

Desk study on the gender aspects of trade and trade policy for statistics by UNCTAD, UNECA and UNECE

***UNDA project 2023D: Data and statistics for more gender-responsive trade policies
in Africa, Eastern Europe, Caucasus and Central Asia***

Abstract

The need for statistics on gender-in-trade is becoming pressing as governments strive to develop gender responsive trade policies, especially after the signing of the Buenos Aires Declaration on Trade and Women's Economic Empowerment in December 2017. The interactions between gender and trade are intertwined with existing social norms and institutions. Consequently, they differ across countries and can take many different forms. To understand these complex relationships and mechanisms and develop effective policies, governments need better and more readily available statistics that link gender with the economy.

This paper provides a desk study of the gender dimensions of trade that should be measured by statistics and reviews possible data sources to inform trade policy on the impacts on gender equality. A draft conceptual framework for the measurement of gender-in-trade is presented, building on the Evidence and Data for Gender Equality (EDGE) framework that has been adapted to the trade context. UNCTAD, UNECA and UNECE intend to pilot test this draft framework with countries at different stages of statistical development. This will help to identify a way forward and develop practical guidance for compiling statistics on gender-in-trade.

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1. Introduction

Making trade policies more gender-responsive requires sound statistics. However, statistical authorities lack data and tools for the measurement of gender and trade, especially in developing countries where women are most vulnerable and statistical capacities less developed.

Trade and gender equality are linked in many ways. Trade interacts with the division of labour, income distribution, social and economic wellbeing and the agency of women and men. Trade policies have important redistributive effects within the economy, which can either magnify or reduce existing disparities, such as gender inequality. It is crucial for policy makers to anticipate how policies affect gender equality to prevent polarization and social exclusion, and to promote corrective actions. Solid data and statistics are the basis for sound and inclusive trade policy making.

Policy making benefits from the sex-disaggregated statistics that are available in most countries on education, health and employment. However, trade and other economic statistics are not collected with gender considerations in mind. The ability to examine the gender implications of trade is limited using statistics that are currently available. While statistics typically measure gender inequalities in the labour market, it is more challenging to find data about the impact of trade on women as entrepreneurs, producers and consumers. Overall, the link between trade and personal level wellbeing is not available in statistics.

2. Background

For a long time, policy makers considered trade gender-neutral and designed policy interventions accordingly. It is now widely accepted that international trade affects women and men differently due to existing gender disparities in production and consumption, in the labour markets, and due to disparities in access to resources and opportunities (UNCTAD 2014). A famous quote by Aristotle “there is nothing so unequal as the equal treatment of unequal people”, still relevant today, summarizes why we need to know more about the gender inequalities related to trade.

The Beijing Platform for Action, signed in 1995, (para. 206)¹ called for national, regional and international statistical services, governments and United Nations agencies to collect, compile, analyse and present statistics that “reflect problems, issues and questions related to women and men in society”, including “on the full contribution of women and men to the economy, including their participation in the informal sectors”. “Improve concepts and methods of data collection on the measurement of poverty among women and men, including their access to resources”.

In almost 25 years from the signing of the Beijing Platform for Action, significant progress has been achieved in the availability of gender statistics. Work has been carried out, for example, to improve the coverage of informal activities in labour statistics, increase availability of education and health statistics by sex, develop time-use surveys as a source of information on gender equality, and create statistics and indicators on the political participation of women and men, just to mention a few areas. Regardless of significant progress in the availability of relevant statistical data, major challenges remain, and the

¹ The Beijing Platform for Action (1995):

http://beijing20.unwomen.org/~media/headquarters/attachments/sections/csw/pfa_e_final_web.pdf

capacity to link data across domains is an essential condition for sustainable compilation of statistics on gender and trade.

Policy makers have started to focus more on women's economic empowerment. In 2015, the Addis Ababa Action Agenda² stressed the importance of women's economic empowerment³ by stating that (para. 21) "evidence shows that gender equality, women's empowerment and women's full and equal participation and leadership in the economy are vital to achieve sustainable development and significantly enhance economic growth and productivity". The 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". Countries are urged "to track and report resources allocations for gender equality" (para. 53).

The Action Agenda also makes a connection between international trade and gender (para. 90) "recognizing the critical role of women as producers and traders" and noting the importance of facilitating "women's equal and active participation in domestic, regional and international trade". Chapter III of the Action Agenda is dedicated to data, monitoring and follow-up seeking "to increase and use high-quality, timely and reliable data disaggregated by sex" and by other characteristics.

The 2030 Agenda for Sustainable Development is based on the idea that "development will only be sustainable if its benefits accrue equally to both women and men; and women's rights will only become a reality if they are part of broader efforts to protect the planet and ensure that all people can live with dignity and respect" and implementing the 2030 Agenda "will require a revolution not only in gender data but also in policies"⁴. While goal 5 focuses especially on gender equality, some dimensions of gender equality are reflected across the entire development agenda. Target 5.5 addresses women's full and effective participation in economic life and target 5.a focuses on women's access to economic resources.

In July 2016, the fourteenth session of the United Nations Conference on Trade and Development (UNCTAD)⁵, recognized the prominent role that gender equality and women's economic empowerment play towards achieving an inclusive and equitable global economic environment. They also asked UNCTAD to "reinforce its work on the links between gender equality, women's and girls' empowerment and trade and development, and support member States" in that regard (para 55(bb)).

The pressing need for data on gender and trade keeps repeating in the policy discussions relating to the Buenos Aires Declaration on Trade and Women's Economic Empowerment⁶, signed in the 11th ministerial meeting of the World Trade Organization (WTO) in December 2017. In the Declaration, countries agree to remove barriers to, and foster, women's economic empowerment, to make trade and development policies more gender-responsive for instance by "sharing methods and procedures for the collection of sex-disaggregated data, the use of indicators, monitoring and evaluation methodologies, and the analysis of gender-focused statistics related to trade". The actions include carrying out an "inventory of

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

³ In the Oxford dictionary, empowerment is defined as authority or power given to someone to do something, or the process of becoming stronger and more confident, especially in controlling one's life and claiming one's rights.

⁴ Turning Promises into Action: Gender Equality in the 2030 Agenda for Sustainable Development (2018): <http://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2018/sdg-report-summary-gender-equality-in-the-2030-agenda-for-sustainable-development-2018-en.pdf?la=en&vs=949>

⁵ Nairobi Maafikiano (2016): https://unctad.org/meetings/en/SessionalDocuments/td519add2_en.pdf

⁶ Joint Declaration on Trade and Women's Economic Empowerment (2017): https://www.wto.org/english/thewto_e/minist_e/mc11_e/genderdeclarationmc11_e.pdf

information sources, their complementarity and the identification of data gaps” with relevant international organisations.

In view of these developments, a UN Development Account project was launched in 2020 building on the methodological approaches used by UNCTAD to analyze the trade and gender nexus and to gather evidence for trade policy. The project is a joint effort of UNCTAD and two Regional Commissions, UNECA and UNECE to develop a coherent approach to measuring the interplay between gender equality and trade policy with official statistics.

Having reliable and comparable statistics on gender and trade is a prerequisite for action and reviewing progress towards inclusive trade policy and equitable economic development as part of the 2030 Agenda. To date trade and other economic statistics have been collected without having gender considerations in mind; and it is, therefore, challenging to make the statistics, collected for different purposes and points in time, interact and provide a clear picture of the key gender dimensions of trade.

3. Gender dimensions of trade

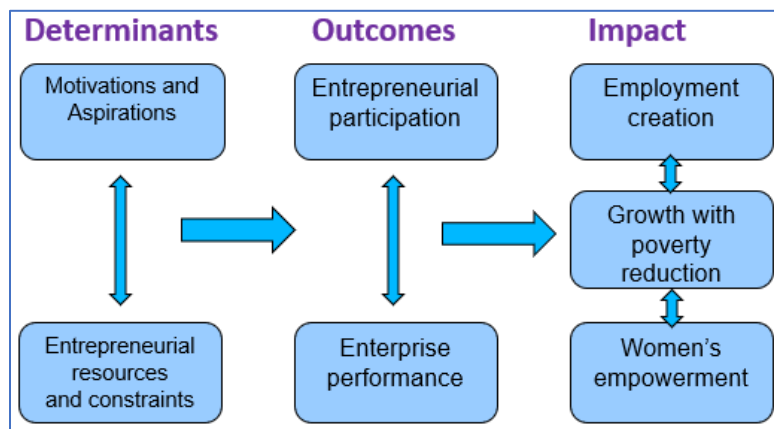
What are the gender dimensions of trade that should be measured? As the concept of gender is multifaceted and trade has wide ranging effects on income distribution and wealth, the interactions between gender and trade are complex and inherently challenging to measure. Developing statistics on gender and trade requires identifying the dimensions to be measured and defining the related concepts (see UNCTAD, 2017).

The joint project of the United Nations Statistics Division (UNSD) and UN Women on the Evidence and Data for Gender Equality (EDGE)⁷ developed a conceptual framework for analysing female entrepreneurship⁸. The EDGE guidelines have been developed at the request of and under the auspices of the United Nations (UN) Statistical Commission in an extensive consultative process with national and international statistical and gender experts and provide a useful structure for statistical analyses of the economic aspects of gender equality. The framework provides common definitions and concepts for measuring entrepreneurship from the gender perspective. This paper will take the EDGE framework as a starting point and adjust and extend it for the trade context. The framework looks at the determinants, outcomes and impacts of entrepreneurship that may relate to gender (see figure 1).

⁷ <https://unstats.un.org/edge/methodology/entrepreneurship/>

⁸ EDGE defines entrepreneurs as persons who have direct control over an enterprise they own alone or with others.

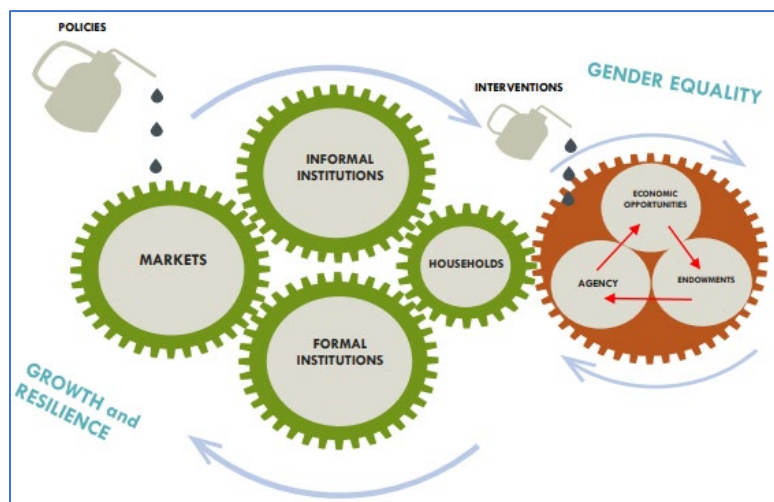
Figure 1 - The EDGE conceptual framework on measuring entrepreneurship from a gender perspective



Source: UNSD

The World Development Report (World Bank, 2012b) suggests a conceptual framework for analysing economic development and gender (see figure 2). Even though the framework does not focus on trade, it looks at interactions between actors of the economy and outcomes of gender equality that are also valid for analysing gender and trade. Importantly, this framework adds policies and interventions into the picture.

Figure 2 - The World Bank conceptual framework for analysing economic development and gender



Source: World Bank (2012b): World Development Report 2012. Gender Equality and Development.

The following sections provide a snapshot of interlinkages between gender and trade that have been studied by researchers. The aim is to provide a mapping of issues that are relevant for the measurement and analysis of gender-in-trade to reflect these in a conceptual framework for the measurement of gender-in-trade.

3.1 What determines economic and trade participation?

Understanding what determines trade participation helps to ascertain how well gender equality and women's empowerment is achieved within countries, and whether the underlying conditions allow women and men to equally and fully participate in trade.

Researchers have studied factors influencing women's and men's possibility to participate in the economy. Three basic factors are often considered in this regard: health, education and empowerment⁹. Dollar and Gatti (1999) add the legal and economic equality of women and men to these three determinants in their research.

While health seems to be only remotely linked to trade, gender equal access to health resources determines the basic conditions for participation in the labour force and trade. Lack of access to basic healthcare and unsustainable levels of health expenses put people to a high poverty risk (World Bank and World Health Organisation, 2017). On the other hand, the general accessibility of health services also influences women's time use, through having to take care of sick children or family members. Jobs at the international traders may also be more competitive, and good health is a precondition for individuals' ability to compete for gaining access to those jobs.

Education is key for women's empowerment in general and a gender gap in education is shown to reduce economic growth (e.g. Klasen & Lamanna, 2009). Higher equality in education is related to increased labour force participation and shrinking gender pay gap (e.g. Blau & Kahn, 2017), and gender inequality in education is shown to be bad for economic growth (Dollar & Gatti, 1999). Thus, examining gender equality in education may be a critical factor in understanding the possible gender gaps in accessing international markets and distribution of benefits from international trade, e.g. Luomaranta et al. (2020) shows how jobs employing science, technology, engineering and math (STEM) graduates provide a better pay, even more so in trading companies, while women are vastly underrepresented in these jobs. Certain types of education are likely to provide access to jobs at international traders or multinational firms.

The possibilities to participate in trade are also influenced by working conditions. Women are overrepresented in the informal sector in many countries, seasonal and unpaid work as well as voluntary and household work. This influences their time-use and income differentials. Income is an important factor that influences the possibilities to start a business and participate in trade. Not only does income provide a source of financing, Anderson and Eswaran (2009) also note that earned income influences women's empowerment in households, for instance when deciding about participation in economic activities.

According to UNECE (2020, upcoming) gender inequality within households leads to women being disadvantaged economically, not only in terms of their immediate access to resources, but also in their ability to pursue opportunities outside the home – due to lack of time, demands of unpaid care, limited power in reproductive decision making, lack of power to decide on whether, when or where to work, and circumscribed choices in education and training.

UNCTAD's analytical studies covering several developing and least developed countries¹⁰ identify constraints to women's economic empowerment. These include, for instance, unequal economic rights

⁹ Joint Declaration on Trade and Women's Economic Empowerment (2017):
https://www.wto.org/english/thewto_e/minist_e/mc11_e/genderdeclarationmc11_e.pdf

¹⁰ The studies and a synthesis report are available at: <http://unctad.org/gender>

and unequal access to productive resources; poor access to vocational and on-the-job training; and a large proportion of time spent in care and household work that are also reflected in women's high participation in low productivity work and low participation in high-skill occupations as well as commercialized and capital-intensive production and trade. According to OHCHR (2012), human rights are universal, inalienable, interrelated, interdependent and indivisible. They include civil and political rights (e.g., the right to participate in public affairs, freedom from torture and arbitrary detention), economic, social and cultural rights (e.g., the rights to food, social security and education) and collective rights (e.g., the right to development).

Developing Kabeer's (1999) three dimensions of economic empowerment (resources, agency and achievements) Laszlo et al. (2017) consider economic empowerment as a process by which women acquire access to and control over economic resources, opportunities and markets, enabling them to exercise agency and decision-making power to benefit all areas of their lives. They divide possible indicators firstly to direct determinants of women's decision-making power and secondly to indirect measures of the outcomes of that decision-making, such as the labour force participation rate. Thirdly, data are needed on constraints that are outside the direct control of a household or a person, such as property rights or right to education.

Summarizing the findings from the literature review, the following topics emerge with relevance to the preconditions for international trade participation:

- Labour markets – how women and men participate in the labour market?
- Education – how gender equality is achieved in education?
- Health – how women and men face health-based restrictions?
- Public life and decision making – how gender equality is achieved in the policy-making and private life spheres?
- Human rights – how safe is the environment and developed are the societal values with respect to gender equality?
- Resources – how women and men differ in their access to time, funding, land and property resources for trade participation?

3.2 How does gender equality link to trade participation and performance?

There are significant differences in how women and men participate in trade. According to OECD's (2018) analysis of gender in global value chains, men's share of jobs at exporting firms is relatively high, while women are more often employed by suppliers of the exporting firms. Women's jobs are also much more often in the service sector, rather than in manufacturing (Braunstein, 2017). While informal employment¹¹ is a greater source of employment for men globally than for women, in a majority of countries, women are overrepresented in informal employment (ILO, 2019). Most of the known gendered outcomes of trade relate to the differences in how women and men participate in the labour force, which may present heterogeneities across countries.

¹¹ The 17th International Conference of Labour Statisticians (ICLS) defined informal employment as comprising the informal jobs, whether carried out in formal sector enterprises, informal sector enterprises, or households, and consisting of own-account workers and employers employed in their own informal sector enterprises, contributing family workers, employees holding informal jobs, members of informal producers' cooperatives and those producing goods for own final consumption

Women and men may be involved in trade as workers, producers, traders, tax payers and users of public services. For instance, Joeke and Weston (1994) noticed that in developing countries export expansion often relates to increases in female employment shares in manufacturing and services, often referred to as feminization of labour. Defeminization¹² of labour, on the other hand, may happen during a shift to more capital-intensive production, and in case wages in female-intensive production increase attracting more men to the industry. In the OECD countries, men work more often in exporting firms and women in suppliers of those firms (OECD, 2018), while in developing countries a recent analysis shows that women make up a higher share of the workforce in trading firms than in non-trading firms, thus providing opportunities for women in particular (World Bank, 2020a). High levels of gender inequality have been linked to lower product and export diversification especially in lower-income countries (Kazandjian et al., 2019).

In developing countries women make up on average 33 per cent of the workforce of trading firms, and less in non-trading firms. Women are moving from medium to high-skill jobs, but still 80 per cent occupy medium and low-skill jobs. In 2017, the share of skilled female employees reached almost 40 per cent in high-income countries but was only 3 per cent in low-income countries. (World Bank, 2020a.) This varies across countries, as some studies show (e.g. Card et al., 2016; Cardoso et al., 2016; Jewell et al., 2019, Gallen et al., 2019) that women sort to lower productivity firms within industries which are less likely to trade (Luomaranta et al., 2020 compares participation rates of women and men in traders and non-traders explicitly). Busse and Spielman (2005) find evidence of businesses benefitting from women's lower wages in some labour-intensive industries in developing countries. However, many researchers find evidence of benefits for trade and economic growth from improved gender equality, for instance in education, employment and access to finance (Dollar and Gatti, 1999; Klasen and Lamanna, 2009). The effects depend on the sector, country and the specific conditions in each economy.

Thus, the analysis of trade participation will require data on the share of women and men employed by exporting or importing (firms or) sectors, type of occupations by sex, the share of women and men entrepreneurs, owners and managers of businesses that are engaged in trade etc. Ideally data would be available for analysing the roles of women and men as producers, consumers, workers, traders and business owners or managers. Internationally, one in three firms have female participation in ownership (World Bank, 2020). To analyse the impact of gender equality on trade performance, researchers are relying on data from key economic statistic, such as on exports and imports, trade openness and costs, innovation statistics, foreign direct investment and government tariff revenues.

3.3 What are the possible gender-differentiated impacts of trade?

Trade influence employment and business opportunities of women and men, their income, social status, welfare and equality between women and men. Trade may act as a catalyst for gender equality when trade liberalization is associated with rising employment and business opportunities for women, but it can also exacerbate existing gender inequalities and even worsen women's economic and social status (World Bank, 2012a).

Some studies show a link between trade liberalization and positive spillover effects, such as the accumulation of education and skills and better gender equality (Schultz, 2007). According to a World Bank study (2020a) women working in global value chains seem to have a higher probability of holding a

¹² Defeminization refers to a decrease in the female share of employment.

formal job, and across the world, firms that both export and import employ more women, while concentrated in low-skill and non-managerial jobs.

Business cycles are not gender neutral (e.g. Hoynes et al. 2014; Peiro et al, 2012; Razzu and Singleton 2016) as a consequence of gender-segregation into different industries and occupations (see Razzu & Singleton, 2018). Depending on a variety of circumstances, trade may create winners and losers (e.g. Stiglitz, 2002; Sachs, 2005; Piketty, 2014; Bourguignon, 2015). One can estimate the reactivity of women's and men's participation rate and employment rate to changes in economic conditions and international trade and present a number of gender balance indicators (in the spirit of Van Steveren, 2007) to conduct analyses on how the gender balance has been impacted by trade fluctuations within the selected categories.

Vulnerable employment categories, such as part-time labour, or high and low skill employment, are especially interesting from the gender viewpoint. Young workers, similarly to those in informal or vulnerable employment¹³, may be affected more by changes in trade and their employment may be more related to business cycles (e.g. Clark and Summers, 1981; Razzu G. and Singleton 2016). Education is related to increased labour force participation and shrinking gender pay gap (e.g. Blau & Kahn, 2017), but the gender pay gap seems to persist in the high-skill employment. Goldin (2014) explains that this is due to firms that have incentive to reward disproportionately from working extra-hours.

Kucera and Milberg (2000) found that the expansion of trade between OECD countries and developing economies between 1978 and 1995 resulted in disproportionate job losses for women in OECD countries, as most workers were women in import-competing industries, such as textiles, footwear and leather. The same finding was made for agricultural economies, where women are concentrated in import-competing sectors such as food crop production (Bussolo and De Hoyos, 2009), and in Africa, where Seguino and Grown (2006) found that tariff reductions on labour-intensive imports resulted in higher job losses for women than for men.

Davies and Mazhikeyev (2015) use the World Bank Enterprise survey (sample of 19,433 firms in 99 developing and transition countries) to study women's export productivity premiums, finding that female-run businesses experience a negative exporter premium. The World Bank Enterprise Surveys are firm-level surveys of representative samples within the participating countries. They cover multiple topics, such as access to finance, corruption, infrastructure, crime, competition and performance measures. The samples are stratified based on firm size, business sector, and geographic region within a country.

Foreign direct investment (FDI) is known to act as a channel for introducing new technologies. These may raise the demand for higher-skilled workers and tend to increase the wage gap between skilled and unskilled workers (see Figini and Görg, 2011; Head and Ries, 2002; Feenstra and Hanson, 1997; and Lee and Wie, 2015). At the same time, FDI in some low-skill and labour-intensive sectors, e.g. textiles and food processing, is associated with declining inequality as noted for instance for Ethiopia, Ghana and Mozambique among other countries (see Cruz et al., 2018 and Cornia, 2016).

UNCTAD (2004) studied the impacts of trade liberalization and noted that it may strengthen financial independence and agency of women at the household level in addition to providing income and employment opportunities. However, increased international competition can also push wages down,

¹³ ILO considers vulnerable employment to consist of contributing family workers and own-account workers, see ILOstat.

especially for employees in low-skilled jobs without strong bargaining power. Trade may affect women and men positively or negatively depending on the sector; whether the sector expands or contracts in production; and depending on how international competition affects the local labour market.

In this respect, it is important to review the impacts on working conditions such as job security, health and occupational safety. To analyse the impact of trade on women and men more accurately, such statistics should also consider unpaid work as part of labour input (e.g. Çağatay, 2001). It would be important, yet difficult, to get data on bargaining power, economic and social status, wellbeing and empowerment.

Female and male consumers might be impacted differently by trade. For example, Fajgelbaum and Khandelwal (2016) model the gains from trade for different income groups showing that lower income households benefit from trade precisely because they are more likely to consume traded goods. Different consumption patterns of women and men might also cause different tariff burdens, as shown in computations of Gaiies et al. (2018) who have collected tariffs on apparels and separated gender specific items (i.e. women's footwear) to compute tariff burden on women. Tariffs on women's clothing are the source of the majority of tariff burden on consumers in the apparel category.

As tariffs and other forms of taxes imposed on corporations are an important source of government income, government revenues are also affected by trade success. An obvious consequence may be that funds available for social transfers will be reduced if trade is hampered.

In summary, three types of impacts of trade on households and individuals can be separated, which would require statistical data to monitor:

- Consumption effect through the impact on prices of goods
- Income effect on wages, sales of products and employment opportunities
- Revenue effect through the impact on government revenues and transfers

3.4 How can trade policies affect gender equality?

Trade policy interventions and other measures may have intended or unintended gender-differentiated effects. The interventions interact with socio-cultural norms, economic roles and structures of the country concerned. The gendered effects are transferred through resource endowments, property rights, labour market institutions and other country specific conditions that mediate the distribution of costs and benefits from trade (Isaza Castro 2006), including trade policies.

Trade policies may affect gender equality in various ways – such as through changes in growth and employment opportunities, competitive pressures, access to resources and services, and trading rules (UNCTAD 2004). A recent study of 54 developing countries suggests that eliminating import tariffs, for instance, could result in a rise in real income for female-headed households in more than three-quarters of the countries considered (World Bank, 2020a).

Literature often looks at how trade liberalization, such as reduced tariffs or increased openness to trade, relate to gender equality. Some research finds a positive impact on the gender wage gap from policies that promote trade expansion (Black and Brainerd, 2003; Rasekhi and Hosseinmardi, 2012), and some find a negative impact (Menon and Rodgers, 2006; Sauré and Zoabi, 2014) depending on the countries studied. In an analysis of 62 countries, Weichselbaumer and Winter-Ebmer (2007), for instance, find that the

gender wage residual is consistently lower in the case of higher competition and in the presence of equal treatment laws.

There may also be indirect effects from trade liberalization policies on gender equality and division of labour between women and men. If tax revenue from trade taxes falls, this may reduce public expenditure on social services, education and health, which may in turn increase women's unpaid work burden to substitute for public services (Van Staveren, 2007).

An empirical analysis for a sample of developing and developed countries from 1987 to 2007 suggests that stronger economic and social rights for women can spill over into a country with weaker rights when the two countries are connected via trade or foreign direct investment (FDI) (Neumayer & De Soysa, 2011). Similarly, Wang (2018) shows that between 1999 and 2009 governments tended to promote gender parity by employing similar policy choices as their economic competitors.

There are different types of trade policy interventions that are likely to have gender-differentiated effects. In principle, data would be needed on the different policy measures taken, for example:

- Trade reforms and policies
- Customs procedures
- Import tariffs and quotas
- Export taxes, subsidies and restraints
- Export finance and risk mitigation
- Multilateral, regional and bilateral trade agreements
- Non-tariff measures, including sanitary, technical or trade protective restrictions on imports, price-control, intellectual property and trade-related investment measures¹⁴

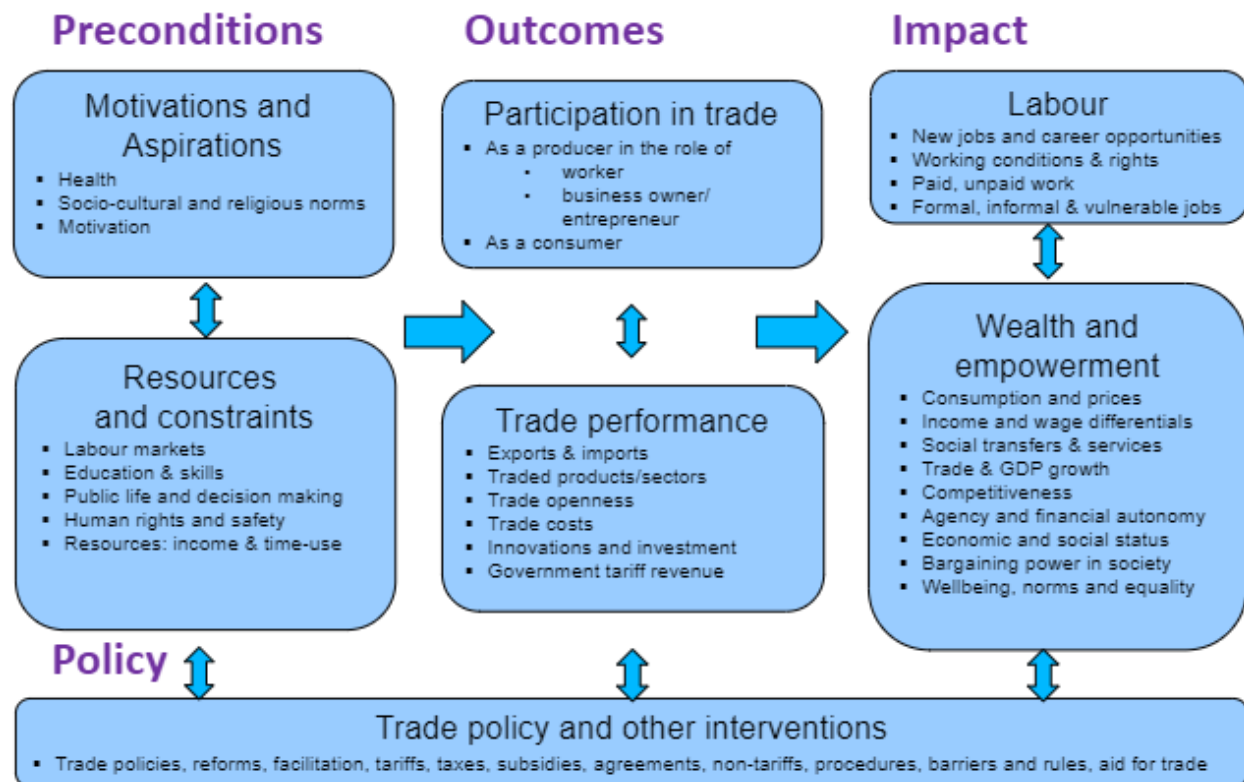
4. Defining a conceptual framework for measuring gender-in-trade

We can formulate a draft conceptual framework for measuring gender-in-trade by summarizing the above discussion (see figure 3). At least the following elements should be considered when aiming to measure the interactions of gender and trade:

- i. Preconditions for the participation of women and men in trade: motivations and aspirations, resources and constraints;
- ii. Outcomes reflecting the degree of participation and roles of women and men;
- iii. Impacts including the effects of trade on employment, division of labour, income, empowerment and wellbeing etc.;
- iv. Trade policy and other government interventions that may influence gender equality.

¹⁴ The International Classification of Non-Tariff Measures (UNCTAD 2015) provides a full list of the types of non-tariff measures here: http://unctad.org/en/PublicationsLibrary/ditctab20122_en.pdf?user=46

Figure 3 – UNCTAD conceptual framework for measuring gender-in-trade



Source: UNCTAD based on the EDGE framework.

The fourth element has been added on top of the above three elements included in the original EDGE framework, and the contents of the elements have been adjusted for trade based on the interactions of gender and trade as identified by literature.

The framework guides the selection of data to analyse gender and trade. Ideally, statistics on gender and trade would be calculated directly from microdata, but that requires more investment in data and time. Such detailed statistics would reflect the situation of women and men directly involved in international trade, e.g. as employees, owners and managers of trading businesses. These data could also be linked to other variables held by statistical offices, such as education, age, type of job, earnings and other characteristics of individuals employed by trading companies as well as be linked to information on the company, its industry class, productivity, size, types of products produced, exported and imported, etc.

A challenge that needs to be addressed is how to link these data across domains. Samples of households and businesses are based on different populations, and statistics are collected for specialised purposes, for different statistical units and frequencies. The following sections provide ideas on potential statistical data sources reflecting on the main findings of an inventory of available national and international statistical sources.

5. Statistical data sources and challenges

5.1 Statistics on the preconditions of trade participation

The Interagency and Expert Group on Gender Statistics (IAEG-GS) has defined a minimum set of gender indicators¹⁵, which we can rely on as the main source of indicators available across a number of countries in a comparable way. The minimum set is a collection of 52 quantitative indicators and 11 qualitative indicators, relevant to gender equality and women's empowerment across topics. The indicators are fully aligned with the SDGs, and those related to labour force participation, education, health, decision making and resources, such as time use, rights and access to technology, are an excellent starting point for assessing gender equal conditions for economic participation.

Nationally, labour force surveys are a key source for shedding light on work-life balance, as they collect data on marital status, employment status, presence of preschool children, other dependents and availability of childcare services¹⁶. However, there are challenges as well. For instance, women are often engaged in informal employment that is not fully captured by statistics (see ILO, 2013).

Some countries carry out income and living conditions surveys for the monitoring of poverty and social inclusion. These surveys may collect information on social exclusion and housing conditions mainly at household level, while labour, education and health information is obtained from individuals.



Health and education statistics are among the most commonly available statistics by gender. Statistics on household decision-making and gender inequality in access to technology, land and productive resources are scarcer. Similarly, information on the motivation and aspirations of women and men regarding participation in the economy and trade and information on the socio-cultural norms that may affect their choices are not usually available from official statistics.

Data on economic rights has started to improve gradually through surveys and databases of international organisations, such as FAO (2016) and the World Bank (2018). The availability of data on access to resources – information networks, finances and services – is gradually improving through global surveys.



Time-use surveys, carried out by many national statistical offices, provide important data on the time-use patterns – an outcome of household decision-making. Time-use surveys are useful for assessing time used on unpaid work or non-market production (see UNECE, 2017); social activities and leisure; work-life balance; gender equality in time-use etc. However, these surveys are carried out less frequently due to the high costs and burden on respondents. Light survey modules are often pursued as complements, however.

Unsafe conditions may hamper women's participation in trade. In 2011, UNECE developed a survey module for the measurement of violence against women that has been tested and applied by national statistical offices, and such surveys have been carried out across 28 EU countries since then. The safety of the conditions to trade could be measured with similar approaches where this is an issue.

¹⁵ <https://genderstats.un.org/>

¹⁶ For more details, see the UNSD Gender Statistics Manual: <https://unstats.un.org/unsd/genderstatmanual/>

5.2 Statistics on trade participation and performance

Information from the labour force survey, population census and employment statistics by sector provides the basis for analysing women's and men's labour force participation and potentially participation in trade. Statistics on employment in export-oriented industries can serve as a proxy of women's and men's participation in trade if microlevel data on individuals who work in exporting firms are not available.

Currently, data on women and men as consumers of traded goods and services are not easily available, or easy to compile. Statistics compiled based on the household budget survey may be otherwise helpful for analysing the income and employment status of women and men, but they often do not provide data on the consumption patterns of individual household members. The living conditions survey may also provide the means to assign the consumption of certain goods and services, but not often by sex¹⁷.



The structure of earnings surveys are useful sources for data by occupation, including sub-classes for senior officials, managing directors and chief executives by industry and gender. Indicators on women and men as business owners in different industries are becoming more widely available and could be reviewed in connection to the export intensities of the industries. Surveys focused on power and decision-making in businesses are not typically carried out by statistical offices, however.

Analysis of women and men working in enterprises engaged in trade would require linking of microdata on employers and employees with trade. OECD (2018) has analysed gender roles in global value chains with input-output tables¹⁸ and trade in value added data combined with hours worked by industry from the national accounts, broken down by gender. The breakdown was estimated from labour force surveys.

Official statistics on trade in goods and services and economic development are widely available from statistical systems and global databases. These include statistics on GDP, exports and imports. The UNCTADstat database, for instance, provides official statistics on trade trends and structures, GDP and indicators on trade openness, market and product concentration, trade balance and market access. The World Bank also compiles trade openness indicators¹⁹ that compare total trade in goods and services to GDP. Some statistical offices carry out innovation surveys among businesses that could be combined with a variable showing whether these businesses participate in exports or imports.



5.3 Statistics on the gender impacts of trade

National statistics on the business sector and employment could be linked to trade statistics to reflect on opportunities and changes in jobs and working conditions. One could also review statistics on new job openings, business start-ups and closures in export or import-oriented industries.

¹⁷ Ibid.

¹⁸ An input-output table is a detailed analysis of the process of production (produced by statistically advanced countries), describing the sale and purchase relationship between producers and consumers within an economy by showing flows of final and intermediate goods and services by industry or by product.

¹⁹ UNCTADStat provides trade openness indicators calculated as exports, imports and sum/average of exports and imports as percentage of nominal gross domestic product (GDP): <https://unctadstat.unctad.org>

Statistics on working conditions²⁰ and quality of employment²¹ for women and men are available in some countries. These studies provide rich information about job security, income, non-wage benefits, fair treatment, work-life balance, informal employment, forced labour, working time arrangements, working hours, skills development, motivation, relationships at working place etc., but are not collected frequently.



Wages and earnings statistics disaggregated by sex could be assessed by employer sector, for instance by comparing wage differentials by gender in the export-oriented industries to other sectors. Linking data at microdata level could enable selecting employers that are engaged in trade and studying wages and earnings by sex. Some governments also oblige largest companies and public bodies to report openly on their gender pay gap²² and the share of women and men employed.

Statistical offices provide a variety of income data disaggregated by sex, such as gross earnings; disposable income; hourly, weekly and annual earnings; investment, self-employment or pension income; social transfers etc. These data are often collected in the household income or budget survey. Comprehensive data sets on taxable income available in countries with register-based statistical systems would enable the analyses of gender differentials in a detailed fashion. These, however, are scarce in the project countries. However, monthly labour force surveys, more commonly available, include questions on earnings (hourly, weekly or monthly) and take-home pay, but may lack sex disaggregation.

Trade is linked to changes in the prices of goods and services, and their effects on the available disposable income and consumption patterns could be reviewed using household surveys. Changes in government social transfers, potentially linked to reduced or increased government tariff revenue, are reflected by government expenditure statistics. These changes could then influence time-use between activities in the markets and within the household, again underlining the importance of time-use surveys.



Laszlo et al. (2017) list possible measures of economic empowerment, such as statistics on psychological and cultural factors, social and economic norms and status, access to and control of resources, rights, agency, participation and time-use, health, knowledge and education etc. While data on the personal, social and cultural factors are rarely available, the Demographic and Health Surveys²³ offer a set of socio-economic, population and health indicators and measures of household decision-making etc. The OECD²⁴ and UNSD²⁵ both provide a set of statistics on governance and gender.

5.4 Statistics on trade policy

Data on trade policy interventions – trade protection, tariff and non-tariff measures (UNCTAD, 2015) and trade agreements – are available in the World Integrated Trade Solution (WITS) that includes the UNCTAD

²⁰ Eurofound surveys: www.eurofound.europa.eu/surveys/european-working-conditions-surveys

²¹ EU data on quality of employment: <https://ec.europa.eu/eurostat/web/labour-market/quality-of-employment>

²² Definitions may vary in enterprise reporting. The unadjusted gender pay gap is defined as the difference between the average gross hourly earnings of men and women expressed as a percentage of the average gross hourly earnings of men.

²³ <https://dhsprogram.com/Topics/Womens-Status-And-Empowerment.cfm>

²⁴ <http://www.oecd.org/gender/data/>

²⁵ <https://genderstats.un.org/#/data-availability>

Trade Analysis Information System (TRAINS), UN COMTRADE, WTO integrated database and WTO consolidated tariff schedules.

The UN Comtrade is a repository of official international trade statistics and analytical tables, including a number of datasets and variables. It contains imports and exports statistics reported by statistical authorities of close to 200 countries. Time series start from 1962 to the most recent available year with more than 1 billion records by product type and between trading partner countries, including value (US dollars), weight and quantity (number of products).

The International Trade Centre (ITC) carries out Non-Tariff Measures Surveys²⁶, which include questions related to women and trade. In addition, ITC carries out surveys of female entrepreneurs and trade participation covering selected countries on a rotating basis.

Trade policy



ESCAP and the World Bank developed a database²⁷ based on gross output data to provide sectoral trade cost²⁸ estimates for about 180 countries. ESCAP has also issued a value-added trade cost database, based on the OECD-WTO trade in value added (TiVA) data. The database includes trade cost in services.

Data on official development assistance are available in the OECD Creditor Reporting System²⁹, which covers around 90 per cent of development assistance and enables the tracking of global aid for trade flows by provider, recipient and project. The OECD database also includes an indicator of aid projects targeting gender equality and women's empowerment.

Global multiregional input-output tables (MRIO) slice and dice the value added in each stage of production using nationally produced input-output tables linked and harmonized to cover multiple regions and countries. This enables the following of the chain of production, exports and imports across borders until the goods and services are consumed. The data allow pinpointing which factors of production, countries and industries benefit from foreign markets and trade, and one can link and analyse gender aspects to labour input across global value chains. OECD, for instance, has carried out analyses on women in global value chains.

One should note that even with ample statistics, data alone would not be able to separate the gender impacts of trade policies from other factors affecting trade and gender, unless proper econometric identification strategies are applied. This would be left to the consideration of those analysing these data.

5.5 Compilation challenges

It is commonly accepted that international trade has an important impact on development - see Monterrey Consensus (United Nations, 2012). The role of multinational enterprises in development has been debated, as they may be able to provide major benefits to host countries in terms of productivity or by filling institutional voids, yet they may exploit host country resources or exercise monopolistic power. These possibilities seem more consequential for developing countries with vulnerable business sectors

²⁶ <https://ntmsurvey.intracen.org/home/>

²⁷ <https://www.unescap.org/resources/escap-world-bank-trade-cost-database>

²⁸ Trade costs include here all direct and indirect costs associated with fulfilling regulatory import and export requirements; differences in currencies, languages, culture and geographical distance; and domestic and international shipping and logistics costs associated with imports and exports.

²⁹ <https://stats.oecd.org/Index.aspx?DataSetCode=crs1>

and weaker institutions. Caves (1999) finds that while productivity spillovers from foreign subsidiaries to local firms are widespread, the impacts are conditional on the country's state of development, the firms' market structure and the industry.

Informal employment and trade play a significant role in many developing economies risking a large part of the economy to go unrecorded. According to the UN Women (2015), in South Asia, over 80 per cent of women in non-agricultural jobs are in informal employment; in sub-Saharan Africa, 74 per cent; and in Latin America and the Caribbean 54 per cent.

As noted by UNCTAD (2020), there are multiple, often country and location-specific, interactions between gender and trade requiring case-by-case evaluation: Differences in labour market structures, economic conditions, degrees of trade liberalization and gender inequalities, legal frameworks and commitments as well as the level of women's participation in the economy mean that a successful policy in one country does not necessarily work in another. It is not only the varying mechanisms of cross-border impacts and the roles countries play in global value chains, but also the significant variation in female labour intensity across countries that make generic solutions unfeasible (e.g. World Bank, 2020b, on the variation in the African continent). Therefore, better availability of data and statistics is essential.

Currently, statistical authorities lack data and tools for the measurement of gender and trade, hampering informed policymaking. The development of registers and the use of government, administrative data for statistics will play an important role in statistical development of developing countries. Without good data infrastructure for national statistics, solid legislation and institutional foundations, countries will not be able to meet existing and future demands for information.

The importance of data infrastructure, for the development of national statistical systems and addressing the statistical analyses required by development economics has been highlighted by MacFeely and Dunne (2014) and MacFeely and Barnat (2017). This applies for the SDG monitoring framework in general, but also to the gender-in-trade statistics and other emerging data needs. MacFeely and Barnat (2017) note that capturing dimensions of inequality, sustainability and governance, in the context of the 2030 Agenda, provide challenges to national statistical systems for all countries, not just for developing countries.

5.6 Statistical data sources

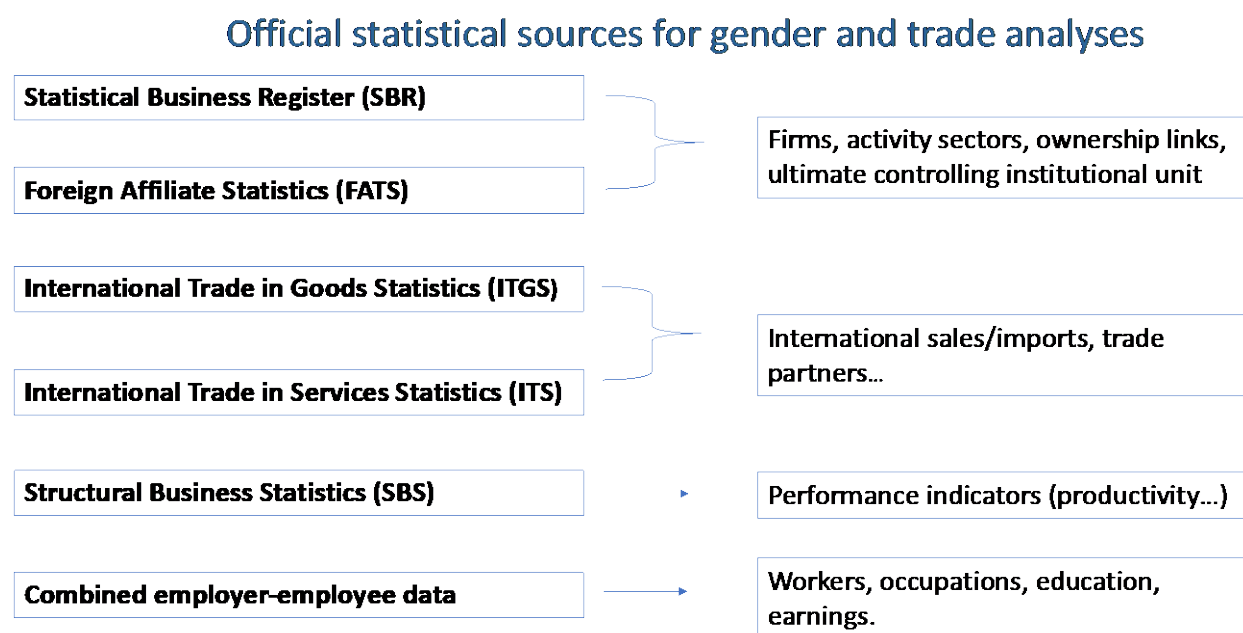
While countries have made notable progress in disseminating sex-disaggregated statistics on topics like education, health and employment, linking gender to trade and economic statistics remains challenging. The ability to examine the gender implications of trade is limited especially when statistics are based on sample surveys rather than registers or administrative data. The latest population census, if recently carried out, could also provide a source of combining data with other surveys. A high-quality statistical business register is definitely an essential resource for linking the necessary business data.

Even if there are data gaps, existing labour statistics offer a useful point of departure for gender-in-trade analyses in both developed and developing countries. Regular official statistics on trade, income and (un)employment are available for most developing countries. They enable at least an analysis of women and men in tradable industries and could even allow the identification of trading firms (See Luomaranta et al. 2020 for such an approach). In addition, surveys carried out by international organizations, such as the World Bank enterprise survey, provide a valuable complementary data source.

The following official statistical surveys and registers are typically available and provide useful data for the analysis of gender-in-trade:

- The Statistical Business Register (SBR) contains a limited number of key variables for the full population of enterprises, including size and ownership links.
- Structural Business Statistics (SBS) describe the structure, activity and competitiveness of businesses and includes variables pertaining to the economic performance and productivity of businesses, their inputs and outputs.
- Foreign Affiliate Statistics (FATS), contain both Inward FATS and Outward FATS. Inward FATS describe the ownership of an enterprise, i.e. whether an enterprise is foreign-owned or not; the ultimate controlling institutional unit (UCI) defines the country of ownership. Outward FATS detail the geographic distribution of domestically controlled affiliates abroad. In Finland, these statistics are based on full enumeration of all known legal units with foreign affiliates.
- International Trade in Goods Statistics (ITGS), often collected by the Customs, record physical movement of goods between countries covering foreign trade above set thresholds. Statistical offices may get additional information for identifying trading enterprises from the Value-Added Tax data, collected by Tax Authorities.
- International Trade in Services (ITS) statistics are typically based on a survey of enterprises, and countries in the Africa have been introducing such surveys, e.g. in the UNCTAD project with the West African Monetary and Economic Union.
- Combined employer-employee data linking employees and employers together are available mainly in developed countries, but also for some developing countries. The variables typically include information on business and individual characteristics. The latter may include family, living arrangements, employment relationships, income and educational attainment.

Figure 4 – Key official statistical sources and their role in gender and trade analyses



Source: Authors' illustration of 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 availability in the national context. Additional country-level surveys may address the most pressing data gaps, such as those relating to the significant size of the informal economy. To this end, the statistical offices of Uganda and Rwanda, for example, 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. 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 that with several African countries.

Special surveys can similarly shed light to the impact of trade on women and men as entrepreneurs and consumers, areas on which data are scarce. Some African countries have carried out surveys of small and medium-sized enterprises which collect sex-disaggregated data, and the ATPC, for instance, recently carried out a survey of the economic impacts of COVID-19 with some sex-disaggregated data. These can provide useful extensions to regularly collected statistical data and highlight important issues that should be measured as part of regular surveys.

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; African Customs authorities have engaged in the exchange of detailed trade data with Customs offices in their trade partner countries.

The development of registers and the use of government, administrative data for statistics will play an important role in statistical development of developing countries. Without good data infrastructure for national statistics, solid legislation and institutional foundations, many countries will not be able to build statistical systems appropriate to a data driven world, nor will they be able to meet existing and future demands for information (MacFeely and Barnat, 2017). In the vein of leveraging scarce resources, many developing countries will require capacity building support to achieve a data infrastructure that facilitates microdata linking, in which existing data are combined and reused for other data needs. New statistics are needed specially to gain insight of inequalities in the context of the 2030 Agenda, as well as to inform policy makers in a timely fashion of emerging topics, such as the impact of COVID-19 on women and men.

6. The way forward in the project

The aim of this desk study was to identify the relevant gender aspects of trade and trade policy that should be measured and the general challenges of producing and using such statistics. The desk study also suggested a tentative conceptual framework for measuring gender and trade reflecting on policy data needs. These outcomes form the basis of further work in the project.

The initial framework will be discussed at international expert meetings in statistics and will be presented to trade policy experts. The aim is to seek feedback for refining the framework prior to further activities. For instance, the framework will be presented at regional kick-off workshops in both regions. The purpose will be to spearhead dialogue between the trade and statistics communities on data needs and gaps and to agree on the conceptual framework for the measurement of the gender aspects of trade.

Based on the agreed conceptual framework and the results of the preceding activities, the project will prepare statistical guidelines and other material for the compilation of trade and gender statistics. These guidelines and materials will guide the national work.

The national activities, pilots and technical workshops will discuss the application of the conceptual framework to the national context taking into account priority data needs. The framework will also be helpful for identifying available data and gaps. The review will provide a means for targeting action to meet priority data needs, to collate existing data and statistics to inform trade policy of the gender aspect and make plans on future improvement needs.

Gender and trade statistics are a new domain, born from the pressing data need expressed by trade policy makers at and after the signing of the Buenos Aires declaration. To this end, the pilots will be carried out in countries with different kinds of statistical systems and capacities to illustrate alternative paths towards improving statistics on gender and trade. The results are to be shared regionally and internationally to scale up the results. The sharing will promote microdata linking and enhanced surveying as tools to enable the compilation of new statistics on important cross-cutting topics linking social and economic information to enable more holistic and inclusive approaches in gender-responsive trade policy.

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