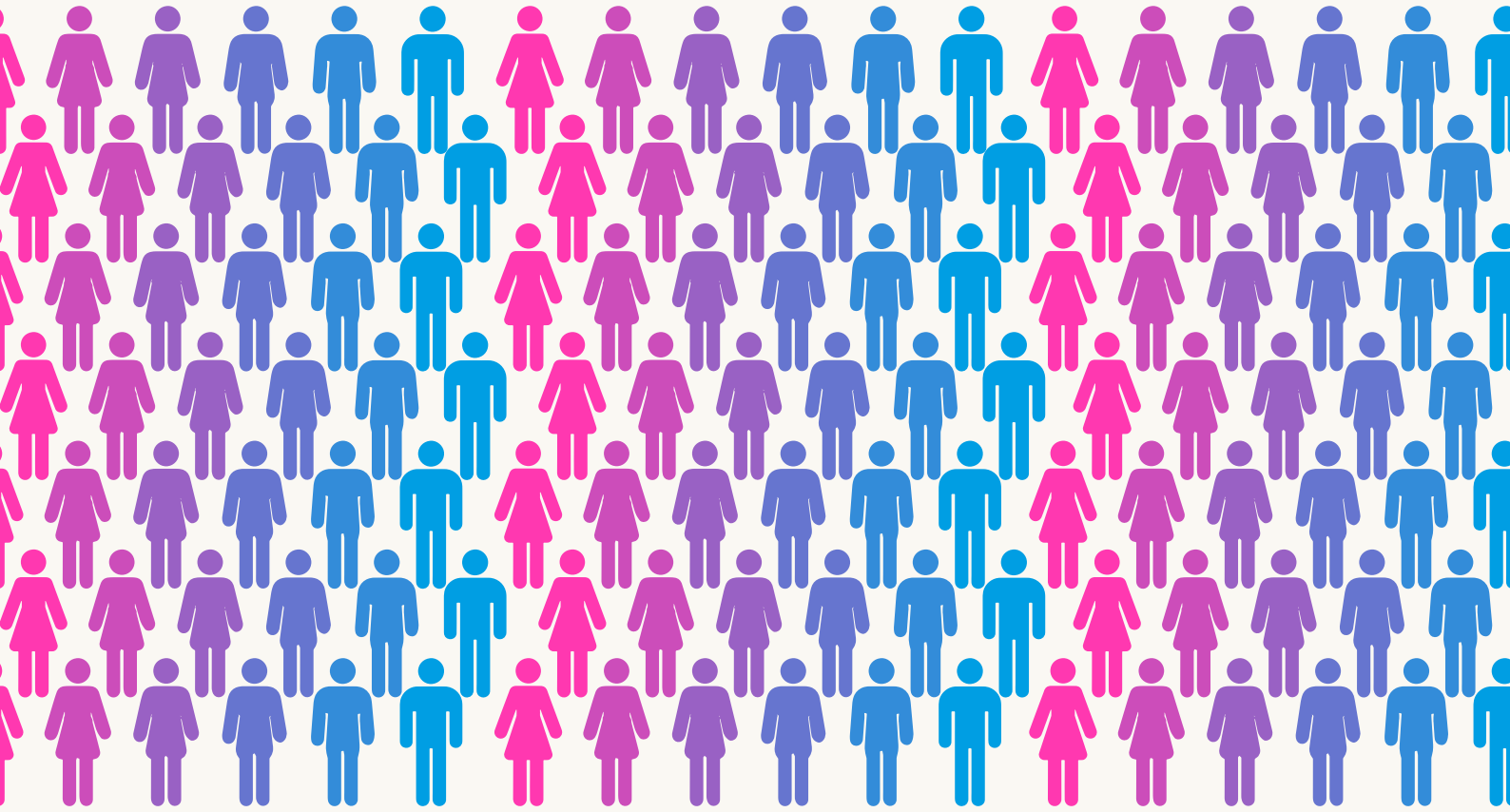
UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

Compilation guidelines for measurement of gender-in-trade statistics

PILOT TESTING METHODOLOGIES



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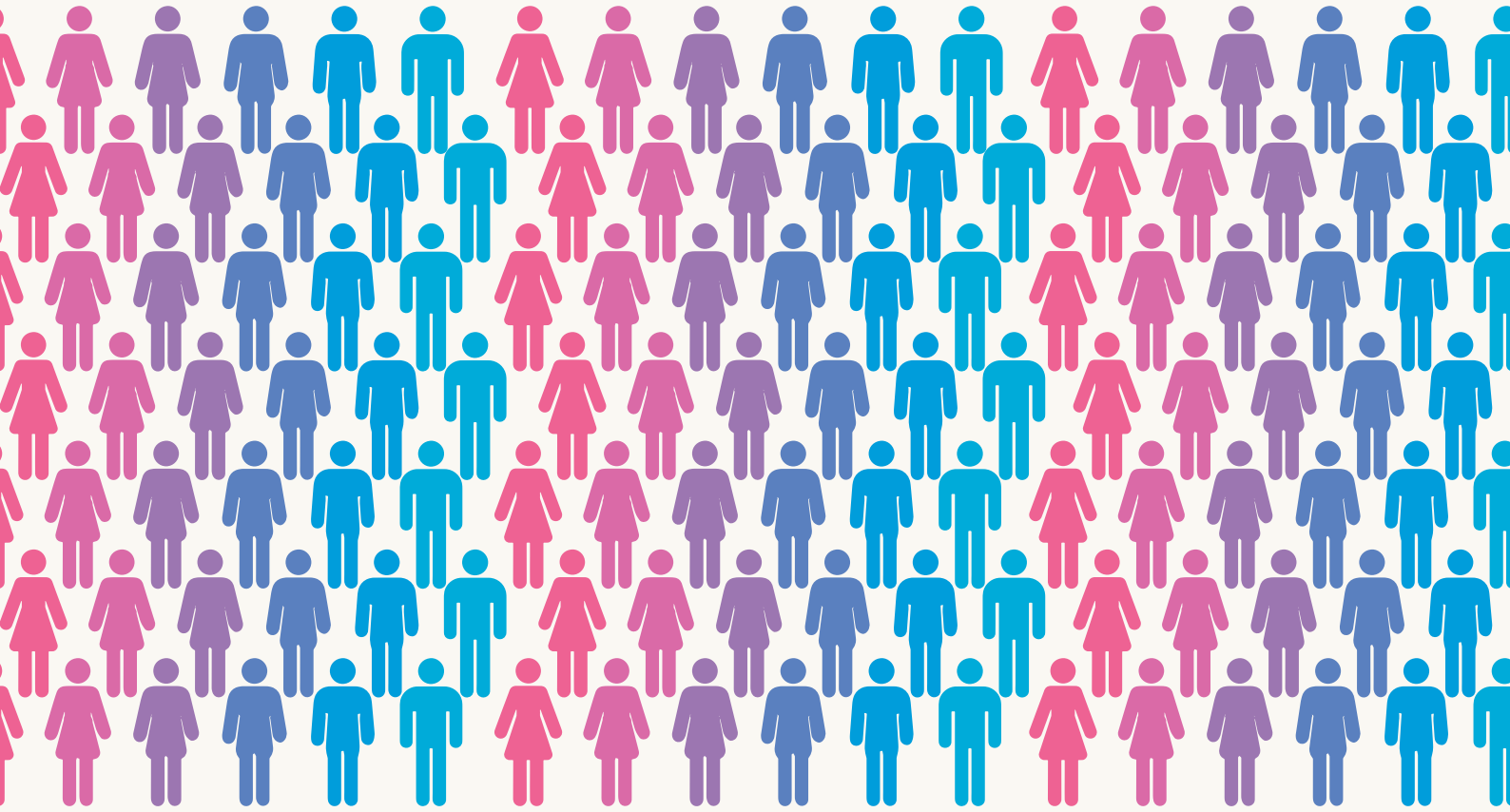

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The Compilation Guidelines for Measurement of Gender-in-Trade Statistics were prepared by UNCTAD for further refinement and application in country pilot studies to assess data availability and gaps, and to compile experimental gender-in-trade indicators. The guidelines are largely based on substantive work by Tengiz Tsekvava, engaged as a leading expert on gender equality in trade statistics for pilot studies. The compilation guidelines reflect on the findings of a pilot carried out in Georgia, and later repeated in Kazakhstan. This version intended for further pilot studies has been finalised by Katalin Bokor and Mariyam Raziyeva, benefitting from substantive comments from Onno Hoffmeister and project management support from Ekaterina Chernova. The project has been carried out under the overall guidance by Anu Peltola.

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The guidelines were produced as part of the joint UNCTAD-ECA-ECE United Nations Development Account project “Data and statistics for more gender-responsive trade policies in Africa, the Caucasus, and Central Asia" and are intended to be put to test by any country interested to assess data availability and develop new indicators by reusing data and statistics to provide new insights for a more informed and gender-responsive trade policy. These guidelines will be subject to further refinement and extensions based on the work of countries and other international organizations.

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1 INTRODUCTION

Gender gaps continue to exist in all spheres of life, including the economy and international trade. Yet, data about how women and men participate in international trade and how trade affects them is not collected and produced systematically. When trade statistics do not account for gender dimensions, it is assumed that trade is a gender-neutral concept that affects all people in the same way. However, research shows that participation in international trade can be influenced by the existing gender biases and gender barriers.[1] Quality gender-in-trade statistics is the first step to identifying and addressing gender gaps in international trade and can inform future gender-sensitive trade policies to reduce gender inequality.

Looking at the global development agenda, understanding of the links between the economy and gender came relatively late, and understanding of the links between trade and gender came even later. The United Nations 2030 Agenda for Sustainable Development mentions equitable trading systems but not explicitly inclusive trade. In 2015, the Addis Ababa Action Agenda emphasizes the need to "enable women's full and equal participation in the economy, and their equal access to decision-making processes and leadership" and urged countries "to track and report resources allocations for gender equality."[2] The 2017 Buenos Aires Declaration on Trade and Women's Economic Empowerment called for the production of gender-focused statistics related to trade. Developing gender-in-trade statistics contributes to achieving Sustainable Development Goal 5 ("Achieve gender equality and empower all women and girls") and supports the aspirations of the Buenos Aires Declaration.

The interactions between gender and trade are complex and challenging to measure. Developing statistics on gender-in-trade, therefore, requires identifying relevant dimensions to be measured and defining related concepts. Determining what should and could be measured can provide insights into the gender and trade nexus, for example by identifying women's and men's constraints and access to resources; their working conditions; income and empowerment; motivations and aspirations; and, finally, trade performance and trade policy measures.

Gender-in-trade statistics is an emerging area for both gender and trade statistics, but it is essential for women's economic empowerment. For a long time, the lack of a gender variable in international trade statistics was a bottleneck, and there was little or no progress. In 2018, United Nations Conference on Trade and Development (UNCTAD) started developing a framework to help countries link existing national statistical data to assess gender-in-trade. Linking existing data is a cost-effective and sustainable alternative to creating new one-off surveys.

The Compilation Guidelines for Measurement of Gender-in-Trade Statistics aims to serve as reference material for trade policymakers and national statistical offices (NSOs) who wish to embark on developing gender-in-trade statistics for more inclusive trade policies. It is an output of the joint UNCTAD, Economic Commission for Africa (ECA), and Economic Commission for Europe (ECE) project on "Data and statistics for more gender-responsive trade policies in Africa, the Caucasus, and Central Asia". The second chapter presents the conceptual framework for producing gender-in-trade statistics developed by UNCTAD. The third chapter reviews potential statistical data sources. The fourth chapter discusses different compilation methodologies. The fifth and sixth chapters focus on indicators and relevant disaggregations suited for the analysis of gender perspectives in international trade, with data sources, calculations, and applications. Finally, the last chapter includes case studies from countries that have already started compilation of gender-in-trade statistics.

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1 Some examples include: 1) Female workers, particularly in developing economies, are affected by higher tariffs on textiles goods, as women are both the biggest consumers and the most frequent workers in the sector. World Bank and World Trade Organization, Women and Trade: The Role of Trade in Promoting Gender Equality (Washington, DC: World Bank, July 30, 2020); 2) Women traders tend to face higher burdens when accessing trade knowledge, accessing trade finance, and facing export costs. WTO, Gender Aware Trade Policy: A Springboard for Women's Economic Empowerment (Geneva: WTO, 2017).

2 Addis Ababa Action Agenda of the Third International Conference on Financing for Development (2015): http://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf

2

CONCEPTUAL FRAMEWORK

2.1 Conceptual framework

In 2018, UNCTAD developed a conceptual framework for gender-in-trade statistics. The framework aims to help policymakers identify the key issues relevant to gender and international trade measurement and support national statistical offices to review existing data. The framework is derived from the Evidence and Data for Gender Equality (EDGE) framework for examining female entrepreneurship (United Nations, 2018) adopted to trade context.

The framework shown in Figure 1 considers four elements:

I. preconditions for the participation of women and men in trade: motivations, aspirations, resources, and constraints;

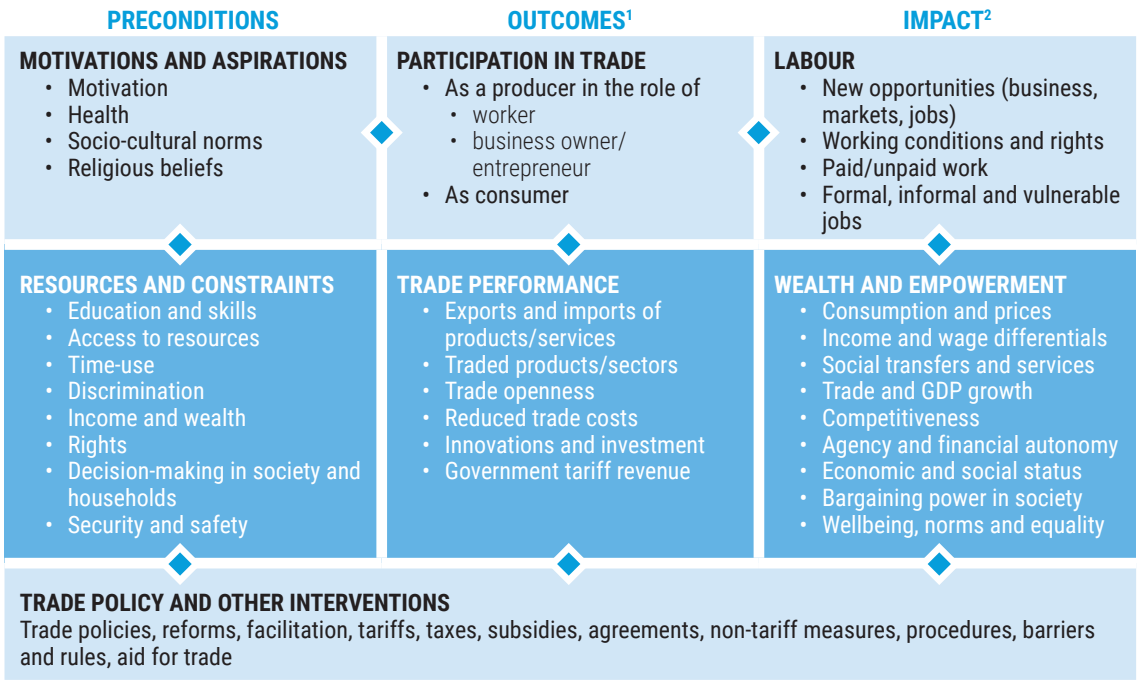
II. outcomes reflecting the degree of involvement and roles of women and men in trade;

III. impacts including the effects of trade on employment, division of labor, income, empowerment, and wellbeing; and

IV. trade policy and other government interventions that may influence gender equality.

The framework can guide national statistical offices in selecting data to analyse gender and trade at the macro- and/or micro-levels. Macro-level indicators on gender and trade focus on industry-level trade, employment, skills, earnings, and firm data. Ideally, however, statistics on gender-in-trade are calculated directly from microdata, but that requires more time and investment in data. Such detailed statistics would reflect the situation of women and men directly involved in international trade as employees, owners, and managers of exporting, importing, or two-way trading firms. These data could also be linked to other variables held by statistical offices, such as education, age, occupation, earnings, and other characteristics of individuals employed by trading companies, as well as information on the company, its industry class, productivity, size, and types of products produced, exported, and imported.

Figure 1 Conceptual framework for gender-in-trade statistics



1 Immediate short-term outcome of a change

2 Longer-term effects of the outcomes on lives and living conditions.

Source: UNCTAD

The conceptual framework gives general examples to contextualize gender and trade with statistical data on preconditions, outcomes, and impacts without directly linking gender and trade. Going one step further, we can identify indicators that capture both gender and trade issues simultaneously. Figure 2 lists indicators that can be used for analyzing the gender and trade nexus. Many of the variables are likely to be simultaneously impacted by policy and other societal changes. Some of them may evolve in the short (1-2 years) or medium term (2-10 years), others only in the very long term (decades). The framework can be adapted to countries and regions – indicators can be omitted or more variables can be added according to priorities and data availability, for instance to consider:

- indicators falling under preconditions analyse the general context about women's and men's health, education and skills, access to resources, income and wealth, rights, and public life and decision making;
- outcome indicators detail the different aspects of women's and men's trade participation, such as their roles in trade as producers (workers, business owners, entrepreneurs) and consumers of traded products;
- impact indicators refer to the lasting effects of trade participation on lives and living conditions due to gender differentials in earnings, changes in employment and consumption opportunities through trade, and changes in working conditions in trade. The changes in the participation of women and men in trade could be analysed in combination with indicators of trade performance of a country/ industry.

2.2 Differentiation between gender and sex

The Global Indicator Framework for the Sustainable Development Goals and Targets of the 2030 Agenda for Sustainable Development states that "Sustainable Development Goal indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics" (UNSD, 2022).

Following the 2030 Agenda for Sustainable Development, the current Compilation Guidelines focus primarily on sex-disaggregated data to inform gender analysis of international trade. Nonetheless, it is important to draw a clear distinction between gender and sex, as these terms oftentimes are used interchangeably in gender-related statistics. While gender interacts with sex and for many people their sex and gender are the same, sex is based on biological attributes of males and females, whereas gender is a social construct which is much broader than sex and is informed by roles, norms, relationships or concepts of masculinity and femininity. Terms such as "transgender", "non-binary" and "gender-nonconforming" are all related to the concept of gender and not sex. Why is this important for gender-in-trade statistics? Quality gender statistics, sex-disaggregated data and other relevant knowledge are key to achieving gender equality and inclusivity. While the primary goal of NSOs should be – at minimum – to collect sex-disaggregated data, collecting data on gender identity should be strongly considered when possible. Even if the number of observations for non-binary categories is expected to be low, accounting for all gender identities is critical to ensure no one is left behind.

Figure 2 Examples of gender-in-trade indicators

PRECONDITIONS

Health
- Life expectancy at age 60, by sex
- Proportion of people in very good or good general health by sex
- Limitation in activities because of health problems by sex

Education and skills
- Educational attainment (tertiary) of the population aged 25+ by sex
- Science, Technology, Engineering and Mathematics graduates by sex
- Access to resources
- Proportion of individuals using the Internet/mobile by sex
- Having a bank account/ mobile-money-service provider by sex
- Constraints for starting and running a business by sex

Time use
- Hours spent on unpaid domestic and care work by sex
- Proportion of children under age 3 in formal care

Income and wealth – labour force and economic preconditions
- Employed (number/shares) by sex, industry, occupation, status
- Business owners, entrepreneurs, self-employed and managers by sex
- Earnings/ wage gap by sex, industry, occupation
- Firms (number/shares) by industry, by sex of the owner/top manager
- Exports and imports of products

Rights
- Ratification of 18 international human rights treaties and protocols
- Limitations to property rights by sex / Land-owners by sex
- Prevalence of violence against women

Public life and decision-making
- Ministerial positions / parliamentary seats by sex
- Managerial positions by sex, industry
- Police officers and judges by sex
- Household decision makers

Composite indicators
- Gender Gap Index (GGI) of the WEF
- Gender Inequality Index (GII) of UNDP
- Social Institutions and Gender Index (SIGI) of OECD
- Gender Equality Index of Equal Measures 2030

OUTCOMES[1]

As worker
- Employment in international trade[3] (number/ratios/shares/gaps) (**macro**[4] and **micro**[5]) by sex and
  - education, skill level, age, employment status and occupation
  - industry, firm characteristics (size, profitability, etc.), foreign/domestic ownership
- Managers in trade (number/share) (**micro**) by sex and
  - education, age
  - industry, firm characteristics (size, profitability etc)
- Trade-intensity based estimated employment in trade[6] (**macro**) by sex and
  - education, skill level, age, employment status
  - industry

As business owner
- Owners and entrepreneurs in trade (number/shares/gaps) (**micro**) by sex and
  - education, skill level, age
  - industry, firm characteristics (size, profitability, etc.)
- Self-employed in trade (number/share) (**micro**) by sex and
  - education, skill level, occupation, age
  - industry, firm characteristics (size, profitability etc)

As consumer
- Consumption patterns and prices faced by female and male-headed households (**micro**)
- Prices and tariffs of consumer goods for women and men (**micro**)
- Spending on female and male consumer goods (**micro**)
- Consumers of services trade, e.g., travel and transport by sex (**micro**)

IMPACT[2]

- **Female/male earnings in international trade (amount/ratios/gap in export wage premiums) (macro and micro)** by skill levels, occupation, education, age, employment status, industry, firm characteristics (size, profitability, etc.), foreign/domestic ownership
- **Change in gender wage gaps in trade**
  - Changes in women and men's wages in trade by skill and industry, women-to-men pay ratios, gender pay gaps, and gender export wage premiums over time
- **Change in job, business, and market opportunities in trade for women and men**
  - Changes in employment in trade over time by sex and
    - education, skill level, age, employment status and occupation
    - industry, firm characteristics (size, profitability, etc.), foreign/domestic ownership
  - Changes in the share of women participating in trade, women-to-men employment ratio in trade, and other trade and gender gaps over time
- **Change in occupation and employment status in jobs involved in trade for women and men**
  - Changes in owners, entrepreneurs, self-employment in trade by sex over time
- **Change in working conditions and rights for women and men in trade**
  - Based on dedicated/qualitative surveys
- **Change in consumption opportunities through trade for women and men**
  - Change in consumption patterns and prices faced by female and male-headed households
  - Change in prices and tariffs of consumer goods for women and men
  - Change in spending on female and male consumer goods
  - Change in consumers of services trade, e.g., travel and transport by sex

1 Immediate short-term outcome of a change.
2 Longer-term effects of the outcomes on lives and living conditions.
3 The most accurate way to calculate employment in international trade is by using firm-level data of trading businesses or input-output tables.
4 Macro-level gender and trade indicators are at the industry level. They can be calculated, for example, based on input-output tables.
5 Micro-level gender and trade indicators are calculated based on firm-level data of trading businesses or household data.
6 Trade-intensity based estimated employment in trade is calculated by multiplying total employment in an industry by trade-intensity of the same industry. The assumption is that a worker's working time dedicated to exports/imports/trade is proportionate to exports/imports/trade intensity (exports/imports/trade over turnover).

Source: UNCTAD

3

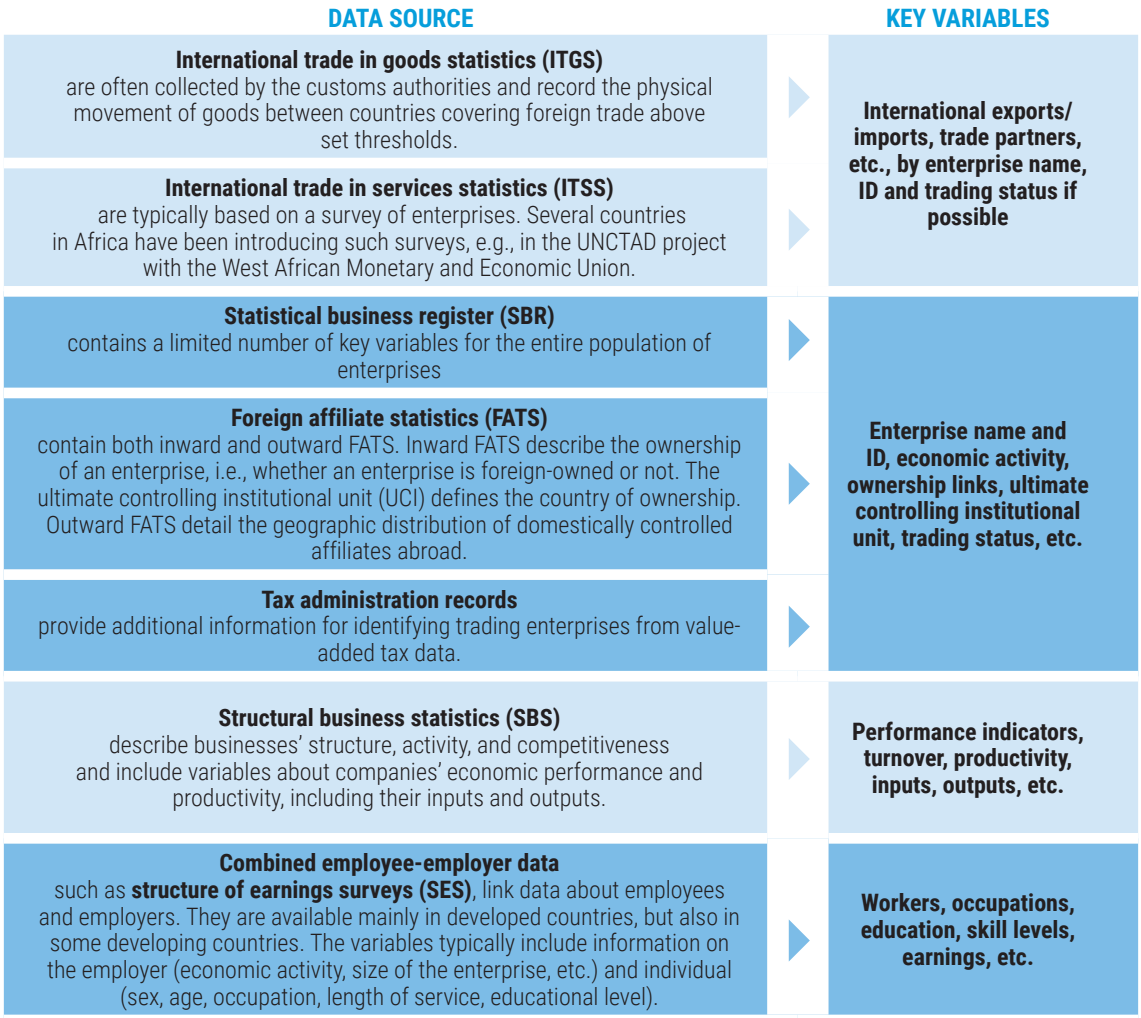
STATISTICAL DATA SOURCES

While the concepts introduced in the conceptual framework apply to both developed and developing countries, feasible methodologies and indicators will vary depending on data available in the national context. The ability to examine gender implications of trade is strongly constrained by the availability of data.

Enterprises play a key role in understanding the relationship between gender and trade as they determine male and female employment participation and employment conditions, including wages, and they are the main actors involved in international trade. A high-quality statistical business register is, therefore, essential for the production of gender-in-trade statistics. If recently carried out, the latest population census could also provide a source of combining data with other surveys. Even if there are data gaps, existing labour statistics offer a valuable point of departure for gender-in-trade analysis. Regular official statistics on trade, income, and (un)employment are available for most developed and developing countries. They enable at least an analysis of women and men in tradable industries and could even allow identification of trading firms (see Luomaranta et al. 2020, for such approach). Additionally, more sex-disaggregated data could be collected through national statistical offices by implementing relatively minor changes. Regular labour force surveys can provide valuable details on female and male employment conditions usually not included in business registers.

The following official statistical surveys, registers, and administrative data sources are typically available and provide valuable data for the analysis of gender-in-trade (see Figure 3 for a summary of key data sources and data needs):

Figure 3 Key official statistical sources for gender-in-trade analysis



The international trade in goods statistics (ITGS), containing statistics on exports and imports of goods disaggregated by product groups, is produced by practically every country based on customs records (United Nations, 2011). The advantage of the customs data is that they include, in principle, complete enumeration and detailed descriptions of trade transactions. They are usually disaggregated by product group and partner country. For gender-in-trade statistics, trade data are sorted by enterprises. The key variables obtained from administrative trade records include the enterprise name and its ID, the value of its total exports and/or imports, product codes of the exported or imported goods, and other.

The availability of *international trade in services statistics (ITSS)* is more uneven across countries than the ITGS. This is because data on international trade in services are challenging to collect. In principle, with the International Transactions Reporting System (ITRS) basic administrative data source is available in most countries. However, this data source has limitations, as it covers only the trade paid via bank transfers and provides a low level of detail. To compile more detailed and complete data on trade in services, many countries have set up dedicated enterprise surveys, where different surveys are tailored to individual sectors (United Nations et al., 2012). The fact that ITSS surveys are primarily conducted by national statistical offices (NSOs) may represent an advantage for the compilation, as NSOs are more flexible to include variables of interest in their surveys compared to possible changes in customs forms. As the ITGS data are based on full sample of customs records, sample probabilities do not play any role, theoretically, in the aggregation to population totals. By contrast, as ITSS are often constructed from enterprise surveys, the sample design needs to be taken into account in the grossing up from the sample population to the total economy.

In addition to the official statistical sources discussed above, dedicated surveys of entrepreneurs could assess barriers and enabling factors of trade participation and growth of international trade engagement. For instance, country-level surveys may address the most critical data gaps, such as those relating to the size of the informal economy. To this end, the statistical offices of Uganda and Rwanda record small-scale cross-border trade by sending enumerators to the border areas. In 2017, almost 16 per cent (US$550 million) of Uganda's total exports were attributable to small-scale trade. In addition, the African Trade Policy Centre (ATPC) of the Economic Commission for Africa has developed a methodology for measuring informal cross-border trade and is piloting it in several African countries.

Special surveys can similarly shed light on the impact of trade on women and men as entrepreneurs and consumers – areas where data are particularly scarce. Some African countries have conducted surveys of small and medium-sized enterprises that collect sex-disaggregated data. The ATPC, for instance, recently surveyed the economic impacts of COVID-19 with some sex-disaggregated data. These can provide valuable extensions to regularly collected statistical data and highlight important issues that should be measured as part of regular surveys. In addition, surveys carried out by international organizations, such as the World Bank Enterprise Surveys, provide a valuable complementary data source.

Exchanging data for statistical purposes can provide opportunities for richer insights by reusing data that has already been collected. For instance, some trade corridors in Africa have digital data for tracking exported and imported goods at ports and across borders. In addition, African customs authorities exchange detailed trade data with customs offices in their trade partner countries.

4

COMPILATION METHODOLOGIES

This chapter presents three methodological approaches to the production of gender-in-trade statistics: microdata linking, sectoral analysis, and ad-hoc specialized studies. Ideally, the compilation of gender-in-trade indicators should use available data to the extent possible, thus avoiding additional data collection to reduce the burden on respondents and ensure sufficient flexibility for analysis of different aspects from the gender perspective.

The primary methodological approach to gender-in-trade statistics consists of *enterprise-level data analysis of trading companies.* External trade data, including trade in goods and services, represent the starting point for gender-in-trade analysis. Although informal trade can play an essential role in some regions of the world, e.g., in Africa[3] (see FAO, 2017 and Bouet et al., 2019), formal enterprises engaged in export and/or import of goods employ a large majority of the labour force. Also, despite the growing importance of trade in services, goods trade still accounts for almost 80 per cent of global trade (UNCTAD, 2021).[4] Given the overall importance of goods trade performed by legal businesses, *enterprises* represent *primary units of observation* for gender-in-trade statistics on *international trade in goods*. Thus, the analysis of trade businesses implies that gender-in-trade statistics fall into the field of trade by enterprise characteristics (TEC) statistics with the possibility of gender analysis.

Microdata linking of trade and non-trade microdata containing sex-differentiated variables is considered the most efficient approach when the microdata availability from different sources is ensured and when these contain common identifiers. However, the availability of enterprise-level data often represents a significant challenge for many national statistical offices, particularly in developing countries. In some cases, the NSOs do not have access to trade in goods microdata that institutionally belongs to the customs agencies. Several specialized statistical surveys falling under the competence of the NSOs (e.g., the structure of earnings survey, international trade in services survey) are conducted not regularly, if at all, in many developing countries. Finally, a significant share of informal trade requires different approaches from enterprise-based analysis of gender equality in foreign trade.

The alternative approaches, such as the sectoral approach to analyse exports, and ad-hoc surveys on trade topics, presented in this chapter are often motivated by the lack of enterprise-level data sources necessary for microdata linking gender-in-trade statistical analysis. A *sectoral approach* attempts to produce gender-in-trade indicators by linking export industries with sectors producing the respective goods. In addition, different types of *ad hoc* specialized surveys of enterprises and individuals explore various aspects of foreign trade and gender equality. Specific case studies of different methods of gender-in-trade analysis are provided in Chapter 7.

4.1 Microdata linking

For gender-in-trade statistics, the necessary condition for linking trade and non-trade data sources is the availability of sex-disaggregated indicators. Unfortunately, such indicators are usually not found in trade data and need to be obtained from other statistical and administrative sources through the micro-linking exercise.

Microdata linking of ITGS data to non-trade data sources can be done at the enterprise level and at the transaction level. By contrast, the ITSS is produced from statistical surveys and is only enterprise-based. Consequently, the enterprise-level linking of data sources is the preferred method. This method also ensures the same approach for gendered statistics in trade in goods and services.[5] For this purpose, a natural choice of the linking variable is the *unique enterprise ID* usually assigned by tax authorities or public register agencies.

[3] In the African countries with high levels of informal employment, the informal cross-border trade may constitute a large share of the registered trade and in some cases even exceed it. In such cases, in order to assess the impact of the informal trade on the gender aspects additional studies will be required such as shuttle (cross-border) trade surveys and specialized household surveys.

[4] In Q3 2021 the global trade in goods equaled $5.1 trillion, with the trade in services equaling $1.5 trillion.

[5] The UNSD's global survey of almost 100 NSOs on trade data linking showed that the vast majority of countries use enterprise-based approach for linking trade data (UNSD, 2015).

The enterprise-based approach to gender-in-trade statistics pre-determines the choice of non-trade data sources. SBR, SBS, structure and earnings surveys and tax administration records (see Table 1) typically include identifiers that allow linking them with the trade data.

Table 1 Non-trade data sources and key variables

Non-trade data sources	Variables
Statistical business register (SBR)	- Enterprise name and ID - Address
Structural business statistics (SBS) surveys	- Legal form of business organization - Registration date(s) - Area of economic activity (ISIC)
Structure of earnings surveys	- Enterprise size - Turnover
Tax administration records	- Employment* - Earnings* - Skill levels of employees* - Attained education level of employees* - Investments - Active/non-active status - Ownership shares* - Foreign/domestic ownership*

Source: UNCTAD
Note: Variables with * are (potentially) sex-differentiable

Compared to social statistics, the number of sex-disaggregated variables in regular business statistics surveys is limited. The standard variables providing a gender perspective in business statistics include three main characteristics of the labour force – *employment*, *earnings,* and *ownership* shares.

4.2 Sectoral approach

When it is impossible to link trade and non-trade data sources at the enterprise level, a practical alternative is mapping export products to domestic output at the product level or the corresponding area(s) of economic activity. For this purpose, export products under the Harmonized System (HS) classification are mapped to the corresponding sector at the product level (using the Central Product Classification, CPC) or by area of economic activity (using the International Standard Industrial Classification, ISIC, or its analogues).[6]

The advantage of this approach is that the NSOs can use data from the statistical business register and the structural business statistics surveys for the analysis. However, the sectoral approach does not apply to imports, as it becomes irrelevant to map the data on importers to domestic output.

As a result of mapping the exports to domestic output, it becomes possible to produce different indicators described in the section on microdata linking. However, the precision of the obtained indicators will depend on the mapping of the export products to the corresponding area of economic activity (e.g., ISIC, NACE, NAICS) or product group (e.g., CPC, CPA, or Prodcom). First, a sector is comprised of non-traders operating in the domestic market. Second, the sectoral mapping will fail to capture producers of particular export goods which may belong to a different area of economic activity. For example, exports of alcoholic beverages are mapped to the corresponding manufacturing sector, while the exporters of alcohol include companies from the wholesale trade sector. Furthermore, certain disaggregations will not be possible without trade microdata, such as the breakdown by types of traders.

[6] For a list of correspondence tables, see, for example, https://ec.europa.eu/eurostat/ramon/relations/index.cfm?TargetUrl=LST_REL

Despite these limitations, the sectoral approach can still provide important insights into gender-in-trade statistics. Competition in the domestic market ensures that both traders and non-traders producing certain exported goods use similar technological and production approaches characterized by similar gender aspects.

For example, as shown in the example below (Table 2), the companies engaged in the export of rice and grapes are linked to the relevant NACE sector, for which the basic gender indicators are available.

Table 2 Linking trade data to sex-differentiated data on enterprise ownership and enterprise assets

Enterprise ID	Company Name	Exports (HS code)
3333	Company C	1006 (rice)
5555	Company L	0806 (grapes)
6666	Company M	1006 (rice)

Business sector (NACE Code)	No. of men employees	No. of women employees	Men's average wages	Women's average wages
Production of rice (01.12)	5000	7000	1100	900
Production of grapes (01.21)	3000	1000	1500	1300

4.3 Ad hoc specialized studies

There are several reasons for conducting ad hoc research to explore the issues of gender equality in trade. In general, ad hoc research is driven by the lack of statistical outputs on the topic. Researchers may attempt to perform gender-in-trade analysis based on the limited availability of data, focusing on quantitative indicators (e.g., the performance of women-owned trading companies) and qualitative analysis (e.g., motivations, perceptions of owners and employees of trade businesses from a gender perspective).

Ad hoc studies and surveys in foreign trade are frequently motivated by concrete country circumstances. As an important example, the analysis of registered data on trade transactions is insufficient in countries with large informal economies. Under these conditions, specialized surveys targeting both enterprises and individuals engaged in foreign trade are designed to assess the volume of total informal trade and the gender dimensions. Examples of ad hoc research, including an informal cross-border trade study, are given in Chapter 7.

4.4 Limitations of the gender-in-trade analysis

Microdata linking should be considered the preferred method for combining trade and business statistics for the compilation of gender-in-trade statistics because it provides higher precision and much wider opportunities for the compilation of disaggregated indicators than the sectoral approach. Nonetheless, data linkage is never perfect due to data quality issues or methodological differences (Eurostat, 2021, pages 31-34). Missing enterprise IDs and non-resident and unidentified traders result in trade data not being fully linked with the statistical business register. In many circumstances it may be difficult to distinguish non-traders from trading companies that remained unobserved in the trade data. In the case of sample-based structural business statistics surveys, the opportunities for microdata linking are even more limited. Statistics compilers should carefully evaluate the linking outcomes and, if necessary, develop solutions to adjust for eventual bias, particularly when it cannot be assured that data gaps are completely missing at random.

A simple indicator to assess the success of microdata linking is the ratio of linked enterprises to the total number of trading enterprises. However, to better understand the scope of the linked data, it is appropriate

to calculate the share of trade performed by the linked enterprises in the total trade value. In addition, if data is available, the calculation of similar ratios in terms of other key business statistics variables (e.g., total turnover, total employment) would be helpful. Microdata linking generally captures the bulk of total trade or employment of large enterprises for which data are usually available. However, this may bias the analysis because small enterprises are more likely to be omitted.

The data analysis from ad hoc specialized research supplies new evidence or complements the existing knowledge on gender equality in trade. However, the disadvantages of ad hoc research consist of additional survey costs and limited comparability. Hence, it is generally advisable to invest in regular statistical production and tools to benefit from the enterprise-level statistical analysis of gender-in-trade statistics.

5

AGGREGATED GENDER-IN-TRADE INDICATORS

In general, we can distinguish between i) *aggregated indicators* of gender-in-trade providing an immediate snapshot of the gender situation in foreign trade and ii) *disaggregated indicators* that describe more specific gender dimensions and provide additional insights on gender differences among the trading companies. The tentative list of aggregated indicators is provided in the present chapter, and the list of disaggregated indicators is provided in Chapter 6.

The descriptions below summarize the objectives of each indicator, its application, data sources, and calculation methods. The indicators are based on the three key dimensions for the analysis of gender equality in the field of business statistics: employment, earnings, and ownership. Combining aggregated indicators with other characteristics of companies, employees and owners enables the compilation of additional disaggregated gender-in-trade indicators (described in Chapter 6).

The aggregated gender-in-trade indicators include:

a) Share of women and men in the total employment of companies involved in foreign trade;

b) Women's average wages as a proportion of men's average wages in trading companies;

c) Share of women and men owners of trading companies.

The first two indicators essentially represent women-to-men employment and wage ratios. These ratios can be calculated for all trading companies and certain types of traders, for example, a women-to-men employment ratio among two-way traders. For this purpose, the key gender-differentiated variables of employment and average wages from business statistics surveys or statistical business registers are used (see Table 3).

It should be considered that the use of relative measures does not necessarily provide a comprehensive and definitive answer to all aspects of gender equality. For example, an increase in the women to men wage ratio may not necessarily stem from an increase in women's wages but may result from a fall in men's wages, with women's wages remaining constant, or a decline in both women's and men's wages, with men's wages declining faster.

The periodicity of an individual indicator is generally determined by the frequency of all data sources required to calculate this indicator. For example, in the case of goods trade data, the customs administrative records are updated in real-time, which satisfies any desired level of flexibility. On the other hand, the surveys on international trade in services are conducted quarterly, limiting the periodicity of the trade in services data. Furthermore, even when trade data sources have the desired frequency, the linked non-trade data sources may be produced less frequently. For example, producing the average earnings indicator disaggregated by skill levels usually requires enterprise-level data from the structure of earnings survey (SES), which is generally conducted once in four or five years.

5.1 Employment

Compilation of the employment indicators requires simple linking of sex-differentiated employment data from SBS or SBR to the trade data at the enterprise level and taking simple ratios. The employment-related indicators show the proportion of women's employment in terms of men's employment in all trading companies or certain subgroups according to different disaggregations. The employment ratio characterizes women's relative employment (labour force participation) in the trading companies. Comparison with the analogous indicator for the total economy shows the level of the over-/underrepresentation of women in foreign trade. Further disaggregations provide additional evidence on the reasons for gender differences in labour force participation.

Data sources:

- ITGS, ITSS – for the number and types of trading companies.
- SBR, SBS, SES – for other company and employee characteristics.

This aggregated indicator is calculated according to the formula:

$$Employment\ ratio = \frac{n_w}{m_m}$$

where n_w – the number of women employed in the trading companies, m_m – the number of men employed in the trading companies.

The women-to-men employment ratios represent simple indicators that illustrate the respective gender aspects at different disaggregations. Other employment indicators (e.g., share of women in total employment) can also be used.

As an example (see Table 3), the aforementioned ratio for two-way traders (companies A and C) equals to (80 + 500) / (160 + 1200) = 0.43; meaning for every 100 men employees there are 43 women employees in two-way trading companies.

Table 3 Linking trade data to sex-disaggregated data on employment and average wages

Trade Data (ITGS)			Enterprise Data (SBR)				
Enterprise ID	Company Name	Status	Enterprise ID	No. of men employees	No. of women employees	Men's average wages ($)	Women's average wages ($)
1111	Company A	two-way trader	**1111**	160	80	1450	1119
2222	Company B	importer	**2222**	30	40	1472	1020
3333	Company C	two-way trader	**3333**	1200	500	1100	924

Further disaggregations of employment indicator are explained in Chapter 6.

5.2 Earnings

The aggregated gender-differentiated earnings indicator reflects all social and economic factors that determine women's relative earnings in foreign trade. Comparison with the women-to-men wage ratio for the whole economy indicates women's type of jobs in trading companies. Further disaggregations decompose the wage ratio by key dimensions such as industry groups, skill levels, educational attainment, and others (discussed in Chapter 6).

Data sources:

- ITGS, ITSS data – for the number and types of trading companies.
- SBR, SBS – for wages data and different company and employee characteristics.

The aggregated indicator is calculated as a simple ratio of average wages

$$Women\text{-}to\text{-}men\ wage\ ratio^{7} = \frac{avwages_w}{avwages_m}$$

where $\boldsymbol{avwages_w}$ is the average wages of women employed in trading companies and $\boldsymbol{avwages_m}$ is the average wages of men employed in trading companies.

From Table 3 above, the women-to-men wage ratio for the two-way traders will equal to 0.83, meaning for every one dollar earned by a man employee, a woman employee earns 83 cents on average.

$$\frac{(1119 * 80 + 924 * 500)/\ 580}{(1450*160+1100*120)/1360} = 0.83$$

In addition to wage ratios, other forms of sex-disaggregated indicators can be equivalently used to demonstrate gender disparities in wages. In particular, the ***gender wage gap*** indicator – which shows the difference in average earnings between women and men – represents one of the frequently used indicators.

$$Gender\ Wage\ Gap = 100\% - (\frac{avwages_w}{avwages_m} * 100\%)$$

From Table 3 above, the gender wage gap is 16.67%, meaning on average women employees make 16.67% less than men employees in two-way trading firms.

$$100\% - \frac{\frac{1119\ *\ 80\ +\ 924\ *\ 500}{580}}{\frac{1450 * 160 + 1100 * 1200}{1360}} * 100\% = 16.67\%$$

Similar to wage ratios explained above, gender wage gap can further be disaggregated by type of traders, industry, company origin, company characteristics, education attainment, skill level, and other characteristic. For example, a more precise gender pay gap may be calculated by adjusting the formula to take the difference in average earnings between women and men managers or women and men high/ medium/low skill employees.

Further disaggregations of earnings indicator are explained in Chapter 6.

[7] The use of types of wages (such as hourly of monthly) may yield different results in terms of gender equality due to the number of actual hours worked. It is common for men to work more hours compared to women (due to a number social, economic and cultural factors). Thus, same hourly wages for women and men may still result in different monthly wages.

5.3 Ownership

As trading companies are usually characterized by higher productivity than the rest of the economy, the relative level of women business owners in trade represents an essential factor in analysing gender equality. The aggregated ownership indicator provides a general measure regarding the situation with women's ownership and entrepreneurship in foreign trade. It provides a broad picture of women's entrepreneurial activity and access to economic resources.

Data sources:

- ITGS, ITSS data – for the number and types of trading companies.
- SBR – for women and men business ownership.

The aggregated indicator is calculated as a ratio of the number of women business owners to the total number of owners of the trading companies.

$$Share\ of\ women\ owners\ of\ trading\ companies\ = \frac{w_{own}}{total_{own}}$$

where w_{own} the number of women business owners of the trading companies, $total_{own}$ the number of total business owners of the trading companies.

In addition, a ratio of women-owned trading companies relative to the number of men-owned trading companies can me calculated:

$$Ratio\ of\ women-owned\ \ to\ men-owned\ trading\ companies\ = \frac{N_w^{own}}{N_m^{own}}$$

where N_w^{own} is the number of women-owned trading companies in which women owners control more than 50 per cent of assets, N_m^{own} is the number of men-owned trading companies in which men owners control more than 50 per cent of assets.

A simple ratio of women owners (entrepreneurs) to men owners of trading companies may provide a general idea about the level of women's activity and entrepreneurship in foreign trade. The data on enterprise owners (or, at least, founders) is usually available in statistical business registers.[8] Referring to Table 4, in Companies A, B and C the number of women owners equals 5 + 4 = 9, and the number of men owners is 15 + 1 + 2 = 18. Thus, the share of women owners equals 9 / (9+18) = 1/3, meaning only a third of all owners are women in trading companies.

Table 4 Linking trade data with data on sex-disaggregated ownership

Trade Data (ITGS)			Enterprise Data (SBR)			
Enterprise ID	**Company Name**	**Status**	**Enterprise ID**	**Company Name**	**No. of women owners**	**No. of men owners**
1111	Company A	two-way trader	**1111**	Company A	5	15
2222	Company B	importer	**2222**	Company B	0	1
3333	Company C	two-way trader	**3333**	Company C	4	2

However, this aggregated indicator has several drawbacks. Firstly, a simple count of women and men owners without the information on ownership shares in the trading company does not demonstrate whether women or men control the company. For example, 5 women owners may control 80 per cent of Company A, and their small number compared to the three times as many men owners will be misleading. Secondly, to properly understand gender aspects related to ownership of all trading companies, it is important to know the size of trading companies, i.e., to weigh ownership shares with, for example, asset volumes of the respective trading companies. The challenge is there is no universal definition of

[8] Here we do not discuss additional difficulties with availability of gender-differentiated ownership data which may be related to the number of shareholders in joint-stock companies or missing gender-specific information on foreign physical and legal owners.

what constitutes a women-owned or men-owned company. As such, a women-owned company can be defined as a business where women own not less than 50 per cent of the business. Country context and legal framework need to be taken into account when tailoring formulas to the national context.

For further discussion on ownership, see section 6.2.3.

6

DISAGGREGATED GENDER-IN-TRADE INDICATORS

Aggregated gender-in-trade indicators are helpful in providing a general picture, but they may prove insufficient or even misleading in describing gender aspects and identifying factors of gender inequalities. Consequently, it is necessary to add different dimensions to disaggregate gender data on employment, earnings, and ownership for a more complex illustration of gender-specific issues.

The following description illustrates the main characteristics of companies, employees and owners, providing more detailed evidence for the gender analysis of trading and non-trading enterprises.

6.1 Breakdown by company characteristics

6.1.1 By trading status

Based on the type of trade transactions performed by individual trading companies, firms are classified as two-way traders (companies involved in both export and import activities), importers, or exporters. The trading status of a company is identified directly from the data sources on trade in goods and services.

For statistical purposes, certain thresholds are introduced to identify an enterprise as a trading company. As an example, an enterprise is considered an exporter (importer) if its annual exports (imports) are equal to at least $1000.[9] Additionally, it can be required that trading operations represent a sufficiently important activity for the company by stipulating that its export (import) intensity ratio – the share of the company's annual exports (imports) in its annual turnover – constitutes, for example, at least 5 per cent. An enterprise that satisfies both exporters' and importers' requirements is classified as a two-way-trader, while an enterprise with no exports and imports is called a non-trader.

Table 5 provides an illustrative example of a set of key trade variables. Companies A and C conduct both export and import operations, while Company B only imports goods. Company A may re-export goods as their records show the same product code for imports and exports.

Table 5 Key variables from administrative goods trade records

Enterprise ID	Company Name	Status	Exports value ($K)	Imports value ($K)	Import product code 1	Import product code 2	Export product code 1	Export product code 2
1111	Company A	two-way trader	10,000	15,000	2603	2613	2603	2616
2222	Company B	importer		11,000	2711	2930		
3333	Company C	two-way trader	50,000	30,000	8481	8414	8502	8419

The use of gender indicators differentiated by the trading status of companies touches upon several points. First, comparing these indicators for trading and non-trading companies tests one of the premises of the gender-in-trade statistics that more significant involvement in foreign trade promotes women's welfare and gender equality. Further, differentiation by types of traders responds to some important questions related to gender equality: are women more likely to be employed in exporting or importing industries? What kind of trading firms provide women better remuneration?

Indicators for calculating employment and wage ratios disaggregated by type of traders include:

- Women-to-men employment ratio by type of traders

$$Employment\ ratio\ by\ type\ of\ traders = \frac{n_w^t}{m_m^t}$$

[9] The mentioned threshold values are presented for illustrative purposes only and will vary depending on the country context.

where $\boldsymbol{n_w^t}$ – the number of women employed in the t[th] type of trading company, $\boldsymbol{m_m^t}$ – the number of men employed in the t[th] type of trading company.

- Women-to-men wage ratio by type of traders

$$Wage\ ratio\ by\ type\ of\ traders = \frac{avwages_w^t}{avwages_m^t}$$

where $\boldsymbol{avwages_w^t}$ – the average wages of women employed in the t[th] type of trading company, $\boldsymbol{avwages_m^t}$ – the average wages of men employed in the t[th] type of trading company.

6.1.2 By industry and industry groups

The differentiation of companies by area of economic activity (industry) is usually based on the UN's International Standard Industrial Classification (ISIC) or its analogues (e.g., the European NACE classification or the North American NAICS). The breakdown of enterprises by area of economic activity is contained in the statistical business register.

Specific industries in which trading enterprises operate have significant gender implications. Gender differences across industries may be apparent at the ISIC section level – such as between trading companies operating in agriculture, mining and quarrying – or at a lower level of disaggregation (e.g., trading companies producing apparel or machinery).

Competitive strategies used by trading companies across different industries may have a significant gender-specific impact. Thus, agriculture and apparel exporters who use traditional labour-intensive technologies pursue a lower-cost competitive strategy. This often involves employing a substantial share of women in the total workforce with relatively low wages. Consequently, even a simple calculation of aggregated gender-in-trade indicators across industries may reveal essential gender differences and provide helpful evidence for analysts and policymakers.

Indicators for calculating employment and wage ratios disaggregated by industry include:

- Women-to-men employment ratio by industry or industry groups

$$Employment\ ratio\ by\ type\ of\ industry = \frac{n_w^i}{m_m^i}$$

where n_w^i – the number of women employed in the i[th] type of industry, m_m^i – the number of men employed in the i[th] type of industry. Types of industries or industry groups are based on the ISIC classification.

- Women-to-men wage ratio by industry or industry groups

$$Wage\ ratio\ by\ type\ of\ industry = \frac{avwages_w^i}{avwages_m^i}$$

where $avwages_w^i$ – the average wages of women employed in the i[th] type of industry, $avwages_m^i$ – the average wages of men employed in the i[th] type of industry. Types of industries or industry groups are based on the ISIC classification.

6.1.3 By origin of company ownership

The analysis of trading companies with domestic and foreign ownership is used to reveal possible gender differences induced by different business attitudes of company owners, which are in turn influenced by various legal, institutional, cultural, and other factors. Further disaggregation of foreign ownership by countries or regions may also be helpful. The variables related to the country of origin of company owners are sometimes contained in the statistical business register. Some countries have built up foreign affiliate trade statistics (FATS) to measure the economic activities carried out by foreign owned enterprises (United Nations et al, 2012).

Indicators for calculating employment and wage ratios disaggregated by company ownership include:

- Women-to-men employment ratio by the origin of company ownership

$$Employment\ ratio\ by\ company\ origin = \frac{n_w^o}{m_m^o}$$

where n_w^o – the number of women employed in the trading companies with foreign or domestic ownership, m_m^o– the number of men employed in the trading companies with foreign or domestic ownership.

- Women-to-men wage ratio by the origin of company ownership

$$Wage\ ratio\ by\ company\ origin = \frac{avwages_w^o}{avwages_m^o}$$

where $avwages_w^o$ – the average wages of women employed in the trading companies with foreign or domestic ownership, $avwages_m^o$ – the average wages of men employed in the trading companies with foreign or domestic ownership.

6.1.4 By other company characteristics

Depending on specific circumstances in different countries, other characteristics of trading companies, such as size (by total employment and/or turnover), age, legal form, geographical location, and others, may impact gender aspects and can be considered in gender analysis.

Indicators for calculating employment and wage ratios disaggregated by other company characteristics include:

- Women-to-men employment ratio by other types of company characteristics

$$Employment\ ratio\ by\ j^{th} company\ characteristic = \frac{n_w^j}{m_m^j}$$

where n_w^j – the number of women employed in the trading companies with jth company characteristics, m_m^j – the number of men employed in the trading companies with jth company characteristics. Company characteristics may include the following:

  - company size: large, medium, small, or micro companies;
  - company age: by 5-year age groups;
  - company geographic location.

- Women-to-men wage ratio by other types of company characteristics

$$Wage\ ratio\ by\ j^{th} company\ characteristic = \frac{avwages_w^j}{avwages_m^j}$$

where $avwages_w^j$ – the average wages of women employed in the trading companies with jth company characteristics, $avwages_m^j$ – the average wages of men employed in the trading companies with jth company characteristics.

6.2 Breakdown by employees and owners

6.2.1 *By skill levels*

One of the most important disaggregation related to employment and remuneration of trade workforce is the breakdown of employees by skill levels. The enterprise-level data on employees' skills are most frequently obtained from the structure of earnings surveys. In addition, several developed countries have employer-employee registers containing the basic characteristics of individual employees.

The International Standard Classification of Occupations (ISCO) is the most frequent choice for disaggregation by skill levels. In particular, data on skills is usually taken at the ISCO one-digit occupation levels (managers, professionals, technicians, associate professionals, and others). The nine ISCO occupation groups[10] are frequently combined into managers, high, medium, and low skill workers. Such grouping concerning the latest ISCO-2008 classification is given in Table 7.

Table 7 Correspondence of workers' skill levels with the ISCO-2008 one-digit occupations

Group name	Correspondence with ISCO-2008
Managers	1. Managers
High skill workers	2. Professionals
	3. Technicians and associate professionals
Medium skill workers	4. Clerks
	5. Service and sales workers
	6. Skilled agricultural, fishery, and forestry workers
	7. Craft and related trades workers
	8. Plant and machine operators and assemblers
Low skill workers	9. Elementary occupations

Indicators for calculating employment and wage ratios disaggregated by employee skill level include:

- Women-to-men employment ratio by skill levels of employees

$$Employment\ ratio\ by\ employee\ skill\ levels = \frac{n_w^s}{m_m^s}$$

where n_w^s – the number of women with sth type of skill employed in the trading companies, m_m^s – the number of men with sth type of skill employed in the trading companies. Types of skills include: managers, high, medium, low skill employees based on the ISCO classification.

- Women-to-men wage ratio by skill levels of employees

$$Wage\ ratio\ by\ employee\ skill\ levels = \frac{avwages_w^s}{avwages_m^s}$$

where $avwages_w^s$ – the average wages of women with sth type of skills employed in the trading companies, $avwages_m^s$ – the number of men with sth type of skills employed in the trading companies.

Calculation of various gender-in-trade indicators differentiated by skill levels usually requires the linkage of several data sources at the enterprise level. Table 8 gives an example of variables and linked data sources needed for calculating employment and wage ratios broken down by skill levels. Here the trade data is linked to the data sources from the structural business statistics surveys, statistical business registers, and the structure of earnings survey.

[10] Group 10 of the ISCO classification contains occupations related to military personnel, which is not relevant to the purposes of gender-in-trade statistics.

Table 8 Linking trade to sex-disaggregated data on employment and average wages, by skill level

(a) Trade data

Enterprise ID	Company Name	Status	Exports value	Imports value
1111	Company A	two-way trader	10,000	15,000
2222	Company B	importer		11,000
3333	Company C	two-way trader	50,000	30,000

(b) Structural business statistics data

Enterprise ID	No. of men employees	No. of women employees	Men's average wages	Women's average wages
1111	160	80	1449	1169
2222	30	40	1472	1046
3333	1200	500	1100	954

(c) Structure of earnings survey data (employment)

Enterprise ID	No. of Managers		No. of high skill workers		No. of medium skill workers		No. of low skill workers	
	men	women	men	women	men	women	men	women
1111	7	3	25	20	96	30	32	27
2222	2	1	10	9	15	23	3	2
3333	20	10	150	100	950	340	80	50

(d) Structure of earnings survey data (wages, $)

Enterprise ID	Average wages, managers		Average wages, high skill workers		Average wages, medium skill workers		Average wages, low skill workers	
	men	women	men	women	men	women	men	women
1111	5000	3000	2500	2200	1200	900	600	500
2222	3000	2500	2000	1900	1100	700	550	450
3333	3000	2000	1800	1650	1000	800	500	400

The average wages of women (men) for a certain skill level are calculated as a weighted average of women's (men's) wages for this skill category in the trading companies where the numbers of employees act as weights. Thus, the average wages for women managers in Companies A, B and C equals (3 * 3000 + 1 * 2500 + 10 * 2000) / (3 + 1 + 10) = $2250. The same indicator for men equals $3483. Hence, the women-to-men wage ratio for managers equals 2250 / 3483 = 0.65.

After calculating average wages for other skill categories, we obtain the women-to-men wage ratios of 0.92 for high-skill workers, 0.79 for medium-skill workers, and 0.83 for low-skill workers.

6.2.2 By attained education level and other employee characteristics

Similar to the above breakdown by skill levels, gender analysis by the attained level of education is also based on data from the structure of earnings survey. The International Classification of Education at the available disaggregation level is used to study gender differences in employment and earnings by attained education levels. When more data are available, particular areas of education interesting for researchers and policymakers can be explored. For example, the underrepresentation of women in high-paying jobs requiring science, technology, engineering, and mathematics (STEM) qualifications may be an essential factor in gender pay gaps in certain industries and the economy. Additional variables derived from the

structure of earnings survey, including age and length of service, represent other employee characteristics that can explain gender aspects related to the structure and dynamics of the labour market.

Indicators for calculating employment and wage ratios disaggregated by attained education level and other characteristics include:

- Women-to-men employment ratio by the attained level of education

$$Employment\ ratio\ by\ educational\ attainment = \frac{n_w^e}{m_m^e}$$

where n_w^e – the number of women with e[th] level of attained education employed in the trading companies, m_m^e– the number of men with e[th] level of attained education employed in the trading companies. Levels of attained education are based on the ISCO classification.

- Women-to-men wage ratio by the attained level of education

$$Wage\ ratio\ by\ educational\ attainment = \frac{avwages_w^e}{avwages_m^e}$$

where $avwages_w^e$ – the number of women with e[th] level of attained education employed in the trading companies, $avwages_m^e$ – the average wages of men with e[th] level of attained education employed in the trading companies.

- Women-to-men employment ratio by other employee characteristics

$$Employment\ ratio\ by\ k^{th} employee\ characteristic = \frac{n_w^k}{m_m^k}$$

where n_w^k – the number of women employed in the trading companies by k[th] employee characteristic, m_m^k – the number of men employed in the trading companies by k[th] employee characteristic. Employee characteristics may include the following:

  - age: by 5-year age groups or according to the country classification in the national census
  - length of service: in specific intervals
  - type of jobs: permanent, part-time, or seasonal.

- Women-to-men wage ratio by other employee characteristics

$$Wage\ ratio\ by\ \ k^{th}\ employee\ characteristic = \frac{avwages_w^k}{avwages_m^k}$$

where $avwages_w^k$ – the average wages of women employed in the trading companies by k[th] employee characteristic, $avwages_m^k$ – the average wages of men employed in the trading companies by k[th] employee characteristic.

6.2.3 By ownership share

Given the drawbacks of the aggregated indicator on sex-differentiated ownership of trade enterprises (discussed in Section 5.3), additional indicators for calculating ownership include:

- Share of women's ownership of the trading companies, weighted by company assets

$$Share\ of\ women's\ ownership = \frac{\sum_{i=1}^{N} share_i^w * assets_i}{\sum_{i=1}^{N} assets_i}$$

where $share_i^w$ – the share of women's ownership in the i[th] trading company, $assets_i$ – the value of assets of the i[th] trading company, N – the number of trading companies. This indicator differs from the previous one, as it calculates overall women's ownership share weighted by company assets (not just those above 50 percent threshold). It demonstrated how much ownership women owners control on average. The formula can be adjusted for men's ownership for comparison.

- Share of women's ownership of the trading companies, weighted by trade value (turnover)

$$Share\ of\ women's\ ownership\ of\ the\ trading\ companies = \frac{\sum_{i=1}^{N} share_i^w * V_i}{\sum_{i=1}^{N} V_i}$$

where $share_i^w$ – the share of women's ownership in the i[th] trading company, V_i – the trade value (turnover) of the i[th] trading company, N – the number of trading companies. This indicator further granulates the previous one by calculating overall women's ownership share weighted by trade value turnover.

As an example, data on women's and men's ownership shares and data on total enterprise assets is added to Table 9. The use of sex-differentiated ownership shares in trading companies allows us to calculate the total number of women-owned and men-owned enterprises. Depending on a country context, a women-owned enterprise can be defined as a firm the share of women's ownership in the firm exceeds 50 per cent. As it can be seen from the data, in Company A, the share of women's ownership is equal to that of men's ownership, although the number of women's owners is three times smaller. On the other hand, despite the number of women owners in Company C twice exceeding that of men owners, women control only 30 per cent of the company. Assuming that an enterprise is controlled by women (men) if women's (men's) ownership[11] share exceeds 50 per cent, we see that Companies B and C are men-owned while Company A represents an equally-owned enterprise.

Table 9 Linking trade data to gender-differentiated data on enterprise ownership and assets

Enterprise ID	Company Name	Status
1111	Company A	two-way trader
2222	Company B	importer
3333	Company C	two-way trader

Enterprise ID	Company Name	No. of women owners	No. of men owners	Women's ownership share	Men's ownership share	Enterprise assets ($M)
1111	Company A	5	15	50%	50%	500
2222	Company B	0	1	0%	100%	150
3333	Company C	4	2	30%	70%	1500

Compared to a simple count of women and men owners, the data on ownership shares better describes the gender aspects related to enterprise control in individual trading companies. However, this proves insufficient for assessing gender differences at the macro level. In particular, an equal number of women- and men-owned trading enterprises does not immediately imply that gender equality is achieved if women tend to own predominantly small-scale companies. Consequently, to demonstrate an overall picture of gender-based ownership in foreign trade, the use of a variable providing an assessment of the enterprise value is required. The value of enterprise assets is suggested for this purpose, which may be obtained from business statistics surveys or tax agency records. [12] As the data from Table 9 shows, the women's ownership of the two-way traders (Companies A and C) weighted by enterprise assets is only 50%*500 + 30%*1500 = $700, which constitutes 700 / (500 + 1500) = 35% of the total assets of the two-way traders.

[11] Specific methodological details related to identification of ownership shares by gender (e.g., challenges due to incomplete data on owners, treatment of ownership shares for different forms of business organization) are not discussed here to avoid digression.

[12] In case the data on enterprise assets are not available, some easily available proxy variables such as turnover or total trade value of an enterprise may be used for this purpose. However, the turnover and trade value indicators are sector-specific and may require certain adjustments to ensure comparability.

7

COUNTRY CASE STUDIES

This chapter presents case studies on measuring gender equality in trade based on research in different countries. The availability of relevant data significantly conditioned the approaches used by these countries for analysing gender-in-trade aspects. Countries with more well-developed statistical systems can usually use high-quality registers and surveys for data linking and analysis. However, most countries currently do not have the possibility of regularly combining different data sources for gender-in-trade analysis. These countries are making their first attempts to analyse gender-differentiated trade data by microdata linking available data sources or organizing ad hoc studies to obtain gender-sensitive indicators. These studies provide new evidence on gender equality in trade and identify data needs that would be incorporated into a regular production of official statistical data.

7.1 Chile: an ad hoc study of women-led exporting companies

Chile has been one of the pioneers of incorporating gender provisions in its free trade agreements. Since 2016, Chile has signed bilateral trade agreements with chapters on gender and trade with several Latin American countries and Canada. The issues on gender and trade were also addressed at the plurilateral level, with a notable Global Agreement on Gender and Trade signed in 2020 by the Inclusive Trade Action Group members made up of Canada, Chile, and New Zealand.

The study conducted by the Undersecretariat of International Economic Relations (SUBREI, 2021) and the General Directorate for Export Promotion (ProChile) of the Ministry of Foreign Affairs of Chile explores the performance of exporting companies led by women. The data sources for the study represented the registry of the ProChile and the national customs agency records for the year 2020. Based on the data, women-led legal entities and physical persons who performed non-copper exports in 2020 were analyzed.

The study showed that there were 472 exporting companies led by women in 2020, constituting 6.2 per cent of all non-copper exporters of Chile. These women-led companies exported goods and services with a total value of approximately $1 billion, or 2.9 per cent of total Chilean non-copper exports. The overwhelming share of trade (93 per cent) of women-led exporters is conducted with the countries with which Chile has signed free trade agreements.

The analysis of the sectoral distribution of women-led companies' exports demonstrates that agricultural exports accounted for 48 per cent of the total exports, followed by manufacturing (22 per cent), fishery and aquaculture (20 per cent), and wines (8 per cent). The share of services exports amounted to only 0.9 per cent of the total exports. In terms of the numbers of exporting companies, the manufacturing exporters outnumbered the agricultural exporters (213 versus 174, respectively).

While the overall share of women-led exporter companies in the total number of non-copper exporters equaled 6.2 per cent, this share equaled to 12.3 per cent for wine exporters and 9.3 per cent for service exporters.

The destination markets for exports of women-led Chilean companies are almost equally distributed among North America (28.7 per cent), Latin America (28.0 per cent), and Asia and Oceania (27.6 per cent). The United States represents the country destination to which the most significant number of women-led exporting companies (140) sold their products. The US was also the top export destination country regarding the goods' value ($265 million) and the number of products exported (511).

7.2 Finland: microdata linking using high-quality registers

During 2019-2020, Statistics Finland and the OECD developed new extended Supply-Use tables (SUTs) and highly disaggregated (granular) value added-based trade indicators for Finland, which include gender-related indicators. The cooperative project was launched to respond to the increasing need for information

on the role of Finnish firms in global value chains (GVCs) and the impact of economic globalization on Finnish society. It was co-financed by a few government institutions (such as the Ministry for Foreign Affairs, Ministry of Economic Affairs and Employment, the Prime Minister's Office) with an active participation of many governmental and non-governmental agencies in the project.

The project developed a standardized process for disaggregating domestic supply-use tables using firm-level microdata, generating extended input-output tables, balancing the extended tables, and calculating comprehensive trade in value-added indicators. These tables are currently published as Experimental Statistics.[13]

7.2.1 Data sources, classifications, and methodology

The granular Trade in Value Added (TiVA) indicators and gender-related indicators are produced by combining various firm-level data sources and by further linking the firm-level data with Finnish supply-use tables. The data used for analysing the effects of GVCs on employment are based on employee-level register data (FOLK), enabling detailed analyses based on employee characteristics such as age, gender, and level of education. Statistics Finland's current publication includes employment indicators broken down by gender (women/men) and level of education (low/medium/high levels of education).

In addition to breakdowns by employee characteristics, employment indicators are grouped by firm characteristics. For example, Statistics Finland's current publication includes indicators broken down by firm trading status (two-way traders/exporting firms/importing firms/non-traders), firm size by the number of employees, and group relation (dependent or independent based on their relation to parent companies and subsidiaries).

The granular trade in value added indicators and the related gender employment indicators are produced using a four-step process:

- Linking firm-level data from various sources and including the necessary variables in year-NACE-firm heterogeneity-level datasets;
- Combining the macro- and micro-level perspectives of the economy, i.e., disaggregating supply-use tables by firm heterogeneity by linking SUTs with microdata;
- Producing extended input-output tables from SUTs;
- Calculating extended TiVA/GVC indicators.

7.2.2 Key results and findings

The benefits of foreign trade are very significant for Finland as a small open economy, with exports accounting for 25—30 per cent of the GDP in the last ten years. The labour productivity of exporters averaged around EUR 85,000 compared to around EUR 63,000 for non-traders from 2008 to 2016. Salaries paid by exporting firms were also visibly higher compared to non-exporting counterparts. Thus, equal participation in international trade from a gender perspective becomes a relevant matter for analysis.

The availability of high-quality registers in Finland allows researchers to link micro-data sets on foreign trade (company datasets by the Finnish Customs and Statistics Finland), employee characteristics (FOLK employee dataset), and business owners (FLOWN business owner dataset) to obtain different measures on gender equality in trade.

In 2016, women accounted for 36 per cent of staff in companies operating in the domestic markets while comprising only 27 per cent in exporting companies. Women's workforce share in exporting companies has been decreasing since 2012. The first analysis indicates that economic globalization supports men-dominated jobs in Finland, and the trend does not seem to be reversing.

Looking at women's share of wages, the pay gap between women and men has been approximately two percentage points higher in exporting companies than in domestic businesses.

[13] Available at: https://pxnet2.stat.fi/PXWeb/pxweb/en/Kokeelliset_tilastot/Kokeelliset_tilastot__tiva/

The data shows that the share of highly educated staff in the whole economy averages approximately one-third. However, the share of women in highly educated personnel varies. Thus, the shares of highly educated women and men employed by importers and non-traders are equal (50 per cent each). In contrast, men account for a significantly higher proportion of the highly-educated workforce in exporter and exporter-importer firms at a share of over 60 per cent. The difference has increased from 2008 to 2016.

The gender differences in pay and educational background indicate that industrial and professional structures differ significantly between an exporter and non-trader enterprises. For example, when looking at a narrower industrial sector, such as the high-tech sector, gender differences are much smaller.

Concerning entrepreneurship in Finnish trade, one-third of entrepreneurs of non-exporter firms are women. In contrast, only one-fifth of entrepreneurs are women in the export sector. Furthermore, in recent years, the number of women entrepreneurs in exporter firms has decreased. In 2016 women-owned exporters and non-exporters employed relatively more women than men-owned companies. However, in the export sector, the difference was smaller, at about 5 percentage points, while in the case of non-exporters, the difference was 28 percentage points.

The Finnish analysis of gender-in-trade, thus, shows that benefits of globalization are distributed unevenly among men and women. A significant finding is the considerably low women's participation in international trade. Women receive a smaller proportion of salaries and capital income from exporter firms as workers and entrepreneurs, which may lead to an undesirable development when considering income differentials.

A closer look reveals many differences in exporting companies related to the owner's gender. Men-owned enterprises are more productive generally, but women-owned export firms are, on average larger by the number of employees. The share of women in the workforce is highest in companies where ownership is evenly distributed between men and women. By contrast, women's proportion of the workforce is the lowest in men-owned businesses.

7.3 Georgia: microdata linking and sectoral approach

Georgia was one of the signatory countries of the 2017 Buenos Aires Declaration on Trade and Women's Economic Empowerment. To study the gender aspects in trade, the National Statistical Office (Geostat) took part in the UNDA project pilot study supported by ECE and UNCTAD.

7.3.1 Institutional arrangements

The Georgian Law on Statistics defines the National Statistics Office of Georgia as the coordinator of the national statistical system. According to the state statistical program annually approved by the government, Geostat is the official producer of external trade statistics. Currently, Geostat produces the international trade in goods statistics[14] and foreign direct investments statistics. The survey of external trade in services statistics was started recently, and the first results were expected to be released in 2022.

As an official producer of ITGS, Geostat receives trade microdata from the RS/MoF monthly. Hence, along with Geostat's strong support, all important pre-requisites for the assessment were in place.

7.3.2 Methodological approach

For the gender-in-trade analysis, the annual goods trade data were micro-linked with the key variables from the structural business statistics survey and the SBR for 2016-2020. In addition, the structure of earnings

[14] The primary source of data on international trade in goods statistics is the Revenue Service of the Ministry of Finance of Georgia (RS/MoF). Other important data providers include the Service Agency of the Ministry of Interior and the LEPL State Electrosystem of Georgia which provide data on cars and electricity trade, respectively.

survey (SES) for 2017 was used for the gender analysis by skill levels.[15] All enterprise-level data were linked via the enterprise ID assigned to enterprises by the national agency of public register. The classifications used included the Harmonized System (HS) for the trade data, the NACE rev. 2, and ISCO-2008. In addition, a sectoral analysis of several exporting industries was undertaken via mapping the HS product codes to the corresponding NACE activities of the exporting enterprises.

Approximately 10,000 out of 48,700 trading companies were linked to the structural business statistics data. As the trade data included one-off trade transactions as low as $100, it was not surprising that many small trade companies did not match the SBS sample. However, the coverage in terms of trade value was relatively high: the value of the trade transactions conducted by the SBS-linked companies exceeded 85 per cent for both exports and imports.

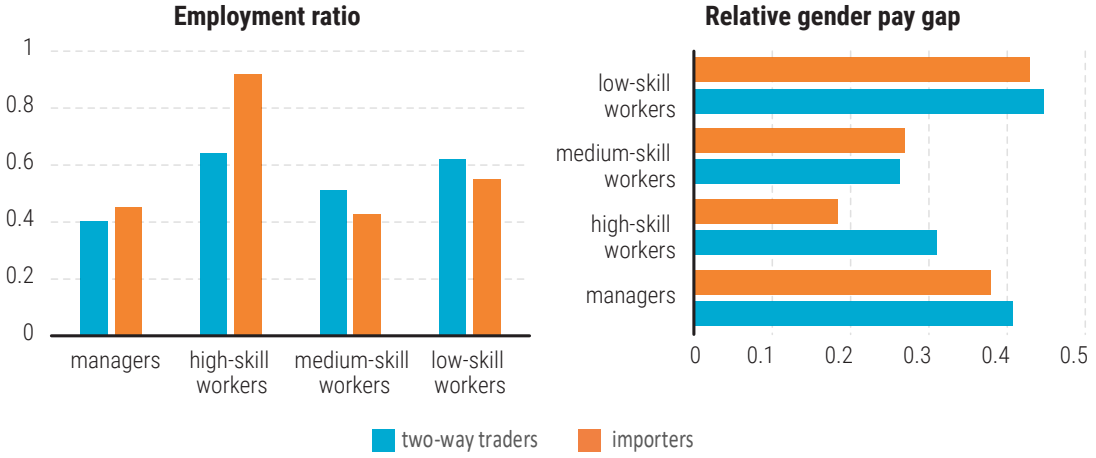
7.3.3 Key results and conclusions

The assessment results showed that the women-to-men employment ratios for different trading companies were within the range from 0.57 to 0.64 during the five-year period, while the gender pay gap oscillated between 0.30 and 0.35.

Further analysis by skill levels showed that the women-to-men employment ratios were the lowest for managers (0.4 for two-way traders and 0.45 for importers) and the highest for high-skill workers (0.64 for two-way traders and 0.92 for importers). The high-skill workers also demonstrated the lowest gender pay gap (18 per cent for importers, 31 per cent for two-way traders), while managers and low-skill workers had the gender pay gap levels oscillating between 38 and 45 per cent.

The gender indicators disaggregated by skill levels demonstrated that generally, high-skill female workers saw the most favourable employment ratios and gender pay gaps (Figure 4).

Figure 4 Georgia: Women-to-men employment ratios and gender pay gaps, by skill level, 2017



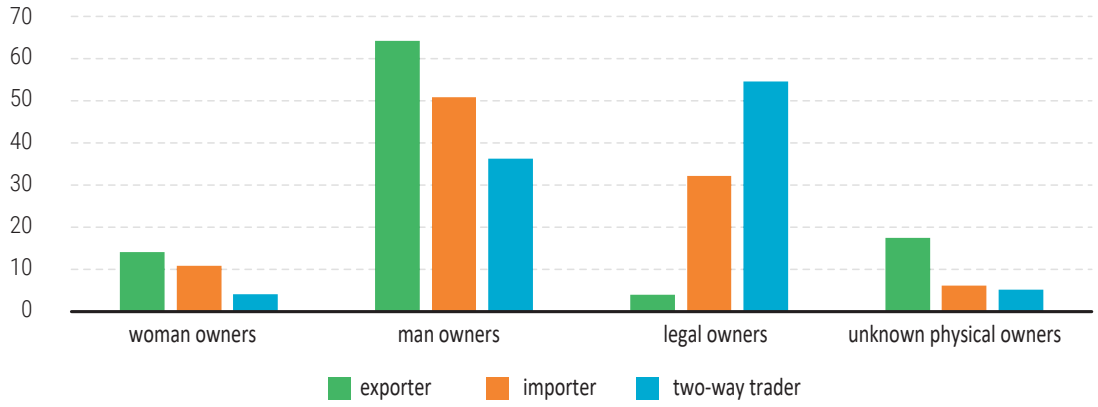
Source: Geostat.

[15] The 2017 SES in Georgia contained the breakdown by skill levels. The data on employees' education, total incomes, etc. was not included in the survey.

The ownership aspect of the gender-in-trade analysis was another part of the assessment. The company ownership data in the statistical business register includes the sex variable for individual owners.[16]

The simple count of men and women owners in the trading companies demonstrated that the number of men owners exceeded that of women owners approximately nine times for two-way traders, five times for importers, and three times for exporters. As company asset data was not available, the assessment of the company ownership value was attempted using trade volumes as a proxy. Such "weighting" of data showed that women's ownership shares stood at 4 per cent for two-way traders, 11 per cent for exporters, and 14 per cent for exporters (Figure 5).

Figure 5 Georgia: Ownership of trading companies by ownership type and trading status, trade weighted



Source: Geostat.

Similar to results in other countries, it was found that women-owned enterprises had more favourable employment and pay gap indicators from a gender perspective.

Finally, a sectoral approach was also used to assess gender-in-trade indicators in the exporting sector. Six important export product groups (HS classification) were mapped to the corresponding production sectors (NACE). As a result, several basic and skill-differentiated gender indicators were calculated. A comparison of the indicators derived from the sectoral approach with the indicators from the more precise microdata linking method was made. The comparison demonstrated that despite differences and apparent advantages of the microdata linking, the sectoral approach still provided a valuable assessment of the gender aspects in the exporting sectors. The "sectoral" indicators for NACE sectors with a high concentration of exporters (e.g., grape wine production, NACE division 10.02) were close to the indicators derived from microdata linking (grape wine exporters, HS 2204, respectively).

7.4 New Zealand: trade and gender analysis using microdata linking and macro analysis

New Zealand Government's Trade for All Agenda, introduced in 2018, aims to ensure trade policy supports sustainable and inclusive economic development and delivers for all New Zealanders. A deeper understanding of the gender-based impacts of trade was highlighted in an independent review established by the Government in 2018. The Trade for All Advisory Board was appointed to provide recommendations on the future of New Zealand's trade policy. It identified the need for better analysis of the impacts of trade—both economy-wide and across specific groups in society, including women—to inform trade and domestic policy development. It found that past analyses of the impacts of trade had a heavy emphasis on GDP impacts, with only light consideration of social, gender, distributional and other impacts.[17]

[16] Companies may also be owned by legal entities. In such cases the data on owners of the holding company(ies) was not sex-differentiated.

[17] The Trade for All Advisory Board's final report can be found at www.tradeforalladvisoryboard.org.nz.

New Zealand's growing international trade and gender commitments further reinforced the need to improve gender-based data. In 2018, New Zealand issued the "Joint Declaration on Fostering Progressive and Inclusive Trade" with Canada and Chile, alongside the signing of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)[18]. This led to the creation of the Inclusive Trade Action Group, which in turn launched the Global Trade and Gender Arrangement. The Declaration included a commitment to evaluate the effectiveness of CPTPP within three years of entry into force concerning a range of sustainable and inclusive outcomes, including gender, indigenous peoples, and the environment. To undertake the evaluation, it was necessary to first bridge data gaps around the distributional impacts of trade in New Zealand.

7.4.1 Institutional arrangements, data sources, and methodology

The analysis was undertaken by MFAT using official data produced by Stats NZ (New Zealand's official statistics agency), which also received insights and feedback from an informal network of officials across several agencies with expertise in trade and gender issues. Access to administrative datasets required meeting specific access conditions and vetting the researchers involved.

Two different approaches were used to produce a gender-differentiated analysis of the effects of trade, including concerning workforce participation, gender wage gaps, and representation in business leadership. The two approaches provided different but complementary perspectives and enabled the ability to crosscheck the consistency of findings.

7.4.2 Estimates from national input-output tables and employment data (the "top-down" approach)

This approach estimated industries' men and women export-related employment by combining aggregate export ratios from New Zealand's Input-Output Tables with survey-based official employment data. The ultimate export intensities for each industry—i.e., the proportion of output exported in an industry—were multiplied by men and women employment data for each industry to produce the estimates (see Bailey and Ford 2018a and 2018b).

The estimates help understand how to aggregate workforce participation differs by gender across exporting industries. When combined with earnings information, they can also be used to investigate correlations between gender representation and gender earnings gaps in export industries. The approach was straightforward to calculate, timely and provided comprehensive economic coverage. It can also be extended to ethnicity to provide more detailed "intersectional" breakdowns – e.g., the number of indigenous women in export employment. However, a key limitation is that it requires simplifying assumptions. The most notable is that export propensity applies evenly across an industry.

7.4.3 Individual and firm-level findings from administrative data (the "bottom-up" approach)

The second approach utilized New Zealand's administrative data sets—the Integrated Data Infrastructure (IDI) and the Longitudinal Business Database (LBD)—to provide a detailed analysis based on individual and firm-level data.[19] The IDI and LBD are large research databases managed by Stats NZ that collate administrative and other data from a range of sources, including government agencies, Stats NZ surveys, and non-government organizations:

- The IDI contains individual-level data about people and households, including administrative microdata and survey data on tax, income, social services, health, education, and housing.
- The LBD contains firm-level enterprise information on business finances, employment, and international trade.

[18] For more information, see www.mfat.govt.nz/en/trade/nz-trade-policy/inclusive-trade-action-group-itag.

[19] Further information on the IDI and LBD can be found on Stats NZ's website at www.stats.govt.nz.

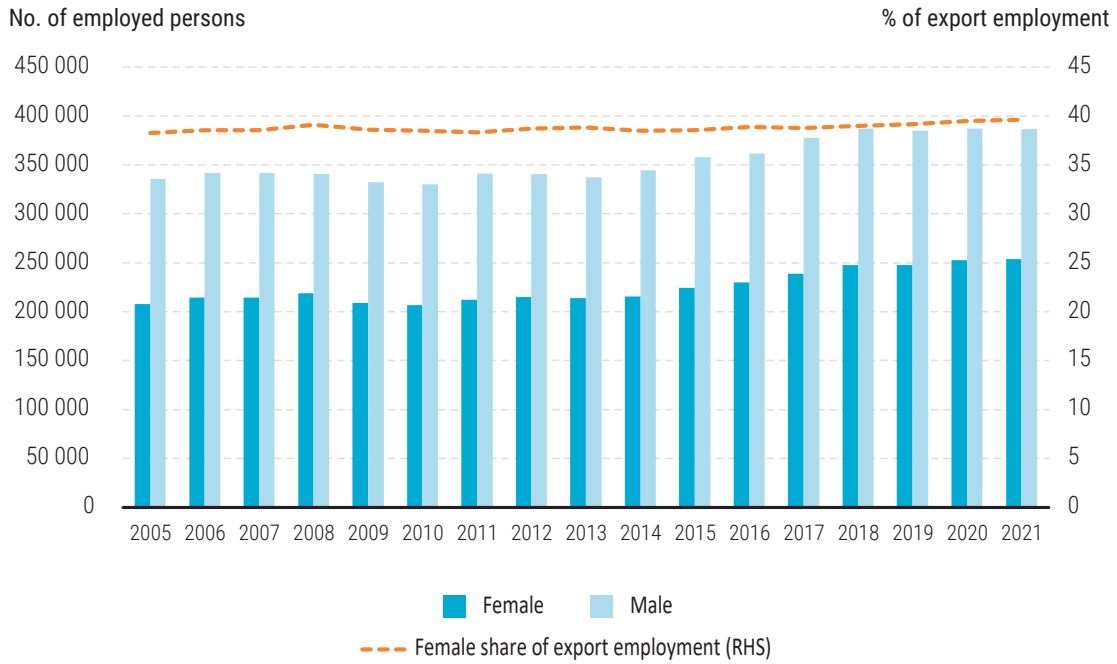
Information belonging to the same person or business in each database is linked by Stats NZ using common identifiers, with the data subsequently de-identified to protect privacy and made available for researchers. Firm data in the LBD can be linked to each firm's employee data in the IDI via monthly payroll tax filings.

As the LBD includes customs data of firms' goods exports and imports, it was possible to identify firms that exported goods. When linked with IDI data on employee characteristics, this provided a reasonably comprehensive picture of which firms participate in goods exporting, the characteristics of their employees (their number, gender, and pay characteristics), and their business owners and leaders (including their gender). The notable gap in the data was firms that export and import services, as currently, there is no administrative data source that comprehensively measures services exports and imports (Verevis et al., 2022).

7.4.4 Key results and findings

This analysis found that the number of women in New Zealand who produce goods and services for export has increased steadily over the past two decades, outpacing growth in the number of men in export-related employment. This has seen the proportion of jobs held by women in the export sector rise slightly to 40 per cent (Figure 6). However, while this is its highest level since data collection began, women remain underrepresented in export employment. They make up 47 per cent of all persons employed in the economy and 51 per cent of the working-age population.

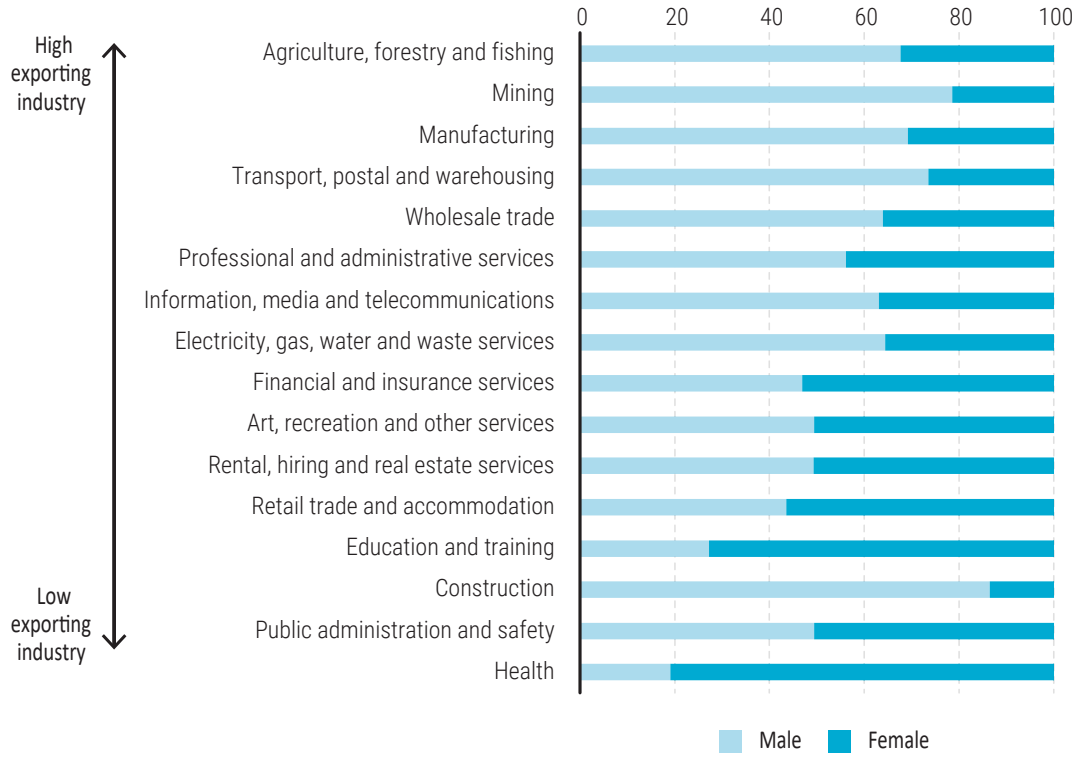
Figure 6 New Zealand export employment by gender



Source: Stats NZ, MFAT calculations.

A key factor in the underrepresentation of women is their low representation in New Zealand's key exporting industries. New Zealand's exports are heavily concentrated in the primary industries and manufacturing, where women represent only a third of employees in goods exporting firms (Figure 7). This partly reflects long-standing occupational gender segregation in these industries. Women are traditionally under-represented in occupations such as farming, lower-skilled manual jobs (such as labouring and machine operating), and technical professions (such as engineering). Conversely, there is a high representation of women in services industries with a strong domestic focus, such as healthcare and education, where women make up over 70 per cent of the workforce.

Figure 7 Gender shares of industry export



Source: Stats NZ, MFAT calculations.

Interestingly, the constraints that contribute to women's under-representation in exporting industries may be lower in large firms. While women make up only a third of the workforce in small-to-medium-sized goods exporting firms, they comprise 44 per cent of employees in exporting firms with more than 250 staff.

Consistent with trends in the broader economy, New Zealand women in export employment earn less than men across all industries. This earnings gap between men and women is slightly more significant in exporting firms than in non-exporting firms. Median monthly earnings for men in goods exporting firms were 24 per cent higher than women, compared with 22 per cent higher in non-exporting firms. Men employed in goods exporting firms also earned on average 13 per cent more than their male counterparts in non-exporting firms – referred to as the "export premium." By contrast, the export premium for women was 10 per cent. This suggests that men in New Zealand are disproportionately likely to receive the benefits of higher productivity and wages associated with trade.

It is also possible through the IDI and LBD to estimate the gender composition of senior management in goods exporting firms, using earnings as a proxy for seniority in a firm. The assumption was that the 5 per cent highest-paid employees in each firm constituted the firm's managers and leaders. This found a significant gender bias towards men in senior leadership roles in goods exporting firms. Men held the majority of senior leadership roles in 82 per cent of goods exporting firms, compared with only 15 per cent that had a women majority. However, there was also a notable difference in gender representation in leadership between small and large firms, with SMEs more than twice as likely as other firms to be women-led.

7.5 Uruguay: an ad hoc survey of exporting enterprises

Uruguay has included gender provisions in many of its trade treaties, including with the Mercosur countries and Chile. In particular, the 2016 trade treaty with Chile represented a comprehensive agreement from a gender perspective with provisions on equal pay for equal work, maternity protection, protection of domestic workers, reconciliation of professional and personal life, and others.

The ad hoc study commissioned by the Uruguay XXI (CINVE, 2019), the country's export and investment promotion agency, explores women's participation in the export industry of Uruguay. According to the study's authors, the purpose of the study consisted of evaluating the relevance of designing policies aimed at promoting women's export entrepreneurship, as export promotion agencies remained gender-neutral or gender blind.

The study represented a web-based survey of enterprises exporting goods and services in the Uruguay XXI data sets. The data on the exporters of goods were based on the 2018 customs data and thus contained variables such as company size or industry, which were later compared to the sampled companies. Ultimately the responses were received from 190 goods exporters and 353 services exporters (of which 155 companies performed export of services in 2018 and were subsequently analyzed).

As the central focus of the study was on the evaluation of women's entrepreneurship, the concepts of women's leadership were defined as:

- strong leadership: women own more than 50 per cent of the company or represent more than 50 per cent of the company's board members or the company's management;
- weak leadership: women's ownership or participation in the company board/management is between 30-50 per cent.

The results showed that for services exporters, only 26 per cent of companies were led by women (strong leadership), while 31 per cent of companies had a weak leadership of women. Among the companies with women's strong leadership, 40 per cent had the majority of women owners, 22.5 per cent had the majority of women managers, and women occupied 27.5 per cent of the general management positions. Consequently, only 11.6 per cent of companies were owned mainly by women demonstrating significant gaps in women's access to capital.

It was further found that women led 22 per cent of the companies for which services exports represented the primary market and 33 per cent of the companies oriented on the domestic market. By managerial positions, the largest shares of women were found in HR (78 per cent), finance (46 per cent), and production (32 per cent), while being significantly underrepresented in general management (12 per cent).

A similar picture is observed in the case of goods exporters, where women led 32 per cent of companies while an additional 25 per cent of companies had weak women leadership. Ownership of companies by women was low (14 per cent). Similar to international evidence, women-led relatively smaller companies. The management positions showed relatively high shares of women in HR (61 per cent) and finance (44 per cent), while the presence of women in the positions of commercial, production, and systems management was very low (24 per cent, 21 per cent and 18 per cent respectively).

Regarding total employment in the exporting companies, there was evidence that women-led companies employ a larger proportion of women. Thus, the share of employed women equaled 42 per cent in women-led companies exporting goods versus 31 per cent in companies not led by women. The respective shares of employed women in services exporters were 55 per cent for women-led companies and 32 per cent for men-led companies.

Approximately half of goods and services exporters indicated difficulties with performing exports. The main challenges mentioned by these companies were related to costs and competitiveness. The women-led companies were more likely to face problems associated with exporting, including 61 per cent of services exporters and 54 per cent of goods exporters.

In line with the previous studies, it found that among exporting companies, those led by women export on average less than those led by men, either because they are smaller companies (which is usually indicated in the literature, linked to leaderships due to access to capital) size or because their products are more oriented to the domestic market. Consequently, women are underrepresented in the leadership of exporting companies, but also, when they are leaders, they do so in less significant companies in the sector.

7.6 West Africa: a cross-border study

The study of small-scale cross border traders (SSCBTs) managed by the World Bank Group and the German Development Cooperation Agency (GIZ) was conducted in six priority corridors of West Africa, involving nine countries (Benin, Burkina Faso, Côte d'Ivoire, Ghana, Mali, Niger, Nigeria, Senegal, Togo) (World Bank, 2020). Although the intraregional trade in West Africa is estimated to be not more than 10 per cent, the existence of non-reported exports/imports by small traders points to higher regional integration.

Thus, the study aimed to collect empirical evidence to address the main trade facilitation challenges affecting small-scale traders, especially women. The research aimed to explore: (i) the situation of small-scale traders and any impediments to their activities at border crossings, (ii) the treatment of women traders at border posts and any gender-specific constraints they face, and (iii) the institutional framework and support that exists for small-scale border operators.

In total, approximately 3,000 interviews with traders, porters, intermediaries, and border officials, 204 key informant interviews, and 48 focus group discussions were completed.

The survey findings provide insights on markets, distances traveled, goods bought and sold, and transportation used by long-distance traders and SSCBTs. The survey highlights that the surveyed traders belong to a complex web of regional trade networks in a vast geographical area.

The share of women traders was found to equal approximately 40 per cent, although, in some locations, they were significantly underrepresented, mainly due to cultural and security reasons. Like other studies, the West African traders were mostly involved in trading agricultural products, although consumer durables and textiles were also important. The general characteristics of SSCBTs show that they are primarily young, with 35-50 per cent aged 34 years or less. About 40 per cent of traders have informal or no schooling, and 40 per cent earn less than USD 100 per month. The traders have to travel between 230-400 km along regional corridors using different means of transport (motorbikes, cars, vans, buses).

Women traders mainly sold food items. They were more likely to run unregistered businesses (women's registration rate averaged 21.6 per cent, compared to men's 42.4 per cent) and generally travelled shorter distances.

The demographics of border officials, along with porters, intermediaries, and transporters (PITs), essentially differ from traders. Both categories are men-dominated, as women do not account for more than 15 per cent of officials and are absent among the PITs. Officials and PITs play an important role in facilitating trade, as traders usually conduct transactions with their counterparts from the neighboring countries across trading corridors.

All survey respondents were concerned about the border and market infrastructure and overall safety, with women being slightly more negative. Their particular concerns were related to the status of roads, lighting, and (separate) toilets.

Respondents in all six corridors highlighted the lack of transparency in border clearance, reporting a relatively high incidence of abuse. Corruption was named a significant issue by traders and PITs in both quantitative interviews and FGDs, with at least 40 per cent of traders declaring that they had been exposed to bribery. The incidence of harassment, including sexual, was minimal or denied in quantitative interviews, especially by women. However, these issues emerged as major concerns during FGDs and qualitative interviews.

The majority of traders indicated access to finance as a significant constraint. Personal savings were the primary source of financing, especially for women traders, accounting for 33-40 per cent of total financing on average. Formal borrowing channels were used much less frequently. In general, microfinance was more prevalent among women, with their use reaching 24 per cent in four out of six corridors. Traders cite low financial literacy levels, complex documentation, and stringent loan requirements (for example, in terms of collateral, interest rates, and/or repayment terms) as significant challenges preventing them from extensively using formal financing channels.

Based on the survey findings, a set of recommendations was proposed. The recommendations were related to the implementation of measures aimed at simplifying, streamlining, and decentralizing existing procedures and requirements; preparation of proper documentation for traders to enhance transparency; introduction of measures to improve behavior at the survey sites and relationships between traders, PITs, and officials; an increase of women staff of border agencies; implementation of relatively cheap infrastructure development interventions (e.g., installment of surveillance cameras, solar-powered lighting facilities, designation of night patrol guards); addressing the trade finance issues. A separate recommendation was made about data collection on SSCBTs. As detailed, relevant, and organized data on the SSCBT trade was not available, establishing a regular data collection system was proposed to be considered under the Trade Facilitation West Africa (TFWA) Program.

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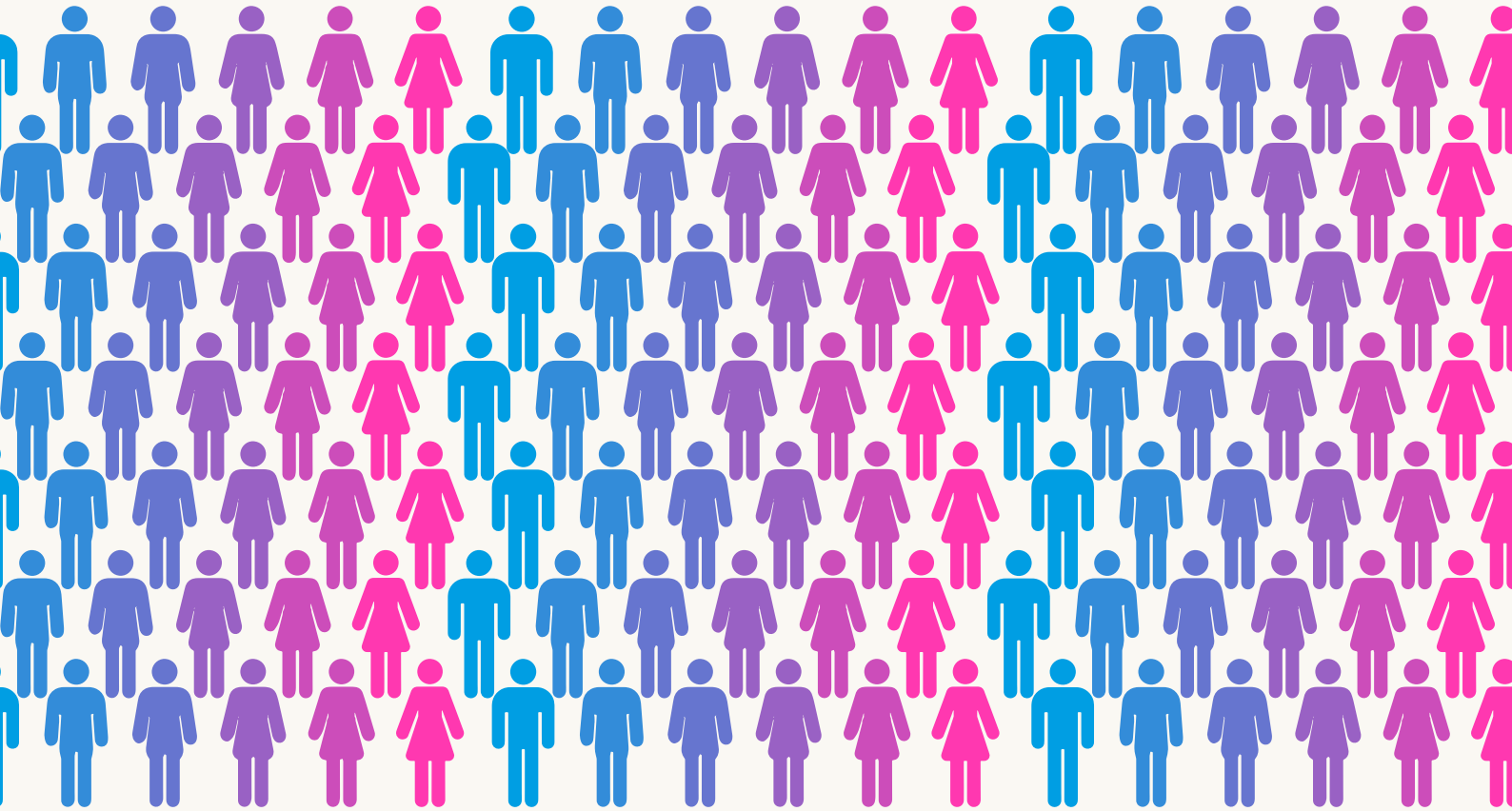

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