AGENDA
April 5–6, 2022 (virtual)
DE Academic Symposium
“The Distributional Effects of Trade and Trade Policy on U.S. Workers”
(Version 4/04/2022)

Day 1: April 5, 2022

9:00–9:25
Opening: Sandra Rivera. Lead, Academic Symposium; Office of Economics
Welcome: Chair Jason Kearns, U.S. International Trade Commission
Keynote: David Autor, Massachusetts Institute of Technology

09:25–10:50 Session A: Distributional effects of trade and trade policy on U.S. worker by education and skill levels

Objective: To share findings and generate discussion regarding the distributional impacts of trade and trade policy as they pertain to workers across different levels of education or skill. A question-and-answer session and moderator-led discussion will emphasize findings from presentations to determine points of consensus and debate within the literature. Participants will also be encouraged to answer forward-looking questions to determine the relevancy of findings for future U.S. trade and trade policy.

Moderator: Katheryn Russ, University of California, Davis


Eunhee Lee, University of Maryland, "Trade, Inequality, and the Endogenous Sorting of Heterogeneous Workers." (2020)

Day 1: April 5, 2022 (continued)

10:50–11:00 10-minute break

11:00-12:25 Session B: Distributional effects of trade and trade policy on Race and Ethnicity

Objective: To share findings and generate discussion regarding the distributional impacts of trade and trade policy as they pertain to workers of different races or ethnicities. Q&A and moderator-led discussion will emphasize findings from presentations to determine points of consensus and debate within the literature. Participants will also be encouraged to answer forward-looking questions to determine the relevancy of findings for the future of U.S. trade and trade policy.

Moderator: Edinaldo Tebaldi, Bryant University

Timothy Bond, Purdue University, “Stalled Racial Progress and Japanese Trade in the 1970s and 1980s” (2019)

Felipe Benguria, University of Kentucky, “The Impact of NAFTA on U.S. Local Labor Market Employment” (2020)


Edinaldo Tebaldi, Bryant University, “International Trade and Wage Differentials: What Do the Data Tell Us?” (2022)

12:25–13:30 LUNCH BREAK
Day 1: April 5, 2022 (continued)

13:30–15:10  Session C: Distributional effects of trade and trade policy on Gender

Objective: To share findings and generate discussion regarding the distributional impacts of trade and trade policy as they pertain to male and female workers. Q&A and moderator-led discussion will emphasize findings from presentations to determine points of consensus and debate within the literature. Participants will also be encouraged to answer forward-looking questions to determine the relevancy of findings for future U.S. trade and trade policy.

Moderator: Felipe Benguria, University of Kentucky

Ross Hallren, Amazon, and Stephanie Fortune-Taylor, USITC, “Worker-level Responses to the High-Value Labor Content Rules Requirement” (2022)

Masha Brussevich, IMF, “Does Trade Liberalization Narrow the Gender Wage gap? The Role of Sectoral Mobility” (2018)

Philip Sauré, Johannes Gutenberg Universität, “International Trade, the Gender Wage Gap and Female Labor Force Participation” (2014)

John McLaren, University of Virginia, “NAFTA and the Gender Wage Gap” (2017)

Tibor Besedeš, Georgia Institute of Technology, “Trade Liberalization and Gender Gaps in Local Labor Market Outcomes: Dimensions of Adjustment in the United States” (2021)

David Fortunato, University of California, San Diego, “Representation and the Trade Roots of the Gender Pay Gap” (2022)

15:10–15:20  10-minute break
Day 1: April 5, 2022 (continued)

15:20-16:40  Session D: Short presentations and panel discussion on existing methodologies and their limitations, and new cutting-edge labor modeling work

Objective: There are two strands of literature looking at the distributional effect of trade and trade policies on different groups of workers regarding methodological approaches. The first strand of literature uses econometrics (backward-looking reduced-form analysis) with detailed microdata to assess the impact of trade changes on worker outcomes (e.g., employment and wages: by different worker categories). The second strand of uses forward-looking general equilibrium analysis to examine the likely impact of changes in trade policy on different worker groups. This section will cover both and how they are used regarding distributional effects.

Moderator: William M. Powers, Chief Economist, Director, Office of Economics; USITC


16:40  End of Day 1
Day 2: April 6, 2022

9:00-10:20  Session E:  Research Value-added of Access to Restricted-use Data for Distributional Effects Analysis

Objective: To highlight the ways restricted-use data augment distributional effects analysis. We put presentations of DE of trade papers using international restricted-use data in dialogue with experts in U.S. restricted-use data to discuss existing gaps in the economic literature and data shortcomings.

Moderator:  Jennifer Poole, American University

Jennifer Poole, American University, “Foreign Influence: The International Transmission of Gender Equality” (2021)

Wolfgang Keller, University of Colorado, “Globalization, Gender, and the Family” (2018)


10:20–10:30  10-minute break
Day 2: April 6, 2022 (continued)

10:30-12:55 Session F: Government Datasets for Analyzing Distributional Effects of Trade among Different Subgroups

Moderator: Stephanie Fortune-Taylor, USITC

10:35–11:10 Group 1: Hybrid Data Products

Keith Bailey, U.S. Census, Longitudinal Employer Household Dynamics (LEHD)

11:10–12:25 Group 2: Individual and Household Microdata

Patrick Carey, BLS, Current Population Survey (CPS); Outgoing Rotation Groups; 1-year Longitudinal Panel
Adam Safir, BLS, Overview of the Consumer Expenditure Surveys (CE)
Adam Smith, U.S. Census, Survey of Income Program Participation (SIPP)
Daniel Carroll, DOL, National Agricultural Workers Survey (NAWS) (invited)
Robert Hoekstra, DOL, Trade Adjustment Assistance Data (TAA)


Cristina Tello-Trillo, U.S. Census, Longitudinal Business Database (LBD)
Aneta Erdie, U.S. Census, Annual Business Survey (ABS)

12:55–13:55 LUNCH BREAK
Day 2: April 6, 2022 (continued)

13:55–14:55    Session G:  Moderated discussion on the global research agenda on distributional effects of trade

Objective: To provide an opportunity for economic researchers at other international and multilateral institutions to discuss how they are thinking about researching effects on underserved communities and how it can inform U.S. research on distributional effects of trade.

Moderator:    William M. Powers, Chief Economist/Director, Office of Economics; USITC

Robert Koopman, Chief Economist, WTO
Maryla Maliszewska, Senior Economist, World Bank
Jane Korinek, Economist, Trade and Agriculture Directorate, OECD
Phil Mellor, Lead Economist, Ministry of Foreign Affairs and Trade (New Zealand)
Shenjie Chen, Director, Economic Research, Office of the Chief Economist, Global Affairs Canada

14:55–15:05    10-minute break
Day 2: April 6, 2022 (continued)

15:05–16:15 Session H: Moderated discussion on future directions: What can the trade literature learn from other disciplines? What should we consider?

**Objective:** Taking a broader look: What can other fields or disciplines tell us about how to better craft policy that could generate more equitable outcomes? What insights do you have from your research?

**Moderator:** Sandra A. Rivera, Associate Director, Office of Economics, USITC

- Ana Hernández Kent, Institute of Economic Equity, Federal Reserve Bank of St. Louis “Examining Racial Wealth Inequality,” (2022)
- Dan Giedeman, Grand Valley State University, “Macroeconomic Shocks and racial labor market differences” (2021)
- Margaret Simms, Urban Institute, “Barriers & Bridges: Action Plan for Overcoming Obstacles and Unlocking Opportunities for African American Men in Pittsburgh” (October 2015)

16:15 Closing remarks: William M. Powers, Chief Economist/Director, Office of Economics; USITC
Foreign Influence: The International Transmission of Gender Equality

C. Austin Davis ¹     Jennifer P. Poole ¹

¹American University

April 6, 2022
Introduction

Foreign direct investment (FDI) flows to and the expansion of multinational enterprises (MNEs) in developing countries have been shown to bring several economic benefits.

- An important source of external financing
- A new basis for tax revenues
- Increased employment opportunities and labor training
- Transfers of advanced technologies, efficient management styles, and new export markets, enhancing economic productivity
- Poverty reduction, through higher average wages
Alongside the pure economic implications of foreign investment, the idea that cross-border investment can spread cultural norms and practices has long received wide-spread attention anecdotally.

- e.g., health standards, customer service, and cultural norms
- A natural extension to consider is whether and how foreign direct investment can promote gender equality and female empowerment around the world.
Introduction

Multinational firms are different from domestic firms in terms of size, productivity, average wages, and skill composition.

MNEs are also different from domestic firms in terms of their female employment composition and gender wage gaps.

How might increased foreign direct investment improve gender equality and empower women?

- Do multinational firms transfer their gender policies to firms in their host countries? [Direct effect]
- Can gender-equalizing practices spillover into the domestic economy, as productivity and technology do? [Indirect effect: whether?]
- What are the mechanisms underlying the positive transmission of gender-equalizing policies? [Indirect effect: how?]
What do we know so far?

Despite the plausibility that FDI promotes gender equality, existing findings are mixed

▶ foreign affiliates located in Japan offer better opportunities for women (Olcott and Oliver 2014; Kodama, et al 2018)
▶ gender wage gap is larger in foreign firms in Estonia (Prijt and Masso 2018) and Poland (Magda and Salach 2019)
▶ MNEs employ fewer women and exhibit higher larger earnings gaps in Brazil (Davis and Poole 2020)

Relationship between source and recipient country policies toward women seems important

▶ Tang and Zhang (2017) for China; Choi and Greaney (2020) for South Korea; Sharma (2020) for India
Our work offers several contributions to the existing literature.

Question: we consider the implications of increased foreign investment on the transmission of high-quality gender policy and practice, as an important element of culture.

- Are workers moving between foreign-owned and Brazilian-owned firms a means of transferring female-friendly labor policies?
Our approach

- Compare gender earnings gaps at *domestic* firms with high vs. low shares of workers with *previous* MNE experience
- Explore heterogeneity with respect to gender, employment type, industry, and source country
Contributions

- A large, emerging, and previously unstudied economy
- With strong inflows of FDI across all sectors, including services
- In a more recent time period, around which significant debate exists on the role of Chinese investment
- We evaluate the specific mechanism of labor mobility (Poole 2013)
  - not whether MNEs transfer positive gender practice, but how they may do so
  - whether it matters from where the FDI originates or switcher demographic
- Using detailed matched worker-firm employment transitions and firm-level foreign investment data
Labor market outcomes and FDI

RAIS from MTE: 2012 to 2016

- Matched employer-employee data
- Universe of formal employment spells
- Rich set of worker, establishment characteristics
- Main benefit: ability to trace workers throughout their employment history

FDI (RDE-IED) from BCB

- Firm-level inflows of FDI by month
- Source country is identified
- No information on amount
Gender Inequality Index (GII) from UNDP

- Reported for 116 countries in 2010
- Covers three aspects of human development
  - reproductive health
  - female empowerment
  - female labor force participation rates
- Higher GII $\Rightarrow$ more inequality
- A distribution
  - Yemen 0.743
  - Brazil 0.446
  - US 0.285
  - China 0.209
  - Sweden 0.050
Definitions

Multinational Enterprise (MNE)

- Firm-by-month indicator for all periods after the first observed inflow
- All workers in these firms are considered to have MNE experience

Share of workforce with prior MNE experience

- Fraction of workers in firm who previously worked for MNE
- Measures labor mobility spillover to *domestic* establishments without any FDI in our sample period

Earnings

- Primary outcome: log monthly earnings for December
Origin of Brazilian FDI

Source: BCB, RDE-IED.
GII of Brazilian FDI-Source Countries

Source: BCB, RDE-IED, and UNDP.
Count of FDI Inflows, by GII Percentile

Source: BCB, RDE-IED, and UNDP.
Gender earnings gaps in Brazil

Regressed log earnings on education, age, age squared, tenure, year indicator, state indicator, and fully interacted occupation and industry indicators. Plotted coefficients are the interaction of female and year indicators. Source: RAIS.
\[
\ln \text{Earn}_{ijt} = \beta_1 \text{FracMNE}_{jt} + \beta_2 \text{FracMNE}_{jt} \times \text{Female}_i + \beta_3 X_{it} + \beta_4 Z_{jt} + \delta_t + \mu_i + \gamma_j + \varepsilon_{ijt}
\]

- \(i\) is individual, \(j\) is firm, \(t\) is year
- \(\text{FracMNE}\) is the fraction of workers with prior MNE experience
- \(X\) is time-varying ind. characteristics (age, tenure, education)
- \(Z\) is time-varying firm characteristics (private ownership)
- Standard errors clustered at the firm level
Empirical strategy

\[
\ln Earn_{ijt} = \beta_1 FracMNE_{jt} + \beta_2 FracMNE_{jt} \times Female_i \\
+ \beta_3 X_{it} + \beta_4 Z_{jt} + \delta_t + \mu_i + \gamma_j + \varepsilon_{ijt}
\]

- *Domestic only*, not comparing MNE vs. domestic
- Estimated on random sample of *incumbent* domestic workers
- Identified by differential changes in FracMNE within domestic firms
Empirical strategy

\[ \ln \text{Earn}_{ijt} = \beta_1 \text{FracMNE}_{jt} + \beta_2 \text{FracMNE}_{jt} \times \text{Female}_i \]
\[ + \beta_3 X_{it} + \beta_4 Z_{jt} + \delta_t + \mu_i + \gamma_j + \varepsilon_{ijt} \]

- Coefficient of interest $\beta_2$
- Positive value represents decrease in gender earnings gap
Empirical strategy

\[ \ln Earn_{ijt} = \beta_1 FracMNE_{jt} + \beta_2 FracMNE_{jt} \times Female_i + \beta_3 X_{it} + \beta_4 Z_{jt} + \delta_t + \mu_i + \gamma_j + \epsilon_{ijt} \]

- Davis and Poole (2020) show that domestic firms hiring a lot of former-MNE workers are different from domestic firms hiring fewer former-MNE workers.
- Hiring decisions may be correlated with other factors contributing to earnings growth (specific to women?)
- In future: explore mass layoffs or exchange rate shocks as exogenous shift in the supply of former-MNE workers.
## Main Results

<table>
<thead>
<tr>
<th></th>
<th>(1) Log December Wages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Share of Employees with MNE Experience</td>
<td>0.046 (0.035)</td>
</tr>
<tr>
<td>Female X Share of Employees with MNE Experience</td>
<td>0.074* (0.034)</td>
</tr>
<tr>
<td>N</td>
<td>4,871,355</td>
</tr>
</tbody>
</table>

Sources: RAIS, BCB.

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
Results

Workers in domestic firms hiring more former multinational workers earn higher wages (insignificant)
  ▶ Consistent with the literature on impact of foreign ownership on wages, and multinational wage spillovers (Poole 2013)

The movement of workers from multinational to domestic firms improves the gender earnings gap, but the magnitude is small
  ▶ In contrast to Davis and Poole (2020) for liberalization period 1996-2004.
  ▶ Effects are economically small
  ▶ Primary purpose of FDI is not to promote gender equality, it is good to learn that FDI doesn’t differentially harm women.
Heterogeneity

Gender

Not all workers are equally positioned to transfer good policy

Managers

better knowledge of policy and power to make change

FDI Source Country

As Brazil is fairly gender unequal, we expect FDI from industrialized world to spread gender equality
Heterogeneity Results: Women

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Log December Wages</td>
<td></td>
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<tr>
<td>Share of Employees with MNE Experience</td>
<td>0.014</td>
<td>(0.039)</td>
</tr>
<tr>
<td>Female X Share of Employees with MNE Experience</td>
<td>0.117**</td>
<td>(0.044)</td>
</tr>
<tr>
<td>Share of Employees (Female) with MNE Experience</td>
<td>0.117*</td>
<td>(0.055)</td>
</tr>
<tr>
<td>Female X Share of Employees (Female) with MNE Experience</td>
<td>-0.139**</td>
<td>(0.061)</td>
</tr>
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### Heterogeneity Results: Managers

<table>
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<th>(1) Log December Wages</th>
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<tbody>
<tr>
<td>Share of Employees with MNE Experience</td>
<td>0.089*** (0.016)</td>
</tr>
<tr>
<td>Female X Share of Employees with MNE Experience</td>
<td>-0.002 (0.018)</td>
</tr>
<tr>
<td>Share of Employees (Managers) with MNE Experience</td>
<td>-0.117 (0.071)</td>
</tr>
<tr>
<td>Female X Share of Employees (Managers) with MNE Experience</td>
<td>0.172* (0.087)</td>
</tr>
</tbody>
</table>

| N                             | 4,871,355 |

**Sources:** RAIS, BCB.

**Standard errors in parentheses**

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$
### Heterogeneity Results: FDI-Source Country

<table>
<thead>
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<tr>
<td></td>
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</tr>
<tr>
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<td>0.085</td>
</tr>
<tr>
<td></td>
<td>(0.058)</td>
</tr>
<tr>
<td>Female X Share of Employees with MNE Experience</td>
<td>0.106</td>
</tr>
<tr>
<td></td>
<td>(0.065)</td>
</tr>
<tr>
<td>Share of Employees (Q1) with MNE Experience</td>
<td>-0.047</td>
</tr>
<tr>
<td></td>
<td>(0.061)</td>
</tr>
<tr>
<td>Female X Share of Employees (Q1) with MNE Experience</td>
<td>-0.039</td>
</tr>
<tr>
<td></td>
<td>(0.070)</td>
</tr>
<tr>
<td>N</td>
<td>4,871,355</td>
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Sources: RAIS, BCB.

Standard errors in parentheses

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Conclusion and Policy

- Increasing the share of workers with MNE experience modestly reduces the gender earnings gap.
- But this is not driven by women, or workers from highly gender-equal MNE countries.
- While these effects are uplifting, we note that they are small in size.
- Policymakers must continue to prioritize domestic policies to promote the education and employment of women.
Thank you!

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The “Child Penalty”

- Childbirth $\Rightarrow$ gender earnings inequality
  - NY Times 2018, data for Denmark
1. **Gender-neutral** shock to labor earnings potential

2. **Gender adjustment difference**
   
   2.1 Affected men: job loss -> re-train->re-employed (new industry, new occupation)

   2.2 Affected women: job loss -> labor market-to-family shift, incl childbirth -> earnings gap

3. Reason: Women’s **Biological Clock**

4. **Neutral** labor shock $\Rightarrow$ Childbirth, gender earnings **inequality**
The shock: Rising import competition from China

- Textile quota removal of Multi-fibre Arrangement
Shock was gender-neutral

- No gender difference at job where shock hit
(Some) Women shift from labor market to family

▶ Childbirth response
Womens’ childbirth response **by age**

- Women close to **end of fertile period** shift strongest market -> family
- Don’t have time to invest into both retraining and child-bearing/rearing
Earnings Gender Inequality as a Result
To the extent that biological clock matters, having “family-friendly” workplaces not enough for gender equality

Knowing about market-family margin requires data on non-market activities

In practice: data on women, their ’time use’

Welfare analysis requires valuation of non-market activities

Private and social costs and benefits

Policy choices: Should countries have Denmark’s social safety net?

US: Women w/ job loss can afford childbirth much less
Imports, Exports, and Earnings Inequality: Measures of Exposure and Estimates of Incidence

Dave Donaldson (MIT)
Quick summary of “Imports, Exports, and Earnings Inequality: Measures of Exposure and Estimates of Incidence”, Adao, Carrillo, Costinot, Donaldson and Pomeranz (QJE, forthcoming)
New Data on Economic Linkages from Ecuador (2008-15)

- Administrative data ⇒ good coverage of formal economy, but must use labor force (etc.) survey data to fill in gaps about informal sector.

- L-F: social security data
- K-F: ownership registry
- p*-F: import customs data
- F-C: tax data
- F-E: export customs data
Theoretical Setup

Interested in earnings inequality: relative factor prices in (H)ome

Under general conditions, market clearing for factor

mandates that equilibrium prices satisfy:

\[ L_f p_w T, p_\hat{q} \]

Where \( FCE_f \) is Factor content of exports (Leontief, 1953), given by:

\[ \hat{t} FCE_u f \]

\[ \hat{p} \text{factors hired in H} \]

\[ \hat{q} \text{Leontief inverse in H} \]

\[ \hat{q} \text{exports of H} \]

Can rewrite (1) as:

\[ RD_f p_w T, p_\hat{q} RS_f \]

\[ \text{REE}_f \text{with} \]

\[ \text{REE}_f = 1 \]

\[ \hat{1} \]

\[ \text{FCE}_f \]

\[ \hat{0} \]

\[ \text{L}_0 \]

\[ \hat{1} \]

\[ \text{FCE}_f \]

\[ \hat{0} \]

\[ \text{L}_f \]
Theoretical Setup

- Interested in earnings inequality: relative factor prices in (H)ome
- Under general conditions, market clearing for factor $f$ mandates that equilibrium prices satisfy:

$$L_f(w_T, p^*) = \bar{L}_f - FCE_f \quad (1)$$

- Where $FCE_f$ is Factor content of exports (Leontief, 1953), given by:

$$\{FCE\}_f = \text{(factors hired in H)} \times \text{(Leontief inverse in H)} \times \text{(exports of H)}$$

- Can rewrite (1) as:

$$RD_f(w_T, p^*) = RS_f/REE_f \quad \text{with} \quad REE_f \equiv \frac{1 - \frac{FCE_0}{L_0}}{1 - \frac{FCE_f}{L_f}}$$
Exports, Imports, and Earnings Inequality

Export channel:
1. Export exposure \((REE_f \rightarrow 1)\)
2. Export incidence

Import channel:
3. Import exposure \((p^* \rightarrow \infty)\)
4. Import incidence

\[
RD_f(w_T, p^*) = RS_f / REE_f \quad \rightarrow \quad RD_f(w_A, \infty) = RS_f
\]
Exports, Imports, and Earnings Inequality

Export channel:
1. Export exposure ($REE_f \rightarrow 1$)
2. Export incidence

Import channel:
3. Import exposure ($p^* \rightarrow \infty$)
4. Import incidence

$RD_f(w_T, p^*) = RS_f/REE_f \rightarrow RD_f(w_A, \infty) = RS_f$
Exports, Imports, and Earnings Inequality

Export channel:
1. Export exposure \((REE_f \to 1)\)
2. Export incidence

Import channel:
3. Import exposure \((p^* \to \infty)\)
4. Import incidence

\[
RD_f(w_T, p^*) = \frac{RS_f}{REE_f} \quad \rightarrow \quad RD_f(w_A, \infty) = RS_f
\]
Exports, Imports, and Earnings Inequality

Export channel:
1. Export exposure ($REE_f \to 1$)
2. Export incidence

Import channel:
3. Import exposure ($p^* \to \infty$)
4. Import incidence

$$RD_f(w_T, p^*) = RS_f / REE_f \rightarrow RD_f(w_A, \infty) = RS_f$$
Exports, Imports, and Earnings Inequality

Export channel:
1. Export exposure ($REE_f \rightarrow 1$)
2. Export incidence

Import channel:
3. Import exposure ($p^* \rightarrow \infty$)
4. Import incidence

$$RD_f(w_T, p^*) = RS_f / REE_f \rightarrow RD_f(w_A, \infty) = RS_f$$
Quantifying Export Exposure

Export channel:
1. Export exposure \((REE_f \rightarrow 1)\)
2. Export incidence

Import channel:
3. Import exposure \((p^* \rightarrow \infty)\)
4. Import incidence

Export channel:
- \(w_{f,A}\) Autarky

Import channel:
- \(w_{f,T}\) Trade

\[ RD_f^{-1}(\infty, \cdot) \]
\[ RD_f^{-1}(p^*, \cdot) \]
Export Exposure Across the Income Distribution

The graph illustrates the exposure of exports ($EE_i$) across different percentiles of total income. The blue line represents $EE_i$ based on total income, while the red line represents $EE_i$ based on labor income only. The x-axis represents the percentile of total income, ranging from 0th to 100th, and the y-axis shows the $EE_i$ values ranging from 0.13 to 0.17.
Quantifying Import Exposure

Export channel:
1. Export exposure ($REE_f \rightarrow 1$)
2. Export incidence

Import channel:
3. Import exposure ($p^* \rightarrow \infty$)
4. Import incidence

Export channel

Import channel

$w_{f,A}$

$w_{f,T}$

$RS_f$

$RS_f/REE_f$

Autarky

Trade

$RD_f^{-1}(\infty, \cdot)$

$RD_f^{-1}(p^*, \cdot)$
Import Exposure Across the Income Distribution

![Graph showing the distribution of import exposure across different income percentiles. The graph compares two scenarios: one based on total income and the other based on labor income only.](image-url)
Putting it together: distribution of the gains from trade in Ecuador (2012)
Compared to traditional (but more restrictive) models
Thank You!

Comments/questions: ddonald@mit.edu
Data Sources from the US Census Bureau

Teresa C. Fort

Tuck School at Dartmouth, NBER and CEPR

USITC Academic Symposium on Distributional Effects of Trade
April 6, 2022

From work with:
Xiang Ding, Justin Pierce, Stephen Redding, and Peter Schott

Disclaimer: Any opinions and conclusions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Census Bureau. All results have been reviewed to ensure that no confidential information has been disclosed.
“When Drew Greenblatt bought ...a small Baltimore maker of wire baskets for bagel shops, he knew nothing about robotics. That was 1998, and workers made products manually using 1950s equipment....
Trade or technology? (WSJ 2017.3.16 article)

“When Drew Greenblatt bought ...a small Baltimore maker of wire baskets for bagel shops, he knew nothing about robotics. That was 1998, and workers made products manually using 1950s equipment....

Pushed near insolvency by Chinese competition in 2001, he started investing in automation. Since then, Marlin has spent $5.5 million on modern equipment. Its revenue, staff and wages have surged and it now exports to China and Mexico.”
Trade or technology? (WSJ 2017.3.16 article)

“When Drew Greenblatt bought ...a small Baltimore maker of wire baskets for bagel shops, he knew nothing about robotics. That was 1998, and workers made products manually using 1950s equipment....

Pushed near insolvency by Chinese competition in 2001, he started investing in automation. Since then, Marlin has spent $5.5 million on modern equipment. Its revenue, staff and wages have surged and it now exports to China and Mexico.”

Were changes at Marlin caused by trade or technology?
“When Drew Greenblatt bought ...a small Baltimore maker of wire baskets for bagel shops, he knew nothing about robotics. That was 1998, and workers made products manually using 1950s equipment....

Pushed near insolvency by Chinese competition in 2001, he started investing in automation. Since then, Marlin has spent $5.5 million on modern equipment. Its revenue, staff and wages have surged and it now exports to China and Mexico.”

Were changes at Marlin caused by trade or technology?
What about changes at Marlin’s competitors?
“When Drew Greenblatt bought ...a small Baltimore maker of wire baskets for bagel shops, he knew nothing about robotics. That was 1998, and workers made products manually using 1950s equipment....

Pushed near insolvency by Chinese competition in 2001, he started investing in automation. Since then, Marlin has spent $5.5 million on modern equipment. Its revenue, staff and wages have surged and it now exports to China and Mexico.”

Were changes at Marlin caused by trade or technology?
What about changes at Marlin’s competitors?
What if Marlin imported its robots?
Economic micro-data from the US Census Bureau

- **Longitudinal Business Database (LBD)**
  - Built from the Business Register (employer EIN admin data)
  - All private, employer, non-farm establishments from 1977 - 2019
  - Location, employment, payroll
  - Firm identifiers assign estabs to firms
  - Consistent NAICS codes from Fort and Klimek (2018)
  - See Jarmin and Miranda (2002) and Chow et al. (2021)

- **Economic Censuses**
  - Conducted in years that end in ‘2’ and ‘7’
  - Sales and other detailed, industry-specific questions

- **Longitudinal Foreign Trade Transaction Database**
  - Customs data from 1992 - 2019 linked to LBD
  - Firm-level imports and exports by country and product
  - See Kamal and Ouyang (2020)

- **BEA foreign direct investment data linked to Census data**
  - Links BEA inward and outward FDI from 1997 to 2012
  - See Kamal, McCloskey, and Ouyang (work in progress)
Concurrent increases in importing and technology use

- Import penetration rising from 1980s
- Chinese import penetration increases most in 2000s
Concurrent increases in importing and technology use

- Direct importing by manufacturers rises, esp in 2000s
Concurrent increases in importing and technology use

- Huge surge in share of plants purchasing computers in early 2000s
- Plant use of electronic networks to control/coordinate shipments rises
Concurrent increases in importing and technology use

- Considerable rise in importing
- Concurrent increases in technology use
Decomposing employment losses across firm-level margins

- Net margins of firm adjustment, based on firm’s 1977 status
  - Net firm birth since 1977
  - Continuing firms (birth/death of estabs and continuing estabs)
  - Also redefine firm and plant status by decade

- Gross margins of firm adjustment
  - Net margins mask differences in churn
  - Potentially different stories for low versus high churn gross margins

\[ \Delta Emp_t = (Emp_t^{FB} - Emp_t^{FD}) + (Emp_t^{CFBE} - Emp_t^{CFDE}) + (Emp_t^{CFCE^+} - Emp_t^{CFCE^-}) \]
Decomposing manufacturing decline across net margins

U.S. Manufacturing Employment
By Net Margin of Firm Adjustment

Continuing firm-plants account for 12% of aggregate decline
Decomposing manufacturing decline across net margins

U.S. Manufacturing Employment
By Net Margin of Firm Adjustment

- Continuing firm-plants account for 12% of aggregate decline
Decomposing manufacturing decline across net margins

U.S. Manufacturing Employment
By Net Margin of Firm Adjustment

- Employment changes at firm births minus deaths are 25% of total
Decomposing manufacturing decline across net margins

- Continuing firms’ net plant closures account for 63% of aggregate
Manufacturing firms grow outside manufacturing

Manufacturing Firms' Employment and Payroll by Sector

Employment

Payroll

- Mining, Util, Constr (2X)
- Transport & Warehouses (48-9)
- Business Services (5X)
- Healthcare (62)
- Accommodation & Food (72)
- Wholesale/Retail (42-5)
- Other

[Graph with employment and payroll data for different sectors over the years 1977 to 2017]
Firm margins can be examined by 9 Census regions.
Manufacturing employment margins differ across regions

- Majority of emp loss from firm death in NE and Mid-Atlantic
- Mountain and Pacific have net emp gains from firm births
Net firm birth emp growth concentrated in a few regions

Net plant birth within continuers dominates margins
Micro data access and Public sources

- Applying for Census data access
  - Helpful to examine questions on the Economic Census forms
  - Project proposals accepted from all nationalities (except BEA data)

- Public Versions of available data from the Business Register/LBD
  - Business Dynamics Statistics
  - Statistics of US Businesses
  - Country Business Patterns data
  - Imputed values for the CBP data

- Public Versions of the Economic Census data
  - Available by geography and industry in EC years
Micro data access and Public sources

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    [https://www.census.gov/about/adrm/fsrDC/about/available_data.html](https://www.census.gov/about/adrm/fsrDC/about/available_data.html)

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  - Statistics of US Businesses
    [https://www.census.gov/programs-surveys/susb.html](https://www.census.gov/programs-surveys/susb.html)
  - Country Business Patterns data
    [https://www.census.gov/programs-surveys/cbp.html](https://www.census.gov/programs-surveys/cbp.html)
  - Imputed values for the CBP data
    [http://www.fpeckert.me/cbp/](http://www.fpeckert.me/cbp/)

- Public Versions of the Economic Census data
  - Available by geography and industry in EC years
    [https://www.census.gov/programs-surveys/economic-census.html](https://www.census.gov/programs-surveys/economic-census.html)
Appendix
Does plant closure within firms relate to trade or tech?

- Estimate probability that plant $i$, in firm $f$, and industry $j$ exits over next 5 years

$$ Pr(Death_{ijf}^{t:t+5} = 1 | X_{ijf}^t) = \alpha + \beta Activity_{ijf}^t + \gamma \ln(emp_{ijf}^t) + \eta_f + \delta_t $$

- Activities: purchasing computers, using electronic networks, concurrent changes in industry import penetration

- Estimate separately for pre and post 2000

- Control for plant size
Extensive margins relate to trade and technology

Dep var is an indicator equal to one if a plant exits in the next 5 years

<table>
<thead>
<tr>
<th>Plant Death</th>
<th>Pre 2000</th>
<th>2000s</th>
</tr>
</thead>
<tbody>
<tr>
<td>$CompPurch_{pf}^t$</td>
<td>-0.057***</td>
<td>0.00</td>
</tr>
<tr>
<td></td>
<td>(0.003)</td>
<td>(0.003)</td>
</tr>
</tbody>
</table>

| Initial log of firm emp | Yes | Yes |
| Fixed Effects           | Firm and Year |

Notes: Each cell is a separate regression. * p<0.10, ** p<0.05, *** p<0.01

Standard errors for regressions with ind import penetration clustered at the ind level.
Extensive margins relate to trade and technology

Dep var is an indicator equal to one if a plant exits in the next 5 years

<table>
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<tr>
<th>Plant Death</th>
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<tbody>
<tr>
<td>CompPurch_{tpf}</td>
<td>-0.057***</td>
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<td>ElecNetworks_{tpf}</td>
<td>-0.039***</td>
<td></td>
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Initial log of firm emp | Yes  | Yes |
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<tr>
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Initial log of firm emp Yes Yes
Fixed Effects Firm and Year

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<tr>
<td></td>
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Initial log of firm emp | Yes | Yes
Fixed Effects | Firm and Year

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Initial log of firm emp Yes Yes Yes Yes
Fixed Effects Firm and Year Industry and Year

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| Initial log of firm emp  | Yes         | Yes        | Yes         | Yes        |
| Fixed Effects            | Firm and Year| Industry and Year | Firm and Year| Industry and Year |

Notes: Each cell is a separate regression. * p<0.10, ** p<0.05, *** p<0.01
Standard errors for regressions with ind import penetration clustered at the ind level.
Trade Liberalization and Labor-Market Outcomes: Evidence from US Matched Employer-Employee Data

Justin R. Pierce  Board of Governors, U.S. Federal Reserve
Peter K. Schott  Yale School of Management & NBER & CEPR
Cristina Tello-Trillo  U.S. Census Bureau

USITC
April 6th, 2022

The views expressed in the paper are those of the authors and not necessarily those of the U.S. Census Bureau or the FRB. DRB Approval Numbers CBDRB-FY21-CES006-002 and CBDRB-FY21-327
What do we do?

• Use a plausibly exogenous trade shock
  – U.S. extension of PNTR to China

• Examine the effect of PNTR on earnings and employment trajectory of U.S. workers from 1993-2014
  – Investigate the direct (industry) and indirect (county) effect.
  – Explore the role of firms’ and workers’ characteristics in analyzing the US trade liberalization with China.

• Exploit U.S. matched employer-employee data (LEHD)
  – Covers all industries (manufacturing and non-manufacturing)
  – We can link to other Census Bureau datasets to obtain workers, firms and establishment characteristics.
Outline

• Introduction

• PNTR and Matched employee-employer data

• Worker-level regressions

• Conclusion
• In 2000, US extends Permanent Normal Trade Relations (PNTR) to China
  – This liberalization “locks in” China's access to low, WTO-member US import tariffs
  – Before 2000, these low tariffs required annual Presidential, Congressional approval

• Increases US firms’ incentives to source from China, and Chinese firms’ incentives to expand into the US market

• We measure exposure to PNTR as the difference between PNTR and non-PNTR tariff rate
  – Industry $NTR \text{ Gap}_i = Non\ NTR\ Rate_i - NTR\ Rate_i$
  – Country $NTR\ Gap_c = \sum_i \frac{Emp_{ic}^{1990}}{Emp_c^{1990}} NTR\ Gap_i$
Data

• Longitudinal Employer-Household Dynamics (LEHD) Database
  – Based on state UI records
  – Worker-Establishment-Quarter
  – Quarterly earnings (gross salaries + bonuses + tips) and employment
  – Worker demographics (from Individual Characteristics File)
    • Gender, age, race, ethnicity, education

• Two samples:
  – High-attachment sample: Workers that work in the same firm between 1993-1999.
  – Low-attachment sample: Workers that had positive earnings between 1993-1999 irrespective of whether they are employed by the same firm.
Data

• Longitudinal Business Database (LBD)
  – Aggregate data at the establishment to obtain firm attributes
  – E.g., size, diversified, NAICS classifications (Fort and Klimek 2018)

• Longitudinal foreign trade transactions database (LFTTD)
  – We classify firms into only exp, only imp, both, none.
Outline

• Introduction

• PNTR and Matched employee-employer data

• Worker-level regressions

• Conclusion
Panel DID Specification

\[ Y_{jfict} = post_{2001} \times NTR \, Gap_i + \]
\[ post_{2001} \times NTR \, Gap_c + \]
\[ post_{2001} \times X_j^{1999} + \]
\[ post_{2001} \times X_f^{1999} + \]
\[ post_{2001} MSH_{c,1999} \]
\[ \alpha_t + \alpha_j + \varepsilon_{ifjct} \]

Direct exposure via initial industry of employment
Indirect exposure via initial county of employment
Initial worker attributes (gender, race, education, age)
Initial firm attributes (firm’s size, age and multi-unit status)
County c’s 1999 manufacturing share
Year and worker FE

\( Y_{jfict} \) : Is the hyperbolic sine transformation of earnings (approx. log earnings and allows for zeros) OR dummy indicating whether the worker has paid LEHD employment in year t, \( P(Earnings_{jt} > 0) \)
### Manufacturing

\[ \ln(Earnings_{j,f,c,it}) \]

<table>
<thead>
<tr>
<th>Term</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>( Post_t \times Industry_Gap_i )</td>
<td>0.125</td>
<td>(0.190)</td>
</tr>
<tr>
<td>( Post_t \times County_Gap_c )</td>
<td>-3.612***</td>
<td>(0.838)</td>
</tr>
</tbody>
</table>

- **R-Squared**: 0.453
- **Observations (000)**: 1,608

- **Fixed Effects**: j,f,t
- **Two-way Clustering**: N4,c
- **Worker \times Post Controls**: Yes
- **Firm \times Post Controls**: Yes
- **Industry \times Post Controls**: Yes

- **Initial Attachment Sample**: High
- **Initial Sector Sample**: M

- **IQ ↑ in County Exposure**: -7.6%
- **County Elasticity at 25^{th}/75^{th}**: -.072/-.321

- A 25\textsuperscript{th}-75\textsuperscript{th} percentile change in county exposure (0.0782) implies an earnings reduction of 7.6\% of initial annual earnings.
<table>
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<tr>
<th></th>
<th>Manufacturing</th>
<th>Non-Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \ln(Earnings_{jfcit}) )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post ( t ) x Industry Gap ( i )</td>
<td>0.125</td>
<td></td>
</tr>
<tr>
<td>(0.190)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post ( t ) x County Gap ( c )</td>
<td>-3.612***</td>
<td>-3.578***</td>
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<tr>
<td>(0.838)</td>
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<td>0.456</td>
</tr>
<tr>
<td>Observations (000)</td>
<td>1,608</td>
<td>4,895</td>
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<tr>
<td>Fixed Effects</td>
<td>j,f,t</td>
<td>j,f,t</td>
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<tr>
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<tr>
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<tr>
<td>County Elasticity at 25(^{th}) / 75(^{th})</td>
<td>-.072/-.321</td>
<td>-.072/-.318</td>
</tr>
</tbody>
</table>

- Trade shocks spills over to workers initially employed outside manufacturing
County Earnings Premium estimates
(Methodology: Dix-Carneiro and Kovak, 2017)

Source: LEHD, LBD and author's calculations. Each bar represents the 95 percent confidence interval of the estimated cumulative percent change in county earnings premia associated with an IQ increase in exposure to PNTR.
Heterogenous effects by Workers Demographics and Firm characteristics
Panel DID Specification

\[ Y_{it} = \text{post}_{2001} \times \text{NTR Gap}_i + \text{Direct exposure via initial industry of employment} \]

\[ \text{post}_{2001} \times \text{NTR Gap}_c + \text{Indirect exposure via initial county of employment} \]

\[ \text{post}_{2001} \times \text{NTR Gap}_i \times X_j^{1999} + \text{Initial worker attributes (gender, race, education, earnings quartile)} \]

\[ \text{post}_{2001} \times \text{NTR Gap}_c \times X_j^{1999} \]

\[ \text{post}_{2001} \times \text{MSH}_c,1999 \text{ county c's 1999 manufacturing share} \]

\[ \alpha_t + \alpha_j + \epsilon_{ijct} \text{ Year and worker FE} \]

\[ Y_{ijc} : \text{Is the hyperbolic sine transformation of earnings (approx. log earnings and allows for zeros) OR dummy indicating whether the worker has paid LEHD employment in year t, } P(Earnings_{jt} > 0) \]
Panel DID Specification

\( j = \text{individual}; \ f = \text{firm}; \ i = \text{industry}; \ c = \text{county}; \ t = \text{year} \)

\[ Y_{it} = \ post_{2001} \times NTR \ Gap_i + \]

\[ post_{2001} \times NTR \ Gap_c + \] Direct exposure via initial industry of employment

\[ post_{2001} \times NTR \ Gap_i \times X_j^{1999} + \] Indirect exposure via initial county of employment

\[ post_{2001} \times NTR \ Gap_c \times X_j^{1999} \] Initial worker attributes (gender, race, education, earnings quartile)

\[ post_{2001} \times MSH_{c,1999} \] county c's 1999 manufacturing share

\[ \alpha_t + \alpha_j + \epsilon_{ifjt} \] Year and worker FE

\[ Y_{ifcjt} : \text{Is the hyperbolic sine transformation of earnings (approx. log earnings and allows for zeros)} \] OR dummy indicating whether the worker has paid LEHD employment in year t, \( P(\text{Earnings}_{jt} > 0) \)
### Baseline Earnings Results with Triple Interactions

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<tr>
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<th>Non-Manufacturing</th>
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<tr>
<td>$\ln(Earnings_{jfcit})$</td>
<td>1.024</td>
<td>1.919***</td>
</tr>
<tr>
<td>(0.822)</td>
<td>(0.531)</td>
<td></td>
</tr>
</tbody>
</table>

**post\_2001** * NTR Gapc * Female$_{jt}$

| IQ shift county gap | 15%          |

- **Manufacturing workers**: We do not find statistically significant heterogenous earnings responses by gender.

- **Non-manufacturing workers**: earnings decrease associated with PNTR were less severe for female workers than for males.
Baseline Earnings Results with Triple Interactions

High-Attachment

Manufacturing workers in the highest initial income quartile experience disproportionately larger declines in earnings associated with PNTR.

Highest-paid (high-attachment) manufacturing workers may have firm- or manufacturing sector-specific human capital that is difficult to transfer to other sectors.
Baseline Earnings Results with Triple Interactions

Low attachment

- For low-attachment workers we find that the relationship between exposure to PNTR and earnings is relatively better for workers whose initial incomes are above the first quartile.

- Results are consistent with Autor et al. (2014)

\[
p_{2001} \times \text{NTR Gap}_c \times x_{jt}^{1999}
\]
Baseline Earnings Results with Triple Interactions

\[ post_{2001} \times NTR \text{ Gap}_c \times X_{jt}^{1999} \]

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<tr>
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<tr>
<td>( \ln(\text{Earnings}_{jjcit}) )</td>
<td>( \ln(\text{Earnings}_{jfcit}) )</td>
<td></td>
</tr>
<tr>
<td>Both Import and Export</td>
<td>-1.030</td>
<td>1.210*</td>
</tr>
<tr>
<td>( (1.000) )</td>
<td>( (0.676) )</td>
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</tr>
<tr>
<td>Export Only</td>
<td>0.097</td>
<td>-1.601*</td>
</tr>
<tr>
<td>( (1.109) )</td>
<td>( (0.869) )</td>
<td></td>
</tr>
<tr>
<td>Import Only</td>
<td>5.043*</td>
<td>5.099**</td>
</tr>
<tr>
<td>( (2.962) )</td>
<td>( (2.324) )</td>
<td></td>
</tr>
</tbody>
</table>

- Workers at firms that only import tend to have better earnings outcomes vis-a-vis PNTR than workers at firms that don't trade (the excluded group),

- This result is consistent with firms that only import being better able to benefit from the change in trade policy due to greater access to cheap inputs than being hurt by import competition.
Conclusion

• Industry exposure insignificant in presence of county exposure

• Exposure to trade shock spillovers to NM workers via the county exposure.

• Impact of PNTR on earnings is substantial and long-lasting

• Preliminary analysis on workers/firm characteristics:
  – The effect of PNTR seemed magnified for some demographic groups: e.g. workers in the bottom quartile of the income distribution.
  – Effect less severe effect for workers at only importing firms

Thanks!
Longitudinal Employer-Household Dynamics (LEHD)

LEHD produces cost effective, public-use information combining federal, state and Census Bureau data on employers and employees under the Local Employment Dynamics (LED) Partnership.

Keith Bailey
Assistant Center Chief for LEHD Research
Center for Economic Studies
U.S. Census Bureau

U.S. International Trade Commission Academic Symposium
April 6, 2022

Any opinions and conclusions expressed herein are those of the authors and do not represent the views of the U.S. Census Bureau.
Longitudinal Employer-Household Dynamics (LEHD)

Overview

• An innovative data suite at Census leveraging administrative data to produce new statistics at low cost with no additional respondent burden
• Partners with states, educational institutions, and the military to obtain administrative data on jobs; integrates this data with other censuses, surveys, and federal administrative record data
• Worker demographics, industry, geography, firm characteristics

Quarterly Workforce Indicators (QWI)
Job-to-Job Flows (J2J)
LEHD Origin-Destination Employment Statistics (LODES)
Post-Secondary Employment Outcomes (PSEO)
Veteran Employment Outcomes (VEO)

New linked national jobs data for the U.S.
# LEHD Public Data Products

<table>
<thead>
<tr>
<th>What do you want?</th>
<th>Scope</th>
<th>Data Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment, hires, separations, turnover, or earnings by detailed firm and person characteristics; quarterly time resolution; relatively short data lag</td>
<td>32 Indicators published quarterly, 150 million jobs records processed each quarter.</td>
<td>QWI</td>
</tr>
<tr>
<td>Employment for detailed or customized geography; residential patterns of the workforce; relationship between worker employment and home locations</td>
<td>Connects employment and residential locations, census block level.</td>
<td>LODES</td>
</tr>
<tr>
<td>Transitions between jobs by timing and firm or worker characteristics; transitions to/from nonemployment</td>
<td>Worker characteristics by firm characteristics.</td>
<td>J2J</td>
</tr>
<tr>
<td>Labor market outcomes for specific degree programs at selected colleges/universities</td>
<td>Earnings percentiles for specific grad. cohorts at certain times.</td>
<td>PSEO</td>
</tr>
<tr>
<td>Labor market outcomes for recently discharged Army veterans</td>
<td>Earnings percentiles for specific cohorts at certain times.</td>
<td>VEO</td>
</tr>
</tbody>
</table>

United States Census Bureau
Choosing Among LEHD Public Data Access Points

<table>
<thead>
<tr>
<th>Data Product</th>
<th>Explore the data, answer questions, or get visualizations</th>
<th>Bulk data for use in analysis process/software</th>
<th>Live queries for building web applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>QWI</td>
<td>QWI Explorer</td>
<td>LED Extraction Tool</td>
<td>Census Bureau API</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Raw data download</td>
<td></td>
</tr>
<tr>
<td>LODES</td>
<td>OnTheMap</td>
<td>Raw data download</td>
<td>Future development</td>
</tr>
<tr>
<td></td>
<td>OnTheMap for Emergency Management</td>
<td>LED Extraction Tool – Coming in 2023</td>
<td></td>
</tr>
<tr>
<td>J2J</td>
<td>Job-to-Job Explorer</td>
<td>Raw data download</td>
<td>Future Development</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LED Extraction Tool – Coming in 2022</td>
<td></td>
</tr>
<tr>
<td>PSEO</td>
<td>PSEO Explorer</td>
<td>Raw data download</td>
<td>Census Bureau API</td>
</tr>
<tr>
<td>VEO</td>
<td>VEO Explorer</td>
<td>Raw data download</td>
<td>Future Development</td>
</tr>
</tbody>
</table>
LEHD Restricted-Use Data Access

Confidential LEHD data may be accessible through the Federal Statistical Research Data Centers - census.gov/about/adrm/fsrdc.html

ℹ️ Projects require data provider consent

Details about restricted-use data are available at census.gov/programs-surveys/ces/data/restricted-use-data/lehd-data.html
LEHD Applications

LEHD strives to highlight external use-cases of the public-use data including research, policymaking, and business development via **LED in Action**
Contact Us

LEHD Landing Page - lehd.ces.census.gov

Phone: 301-763-INFO (4636) or 800-923-8282

General Questions  CES.Local.Employment.Dynamics@census.gov
LODES/OnTheMap  CES.OnTheMap.Feedback@census.gov
QWI/QWI Explorer  CES.QWI.Feedback@census.gov
J2J/J2J Explorer  CES.J2J.Feedback@census.gov
PSEO/PSEO Explorer  CES.PSEO.Feedback@census.gov
Business Dynamics Statistics of U.S. Goods Traders

Fariha Kamal

U.S. Census Bureau

April 6, 2022

USITC Symposium on Distributional Effects of Trade
Disclaimer

Any views expressed are those of the authors and not those of the U.S. Census Bureau. The Census Bureau’s Disclosure Review Board and Disclosure Avoidance Officers have reviewed this data product for unauthorized disclosure of confidential information and have approved the disclosure avoidance practices applied to this release (DRB Approval Number: CBDRB-FY21-270).
BDS-Globally Engaged Firms

- Business dynamics statistics
  - Annual measures of job creation and destruction, establishment births and deaths, firm startups and shutdowns

- Globally engaged firms
  - BDS-Goods Traders (released 12/2021)
  - BDS-Services Traders (in progress)
  - BDS-Multinationals (in progress)
BDS-Goods Traders

- Experimental public-use BDS of goods-trading firms

- Goods trading status as of year $t$
  - exporter only
  - importer only
  - exporter and importer
  - non-trader

- Available 1992-2019 (planned annual updates)

- Economy-wide, firm size, firm age, 4-digit NAICS, 9 Census divisions
1 out of 2 jobs are at trading firms but the typical firm does not trade

- Increasing share of employment in services-providing sectors
- Growing contribution to total U.S. job creation over time
Goods traders are rare but economically important
Figure: Employment Share within Size Class, by Trader Status

- **a) 1 to 19**
  - Non-Trader
  - Exporter
  - Importer
  - Exp-Imp

- **b) 20 to 499**
  - Non-Trader
  - Exporter
  - Importer
  - Exp-Imp

- **c) 500+**
  - Non-Trader
  - Exporter
  - Importer
  - Exp-Imp

Kamal BDS-Goods Traders 5/12
Figure: Employment Share at Traders by Sector
Goods Traders and Domestic Job Growth

- How much do traders vs non-traders contribute to aggregate job creation over time?

- Is there a goods-trader growth premium controlling for size, age, sector?
Employment Measures of Business Dynamics

- Establishments: incumbents, births, deaths
- Job creation: expansions + births
- Job destruction: contractions + deaths
- Net job creation: job creation - job destruction
### Job Growth Contributions: Traders vs. Non-Traders

<table>
<thead>
<tr>
<th></th>
<th>Business Cycle: Peak to Peak</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Traders</td>
<td>1.44</td>
<td>0.57</td>
<td>0.33</td>
<td>0.71</td>
</tr>
<tr>
<td>Traders</td>
<td>0.79</td>
<td>0.06</td>
<td>0.50</td>
<td>0.46</td>
</tr>
<tr>
<td>Total</td>
<td>2.23</td>
<td>0.63</td>
<td>0.83</td>
<td>1.18</td>
</tr>
</tbody>
</table>

### Traders Growth Share

- Traders account for (i) 40% of overall job growth; (ii) share growing to 60% in last decade
## Net Job Creation Rate (NJCR) Premia

<table>
<thead>
<tr>
<th></th>
<th>Economy-Wide</th>
<th>Size</th>
<th>Age</th>
<th>Size + age controls</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exporter</td>
<td>0.372</td>
<td>0.857***</td>
<td>3.693***</td>
<td>2.878**</td>
</tr>
<tr>
<td></td>
<td>(0.243)</td>
<td>(0.232)</td>
<td>(0.288)</td>
<td>(1.163)</td>
</tr>
<tr>
<td>Importer</td>
<td>1.252***</td>
<td>1.584***</td>
<td>4.420***</td>
<td>3.285***</td>
</tr>
<tr>
<td></td>
<td>(0.231)</td>
<td>(0.254)</td>
<td>(0.255)</td>
<td>(1.099)</td>
</tr>
<tr>
<td>Exporter-Importer</td>
<td>-0.852***</td>
<td>-0.144</td>
<td>3.332***</td>
<td>1.347</td>
</tr>
<tr>
<td></td>
<td>(0.206)</td>
<td>(0.231)</td>
<td>(0.240)</td>
<td>(1.522)</td>
</tr>
<tr>
<td>Constant</td>
<td>1.377***</td>
<td>1.070***</td>
<td>-0.552***</td>
<td>75.509</td>
</tr>
<tr>
<td></td>
<td>(0.119)</td>
<td>(0.125)</td>
<td>(0.142)</td>
<td>(53.309)</td>
</tr>
<tr>
<td>Fixed Effects</td>
<td>Year</td>
<td>Year×Size</td>
<td>Year×Age</td>
<td>Year×Size</td>
</tr>
<tr>
<td>adj. $R^2$</td>
<td>0.859</td>
<td>0.793</td>
<td>0.994</td>
<td>0.803</td>
</tr>
<tr>
<td>Observations</td>
<td>112</td>
<td>335</td>
<td>560</td>
<td>335</td>
</tr>
</tbody>
</table>

- Importer-Exporter larger and older and grow slower
- All trader types grow faster than non-traders in same age groups
NJCR Premia by Major Sectors, 1992-2019

Notes: 4-digit NAICS by year FE
Manufacturing, Wholesale, & Retail: 1/3 of U.S. employment
What Have We Learned?

- Goods-traders associated with higher NJCR than non-traders
- “Survive and thrive” pattern for goods traders
  - After 2008, 3 of 5 net new jobs supported by goods traders
- Large shares of service sector jobs supported by goods-trading firms
Current Population Survey:
Overview and Available Data

Patrick Carey
Assistant Commissioner, BLS

USITC Symposium on the
Distributional Effects of Trade and Trade Policy on U.S. Workers
April 6, 2022
Overview of the Basic CPS

- Household survey
  - Conducted monthly, 60,000 eligible households
  - Survey sample scheme: 4-8-4
  - Self and proxy responses

- Civilian Noninstitutional Population
  - Labor force/not in the labor force data
  - Data collected on HH members, including family/non-family members

- CPS sponsored jointly by Census Bureau and BLS
Basic CPS Survey Content

- Labor force characteristics
  - Employed, unemployed, and not in the labor force
  - Occupation and industry information
    - Data on main job collected monthly
    - Data on second jobs collected for one-quarter of the sample (outgoing rotation)
    - Classification changes: https://www.bls.gov/cps/documentation.htm#oi
  - Earnings
    - Data collected for one-quarter of the sample (outgoing rotation)
  - Income
    - Family income information
Basic CPS Survey Content

- Geography
  - National, Census Region and Division, State, Metro area, large counties
    - At the state level, CPS designed to produce reliable annual average estimates

- Data available:
  - Race, ethnicity, and disability are included
    - Age, veteran status, foreign/native born, full- or part-time status (incl, involuntary part time), duration and reason for unemployment, discouraged workers and others not in the labor force, multiple job holders, union membership (outgoing rotation), other
  - Religion and SOGI not included
Why the CPS?

- Timely
  - Estimates issued ~3 weeks after the reference period
- Comprehensive
  - Rich source of demographic and other characteristics
- Some longitudinal capability
- Historical comparability
CPS Supplements

- Annual, biennial, and periodic
  - Annual Social and Economic Supplements (ASEC)
  - Contingent workers
  - Disability
  - Displaced worker
  - Veterans
  - And others...
Where can I find CPS public datasets?

- Homepage
  - [https://www.census.gov/programs-surveys/cps/data/datasets.html](https://www.census.gov/programs-surveys/cps/data/datasets.html)

- Basic CPS
  - [https://www.census.gov/data/datasets/time-series/demo/cps/cps-basic.html](https://www.census.gov/data/datasets/time-series/demo/cps/cps-basic.html)

- ASEC
  - [https://www.census.gov/data/datasets/time-series/demo/cps/cps-asec.html](https://www.census.gov/data/datasets/time-series/demo/cps/cps-asec.html)

- Other CPS Supplements
  - [https://www.census.gov/data/datasets/time-series/demo/cps/cps-supp_cps-repwgt.html](https://www.census.gov/data/datasets/time-series/demo/cps/cps-supp_cps-repwgt.html)
Where can I go for questions/inquiries?

- **Census Bureau CPS Branch**
  - dsd.cps@bls.gov or (301) 763-3806

- **CPS Microdata Information**
  - Public use documentation
    - https://www2.census.gov/programs-surveys/cps/methodology/PublicUseDocumentation_final.pdf
  - Footnotes
    - https://www.census.gov/programs-surveys/cps/data/datasets/cps-basic-footnotes.html
Other information on CPS

For more technical information on the CPS (and supplements)

- Technical Paper 77
  - https://www2.census.gov/programs-surveys/cps/methodology/CPS-Tech-Paper-77.pdf

- BLS website
  - https://www.bls.gov/cps/
  - Occupation/industry info
    - https://www.bls.gov/cps/documentation.htm#oi
Types of research applications

- Returns of professional certifications and licenses
- How different groups have done under COVID
- International comparisons
- Racial and ethnic disparities
- Minimum wage
- Disability
- And others...
Contact Information

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Assistant Commissioner
Office of Current Employment Analysis
(202) 691–6414
Carey.Patrick@bls.gov
Overview of the Consumer Expenditures Surveys

Adam Safir, Program Manager
BLS Consumer Expenditure Surveys Program

USITC Symposium: The Distributional Effects of Trade and Trade Policy on U.S. Workers
Session F: Government Datasets for Analyzing Distributional Effects of Trade among Different Subgroups
Group 2: Individual and Household Level Microdata

April 6, 2022
CE Program Mission

- The mission of the CE program is to collect, process, and disseminate information that presents a statistical picture of consumer spending for the Consumer Price Index, government agencies, and private data users.

- This mission encompasses analyzing CE data to produce socio-economic studies of consumer spending, and providing CE data users with assistance, education, and tools for working with the data.
BLS Data Provide a Detailed Breakdown of ~70 Percent of GDP (estimated by BEA)

### Percentage of Components of U.S. GDP on the Demand Side

- PCE: Consumer Expenditure (68.7%)
- Investment Expenditure (16.3%)
- Government Spending (17.6%)
- Net Export Expenditure (~2.7%)

Consumption makes up over half of the demand side components of the GDP. (Source: [http://bea.gov/](http://bea.gov))
Changes in Real GDP can be Explained by CE Data

Percent change from preceding period, not seasonally adjusted.

Source: Federal Reserve Bank of St. Louis
CE Data Products

- BLS provides CE data on expenditures, income, and demographic characteristics of consumers in the United States.

- These data are available in news releases, tables, LABSTAT database, reports, and public use microdata files.

- These data allow us to shed light on U.S. household spending habits across all ages, locations, and backgrounds.
CE Data Products

- Economic Analysis
  - Beyond the Numbers: https://www.bls.gov/cex/csxwebarticles.htm
  - Spotlight on Statistics: https://www.bls.gov/cex/csxspotlight.htm

- CE Tables
  - Data Tables: https://www.bls.gov/cex/tables.htm
  - LABSTAT database: https://www.bls.gov/cex/data.htm

- CE Public Use Microdata (PUMD)
  - Data Files: https://www.bls.gov/cex/pumd_data.htm
Economic Analysis

- News release
  - Published in September for the annual release
  - Contains notable changes in consumer expenditures
    - Selected demographic groups
    - Income quintiles
  - Contains charts and tables that focus on spending differences between the current and prior year

“Average expenditures per consumer unit for 2020 were $61,334, a 2.7-percent decrease from 2019 levels, and average pretax income increased by 1.8 percent”
Economic Analysis

- Percent change in expenditures and income before taxes by income quintiles, 2019-2020
Economic Analysis

What the Consumer Expenditure Surveys tell us about travel in the COVID-19 pandemic
CE Tables

Tables provide expenditure estimates by demo breakdown:

- **CU (11 tables)**
  - Income, income quintiles, income deciles
  - Region, population size, area type (urban/rural)
  - CU composition, education, tenure, earners, CU size

- **Reference person (6 tables)**
  - Age, selected age ranges, generation
  - Ethnicity, occupation, race
CE Public Use Microdata (PUMD)

- Data files:
  - File types available include:
    - SAS (*.sas7bdat), STATA (*.dta), SPSS (*.sav), comma-delimited (*.csv)

- Documentation:
  - Getting Started Guide

- Supplementary resources:
  - Provide information regarding PUMD disclosure methods and requirements
CE Public Use Microdata (PUMD)

What's new?

- Historical PUMD
- State weights, which allow users to develop weighted means for specific states
  - California
  - Florida
  - New Jersey
  - New York
  - Texas
CE Public Use Microdata (PUMD)

PUMD allow users to conduct more detailed analyses, answering questions such as:

- What are the spending patterns of the American middle class?
- What are the effects of various policy initiatives on spending?
- How does grocery spending relate to U.S. dietary recommendations?
- What are the effects of SNAP benefits on spending?
- What are changes in ride hailing/ride sharing expenditures?
## Summary Information about the CE Surveys

<table>
<thead>
<tr>
<th>Dataset name</th>
<th>Consumer Expenditure Surveys; Interview Survey and Diary Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website</td>
<td><a href="https://www.bls.gov/cex/">https://www.bls.gov/cex/</a></td>
</tr>
<tr>
<td>Microdata access</td>
<td><a href="https://www.bls.gov/cex/pumd.htm">https://www.bls.gov/cex/pumd.htm</a></td>
</tr>
<tr>
<td>Survey coverage</td>
<td>Civilian noninstitutional population</td>
</tr>
<tr>
<td>Survey frequency</td>
<td>Annual survey</td>
</tr>
<tr>
<td>Longitudinal component</td>
<td>Yes; four quarterly interviews</td>
</tr>
</tbody>
</table>
# Summary Information about the CE Surveys

| Demographics for underserved communities | Yes – Race, ethnicity, rural  
                                      | No – Religion, SOGI, disability, poverty level of surrounding community |
|------------------------------------------|-----------------------------------------------------------------------------|
| Access to restricted use microdata       | [https://www.bls.gov/rda/home.htm](https://www.bls.gov/rda/home.htm)          |
| Information about content or design changes | [https://www.bls.gov/cex/pumd_doc.htm](https://www.bls.gov/cex/pumd_doc.htm)  
                                      | [https://www.bls.gov/cex/ce-improvements.htm](https://www.bls.gov/cex/ce-improvements.htm) |
| Value added                              | Provides information on the complete range of consumers’ expenditures as well as their incomes and demographic characteristics |
| Examples of research applications        | [https://www.bls.gov/cex/csxreport.htm](https://www.bls.gov/cex/csxreport.htm)  
                                      | [https://www.bls.gov/cex/research_papers/research-paper-catalog.htm](https://www.bls.gov/cex/research_papers/research-paper-catalog.htm) |
Contact Information

Adam Safir
Program Manager
Consumer Expenditure Surveys Program
safir.adam@bls.gov
About SIPP

• Nationally representative household survey
• Longitudinal
• Income and government program participation
• Evaluate things like:
  • Annual and sub-annual income dynamics
  • Movements into and out of government transfer programs
  • The family and social context of individuals and households
  • Interactions among these areas
About SIPP

• Addresses questions like:
  • How have changes in eligibility rules or benefit levels affected recipients?
  • How have changes in the eligibility rules affected the program target population, that is, those eligible to receive benefits?
  • How does income from other household members affect labor force participation and reasons for not working?
  • How do wealth and income patterns differ for various age, sex, and racial groups?
About SIPP

• And longitudinal questions like:
  • What factors affect change in household and family structure and living arrangements?
  • What are the interactions between changes in the structure of households and families and the distribution of income?
  • What effects do changes in household composition have on economic status and program eligibility?
  • What are the primary determinants of turnover in programs such as the Supplemental Nutrition Assistance Program (SNAP)?
The SIPP Sample

• The civilian, noninstitutionalized population of the United States
• Over 50,000 living quarters from across the nation in 2020
• Oversamples low-income households
## Topics in the data

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Assets and Liabilities</th>
<th>Program Participation and Income Transfers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, sex, race, and Hispanic origin</td>
<td><strong>Assets:</strong></td>
<td>Disability income payments</td>
</tr>
<tr>
<td>Educational enrollment</td>
<td>- Interest-earning assets</td>
<td>EITC and tax filing status</td>
</tr>
<tr>
<td>Educational attainment</td>
<td>- Other income-generating assets</td>
<td>Energy assistance</td>
</tr>
<tr>
<td>Family and household relationships</td>
<td>- Other assets</td>
<td>General Assistance (GA)</td>
</tr>
<tr>
<td>Fertility</td>
<td>- Retirement accounts</td>
<td>Life insurance retirement income</td>
</tr>
<tr>
<td>Language</td>
<td></td>
<td>Lump sum severance pay/retirement plan income</td>
</tr>
<tr>
<td>Marital status and marital history</td>
<td><strong>Liabilities:</strong></td>
<td>Miscellaneous income</td>
</tr>
<tr>
<td>Nativity, citizenship, and parent nativity</td>
<td>- Debts secured by assets</td>
<td>‘Other’ assistance</td>
</tr>
<tr>
<td>Parent mortality</td>
<td>- Unsecured debt</td>
<td>Retirement income</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td>School meals</td>
</tr>
<tr>
<td>Veteran status</td>
<td><strong>Additional topics:</strong></td>
<td>Social Security – child</td>
</tr>
<tr>
<td></td>
<td>- Rent and mortgage payments</td>
<td>Social Security – self</td>
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<tr>
<td></td>
<td>- Utility payments</td>
<td>Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)</td>
</tr>
<tr>
<td><strong>Employment</strong></td>
<td></td>
<td>Supplemental Nutrition Assistance Program (SNAP)</td>
</tr>
<tr>
<td>Commuting and work schedule</td>
<td><strong>Health and Well-Being</strong></td>
<td>Supplemental Security Income (SSI)</td>
</tr>
<tr>
<td>Earnings</td>
<td>- Adult well-being</td>
<td>Support paid</td>
</tr>
<tr>
<td>Hours and pay changes</td>
<td>- Child care</td>
<td>Support received</td>
</tr>
<tr>
<td>Job characteristics</td>
<td>- Child well-being</td>
<td>Survivor income benefit</td>
</tr>
<tr>
<td>Labor force participation</td>
<td>- Dependent care expenses</td>
<td>Temporary Assistance for Needy Families (TANF)</td>
</tr>
<tr>
<td>Parental leave</td>
<td>- Disability</td>
<td>Unemployment compensation</td>
</tr>
<tr>
<td>Reasons for not working</td>
<td>- Food security</td>
<td>Veterans benefits</td>
</tr>
<tr>
<td>Time away without pay</td>
<td>- Health care utilization and medical expenditures</td>
<td>Workers’ compensation</td>
</tr>
</tbody>
</table>

**United States Census Bureau**

**SIPP**

**SNAP**

**WIC**

**Job**

**Income**

**Health**

**Dynamics**

**Research**

**Event History Calendar**

**Poverty**

**Affordable Care Act**

**Poverty Programs**

**Health Care**

**Assets**

**Technology**

**Poverty**

**Education**

**SNAP**

**WIC**

**Job**

**Income**

**Health**

**Dynamics**

**Research**

**Event History Calendar**

**Poverty**

**Affordable Care Act**

**Poverty Programs**

**Health Care**

**Assets**

**Technology**
About the data

• Microdata with month-level records
• Available at www.census.gov/sipp
• Published annually
• Named according to the interview year
• Most data refers to the previous calendar year
Thank you!

Questions? census.sipp@census.gov
Survey and Database Overview

USITC Academic Symposium: *Distributional Effects of Trade on U.S. Workers*

April 6, 2022

U.S. Department of Labor
Employment and Training Administration
Office of Policy Development and Research
https://www.doleta.gov/naws/
Outline

• Background, Coverage, and Frequency
• Survey Content
• Access to Public and Restricted Data
• Survey Uses and Potential Future Directions
• Sample Findings

Office of Policy Development and Research
https://www.doleta.gov/research/
https://www.doleta.gov/naws/
Background, Coverage, and Frequency
What is the NAWS?

- National random sample survey of hired crop workers, started FY 1989
- Annual sample size: 1,500-3,600 (N for 1989-2018 = 69,139)
- Rich data source (357 variables in Public Access; 1,929 in Restricted Data)
- Establishment survey – we sample crop workers at their farm jobs
  - NAICS 111 and 1151
- Primary source of crop worker demographic and employment data
- National and regional data; state data only for CA and FL
- Does not include those who do not perform crop-related work
- H-2A workers are not interviewed (exploring feasibility of including them)

1The Wagner-Peyser Act, as amended (29 USC 49f (d) and 49l-2(a)), authorizes ETA to collect this information.
Survey Content
Core Content

- Demographic characteristics, including race and ethnicity
- Housing type, location, and arrangement
- Characteristics of current farm job, including hourly earnings
- 12-month retrospective farm and non-farm employment
- Income, assets, and use of assistance programs
- Lifetime health history
- Access to health care
- Health insurance coverage
Past and Current * Supplemental Questions

<table>
<thead>
<tr>
<th>Access &amp; Use of Digital Information Devices*</th>
<th>Access to Child Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupational Injury</td>
<td></td>
</tr>
<tr>
<td>Chronic Disease*</td>
<td>Pesticide Handling</td>
</tr>
<tr>
<td>Clothes Laundering &amp; Hygiene Practices</td>
<td>Preventive Health</td>
</tr>
<tr>
<td>COVID *</td>
<td>Respiratory Health</td>
</tr>
<tr>
<td>Depression</td>
<td>Tobacco and Alcohol Use</td>
</tr>
<tr>
<td>Education and Training</td>
<td></td>
</tr>
<tr>
<td>General Anxiety Disorder*</td>
<td></td>
</tr>
<tr>
<td>Job Demands and Control</td>
<td></td>
</tr>
</tbody>
</table>

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https://www.doleta.gov/naws/
**CURRENT FARM JOB**

Now I am going to ask you some questions about the FW you are CURRENTLY performing for the EMPLOYER through whom we contacted you [INCLUDED IN A WORK GRID PERIOD].

<table>
<thead>
<tr>
<th>Question</th>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>D11 Are you paid?</td>
<td>BY THE HOUR?</td>
<td>BY THE PIECE?</td>
<td>COMBINATION HOURLY WAGE AND PIECE RATE?</td>
<td>SALARY OR OTHER?</td>
</tr>
<tr>
<td>D12 How much per hour (to nearest cent)?</td>
<td>[IF PAID ONLY BY THE HOUR, ENTER AMOUNT AND SKIP TO &quot;GIC.&quot; IF COMBINATION, ENTER AMOUNT AND CONTINUE WITH D13]</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D13 [IF PAID BY THE PIECE]: Are you paid as an individual or by the crew? [If the answer is &quot;CREW&quot;, ask questions D14 to D18 consistently in reference to the crew]</td>
<td>INDIVIDUAL</td>
<td>CREW</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D14 [IF CREW PIECE RATE]: How many people are in your crew? [ONE IS NOT A POSSIBLE ANSWER]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D15 [IF PIECE]: How do they pay you/your crew [i.e., UNIT OF MEASURE SUCH AS BOX, BIN, BUCKET, ETC.]?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D16 [IF PIECE]: How many of these (in D15 e.g., boxes, bins, buckets, etc.) you/your crew do in an average day?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D17 [IF PIECE]: How many hours per day you/your crew work on average at this task?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D18 [IF PIECE]: How much do they pay you/your crew on average for each (box bin, bucket, etc.) in D15?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D19 [IF PAID BY SALARY, OR OTHER]: Explain fully how and how much you are paid (salary or other). Explain thoroughly the method and amount of payment. [USE BACK OF PAGE IF NEEDED]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D61 Were you paid by [READ CHOICES. MARK ONE RESPONSE]:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>D62 Did you get a receipt?</td>
<td>YES</td>
<td>NO</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D4 How many hours did you work last week at your current farm job?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D5 To D8: If she/he has not received payment yet for current crop, ask for estimates: Can you tell me how you were paid and the amount your employer paid you on your last pay day?</td>
<td>After taxes:</td>
<td>$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D6 Before taxes:</td>
<td>$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D7 For what time period was that payment?</td>
<td>1 ONE DAY?</td>
<td>4 ONE MONTH?</td>
<td>2 ONE WEEK?</td>
<td>7 OTHER?</td>
</tr>
<tr>
<td>D8 How many hours did you work during that period (in D7)?</td>
<td>hours</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14
“Now I’m going to ask you some questions about your individual and family income for last year (2021).”

<table>
<thead>
<tr>
<th>G1c</th>
<th>What was your total personal income last year - in 2021 - in U.S. dollars [U.S. earnings only FOR PW AND NF]? [READ OR SHOW CHOICES. MARK ONLY ONE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>DID NOT WORK AT ALL IN 2021</td>
</tr>
<tr>
<td>21</td>
<td>LESS THAN 1,000</td>
</tr>
<tr>
<td>22</td>
<td>1,000 TO 2,449</td>
</tr>
<tr>
<td>2</td>
<td>2,500 TO 4,999</td>
</tr>
<tr>
<td>3</td>
<td>5,000 TO 7,499</td>
</tr>
<tr>
<td>4</td>
<td>7,500 TO 9,999</td>
</tr>
<tr>
<td>5</td>
<td>10,000 TO 12,499</td>
</tr>
<tr>
<td>6</td>
<td>12,500 TO 14,999</td>
</tr>
<tr>
<td>7</td>
<td>15,000 TO 17,499</td>
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<tr>
<td>8</td>
<td>17,500 TO 19,999</td>
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<tr>
<td>9</td>
<td>20,000 TO 22,499</td>
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<tr>
<td>10</td>
<td>22,500 TO 24,999</td>
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<td>11</td>
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<td>12</td>
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<td>13</td>
<td>30,000 TO 32,499</td>
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<td>14</td>
<td>32,500 TO 34,999</td>
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<tr>
<td>15</td>
<td>35,000 TO 37,499</td>
</tr>
<tr>
<td>16</td>
<td>37,500 TO 39,999</td>
</tr>
<tr>
<td>17</td>
<td>40,000 TO 44,999</td>
</tr>
<tr>
<td>18</td>
<td>45,000 TO 54,999</td>
</tr>
<tr>
<td>19</td>
<td>55,000 TO 59,999</td>
</tr>
<tr>
<td>20</td>
<td>60,000 OR MORE</td>
</tr>
<tr>
<td>97</td>
<td>DK (DON’T KNOW)</td>
</tr>
<tr>
<td>96</td>
<td>RF (REFUSE)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G2c</th>
<th>How much of that income [in “G1c”] was from agricultural employment (U.S. earnings only for FW)? [READ OR SHOW CHOICES. MARK ONLY ONE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>DID NOT WORK AT ALL IN 2021</td>
</tr>
<tr>
<td>21</td>
<td>LESS THAN 1,000</td>
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<tr>
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<tr>
<td>96</td>
<td>RF (REFUSE)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>G3c</th>
<th>What was your family’s total income last year - in 2021 - in U.S. dollars [U.S. earnings for FW AND NF for all in “FAMILY GRID”]? [READ OR SHOW CHOICES. MARK ONLY ONE]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>DID NOT WORK AT ALL IN 2021</td>
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<td>DK (DON’T KNOW)</td>
</tr>
<tr>
<td>96</td>
<td>RF (REFUSE)</td>
</tr>
</tbody>
</table>
How are Wage and Income Recorded?

Wage

- Analytic variable ‘WAGET1’ reflects all payment types (hourly, piece, combination, salary), converted into an hourly rate for the primary crop and task at time of interview.

Income

- Questionnaire variables G01, G02, and G03, record prior calendar-year U.S. income, in ranges, e.g., $25,000 to $27,499.
  - G01: Total Personal Income
  - G02: Personal Income from Agricultural Employment
  - G03: Total Family Income
How is Occupation Recorded?

- Respondents are employed at an eligible employer (NAICS 111 and 1151: Crop Production and Support Services for Crop Production) and performing eligible work (working with crop or nursery plants).

- In the public and restricted data, respondents can be categorized/analyzed by crop and task, alone or together, e.g., fruit harvesters.
  - In the public data, crop and task are collapsed into 5 and 6 categories, respectively.
  - In the restricted file, detailed (non-collapsed) crop and task are available.

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How is Geography Recorded?

Public Data

- Region of Interview, for six collapsed regions: ‘REGION6’

Restricted Data

- Region of Interview, for twelve sampling regions: ‘REGION12’
- State of Interview
  - Findings are only reportable for California and Florida (pool several years of data)
- County of Interview (if need for ‘COUNTY’ is justified and approved)
  - Findings may not be reported for county, but county may be used in modeling/analysis

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Public and Restricted Data
Access Public Data Via NAWS Website

National Agricultural Workers Survey

The National Agricultural Workers Survey (NAWS) is an employment-based, random-sample survey of U.S. crop workers that collects demographic, employment, and health data in face-to-face interviews.
NAWS Public Access Data: Content and Formats

- NAWS Public Access Data (NAWSPAD) contain information from the questionnaire about the crop worker.

- And summaries of the work grid and household grid records (e.g., number of employers; number of children in various age groups).

- Available in multiple formats

There are three data files. The primary or National Agricultural Workers Survey Public Access Data (NAWSPAD) file corresponds to the base questionnaire; two smaller files correspond to supplemental questions that ETA administered for the National Institute for Occupational Safety and Health (NIOSH) and the Environmental Protection Agency (EPA).

Prior to accessing the data files, users are encouraged to review supporting documentation, discussed below. To obtain copies of the base questionnaire and the supplemental questions, see the Questionnaire section of this website.

File Formats

The files, described below, are available in three formats: SAS, Microsoft Excel, and comma-separated-values (CSV).

NAWSPAD

The NAWSPAD file contains 232 questionnaire variables and 125 summary and analytic variables from 69,139 in-person interviews that were administered in 48 states and 752 counties during federal fiscal years 1980-2016 (October 1, 1988, to September 30, 2018). Users can analyze these data for the United States and six regions, California is the only single-state region. County-level data are not available.

NAWSPAD analysis guidance is available in An Introduction to Analyzing the NAWS Public Access Data.

The spreadsheet NAWSPAD Variables 2016 lists the variables. There are three tabs in the spreadsheet, one each for the complete set of variables, the created variables only, and the questionnaire variables only. The number of analytic/created and questionnaire variables in the spreadsheet sums to 361; however, there are 358 unique variables. Three variables - the respondent identifier 'FWD', the fiscal year of interview 'FY', and the composite weight 'PW4YCHG' - are in both the created variables and questionnaire variables tabs.
Additional Information and Materials on Website

- Point of Contact
- Survey Overview
- Methodology
- Analysis Tips
- Questionnaire: Content and How to Obtain Copies
- Research Reports, Data Tables, Presentations

Office of Policy Development and Research
https://www.doleta.gov/research/
https://www.doleta.gov/naws/
Data Tables

Data tables for the following domains are currently available:

1. Demographic and Employment Characteristics.

Data are reported for the United States and six regions, for the following six periods:

1. 1989-1991;
2. 1998-2000;
3. 2007-2009;
4. 2010-2012;
5. 2013-2014;
6. 2015-2016; and
7. 2017-2018

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>U.S.</th>
<th>East</th>
<th>Midwest</th>
<th>Northwest</th>
<th>Southeast</th>
<th>Southwest</th>
<th>California</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demographic</td>
<td>Table 1</td>
<td>Table 3</td>
<td>Table 5</td>
<td>Table 7</td>
<td>Table 9</td>
<td>Table 11</td>
<td>Table 13</td>
</tr>
<tr>
<td>Employment</td>
<td>Table 2</td>
<td>Table 4</td>
<td>Table 6</td>
<td>Table 8</td>
<td>Table 10</td>
<td>Table 12</td>
<td>Table 14</td>
</tr>
</tbody>
</table>
Why the Public Data are Sometimes Insufficient

Researcher needs:

• Detailed household- and/or work-grid data (summary/analytic variables are in the public data)
• Finer geographic breakout (12 regions, state, county)
• Data from questions that are no longer asked
• The primary sampling unit to calculate design-corrected standard errors of estimates
How to Request the Restricted Data File

• In email to ETA (carroll.daniel.j@dol.gov), introduce the research project and state need for restricted data file. Provide the following:
  1) A description of the research objectives and how NAWS data will support them;
  2) Reason(s) why the NAWS public data file is insufficient to meet the objectives;
  3) A description of how and when the resulting findings will be disseminated; and
  4) A brief description of the analysis plan, so that NAWS staff may assess the suitability of the NAWS given the research objectives and analysis plan.

• If the request is approved, the applicant will be required to sign and return:
  1) a confidentiality procedures affidavit; and
  2) a computer use form.
Survey Uses, and Potential Future Direction
Uses

NAWS data and findings help address the information needs of farm worker programs of several Federal agencies, including HHS, ED and DOL:

<table>
<thead>
<tr>
<th>Federal Farm Worker Program</th>
<th>NAWS Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Migrant and Seasonal Head Start (HHS/ACF)</td>
<td>Assess barriers to childcare</td>
</tr>
<tr>
<td>‘Migrant Health’ (HHS/HRSA)</td>
<td>Assess health status and access to health care</td>
</tr>
<tr>
<td>Migrant Education (ED)</td>
<td>Describe the program-eligible population</td>
</tr>
<tr>
<td>National Farmworker Jobs Program (ETA)</td>
<td>Estimate state shares of the eligible population</td>
</tr>
</tbody>
</table>
Additional Federal Gov. Uses of the NAWS

- Scoring proposed immigration legislation (CBO), periodic
- Estimating International Transactions Accounts (DOC/BEA), routine
- Measuring agricultural productivity (USDA/ERS), periodic
- Surveillance of occupational injuries and health (CDC/NIOSH), periodic
- Assessing pesticide handling and training (EPA), routine
- Informing special studies (GAO and CRS), periodic
- Labor dispute resolution process under NAFTA (USMCA?), periodic

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https://www.doleta.gov/naws/
Potential Survey Directions

• Include H-2A crop workers (feasibility study underway)
• Return to IRCA roots: add labor-supply and job-satisfaction questions
• Develop questions to meet Departmental priorities, e.g., 21st century workforce
• Create Communities of Practice on survey questions and design
• Collaborate with Mexico and Canada on survey questions and data sharing

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https://www.doleta.gov/naws/
Sample Findings
## U.S. Crop Worker Characteristics

<table>
<thead>
<tr>
<th></th>
<th>FY 2013-2014</th>
<th>FY 2015-2016</th>
<th>FY 2017-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign-born</td>
<td>73%</td>
<td>75%</td>
<td>68%</td>
</tr>
<tr>
<td>Place of birth: Mexico</td>
<td>68%</td>
<td>69%</td>
<td>64%</td>
</tr>
<tr>
<td>Unauthorized</td>
<td>47%</td>
<td>49%</td>
<td>36%</td>
</tr>
<tr>
<td>Average Age</td>
<td>38</td>
<td>38</td>
<td>41</td>
</tr>
<tr>
<td>Percent 55 or older</td>
<td>14%</td>
<td>14%</td>
<td>18%</td>
</tr>
<tr>
<td>Average number of years of U.S. farm work experience</td>
<td>15</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Average number of years with current farm employer</td>
<td>7</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>Average number of farm employers in last 12 months</td>
<td>1.3</td>
<td>1.3</td>
<td>1.3</td>
</tr>
<tr>
<td>Plans to continue working in agriculture: Less than 1 year</td>
<td>3%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Percent with high school degree or higher</td>
<td>32%</td>
<td>31%</td>
<td>37%</td>
</tr>
<tr>
<td>Percent reporting speaking English well</td>
<td>31%</td>
<td>29%</td>
<td>36%</td>
</tr>
<tr>
<td>Percent Settled (did not migrate)</td>
<td>84%</td>
<td>81%</td>
<td>87%</td>
</tr>
<tr>
<td>Percent Shuttle migrant</td>
<td>10%</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Percent Follow-the-crop migrant</td>
<td>4%</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>Percent Foreign-born newcomer</td>
<td>2%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Percent of families with below poverty level income</td>
<td>30%</td>
<td>32%</td>
<td>22%</td>
</tr>
<tr>
<td>Percent of families that received public assistance</td>
<td>50%</td>
<td>55%</td>
<td>54%</td>
</tr>
</tbody>
</table>
Findings on Race (2017-2018)

- Race (self-identification)
  - 65 percent gave an answer that was not on OMB’s standard list. Among these:
    - 87 percent self-identified as “Latino” or “Hispanic”
    - 8 percent referred to their complexion, e.g., “Moreno”, “Café”
    - 2 percent self-identified with an indigenous group
    - 2 percent referred to their Central American origin
    - <1 percent gave a response such as “American”, “Filipino”, “Portuguese”
    - 3 percent “Black” or “African American”
    - 32 percent “White”

Office of Policy Development and Research
https://www.doleta.gov/research/
https://www.doleta.gov/naws/
Findings on Ethnicity (2017-2018)

- Ethnicity (self-identification)
  - 77 percent as members of a Hispanic group
    - 61 percent “Mexican”
    - 11 percent “Mexican-American”
    - 5 percent “Chicano”, “Puerto-Rican”, or “Other Hispanic”
  - 23 percent self-identified as “Not Hispanic or Latino”
The End

Contact information:

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For more information on the NAWS:
https://www.dol.gov/agencies/eta/national-agricultural-workers-survey
Office of Trade Adjustment Assistance (OTAA)
Data Overview
What is the TAA Program?

Provides federal assistance to workers who are adversely affected by foreign trade including:

- Comprehensive Employment and Case Management Services
- Training which can include long-term retraining
- Income support Trade Readjustment Allowances (TRA)
- Job Search Allowances
- Relocation Allowances
- Wage supplements for workers 50 and over, whose reemployment resulted in lower wages as Reemployment Trade Adjustment Assistance (RTAA) or Alternative Trade Adjustment Assistance (ATAA)
Petition Filing
- Petitions are filed for groups of workers believed to be affected by foreign trade
- Can be filed by States, Local American Job Centers, Company Officials, Unions, and Other Authorized Representatives

Determinations
- DOL collects information
- Determines whether the group was affected by trade under a covered statutory provisions
- Notifies stakeholders

State Agencies
- Notify workers
- Determines individual eligibility
- Provides benefits

Understanding the flow of the TAA Program
Data from 1974 to Present

- Although data fields are limited in older cases
- Administrative data – NOT a comprehensive collection of firms affected by trade
- Affected by **statutory scope**, state outreach, firm size, etc.

Worker Group Determinations (Row)

- DOL Determination
- Dates
- Addresses (+ County, Congressional District, Latitude/Longitude)
- NAICS
- Number of Workers
- Countries

Released Monthly with a One-Month Delay

- (e.g. late March releases data through the end of February)

Downloadable Data and Codebook available at:

- Available at: [https://www.dol.gov/agencies/eta/tradeact/data/petitions-determinations](https://www.dol.gov/agencies/eta/tradeact/data/petitions-determinations)
- Codebook includes notes on data availability for each field over time

Dashboard!
### Participant Data Broadly
- States submit quarterly data to DOL on each participant receiving TAA benefits and services
- Primarily collects information on services provided to participants and employment outcomes

### Annual Data
- Major state-level aggregates for the Fiscal Year (Oct 1 – Sept 30)
- Release timing varies based on release of annual report to Congress
- Available at: [https://www.dol.gov/agencies/eta/tradeact/data](https://www.dol.gov/agencies/eta/tradeact/data)

### Quarterly Files
- More detailed, state-level aggregate statistics
- Release is approximately 60 days after the end of the quarter
- Available at: [https://www.dol.gov/agencies/eta/tradeact/data/participants](https://www.dol.gov/agencies/eta/tradeact/data/participants)

### Demographics
- Released as national aggregates in our annual report to Congress
- Annual reports available at: [https://www.dol.gov/agencies/eta/tradeact/reports](https://www.dol.gov/agencies/eta/tradeact/reports)

### Individual Records
- Not releasable as small program counts make it very easy to deanonymize
- No current restricted-access program
Data on grant funds provided to States

Income Support (TRA) and Wage Supplement (A/RTAA) funds provided as separate grant types

Dashboard!

Available at: https://www.dol.gov/agencies/eta/tradeact/data/financial-data
Contact

• Specific Questions?
  • Email hoekstra.robert@dol.gov or taa.petition@dol.gov

• All releasable data is posted on our website:
  • https://www.dol.gov/agencies/eta/tradeact
NEW Longitudinal Business Database (LBD) and the Longitudinal Firm Trade Transactions Database (LFTTD)

Cristina Tello-Trillo, Center for Economic Studies
April 5-6, 2022
USITC

Disclaimer: Any opinions and conclusions expressed herein are those of the authors and do not necessarily represent the views of the U.S. Census Bureau. All results have been reviewed to ensure that no confidential information is disclosed.
Questions to answer

- What is the LBD?
- What is the purpose of the LBD?
  - From the agency perspective?
  - From the researcher’s perspective?
What is the LBD?

- A set of data files that provide longitudinal information about business establishments operating between 1976 and the present
  - A unique longitudinal identifier for each establishment allows businesses to be tracked over time
  - A unique firm identifier shows connections between establishments, i.e. firm organization
- Main characteristics:
  - Employment
  - Payroll
  - Revenue
  - Industry
  - Location (zip, county, msa)
  - Legal form of organization
  - Start and end years
What is the agency purpose of the LBD?

Business Dynamics Statistics (BDS):

*annual publication on job creation and destruction*

- For continuing establishments
- For new establishments (births)
- For exiting establishments (deaths)
- Within geographic, industry, firm size, and firm age categories
The percentage of workers employed at young firms has declined over time.

Source: Business Dynamics Statistics 1978-2014
There is substantial variation in startup activity across geographic areas.
What is the purpose of the LBD for a researcher?

- Relationship between firm age and other firm characteristics:
  - job creation and destruction
  - exporter/importer status
  - patenting
  - industry

- Event A happens (trade shocks), effect on firm outcomes
  - Employment
  - Payroll
  - firm exit/entry

- Labor research questions that need to add firm characteristics to workers
  - Relationship between outcomes of people and characteristics of their employers
LBD Limitations

- **Frequency of employment:**
  - Employment only as of March 12
- **Establishment -> Firm identifier**
  - Relies on Economic Census (every 5 years) or Report of Organization (formerly Company Organization Survey).
- **Missing Revenue:**
  - 15% of firms have missing revenue. Revenue is collected at the EIN level. Not all EINs match to Business Register.
- **Available with 2-year lag (because BR available with 2-year lag)**
Longitudinal Firm Trade Transactions Database (LFTTD)
LFTTD

- Longitudinal Firm Trade Transactions Database
  - Export and import transactions linked to the Business Register
    - **Daily Transaction-level** data with **firm-level** identifiers
      - Administrative data
    - **Merchandise goods** only
  - 1992-2019 (typically produced with a 2-year lag)
  - Original effort: Bernard, Jensen, Schott (2009)
Merchandise Export Transactions Data

- U.S. merchandise export transactions
  - Shipper’s Export Declaration/Electronic Export Information
  - Universe of export transactions valued at $2,500 or more
  - Selected key variables:
    - Export Value
    - EIN
    - Business name (Canadian only)
    - HS10
    - Destination country
    - Origin state
    - Port
    - Related party
  - 13 million transactions in 1992 to 37 million in 2016
Merchandise Import Transactions Data

- U.S. merchandise import transactions
  - CBP Entry Summary, Form 7501
  - Universe of import transactions valued at $2,000 or more
  - Selected key variables:
    - Import Value
    - EIN
    - HS10
    - Origin country
    - Related party
  - 16 million transactions in 1992 to 81 million in 2016
LFTTD limitations

- Not a universe
  - Do not contain low-value traders (can supplement with Census of Manufactures/ASM export value but not destination/product information)
  - Cannot match all transactions to a firm due to (i) missing EIN or name information; (ii) not all EINs match to BR; (iii) non-EIN identifiers.
- Not contemporaneous
  - Available with 2-year lag (because BR available with 2-year lag)
  - Only covers merchandise transactions i.e. no services trade
Contact Information

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U.S. Business Ownership by Demographics

Annual Business Survey Program
U.S. Census Bureau
Aneta Erdie
Program Overview

• Provides total business ownership by demographics
  • Employer Component – Annual Business Survey (ABS)
  • Nonemployer Component – Nonemployer Statistics by Demographics (NES-D)

• Annual program that replaces the five-year Survey of Business Owners

• Used by government officials, industry organization leaders, economic and social analysts, and business entrepreneurs to:
  • Assess business assistance needs
  • Allocate program resources
  • Analyze long-term economic and demographic shifts
Annual Business Survey - Overview

• Sample survey collecting demographic characteristics of business owners from employer businesses
• Also measures research and development (microbusinesses) and various other business characteristics
• Additional data sourced from the economic census and administrative records from the Census Bureau’s Business Register
• Sponsored by the National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation
Annual Business Survey - Methods

• Mandatory collection under Title 13
• Conducted on a firm (enterprise) basis
• Samples 300,000 to 850,000 employer businesses
• Sampling universe includes all nonfarm businesses filing IRS employer tax forms
• Designed to measure women- and minority-owned businesses
• Excludes nonemployer businesses from sampling/mailing
Annual Business Survey - Module Content

• Designed to incorporate new content each survey year
  • i.e. Innovation, Technology, and Financing
• Developed in collaboration with NCSES and other stakeholders
• Allows for flexibility to measure topics of relevance
• Select content is maintained from year to year (i.e. owner demographics, business structure)
Program Data Products

Annual Business Survey - Employer
• Core demographic tables
• Module tables

Hybrid Data Products
• Total Business Ownership by Demographics
  • ABS (employers) + NES-D (nonemployers)
• U.S. Exporting Firms by Demographics
  • ABS Demographics + Exports from the Profile of U.S. Importing and Exporting Companies
Annual Business Survey - Core Demographic Tables

- Number of employer firms, sales/receipts, payroll, and employment by sex, ethnicity, race, and veteran status
- Geography levels
  - U.S., state, metropolitan statistical area (MSA) (all years)
  - County, economic place (select years)
- NAICS levels
  - 2-3 digit NAICS (all years)
  - 2-6 digit NAICS (select years)
- Additional owner and business characteristics
  - Age of owner; Highest Level of Education; Field of highest degree; Place of birth
  - Types of workers; Family owned/operated
Annual Business Survey - Module Tables

• Innovation (NCSES)
  • Product and process innovating companies for the U.S. and states
  • Additional details include industry, demographics, and employment size

• Technology
  • Automation and digital technology for the U.S. and states
  • Additional details include industry, demographics and employment size

• Financing
  • Impact of COVID-19 on businesses and credit seeking activities for the U.S.
  • Additional data by demographics
Hybrid Data Product – Total Business Ownership

• Total number of employer and nonemployer firms and sales/receipts by sex, ethnicity, race, and veteran status (ABS + NES-D)

• Geography levels
  • U.S., state, metropolitan statistical area (MSA)

• NAICS levels
  • 2-3 digit NAICS
Hybrid Data Product – U.S. Exporting Firms by Demographics

- Number of exporting firms, value of exports, and export destination by sex, ethnicity, race, and veteran status
- Geography level
  - U.S.
- NAICS level
  - Total NAICS (no industry detail)
Annual Business Survey - Microdata

• Restricted use microdata access via the Federal Statistical Research Data Centers (FSRDC)
• Currently 2018 is available, 2019 coming soon
• Individual-level establishment, firm, and owner datasets
• Identifiers to match to other datasets
• Users guide and additional documentation
  • Data dictionary, estimation parameters, and cross tabulation definitions
• No existing public use microdata file
  • Currently researching disclosure methods for public use microdata files
Contact Information

- Aneta Erdie, Assistant Division Chief for Governments and Business Owners Programs – aneta.erdie@census.gov
- Business Owners Branch – adep.annual.business.survey@census.gov
- ABS website - https://www.census.gov/programs-surveys/abs.html
- Restricted Use Microdata - https://www.census.gov/about/adrm/ced/restricted-use-data/economic-data.html
Back-up
Annual Business Survey – Sampling Design

• Stratified by state, demographic frame, and industry
• Large companies selected with certainty based on volume of sales, payroll, or number of paid employees
• Designed to measure women- and minority-owned businesses
  • Administrative data used to estimate the probability that a firm is women- or minority-owned
  • Probabilities used to place firms in one of nine demographic frames for sampling
• Also designed to measure research and development for microbusinesses (business with between 1 – 9 employees)
### Annual Business Survey – Sampling Frames

<table>
<thead>
<tr>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian and Alaska Native</td>
</tr>
<tr>
<td>Asian</td>
</tr>
<tr>
<td>Black or African American</td>
</tr>
<tr>
<td>Hispanic</td>
</tr>
<tr>
<td>Non-Hispanic White Men</td>
</tr>
<tr>
<td>Native Hawaiian and Other Pacific Islander</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Publicly owned</td>
</tr>
<tr>
<td>Women</td>
</tr>
</tbody>
</table>
WTO publications on trade and labour

Main findings/messages

• Trade increases aggregate welfare by allowing for specialization, increasing available varieties, increasing competition, raising productivity. It tends to boost growth and has reduced poverty.

• Trade has a weak positive impact on nation-wide employment.

• Trade contributes to the decline of manufacturing employment but less than other factors such as technology.

• While certain regions, sectors, and individuals benefit from trade, others can be left worse off in the absence of adequate domestic policy responses.

• Trade tends to increase the demand for skilled workers including in developing countries and can be a factor that contributes to labor market polarization, along with other factors such as skill biased technological change.

• Frictions and adjustment costs are important to measure, some estimates suggest they may be bigger than previous estimates suggested, but more research is needed. Note Trade is NOT the only force that imposes adjustment costs.

• To make sure that the gains from trade are shared evenly within countries, it is necessary to put domestic policies in place that effectively deal with adjustment frictions and compensate for losses, but also important to not just focus on trade. The wrong diagnosis can result in the wrong medication being applied.
Research questions needing more attention

• What are the labour market effects of trade in services?
• What is the impact of trade in developing countries in the presence of global value chains?
• What is the impact of trade on the quality of jobs?
• Can we do a better job estimating the importance of frictions and adjustment costs for trade, and other forces that cause similar kinds of adjustment requirements – technology, changing consumer preferences, demographics, economic geography shifts.
• Can we learn more about design and effectiveness of adjustment policies in developing countries?
The Distributional Impacts of Trade

Empirical Innovations, Analytical Tools and Policy Responses

Jakob Engel, Deeksha Kokas, Gladys Lopez-Acevedo, Maryla Maliszewska
The Distributional Impacts of Trade

Trade and poverty reduction go hand in hand

Over the past 30 years, trade has helped to dramatically reduce poverty and increase shared prosperity.

Developing countries increased their share of global exports from 16% in 1990 to 30% in 2017.

Poverty plunged from 36% in 1990 to 9% in 2017.
While trade is still seen positively in many parts of the world, protectionist rhetoric and measures are on the rise. Among other things this reflects:

- Concerns with the slow pace of adjustment after trade reforms.

Despite these challenges, the importance of trade is now more central than before

- Trade plays a crucial role in providing access to food, medical supplies and in the production and distribution of vaccines.
- Trade will be vital for sustaining the recovery and limiting negative impacts on jobs and poverty.
To enable global trade to deliver for the poor, the WBG research

1. Advances our understanding of how trade shocks affect consumers and workers through new data and tools.

2. Generates new findings through country case studies of how trade has impacted the poor depending on type of trade shock, labor market characteristics and the policy environment.

3. Provides an overview of complementary policies and approaches for trade to support poverty reduction and shared prosperity.

4. Integrates new approaches to improve the distributional focus in WB client engagements on trade.
This report highlights theoretical and empirical innovations in analyzing the distributional impacts of trade across

- different time frames (ex-post and ex-ante)
- space (national and subnational)
- covering granularity of reforms
- and different welfare outcomes.
1. Data and Tools

Extending the Gender Disaggregated Labor Database to the provincial level for 70 countries

In Ethiopia: the greatest gender pay gaps are in the Western regions, mostly driven by disparities in non-tradeable sectors.

The informal economy serves as a buffer that expands after a trade shock and acts as an adjustment mechanism for workers.

Country differences in GVCs may also be partly responsible for different effects of trade shocks (such as import tariff reductions) on labor income (employment and wages) across countries.
2. New findings from case studies

What specific components of adjustment costs could lead to persistent income impacts?
Brazil, South Africa

What are the main adjustment mechanisms in emerging economies?
Bangladesh, South Africa

What are the effects on welfare from emerging economies of rising exports to rich countries?
Mexico, Bangladesh

What are the effects of future trade policy reforms at national and sub-national levels?
Sri Lanka
### Pillar 1: Reduce Distortions

**Actions:**
- Strengthen the investment framework
- Facilitate linkages to smaller firms
- Address anti-competitive behavior

### Pillar 2: Reduce Trade Costs

**Actions:**
- Increase capacity and quality of ports and roads
- Improve access to finance, especially in agricultural value chains
- Simplify and harmonize trade documents and procedures

### Pillar 3: Speed up Labor Market Adjustment

**Actions:**
- Provide training and relocation support to address constraints to mobility
- Strengthen unemployment insurance
## 4. Focus on distributional impacts

Developing a client-focused program based on this project

<table>
<thead>
<tr>
<th>Applying CGE-GIDD model to AfCFTA negotiations</th>
<th>Integration into country diagnostics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analysis on distributional impacts of agreement is supporting negotiations and implementation in 21 African countries.</td>
<td>Studying the impacts of trade on local labor markets as inputs for CEMs, SCDs in Bangladesh, Egypt and Argentina. Builds on <em>Exports to Jobs</em> South Asia flagship.</td>
</tr>
<tr>
<td><em>Use of Household Impact of Tariffs model</em> to inform discussions on short run welfare impacts of the Ukraine war.</td>
<td>New work on <em>trade facilitation in Brazil, Philippines and South Africa</em> assessing how a reduction in the average time to release imported goods has impacted on consumer prices, family purchase capacity and poverty.</td>
</tr>
</tbody>
</table>
Additional slides for Q&A
### Labor Mobility and Linkages

**Key Insight**

Labor mobility and linkages between tradeable and non-tradeable sectors are critical to spread the gains from trade.

<table>
<thead>
<tr>
<th>Country</th>
<th>Policy Shock</th>
<th>But</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Brazil</strong></td>
<td>Trade liberalization resulted in reallocation of workers towards manufacturing sector.</td>
<td>Workers in the same area benefitted disproportionately from new opportunities and higher wages.</td>
<td>Prohibitively high moving costs discouraged workers in remote regions to change locations.</td>
</tr>
<tr>
<td><strong>Mexico</strong></td>
<td>Higher exports since NAFTA show positive effect on employment and wages in the tradeable sector.</td>
<td>Impacts on poverty and income inequality are minimal, especially in non-tradeable sectors.</td>
<td>New job opportunities reduced out-migration leading to a surplus of unskilled workers and a drop in remittances.</td>
</tr>
</tbody>
</table>
## 2. Key Insight

Without complementary policies, trade liberalization can perpetuate disparities

<table>
<thead>
<tr>
<th>Country</th>
<th>Policy Shock</th>
<th>Effect</th>
<th>Why?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bangladesh</strong></td>
<td>Following trade liberalization, surge in export demand from OECD countries.</td>
<td>High labor mobility led to lower real wages. Sub-districts exposed to export shocks experienced less informality.</td>
<td>Relatively low migration barriers meant that workers shifted to sectors with new export opportunities.</td>
</tr>
<tr>
<td><strong>South Africa</strong></td>
<td>Post-apartheid shift to greater openness through tariff liberalization via WTO and EU FTA.</td>
<td>Trade reforms led to diversification and export growth but also caused greater income disparities, disadvantaging former homelands.</td>
<td>Apartheid-era housing and labor policies created a long-lasting barrier for workers to move across regions, sectors and occupations.</td>
</tr>
</tbody>
</table>
Informal sector can act as a buffer in case of negative trade shocks; while export gains increase formalization of workers

<table>
<thead>
<tr>
<th>Bangladesh</th>
<th>Brazil</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Policy Shock</strong></td>
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</tr>
<tr>
<td>Following trade liberalization, surge in export demand from OECD countries.</td>
<td>Trade liberalization resulted in reallocation of workers towards manufacturing sector.</td>
</tr>
<tr>
<td><strong>Effect</strong></td>
<td><strong>Effect</strong></td>
</tr>
<tr>
<td>Informality decreased significantly and rising exports drew women into the formal sector.</td>
<td>Higher exports increased the number of workers in formal employment, but increased informality in non-tradeable sector.</td>
</tr>
<tr>
<td><strong>Analysis</strong></td>
<td><strong>Analysis</strong></td>
</tr>
<tr>
<td>Effect is not limited to the export sector but across sectors, often also reducing the men-women wage gap</td>
<td>Employment growth in manufacturing and services sectors accounts for the increase in number of workers in formal employment</td>
</tr>
</tbody>
</table>
2. **KEY INSIGHT**

By leveraging new techniques for data analysis, policymakers can develop targeted complementary policies before a shock hits.

**Sri Lanka**

**Policy Shock**
Analysis of reform scenarios based on FTAs with China and India, implementation of trade facilitation reforms and para-tariff liberalization.

**Analysis**
Positive impact on GDP
Less poverty, but greater wage inequality and higher economic activity in urban areas

**Recommendation**
Addressing labor mobility and providing social protection for displaced workers
DISTRIBUTIONAL EFFECTS OF TRADE AND TRADE POLICY ON GENDER

Jane Korinek
Economist, Trade Policy Analyst

USITC Symposium
April 5-6, 2022
More men than women work in trade
Gender wage gaps persist, and trade may not close them soon
Other job characteristics

- Job security
- Fixed-term vs. open-ended contracts
- Involuntary part-time work
- Job satisfaction

Less evidence (knowledge gaps)
Framework of Analysis of impacts of trade on gender

• Assessing the impacts of trade on women’s employment, wages and other job characteristics
• Assessing barriers to trade on women
• Assessing impacts on women-owned businesses and MSMEs
• Assessing price effects of trade

Main areas of policy recommendations

- Making trade agreements more gender-sensitive
- Support and communication of the benefits of trade
- Aid for Trade
- Trade facilitation
- Ensuring representation of women
- Trade promotion
- Professional and business networks
- Data gaps
- Domestic policies
New Zealand’s approach to analysing distributional impacts of trade

Frameworks and data

6 April 2022

Phil Mellor
Lead Economist
Trade and Economic Group
Why are we analysing the distributional aspects of New Zealand’s trade?
  – Taking a wider view of the impacts of trade, consistent with the Government’s wellbeing approach
  – Building the analytical base for the Trade for All agenda and for the three year review of the CPTPP

Our analytical approach is anchored in the Productive, Sustainable and Inclusive Trade Channels Framework

The distribution of New Zealand’s trading firms and their workers, leaders and owners is not well understood. We are employing different methods to build this understanding:
  – Top-down estimates, combining input-output data with trade and national accounts data (timely but aggregated and assumptions based)
  – Bottom-up estimates, utilising New Zealand’s administrative datasets to build a comprehensive picture of trading firms and their employees, leaders and owners (detailed and comprehensive for goods trade but lacks services trade and is quite lagged)
The Productive, Sustainable and Inclusive Trade Channels Framework
Bottom up methodology and key caveats

Firm level characteristics
- Firm size
- Industry
- Productivity
- Export $ (by product and destination)

Individual / employee characteristics
- Gender
- Ethnicity
- Region / location
- Pay

Longitudinal Business Database (LBD)

Integrated Data Infrastructure (IDI)

- Customs Trade Data
- Business Registry
- Corporate tax data
- Business Survey Data
- Individual tax data
- Census data
- Other admin data

Monthly Payroll Data
Women are significantly under represented in goods exporting firms...

Number of Employees in Goods Exporting Firms by Sector

- Agriculture, forestry & fishing
- Manufacturing
- Retail trade
- Wholesale trade
- Transport, postal & warehousing
- Information media & telecommunications
- Professional, scientific & technical services
- Construction
- Mining
- Other

- Female
- Male

Number employed
...while Māori and Pacific Peoples are (slightly) overrepresented in goods exporting firms.
But earnings gaps are larger in exporting firms and export earnings premiums lower.
Māori and women are underrepresented in leadership roles*

* Leadership roles are proxied by the top 5% paid employees in each firm. A firm is defined as Māori-led or women-led if more than half of the top employees are Māori/women.
Where are the frameworks and data being applied

- Ex-ante analysis of FTAs
  - Regional Comprehensive Economic Partnership (complete)
  - NZ-UK FTA (complete)
  - NZ-EU FTA (2022?)

- Ex-post analysis of FTAs
  - CPTPP Three Year Review (under way)

- OECD Trade and Gender Review of New Zealand (forthcoming)
  A pilot study of the OECD Trade and Gender framework examining New Zealand’s trade and gender settings
Additional information for symposium participants
Our trade evaluation approach is anchored in the **Productive, Sustainable and Inclusive Trade Channels Framework**.

Further detail on the insights shared today can be found at:

- **All for Trade and Trade for All: Inclusive and productive characteristics of New Zealand goods exporting firms**
  An MFAT working paper detailing distributional insights from firm-level data

- **OECD Trade and Gender Review of New Zealand (forthcoming)**
  A pilot study of the OECD Trade and Gender framework examining New Zealand’s trade and gender settings

- **New Zealand – United Kingdom Free Trade Agreement National Interest Analysis**
  Chapter 7 includes sections on the assessment of the impacts of the FTA on women, on Māori, and on SMEs

Top down methodologies are adapted versions of the following:

- **MFAT Working Paper: Estimating employment in New Zealand producing goods and services for export**
- **MFAT Working Paper: Estimating New Zealand's tradable and non tradable sectors using Input Output Tables**
Population sub-sets within the Longitudinal Business database

**Unadjusted LBD Dataset**
All firms in the business register

**Main Firm Population**
Firms in the business register that are active, economically significant, identifiable by industry, and include employment information

- 160,000 firms
- 25,000 exporters, incl. 3,900 direct exporters and 21,100 indirect exporters
- $43.8 billion exports (60% of NZ's goods exports)
- 135,000 non-exporters
- Used for analysis of employment and remuneration in Sections 3, 4, and 5

**Productivity Population**
Firms in the 'Main Firm Population' for which productivity information is available

- 66,200 firms
- 10,600 exporters, incl. 2,600 direct exporters and 8,000 indirect exporters
- $37.6 billion exports
- (69% of NZ's goods exports)
- 55,600 non-exporters
- Used for analysis of firm productivity in Sections 3, 4, and 5

**Business Ownership Population**
Firms in the 'Productivity Population' that are working proprietors

- 45,400 firms
- 7,800 exporters, incl. 1,400 direct exporters and 5,700 indirect exporters
- $14.8 billion exports
- (27% of NZ's goods exports)
- 38,400 non-exporters
- Use for analysis of firm ownership and leadership in Sections 4 and 5

- More than a million firms, incl. 620,000 firms that were active, economically significant, and identifiable by industry
- 12,800 direct exporters (i.e., firms with Customs export entries)
- $53.0 billion exports
- Used for analysis of firms' exporting patterns in Section 3
CANADA'S APPROACH TO ASSESS THE DISTRIBUTIONAL EFFECT OF TRADE POLICY

Shenjie Chen
April 6, 2020
Presentation to the USITC Academic Symposium

The views expressed at the symposium are mine and do not necessarily reflect the official position of Global Affairs Canada
EX POST LABOUR MARKET IMPACT ASSESSMENT OF TRADE AGREEMENTS: CUSFTA

- Ex post assessment on the long-run effect of CUSFTA on the Canadian labour market (Morrow, Kovak and Devlin)
- Follow the reduced form approach using the longitudinal matched employer-employee administrative data for Canadian workers and firms in 1984-2004

**Question 1:** Do we observe job displacements?

**Question 2:** Where did these affected workers go?

**Question 3:** What are the implications for these separations for lifetime earnings?
THE MAIN CONCLUSIONS FROM THE STUDY

1. Industries affected by Canadian concessions had higher probabilities of separations or displacement from their initial employers, particularly for the low attachment workers.

2. Workers in industries with U.S. tariff concessions had lower probabilities of separation.

3. Industries with Canadian tariff concessions didn’t see higher rates of permanent displacement. There was a high probability of re-employment in other manufacturing industries, other firms in the same manufacturing industry as well as other industries (construction and mining and services).

4. Separations or displacement did not lead to lower lifetime earnings for both low and high attachment workers. Short-run income losses in the initial industry of employment were offset by higher earnings in other sectors, including services, construction, and mining in the longer term.
EX ANTE LABOUR MARKET IMPACT ASSESSMENT OF FTAS: WORKING AGE POPULATION, AGE 15+ (BASE DATA)

<table>
<thead>
<tr>
<th>Category</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers</td>
<td>1,331,106</td>
<td>916,383</td>
<td>2,247,489</td>
</tr>
<tr>
<td>Professionals</td>
<td>1,259,547</td>
<td>1,749,759</td>
<td>3,009,306</td>
</tr>
<tr>
<td>Technicians &amp; Traders</td>
<td>761,992</td>
<td>875,889</td>
<td>1,637,881</td>
</tr>
<tr>
<td>Community Personal Services</td>
<td>249,564</td>
<td>588,405</td>
<td>837,968</td>
</tr>
<tr>
<td>Clerical &amp; Administration</td>
<td>353,717</td>
<td>1,566,868</td>
<td>1,920,584</td>
</tr>
<tr>
<td>Sales Workers</td>
<td>2,052,953</td>
<td>2,579,401</td>
<td>4,632,353</td>
</tr>
<tr>
<td>Machine Operators &amp; Drivers</td>
<td>2,516,037</td>
<td>284,104</td>
<td>2,800,141</td>
</tr>
<tr>
<td>Laborers</td>
<td>592,686</td>
<td>189,302</td>
<td>781,987</td>
</tr>
<tr>
<td>Unemployed</td>
<td>757,113</td>
<td>570,049</td>
<td>1,327,162</td>
</tr>
<tr>
<td>New entries</td>
<td>286,821</td>
<td>282,887</td>
<td>569,708</td>
</tr>
<tr>
<td>Not in the labor force (NLF)</td>
<td>4,115,391</td>
<td>5,596,395</td>
<td>9,711,785</td>
</tr>
<tr>
<td>Total</td>
<td><strong>14,521,663</strong></td>
<td><strong>14,954,703</strong></td>
<td><strong>29,476,366</strong></td>
</tr>
</tbody>
</table>

Source: Statistics Canada, 2016 Canadian Census
## OCCUPATION MOBILITY MATRIX (MALE)

<table>
<thead>
<tr>
<th></th>
<th>Manage</th>
<th>Profes</th>
<th>Techni</th>
<th>Commun</th>
<th>Clerical</th>
<th>Sales</th>
<th>Machin</th>
<th>Labour</th>
<th>UEMP</th>
<th>NLF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managers</td>
<td>86.99</td>
<td>2.37</td>
<td>0.98</td>
<td>0.32</td>
<td>0.19</td>
<td>2.08</td>
<td>1.26</td>
<td>0.03</td>
<td>1.64</td>
<td>4.14</td>
</tr>
<tr>
<td>Professionals</td>
<td>1.98</td>
<td>87.88</td>
<td>1.73</td>
<td>0.11</td>
<td>0.23</td>
<td>1.14</td>
<td>0.76</td>
<td>0.09</td>
<td>1.75</td>
<td>4.33</td>
</tr>
<tr>
<td>Technicians &amp; Traders</td>
<td>0.25</td>
<td>3.25</td>
<td>86.37</td>
<td>0.24</td>
<td>0.36</td>
<td>2.31</td>
<td>2.07</td>
<td>0.57</td>
<td>1.59</td>
<td>2.98</td>
</tr>
<tr>
<td>Community Personal Services</td>
<td>0.40</td>
<td>0.20</td>
<td>1.42</td>
<td>89.54</td>
<td>0.70</td>
<td>3.91</td>
<td>0.20</td>
<td>0.20</td>
<td>1.18</td>
<td>2.27</td>
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<tr>
<td>Clerical &amp; Administration</td>
<td>2.24</td>
<td>8.05</td>
<td>1.51</td>
<td>0.62</td>
<td>74.96</td>
<td>5.09</td>
<td>1.98</td>
<td>0.03</td>
<td>2.66</td>
<td>2.85</td>
</tr>
<tr>
<td>Sales Workers</td>
<td>2.06</td>
<td>1.49</td>
<td>0.53</td>
<td>0.30</td>
<td>1.42</td>
<td>77.66</td>
<td>3.61</td>
<td>1.25</td>
<td>4.37</td>
<td>7.31</td>
</tr>
<tr>
<td>Machine Operators &amp; Drivers</td>
<td>0.88</td>
<td>0.53</td>
<td>0.95</td>
<td>0.13</td>
<td>0.26</td>
<td>1.55</td>
<td>85.79</td>
<td>0.90</td>
<td>3.87</td>
<td>5.14</td>
</tr>
<tr>
<td>Laborers</td>
<td>0.24</td>
<td>0.46</td>
<td>3.24</td>
<td>0.24</td>
<td>0.92</td>
<td>4.97</td>
<td>8.26</td>
<td>70.00</td>
<td>3.77</td>
<td>7.88</td>
</tr>
<tr>
<td>Unemployed (UEMP)</td>
<td>2.23</td>
<td>7.42</td>
<td>3.42</td>
<td>1.02</td>
<td>1.04</td>
<td>12.81</td>
<td>15.30</td>
<td>2.28</td>
<td>36.49</td>
<td>18.00</td>
</tr>
<tr>
<td>New entries</td>
<td>2.28</td>
<td>7.12</td>
<td>3.47</td>
<td>1.34</td>
<td>1.37</td>
<td>15.00</td>
<td>11.77</td>
<td>2.71</td>
<td>38.38</td>
<td>16.57</td>
</tr>
<tr>
<td>Not in the labor force (NLF)</td>
<td>0.50</td>
<td>1.68</td>
<td>1.17</td>
<td>0.09</td>
<td>0.17</td>
<td>4.33</td>
<td>3.10</td>
<td>1.11</td>
<td>5.51</td>
<td>82.35</td>
</tr>
</tbody>
</table>

Source: Statistics Canada’s SLID data (Survey of Labour and Income Dynamics).
Feedback into the trade model

Trade Model (Tariff concessions)
- Direct effect on demand for labour
- Indirect effect on demand for labour inter-industry linkages

Labour Market Module (short term sticky wages assumption)
- Labour demand = involuntary unemployed
- Higher wages = people not in the labour force

The net job effect is ambiguous

Likely positive job market effect

Allocative + productive efficiency gains + terms of trade gains

Aggregate demand (C + I + G)
EXPANDED IMPACT ASSESSMENT

- Preliminary Economic Impact Assessment
- Initial Environmental Assessment
- Initial GBA+

Negotiations

- Final Economic Impact Assessment
- Final Environmental Assessment
- Final GBA+

Public and Stakeholder Consultations
EXPANDED IMPACT ASSESSMENT MODELLING FRAMEWORK

- Trade Model
- Environmental Module
- Labour/Gender Module

- People behind trade
- Solve three modules together
- Human interactions with environment
Acknowledges the importance of SMEs, women or Indigenous peoples to domestic and global economies, importance of mutually supportive trade and domestic policies, removing barriers to participation, and facilitating integration into international trade to ensure that economic growth is inclusive.

Reaffirms commitments and importance of taking into account UN conventions or declarations or other international instruments or organizations of relevance to these under-represented groups such as the CEDAW, UNDRIP, WTO, ILO, UNCTAD.

Provides a framework for Parties to undertake cooperation activities and information sharing; requires that websites be established for SMEs and Indigenous peoples with relevant information from the Agreement to promote utilization.

Establishes a Bilateral Co-operation Committee that facilitates and coordinates cooperation activities, reviews operation of the Chapter, reports on implementation of activities, and monitors other Chapters for their effects on SMEs, women, Indigenous peoples and other under-represented groups; public reporting.