Session 3a.1: Gender Aspects in Trade and How to Measure Them

Astana, Kazakhstan
October 21, 2022
Outline

- Objectives for measuring gender aspects in trade
- Conceptual description of gender-in-trade statistics
- Main concepts used
- Country case studies
Economic aspects of gender equality

Trade and trade policy affect gender equality

- Need to develop gender-responsive trade policies
- The interactions are often complex and country-specific

Women’s economic empowerment on the global agenda

- The 2030 Agenda (2015) – a goal & a cross-sectional issue

Buenos Aires Declaration on Trade and Women’s Economic Empowerment (2017)

- A call for gender-focused statistics related to trade
Conceptual framework for measuring trade and gender

**Preconditions**

- **Motivations and Aspirations**
  - Health
  - Socio-cultural and religious norms
  - Motivation

- **Resources and constraints**
  - Labour markets
  - Education & skills
  - Public life and decision making
  - Human rights and safety
  - Resources: income & time-use

**Outcomes**

- **Participation in trade**
  - As a producer in the role of
    - worker
    - business owner/entrepreneur
  - As a consumer

- **Trade performance**
  - Exports & imports
  - Traded products/sectors
  - Trade openness
  - Trade costs
  - Innovations and investment
  - Government tariff revenue

**Impact**

- **Labour**
  - New jobs and career opportunities
  - Working conditions & rights
  - Paid, unpaid work
  - Formal, informal & vulnerable jobs

- **Wealth and empowerment**
  - Consumption and prices
  - Income and wage differentials
  - Social transfers & services
  - Trade & GDP growth
  - Competitiveness
  - Agency and financial autonomy
  - Economic and social status
  - Bargaining power in society
  - Wellbeing, norms and equality

**Policy**

- Trade policy and other interventions
  - Trade policies, reforms, facilitation, tariffs, taxes, subsidies, agreements, non-tariffs, procedures, barriers and rules, aid for trade
Gender and trade statistics: structure

Gender and Trade

Formal trade (incorporated businesses) (90%+)

Informal (cross-border) trade (households/individuals)

Trade in Goods (80%)

Trade in services (20%)

Gender analysis of Goods Trade by Enterprise Characteristics (TEC)
Trade and gender statistics: measurement approaches

Two general approaches in terms of data collection:

1. Use of available data:
   - Macroeconomic estimates ("top-down" approach): Canada, New Zealand, Finland
   - Use of enterprise-level data, microlinking ("bottom-up" approach): e.g. Finland, New Zealand, Georgia

2. Data collection through specialized (ad hoc) surveys of enterprises (e.g., Uruguay, Chile) and individuals (e.g., West Africa cross-border study by WB/GIZ)

Question: What are the advantages and disadvantages of the two approaches to trade and gender analysis?
Goods trade statistics (enterprises) and gender

- Trade in goods – globally 80% of trade value

- Trade performed mostly by incorporated businesses (there are exceptions)

- Customs agencies and statistical offices – main data producers

- Complete enumeration of trade transactions by enterprises and commodity groups

- Possibility for time-series analysis of enterprise-level data
# Non-trade data sources

<table>
<thead>
<tr>
<th>Non-trade data sources</th>
<th>Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Statistical Business Register (SBR)</td>
<td>- Enterprise name and ID</td>
</tr>
<tr>
<td></td>
<td>- Address</td>
</tr>
<tr>
<td></td>
<td>- Legal form of business organization</td>
</tr>
<tr>
<td>Structural Business Statistics (SBS) surveys</td>
<td>- Registration date(s)</td>
</tr>
<tr>
<td></td>
<td>- Active/non-active status</td>
</tr>
<tr>
<td></td>
<td>- Area of economic activity (ICIS)</td>
</tr>
<tr>
<td>Structure of Earnings surveys</td>
<td>- Enterprise size</td>
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<td></td>
<td>- Turnover</td>
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<tr>
<td>Tax administration records</td>
<td>- Employment*</td>
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<td></td>
<td>- Earnings*</td>
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<td></td>
<td>- Skill levels of employees*</td>
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<td>- Attained education level of employees*</td>
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<td>- Investments</td>
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<td>- Ownership shares*</td>
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<td>- Foreign/domestic ownership</td>
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<tr>
<td>Dimensions</td>
<td>Basic indicators</td>
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<tr>
<td>Employment</td>
<td>Share of women in employment</td>
</tr>
<tr>
<td>Earnings</td>
<td>Gender pay gap</td>
</tr>
<tr>
<td>Ownership of resources</td>
<td>Share of women owners</td>
</tr>
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</tbody>
</table>
Gender and trade: basic indicators (labor)

Women-to-men employment ratio:
\[
\frac{\text{Number of women employees in trade sector}}{\text{Number of male employees in trade sector}}
\]

Gender pay gap:
\[
\frac{\text{Men's average wages} - \text{Women's average wages}}{\text{Men's average wages}} \times 100\%
\]
## Gender and trade: basic indicators

<table>
<thead>
<tr>
<th>Enterprise ID</th>
<th>No. of male employees</th>
<th>No. of female employees</th>
<th>Men’s average wages ($)</th>
<th>Women’s average wages ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1111</td>
<td>170</td>
<td>80</td>
<td>2000</td>
<td>1600</td>
</tr>
<tr>
<td>2222</td>
<td>30</td>
<td>40</td>
<td>1000</td>
<td>1000</td>
</tr>
<tr>
<td>3333</td>
<td>1200</td>
<td>500</td>
<td>1100</td>
<td>1000</td>
</tr>
</tbody>
</table>

### Women’s share in employment?

### Gender pay gap?
Gender and trade: basic indicators (answ.)

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<td>3333</td>
<td>1200</td>
<td>500</td>
<td>1100</td>
<td>900</td>
</tr>
</tbody>
</table>

Women’s share in employment: \( \frac{80+40+500}{170+30+1200} \)  
\[= \frac{620}{1400} = 44.2\% \]

Men’s average wages = \( \frac{170 \times 2000 + 30 \times 1000 + 1200 \times 1100}{1400} = \$1207 \)

Women’s average wages = \( \frac{80 \times 1600 + 40 \times 1000 + 500 \times 900}{620} = \$997 \)

Gender pay gap = \( \frac{1207 - 997}{1207} = 17.4\% \)
Gender and trade: ownership indicators (1)

Simple share of women-owners:

\[
\frac{\text{Number of women–owners of trading companies}}{\text{Number of total owners of trading companies}}
\]

Question: while the number of women owners/entrepreneurs is important, what are the drawbacks of this indicator?
Gender and trade: ownership indicators (2)

Share of women-owned enterprises (*enterprises in which more than 50% is owned by women*):

\[
\frac{\text{Number of women—owners of trading companies}}{\text{Number of total owners of trading companies}}
\]

Question: if in 1000 trading companies there are 500 women-owned enterprises, can we speak of gender equality in terms of ownership?
Gender and trade: ownership indicators (3)

Share of women-owned enterprises, weighted by enterprise assets:

\[
\frac{\text{Value of assets owned by women in trading companies}}{\text{Total value of trading companies}}
\]

Note: In case the data on assets is not available, alternative variables such as the enterprise’s output or trade turnover can be used to account for enterprise size.
Gender and trade: differentiated indicators

- Basic indicators can be analyzed by various disaggregations in order to:
  - Gain additional insights about the gender aspects
  - Estimate the impact of various factors on the basic indicators, e.g., the impact on gender pay gap by skill levels or industry groups

- Hence, the disaggregations may include
  i) the breakdown by companies: by trading status, by industry and industry groups, by origin of company ownership, etc.
  ii) the breakdown by employees and owners: by skill levels, by educational attainment, by gender-specific ownership shares, etc.
Conclusions: gender and trade and enterprise-level data

- Merging of trade and non-trade data at the enterprise level (microlinking) allows for flexibility in gender analysis

- Microlinking prevents additional burden on respondents and budgets

- Enterprise data from different sources/surveys enrich gender-in-trade statistical analysis
Gender in trade: Case Studies
New Zealand: Macro analysis and microlinking

- Two complementing approaches used for export analysis:
  - “top down” approach from national input-output tables and employment data
  - “bottom up” approach using firm-level findings from administrative data:

1. The employment share of women slightly increased to 40%. Women still underrepresented in export sector – national average share equals 47%
2. Smaller employment share in traditional exports (agriculture, mining, manufacturing).

3. Enterprises with strong domestic focus – healthcare, education – employ up to 70% of women.

4. Higher employment of women in large enterprises (44% compared to 33% in SMEs).

4. Lower wages, smaller “export premium” for women compared to men.

5. Only 15% of women-led firms, relatively higher share in SMEs.
Finland: microanalysis and microlinking using high-quality registers

- Use of enterprise-level data from different registers, such as statistical business register, employee register, etc.

- Companies broken down by
  - trading status (two-way traders/exporting firms/importing firms/non-traders)
  - firm size
  - group relation (combinations of employees, industry groups)

- 4-step process similar to the New Zealand approach
Finland: bigger gender disparities for women employed in external trade

- Labour productivity and salaries much higher in the exporting sector

- Share of employed women: 36% in the non-trading companies and 27% in trading companies. Since 2012 the share of employed women in the trading companies kept falling

- Gender pay gap: 2 percentage points higher in exporter companies compared to domestic businesses

- Among non-traders and importers the shares of women and men among highly educated personnel was equal. In contrast, among exporters men account 60% of highly educated workforce

- One-third of women entrepreneurs in the economy, one-fifth – in the export sector
Georgia pilot: gender-in-trade indicators (2021-2022)
Methodology, data requirements (cont.)

- In a small open economy like Georgia, the trade-to-GDP ratio averaged over 100% in 2015-2021.

- The key focus of the study: merging trade data with enterprise-level data mostly from business statistics surveys.

**Benefits:** Individual enterprise-level data on trading companies provide flexibility of deriving gender-in-trade statistical indicators at different disaggregations.
General characteristics of the study (2021)

What was done:

1) Sectoral analysis of a number of exporting industries: gender-in-trade indicators were analyzed for 5 export products at the sectoral level

2) Microlinking of available sources to trade data

- Data used:
  trade data (annual, 2016-2020);
  structural business statistics (annual, 2016-2020);
  statistical business register;

- Critical factors:
  trade microdata is received by Geostat (monthly) from the customs agency.
  Single enterprise ID used by all government agencies
Sectoral Approach: gender disparities in sector-specific employment and earnings
### Sectoral Approach: no universal patterns in explaining gender pay gap in terms of occupations

<table>
<thead>
<tr>
<th>Sector</th>
<th>Sale of motor vehicles</th>
<th>Manufacture of wine from grape</th>
<th>Production of mineral waters and other bottled waters</th>
<th>Processing and preserving of fruit and vegetables</th>
<th>Manufacture of wearing apparel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender pay gap</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weighted Impact*, %</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managers</td>
<td>49.70%</td>
<td>25.80%</td>
<td>82.80%</td>
<td>5.40%</td>
<td>49.20%</td>
</tr>
<tr>
<td>Professionals</td>
<td>26.20%</td>
<td>41.20%</td>
<td>36.20%</td>
<td>-21.70%</td>
<td>30.20%</td>
</tr>
<tr>
<td>Technicians and associate professionals</td>
<td>20.30%</td>
<td>1.10%</td>
<td>-3.50%</td>
<td>54.60%</td>
<td>35.80%</td>
</tr>
<tr>
<td>Clerks</td>
<td>33.10%</td>
<td>15.60%</td>
<td>65.60%</td>
<td>28.20%</td>
<td>15.20%</td>
</tr>
<tr>
<td>Service and sales workers</td>
<td>23.30%</td>
<td>-11.00%</td>
<td>-5.00%</td>
<td>-20.00%</td>
<td>-78.60%</td>
</tr>
<tr>
<td>Skilled agricultural, fishery, and forestry workers</td>
<td>n/a</td>
<td>30.60%</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Craft and related trades workers</td>
<td>44.50%</td>
<td>-11.50%</td>
<td>-14.80%</td>
<td>-2.30%</td>
<td>34.40%</td>
</tr>
<tr>
<td>Plant and machine operators and assemblers</td>
<td>-16.30%</td>
<td>6.00%</td>
<td>3.30%</td>
<td>-14.00%</td>
<td>69.30%</td>
</tr>
<tr>
<td>Elementary occupations</td>
<td>n/a</td>
<td>17.80%</td>
<td>52.50%</td>
<td>24.70%</td>
<td>-13.10%</td>
</tr>
<tr>
<td>Total, sector</td>
<td>44.80%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

*Weighted Impact* refers to the percentage of the gender pay gap explained by a particular sector.
Microlinking results: basic indicators

Women’s employment remained inferior to men’s, although it kept increasing

**Employment ratio (women/men), 2016-2020 (%)**

- Gender pay gap was higher for two-way traders

**Gender pay gap, 2016-2020 (%)**

- Two-way traders
- Importers
Differentiation by occupations shows high-skill workers most resilient to gender inequality

<table>
<thead>
<tr>
<th>2017 structure of earnings survey</th>
<th>employment ratio</th>
<th>gender pay gap</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>two-way traders</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>managers</td>
<td>0.4</td>
<td>0.41</td>
</tr>
<tr>
<td>high-skill workers</td>
<td><strong>0.83</strong></td>
<td><strong>0.3</strong></td>
</tr>
<tr>
<td>medium-skill workers</td>
<td>0.36</td>
<td>0.34</td>
</tr>
<tr>
<td>low-skill workers</td>
<td>0.62</td>
<td>0.45</td>
</tr>
<tr>
<td><strong>importers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>managers</td>
<td>0.45</td>
<td>0.38</td>
</tr>
<tr>
<td>high-skill workers</td>
<td><strong>0.91</strong></td>
<td><strong>0.15</strong></td>
</tr>
<tr>
<td>medium-skill workers</td>
<td>0.33</td>
<td>0.39</td>
</tr>
<tr>
<td>low-skill workers</td>
<td>0.55</td>
<td>0.43</td>
</tr>
</tbody>
</table>
Microlinking: ownership of trade companies

Number of male owners was significantly higher than that of female owners for all types of trading companies.

![Bar chart showing number of owners by gender and type of trading company.](image-url)
Microlinking: ownership of trade companies, trade-weighted

The trade-weighted ownership share of men *(data shown in percentages)* exceeded that of women approx. 9 times in two-way traders, 5 times in importers.
Impact analysis: COVID

Use of 2021 trade and business statistics data to analyse the impact of COVID on gender aspects in trade.

Year 2019 – benchmark (no COVID)
Year 2020 – COVID crisis
Year 2021 – recovery from COVID
Key results of COVID impact analysis: 1. recovery in 2021

Value of exports and imports fell in 2020 but strongly rebounded in 2021, exceeding pre-pandemic levels.
Further analysis: COVID and gender-in-trade (cont.)

Despite the economic recovery, the employment did not catch up with economic performance.
COVID and key gender-in-trade indicators

- Women’s share in employment slightly worsened in 2020 but improved in 2021, gender pay gap improved in both 2020 and 2021.
Conclusions

- Significant potential for studying and promoting gender equality.
- Microlinking - a preferred method of analysis.
- Impact analysis of significant macroeconomic policies/shocks can be performed.
- The gender-in-trade statistics will continue to expand.
- Linkage of more data allows for additional insights of factors affecting gender disparities.