallet day, and what we find is if you just go through with the 10% on the world and 20, you know, higher tariffs on various other countries, you knock about a bit more than 1% of GDP growth in the United States. And then if you get retaliation, you get bigger effects. And then of course you get bigger effects on Canada and Mexico, which are smaller, more open economies. You get a spike in inflation. These results are pretty predictable. But one thing, it hit me listening to the first presentation, we shouldn't get lost in the weeds here. This proposal, the January 2nd proposal, would have amounted— would have brought US tariffs back to a level that they had not been since the first half of the 19th century. The marginal increase of tariffs embodied in that announcement was bigger than Smoot-Hawley. I don't think we should lose sight of that. We're talking about enormous shocks. And even if he pulled back yesterday on most of it, the idea that we're going to impose a 125% tariff on China and they're going to retaliate with an 84% tariff on us would have been inconceivable even a few weeks ago.

[02:12:03.08]

So this is not good. All right, now I would like to make a short detour into mass deportations because we also modeled that. And we modeled two scenarios. President Trump repeatedly

said he's going to have the biggest mass deportation in history. Well, the previous biggest mass deportation history was was Operation Wetback during the Eisenhower administration, where we deported about 1.3 million people, mostly Mexicans, some American citizens. And so we modeled that, do that over a course of 2 years, which would correspond to PIA's estimate of sort of an aggressive, you know, what their notional goal is for the pace of deportations. And then we said, let's take a really aggressive position. And let's deport all undocumented workers. That's over 8 million people. And so let's see what happens if you do that. And they're not evenly distributed across sectors, and so you're going to have some sectoral results. And then here we get the actual impact. And, you know, one of the interesting things about doing research is what are the things that surprise you? What are the things you wouldn't have thought of? And so on the deportation, I was actually really struck by how small the spillover effects were on other countries.

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So I would have thought that the, that the contraction of output in the United States would have had this negative shock which would have been propagated to other countries. That is true, but at the same time you get increased net capital flows going into those other countries. So you have a contraction of investment in the United States but expansion of investment elsewhere, and those kind of net out. And so as you can see from that first slide, you get a big decline of output in the United States, but not in other places. And if you look at the, the second, the right-hand panel that compares the, um, the 1.3 million scenario and the 8.3 million scenario. And as you can see, the 1.3 million scenario, the magnitude of impact is similar to what Pia got in her VARs. So I mean, that gives you some sense that you're getting that answer, that if you, you know, deport people at the rate that the Trump administration says it wants to do, you're going to push US growth more than 1% below its trajectory. Now, US secular growth is about 1.5%. So if you have a tariff policy that knocks 1% off of it and you combine that with a deportation policy that knocks more than 1% off, you're in recession.

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The tariffs can probably not get you a recession on their own. They can get you stagflation. If you put in some extra— we think there's been an increase of risk in the financial markets, and Warwick and I are going to model that as well. So maybe a tariff implemented in a really crazy way could get you a recession. But if you start combining it with something like deportations, yes, you can really slow American growth down. Now, since we're at the Fed, I'm going to make another detour, and that is into the erosion of Fed independence. President Trump has made lots of statements about how he thinks he ought to have more influence at the Board of Governors of the Fed and the Open Market Committee. One of my colleagues who came up in

our dinner conversation last night, David Wilcox, who for a long time was the head of the Board of Governors Division of Research and Statistics, wrote a very good paper for us who went through all the channels and mechanisms you could do to undermine Fed independence. So Warwick and I decided to model it. What we did was we took the impact of a loss of— no, gaining independence tends to lower your inflation rate.

[02:15:43.10]

So if you reverse that, losing independence tends to raise your inflation rate. We calibrated the amount and we applied it to the United States. So basically what happens is the Fed targets too high a growth rate. And so what you initially get is a big increase in output, but then you get this collapse. And so that's what you see. Messing around with Fed independence is a bad idea. I hope the colleagues from the Dallas Fed are happy that I got the result that messing with you guys is not a good idea. Okay, what are my conclusions? Uh, well, the Trump program embodies considerable risk. Uh, the tariffs have these negative downsides. They slow growth, they raise prices, they raise unemployment, they do not contribute to reindustrialization, just the opposite. The mass deportations carry an even greater risk depending on the scale. Um, the combination of the two can be very disruptive and felt very unevenly. So if you're putting tariffs on Mexico say, and you're disrupting the supply of winter vegetables and other foods at the same time you're deporting people, you're really going to mess up, say, restaurants, okay? Because they're going to be hit by both the supply shock and labor shock as well.

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Eroding Fed independence makes it all worse. That was another thing that was kind of interesting about eroding Fed independence. I thought it would hurt everybody. It didn't. It actually helped everybody else. The reason was capital starts flowing out of the United States. And these other countries experience capital inflow, increased investment, and so on. The impact on Mexico is particularly pernicious. It's small, open, and poor, and as is the damage to the US credibility as reliable partner. If I had wanted to hog the stage and ask Jeff Schott a question this morning, I would have asked him, why will anybody take any of these commitments under revision of USMCA seriously? I mean, it's pretty clear the Trump administration is not bound by previous commitments. So I'm not sure why Canada or Mexico— I mean, they sort of have to deal with the US because of their location, but I don't think you could put much stock in any kind of commitment the United States made at this point. So I concluded, and remember this was written before yesterday, that this was the euro without the fiddle. I'm happy to see that the flames appear to have gotten sufficiently hot that Nero got up, stopped fiddling, and threw some water on the fire yesterday.

[02:18:17.00]

Uh, let's hope that he, uh, continues to do so. Thank you.

[02:18:28.08] - Kei-Mu Yi

Our last speaker is Mike Sposi. He's going to talk about what determines state heterogeneity in the response to U.S. tariff changes.

[02:18:43.27] - Mike Sposi

Good morning, good afternoon, everyone. First, let me thank the organizers and the Dallas Fed for hosting this event and inviting me to talk. This talk is going to be based on an academic paper. I'll spare you the technical details and just give you some of the lessons that we learned and I'm going to kind of pitch the tone from how do economists think about tariffs at a fundamental level and talk about some of the issues that haven't been brought up in detail today about the tariff revenue side and also heterogeneity. I think Mark Wynne mentioned in his opening remarks that trade creates winners and losers. There's, of course, the aggregate numbers that we care about, but under the hood, there's a lot of stuff going on. And I'm going to try to get into the weeds of that a little bit as well. Which button do I hit here? Oh, here we go. Okay, the green one. There's two greens. Okay, so I'm gonna first— there's gonna kind of be two parts to this. First is gonna be kind of framing the, um, the discussion about aggregate outcomes in terms of what are the aggregate trade-offs that are faced?

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What are the tensions associated with trade policy, namely with respect to how prices respond to inflationary pressures? What happens to jobs and people's income? And of course, the government revenue side. Tariffs, in principle, can generate more government revenue under certain conditions. And as an outcome of these policies, who are the winners and who are the losers? Certain industries may benefit from the protection. Other industries may suffer from loss of competitiveness. And then, of course, there's regional impacts that vary. And I'm going to split the regions up into 50 states. And I'll talk specifically, given the audience, about Texas. So just a very fundamental thing here. What exactly is a tariff? Okay, I think it's important that we understand exactly what it is. Sometimes people say exporters are paying tariffs now. It's not how it works, okay? A tariff is applied as a sales tax on a good that was produced somewhere else, and that tax is paid by the importer. Just like when you're driving down the North Texas Tollway, there's a snapshot of your license plate, you, the consumer of, you know, using that road, is going to be sent a bill for paying the tax.

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Okay, it's exactly how a tariff works. Now, at the end of the day, the incidence of the tariff may be shared between the exporter and the producer of the good if they lower their prices in response to the tariff, but that's kind of a secondary thing, and that's kind of ethical. What we have to sort out. But the important thing here is the tariff is paid by the import. Okay, it's a sales tax on particular types of goods. Okay, now I'm not going to go into the details of the model. There's kind of a more complex general equilibrium framework in the background, but I'm going to ask you to just hang with me for one equation. Economists will tell you that an equation is often worth a thousand a thousand words. That will be true here, and this will help just ground the discussion. So this is just basic national accounting, okay? P is the price level, C is kind of like an index for total, uh, total demand. It could be consumption by households or by government, okay? So the product of P and C is just your GDP number. That's going to be equal to the factor income here.

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That's— we're going to have a wage index. It's kind of— think of that as the average wage in a country. And L will be the employment level. Okay, and then the T is going to be, uh, government revenue. Okay, and in this context, we're going to be thinking about tariff revenues specifically. And we want to understand the response to changes in tariffs, you know, how do those move through these different variables in this equation. Now, at the end of the day, the focus that I'm going to have for trying to quantify the implications of these tariffs is thinking about the outcomes with respect to quantities. Okay, what happens to your level of consumption? Um, so we just divide through by price level P. Okay, and now we're going to evaluate the effects first of the U.S. unilaterally raising its tariff on all trading partners. Okay, so just to fix ideas, I'm not doing any specific policy attached to the April 2nd announcement or others. Initially, I had planned to do that, but given how things have been unfolding, 2 days ago I said I quit. I'm just doing the simplest thing, and at least this will give us to ground the ideas.

[02:23:49.22]

Okay. And so we're just going to imagine as we vary the US tariff on all trading partners unilaterally, What are the implications? And then we'll talk about the effects if there's retaliation as well. Okay, so the first thing that people usually think, which is reasonable, is that prices are going to have to be higher. We're adding a tax to goods, consumer prices are going to be high. How much higher? Well, that magnitude depends on something we call pass-through. So this is now in everybody's language for the past week or so. What determines the extent of pass-through? Okay, well, it's really primarily a function of two things. One is how elastic is your demand? Okay, we impose a tariff, say, on Mexico. We were importing sneakers from Mexico.

Um, how much are— how much increase in price are we going to observe? Well, if our demand is relatively elastic, in other words, we could find alternative sneakers, close substitutes, from someone else or produced at home, right, then it's very likely that in order for Mexico to stay competitive, they'll have to reduce their price. Okay, so then there'll be very little pass-through. At the end of the day, they'll absorb the incidence.

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The other is how elastic is the supply coming from Mexico. Okay, if their sole consumer of their product is the U.S. market and our demand for their good drops, then that's gonna force them to have to lower their prices or exit the market. Okay? So that's another margin in which we would see high pass. So these are the two things that determine pass-through. So these models that economists are running, these are kind of the key parameters that go into these things that are generating the numbers. Now, all this said is, The degree of pass-through is determining the terms of trade between, let's say, US and Mexico in this context. So let me give you an example. We're importing sneakers, say, for $100, okay, one pair of sneakers, duty-free, okay. And now the US imposes 10% tariff. Now you might say, well, now these are going to cost $110. Well, potentially, but depending on these two elasticities, that may not be the case. Let's just pretend for the sake of argument that the import demand and export supply are both relatively elastic. Mexico drops its price, say, to $95. Okay, now we're implying a 10% tariff on $95, so now it's going to cost the U.S. consumer $104.50. Not the $110, still higher than the initial $100.

[02:26:39.02]

So the price level has gone up, but now there's $9.50 that the US government is collecting in revenue. Okay, what happens to this revenue is kind of important, um, for understanding the overall impacts. But let's put that aside for a second. The key thing is the dollars that left the US for that pair of sneakers went down from 100 to 94.50. So our terms of trade improved. We could potentially buy more sneakers for each unit that we export. So I'll come back to the tariff revenue thing in a minute, but you can imagine that can go many different directions. It could be rebated to the consumer in principle. It could offset other forms of taxes, say income tax. Or it could result in more government expenditure, maybe building highways, bridges, whatever. Okay, we don't necessarily know. I'm not going to take a position on what, but there's additional resources now that the US has that it didn't have before. And that's what the last term in that equation is reflecting. Okay, now what can we say? Well, as tariffs rise, we're going to face higher prices. Consumer prices. Okay, and this is for a particular scenario where I'm just— I'm pulling the tariff level lever little by little.

[02:28:01.09]

Okay, 0 on the x-axis means status quo, and each increment is just a percentage point increase in the U.S. tariff applied to all goods and all trading partners. So the real income, which is basically total income, wage times employment, relative to the price levels, the purchasing power of the income, that falls. And it falls more and more as the tariff gets higher and higher, mostly reflecting higher price levels with higher tariffs. So that's one thing going on. The terms of trade improvement is generating additional tariff revenue for the government. That's this dotted line that goes up. Kind of has this hump shape. Initially, small increases in tariffs when you start from low tariff levels lead to higher tariff revenue. Extreme case, if you have zero tariffs, then all of a sudden you impose a 1% tariff, there's going to be now more tariff revenue than zero. Okay, and this keeps going up and up. Eventually, at some point, imports become so small from the higher tariffs, the tariff revenue starts to fall. So this is the classic Laffer curve, which you may have heard in other contexts. Okay, so that's going on here as well.

[02:29:17.02]

Now, the net impact— let's assume that these tariffs are rebated to consumers, okay, just to ground the discussion. Okay, what would be the net effect on total consumption? It's going to be the sum of these two things, and that's this blue line right here. A unilateral increase in tariff is not always necessarily leading to a loss in GDP. In fact, according to this model that's first arisen, there's gains from imposing tariffs because the US improves its terms of trade. Again, this is in the absence of retaliation. Now, there's a limit to, you know, how much you can exploit these gains if tariffs gets higher and higher, then eventually the gains turn negative. But there is a notion that unilaterally, the optimal tariff is not zero, unilaterally. Here's where things fall apart. It's very rare that it's the case a country can come along and just unilaterally raise tariffs without and other countries to sit back and not do anything in response, as we've recently seen. So the picture kind of flips completely upside down once we take into account retaliation. So here, the calculation I'm doing is for each percentage point of tariff that the US imposes, all the trading partners engage in tit-for-tat retaliation and apply the same exact increase in tariffs on US-produced goods.

[02:30:53.11]

Okay, tariff revenue still is positive, it can't be negative, right? Um, but the factor income, labor income, falls much faster in this case because now U.S.-produced goods face, uh, larger distortions in foreign markets. So exports and production fall. That's lower employment in the U.S., less income in the U.S. And on net, prices go up faster than before, and it's just straight downhill. In this setting, in the presence of trade wars and retaliations, there are no winners. This is the sense in which economists say no one gains from trade wars. This is exactly what

they mean. Now, under the hood, Of course, the tariffs offer protection to some industries, some workers, okay? But they also raise input costs and reduce competitiveness for other industries. Aaron Flan had just given some great examples of that just a few minutes ago. In this work, we explore 16 different sectors, and the top 3 winning sectors here are textiles, mining, and wood. The big three losing sectors are basically— this is capital goods, okay, this is investment goods— transportation equipment, computers and electronics, and then chemicals and pharmaceuticals, which are very intermediate. Okay, so those sectors lose competitiveness as a result of the higher tariffs, and states that are exposed to those sectors the most are going to be it's going to determine whether those states as a whole gain or lose from the tariffs.

[02:32:44.04]

So just to give you a sense of where the US sits in terms of competitiveness vis-à-vis the rest of the world across these different sectors, here I have plotted— so that's in the black lines, they sorted from most competitive industries in the US to the least internationally competitive industries. And the white bars represent Texas. Okay, there's a correlation between these, but clearly mining stands out as a globally competitive sector in Texas. We're sitting on oil. Okay, um, and so, uh, so that industry is going to experience different impacts than the rest of the U.S. would. Okay, and there's other small differences here and there across different sectors, but this is just to give you a flavor that even if overall effects for US are one direction, what happens at the state level depends on other kind of nuances about the particular characteristics of that state. Okay. So let's look at a little bit of these two aspects. How are the impacts of tariffs distributed across sectors? How are they distributed across states? And the fixed idea is we're going to consider a uniform 25% tariff. Fixed tariff increase of 25%. This is not far off from if you were to take just a trade-weighted average of the April 2nd announcements.

[02:34:06.01]

It's roughly in that ball, without the nuances of all the country heterogeneity in that tariff schedule. Okay, let me just look at pictures now. No equations anymore. Okay, this is the percent change in consumption. On the left is without retaliation, right? So US on average gains like a half a percent, okay, in terms of real GDP. But you see the gains are, are very different across different states. If you look particularly Montana, Oklahoma, and all along kind of the Rocky Mountain, uh, uh, regions, these are, these are states with, with, uh, large mining industries, okay. If you, if you get U.S.-produced potash, it's coming from New Mexico. If you get US-produced palladium or platinum, it's coming from Montana. If you're getting US-produced coal, there's a 50% chance it's coming from Wyoming. Okay? So high tariffs, and those sectors represent large shares of economic activity in the respective states. So what are tariffs doing? Well, for Wyoming, it's blocking competition from China. So now Wyoming could serve the entire

US market. Okay, even if the price of the commodity, say, falls because economic conditions globally are worsening, right, they captured a big market that they didn't have control of before.

[02:35:31.09]

Okay, so there's large benefits from that. States that suffer the most: Washington, Oregon, California. These are states where large amount of economic, economic activity is in the computers and electronics and tech industries in general. And those are the sectors that suffer the most. Now, we think about retaliation, right? Then the game kind of flips. US loses now, like, full percentage point GDP. The terms of trade reverse out of the US's favor. Texas suffers. Compared to before. But there's still winners. Now you look at a state like Wyoming, Montana, again, these mining states, their gains are even greater than without retaliation. And how is that possible? Well, the reason is these states also don't import a lot from outside of the US. They import their goods from other US states. And now economic conditions are worsening in other US states. They can buy their stuff at cheaper prices. So there's a sense in which there's states that truly do benefit from even an all-out trade war. Here I also have numbers for Canada and Mexico. So without retaliation, it's almost getting close to a loss of 2% of GDP. From US-imposed 25% tariff. When they retaliate, there's still losses for them, but you see their losses become smaller.

[02:37:11.10]

So it's actually always in the country's interest to retaliate rather than sit back and take it. Okay, let's look across sectors now. The vertical lines kind of show the range of the impacts across states at the sector level. Okay, what's happening to the income of workers that work in these sectors? Okay, if you take agriculture, those, you know, the impacts range from almost -10% to close to +5%. Okay, so there's big dispersion even within the sector level looking across states. And here I've kind of indicated Texas, given where we are today. And you can see the industries where we're above zero, and Texas is kind of the sectors where Texas has a relative advantage compared to other US states, mining for one, as an example. Okay? But the point is, even these ranges, in many cases, they span from negative to positive. There's always winners and losers. Okay, now let's look at just a couple states that I've pointed out previously. What happens if we, you know, just crank that tariff up, just keep going? Okay, so starting with the top left, that's Texas. The gray lines are for US, just to give you some kind of perspective.

[02:38:46.03]

The solid lines are for the particular state with and without retaliation. This is just showing you that most of these states, well, at least the ones I pointed out here, even with 25% tariff, there's

gains. But eventually these gains turn to losses for most of the states. There's a couple exceptions. We take Wyoming. You see the black dashed line, the black solid, but those keep going up. I could run that tariff up to 1,000%. They don't come down. These states benefit from US isolation. They trade a lot with other states. They export. They're sitting on endowments that only they have and serving the US market in the absence of foreign competition. So they like protection. Okay, now just to give you a flavor of, you know, how have the tariffs unfolded to today. I haven't checked the news in the last hour, so it might be different. So this is where we sat before Trump 1.0 tariffs. Okay, I have kind of our most important trading partners. And as well as the different industries we're looking at here. So very low, okay? The average of these is like on the order of 1.5% tariff applied by the US, okay?

[02:40:17.12]

Now you can see in the textiles industry is a sector where the US generally had higher tariffs than on other sectors. And in agriculture, that's a very common theme. Most countries tend to protect especially agriculture sector a little bit. You look across Mexico and Canada, very little tariffs, basically zero almost across the board because of NAFTA and USMCA. What did US face? That's on the right side. Well, that picture looks a little different. There's a sense in which US faced higher tariffs in markets that it sold to than those markets faced coming into the US. Now, the higher tariffs that were faced by the US, those are primarily higher in developing or emerging economies like India, for example. Okay, and then also you see all these foreign countries tend to have higher tariffs on agriculture and food than the other sectors as well. Okay, so that's where we started, and the average of that was a little over 2%. Okay, so there's small asymmetry. Okay, so Trump 1.0 On the left side, we have steel and aluminum tariffs. Those are the green bars, metals, right? So those range from 10% to 25%, pretty much across the board in terms of applied to all foreign countries.

[02:41:40.12]

And then there were tariffs on semiconductors. So that's in computers, electronics. And then China was special, and they got across-the-board tariffs. Of close to 10% across all sectors. So that's what was imposed in 2018, 2019. There was some retaliation. EU retaliated. India retaliated with massive tariffs. That's a giant yellow bar over there on autos. And so this is kind of the beginning of the escalation trade war. And then here we are today. It might not look as dramatic, but if you look at the scale now, right, see on the left side, that's the 125% tariff on China. Okay, so this is enormous compared to the, you know, all the rest of the tariffs. Now, I don't have included here, like I said, all the changes that have taken place in the last 24 hours. But, um, that's kind of where we're sitting. In fact, I was gonna— I was— I did have a bunch of scenarios, um, kind of set up, and I was running the model every single day, and as of Tuesday,

I just quit. So I'm not going to show you the implications of these. I'm working on a blog post with, uh, with Enrique Martinez Casillas, and depending on how things unfold, we might have some new updated numbers depending on what tariffs stick.

[02:43:14.01]

And so that will be coming soon. You can contact either one of us if you want to get more information about that in the future. Thank you.

[02:43:28.26] - Kei-Mu Yi

Thank you. So let's now open it up to questions. While we're waiting for the audience to get to the microphone, I'll just ask one question of Aaron. Aaron, you talked about the negative input cost effect and that hurt employment in US manufacturing firms. In our first session today, Enrique talked about how the Mexican, especially the maquiladora type firms, expanded their exports to the US. I was wondering if you could just talk a little bit about how the additional Mexican exports to the US, how that might have impacted the US firms' response to that, because all of this is coming as a result of the US-China tariffs. So you want to just comment briefly on that?

[02:44:20.20] - Aaron Flaaen

Yeah, sure. The first thing I mentioned was that there really was no precedent for the scale of tariffs that we saw. And that meant that we really didn't have a lot of empirical evidence on which we can base some of our predictions before 2018. We had a lot of models, but not a lot of empirical evidence. One thing that we've learned is what Enrique was saying, was that we saw a lot of trade diversion, that a lot of the tariffs, a lot of the imports that was coming from China moved to other countries, Vietnam, Mexico, and the like. So that allowed for some flexibility so that some of those tariffs, rather than increasing in cost, just moved locations. And so that did soften the blow in terms of that rising input cost channel, surely. Over some period of time for US manufacturing, so probably moderated some of those declines that we saw in the manufacturing sector. And it's a big difference now where a lot of the tariffs are being announced, some of it being really high rates on China, but a lot of it being across the board. And so then we need to look for other evidence on which to do this.

[02:45:25.09]

I'm going to shamelessly plug another paper I have on washing machines. Now, washing machines was the the tariff that affected all countries. So there, the import protection channel was a little bit stronger because you couldn't get it from anywhere else, right? So we did see

some increase in US manufacturing as new plants came online inside the United States. But what we saw that was along with that was higher prices, that because there was no flexibility, prices had to rise. So we saw larger inflationary effects coming from that. So I think that's where country-specific versus global is a really important dimension for us to consider.

[02:46:02.22] - Kei-Mu Yi

Great. Thank you. I see we have 4 people waiting to ask questions. Let's start on this side. Why don't we take your, your questions first? Great. Thank you.

[02:46:12.03] - Audience

So there wasn't a lot of discussion of services, and I'm wondering if that is layered on how does the trade balance look? And then secondly, on, on the services, what kind of trade barriers could be put in place to distort that? And then also kind of a housekeeping item on—and maybe some of the economists know this—so if a US worker is in Mexico doing services work, how does that kind of fit into the— there's a lot of remote work during COVID and things like that. How does that fit in at all to the picture?

[02:46:42.11] - Kei-Mu Yi

Great. Thank you.

[02:46:43.10]

Let's go to the next question.

[02:46:46.29] - Audience

While you were doing your presentation, the White House said that the tariffs on China are really 145%, not 125%. So I just thought I'd let you guys know that. My question is specifically about—

[02:47:00.27] - Marcus Noland

Are you serious?

[02:47:02.08] - Audience

I'm serious. I'm serious. Yeah. Yeah. I won't tell you what the market is right now, but that's another story.

[02:47:09.29]

My question is specifically about steel. And tariffs in the steel industry. So Nippon wants to buy U.S. steel, and one of the ways that they're— what they've said is that they're going to put $5 billion into improving the, the, the Harft and all of that as part of that deal, and the unions are all for that. My question is, can you guys talk about how tariffs retard innovation and capital improvement in certain industries.

[02:47:46.23] - Kei-Mu Yi

Okay, thank you. I appreciate the brevity of those questions. And so because of that, let's go to—

[02:47:52.08]

let's do two more here, and then we'll open it up to

[02:47:55.29] - Audience

Steve Gardner from Baylor University. Uh, I think my question is primarily to Professor Sposie, and I'm just trying to get a handle on the level of abstraction of the model that you're working with, because you, you said that your result was that without retaliation, the overall effect of tariffs was fairly neutral on the overall economy. That would seem to disagree with about 95% of economic opinion in the United States, according to American Economic Association surveys. So I'm just wondering, are you— in the short run, would your calculations take into account things such as supply chain disruptions, or in the longer run, would it take into account comparative advantage considerations of when you impose tariffs and you move the US from higher productivity sectors to lower productivity sectors, and also take into account the kinds of input-output considerations that were in the previous, that when you impose tariffs, you're changing not only the relative demands for products, but also how those products, which gets into the supply chain issues.

[02:49:18.08] - Kei-Mu Yi

Great, thank you. Let's actually stop there and let's go with those first 3 questions. So Aaron, do you want to comment on any of them?

[02:49:29.28] - Aaron Flaaen

I'll just do some short, brief comments on two. So the tariffs on steel, yeah, this is something that is surely going on in the United States. So we have a really old steel industry dating back many decades, and a lot of those really old plants are these integrated mills that, from what I've been told, a lot of the way in which they're still competitive is because of trade restrictions and the like. And some of the newer plants that are more common abroad are these EAF, electric arc furnace, so-called mini mills. And so one of the things that I think can be going on is that some of those tariffs are keeping those older mills alive and allowing them to continue to operate and depreciate those capital expenses. But it does maybe stand in the way of trying to innovate and have have newer plants coming online that are more competitive and have a more flexible input mix that can be used. So I think that's surely happening to some degree. I'll just say on the services, you know, it's well known that the United States overall has a surplus in services trade, and that's often being missed in these conversations.

[02:50:41.20]

I'll also point out that services is just notoriously hard to measure. And so, I mean, Goodness, we have a hard time capturing just regular trade in services, much less a worker that might be locating somewhere else and doing— I mean, that's like off the table. There's no way we can capture that. And so the other thing is there's a lot of US competitiveness in services is in some of this digital stuff. And a lot of that, what does it mean for it to be exported or not? A lot of that could be serviced within the country more as FDI. And so it's really a broader, you know, landscape of how United States does business than just exporting.

[02:51:25.04] - Kei-Mu Yi

Thank you, Aaron. Marcus?

[02:51:28.29] - Marcus Noland

So the United States currently runs a surplus in services, as Aaron said. This may get entangled in US-EU trade war because the EU is likely to retaliate against US service services. And there's a danger in that because so far the Trump administration has limited its tariffs to merchandise trade. But if the EU retaliates in services, I wouldn't be surprised if the Trump administration tried to extend its retaliation to the service sector as well. On the question about tariffs and capital accumulation, technological change, absolutely. Tariffs allow managements to be quiet and sleepy. And so it does tend to actually retard the industry. And finally, on the question to Mike, I have a question to Mike as well. So it looks like you slipped in an assumption on us. It's well known that for large countries, the optimal tariff is non-zero. And it's also well known that retaliation retaliation makes sense because you get part of that terms of trade effect

back. But for small countries that accept world prices parametrically, retaliation doesn't make any sense. It's completely self-defeating. So isn't it that you slipped in that export elasticity and then applied it to everything? Isn't that where you're getting these unusual results?

[02:52:56.25] - Kei-Mu Yi

Okay, Mike, you've got two questions to answer.

[02:53:12.10] - Mike Sposi

Sorry. So the question from the audience, why do the aggregate effects look relatively smaller than you might have expected? Well, one part of the answer is tariffs are on manufacturing sector, which is about 10% of US GDP. We do not have dynamic features of the model like forward-looking investments. And so the supply chain disruptions are— there's not large frictions on that aspect of the model. So there could be potentially short-run costs that are absent from the model. That's true. But one big reason why is because the model also features services. And while we're talking about services, just reiterate the point that the US does have a positive trade balance in the service sector, which partially offsets the deficit in manufacturing. Now, Mark's question about assumption being slipped in. So this model, we don't parameterize the export elasticities. Those are kind of endogenous. It's kind of determined by the relative size of the countries. So it's true, there are some countries for which they're sufficiently small, they're price takers in the world market. The results I was given for— that I showed you for US, Canada, Mexico, they're not literally price takers completely. So those are the estimates we're getting.

[02:54:43.13]

And as far as the trade elasticities that we're using, We have— I mean, if you want to get into the details, you can see the paper. We have robustness around that too. We're actually mostly using Kebu's estimates. So if you don't like those, you can have a conversation with him. But yeah, so it's a model. And there are assumptions. Every model has assumptions. And I'm happy to talk more about those later if you want to.

[02:55:10.23] - Kei-Mu Yi

Great. I'm going to take the moderator's prerogative. We started 5 minutes late, so I want to— let's Let's do 2 more questions if they can be brief. Right over here.

[02:55:22.02] - Audience

So the underlying issue here in tariffs isn't the tariff, it's the wage arbitrage, right? People paying a lot less money in Mexico, as an example, Asia, than they are in America. And so it's easy—the easy decision is to send the jobs, the blue-collar jobs, out of the country. And I guess to me, I'm looking from the bank, to develop an industrial policy that brings those jobs back and strengthens the company. But we don't seem to get that in these policies. We get, you know, modern monetary theory, print baby print. So you want to make the bank relevant, right? It needs to start addressing the needs for the average American, and it hasn't been. I don't know if that's a question or a statement.

[02:56:06.29] - Kei-Mu Yi

Thank you. Next.

[02:56:09.07] - Audience

Hello, my name is Elton, and I would like to thank you for sharing your perspectives. I learned in economics that countries trade for competitive advantage. It would be helpful to see how much is £1 of steel sold into the United States and 1 coming from China. Like, is the US price 20% higher? And are the Chinese bringing the steel? It's 20% cooler. Lower price in this country because of a subsidy. So if we increase it by that much, then we are putting steel at a par price and level. Thank you.

[02:56:46.28] - Kei-Mu Yi

Thank you. Super brief.

[02:56:50.17] - Audience

Super brief. One quick question. How might manufacturers leverage partnerships with tribal sovereign governments to mitigate current tariff impacts through sovereign status, special economic zones, and unique regulatory frameworks, while creating mutual economic benefits for supply chain advantages through those free trade zones specific to sovereign nations as Indigenous tribes? And might that be beneficial? Thank you.

[02:57:23.24] - Kei-Mu Yi

Aaron, do you want to start?

[02:57:28.27] - Aaron Flaaen

So the last question is outside of my pay grade, so I won't address that one. The only one I can address is really the steel question. You know, steel is an area where we do have a lot of data, and so we have lots of indicators of what's happening with the steel industry. There's lots of reports of steel being subsidized in China. Indeed, there are many countervailing and anti-dumping duties on China specifically for this purpose. Purpose. So what you've seen in these Section 232 national security are on top of a lot of China-specific duties that have been in effect for decades. And so it's already being kind of counterbalanced by those duties as well. And what we see, what we saw in 2018, and what we're seeing again now is pretty significant jumps in domestic steel prices. So not just steel is more expensive that's being imported, But steel is more expensive that is domestically produced too, which is kind of supposed to be the point of a lot of these policies. But it means that indeed it's more expensive for everybody that is a steel-using industry, which is kind of the point that we were making in our Rising Input Costs channel.

[02:58:39.16] - Marcus Noland

Let me respond to the question which I thought the steel gentleman was going to ask, which was about comparative advantage. If the United States puts a 10% tariff on everybody in the world, I don't think that's a good thing, but it's not the apocalypse. The dollar is going to appreciate about 5%, and then you're going to have a 5% tariff, and everybody's going to kind of sort themselves out. The problem with the April 2nd announcement is it really heavily targeted labor surplus poor countries that are doing things, you know, that we don't have a comparative advantage in. So hitting Cambodia and Vietnam and Bangladesh, who mainly produce underwear and things like that, it really is destructive. It's much worse than just the uniform tariff because you're actually tariffing comparative advantage. Now, on the question about the free trade areas or with sovereign nations. I had never thought of that, and I have no idea what the legality of all this would be, but I think that'd actually be kind of interesting. I mean, having sort of these little kind of industrial zones all around the country where you could just sort of operate on a less distorted way actually could be a way of actually promoting change in the, you know, broader United States.

[03:00:13.01]

That's a very interesting idea.

[03:00:16.29] - Kei-Mu Yi

Mike, did you want to add something?

[03:00:20.06] - Mike Sposi

Um, no, I have nothing else to say. I don't know much about indigenous.

[03:00:27.01] - Kei-Mu Yi

All right, great. So just two quick things here. First, let's give a big hand to our three presenters. And then next, we're going to have lunch, and part of that lunch will be our keynote address from Matt Slaughter, the Dean of the Tuck School. We're really looking forward to that. So to do lunch, it's going to be a buffet approach. One way is to go out those back doors and get into line, but if you don't want to wait as long, there's actually another buffet line out this door, and so that might be shorter. Okay, so the first buffet line, the door is right there.

[03:01:09.12] - Marcus Noland

We forgot to make an announcement that security asked us to make, so we're going to do it better late than never. They found a phone in the women's bathroom, so if you've lost your— if you're a woman, you've lost your phone, um, go see security. They have your phone.

[03:01:26.08] - Kei-Mu Yi

Thanks again and enjoy your lunch.

[03:23:08.02] - Karel Mertens

Paul Dennis, Dean of the Tuck School of Business at Dartmouth College. As a dean, he has had numerous accomplishments, including greatly expanding the resources for the school. Matt's area of scholarly expertise is on the economics and politics of globalization, including the global operations of multinational firms, the labor market impacts of globalization, and public policies to build economic opportunity. He's also served as a member of the President's Council of Economic Advisers, and he's a regular contributor of columns and essays to the Wall Street Journal, the New York Times, and, and, and the Financial Times, amongst others. In short, he's pretty done it, pretty much done it all as an academic and as a thought leader. And let's give all a warm welcome to Matt Slaughter.

[03:24:10.22] - Matthew J. Slaughter

Uh, Carl, thank you. That was a very kind introduction, and both my mom and mother-in-law just Venmo'd you $10, so that's, that's great. Um, so, uh, please keep eating and drinking. I've just got some remarks that I'm gonna— that I ended up drafting, and then maybe we'll have a little bit of a conversation if people would like to afterwards. ¡Ah! So it's really an honor to have been invited to deliver this luncheon keynote. An honor because of the bracing timeliness of the

overall topic that you and colleagues have chosen. An honor because of the distinguished panelists and moderators earlier in the program. And an honor because of the long history that both the Dallas Fed and Peterson have had in being at the vanguard of research on these topics of international trade, investment and immigration. And let me here give a shout out, a special shout out to someone I've known a long time, Keymu Yi, who kindly invited me to give this talk. There's a lot of great scholars here, but I have long admired and learned from Keymu's work from my earliest days as a rookie assistant professor many months ago, because he's done seminal work on a lot of these topics.

[03:25:15.09]

And let me just thank the dedicated staff of the Dallas Fed who've welcomed us all here today, prepared and delivered this delicious lunch fair that we're fortunate to have. So as you all continue to enjoy this lunch, I would like to place into a broader context of political economy both the insights that we all heard this morning and the bracing history of our broader world today. Let me stress that word, history. Truly, we've come together at a time when the United States is attempting to replace the open global economic system that it orchestrated and led for 80 years with a system of tariffs and other walls to globalization, the likes of which I believe quite literally none of us has ever seen in our lifetimes. Why is this happening? One important reason it is happening is because President Donald Trump was elected and then reelected president, uh, with his astute understanding of how deeply ambivalent Americans rightly feel about trade and about globalization more generally. On the one hand, majorities of Americans say that trade is more of a growth opportunity than a threat. And yet, on the other hand, majorities have long also voiced worries about the labor market pressures that trade imposes on American workers and communities, worries that substantial and sound academic research has validated, such as the China Shock work by my friend and co-author Gordon Hanson and others.

[03:26:42.12]

Thus has President Trump gone down the road of a barrage of tariffs on imported goods against both friend and foe alike. Building walls to address concerns about globalization is, to echo the famous words penned in 1915 by the decorated poet and longtime New Hampshire resident Robert Frost, "That is a road well traveled." Well traveled by the United States earlier in its history and by many other sovereign nations as well. But a crucial question needs asking. To address their concerns, do Americans today really want trade wars? My earlier research with Ken Shieve of Yale University found the answer to be a loud and clear no. Americans would love to take a road less traveled. So in my remaining lunch remarks, I would like to draw on my earlier work with Ken and work of others to describe what this road less traveled might look like

for the United States. What Ken and I found was that most Americans want not trade wars that build walls. They want engagement with the world combined with— and this is essential— combined with investments in their labor market skills to give them a better shot at thriving amidst the world's dynamism.

[03:28:02.11]

In surveys and in focus groups during the first Trump presidency, Ken and I asked thousands of U.S. adults to choose among three broad policy options for how to better deliver good jobs and rising incomes. First, we summarized as walls, quote, implement policies that reduce international trade. The second, we dubbed safety nets, adopt new policies that substantially tax those firms and individuals that benefit from globalization. And then spend the new revenue on government income programs for everyone else. The third option we called ladders of opportunity. Like the second, more globalization, but also adopt new policies that substantially tax those firms and individuals that benefit from globalization, and then spend the new revenue on programs that provide more people with greater opportunity to benefit from globalization. So what did we find? Fewer than 1 in 3 Americans, just 29% in one of the national surveys, opted for walls. Even fewer, 26%, wanted bridges plus safety nets. The clearly preferred strategy was more globalization or more bridges to the world plus ladders. A near majority of Americans nationwide chose this option, as did a plurality or a majority of citizens in all 8 of the United States cities in which we conduct related surveys and focus groups.

[03:29:25.14]

You might ask, why do so few Americans up for safety nets and for redistribution? While we heard concerns that those struggling would never be adequately compensated, the most consistent answer was that the problem extends far beyond money. For many Americans, a deteriorating labor market brings not just lower wages and less job security, it also cuts to the heart of their sense of dignity and purpose and their trust and belief in their country. Another reason why so few Americans opt for safety nets and redistribution is that they know what the research shows very clearly. The best jobs in America tend to be the globally engaged jobs. Companies that export or import— and import, or even more, that are part of a multinational company with operations in multiple countries, tend to perform more of the high innovation, high productivity activities that ultimately support high compensation. So let's look at a little data. Uh, consider the U.S. parent companies of U.S. multinationals. They perform large shares of America's productivity-enhancing activities that lead ultimately to high average compensation for their workers. So for the most recent year of data available, which is 2022, still contributions of these U.S. parent companies included the following: And remember, these companies comprise

just a very small fraction of all the businesses in the United States, a fraction of a fraction of a fraction of 1%.

[03:30:53.13]

Output. Parent companies produced over $5.3 trillion in GDP, which is approximately 23% of all private sector output that year. Capital investment. These US parent companies purchased $826 billion in new property, plant, and equipment. I promise there's no quiz on the data, uh, over 43% of all that year's private sector non-residential capital investment. Research and development— parent companies that year performed almost $450 billion of R&D. That was two-thirds, two-thirds of the total R&D performed by all U.S. companies that year. And finally, if you look at jobs and paychecks, all of these productivity-enhancing activities could contribute to large average paychecks for the millions of employees of U.S. multinationals. Um, that year they employed 30.2 million U.S. workers. That was almost 23% of total private sector payroll employment. Total compensation paid by those U.S. parent companies was nearly $2.8 trillion, a per-worker average of $92,208, which was approximately 20% above the per-worker average in the rest of the private sector. So these data on some of America's best jobs being the globally connected jobs are just one angle among many that show the very large aggregate gains that America continues to enjoy from globalization. And for many decades, Americans have acknowledged these gains.

[03:32:23.02]

In fact, a Gallup poll released last month found that 81% of Americans surveyed believe that trade is an opportunity for growth the highest level since that poll was first asked in 1992. And only 14% view trade as a threat. One way that so many Americans see this opportunity of trade and all of their forms of globalization every day is actually in the beloved world of sports. Consider the National Basketball Association. On the opening night of the current '24-'25 season, there were a record-tying 125 international players from a record-tying 43 countries across 6 continents. All 30 NBA teams actually this year featured at least one international player in their starting day lineups. A fact that I acknowledge to our gracious Dallas hosts that might not solve the sting of this season's trade from Mavericks of Luka Dončić. I saw he was here last night, apparently he was emotional. The benefits to America of high talent immigration extend across the economy. So consider my industry of higher education. For many years, if you follow the immigration debates— and Pia shared some great insights on that for us— but if you look at high-talent immigration, educational services has been the industry with the second most approvals of the H-1B visa after professional, scientific, and technical services.

[03:33:49.26]

So at Tuck, where I have the honor of serving as dean, about half of our tenure-track faculty were born outside of America. And many of these colleagues at some point worked here on an H-1B visa. So this almost unlimited flow of skilled immigrants into higher education stokes innovation that benefits all Americans far more than it curbs opportunities for people like me as U.S.-born scholars. So as a lot of us know, research is not a zero-sum endeavor. New ideas can be widely shared and lead to innovations. The foreign-born faculty at Tuck, they've won global awards and acclaim for their scholarship. They've earned U.S. patents. And they enrich the scholarship of all the rest of us there. Through our collaboration in the seminar rooms, at the lunch tables, and all sorts of spaces. And this is clearly, we see this in evidence with the great research team that's here at the Dallas Fed, at Peterson. There's a lot of international-born scholars at both these important institutions who enrich the environment. And teaching is similarly not zero-sum as well. The foreign-born faculty at Tuck, time and again, they've been selected by our students as the school's best teachers.

[03:34:51.25]

They win similar accolades when they go to other schools. They really strengthen Tuck's reputation and finances, which benefits all the faculty and staff. I was born and raised in Minnesota at the other end of Interstate 35. During my career, I have competed against foreign-born scholars for jobs in America. My PhD cohort at MIT was almost half— it was half international, half US-born, including Alejandro Werner, who was here earlier. It was great for us to catch up. Today, a lot of my peer business school deans are themselves immigrants. So when I was on the rookie professor job market 31 years ago, would I have had more and higher paying options if the United States had barred from its universities the hiring of non-US-born professors? Sure. But today, would I be as good of a researcher, modest as that is, teacher and dean if I had no foreign-born colleagues? No way. I'd be less creative, less productive, and ultimately lower paid. The aggregate benefits to America of globalization are indisputable, but so is the fact that those aggregate gains have not benefited every single worker and firm and community. That's the heart of the policy challenge that our country, like many other sovereign nations, face.

[03:36:12.09]

So what would it mean to build more ladders of opportunity aimed at more people in the United States having a better shot at globalization. Building ladders of opportunity would give all citizens more of the human capital that is needed to better adapt to the dynamic forces such as globalization and technological change. It is human capital more than any other factor that determines an individual's chances of thriving in today's dynamic economy. And that fact will be true for America regardless of whether the economy is completely open to the rest of the world

or completely closed in autarky behind tariff walls. So in our earlier work, Ken, Ken and I argued for 3 main rungs on this ladder of opportunity. The first rung of our ladder, we said, should be a collection of early childhood education programs for every American child from, from birth to kindergarten. Funded by the federal government and based on the evidence of what works. Recent academic research has confirmed the enormous private and social gains from investing in children's human capital and conversely, the costs, heartbreaking costs of neglecting to do so. So for example, a series of studies by Nobel laureate James Heckman and other scholars have looked at two early childhood interventions in North Carolina and concluded that the benefits were 7 times as large as the costs.

[03:37:37.01]

The second rung of the ladder— of this lifelong ladder of opportunity should be federal funding for 2 years of community college tuition for every high school graduate who is not pursuing a bachelor's degree, and that would ensure that they could each earn at least an associate's degree. Again, here the economic case for this is compelling, I believe. In the United States today— sorry, this is a couple years ago— but the median lifetime earnings of a high school graduate was about $1.3 million in today's dollars. The figure for someone with at least a— with a 2-year associate's degree is $1.7 million, almost a third higher. So that additional about $400,000 in lifetime income, um, uh, uh, comes from spending only about $30,000 on the typical 2-year associate degree. So that's a substantial return on that human capital investment. And it's even larger, the research shows, for many in-demand programs in recent years, such as radiation therapy in our healthcare system. And finally, that third rung of, of ladder of opportunity should be a lifetime training scholarship for every, every working American who does not have a 4-year college degree. Uh, what Ken and I proposed was that each working person would get a $10,000 a decade throughout his or her 20s, 30s, 40s, and 50s for use as a tax credit by his or her employer to invest in that person's skills.

[03:39:05.20]

Eligible investments could run the gamut from including online courses, in-person programs at local colleges, in-house training crafted by the employer. Rather than rely on the ability of the government or higher education institutions to identify the skills needed by workers across the U.S. labor force, This program would harness the insights that businesses uniquely have about which skills they need the most. And since the program would be available to every worker without a college degree, the stigma that has been attached to many similar training programs would be removed. So you might be asking, how much would all this cost? So we'll run the math. Uh, today there are about 25 million children in the United States between the ages of 0 and 5. If every one of these children received an average of $4,000 worth of early childhood

programming, that would be a total annual fiscal cost of about $100 billion. Last year, look at the second rung, about 1.6 million of the United States' 2.9 million high school graduates did not go on to a 4-year college or university. If every one of them received full tuition, limited income support, and assistance for other related costs, The research shows for associate degree students, it's oftentimes those all-in costs that matter, not just the tuition check that one might write.

[03:40:24.15]

So for all those costs to attend a 2-year community college, annual total cost to the federal government would be about $50 billion. And finally, for that once-a-decade tax credit for every non-college-educated employee in the U.S. labor force, today there's about 100 million U.S. workers who did not graduate from college. So with a tax credit of, of up to $10,000 per decade for every one of those workers, the annual cost would be about $100 billion. So the three rungs on our ladder of opportunity together would cost the U.S. government about $250 billion a year. That would represent the largest federal investment in human capital in American history by far. And I know that's a lot of money to you and me, uh, but it is a small fraction of the approximately $10 trillion by which global equity markets have fallen in the past 10 days alone. New ladders of opportunity would not guarantee success for everyone, but a majority of the members of our focus groups recognized that these ladders would raise the odds that more people thrive in and gain from a dynamic economy instead of just avoiding or mitigating its harms. As one respondent put it in one of our focus groups, here's a quote: You're not just spreading revenue across to everybody.

[03:41:41.13]

You're using it to provide greater opportunity and training and education, which then should bring everybody up also to where they benefit from trade. I think that earlier this year brought even more grim evidence of how badly America is failing to build the human capital that people want and need. The biennial National Assessment of Education Progress, which is a test that functions as a national report card, reported several new lows. In 2024, 33% of U.S. 8th graders, the largest share in the exam's 30-year history, 33%, have below basic reading skills. An even higher 40% of 4th graders scored below basic, which was the biggest share in 20 years. It is no wonder, I believe, that most Americans today say they are dissatisfied with the quality of primary and secondary education. Americans who believe that the United States' economic and political institutions are no longer delivering enough opportunity are, I believe, sadly right. And given how little Americans see of the policy solutions they would prefer, like what I've outlined in these remarks, Americans are also right to have lost their faith in the future. For decades, the Wall Street Journal has periodically asked the following survey question: Do

you feel confident or not confident that life for our children's generation will be better than it has been for us?

[03:43:08.07]

Like, most of us would like to live in a country where the large majority of Americans think that's the case. Even during the, uh, the two recessions that preceded the world financial crisis in 1990 and in 2001, more Americans said that they felt confident than said they felt not confident in their children's future. But more recently, that confidence has evaporated. In August of 2017, the start of the 9th year of that economic recovery, nearly twice as many Americans were not confident about the future as were confident. And the last time this question was asked in 2023, 78% of Americans, 78%, said that they were not confident that life for their children's generation would be better. Versus just 21% who said that they were confident. Trade wars against the world are an inadequate solution to all of this faded hope. Whatever gains these wars will generate will be too few and too ephemeral. To have America thrive in the 21st century broadly and sustainably, leaders should be trying to build bridges and ladders and not walls. So let me close by saying, what is the road less traveled? That America could have taken. That would be a road not of tariffs and other walls to keep out the world, but rather a road of bridges to that world, combined with ladders of opportunity to help more Americans thrive through global engagement.

[03:44:35.22]

America today could still pause and find its way to take that road less traveled. And that road less traveled could still, as Robert Frost so famously said, that road less traveled could still make all the difference. But to make that happen, the question before all of us is, which leader or leaders will guide us there? Uh, a thousand thanks for the invitation to share these reflections, which I offered as just a compliment to the great panelists this morning in the overall conference, and happy to have a little discussion if people would like. But thank you.

[03:45:15.21] - Karel Mertens

Okay, so we have plenty of time for people to step up with the mics. If you have questions, uh, feel free to go to the microphones over there.

[03:45:28.19] - Audience

Good afternoon, uh, Greg Nelson from Houston, Texas. You're talking about the three rungs, uh, with investment in early childhood Have there been— and we all know the investment in

human capital is always going to be positive— but has there been any studies to show what kind of a return to GDP that that $250 billion a year would actually have on the macroeconomy?

[03:45:57.17] - Matthew J. Slaughter

So maybe I'll take it. Yeah, okay. Great question. The short answer is no. Longer answer is I think when Ken and I were working on this, we were drawing on kind of studies on each of those three rungs that we talked about. You know what I mean? So it'd be a great idea to somehow put those into some sort of model. Again, the research on the private and social returns to what seemed to be the right early childhood interventions are just remarkable. There's a lot of studies that we saw where the number of unique the words that a child hears from birth to age 5 seems to be shockingly predictive of a lot of life and economic outcomes in the future. And then the other one, and the point about the tax credit for every single worker, a lot of earnest efforts have been put in over the years to try to find worker training programs that sort of work. And the research, that body of literature shows that a lot of those programs, it's just kind of, they don't really seem to work. And when you dig into them, the concern is there's concern about when it's only certain sets of individuals that are eligible for those programs.

[03:47:09.16]

Fairly or not, employers sometimes— there's a little bit of adverse selection that they perceive. Whereas if everybody's available, the beauty of the market kind of works there. Because in equilibrium, all the firms, if you don't do it, you're going to be at a competitive disadvantage. And then when everyone's eligible for it, it just helps sort of make things better. So hopefully the GDP effects would be large and positive. I don't know.

[03:47:33.17] - Karel Mertens

Okay, let's take a question from the other side of the room.

[03:47:36.01] - Audience

Yes, I'm James Henderson, and it seems to me that American universities are turning out a lot of highly educated people that there's really no place for them, no employment opportunities. I know a lot of mid-level or mid-career people that are having a lot of trouble finding employment at the present time? And what percentage of your graduate students are actually studying science and engineering that are American citizens versus foreign students? Thank you.

[03:48:13.17] - Matthew J. Slaughter

Yeah, thank you. Thank you for the comment and question. There's a lot. So I'll say higher education, we have done a lot of things really poorly over the past decades. And so the, I think the political winds that are now potentially coming into policy changes, we're reaping what we've sown. So I'm gonna talk around your question. Now let me answer specifically the last part, which disciplines, especially the graduate, the master's and PhD levels, the preponderance of foreign-born versus domestically-born students varies dramatically based on the field. I know in the MBA world, at Tuck, about a third of our students in recent years for the MBA program do not have permanent work authorization in the US. So call that international, broadly.

[03:49:03.23]

And we're kind of low compared to peer schools. Columbia, in recent years— Columbia's, for many years, the business school. Wonderful program, they have about half their students are foreign-born. So on the— what I heard you say in your remarks also in question about employability of college graduates, I think the evidence is clear that there are a lot of institutions— I'm not going to ascribe fault— they're not graduating young adults that have the critical thinking skills and the capacity to engage with what firms are seeking. Our Tufts students are terrific. I don't want to sound like a commercial, but it's remarkable how many of them come to us where they are still surprisingly uncomfortable with constructive disagreement in professional and personal settings. And so we work to develop those capacities. You always take great students where they are. So happy to talk about higher ed more if people want, but I think higher education, we do a lot of work that's noble. We're in the human capital building industry. And yeah, we could have a lot of productivity improvement.

[03:50:12.26] - Audience

Yeah. Pierre Renier, Dallas Fed. So my question is, are there countries that have done a better job at this? So in terms of bringing— going through the globalization, going through all the changes, China entering WTO, are there countries that we can hold up as examples of having really done a better job bringing their workforce force along? Yeah, great question, Pia.

[03:50:34.17] - Matthew J. Slaughter

I think my reading— and you might— I think there's a lot of research that's been looking at other countries on how they've tried to open to the world and what the domestic labor market impacts are. I think a number of the Nordic countries— Denmark, Sweden, Norway, Finland— I believe are a model to look at because they are very open to global competition. Their international trade investment. They've become more open on immigration, but as we know, a lot of European countries, that has generated friction in some of those countries. But they've been

very open to a lot of the dimensions of globalization for a long time. And that generates a lot of that dynamism that I talked about, that we all know about. And yet they've had substantial investments in labor market supports to try to help those individuals that might find jobs, uh, probably reduced opportunity, those jobs going away because of global competition or innovation of those companies, um, find other employment opportunities. And speaks a little bit to what you said, Pierre, earlier in your comments. You see it in the data that we scholars can look at. There's just an extensive amount of time and energy to identify those individuals, make them eligible for income supports and other things, but conditional on active job search, training programs, and so on.

[03:51:53.03]

So in contrast, I think America is just— we have done a very poor job for way too many decades. Too many people talked about labor market adjustment, and no disrespect against people at the Trade Adjustment Assistance programs and things, but those are poorly designed, poorly funded, and that has fueled the discontent. Thank you.

[03:52:15.26] - Karel Mertens

Back to the other side of the room.

[03:52:17.26] - Audience

Yes, Carl Brown, educator, GISD. My question is based on AI and the AI movement that are essentially replacing human capital, specifically in various fields of STEM as well as service jobs. Do you foresee a solution to educate young people to still compete with AI but also advance past that?

[03:52:43.26] - Matthew J. Slaughter

These are all good questions. That's a great one. So, um, I will acknowledge if I think of the pantheon of Winnie the Pooh characters, I'm a Tigger. So I'll start with, we've had lots of radical innovations and technological change that has massively disrupted industries and labor markets around the world for centuries. And yet jobs always kind of managed to get created. So I start from the point of view, which is, who knows which occupations and firms are going to be disrupted by generative AI. Um, but I'll start by saying I think other jobs will kind of emerge. That's my hope. That's kind of statement one. A second statement is there's some interesting emerging academic research on all this to try to understand, uh, in the lexicon of economics, is that technology— does it complement or substitute for, for certain workers? And if so, which kind? A lot of the technology innovations in the 20th century, they substituted for moderate to

less skilled workers. Workers, so the robots in agriculture and in manufacturing, and tended to complement high-talent individuals, high skills, just hard work and good luck. So some people are saying, well, geez, really? Like, there's a whole bunch of high-talent occupations that maybe generative AI can just gobble up and do the work for.

[03:53:58.29]

You start to see it with coding. It gets back to the gentleman's good question. Go back a handful of years in higher ed, and you saw it in— I'm sure it happens at SMU and at Dartmouth. There was an explosion of demand of undergrads to study computer science. Those are going to be the good certain jobs of coding. And like, wow, well, generative AI seems to be able to just do the coding for you now. My third and last comment on this is I'll connect it with the remarks I made. My concern, and we talked earlier about the China shock, I think part of why we are where we are today with US economic policy is in general, we did not do enough labor market adjustment supports to help people's in job transitions, whether it's from innovation or globalization or whatever. And the China shock was qualitatively the same, but larger in magnitude than say the shock from NAFTA. And a lot of great research from folks here have demonstrated that. So there's a question of how big is the economic transition and what's the policy apparatus to respond to it? And some of the predictions about generative AI are like, whoa, You thought the China shock was big?

[03:55:07.00]

Get ready for the pace and scope of labor market adjustments from the generative AI shock. And then people start to get dystopian. It's like, okay, it's going to be like Cyberdyne Systems in The Terminator, where the machines take over and there's no jobs. I don't think that's going to happen. That was a great movie, but we need the public policy responses to be ready for this. I will just say, would not I'm a lifetime independent. I don't hear any R's or D's in Washington right now talking about, huh, generative AI might be a really big deal, and let's try to figure out how we get ready for it in our schools and with the landmark UI and all that kind of stuff.

[03:55:46.27] - Karel Mertens

Gentleman to the left.

[03:55:47.29] - Audience

Thank you very much for great insights. I'm Carlos Carpizo. I'm a workforce development entrepreneur. I love your recipe for upskilling, reskilling using tax credits. That's a great supply-side mechanism. In Texas, we say you can take a horse to water, but you cannot make it drink.

Have you looked at the demand side and how that would work with the population that needs to be upskilled, reskilled?

[03:56:18.09] - Matthew J. Slaughter

Yeah, great question. In a supportive The short answer is kind of no, in the sense that Ken and I were really more focused on, and some work I've done, just trying to think about the distribution of skills in the American labor force. And again, it's a little bit like the question on generative AI, just hoping in equilibrium, kind of what are going to be the jobs that appear, they'll appear. And that's not Pollyannaish or dismissive. I think, and it kind of comes back to some of the comments in the good panels this morning, A strong labor market in the macro sense in recent years has clearly helped moderate to less skilled Americans in terms of their income growth. So on most wage measures, who's had the largest gains in weekly and annual earnings have been moderate to less skilled people. That's deeply an issue of strong demand. I think in the aggregate, strong aggregate demand has helped those kinds of individuals. So I don't mean to dismiss the demand side issues. Ideally, the two would work with each other. And so you could, again, you could see how it could happen. We don't have the leadership talking about these things right now.

[03:57:27.18]

We can get there. Sovereign nations do, but it's not a given.

[03:57:31.17] - Audience

Thank you. Yeah, we need more entrepreneurs.

[03:57:34.02] - Matthew J. Slaughter

Yeah, no, we totally need more entrepreneurs. That's where most of the innovations come from. You look at the total factor productivity growth in the US over the 20th century, the majority of it was new products and new industries, not efficiency gains in existing ones.

[03:57:49.21]

The research shows that clearly.

[03:57:54.08] - Audience

This is partly a shout out for our friends from the Peterson Institute. In the past, when we signed free trade agreements, generally there was a call for increased trade adjustment assistance. And I— at least my memory is that in all of those instances, Peterson called for much larger increases in that kind of adjustment assistance than we ever got, and so led to the result that you were talking about. So the, the program that you're talking about is much broader, this kind of cradle-to-grave approach, as opposed to trade adjustment assistance, which seemed to be more targeted at helping people who were directly affected by trade agreements. And when you mentioned the Nordic countries, they worked on both the trading— the training side, but also labor mobility, relocation from places where jobs are being lost to places where new opportunities arise. So do you still see a place for those kinds of targeted programs if we ever get around to liberalizing trade again?

[03:59:10.06] - Matthew J. Slaughter

Give it another hour. Great question. So if I were given a very powerful magic wand, I actually, with all respect, I would sunset a lot of programs like TAA, and for a couple of reasons. One is there's just a sort of a philosophic canard, which actually isn't right, which is, oh, sorry, Pete, your job was lost because of trade, but Carl, yours was because of technology, and yours was a domestic demand shock. And a lot of the good research by some of the scholars here, Peterson and here at the Dallas Fed, those things are so commingled. And globally connected companies, when you ask them, they're like, well, yeah, we're innovating because we're competing against firms from Denmark and China and Timbuktu. And so this notion that you can— there's sort of a benevolent individual who could identify those causes is just wrongly placed. So that's why I think it's more important to— and the other thing that Kenzaburo pointed out, people's preferences about globalization, they tend to cleave along labor market skills lines, not industry lines. And the reason is Americans are very sophisticated in understanding that global competition disseminates through the US economy through the domestic labor market.

[04:00:26.24]

So to state that differently, Folks who haven't finished high school, who work in retail trade, you know, in a nearby Walmart or something, are just as likely to have the ambivalence and concerns about globalization as someone who didn't finish high school is working at a textile mill. And the reason is they get the textile mill closes, their neighbors and friends are coming and competing with them for the jobs at Walmart. And that's why I think that it comes back to the question, it's more about focusing on skills at all levels, that development. The last thing I'll say is Ken and I, we wrote a piece in 2007 called A New Deal for Globalization. We said, look, there's this protectionist sentiment that's emerging. We believe it's in large part because income inequality across skills is rising and we better do something about it. In that piece, we said way

back in '07, we should have a globalization tax cut. We said we need to make the FICA tax progressive because as we know, it's regressive because it's largely a flat rate on a largely capped base. And I think we decided $250 billion, have no FICA tax for the bottom half of earners and raise the rate on most, many of us in this room.

[04:01:36.06]

And at the time, I'm not, but some people said, who traditionally identify as Democrats, well, that, no, you're going to kill TAA and stuff. And then people on the Republican side said, well, that's great communism. And so not everybody, but some, But I'm kind of like, we're just reaping what we've sown here, right? We didn't— those would have been relatively modest, doable investments in the, you know, so, um, so that's my magic wand.

[04:02:06.09] - Karel Mertens

Yep. Gentleman in the back. Yes, sir.

[04:02:07.27] - Audience

Thank you. I'm a program coach at Collin College at the technical campus now in Texas. The two programs I coach are welding technology, advanced manufacturing, and HVAC technology. Since we've been open at our campus in August of '20, my— speaking for my programs, I've had to have zero job fairs, and most of my students go to work by third semester and leave with zero debt. Now, part of my question is, because a lot of the companies I work with, we've seen huge success with Department of Labor registered apprenticeships, and especially in advanced manufacturing. This hands-on training, industry credentials, and employer-aligned pathways while reducing student debt and addressing workforce needs. Do you see this as possibly the replacement for a bachelor's degree? Now, the reason why I ask that is in the mid-'80s, we swung to the bachelor's degrees to put on everything to increase those levels of opportunities for people to promote into pivots of supervisory managerial roles. How do you see moving forward from this point? Is it a strategic inflection point, to quote Andy Grove a little bit? Are we at a point of failure where we need to make a big decision, or what does it look like?

[04:03:19.22] - Matthew J. Slaughter

Yeah, great question, and thank you for what you're doing. It sounds like great programs, and we could all look forward to supporting your Senate campaign in 2026. And I say that approvingly. It's not sarcasm. It sounds like great programs, and I think I'm not shirking the question, but I'll say, yeah, I think it's an and, right? There's about 160— sort of looked— 164 million Americans in the labor force. And despite the push, especially with the GI Bill and post-

World War II investments, building all the way back to the land grant colleges during the tragedy of the Civil War that got created, we've been attempting to expand access to and achievement in tertiary education, bachelor's degrees and above. And it's still the case that only about a third of the people in the American labor force have a college degree. The median worker has— a high school degree and about 1 year post-high school education, but not an associate's degree. So it's just— to me, it's an and. There's just a vast need for the kinds of programs that you're doing. And I know where we are. I live in New England, right? And we're kind of a relatively quiet, declining population, part of the US, in part because a lot of the folks that immigrate to the US, they don't always find their way to New England.

[04:04:35.02]

And so the need for individual in those kind of a lot of really moderate to high talent, non-tradable service activities, occupations, home building and skills and those crafts, it's remarkable the demand for that. So those types of programs, if we had more of them, and again, the research shows why people get knocked out of those associate programs, I think, but you correct me if I'm wrong, is oftentimes just an income shock to the student or the family where suddenly that it's not allotted in the aggregate, but it's enough to have them not continue the studies when they've already started them. That's why we propose the kind of wraparound to make sure that fragility is taken away during that time so people can actually complete the program.

[04:05:20.07] - Karel Mertens

All right, so before I hand it over to my colleague Jesus for some concluding remarks, let me ask One final question. So suppose you could go back 3, 4 decades and we have to do this all over again, or maybe at some point we'll have to do in the future. What are some of the key things that you would handle differently as a policymaker in terms of sequencing the speed of the transition towards a more globalized economy?

[04:05:48.20] - Matthew J. Slaughter

Yeah, thank you.

[04:05:49.08]

And thanks for all the great questions. I don't want to sound like a broken record. To me, we did not invest enough time and energy in creating meaningful labor market support programs for Americans. And that is where— that was our biggest policy failure, I think. And so it's finding ways respectfully to move beyond TAA and some other things. I think— so that's one. I guess I'll

say 3 things. The second is I wish more of us in the academy and at places like Peterson and the here at the Dallas Fed, I wish we'd spent more of our scholarly energy and time on these issues of skills development, labor market adjustment, and that many people in this room have. But if I think about what were the preponderance of research by a lot of folks has been, they've kind of— we glossed over this too much for too long. If I think back to graduate school, Day 1 of graduate international trade was starting to understand gains from trade. And then like day 2 in Dixit-Norman, for those of you who remember, was like, oh yeah, Pigouvian taxes can make everybody better off when there's distribution.

[04:06:59.07]

And then day 3 was N versus M models of trade and all this kind of stuff. So that's the second thing. And I think the third thing is on the policy liberalization front, especially if I think about trade, as earnest as the creation of the WTO was, I think it died under the weight of its success in the sense that so many countries are ceding to the WTO, but treating— the multilateral rounds became unwieldy. And I think what was missed there was instead saying, we'll keep trying these multilateral discussions, but the Doha Development Round died, many deaths, and there's been no multilateral liberalization since. I guess would be the Uruguay Round, right, which finished in '94. And there should have been an earnest effort to move more towards sectoral agreements. And I think the ITA, the Information Technology Agreement, is a great example. So the ITA was negotiated in the mid to late '90s. I can't remember the number of original signatories in '97. Ugh. Call it 25 countries that cover the large majority of the production and trade of capital goods, intermediate inputs, and final goods, and a wide array of IT hardware. So our phones today and stuff like this.

[04:08:14.13]

The only comprehensive free trade agreement that WTO ever had, and the academic research, it was like a textbook example of the benefits of globalization. It helped accelerate the price declines and productivity gains in the IT-producing firms, the TFP growth, and then part of the productivity boom that the US and other countries enjoyed in the mid to late '90s and early 2000s. Was all the accelerated capital investment from that. And real wages grew during that period at all parts of the wage distribution in the US. So inequality did not rise during that time. Higher unexpected tax revenues on the personal and corporate side was the main reason that we ran a fiscal surplus in the United States for 4 years. So if we'd done more of that and just show up at Geneva Monday at 9:00 AM if you want to negotiate on this or that, I think we'd have gotten a lot more liberalization, and it might have broadened the sense of why globalization is good. I acknowledge there's legitimate concerns about national security around IT and things.

I'm not discounting that, but the economic benefits we got— there's no meaningful liberalization, and then people just continue to see it.

[04:09:21.24]

Similarly on immigration, we haven't done the H-1B visa program well. So that's a big, powerful magic wand. But I think What's the metaphor? Best time to stop digging a hole is yesterday. Second best time is today. So there's a way to move forward, I think, because I think that the desire of Americans and the policy research, like what we've talked about here today at this great conference, is very clear what could be done.

[04:09:46.29] - Karel Mertens

Okay. So again, on behalf of the Dallas Fed and the Peterson Institute, Matt, thank you very much for a very impressive talk.

[04:10:07.15] - Jesus Cañas

Okay, so I'm, I'm just here to say thank you and goodbye. But before that, let me just add my two cents. You know, I keep, you know, when I teach, I teach at TCU sometimes, and I I just tell my students, international trade is good. I mean, there is no question about it, right? The discussion should be about how to bring those losers from trade to the winning side, just like Matthew said, right? And trade, and in North America, we complement our trade, you know, between Canada, US, and Mexico, just like Aaron said. We should continue in that direction, right? Okay, so now let me say thanks to everybody who contributed to the organization of this event. Special thanks to the Peterson Institute, Jeff, Nolan, Alejandro, and special thanks to Michal, who is not here, but she helped us through the organization of the event. She's looking though, right? She's looking online. Also, special thanks to Pia, my boss, right? K. Mu, who helped in the organization, Enrique, who just left, right? And then to Mark, who paid for this, right? And then, and then, yeah, big thanks to Mark and Sharon Wallace, who helped with all the logistics.

[04:11:41.19]

For the event. Also, very— I mean, a lot of thanks to the communications team who really helped us to maneuver around all the different guidelines that we need to follow in order to organize this kind of event. So thank you very much for coming. See you in Washington in late— in the fall. I don't know exactly what month, but we will send you communication via email, and then please go back to the website and look at the agenda where you're going to be able to find the presentations that we showed today. So thank you very much.