

Appendix 2.  
**Data  
Analysis  
Guide**

# 1. Introduction

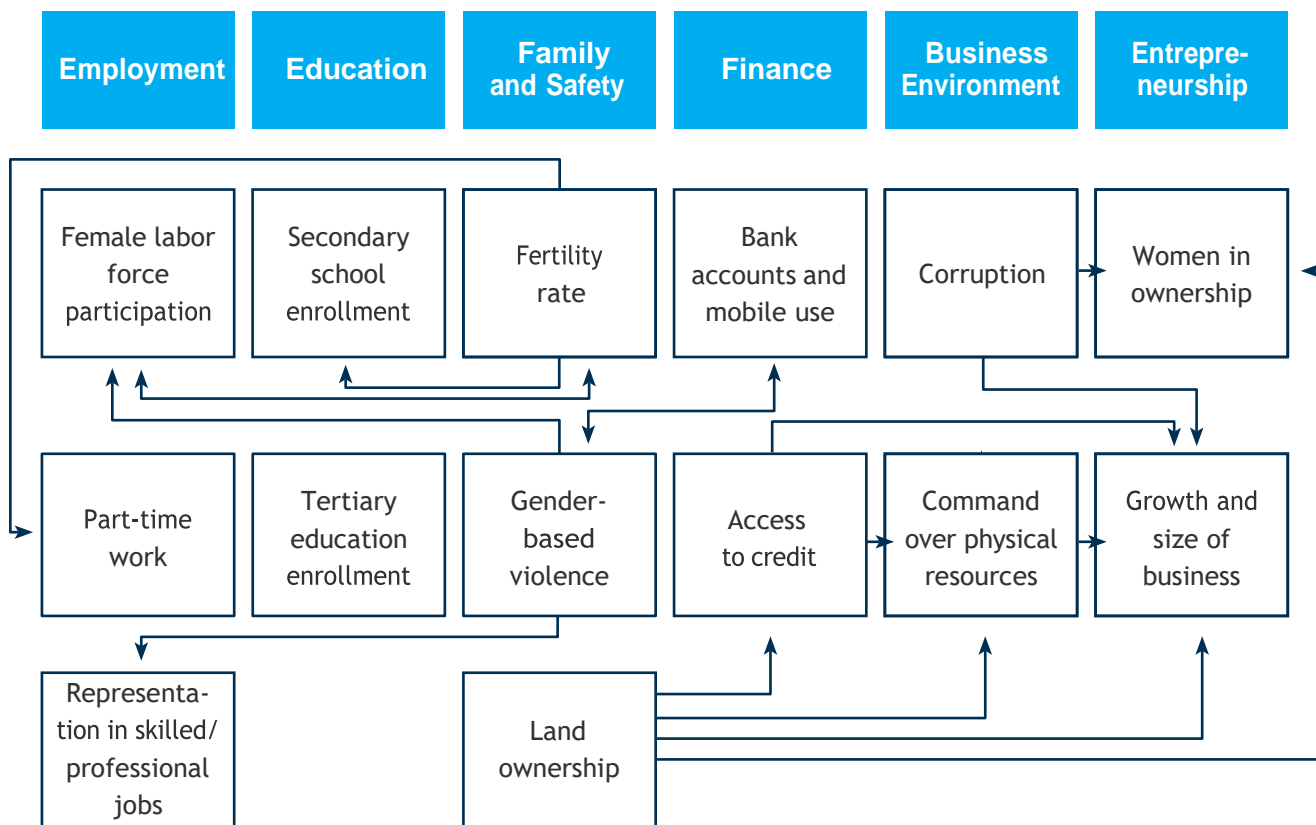
The automated data-generation tool is available online (click [here](#) to access prototype) and provides comprehensive country snapshots of the context in which female entrepreneurs and workers operate. At the click of a button, the tool generates country-level information across over 100 indicators, organized by the toolkit's topics: access to finance; access to markets; business climate; legal and regulatory framework; social norms; training, skills, and information; and technology. Sources for all indicators are referenced in the online automated data generation tool.

The sheer amount of data generated by the tool can be daunting at first glance. This guide is intended to help users assemble an overall picture that can then

be developed in more detail, either from additional analysis of the data from the automated tool or by adding other sources, such as national gender reports.<sup>49</sup>

Begin by looking at indicators for the country, keeping in mind the following topical areas: **employment, education, family and physical sovereignty, financial participation, access to capital, business environment, and entrepreneurship for women.** Within each of these groupings, you should analyze the indicators to get a sense of women's status in that domain. Then compare the country's data with some point of reference, such as figures for the region or for other countries at the same income level.

## Examples in Interactions Between Groups of Indicators



49. For instance, the report, *Women's Economic Participation in Peru: Achieving APEC Priorities for Gender Equality* (from Nathan Associates Inc 2016) was consulted for information on the Peru pilot. A regional example appeared in the 2019 publication *Employment Situation in Latin America and the Caribbean 21*, published by ECLAC/ILO.

As a rule of thumb, countries with a high level of gender equality, in addition to having high incomes, also tend to have high levels of female labor force participation, gender parity at all levels of schooling, replacement-level or lower fertility rates (2.1 or less), and more gender-equal bank and technology use. In contrast, countries with low levels of gender equality generally have low levels of female labor force participation, large gender gaps in education, high fertility rates (4+), and low technology and banking participation by women.

For some indicators, such as fertility, it may be sufficient to work with a “snapshot” using just the most recent data; for others, such as female labor force participation and education, it may be necessary to look at trendlines that indicate whether the country is making progress. For example, a country in South America may have relatively low female labor force participation, but nevertheless be riding a very steep upward curve consistent with the other countries in that region. On the other hand, the United States has very high full-time female labor force participation, but recently, for the first time in a century, it has been flattening and declining.

Legal provisions, also indicators in the toolkit, must be used carefully. Most nations have enacted the kinds of legislation believed to encourage gender equality, but many do not enforce the laws. Do pay attention to laws on the book versus implementation reality.

A similar caution applies to measures of the business environment that are not disaggregated by sex. These numbers can be misleading because men and women have different experiences in business. These measures can be used to gauge the country’s commitment to growth, especially through entrepreneurship, but should not be applied uncritically to women.

Take care to look at both the percentage and the female/male ratio on measures where sex disaggregation is available. A very skewed ratio is often attributable to low base numbers for both sexes, such as in bank account ownership in poor countries.

After the indicators under each topic have been analyzed, comparisons should then be made across each group. Invariably, some parts of the data will seem to contradict or raise questions about others. At that point, it may be useful to look for additional contextual information to help round out the picture.

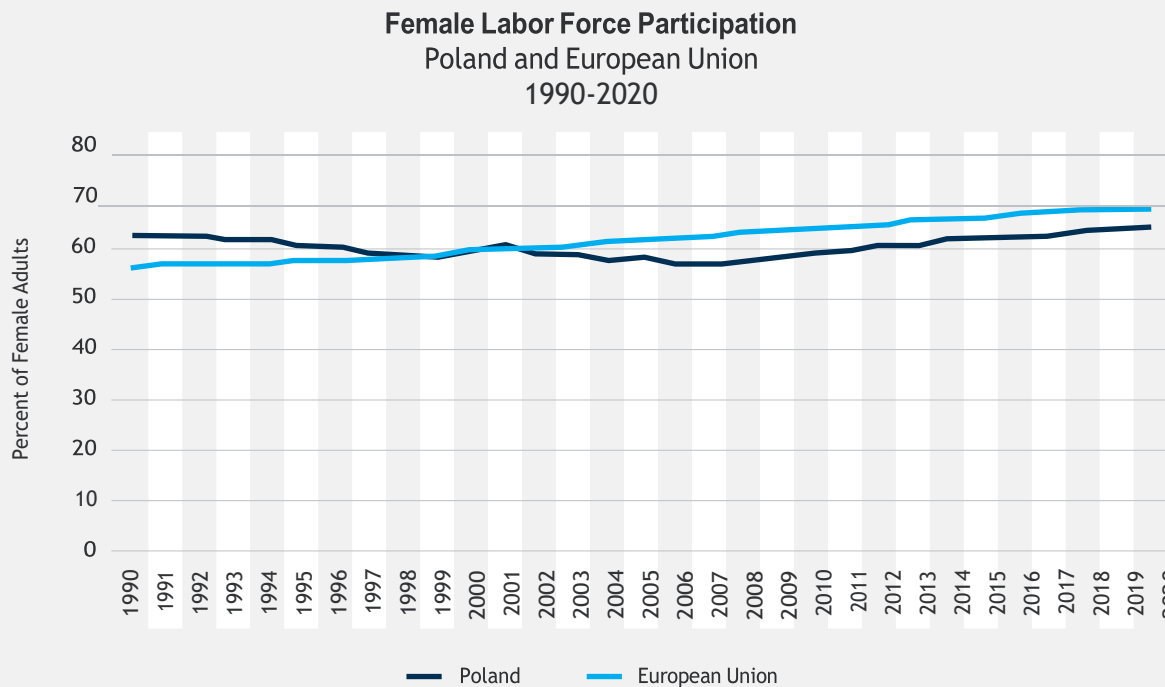
## 2. Data Analysis Process

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*Employment.* Begin by comparing the **percentage of women who work** with the same figure for the **comparison country set**. Create a line graph of the trends. Then look at the percentage of women **who work part-time** and the **gender gap in pay**. The higher the number of women who work part-time, the bigger the pay gap will be, as measured by estimated earnings, a number based on actual money earned. Then look at the **Wage Equality for Similar Work** indicator, which represents how much a woman is customarily paid for the same work carried out by a man. Lastly, put together a comparison between male and female representation in **agriculture, industry, services, and informal work**. Once you have all these figures, you will be able to assess whether the gender pay gap is driven more by prejudiced customs, part-time work, or women clustering in low-paying sectors and insecure jobs. See the examples of employment indicators and pay gap analysis in Boxes 5 and 6.



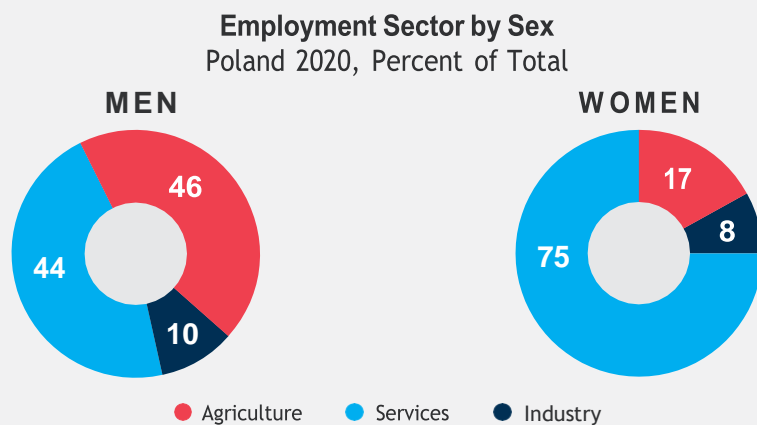
## BOX 5: Examples of Employment Indicators and Pay Gap Analysis



Source: World Bank Databank, Gender Statistics

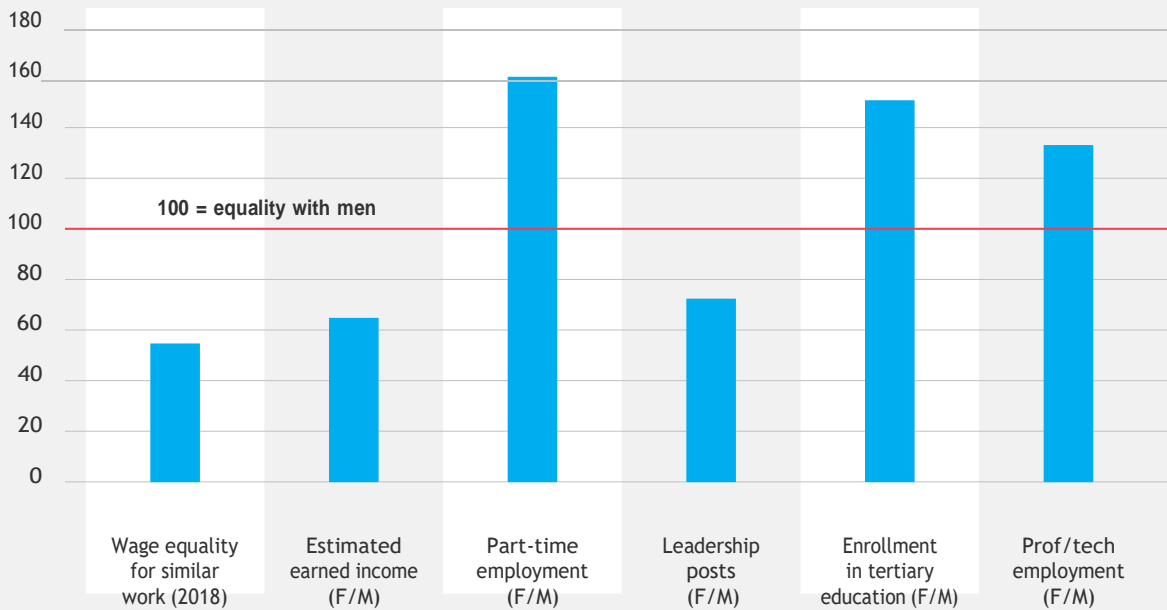
This first graph shows Poland’s female labor force participation trend over a thirty-year period, as compared to the European Union. The percentage of women who work dipped and flattened after the collapse of the Soviet Union, but has increased as Poland grew more prosperous, tracking with the EU over the past ten years.

## BOX 6: Examples of Employment Indicators and Pay Gap Analysis



The pie charts here show that women are concentrated in services, as opposed to industry, compared to men. Because services generally pay less than industry, this concentration would help account for a pay gap. However, industry segmentation by gender cannot be chalked up to choice because sexual harassment in the workplace and other exclusionary behaviors shut women out of higher paying sectors.

### Gender Pay Gap, Employment, and Qualifications Poland 2020



Source: World Economic Forum, Global Gender Gap Report, 2018 and 2020

In this final graph, other employment indicators relevant to the gender pay gap are assembled. From left, Wage Equality for Similar Work reports local perceptions of what is customarily paid to women, as compared to men, for the same or similar work. Using the line that indicates equality with men (index = 100), you can see that women are typically thought to be paid much less than men, even when on an equal employment basis.

The second measure is the female/male ratio of estimated actual earnings, which is also very low. Actual earnings, however, are substantially influenced by the incidence of part-time work and Polish women work part-time substantially more often than men. The gender difference in part-time work is usually traceable to household practices allotting more unpaid work in the home to women, as well as to insufficient childcare arrangements in the country.

Career advancement also substantially influences the gender pay gap; the next column shows that women are in leadership positions, which pay more, much less often than men.

A common rationalization of the gender pay gap is that women are not as appropriately educated as men and therefore do not hold jobs that pay as well. However, the columns on the right contradict that argument by showing women more often enrolled in higher education as well as holding the jobs requiring the most training and skill.

In light of this information, the gender pay gap in Poland can be partly attributed to industry segregation and part-time work, as is typical around the world. However, there are also clear indicators of cultural prejudice against women, such as customs that pay women less for the same work, and the mismatch between women's educational achievements, their representation in the highest-skilled jobs, and their exclusion from leadership positions despite their qualifications.

*Family and Reproduction.* Initial indicators: **fertility, comparisons by gender of paid and unpaid work, contraceptive availability, gender-based violence, marriage and first birth ages, SIGI score, and gender attitudes.** The fertility rate is a particularly powerful indicator; it should be at about 2.1. A lower rate may indicate that working mothers receive too little support; a rate greater than 4 often indicates that gender equality is so low that women have little sovereignty over their own bodies. In a country with economic opportunities for women, the age of marriage will be higher than in countries where women are economically excluded. A young age at marriage and first childbirth, coupled with high rates for fertility, are danger signs for both the women and their country. Importantly, high fertility strongly correlates with conflict and government instability. Obviously, all these factors are affected by the availability of and access to contraception.

The **SIGI score** assesses discriminatory **family codes, access to land and capital, son preference, and prevalence of female infanticide.** These factors all affect and reflect the economic environment for women. Societies that strongly prefer sons and kill girl babies do so because the economic prospects for females are poor.

Gender attitudes often contribute importantly to context when analyzing family data. Several cross-national studies are available. A reputable study can usually be found in a few minutes just by “googling” the country name and “gender attitudes.”<sup>50</sup>

*Capital and control.* Initial indicators are **inheritance rights, household purchasing, and landholding by sex.** It is very difficult to ascertain gender equality in capital because, although families will nominally hold wealth by household, the male head of household usually has practical control over it; this is true even where the law stipulates that ownership of assets is equal and joint. Nevertheless, it’s important to get even a rough picture because access to capital strongly affects factors such as bank credit and business start-ups.

**Inheritance rights and participation in household purchasing decisions** are indicators of the women’s right to capital and cash. Most countries now have equal inheritance rights by law, but many families still customarily bequeath property to males. Household decision-making measures are subject to high social desirability bias,<sup>51</sup> but nevertheless can be used as a rough approximation of women’s ability to access family wealth, save money, and make purchasing choices.

Since land is the main store of wealth in developing countries (and has been historically all over the world), the **percent of landholders by sex** is a key measure. Land ownership is often required to obtain bank loans, for instance. The global average indicates that 18.7 percent of landholders are female. Since men normally hold larger plots, they control more than 80 percent of the world’s land. Rich nations’ ratios actually are lower than the average because they have had quite severe historical restrictions on female property rights. A few countries show outlier scores, such as Saudi Arabia (a very low score) and Lithuania (a high score). These reflect either continuing restrictions on female inheritance (low) or unusual efforts at equal redistribution (high). Nevertheless, in most countries, female ownership is about 20 percent.

*Financial Participation.* Initial indicators are **having an account at a bank, using mobile money to receive and transfer funds, getting a loan from a bank, saving at a financial institution, debit and credit card ownership, and deposits made in a bank or other financial institution.** All of these are available in sex-disaggregated form and should be compared. Data usually exists for only one or two years, so a snapshot approach is appropriate. In developing countries, many are unbanked, regardless of sex, so too much emphasis on ratios may not be appropriate.

Women have been required, sometimes by custom but often by law, to turn over any earnings to the male head of household. They have also been forbidden to have their own bank accounts and so could not save their money for productive uses or to protect against

50. Some examples include the Pew Research Council’s Global Attitudes Survey, the World Values Survey, and some very good regional surveys, like the Understanding Masculinity survey sponsored by UN Women in the Middle East.

51. Social desirability bias occurs when research subjects give the responses they believe to be socially acceptable rather than reporting their true thoughts or practices.

a crisis; the money is often taken from them. Hence, many efforts are now underway to support financial inclusion for women. The degree to which women gain access even to simple financial services is an important proxy for economic empowerment as well as successful entrepreneurship.

*Technological Engagement.* Initial indicators are **Internet use and mobile phone ownership**. Traditional constraints on women have limited their physical mobility, their communication outside the family, and their access to information. Consequently, women were, at first, barred by families from using the Internet or having mobile devices. The gender gap in digital access has been closing over the past five years, but women still lag behind. Because women can use the devices to access market information or contact customers, as well as to gain greater freedom and safety, these indicators reveal women's economic viability, and technological inclusion will significantly influence the potential for success of digitally based project interventions.

*Business Environment.* Indicators are **availability of funds for SMEs, perception that new and growing firms can enter the market, percentage of firms introducing new products, percent of firms experiencing political instability, cultural attitudes toward entrepreneurship, government programs that assist entrepreneurs, intellectual property protection, expectation of gift-giving, and customs as a major constraint**. Most of these indicators are not available in sex-disaggregated form. They describe the environment mostly as experienced by men, since about 66 percent of businesses are usually owned by men. Where special studies have been conducted relating to gender and the business environment, or where sex has been disaggregated, the evidence shows that women experience the indicators differently (Elam et al. 2019; <https://www.gemconsortium.org/economy-profiles>; Hossain, Musembi, and Hughes 2010). So when using these figures, attention is required to the limits revealed by the other indicators.

An example is a World Bank study done in Moldova, where responses from a large sample of registered businesses were sex disaggregated. The data re-

vealed that women were visited substantially more often by tax collectors and that officials asked them for favors or gifts. Women had difficulties with customs that men did not. Banks loaned funds to women-owned businesses on less favorable terms than men received. Poor access to credit and lack of capital meant that women were less able to innovate and often had to sell shares to men to keep their businesses going. Not surprisingly, when asked to rate the business environment in Moldova, women were much more negative than were men. Without sex-disaggregated data, none of these differences would have been visible. The men's experience would have carried the day, simply because there were many more of them (World Bank Group 2017b).

*Entrepreneurship.* Initial indicators include **self-employment, entrepreneurship activity (TEA), saving to start and operate a business, ease of access to physical resources, percent of firms with majority female ownership, and percent by gender who are sole proprietors**. These indicators are specific to entrepreneurship and available in sex-disaggregated numbers. The percent of people who identify as self-employed or sole proprietors gives a sense of women's overall participation in entrepreneurship. Their TEA and savings to run a business provide a gauge of how women move toward opening their own businesses. Ease of access to resources is thought to be an area where women experience discrimination in entrepreneurship.

Governments seek to stimulate business ownership among women as a source of new growth. However, the gender issues discussed above have bearing on the feasibility for women of starting a business. The main barriers to women's success in entrepreneurship are lack of capital, time poverty (especially due to home and childcare obligations), and industrial segregation. Command over resources, both financial and material, is essential for building a business, but it is not equal by gender. Gender differences in business experience and training can also be factors. These numbers showing women's representation in entrepreneurship should be analyzed in the context of the broader limits presented by the other topical indicators already analyzed.

*Comparing Indicators.* Some of these groups of indicators have important relationships that may not be intuitive at first. Some examples:

- Sometimes a gender-unequal country has high female labor force participation, but a further look will show women are concentrated in low-paying, unstable jobs and in family circumstances where they have little financial control.
- Important factors are how many women occupy skilled and professional jobs, as well as how many are advancing to leadership, especially when compared to education levels. Today, many countries have more women than men in tertiary education, but few women in skilled or professional jobs. Sometimes the women are both more educated and more likely to hold skilled jobs, but they are grossly underrepresented in leadership or are mostly employed part-time. These situations not only indicate inequality but also point to a nation's major waste of resources.
- The presence of restrictions on where and when women can work is associated with low GDP but also with having few protections from sexual harassment in the workplace and greater general safety risks for women. Both restrictions and danger keep women from working and therefore result in lower GDP.

- In countries where women are not allowed control over cash, they may participate less in the economy because they have no money to use.
- Access to finance and access to technology are very often related, and both are key to women's participation in entrepreneurship. Control over capital and ownership of land are strongly related to the ability to get bank loans.

*Other Sources.* It is usually a good idea to acquire at least a glancing understanding of the country's history. This can often be done quickly by looking at Wikipedia and then following up anything that stands out in the context of women in business. For instance, women's rights have generally suffered in countries that have had authoritarian regimes.

For this research, be careful to use only reputable sources, such as international agencies or well-regarded research institutions and universities.



