

# UNITED STATES INTERNATIONAL TRADE COMMISSION

---

In the Matter of: )  
 )  
THE EFFECTS OF A TRADE SHOCK ON ) Inv. No. 332-599  
GENDER-SPECIFIC LABOR MARKET )  
OUTCOMES IN BRAZIL )

Pages: 1 through 70  
Place: Washington, D.C.  
Date: October 18, 2023

---

## HERITAGE REPORTING CORPORATION

*Official Reporters*  
1220 L Street, N.W., Suite 206  
Washington, D.C. 20005  
(202) 628-4888  
contracts@hrccourtreporters.com

## THE UNITED STATES INTERNATIONAL TRADE COMMISSION

In the Matter of: )  
 )  
 THE EFFECTS OF A TRADE SHOCK ON ) Inv. No. 332-599  
 GENDER-SPECIFIC LABOR MARKET )  
 OUTCOMES IN BRAZIL )

Wednesday,  
 October 18, 2023

Teleconference  
 U.S. International  
 Trade Commission  
 500 E Street, S.W.  
 Washington, D.C.

The seminar commenced, pursuant to notice, at  
 2:00 p.m., before the United States International Trade  
 Commission.

PARTICIPANTS:USITC:

SAAD AHMAD, Moderator  
 BILL POWERS, Chief Economist, Director, Office of  
 Economics  
 STEPHANIE FORTUNE-TAYLOR, Economist  
  
 SHARON BELLAMY, Supervisory Hearings and  
 Information Officer  
 TYRELL BURCH, Management Analyst

Seminar #5

	PAGE
Introductory remarks: Bill Powers	3
The Effects of a Trade Shock on Gender-Specific Labor Market Outcomes in Brazil	
Presenter: Laura Connolly, Michigan Technological University	5
Discussant: Stephanie Fortune-Taylor, USITC	51
Moderator: Saad Ahmad	

P R O C E E D I N G S

(2:00 p.m.)

1  
2  
3 MR. AHMAD: Let's get started. Well, thank you,  
4 everyone, for attending our fourth seminar in Distributional  
5 Effects Seminar Week. And so, before we start, I want to  
6 introduce Bill Powers, the Chief Economist and Director of  
7 Office of Economics. He has some opening remarks for this  
8 seminar.

9 Bill?

10 MR. POWERS: Thank you, Saad, and welcome,  
11 everyone, to the fourth session of the Commission's Seminar  
12 Week, and some of you may have joined us for the similar  
13 events last year. If so, thank you for coming back. For  
14 those of you joining us for the first time, the Commission  
15 put out a report last year on the effects of trade and trade  
16 policy on U.S. workers and underserved communities. USTR,  
17 since we delivered that report, USTR has since asked us for a  
18 series of five more reports on this topic over the next 15  
19 years. The first of those reports will be due in January  
20 2026. So we're planning a series of annual outreach events  
21 for those reports, the first being this week, and the next  
22 series is going to start up again in July of 2024. There are  
23 more details on our website, so please see that for more  
24 about the report and the seminars.

25 Before I introduce Dr. Connolly, our speaker today,

1 I wanted to go over the ground rules for the session.  
2 Laura's going to present for 60 minutes, and then we'll have  
3 a discussant from the U.S. ITC who will follow that for 10  
4 more minutes, and that should leave right about 20 minutes at  
5 the end for questions and answers. So, if you have questions  
6 during the presentation, please put those into the chat and  
7 we can get to them at the end during the Q&A session. Some  
8 of you may not have access to the chat feature, in which case  
9 the Raise Hand feature at the end will also work well. One  
10 last thing to note is that we will have a transcript  
11 available of this event available on our website in about 45  
12 days.

13 All right. So, with that background, let me  
14 introduce our speaker. Very happy today to introduce Dr.  
15 Laura Connolly. Laura is an Assistant Professor of Economics  
16 at Michigan Technological University. Her research focuses  
17 on how trade and health policies affect labor market outcomes  
18 across different populations, with a focus on gender. Laura  
19 will be presenting here her paper, as you can see on the  
20 screen, on the effects of the trade shock on gender-specific  
21 labor market outcomes in Brazil. So we'll see what we can  
22 learn from the Brazil case that might transfer over to the  
23 U.S.

24 The paper was published in the Journal of Labor  
25 Economics, way to go. Her findings show that exposure to

1 imports from China have quite different effects in Brazil  
2 than we've seen in the U.S. literature or also in Dr.  
3 Levell's presentation on the U.K. this morning.

4 I just want to note on a personal note Laura was an  
5 AEA Summer Fellow at the U.S. International Trade Commission  
6 in the summer of 2016. As I just confirmed, this is your  
7 first presentation with us in seven years. Welcome back and,  
8 please, Laura, take it away.

9 MS. CONNOLLY: Thank you very much. I appreciate  
10 the introduction and the opportunity to present the paper and  
11 to kind of come full circle back to that summer of 2016 time  
12 that I spent in D.C. with you all at the U.S. ITC. So, as  
13 Bill said, I'm going to present a paper that's looking at  
14 gender-specific impacts on the labor market, looking at the  
15 China trade shock and how it's impacted workers in Brazil.  
16 And I'll give you just a little bit of a disclaimer. I've  
17 got a dual screen and my slides are on the opposite screen of  
18 my camera, so I apologize if it looks like I'm looking the  
19 other direction.

20 So this is one, I'll be honest, this is my job  
21 market paper, so it's certainly a labor of love and a lot of  
22 time went into this one, so I'm glad to see it kind of end up  
23 with a home. And I haven't presented it in quite a while, so  
24 it's fun to get to dig back in and kind of refamiliarize even  
25 myself with what I was doing. And then it's also by pretty

1 -- if anyone does happen to have seen this in a prior form,  
2 the published version is a good bit different than even what  
3 I was originally presenting on the job markets, so this is  
4 actually my first time presenting it in its final form, so a  
5 good opportunity for me. So thank you all for having me.

6 So I'm going to kind of go pretty quickly through  
7 kind of a general kind of trade liberalization/globalization  
8 background given kind of the nature of the seminar series  
9 with its overarching focus already on kind of trade and those  
10 distributional effects rather than a more general audience.  
11 But especially looking at it from the perspective of  
12 developing countries, thinking of Brazil, one thing to  
13 consider is kind of the motivation to integrate into that  
14 world economy, and so kind of trade liberalization and kind  
15 of increased trade is one way that some developing countries  
16 saw as a means to create more sustainable economic growth,  
17 with the hopes of promoting development, reducing poverty,  
18 and kind of creating a more sustainable future than what they  
19 had seen to date.

20 So some examples, heavy on the Latin America side,  
21 so Argentina, Brazil specific to this paper, Chile, Mexico, I  
22 another similar paper has come out recently for Peru, and  
23 then kind of beyond Latin America, we also saw similar kind  
24 of trends in that trade liberalization and increased  
25 globalization in China, Korea, Turkey, Vietnam, so kind of

1 throughout different parts of the world.

2           So looking at Brazil specifically, I'm going to  
3 start with a little bit of background on their trade  
4 liberalization and then move toward what's the focus of this  
5 paper, which is more looking at the China trade shock. So  
6 Brazil's trade liberalization began back in the early 1990s,  
7 and from what I've read, it seemed to come as a little bit  
8 more of a surprise to the general population than kind of a,  
9 you know, well -- what's the word there -- kind of  
10 well-planned over a long horizon. So kind of the first talks  
11 of liberalization began in the early '90s and it was  
12 virtually complete by 1995.

13           So this was a pretty quick transition from a  
14 relatively closed economy. What they had was called import  
15 substitution industrialization, so it was very high  
16 protectionist and favored domestic producers. They had  
17 really high import tariffs. They had certain items that were  
18 not allowed to be imported into the country at all, and then  
19 they had a kind of special customs regime that favored  
20 certain countries or products over others.

21           And so, when they opted to liberalize their trade  
22 policies, again, that started in the early 1990s, it really  
23 consisted of a couple of different parts. So they eliminated  
24 non-tariff barriers, which made tariffs their primary trade  
25 policy, and they drastically reduced tariffs across the



1 board. So Brazil had a really high variation in tariffs  
2 across industries pre-liberalization, and that was one thing  
3 this kind of change in trade policy targeted was eliminating  
4 some of that high variability across industries for those  
5 tariffs.

6 And so, for example, the average tariff declined  
7 from just over 30 percent to about 12.8 percent over that  
8 five-year timeframe where they were implementing those  
9 liberalization policies. And there is a good bit of research  
10 that looks at Brazil's trade liberalization. Recognizing  
11 it's an import-driven trade shock, those tariff policies are  
12 only going to apply to products coming into the country. And  
13 most of it finds pretty negative effects.

14 So two kind of prominent researchers in that area  
15 are Dix-Carneiro and Kovak. They have a series of papers  
16 looking at Brazil's trade liberalization, and they pretty  
17 much across the board, regardless of kind of what data set  
18 they used, what timeframe they used, they find really  
19 consistent results that workers in Brazilian micro-regions --  
20 that's going to be very similar to a commuting zone in the  
21 U.S. -- had larger tariff declines, meaning they had kind of  
22 a higher change in exposure to those imports, experienced  
23 larger declines in both formal sector employment and  
24 earnings. And it seems kind of every year they're turning  
25 out a new paper looking at some of these negative impacts

1 from trade liberalization in Brazil and kind of their  
2 long-run effects on workers, you know, moving to almost 30  
3 years out now.

4           There's also another paper looking at Brazil's  
5 trade liberalization that I do want to take the time to  
6 highlight, and that's the Gaddis and Pieters 2017 paper.  
7 That was in the Journal of Human Resources, I believe. And  
8 they kind of brought the gender angle to Brazil's trade  
9 liberalization episode, and so they again find those negative  
10 effects, but what's really interesting from the  
11 distributional angle is that the negative effects from  
12 liberalization were a lot larger for males than they were for  
13 females, and that's going to be kind of one thing that  
14 partially motivated this gender-focus for the China trade  
15 shock in Brazil.

16           So next I've got a graph that's just kind of pretty  
17 basic looking at Brazil's total trade kind of in dollars with  
18 the rest of the world, looking at a time period of 1996, so  
19 kind of the first year after those liberalization policies  
20 would have taken effect, and then 2010, which is going to  
21 align with the end of the data that I use in my paper. And  
22 so, here, what you can see is kind of, really, the trade  
23 values start to increase kind of in those late '90s, but we  
24 see a really drastic or kind of a sharper increase really  
25 starts to take hold in the 2000s. Then there's obviously a

1 little bit of a dip around the Great Recession with a pretty  
2 sharp rebound very quickly in Brazil. Brazil rebounded a  
3 good bit quicker, their economy did, in comparison to the  
4 United States, for example, after the Great Recession.

5 So one thing this highlights is that after those  
6 trade liberalization policies, again, they were largely in  
7 place by 1995, the trade values, you know, for Brazil did  
8 begin to increase and we see that for both imports and  
9 exports. But what really stands out from that figure is the  
10 fact that imports and exports start to increase at a much  
11 higher pace once we get to the 2000s.

12 So, for example, if we just look at the timeframe  
13 from 2000 to 2007 to try to kind of cut out that decline we  
14 saw from the Great Recession, Brazil's trade values more than  
15 doubled and that's for both imports and exports in kind of a  
16 less-than-10-year timeframe. So we see a really high  
17 transition to kind of that enhanced globalization and going  
18 kind of more all in on international trade for Brazil.

19 So looking at that timeframe, thinking of kind of  
20 the early 2000s, what else did that correspond with? So one  
21 was just that kind of general kind of worldwide emphasis on  
22 globalization and free trade. This was not necessarily  
23 exclusive to Brazil. There are lots of other countries, like  
24 I showed a sample of on that on that first slide, that had a  
25 similar transition from relatively high protectionist to

1 relatively liberal trade policies.

2           It also coincides 2001 was the year that China  
3 officially joined the World Trade Organization. So that was  
4 one that was kind of, you know, anticipated, a pretty long  
5 time coming, but that is going to be something that it does  
6 also relate to some of that sharper increase we see in  
7 Brazil's trade values for the 2000s.

8           And then kind of bringing in the labor angle in  
9 addition to the trade, Brazil also experienced rapid economic  
10 growth in the 2000s. So their minimum wage more than  
11 doubled. That was kind of from a policy perspective, and  
12 they also saw formal sector employment gains, different  
13 sources give different estimates, but between 60 to a hundred  
14 percent kind of employment, formal employment gains from that  
15 time period. So kind of that's going to bridge a little bit  
16 of what's going on in the trade world with what was going on  
17 in Brazil's labor market, and then what I'm going to do is  
18 try to connect those two to see, well, is there a connection  
19 in what was happening with Brazil's trade specifically with  
20 China and what we saw for those really kind of prominent  
21 labor market gains during that time period as well. And  
22 while there was economic growth across the board, those gains  
23 really benefited females, so that's where the gender angle  
24 can also come into play.

25           So another figure for you, here is looking at

1 Brazil's trade just with China. So the first figure was  
2 looking at Brazil's total trade with the whole world. Here,  
3 we're going to focus in just on Brazil's trade with China,  
4 and rather than looking at total dollar values, this figure  
5 presents Brazil's share of total trade with China. So, for  
6 example, in 2000, about two-ish, two and a half percent of  
7 Brazil's total imports and exports were coming to or from  
8 China. When we get out to 2010, again, China joined the WTO  
9 in 2001, what we see ,that exports are up to about 15  
10 percent, so in total, 15 percent of Brazil's exports are  
11 going to China by 2010 and then slightly lower around 14  
12 percent of Brazil's total imports are coming from China by  
13 2010. So we do see this really enhanced role of China as one  
14 of Brazil's trading partners.

15 And so, after joining the WTO, China quickly came  
16 to dominate certain world trade markets, particularly if we  
17 focus in on the manufacturing sector. And so they quickly  
18 became an important trading partner to countries around the  
19 world. And one reason I harp on this is that's going to kind  
20 of come through a little bit in the identification strategy,  
21 recognizing that Brazil is not the only country that all of a  
22 sudden started trading much more with China. That was kind  
23 of more of a worldwide phenomena as China increased their  
24 dominance in certain markets.

25 So, for example, again, just to put some more

1 numbers to it, the share of Brazil's imports from China grew  
2 from about 2.2 to almost 15 percent, and the share of  
3 Brazil's exports to China grew from 2 to just under 14  
4 percent. Another number to put to it, I don't have it here  
5 in the presentation, but in total, Brazil's imports from  
6 China grew about 1500 percent if we looked at those total  
7 trade values instead over that timeframe and their exports to  
8 China grew by about 2,000 percent. So these are huge  
9 increases when it comes to the volume of trade that we're  
10 seeing between these two countries.

11 And then just to take it even further, China became  
12 Brazil's top trading partner for imports in 2012 and for  
13 exports in 2009. So, again, that's going to highlight kind  
14 of both trade channels. Whereas a lot of the U.S. work and  
15 even some of the prior work for Brazil is really focused on  
16 the import side, Brazil provides a little bit of an  
17 interesting context because we see actually an even larger  
18 shock to the export side, recognizing that China also created  
19 a huge new market for countries to export to, in addition to  
20 China taking over certain kind of trade markets and really  
21 becoming prominent in the import world.

22 So thinking of their trade, China and Brazil's  
23 trade with one another, there is a former paper and I'll get  
24 into the details from this one a little bit later, Costa, et  
25 al. in 2016, and they categorized Brazil's trade with China

1 as a commodities for manufacturers, meaning Brazil is  
2 typically exporting commodities to China and then Brazil is  
3 importing different manufacturing goods. So, again, that  
4 manufacturing angle is pretty common for countries across the  
5 world, importing different manufactured goods from China,  
6 whereas Brazil is really exporting those commodities. So  
7 thinking mining, agriculture, and a little bit of  
8 manufacturing is there, but most of the manufacturing is tied  
9 to either mining or agriculture.

10 So, for example, we can look at the top five  
11 industries for imports and exports. So, for imports, it's  
12 exactly what we expect. We see a variety of manufacturing,  
13 so different products produced in China in the manufacturing  
14 sector and Brazil's importing those. On the exports side,  
15 this is where we see the mining come through and then while  
16 there are manufacturing, again, notice they're typically more  
17 tied to the agricultural, meat, fish, and sugar or the mining  
18 sector for basic metals. So that's what the authors mean  
19 when they say that commodities for manufacturers trade  
20 relationship.

21 So there's a little bit of the literature even when  
22 I was first working on this paper back in 2017 until 2022,  
23 and the Costa, et al. paper was kind of the first to really  
24 look at this China trade shock in terms of Brazil, and so  
25 they did highlight both that import and the export channel,

1       whereas most of the literature to date for the U.S. and other  
2       developed countries were typically more focused on just the  
3       import side because there was more of a trade imbalance  
4       between developed countries and China, whereas Brazil  
5       actually saw more of a balanced trade relationship. So  
6       that's kind of a unique thing that they highlighted.

7                 And they continue to find some negative impacts  
8       from imports. Imports from China were associated with wage  
9       declines. But, since they were also angled to highlight or  
10      exploit the increased exports to China for Brazil, they also  
11      kind of counterbalance that with some positive effects. So  
12      regions more exposed to exports to China saw higher wage  
13      growth. But they didn't find much on the employment front.  
14      They found some positive effects with employment, but I  
15      believe most were either insignificant or they weren't very  
16      robust, so they focused on the wage dynamics moreso.

17                And then two more recent papers do focus both on  
18      the China trade shock as well as some type of a gender angle,  
19      so those are going to be particularly related to the work I'm  
20      going to present today. So Paz and Ssozi, they study just  
21      that import channel and they look at the share of female  
22      employment and the male/female wage cap, so what we would  
23      refer to as those relative labor market outcomes, how kind of  
24      men and women are doing in comparison to one another rather  
25      than aggregate labor market outcomes for either group.



1           Here, though, their work is specific to the  
2 manufacturing sector, and so they find that imports increased  
3 the share of female workers, so perhaps a positive outcome  
4 attached to imports, and reduced the male/female wage gap.  
5 But, again, these are both exclusive to the manufacturing  
6 sector. So one thing to consider kind of just as we would  
7 see in a lot of economies, the same would hold true for  
8 Brazil is that the manufacturing sector is very much  
9 male-dominated. So it's not going to be a sector that  
10 encompasses a lot of the female workforce.

11           And then the last paper at the time when I was  
12 working on this to get it published, Benguria and Ederington  
13 had a working paper, so that was 2017, and I updated it. It  
14 was just recently published this summer, so the latest  
15 version is 2023, but a slight discrepancy there if anybody  
16 saw it cited in the paper. And they focus on the  
17 relationship between imports from China and gender wage  
18 inequality, so, again, kind of not focusing on that export  
19 channel, and they are largely -- they're looking at the  
20 formal sector, which again is not -- it does include kind of  
21 more women than the manufacturing sector would, but the  
22 informal sector is very large in Brazil and many other  
23 developing countries, particularly in comparison to the U.S.  
24 and more developed economies. So depending on the year, the  
25 informal sector can be just as large as the formal sector.

1 So, again, kind of identifying a different group that there  
2 might still be potential to explore how does trade with China  
3 impact those workers.

4 So getting into the research questions, kind of  
5 twofold in terms of what my overarching research questions  
6 were in this particular paper. So first was how does trade  
7 with China, focusing on both the import and the export  
8 channel, affect local labor market outcomes, focusing on  
9 gender in Brazil. So that's going to be looking at male  
10 employment growth, female employment growth and the share of  
11 female employment, for example. And then part two of that  
12 is, well, does the China trade shock improve women's relative  
13 local labor market position? So some of the research has  
14 shown kind of more negative impacts for men, which, in  
15 practice, can translate to an improvement in women's relative  
16 position, but in kind of classic econ terms, that's not a  
17 change that we would consider to be pareto-optimal. Women  
18 are seeing that relative position improve not because their  
19 position's improving but because males' position is  
20 declining.

21 And so one thing in the paper I try to highlight  
22 is, well, where do we see those pareto-optimal improvements  
23 where maybe both are benefiting, but women are benefiting  
24 more, for example, rather than any improvements stemming from  
25 harm to men, which is not, you know, a good outcome for the

1 economy either.

2           So recognizing there was some work kind of already  
3 either published or in development at the time I was working  
4 on this, a couple of different contributions I tried to focus  
5 on. One was looking at both the imports and the exports by  
6 gender. So, for the two papers that did look at the China  
7 angle with Brazil, neither one of them looked at exports, so  
8 there's a little bit of room there to see, well, if we  
9 capture that export market as well, does anything change?  
10 And then again I'm going to look at both aggregate and  
11 relative labor market outcomes. So the Paz and Ssozi paper,  
12 they largely -- they just look at those relative outcomes, so  
13 it's difficult to tell whether any relative improvements are  
14 true improvements or if it's from males being harmed. And  
15 I'm also going to consider broad sectors of the economy, so,  
16 again, not exclusive to just the formal or the manufacturing  
17 sector. I'm going to split the data by kind of two different  
18 mutually exclusive groups, so looking at the formal versus  
19 the informal and then looking at traded versus non-traded.

20           And why that really comes into play here with  
21 gender, this is one thing the Gaddis and Pieters paper  
22 highlighted looking at Brazil's trade liberalization, is that  
23 it's hard to say how a trade shock impacts women if you only  
24 focus on the sector that women are least represented in. So  
25 trying to look at kind of more broad sectors of the economy

1 to make sure kind of across the board every worker is coming  
2 through in those categories.

3 So, before we jump into kind of the data and the  
4 methodology, I want to talk a little bit about what's the  
5 mechanism, so why kind of from that economic perspective  
6 might we expect trade to have differential effects on men  
7 versus women in the labor market or why might we expect those  
8 gender-specific impacts. There's going to be three different  
9 mechanisms that I try to tease out in some capacity through  
10 the analysis. The first is going to be taste-based  
11 discrimination, so this is the classic Becker model of  
12 discrimination from I think it's the 1950s, so kind of  
13 digging deep back into the literature there, the idea being  
14 that trade, if you look at increased trade, that is a means  
15 of increasing competition. And so, from a theoretical  
16 perspective, if firms are facing a higher level of  
17 competition, then it should decrease their ability to  
18 discriminate in hiring practices, that idea that  
19 discrimination is costly, so if you increase competition,  
20 that's going to reduce the margin that firms can  
21 theoretically afford to continue discriminating.

22 And there are a couple papers that look at this  
23 model or mechanism. Black and Brainerd find some evidence  
24 for it in the U.S. when they look at the U.S. context, but a  
25 later paper found back to that kind of relative outcome that

1 the improvements in discrimination are more from harm to men  
2 rather than benefits to women. And then Benguria and  
3 Ederington look at it again for that, for the Brazil case,  
4 the China trade shock one when they look at gender wage  
5 inequality, kind of thinking of that discrimination angle.

6 The second mechanism is what we're going to call  
7 skill-biased technical change, the idea being that increased  
8 exposure to trade can induce technical change and perhaps  
9 lead firms to update their technology. So, as we see  
10 technological updates, that can be skill-biased, meaning  
11 favoring more skilled or more educated workers. And where  
12 the gender angle comes in is if some tasks become more  
13 complementary to female workers. So the Juhn, et al. paper  
14 here is looking at this in regards to Mexico and they do find  
15 some evidence that firms in Mexico upgraded their technology,  
16 this was in the manufacturing sector, and that they did see  
17 an increase in the share of female employment as a result,  
18 and they largely pitch it as technology can sometimes reduce  
19 the physical requirements with kind of more manual labor  
20 tasks and help automate them, which, if you reduce some those  
21 physical strength requirements, that can make certain tasks  
22 become kind of more complementary to female workers than they  
23 were prior.

24 And then the last mechanism is going to build off  
25 the Gaddis and Pieters paper and it comes through a little

1 bit in the Dix-Carneiro and Kovak work as well, which is  
2 labor segregation and sectoral reallocation. And this is  
3 again not necessarily specific to Brazil, but the idea that  
4 males and females are often segregated into different  
5 occupations and/or different industries within an economy.  
6 So we see that in the U.S. It holds true for Brazil as well.  
7 Males are going to be very much overrepresented in the traded  
8 sector and females are going to be more represented in the  
9 non-traded sector, for example.

10 So, here, one thing that builds off that Gaddis and  
11 Pieters paper is they found that males were more likely to be  
12 harmed by trade liberalization. They experienced larger wage  
13 declines, and that was largely tied to the fact, well,  
14 they're more represented in traded sectors and we might  
15 expect traded sectors to be hit more by a trade shock, for  
16 example, than non-traded sectors and so then that could bring  
17 in the gender angle pending how males and females are kind of  
18 segregated across different sectors or occupations.

19 So, for the methodology, I remember this being a  
20 hot topic, I'll say, when I was there seven years ago, so I'm  
21 assuming most are pretty familiar with the base idea, but I  
22 still want to hit the highlights here. So I'm going to  
23 follow Costa, et al.'s method. That's the paper that looked  
24 at both the import and export angle from Brazil, with the  
25 base idea being it's a classic two-stage least-squares model,

1 so 2SLS, with two different instrumental variables. One IV  
2 is going to be specific to the import exposure and the second  
3 IV will be specific to the export exposure.

4 And why I say this was a hot topic was it's a tweak  
5 of the Autor, Dorn & Hanson kind of classic initial 2013  
6 China trade shock IV, where they brought in the idea to use  
7 other countries' trade with China as an instrument for the  
8 U.S.'s trade with China. Where Costa, et al. kind of  
9 complement that or tweak it a little bit is they come up with  
10 kind of a clever way to try to even further isolate just the  
11 China-specific effect within each kind of trade industry, and  
12 I'll talk about the details of that in just a minute.

13 The idea here being the classic labor and trade  
14 issue, the endogeneity problem, it could certainly be that  
15 there is kind of some other third factor that's causing both  
16 Brazil's trade with China and their labor market outcomes to  
17 increase or there could be unobserved demand shocks in  
18 Brazil. So, if that's the case, then we would see some bias  
19 in any OLS models and so the two 2SLS with the IV is going to  
20 help that endogeneity issue.

21 As usual, though, there are some assumptions kind  
22 of behind the scenes in order for this to work. So this is  
23 assuming that the rest of the world's trade with China is  
24 correlated with Brazil's trade with China but is not  
25 correlated with labor market outcomes in Brazil. So, for

1 example, we're saying the United States' trade with China  
2 impacts -- is related to Brazil's trade with China but is not  
3 related to labor market outcomes in Brazil.

4 So kind of measuring the trade exposure, this is  
5 going to look identical to the Autor, Dorn & Hanson approach,  
6 kind of the classic China trade shock measure. So the main  
7 variables of interest, they're going to be the local labor  
8 market level, here we're going to use a microregion. Again,  
9 that's going to be analogous to the commuting zone in the  
10 U.S. and is pretty standard for those that do look at Brazil.  
11 That's the typical local labor market unit that is used. And  
12 so this is going to be one of those just share kind of  
13 measures where it's really hinging on the different  
14 employment compositions within industries and within  
15 microregions. So it's going to be an employment weighted, L  
16 represents different levels of employment. Those are all  
17 from 2000, which will be the beginning, kind of the first  
18 year of data I bring to the analysis, and then times the  
19 change in either imports in a particular industry J or times  
20 the exports in a particular industry J. So each trade  
21 measure is working very similarly. One's tied to the import  
22 angle and the other is tied to the export angle.

23 And then again moving ahead to the IV, it's going  
24 to look very similar. The only kind of real change here,  
25 and, again, this so far is still going to look identical to



1 the Autor, Dorn & Hanson approach, is now rather than  
2 Brazil's trade with China, the IV is now going to be the  
3 change in the rest of the world's trade with China, so just  
4 netting out Brazil effectively and including all other  
5 countries, at least countries that reported trade data to the  
6 source I used in that calculation.

7           Where the change really comes in is this next part,  
8 s kind of further breaking down you might notice it says net  
9 of world level trends. That's the part that Costa, et al.  
10 bring to the table that's a tweak of the original Autor, Dorn  
11 & Hanson strategy. And why that's important in this context,  
12 maybe moreso for the U.S., is thinking particularly of  
13 Brazil's relationship as they export goods to China. They're  
14 largely exporting commodities, and during the 2000s, there  
15 was what was kind of named the commodity price boom, meaning  
16 prices for commodities increased drastically, so how much of  
17 that kind of increased value we saw in those earlier figures  
18 is from kind of those world-level trends in the world and the  
19 commodity price boom relative to actual -- the impact of  
20 China. So that's what Costa, et al. tried to kind of better  
21 target is kind of honing in on the Autor, Dorn & Hanson  
22 approach and just making one kind of extra tweak here at the  
23 end to further isolate the China effect.

24           All right. So that's what this last slide for the  
25 instrumental variables is going to try to get at. So it's

1 changes in the rest of the world's imports from China and  
2 changes from the rest of the world's exports to China, but  
3 the new part is that net of world-level trends. So this is  
4 -- there's kind of one extra step to the Costa, et al. IV in  
5 comparison to the Autor, Dorn & Hanson. And so where this  
6 comes in is you'll see the change in the rest of the world's  
7 imports,  $I_j$  with the kind of half on it or the exports, is  
8 tied to a China-specific effect. So the  $\gamma$  China  $J$  for  
9 imports or the side China  $J$  for exports.

10 So that's going to require a really straightforward  
11 quick regression analysis that brings in data from basically  
12 all countries throughout the world and their trading partners  
13 and try and figure out for each industry or kind of each  
14 country's trade how do we isolate what's specific to kind of  
15 changing trade patterns due to China's effect versus changing  
16 trade patterns due to a worldwide trend that's not  
17 necessarily tied specifically to China. And so that's what's  
18 going to be going on in this kind of middle part right here,  
19 Equations 5 and 6.

20 So that's what's going to be going on in this kind  
21 of middle part right here, Equations 5 and 6, is that's where  
22 those China-specific effects, the  $\Gamma$  hat and the  $\Psi$  hat,  
23 are coming from, is by running a regression analysis here,  
24 that's going to isolate  $\alpha_j$ . And the  $\Gamma_j$  here are  
25 going to be the industry-specific effect for each market for

1 imports and each market for exports. So that's going to be,  
2 we can think of it as the mean growth across industries in a  
3 particular industry for imports and exports.

4 Then kind of what's left is going to be picked up  
5 as that China-specific effect. How does trade with China  
6 deviate in that particular industry relative to kind of the  
7 rest of the world's trade in that industry? And so Costa, et  
8 al. pitched kind of taking that China-specific effect and  
9 working it into the IV to kind of supplement. Rather than  
10 just taking change in other countries' trade values, they  
11 further highlight that China-specific effect through that  
12 extra step where we isolate the industry versus the China-  
13 specific effect for each trade market.

14 So that's really the only tweak from that Autor,  
15 Dorn, & Hanson method. So it takes, you know, all the same  
16 data, just one more step to kind of get it there. And,  
17 again, that's probably, arguably, more important in the  
18 Brazil context given their commodity exports relative to what  
19 you might see in the U.S.

20 And so then just to kind of quickly hit the  
21 highlights for the actual model, again, a very classic 2SLS  
22 model with two instrumental variables. So that's where  
23 you'll see the import side and the export side come into  
24 play.  $Z$  is going to be a vector of microregion-specific  
25 controls from the start of the period, so those are going to

1 be tied to the start of the period. That'll be 2000 for each  
2 microregion to just kind of control for other dynamics or  
3 kind of trends in each microregion.

4 And then the first stage models are estimated, as  
5 you would expect, with the IVs for imports and exports coming  
6 in to both equations. So run the first stage, bring the IVs  
7 in, and then run the second stage to determine the impact on  
8 the labor market outcomes.

9 And so the main outcomes of interest, the Delta YM,  
10 that's going to focus on either changes in labor market  
11 outcomes, local labor market outcomes I should say, from 2000  
12 to 2010, or changes in growth rates in different labor market  
13 outcomes from 2000 to 2010. So, to give you an example, for  
14 wages, I look at wage growth for men, wage growth for women,  
15 and then the change in the average wage ratio between men and  
16 women. So that's going to bring in both those aggregate and  
17 relative outcomes. Some are growth rate and some are an  
18 actual change.

19 And then additional specifications, what I'm  
20 actually going to present today, the kind of main  
21 specifications in the paper, they also include region-fixed  
22 effects and pre-trends from both 1980 to 1991 and 1991 to  
23 2000. So those pre-trends are relatively important in the  
24 Brazilian context because of that trade liberalization we  
25 kind of talked about first thing in the presentation, where

1 it could be that some of these sustained kind of trade  
2 patterns and/or the positive labor market outcomes we see  
3 could be due to those liberalization policies that kind of  
4 started in the '90s rather than the China effect.

5 So, by controlling for those pre-trends, it helps  
6 to determine how much is a continuation of something that  
7 started before the China trade shock versus how much is it  
8 kind of new and more isolated to China itself. So, to  
9 formalize those outcome variables, again, growth rates are  
10 changes in local labor market outcomes and they're all going  
11 to measure the change of the growth from 2000 to 2010, 2000  
12 being one year before China joined the WTO and 2010 being the  
13 time of the work, the last year of the census data that was  
14 available. Now there should be one more wave available  
15 because it's collected every 10 years or so.

16 So, for wages, I'm going to look at real wage  
17 growth, looking at male wage growth and female wage growth,  
18 and then the relative outcome will be the change in the  
19 average female-to-male ratio. Very similar for employment.  
20 I'll look at male employment growth, female employment  
21 growth, and then the relative outcome will be the change in  
22 the share of female employment. So those are going to be the  
23 kind of primary labor market outcomes or the main analysis.  
24 And then I'll also look at some worker-level adjustments,  
25 looking at the role for migration, changes in the labor force

1 participation rate, et cetera.

2 For those main outcome variables, as I hinted at  
3 earlier, I also want to make sure that I'm encompassing kind  
4 of all the sectors possible that workers could be employed  
5 in. So I'm going to split it in two different ways, formal  
6 or informal. So a worker can either be employed in the  
7 formal market or in the informal market but not both based on  
8 the data at least, and then again by the traded or not  
9 traded. And, again, a worker can be employed in the traded  
10 or the non-traded sector but not both. However, a worker  
11 who's employed in the traded sector could be in the formal or  
12 informal market. So it's two different kind of mutually  
13 exclusive categories, but there's overlap across the two.

14 And then, lastly, I've got the list of those  
15 control variables for the microregion at the start of the  
16 period in 2000, so that's going to be the workforce  
17 population. How big is the workforce at the start of the  
18 period, how much of the workforce is employed in the informal  
19 sector, the percent of employees living in rural areas, the  
20 percent employment that's foreign born, and the percent  
21 employment that's high school educated. And these are  
22 largely going to mirror the control variables you'll see for  
23 a lot of the Brazil trade liberalization and then some of  
24 those prior levers on the China trade shock as well.

25 So getting into the data, there's going to be two

1 main sources of data, one for the trade data and another for  
2 the labor market data. So the trade data I'm going to use  
3 comes from -- and I realized as I was prepping for this  
4 presentation I don't actually know how you pronounce this  
5 acronym, so my apologies, if someone else knows and I get it  
6 wrong. I've always called it the CEPII BACI data. I have no  
7 clue if that's correct. I'll have to look that one up on my  
8 own. But it's going to be kind of classic trade data, annual  
9 product-level data for each country, kind of for each  
10 product, and what countries they trade that product with.

11 It's going to build off the UN Comtrade data, which  
12 I think is a little more commonly used, and it's going to  
13 reconcile any differences in data reported by partner  
14 countries. So let's say, for example, Brazil reports \$100 in  
15 exports in a particular good to China, but China only reports  
16 \$80 in imports for that particular good from Brazil. The  
17 BACI data is going to reconcile those differences if they  
18 find any from the UN Comtrade data. So that's the main  
19 advantage to it over the UN Comtrade data.

20 And then, as is standard in the trade and labor  
21 literature, all the trade data is at the product level, and  
22 then all of the labor market data is going to have an  
23 industry attached to it. So I just followed the standard  
24 approach: map each product to an industry code. And so  
25 that's going to map the harmonized system codes for each

1 product to, for Brazil, it's the Brazilian classification of  
2 industries, and the acronym for that is CMAY. So they're  
3 going to be kind of similar to ISIC industries, but they're  
4 going to be Brazil's kind of special codes.

5           The labor market data is going to be Brazil's  
6 census data. So this is typically collected every 10 years  
7 by the Institute of Geography and Statistics. You'll notice  
8 a little bit of a discrepancy there. I don't actually have a  
9 good reason as to why. But every 10 years, meaning 1980,  
10 1991 -- little bit of an oddball -- 2000, and 2010. So, like  
11 I said, at the time of this work, the kind of next version of  
12 the census data was not available. There were some delays  
13 from the pandemic, as I'm sure we can all relate to. But I  
14 do believe that data is now available, but I have not  
15 personally dug into it yet.

16           But the benefit of the census data is it's going to  
17 be cross-sectional, but it's nationally representative sample  
18 of the Brazilian population. So where the key benefit of the  
19 census data comes in is being able to capture workers  
20 employed in the informal sector. The other big data set for  
21 the Brazil labor force is exclusive to formal sector workers.  
22 I do have another project that used that data set. And then  
23 it's also going to include those that aren't actually  
24 employed, which will be beneficial for looking at migration  
25 or the labor force participation rate, some of those kind of



1 supplementary variables I'll show in a few minutes.

2           And then for the main analysis I'm going to  
3 restrict it. For those that are focused on those that are  
4 employed, it'll be full-time workers, defined as working at  
5 least 35 hours per week, and then working-age individuals,  
6 those age 18 to 64. There will be a few specifications,  
7 again, the migration or labor force participation, where I  
8 drop that full-time worker requirement, but it's still  
9 specific to working-age individuals ages 18 to 64.

10           So, here, I'm going to start to show you some  
11 summary statistics. Try and keep an eye on the clock as  
12 well. So I'll go through these semi-quickly to then start to  
13 get into some of the results there. So, here, this is  
14 showing the summary statistics for those microregion trade  
15 exposure variables. This is going to include both the  
16 Brazil-specific measure for imports and exports, as well as  
17 the IV that accounts for kind of the rest of the world's  
18 trade with China, again, kind of net of any world trends at  
19 the time.

20           And, here, I think the main takeaway is really just  
21 to notice the variation. So there's the mean in Column 4,  
22 there's the min and the max in Columns 6 and 7, and then I've  
23 also got a couple of different percentiles. So, for example,  
24 a lot of the local labor market literature focuses on  
25 comparing a labor market at the 25th percentile to one at the

1 75th percentile, so kind of based on your exposure to trade,  
2 we do see some variation. So some microregions are  
3 significantly more exposed to imports or exports from China  
4 relative to others. And that's just getting at kind of why  
5 the identification strategy works. It's hinging on variation  
6 across microregions from that trade exposure.

7           You might notice the numbers for the IV are a good  
8 bit lower, which some of the other work it's actually the  
9 opposite. And, here, that's where that tweak to net out any  
10 world trends really comes into focus. So, once we net out  
11 any world trends, it makes sense that the IV would be a  
12 little bit smaller because it's better isolating just that  
13 China effect, removing anything that was more of a worldwide  
14 trend at the time like the commodity price boom.

15           Next, I have a table, and this is a little bit of a  
16 condensed version from what's actually in the paper. I  
17 didn't want to try to give you all a presentation with the  
18 tiniest numbers you've ever seen so I'm kind of hitting the  
19 highlights here, glossing over a few things that are in the  
20 paper. But this is really focusing in on the summary  
21 statistics, those changes in labor market outcomes from 2000  
22 to 2010, again, at the microregion level, for employment and  
23 wages. So I have one column for all, so it's going to be  
24 across all sectors, and then there's, again, that kind of two  
25 different categories that are mutually-exclusive: traded

1 versus non-traded and then formal versus informal.

2           So, at least for me looking at this, one thing that  
3 stands out is this does partially highlight those kind of  
4 really big economic gains I mentioned earlier for Brazil. So  
5 we're seeing some pretty big numbers in terms of employment  
6 growth and even for wage growth. And these are real wages.  
7 So I said the minimum wage did double over the time period,  
8 but this has been transformed to real wages. So, for  
9 example, across all sectors of the economy, on average, a  
10 microregion sees about 18 percent growth in male employment  
11 and about 60 percent growth in female employment.

12           So we're starting to see some role for that gender  
13 dynamic. Both are benefitting, but we're seeing a much  
14 larger growth rate for females, and that kind of stands  
15 across the board. And this will come up a little bit later  
16 through the results, but there's certainly a big emphasis on  
17 the formal sector, and that does align with kind of other  
18 papers and evidence I found where Brazil was making kind of  
19 an intentional effort to convert informal to formal labor  
20 because of the protections that it affords to workers during  
21 this time period.

22           Then we also see improvements on the relative side.  
23 Change in the average share of female employment across the  
24 board and change in the average wage ratio across the board,  
25 both kind of improving women's relative position on average.

1                   For the sake of time, I'm going to skip that  
2 because I basically just said all that. All right. So now  
3 getting into the results. So, before we get into the actual  
4 impacts of the China shock on various local labor market  
5 outcomes by gender in Brazil, I did want to present the first  
6 stage estimates, again, just to highlight, is that  
7 instrumental variable kind of working as it should? Does it  
8 pass the eye test?

9                   So, here, we see kind of the coefficients are all  
10 of the expected sign. We be focusing on imports for imports  
11 and on exports for exports are the two kind of main focuses  
12 there. So we see a larger coefficient for imports but still  
13 a very large and significant coefficient for exports. So, as  
14 exports for the rest of the world to China go up, so do  
15 Brazil's exports to China, and then, as imports from China go  
16 up around the world, so do Brazil's imports from China. So  
17 that's working exactly as we would expect at this point.

18                   And so now we can start to actually get into some  
19 of the results. So how are workers faring in Brazil? What  
20 are those local labor market changes we're seeing? And how  
21 much of that is associated with increased trade with China?  
22 So, first, I'm going to look at wages, and, again, I kind of  
23 broke this down. There's maybe two slides that show the  
24 table for wages because I felt like it was a little small to  
25 try to all fit on one.

1           So Panel A is going to match up with those summary  
2 statistics for all sectors. So anybody who's employed,  
3 doesn't matter what sector you're employed in, you're  
4 categorized in that all sectors. And here you'll notice  
5 that's where Column 1 is the male wage growth, Column 2 is  
6 the female wage growth, and then Column 3 is that relative  
7 wage outcome comparing female to male wages or the average  
8 wage ratio.

9           So, here, not super surprising given what the  
10 literature has found, we find a negative association between  
11 increased imports from China and wage growth. So, for  
12 microregions more exposed to imports from China, they're  
13 going to see wage declines, or this could also capture lower  
14 wage growth in comparison to microregions less exposed to  
15 imports. We see that for both males and females.

16           And then I think what's interesting is, if we move  
17 to Panel B -- that's exclusive to the traded sector -- we see  
18 pretty large effects. So that kind of matches that Gaddis  
19 and Pieters paper, the idea that trade is maybe more likely  
20 to impact the workers most connected to it, so those in the  
21 traded sector. And, again, we see impacts for males and  
22 females, with the coefficient for males being a little bit  
23 larger in absolute terms than that for females.

24           In the non-traded, we some spillover effects.  
25 There are still some negative wage effects associated with

1 imports ,but they're a good bit smaller than those in the  
2 traded sector. And then you might also have noticed there  
3 are some positive wage effects associated with exports. So  
4 that's, you know, good to see from that export angle, but the  
5 negatives from imports are certainly a good bit larger than  
6 those positives from exports is one thing that stands out.

7           The other industry or kind of sector split we can  
8 look at, so Panel A stays the same -- I just kept that in  
9 there for comparative purposes in case it was helpful to see  
10 how it compared to the kind of economy overall -- is looking  
11 at formal versus informal. And that's where here we see kind  
12 of really those negative impacts on wages from imports are  
13 really concentrated in the formal sector over the informal  
14 sector.

15           And the literature suggests that's not too  
16 surprising from the perspective of most of the time, if  
17 you're an informal firm, you would have a lot harder time  
18 accessing some of those trade markets in comparison to a  
19 formal firm.

20           And then again some positive effects for exports.  
21 And one thing to highlight here, if we focus on Column 3 for  
22 the relative wage outcome for imports, we see a significant  
23 improvement in women's relative wage. But this is an example  
24 where it's not necessarily pareto-optimal. Both men and  
25 women are harmed. Men are just harmed more. So that's not

1 something that we would really want to emphasize as  
2 improvement because it's stemming from males being harmed  
3 more through higher wage declines.

4 So a quick summary on the wage front. Microregions  
5 more exposed to imports experience wage declines for both  
6 males and females across sectors. The wage results also  
7 start to highlight the potential for the labor segregation  
8 and reallocation mechanism, thinking the idea that kind of  
9 the sectors that are most connected to trade see the largest  
10 declines, and then the kind of gender most associated with  
11 those sectors sees larger declines. So, for example, males  
12 are more represented in the traded and formal sectors, and we  
13 do see larger wage declines for males than females in those  
14 sectors.

15 There are some positives, though, associated with  
16 exports. And, again, you see kind of the larger benefits are  
17 those for females have larger gains when they're more  
18 employed in that sector. So the non-traded sector is the  
19 primary example there. And then last -- I think I already  
20 mentioned this, but I'll mention it again -- the negative  
21 wage impacts of imports are definitely larger than the  
22 positive wage impacts of exports. So we do see a role for  
23 both here, but it's actually still looking like that import  
24 channel is particularly important even when you look at a  
25 country with relatively balanced trade.

1           Moving on to employment, so this table's going to  
2 look very similar. What you'll notice is at the top, now,  
3 instead of wage growth, looking at male employment growth in  
4 Column 1, female employment growth in Column 2, and then the  
5 relative employment outcome in Column 3, the change in the  
6 share of female employment.

7           And one thing to me that stick out, again, Panel A,  
8 all sectors; Panel B, traded; Panel C, non-traded. The next  
9 slide I'll have the Panel D and E for the formal and the  
10 informal. And one thing that sticks out here, originally,  
11 kind of looking at all sectors, we only see any association  
12 between trade with China and employment growth for females,  
13 and we see a positive effect from imports on female  
14 employment growth. Now the coefficient for males is  
15 negative. It's not significant, so we can make an argument  
16 that that change in the share of female employment is largely  
17 coming from females benefitting rather than males being  
18 harmed.

19           And then, if we kind of keep looking, we see a  
20 little bit of a negative impact for males in the non-traded  
21 sector, but there's not as much going on on the employment  
22 side, it appears, in comparison to wages. And that does  
23 match what Costa, et al. found. They found significantly  
24 more wage impacts than they did employment.

25           However, if we keep going and we look at that



1 formal versus informal split, this is where we start to see a  
2 little bit more activity, meaning you might notice we've got  
3 pretty large and very significant impacts on formal sector  
4 employment growth, and that is for both males and females.

5 So, if you think back to those summary statistics,  
6 we saw huge gains in formal sector employment for Brazil for  
7 this time period from 2000 to 2010. So what this highlights  
8 is it's not the trade with China is explaining all of that  
9 growth, but it is contributing to that growth, particularly  
10 the import channel. So, for example, a microregion that  
11 experienced a \$100 change in that import exposure, well, they  
12 would see a 1.885 percentage point increase in male  
13 employment growth and a 3.7 percentage point increase in  
14 female employment growth.

15 And then you might notice these kind of little  
16 towels over here. Those indicate that the female coefficient  
17 is significantly different than the male coefficient. So we  
18 don't see that a bunch with wages, but we see that a little  
19 bit more with the employment growth, both for all sectors,  
20 the female is significantly larger, and then again with the  
21 formal sector.

22 So, while both men and women are benefitting from  
23 an employment perspective in the formal sector, women are  
24 benefitting more, so this change in the share of female  
25 employment would be a true gain in relative employment for

1 women that's not at the expense or harming men in the  
2 process. And then we don't see anything really going on in  
3 the informal sector.

4 So a quick summary for employment. Across all  
5 sectors, imports from China increase employment growth for  
6 females, and that also increases the share of female  
7 employment. When we look at more specific sectors, we see  
8 those gains are really concentrated in the formal sector.  
9 Interestingly, in the formal sector, benefitting both men and  
10 women, but we see significantly larger benefits for females.

11 So the average import exposure I gave it for a \$100  
12 change, average was a little bit larger than that. We see a  
13 5.37 percentage point increase in male employment growth in  
14 the formal sector and a 10.56 percentage point increase in  
15 female employment growth in the formal sector. So those are  
16 pretty large employment changes we're seeing tied to trade  
17 with China.

18 So, if we put those two pieces together, we're  
19 seeing formal sector employment gains, but they're coupled  
20 with wage losses. And so trying to think what might explain  
21 that, well, one plausible avenue is that that's consistent  
22 with an increase in labor supply. So two angles to this that  
23 could be happening. It might be wage declines are leading a  
24 secondary earner to enter the workforce. If the primary  
25 earner is now earning less, well, then maybe that's going to

1 induce you to now enter the labor market and get a job if you  
2 aren't working.

3 It could also be, though, that trade with China is  
4 creating new employment opportunities. And there is some  
5 research behind this, the idea that now having had better  
6 access to inputs into your production process may allow firms  
7 to increase their productivity and then need to expand their  
8 workforce kind of along the way. And these certainly aren't  
9 mutually exclusive. Either one of these could be happening  
10 here.

11 So I also look at worker adjustments trying to see,  
12 well, if this is consistent with an increase in labor supply,  
13 do we see any changes in some kind of crude measures of labor  
14 supply? Does that kind of check out? So, for this next  
15 table, it's going to be all workers or all individuals I  
16 should say -- excuse me. This isn't necessarily exclusive to  
17 workers anymore. This is the population. Males in Column 2  
18 and females in Column 3.

19 First, I look at net migration rates, and we don't  
20 see -- we see a negative impact there, so it doesn't suggest  
21 that new workers are moving into these trade-impacted areas.  
22 So new workers aren't coming from migration channels. No  
23 change in labor force participation, but we do see an  
24 increase in the employment population ratio for females. So  
25 that's suggestive evidence that we see new females entering

1 the labor market in response to the import shock.

2 And then also we see declines in the unemployment  
3 rate tied to imports. Again, that's consistent across all  
4 workers, males or females, but we see a larger decline for  
5 females, and that difference is statistically significant.  
6 So it looks like the new workers, it's not driven by  
7 migration, and a bonus of that is the local labor market  
8 approach kind of assumes limited migration. So, if we saw  
9 large migration responses, we'd be in trouble.

10 And then the two channels are coming through the  
11 increased employment-to-population ratio for females, and it  
12 makes sense. New workers often earn lower wages perhaps than  
13 more experienced or the average worker. And then we also see  
14 decreased unemployment rates for both males and females, and  
15 it may be that an unemployed worker is willing to accept  
16 lower wages to secure employment. particularly if it's in the  
17 formal sector because you can think of the job security the  
18 formal sector offers perhaps is a non-wage benefit. So there  
19 may be a willingness to give up a little bit of monetary  
20 compensation to gain that additional security.

21 And then we see some of those import-induced worker  
22 adjustments continue to be larger for females. So, again,  
23 kind of driving that some type of a gender dynamic does  
24 appear to be going on.

25 So back to those mechanisms, kind of the last part

1 of the analysis in the paper. We've established what's going  
2 on with wages and employment. We see larger wage losses for  
3 men tied to imports, and we see larger employment gains for  
4 women tied to imports. And so trying to get back at, well,  
5 why? What might be the mechanism behind actually explaining  
6 what the results indicate thus far?

7 So I already talked through these three, so just  
8 trying to kind of hit the highlights. Limited evidence of  
9 the taste-based discrimination. Didn't see much action on  
10 the change in the average wage ratio. But it could be those  
11 employment results could be a signal of reduced barriers to  
12 employment for females, which could align with that labor  
13 discrimination angle, increased competition driving out some  
14 discrimination in the market.

15 Skill-biased technical change. I'm going to bring  
16 in a additional analysis that compares workers with at least  
17 a high school education, using that as a proxy for skill,  
18 kind of a crude measure, compared to those workers that do  
19 not. So evidence of skill-biased technical change would be  
20 employment gains among those higher educated workers. And if  
21 there were gender dynamics, then a difference across men and  
22 women.

23 And then last, there does seem to be some support  
24 thus far for the labor segregation and reallocation. That  
25 idea of kind of the trade impacts are more concentrated among

1 kind of workers, the gender that's most concentrated in the  
2 sectors most tied to trade. So the traded and the formal  
3 sectors first thus far.

4 So the additional analysis I'll do there is tied to  
5 changes in occupation segregation. So one way to capture  
6 that kind of gender segregation in the labor market,  
7 occupation segregation is kind of the classic key contributor  
8 to persistent gender gaps kind of all across the world.

9 So, to quickly try to get through my mechanisms in  
10 the next five minutes, I'm going to go real quick through the  
11 skill-biased technical change one. Again, this is trying to  
12 look at differences across workers with kind of higher levels  
13 of an education versus lower.

14 Why I'm going to go through it relatively quickly,  
15 as you might see, there's not much going on there, so the  
16 idea being, if we did think it was skill-biased technical  
17 change, we would expect to see employment growth concentrated  
18 among the higher educated or higher skilled workers, which  
19 would be those with a college education, and we don't see  
20 anything of the sort, so there doesn't seem to be much  
21 employment effects when we split it by education.

22 We could also look at wages, and we do see more  
23 activity for wages, which aligns with the main results, but  
24 there doesn't seem to be huge differences across education  
25 categories. And, again, that kind of evidence would really

1       come from that employment channel. So going relatively  
2       quickly through this one. My apologies. A little bit behind  
3       where I thought I would be.

4               The main takeaway being not a lot of evidence in  
5       support of the skill-biased technical change mechanism. So  
6       that leads me to kind of further investigate that labor  
7       segregation and reallocation mechanism, the idea being we  
8       know men and women kind of are segregated across different  
9       occupations and industries. Here, I'm going to focus on that  
10      segregation by occupation. But we also know trade is clearly  
11      inducing new workers into the market and some workers are  
12      going to reallocate to new sectors or jobs, so how does that  
13      translate to this measure of occupation segregation?

14             So I'm going to use the most common occupation  
15      segregation index. It's developed by Duncan & Duncan, and  
16      it's still used pretty commonly in the literature today. And  
17      the index ranges from zero to a hundred, zero meaning the  
18      occupation is fully integrated, it's completely balanced  
19      across gender; 100 being it's fully segregated, all men or  
20      all women, in the occupation. And so it's interpreted as the  
21      percentage of females that need to change occupations for  
22      that distribution of males and females within an occupation  
23      to be equal.

24             One thing I'd like to point out because it might  
25      seem a little counterintuitive, a decline in occupation

1 segregation signals improvement. That means the index is  
2 declining, getting closer to zero, which represents full,  
3 kind of equal distribution across genders.

4           And then one key thing here is that the change in  
5 the index, I'm also going to decompose that into two  
6 different parts. The gender composition, that's going to  
7 isolate the change in the relative portion of males and  
8 females within occupations. That's really the gender  
9 segregation component. The second part is the occupation  
10 composition, also recognizing the relative size of  
11 occupations changes over time. And it's certainly reasonable  
12 that trade with China might shift the relative size of  
13 different occupations in the economy.

14           So a quick highlight for this table. This is going  
15 to show the full kind of change in the occupation segregation  
16 index in Column 1, gender composition in Column 2 -- that's  
17 the one we're really focused on for the gender segregation  
18 angle -- and then the occupation composition in Column 3.  
19 So, if we look at the traded sector, we do see a decline in  
20 occupation segregation, but we don't see any evidence that  
21 it's stemming from that gender composition or the gender  
22 segregation kind of real component there.

23           But, again, where we really start to see more  
24 traction is in the formal sector. And this makes sense  
25 because, again, this is tied to occupations, so we should



1 maybe expect to see more changes where we saw the most  
2 employment changes, which was the formal sector.

3 So here, not only do we see a decline in the  
4 occupation segregation index, which, again, a decline signals  
5 improvement, but we also see that that decline is stemming  
6 from the gender composition. And that's what really  
7 highlights that as labor is reallocating in response to trade  
8 with China as women are entering that formal labor market, we  
9 actually are seeing an improvement in the balance of gender  
10 within different occupations.

11 So a quick wrap-up. Little support for the skill-  
12 biased technical change. So, from a mechanism perspective,  
13 it mostly aligns with the labor segregation and reallocation,  
14 but we could also think about the fact this may also tie into  
15 that labor discrimination or the taste-based discrimination  
16 mechanism. If this is signaling a reduction in labor market  
17 barriers for women, then we could see dual support for both  
18 the discrimination angle and the labor segregation and  
19 reallocation.

20 That occupation segregation component is -- I  
21 didn't have a ton of time to get into the details, so happy  
22 to answer questions or chat about that at the end, but that  
23 is really important because, as we look at gender gaps kind  
24 of in modern terms, modern day, we see that occupation  
25 segregation is typically considered the leading factor for

1 those persistent gender gaps. So most of the explained  
2 factors were on equal footing, but that explained portion is  
3 really heavily driven by occupation segregation, so any  
4 improvement to that certainly has economic significance when  
5 we put it together.

6 So, to quickly wrap up, big-picture takeaways, we  
7 see a really balanced trade relationship between Brazil and  
8 China. So, at least at first, I was personally expecting to  
9 see a little bit more traction on the export side, but that's  
10 really not so much what the results are highlighting. The  
11 results are really highlighting that the local labor market  
12 impacts are still tied to imports even though we see an even  
13 larger surge in exports to China.

14 The results are consistent with that increase in  
15 labor supply. Again, we see an increase in the female  
16 employment population ratio and a decline in the male and  
17 female unemployment rate.

18 Those imports are also decreasing occupation  
19 segregation in the formal sector largely. So that's going to  
20 kind of be a signal of females entering male-dominated  
21 occupations, an improvement, again, in some of those gender  
22 dynamics within the labor market.

23 And then we do see a positive role for exports,  
24 particularly on the wage front, but those wage gains from  
25 exports are relatively small in comparison to the declines

1 from imports. So, again, kind of the imports seem to be the  
2 big player even with a balanced trade relationship.

3 So, quick conclusion, and I will turn it over  
4 because I'll be about two minutes over time here. Despite  
5 the results, I still think it's really important to consider  
6 the effects of both increased import competition from China  
7 and increased access to export markets, particularly when  
8 we're thinking about a country like Brazil that does have a  
9 pretty balanced trade relationship, because I think it's one  
10 too even if the results are largely import-driven, we may be  
11 missing part of the puzzle if we don't accurately account for  
12 that export channel.

13 And I think one of the big takeaways is that trade  
14 can improve women's relative employment position, and we do  
15 see an improvement in that gender distribution within  
16 occupations, which, again, has pretty big significance due to  
17 the role of occupation segregation in persistent gender gaps.

18 And those formal employment gains are also of  
19 particular importance in a country like Brazil because the  
20 formal sector comes with a lot of added benefits and worker  
21 protections that workers in the informal sector do not have  
22 access to. So kind of a little aside on the labor market  
23 front for some additional stability and security.

24 And with that, I will wrap up and say thank you  
25 very much. I appreciate your time and attention, and I look

1 forward to hearing any comments and questions. Thank you.

2 MR. AHMAD: Thanks, Laura, for the thorough  
3 presentation. I'm sure there will be some questions at the  
4 end, but before that, I'll introduce Stephanie from the  
5 Office of Economics, who is going to have some comments for  
6 your presentation.

7 Stephanie, I think you're muted.

8 MS. FORTUNE-TAYLOR: Okay. Can you hear me now?

9 MR. AHMAD: Yes.

10 MS. FORTUNE-TAYLOR: Okay. Great.

11 Thanks so much, Laura, for your excellent  
12 presentation, and it's good to see you again after all these  
13 years. And I'm very happy to be able to present some  
14 discussion of this paper.

15 As I was reading this paper, I started thinking  
16 about how the paper has some familiar aspects to it, but  
17 there are some tweaks and extensions and innovations that are  
18 just so exciting. And so, in my mind, I classified this  
19 paper according to something old, something new, something  
20 borrowed, and something blue, and I'll explain that in a  
21 little bit. And the old is not really old. I like the term  
22 that Laura used. It's the classic Autor, Dorn & Hanson model  
23 that we all know and have learned so much from.

24 This paper joins that extensive literature on the  
25 local labor market effects of the China Shock, and it has

1 some very familiar aspects to it, the finding that the growth  
2 in Chinese imports is associated with wage decline and  
3 definitely that there are winners and losers from trade.

4 But part of the new and exciting and innovative  
5 aspects of the paper is that it examines effects in Brazil by  
6 gender in the traded and non-traded sector, and the part that  
7 I just love is that we're able to look at formal and informal  
8 markets, which is really exciting.

9 And something else that is new is the finding that  
10 employment gains were associated with increased imports.  
11 Really, really interesting.

12 The borrowed part that I picked up on was what  
13 Laura had already said, that she follows Gaddis and Pieters'  
14 work on a previous Brazilian trade shock, and she's able to  
15 look at more than manufacturing, being able to keep in mind  
16 that things that happen in manufacturing have effects on  
17 other sectors.

18 She looks at gender-trade effects, and I love the  
19 statement in the paper that talks about the importance of  
20 contextualizing changes to make sure that gains are really  
21 gains. She mentioned early that we really want to make sure  
22 that gains are pareto-optimal, and we don't want, like, a  
23 gain that is as a result of women increasing, but men  
24 decreasing is not ideal for the economy. And, of course, she  
25 talked about her adaptation of the Costa, et al. IV strategy.

1           The blue section is not really a blue section. Of  
2           course, it's not the color. It's emotional, like when you  
3           read a paper and you're feeling a little sad because you want  
4           to be able to have more. This paper is one of those papers  
5           that you read and you're like, oh, I wish that they could  
6           have done this and this, which would have caused the paper to  
7           go on for hundreds of pages.

8           But one of the things that I would have loved to  
9           have seen more about or been able to see is a focus on  
10          intersectionality of the associations between race and  
11          discrimination in the Brazilian labor market are noted in  
12          Hirta and Soares. We know that non-white women in Brazil  
13          particularly are at disadvantage in the labor market. So  
14          that's a great area for next steps.

15          And also Laura touched on the skill-biased  
16          technological change aspect, but I would love to learn more  
17          about the occupational segregation and the possibility of the  
18          technology that might help reduce occupational segregation,  
19          helping to usher in this increase of women in occupations  
20          that were previously mostly held by men. But, yes, and  
21          that's something that is just something that, of course, we'd  
22          love to hear more about if this paper could go on forever.

23          So just to highlight some key findings that I  
24          thought were helpful, Laura already went over the findings,  
25          but I thought that some findings that were helpful is that

1 the formal sector female-to-male average wage ratio stems  
2 from wages declining more than female wages increasing. I  
3 think that that was something good that was well-spelled out.  
4 And also the positive effect of increased exports with China  
5 extends to workers of both genders in the informal sector,  
6 and I think that that's just a really, really interesting,  
7 really interesting finding that there are these spillover  
8 effects even for persons who are in the informal sector.

9 The employment findings, there are lots of them,  
10 but something that I am really interested and would love to  
11 hear Laura talk a little bit more about at the end is the  
12 idea that new workers are coming into the market, potentially  
13 workers that are accepting lower wages. And so that's  
14 something I definitely would love to hear more about.

15 So I have a few questions here for Laura to  
16 continue the conversation, and my questions, I have two main  
17 sections, and the questions that I'm interested in are  
18 segregated into a paper question, a data question, and a  
19 policy question.

20 So, first of all, as Laura already highlighted, we  
21 know that workers generally don't move, and, of course, the  
22 viability of the local labor market effect analysis is  
23 dependent on this assumption.

24 And one of the exceptions, especially in the U.S.  
25 context from Hendren, et al. 2022, is that higher educated or

1 higher income workers are more likely to move than workers  
2 with lower education levels and not just higher educated  
3 workers with a greater than a high school degree but  
4 especially college-educated workers. And so one of the  
5 questions I have is just if Laura could talk a little bit  
6 more about accounting for mobility and that potential for  
7 self-sorting to opportunity workers. Even though the  
8 mobility numbers are small, as Laura noted, the potential  
9 that workers who might be, like, college-educated and are not  
10 well-captured in the high school or more, aren't broken out  
11 by high school or more, that those workers might be  
12 self-sorting to opportunity and that that might be a small an  
13 potentially homogenous group.

14 For my data question, Laura, you know that this  
15 series of presentations are going to inform the Commission's  
16 report on Distributional Effects, and so we always like to be  
17 able to hear from researchers in the field to just hear about  
18 how potential more data, enhanced data, more rich data could  
19 help your analysis. So if you could just touch on a little  
20 bit about how employer-employee linked administrative data  
21 could benefit this analysis. I know that there is that type  
22 of data for Brazil, and I feel like, don't quote me on this,  
23 but I feel like from a long time ago that you have worked  
24 with that type of data before. So, okay, good, you're  
25 nodding your head. So, yeah, if you could just touch on that



1 a little bit, that would be helpful.

2 And then just for kind of more of a policy question  
3 just like European and how U.S. policymakers could  
4 accommodate weak geographic labor mobility when we have these  
5 trade shocks that are so locally based. So that's my first  
6 set of questions, so that's the first thing kind of about  
7 mobility.

8 The second thing is about what you had talked  
9 about, discrimination. That's Becker, 1957. It's amazing  
10 when I was listening to her presentation, I was like, oh, my  
11 goodness, we have so many of the same things that we're  
12 talking about. So, yeah, Becker, 1957, of course, is that  
13 paper talks about the ability for workers to discriminate,  
14 especially when workers -- I'm sorry, for employers to  
15 discriminate, but then the idea that that reduction happens  
16 because discrimination is costly.

17 So my paper question is whether -- is asking you to  
18 talk a little bit more about the mechanism behind the female  
19 gains, the employment growth and the employment share as a  
20 result off increased imports and the potential benefit for  
21 the inclusion of race

22 And this paper, Barros and Silva, talks about how  
23 race, there is this idea of sticky floors and breakable glass  
24 ceilings. So how non-white women especially in the top,  
25 like, at the top of the distribution, are able to, in

1 response to a trade shock in Brazil, are able to have higher  
2 wages, but, at the lower levels of the wage distribution,  
3 those women are really struggling to move. So if you could  
4 just talk a little bit about that.

5 In terms of the data question, how could a  
6 longitudinal panel improve the analysis? Of course, your  
7 quantification is great, but how could that help to improve  
8 the analysis of the employment increases, being able to see,  
9 like, follow certain workers over time?

10 And for the policy question, lower wages, which  
11 would be considered, like, a loss from trade, might provide  
12 an opportunity for new workers to enter the labor market,  
13 which would be considered a win. And in the U.S. context,  
14 because I know that you do work in the U.S. context too,  
15 could you tell us a little bit more about which groups stand  
16 to gain and why those groups stand to gain?

17 Again, it was such a pleasure reading the paper,  
18 and thank you so much for your recitation.

19 And I'll turn it back over to Saad.

20 MR. AHMAD: Thank you, Stephanie, for your  
21 comments.

22 Laura, do you have some responses? I know there  
23 was many questions there, so take your time.

24 MS. CONNOLLY: Sure. Thank you.

25 Thanks for your comments, Stephanie. I loved the

1 start with the something borrowed, something new, something  
2 old, something blue. I was taking a few notes. And I must  
3 admit I was struggling to myself a little bit about the  
4 mention of the employer-employee linked administrative data  
5 because, if I rewind five years, that is the data I actually  
6 first used in this paper. So, when I first started this  
7 paper, I was using the linked employer-employee data.

8 And through the review process, you know, one of  
9 the main critiques is, while you have the benefit of all the  
10 panel data, you lose half the Brazilian workforce because of  
11 the high rate of informality there. And so particularly  
12 thinking of my work was in Brazil, but recognizing a broader  
13 discussion may be a little bit more targeted at U.S. policy,  
14 I think the potential to use linked employer-employee or more  
15 administrative panel data in the U.S. context is huge because  
16 we just don't have in the U.S. that large informal sector  
17 that developing countries have that makes those  
18 administrative datasets a lot more representative of, you  
19 know, the actual working population.

20 And so I think where it would be really  
21 advantageous to have that panel data is exactly what you  
22 hinted at, Stephanie, which is the ability to track those  
23 workers over time. And there is, one of those newer, one of  
24 the newer Dix-Carneiro and Kovak papers, which, again, is a  
25 Brazil's trade liberalization, but they do use the Brazil

1 administrative data a lot, and they started with the local  
2 labor market approach, but some of their more recent work is  
3 rather at the worker level.

4           And so I think the administrative data is the key  
5 to be able to actually do an analysis at the worker level and  
6 that ability to track who's actually entering the labor  
7 market, you know, who are those new workers who, for the U.S.  
8 context, I imagine who's dropping out of the labor market and  
9 how are we seeing individual workers, kind of their evolution  
10 because the downside I would say of that local labor market  
11 approach is it's going to mask a lot of heterogeneity because  
12 we're grouping, you know, we're taking that overall change  
13 within a microregion, which is certainly not going to be  
14 representative of every single worker.

15           So I love the idea of using the administrative data  
16 so much that that's what this paper started with. It just  
17 devolved into something a little bit different over time.  
18 But I think particularly, like I said, in that U.S. context,  
19 the administrative data, you know, if you have access to it,  
20 I think that would open the door for a lot of really solid  
21 analysis to kind of better inform those policy decisions  
22 because we'd have a better idea of how individual workers and  
23 their labor market choices are evolving over time and better  
24 being able to track those actual, like, occupation changes,  
25 industry changes, you know, kind of any level of detail you

1 want comes through in these administrative datasets.

2 I'm looking at my notes to see what other questions  
3 were in there. Oh, I think your question too, Stephanie,  
4 about how to accommodate given that we know worker mobility,  
5 you know, is usually pretty limited. And I do have a paper  
6 that looks at worker mobility but not specific to trade.  
7 It's looking at healthcare policy change, and we do find some  
8 gender effects there, so that kind of reminds me of this  
9 because I think -- and in that paper, we did come across some  
10 of those same kind of similar ideas that at least in the  
11 U.S., we do see, you know, more educated or particularly  
12 higher-income individuals are more likely to move, and I  
13 imagine a lot of us in the virtual room are examples of that,  
14 you know, moving for a job, and a lot of that's tied to  
15 different network effects, you know, through college or other  
16 forms of higher education.

17 It's not necessarily related to trade, but it makes  
18 me think of a connection to the rise of remote work and even  
19 just, you know, we're in this virtual seminar series that,  
20 you know, three years ago, I would maybe not have had the  
21 opportunity to present to a group like you all kind of  
22 without that rise of technology.

23 And I don't quite have the trade angle piece, which  
24 I know is probably the most important piece here, but I think  
25 there's a real chance I'll say for that limited mobility to

1 not be as big of a negative as it maybe has been in the past  
2 in terms of limiting opportunities because there are, you  
3 know, increasing opportunities to improve your job situation  
4 without having to physically move. Not a perfect situation  
5 by any means, but I do kind of find that as an exciting  
6 opportunity to see how that evolves over time with you maybe  
7 don't have to move anymore to be able to improve your job  
8 situation.

9 I can keep, you know, talking through some of  
10 Stephanie's discussion points, but I also, I'm not sure if  
11 there were any kind of broader questions or what you all's  
12 preference is in terms of focusing on Stephanie's points or  
13 opening it up to a more kind of broad discussion.

14 MR. AHMAD: Yeah, let's kind of just see if there  
15 are any other questions out there. I don't see anything in  
16 the chat, but since we are a little bit short of time, if  
17 there's people who want to ask.

18 I guess I have a couple of questions, and they're  
19 kind of short questions, so they won't take a long time. One  
20 question just kind of thinking about, you know, you focused a  
21 lot about, you know, I think the interesting thing in this  
22 paper, that you have the informal sector, right, that you are  
23 more interested in the analysis.

24 I guess my question is, have there been any laws or  
25 regulations during this time period for the informal sector

1 that might be, you know, kind of important, like, during this  
2 period for, like, gender equality or some kind of  
3 regulations, you know? Are you familiar with anything that  
4 happened in this period?

5 MS. CONNOLLY: Sure. I know, I think the big one  
6 that comes to mind are the changes in minimum wages because  
7 those only apply to formal sector workers. And so I think,  
8 to the extent that we did see really large, I mean, truly a  
9 hundred percent effectively an increase in the minimum wage  
10 over 10 years in Brazil during this time could certainly also  
11 be an incentive you could think for either an informal worker  
12 to want to enter the formal sector or a formerly non-employed  
13 worker to prioritize a formal sector job because that's going  
14 to be the way you are guaranteed that minimum wage which has  
15 increased drastically over time.

16 There are some other papers that kind of provide a  
17 bit more anecdotal evidence in terms of the non-wage benefits  
18 of formal sector employment, but none of those to my memory  
19 at least are tied to, like, a policy change like that minimum  
20 wage change would be.

21 MR. AHMAD: And so, in the informal sector, the  
22 minimum wage law's not imposed? It's more like, you know --

23 DR. CONNOLLY: Correct. So my understanding is,  
24 for any worker in the informal sector, you basically have no,  
25 like, legal protections in terms of employment, your wage

1 benefits, any of that type of thing. It's completely  
2 unregulated. So you don't have any legal rights as a worker  
3 in the informal sector.

4 MR. AHMAD: The other question I have kind of like  
5 on a completely different kind of framework, but, you know, I  
6 do a little bit of work with the FDI stuff, and there are  
7 some say that FDI, you know, helps with gender equality, you  
8 know, nobody's asking companies if they have better, you  
9 know, policies and stuff like that. And so I'm curious.  
10 Brazil also has seen a lot of, I'm guessing during this  
11 period, you know, saw a lot of investment and kind of like so  
12 do you think your analysis could also be able to carry, like,  
13 just to capture FDI effects on, you know, gender and, you  
14 know, labor outcomes?

15 MS. CONNOLLY: Yeah, I think that's a great idea.  
16 I must admit I don't know that that particular, the FDI angle  
17 has come up before, so I haven't really, you know, thought  
18 about it critically, but I would say my first instinct is  
19 absolutely. I think a similar -- I do think especially given  
20 their kind of rapid economic growth during the time period,  
21 that certainly suggests there would be a role for enhanced  
22 or, you know, larger sums of that foreign direct investment  
23 coming in, and I think there's good reason to suspect that  
24 there could be, you know, general labor market effects  
25 particularly on the gender side. Yeah, I think that's a



1 great extension idea.

2 MR. AHMAD: I see Bill has his hand up.

3 Bill?

4 MR. POWERS: Thank you.

5 So I really enjoyed the part of the paper where you  
6 talked about, you know, labor segregation and does the  
7 improvement -- so imports improve the gender balance within  
8 occupations in the formal sector, so that's, you know,  
9 encouraging news.

10 But is there any sense to think, you know, is there  
11 any way you can divide this up by these imports have given  
12 firms some incentive to reduce bias or have they increased  
13 somehow the individuals' decisions to go into those sectors,  
14 or is there something about imports that changes societal  
15 impressions about gender?

16 So just in these very large pictures just to get a  
17 sense of what's driving your results and how they might be  
18 relevant across borders? Is there any information you have  
19 on which of those or other things are actually happening  
20 here?

21 MS CONNOLLY: A pure anecdotal response here, so I  
22 don't have any actual analysis to back up what I'm about to  
23 say. So put a little disclaimer to begin with there.

24 I guess the one thing that I did kind of think  
25 after the fact looking back at this paper, you know, I think

1 just like the U.S., there's probably a role for some cultural  
2 kind of changes. I think Brazil was also in a position where  
3 men were just a lot more likely to already be working.

4 And so, to some extent, if imports are, you know,  
5 enhancing firms' productivity and bringing new technological,  
6 you know, upgrades to the table, that if a firm needed to  
7 drastically expand their employment, well, then, to some  
8 extent, if you're looking for new workers, you may be able to  
9 pull, you know, a male from another job.

10 And I'm not saying -- it's not that every male had  
11 a job, but, you know, by and large, males are more likely to  
12 be employed than females. So I think kind of what we saw in  
13 the U.S., you know, back in the -- oh, what decade would that  
14 have been -- maybe the '70s and '80s --

15 MR. POWERS: The '60s.

16 MS. CONNOLLY: -- kind of when we really started to  
17 see that increase in, you know, women's labor force  
18 participation, I think some of that is also coming through in  
19 kind of the Brazil data where you see some of it is just more  
20 I would say, like, the demographic angle of who's already  
21 working and who's available to work if you need another  
22 worker, which I hate to say that because it's kind of  
23 counterintuitive or not quite as encouraging as, you know,  
24 the results might suggest in terms of that gender balance,  
25 but I do think it's an important step because, until you

1 actually get, you know, women kind of fully working in the  
2 labor market or having the opportunity at least, you know,  
3 it's their choice to make to be in the labor market rather  
4 than facing, you know, potential barriers to that decision.

5 So I think it's a good first step, but it's not  
6 clear to me whether we could draw, like, a more broad  
7 conclusion that it's really changing, like, firms', you know,  
8 hiring and attitudes we'll say towards different groups of  
9 workers. And I think that's where kind of a similar note  
10 brings me back to one of Stephanie's comments about  
11 potentially exploring different racial implications in  
12 addition to the gender angle. I think that would be an  
13 interesting complement to see, you know, do we see it for  
14 multiple kind of groups of workers that perhaps faced a  
15 disadvantage in the labor market historically or is it  
16 something, you know, more tied to gender, which might, you  
17 know, lean more towards an actual change on that firm side.

18 MR. POWERS: Thanks.

19 MR. AHMAD: I don't see any more questions.

20 Stephanie, do you have any thoughts on Laura's  
21 response since we have five minutes? I think you're muted,  
22 Stephanie.

23 MS. FORTUNE-TAYLOR: My camera stopped working, so  
24 I had to keep on opening my laptop.

25 I don't have any other thoughts. The biggest

1 thing, I'm just interested in looking at is, just like you  
2 mentioned, whether or not there were any type of underlying  
3 patterns specifically for non-white women and just non-white  
4 people in general, whether the imports and the new workers  
5 entering the labor market are able to enter especially, like,  
6 the formal sector because now they're willing to accept lower  
7 wages than maybe people who were already there. So that's  
8 something I was interested in.

9 I'm also really interested in the occupational  
10 segregation. I think that's just, just being able to  
11 quantify the effect of automation and how that could open up  
12 different occupations to other workers is just something that  
13 would be really helpful I think just in the U.S. context  
14 also.

15 MS. CONNOLLY: Yeah, absolutely, especially in the  
16 U.S. context, you know, we know from the Autor, Dorn & Hanson  
17 worker that, you know, we see these large declines in  
18 manufacturing, which is going to be slanted more towards men  
19 in particular. So that's kind of one of those of, you know,  
20 where do they go and how does that impact, you know,  
21 different levels of occupation segregation, and even thinking  
22 of if, you know, again, trade is inducing any new  
23 opportunities in the U.S. You know, how do we leverage, you  
24 know, those new opportunities across, you know, different  
25 groups of workers to make sure, you know, everybody has that

1 opportunity?

2           So I think there is an angle for the U.S., and it  
3 will look a little bit different perhaps than what it looks  
4 like for Brazil. But I think some of the existing work on  
5 the U.S. does suggest, you know, a pretty strong reason to  
6 suspect some gender or intersectionality with race kind of  
7 considerations to keep in mind particularly from that policy  
8 angle.

9           MS. FORTUNE-TAYLOR: Yeah, and even as I'm thinking  
10 about it, even though we don't have, like, a large informal  
11 sector here, the way that we do have somewhat of an informal  
12 sector, like people doing babysitting or doing hair or things  
13 like that, just seeing how those shocks could affect that  
14 within the U.S. context or, like, gig work. I mean, that's  
15 just the type of thing that is really interesting.

16           So thank you so much. I really enjoyed the paper.  
17 Every time I was like, ooh, I'm going to get her, like, it  
18 was like, oh, she did that already. So it was great. Thank  
19 you so much.

20           MS. CONNOLLY: Well, I appreciate the comments. I  
21 must say I don't know that I've ever presented a published  
22 paper before, so that was a bit of a different experience  
23 too. I was, you know, curious to see what holes were poked  
24 in it after the fact. So I very much appreciate your  
25 thorough reading and comments. And I was going to say the

1 same thing about gig workers, Stephanie, so I think that  
2 could be -- it's not technically informal, but it's, you  
3 know, a little bit looser than a lot of other industries in  
4 the U.S. So I think that would be a really interesting  
5 application.

6 MR. AHMAD: Okay. So I think we're almost at the  
7 end of the time. Again, Laura, thank you for presenting and  
8 giving such a thorough review of your work and adding to our  
9 discussion during the seminar week.

10 A scheduling note, we have two more seminars, but  
11 they're going to be now scheduled for the week of November  
12 13, so keep an eye out for people attending externally. And,  
13 yeah, we hope to continue this discussion, and we are also  
14 planning to have another seminar week in the summer of 2024.  
15 So, hopefully, this new work and more work will be presented,  
16 but other than that, thank you, everyone, for attending.

17 MS. CONNOLLY: Yes. Thank you all for the  
18 opportunity. It was great to get to virtually at least see  
19 some of you again after all these years, and very much  
20 appreciate getting to present the paper to everyone.

21 MR. AHMAD: Thank you, Laura. Take care.

22 Thanks, Stephanie.

23 (Whereupon, at 3:00 p.m., the seminar in the  
24 above-entitled matter was concluded.)

25 //

**CERTIFICATION OF TRANSCRIPTION**

**TITLE:** The Effects of a Trade Shock on Gender-Specific Labor Market Outcomes in Brazil

**INVESTIGATION NO.:** Inv. No. 332-599

**HEARING DATE:** October 18, 2023

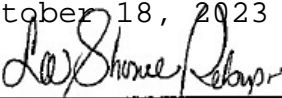
**LOCATION:** Washington, D.C.

**NATURE OF HEARING:** Seminar

I hereby certify that the foregoing/attached transcript is a true, correct and complete record of the above-referenced proceeding(s) of the U.S. International Trade Commission.

**DATE:** October 18, 2023

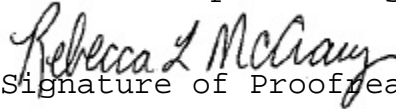
**SIGNED:**



Signature of the Contractor or the  
Authorized Contractor's Representative  
1220 L Street, N.W. - Suite 206  
Washington, D.C. 20005

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceeding(s) of the U.S. International Trade Commission, against the aforementioned Court Reporter's notes and recordings, for accuracy in transcription in the spelling, hyphenation, punctuation and speaker-identification, and did not make any changes of a substantive nature. The foregoing/attached transcript is a true, correct and complete transcription of the proceeding(s).

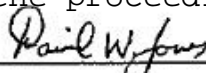
**SIGNED:**



Signature of Proofreader

I hereby certify that I reported the above-referenced proceeding(s) of the U.S. International Trade Commission and caused to be prepared from my tapes and notes of the proceedings a true, correct and complete verbatim recording of the proceeding(s).

**SIGNED:**



Signature of Court Reporter

Heritage Reporting Corporation  
(202) 628-4888