Measuring gender equality in trade using official statistics of EECCA countries

Henri Luomaranta
Statistician
Division on Globalization and Development Strategies, UNCTAD
henri.luomaranta@un.org
Outline

• What can we learn about gender equality in trade by using existing official statistics in Eastern Europe, Caucasus and Central Asia?

• Studying common patterns of trade and employment with official statistics provides directions but requires assumptions and the use of statistical modeling

• Statistical offices can compile more detailed and accurate evidence also without additional data collection
  • The microdata linking approach!
Gender segregation of labour markets, 2018

Labour force participation rate, by sex

- Women have lower participation rates than men across countries.
- Labour force participation is highest in Kazakhstan and lowest in Tajikistan.

"Potentially tradable" sectors expose workers to competition and often higher salaries.
- Women are less involved in tradable sectors in the EU than in EECCA.
- Women form almost 50% of work force in tradable sectors in Azerbaijan.

Workers of tradable sectors, by sex

Source: ILO modelled estimates – annual labour force participation by sex and age

Source: ILO employment distribution by economic activity by sex – ILO modelled estimates
Gender segregation of labour markets, 2018

The World Economic Forum’s Global Gender Inequality index

- The index ranks Belarus the highest, above EU
- Most EECCA countries at or above the global gender parity score of 68.6%
- Measures political empowerment, economic participation, education and health
- Largest gaps in empowerment & economy!

Segregation index = % of women that should change industries to equate gender distribution

- High gender equality scores do not guarantee low gender segregation
- For example Belarus (like Finland) has high gender equality and strong gender segregation

Source: World Economic Forum GGI index

Source: UNCTAD calculations based on ILO employment distribution by economic activity by sex – ILO modelled estimates
Gender equality of employment response to changes in trade

1% increase in trade in Eastern Europe, Caucasus and Central Asia (if quarterly employment statistics available)

- 1% increase in trade, increases employment rate by:
  - 0.09% for women
  - 0.21% for men
- And decreases unemployment rate by:
  - 3.91% for young women
  - 2.37% for young men

- Young women are the most vulnerable to negative trade shocks.

Source: UNCTAD calculations based on ILO unemployment rates and UNCTADstat commodity trade database
Microdata linking approach

• Statistical offices can construct gender-in-trade statistics by linking:
  • Employers/businesses with their employees and owners
  • Employers with trading status (non-trader, exporter, importer, two-way trader)
  • Characteristics of businesses (size, industry, output, turnover, profitability, products) and individuals (gender, age, education, occupation)

• The resulting statistics are of higher quality and sustainable to produce usually without additional data collection
  • If links are missing, may need to collect or access data that provide the link and strengthen the capacity to link microdata across domains and datasets

• Microdata linked statistics require less assumptions and provide more details than modelling approaches using published statistics
Statistical sources for gender and trade analyses in official statistics

- **Statistical Business Register (SBR)**
- **Foreign Affiliate Statistics (FATS)**
- **International Trade in Goods Statistics (ITGS)**
- **International Trade in Services Statistics (ITS)**
- **Structural Business Statistics (SBS)**
- **Combined employer-employee data**

**Firm ID**
- Firms, activity sectors, ownership links, ultimate controlling institutional unit
- International sales/imports, trade partners...
- Performance indicators (productivity...)
- Workers and entrepreneurs, occupations, education, earnings.
Two-way traders vs. non-traders – microdata evidence from Finland

Women’s pay as a percentage of men’s pay

Women’s participation rates

Source: Statistics Finland database

- Gender pay gap is larger in two-way traders varying across jobs
- Women’s participation much lower in two-way traders than in non-traders
- Women’s participation lower in high-paying occupations in two-way traders
- Women a majority in support jobs where gender pay gap is higher in two-way traders
What kind of statistics can be produced?

- Gender equal conditions to participate in trade
  - Gender segregation of labour markets etc.
- Women’s and men’s roles in international trade
  - As entrepreneurs, owners, workers and consumers
  - By education, occupation, industry etc.
- Gender equality in different types of businesses
  - In trading and non-trading businesses
  - SMEs and large businesses
  - In domestic and foreign owned businesses
- The impacts of trade e.g. on income
  - How the benefits from trade are distributed?
  - Success of female/male entrepreneurs and influence on employees
thank you!
Extra: Analytical groupings to operationalize gender and trade analysis – a proposal

<table>
<thead>
<tr>
<th>Domestic enterprises</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent</td>
<td>Does not control any other enterprise or is not controlled by another enterprise</td>
</tr>
<tr>
<td>Domestic group</td>
<td>Controlled by a domestic group, or a domestic parent without affiliates abroad.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Multinational enterprises</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic MNE</td>
<td>Controlled by a domestic group, or is a domestic parent with foreign affiliates in OFATS</td>
</tr>
<tr>
<td>Foreign MNE</td>
<td>Controlled by a foreign group, and therefore found in IFATS.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Trading status</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports only</td>
<td>Exports exceeding €5,000 and export intensity above 5%</td>
</tr>
<tr>
<td>Imports only</td>
<td>Imports exceeding €5,000 and import intensity above 5%</td>
</tr>
<tr>
<td>Two-way traders</td>
<td>Enterprise satisfies thresholds for both exporter and importer</td>
</tr>
<tr>
<td>Non traders</td>
<td>Enterprise does not belong to trader categories</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skills and occupations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>STEM</td>
<td>Science, technology, engineering, and mathematics (ISCED-F)</td>
</tr>
<tr>
<td>DDC</td>
<td>Subset of STEM, fields requiring deep digital competencies</td>
</tr>
<tr>
<td>ISCO-major groups</td>
<td>The International Standard Classification of Occupations (ISCO) major groups (1-digit level)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity distribution</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>KIS</td>
<td>Eurostat definition, knowledge intensive services</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>NACE 2-digit categories 10-33</td>
</tr>
<tr>
<td>Other</td>
<td></td>
</tr>
</tbody>
</table>

Note: countries can adapt these categories to suit specific focus areas. Importantly, if entrepreneurs can be identified, their trade participation can be added.
Extra: Trade expansion can promote inclusiveness in the EU, panel-var estimates

- Low skill employment rate, m
- Low skill employment rate, w
- Medium skill employment rate, m
- Medium skill employment rate, f
- High skill employment rate, m
- High skill employment rate, f

- Low skill women and men strongly affected by trade shocks. Higher education levels render employment more resistant to shocks.
- Trade policy may promote inclusiveness

Source: UNCTAD calculations based on Eurostat employment data and international trade in goods data
Extra: key labour force statistics

• Employment rate (ER): Employees/Labour force
• Participation rate (PR): Labour force/working age population (UR+ER)
  • Trade should expand formal labour market opportunities, inverse of PR is related to the size of the informal sector.
• Unemployment rate (UR): Actively seeking employment / Labour force
• More details can be obtained if data is available (i.e. entrepreneurs, own-account workers)
Extra: estimating labour force responses to trade

• Panel-VAR
• Popular in macroeconomics
• System of equations, \( Y \) is set of variables (Labour; trade)
  \[ Y_{t,i} = c_i + A_{1,i}Y_{t-1,i} + \cdots + A_{p,i}Y_{t-p,i} + u_{t,i} \]
  • Highly parametrized and need many observations (time points) for reliable results, but can provide first easy gender-in-trade estimates in many countries
• If sufficient time series are available, can distinguish long and short term movements in the data.