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New data sources and emerging issues

Why Are Women More Food Insecure than Men? Exploring Socio-economic Determinants of the Gender Gap and the Role of COVID-19 in the UNECE Region

**Note by the Food and Agriculture Organization of the United Nations
(FAO)¹**

Abstract

Globally and in every region, women are more food insecure than men, and the gender gap has widened during the outbreak of Covid-19. (FAO et al., 2022). This paper first presents the FAOSTAT data on the prevalence of severe and moderate or severe food insecurity based on Food Insecurity Experience Scale (FIES) for women and men and the evolution from 2014 to 2021 in the UNECE region. Then, we investigate on the socio-economic determinants of the gender gap in food insecurity using FIES data collected on 277,551 individuals aged 15 and above from 44 UNECE countries. We differentiate the surveys conducted in 2014-19 and in 2020-21 to share light on the role of COVID-19 pandemic on food security.

While food insecurity has drastically increased for both women and men in Central Asia after the outbreak of the pandemic, North America is the region where the gender gap has widened the most, from 2.5 percentage points in 2019 to 6.1 percentage points in 2021. Our empirical analysis shows that women are more likely than men to be food insecure, particularly in the rural areas of

¹ Prepared by Erdgin Mane and Annarita Macchioni Giaquinto of the FAO Inclusive Rural Transformation and Gender Equality Division, and Carlo Cafiero and Sara Viviani of the FAO Statistics Division.

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Central Asia, while individuals aged 25-34, regardless of gender have been disproportionately affected during the pandemic.

Finally, by using Coarsen Exact Matching (CEM) and Entropy Balancing (EB) matching techniques, we find that about 55% of the current gap in food insecurity between women and men would be reduced by eliminating gender gaps in education, labour force participation and income. Our results highlight the persistence of gender disparity in food security and offer evidence-based insights to support SDG 2 of ending hunger and achieving food security for all.

I. Introduction

1. Although there is enough food to feed the world, almost 30% of the world's population, around 2.3 billion people, were experiencing moderate or severe food insecurity in 2021 (FAO et al., 2022). Women play a critical role in every aspect of food security, yet they continue to be more food insecure than men. In 2021, 31.9 percent of women in the world were moderately or severely food insecure compared to 27.6 percent of men, hence, 126 million more women than men aged 15 or older experienced moderate to severe food insecurity (FAO et al., 2022).
2. This gender-based gap in food security is due to several factors, including discrimination, lack of access to education, limited opportunities of employment and income-generating activities (FAO, 2023; Mane et al., forthcoming; Gornick & Boeri, 2016). In many societies, women are responsible for most household tasks, including cooking and caring for children, which are undervalued and unpaid. Women have limited control over productive resources, such as land, water, and seeds (FAO, 2023). In addition to these challenges, women face significant barriers when accessing technologies, extension services, credit and markets (FAO, 2023). Women and girls are also more likely to fall into poverty, with negative implications for food security (Kabeer, 2015; Quisumbing et al., 1996).
3. Food insecurity can seriously affect women's health and well-being (Seligman et al., 2010). Women who experience food insecurity are more likely to suffer from malnutrition, anaemia, and other health issues (Sinclair et al., 2019; Ford, 2013; Seligman et al., 2007, 2010, Von Grebmer et al., 2014). Food insecurity can affect women's economic productivity and social status. Poor maternal nutrition during pregnancy and lactation has implications for future generations, leading to problems with infant nutrition, growth, and development (Bhutta et al., 2008; Black et al., 2013; Wu et al., 2004).
4. Most existing surveys and data collect food and nutrition data at the household level, limiting our understanding of the vulnerabilities of population subgroups, including sex and age (Brown et al., 2017; Serra-Majem et al., 2003). Intrahousehold dynamics and individual dimensions are crucial for food and nutrition security outcomes (Haddad et al., 1996). Depending on the country and context, intra-household food distribution might be pro-male and pro-adult (Pangaribowo et al., 2013). Because women control fewer resources, they have less bargaining power within the household (Quisumbing & McClafferty, 2006). In households with limited food quantity or variety, women and girls, as well as other vulnerable sub-groups such as children or the elderly, might be likely to eat less or less nutritious food (Calvi, 2020, Harris-Fry et al., 2017; Yamauchi & Larson, 2019).
5. The limited empirical evidence on the role of gender and its interaction with food insecurity acknowledges the role of women in ensuring food security (Doss et al., 2020; Argarwal & Herring, 2015; Quisumbing et al., 1996). However, to the best of our knowledge, the socio-

economic determinants of food insecurity have rarely been investigated due to the lack of individual and sex-disaggregated data. Broussard (2019) shows that women are more likely to experience food insecurity compared to men and that the gender gap in food insecurity can be attributed to differences in household income, education and social networks. Sinclair et al. (2019) provide evidence that gender inequality in development outcomes helps explain women's increased probability of experiencing food insecurity, with rural women of lower and middle-income countries at a higher risk. Viviani et al. (forthcoming) find the gender gap is more pronounced among the poorest, individuals with lower levels of education, those who are unemployed or work part-time, widows, people living in the suburban areas of large cities and those with recent health problems.

6. Contexts of the food crisis, rising inequality, social and economic instability and shocks, such as COVID-19 exacerbated food insecurity and posed a constant challenge to men's and women's ability to ensure healthy and nutritious food. The impact of COVID-19 on food security has been widely documented at the household level (for review, see Bene et al., 2021). In Nigeria, Amare et al., (2020) showed significant differences in food insecurity by comparing pre- and post-COVID data from 2018 to 2020. Similarly, Headey et al. (2020) used the Food Insecurity Experience Scale (FIES) in Myanmar to demonstrate that access to healthy food was particularly affected during COVID-19. Harris et al. (2020) reported disruptions to diets in 62% of farm households interviewed in India, with around half the households experiencing a significant decline in fruit and animal-source foods other than dairy consumption. Using the Latin American and Caribbean Food Security Scale (ELCSA) in three waves of a phone survey, Gaitán-Rossi et al. (2020) found that the COVID-19 lockdown in Mexico was associated with a substantial decline in food security from 39% in 2018 to 25% in June 2020 in households with children. This decline in food security was not limited to populations in low-income countries; Niles et al. (2020) found a nearly one-third increase in household food insecurity in Vermont (USA) since COVID-19, with 35.5% of food insecure households classified as newly food insecure.
7. Yet, less is known about how gender interacts with food security and COVID-19. In 2021, after the pandemic outbreak, the disparity between men and women experiencing food insecurity increased, particularly in Latin America and the Caribbean, and Asia. The gender gap in food security increased globally from 1.7 to 4.3 percentage points between 2019 and 2021 (FAO et al., 2022). When food is scarce, women are often the first to face hunger, and research has shown that food shocks amplify the gender-based gap between food and nutrition security (FAO, 2023; Mane et al., forthcoming; Kumar & Quisumbing, 2013).
8. This paper first provides the official FAO statistics on SDG indicator 2.1.2 on the prevalence of moderate or severe food insecurity based on FIES and its evolution during the COVID-19 outbreak, with specific reference to countries under the geographical scope of UNECE. Then, we provide new evidence on the determinants of food insecurity by assessing structural changes during the COVID-19 pandemic. We use FIES data collected through the Gallup World Poll (GWP), from 2014 to 2021, on 277,551 individuals aged 15 and above from 44 UNECE countries to estimate the socio-economic determinants of food insecurity through a Tobit model.
9. The analysis of FIES data through the Rasch model (Rasch, 1960) produces estimates of the prevalence of food insecurity at different levels of severity that are valid and reliable and are made internationally comparable by calibrating them against the global FIES reference scale (Cafiero et al., 2018). It relies on people's direct yes/no responses to eight brief questions regarding their access to adequate food. It is a statistical measurement scale similar to other widely accepted statistical scales designed to measure unobservable traits, such as

aptitude/intelligence, personality, and a broad range of social, psychological, and health-related conditions. When analyzed together, the eight questions form a quantitative tool to measure the prevalence of food insecurity (at moderate and severe levels) in a given population. The FIES-based indicator is an important complement to the long-established indicator of hunger, the Prevalence of Undernourishment (SDG indicator 2.1.1), and other related food insecurity measures, with unique potential for guiding actions aimed at achieving the food security targets of the 2030 Sustainable Development Agenda. The FIES data are used to monitor the SDG Indicator 2.1.2: prevalence of moderate and severe food insecurity, which can be disaggregated by sex when collected at individual level.

10. We find that while the prevalence of moderate or severe food insecurity has drastically increased for both women and men in Central Asia after the outbreak of the pandemic, North America is the region where the gender gap has widened the most, from 2.5 percentage points in 2019 to 6.1 percentage points in 2021. Our empirical analysis shows that women are more likely than men to be food insecure, particularly in the rural areas of Central Asia, while individuals aged 25-34, regardless of gender have been disproportionately affected during the pandemic.
11. By combining Coarsen Exact Matching (Iacus et al.,2012) and Entropy Balancing (Hainmueller, 2012) to achieve observational equivalence between women and men, we estimate the potential benefits in terms of food security in closing the gender gap in education, employment and income. We find that about 55% of the current gap in food insecurity between women and men would be reduced by eliminating gender gaps in education, labour force participation and income.
12. The rest of the paper is organised as follows: the data and methodology are described in section II; the aggregated FAO's statistics on the prevalence of moderate or severe and severe food insecurity are presented in section III; the following section includes the socio-economic determinants of food insecurity, while the results of the simulation are shown in section V. Finally, we provide the conclusions in the last section.

II. Data and methodology

13. This paper uses the Gallup World Poll (GWP) individual cross-sectional data collected annually through nationally representative surveys of the resident adult population, from about 150 countries from 2014 to 2021. The survey provides a large set of socio-economic variables, including income, education, employment and marital status. Our original sample of the FIES micro-data included 121 countries and more than 700,000 individuals. We further restricted the sample to countries in the geographical scope of UNECE, resulting in 277,551 observations from 44 countries¹.
14. Table 1 provides descriptive statistics of the variables of interest for the sample of UNECE countries, overall and by sex.

¹ Countries in Europe, in North America (Canada and the United States), Central Asia (Kazakhstan, Kyrgyzstan, Tajikistan, and Uzbekistan) and Western Asia (Israel).

Table 1
Descriptive statistics for UNECE countries, overall and by sex

VARIABLES	(1) All Sample	(2) Women	(3) Men	(4) Difference in mean Women–Men
Prob. moderate or severe food insecurity	0.115 (0.001)	0.125 (0.001)	0.105 (0.001)	0.02
Prob. severe food insecurity	0.022 (0.000)	0.023 (0.000)	0.021 (0.000)	0.002
female	0.521 (0.001)	1.000 (0.000)	0.000 (0.000)	-
rural	0.599 (0.001)	0.600 (0.002)	0.598 (0.002)	0.002
age	45.212 (0.043)	46.211 (0.059)	44.127 (0.063)	2.084
married	0.524 (0.001)	0.516 (0.002)	0.531 (0.002)	-0.015
employed (full-time)	0.363 (0.001)	0.313 (0.001)	0.417 (0.002)	-0.104
employed (part-time)	0.114 (0.001)	0.120 (0.001)	0.108 (0.001)	0.012
self employed	0.072 (0.001)	0.052 (0.001)	0.094 (0.001)	-0.042
unemployed	0.051 (0.001)	0.049 (0.001)	0.052 (0.001)	-0.003
out of labour force	0.401 (0.001)	0.467 (0.002)	0.329 (0.002)	0.138
education (elementary)	0.210 (0.001)	0.229 (0.001)	0.190 (0.002)	0.039
education (secondary)	0.598 (0.001)	0.573 (0.002)	0.626 (0.002)	-0.053
education (tertiary or above)	0.191 (0.001)	0.198 (0.001)	0.184 (0.001)	0.014
number of adults	2.689 (0.003)	2.637 (0.004)	2.745 (0.005)	-0.108
number of children	0.665 (0.003)	0.684 (0.004)	0.643 (0.004)	0.041
income per capita (international USD)	13511.475 (90.292)	12333.895 (105.135)	14791.48 (149.807)	-2457.585
income per capita (log int. USD)	8.714 (0.004)	8.668 (0.006)	8.764 (0.007)	-0.096
Observations	277,551	153,518	124,033	277,551

Source: Gallup WP 2014–2021 for UNECE's countries.

Note: The descriptive statistics are weighted averages within each country, but are not weighted with the population of each country. Hence, the estimates presented here are not official aggregated statistics of the region. Variables in bold if t-test of equality of means between women and men rejected at the conventional 5% level. Chi-square tests were performed on the probabilities of food insecurity.

15. The Tobit micro econometric cross-country model to study the socio-economic determinants of food insecurity disaggregated by sex and age is defined by the following equation:

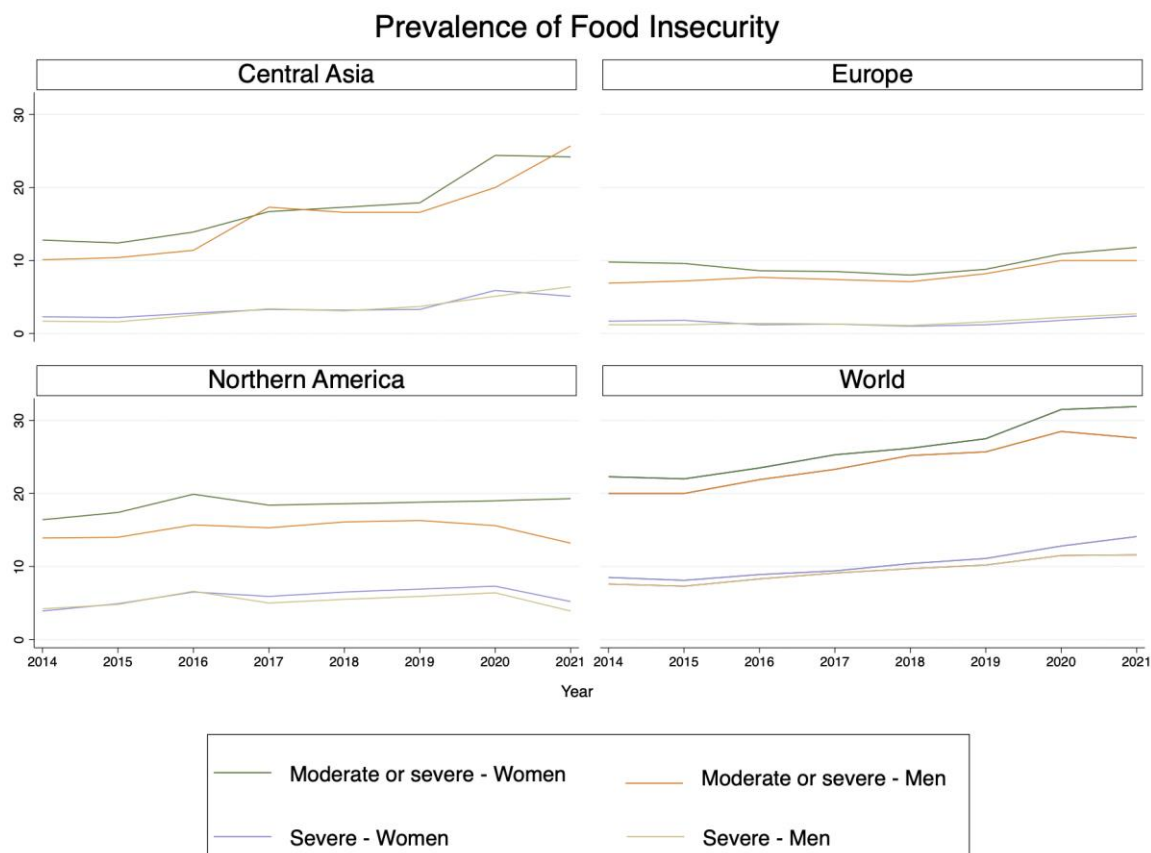
$$Y_i^* = \begin{cases} 0 & \text{if } Li = 0 \\ \alpha_0 + \beta_i \text{female} + \gamma_i \text{rural} + \delta_i \text{fem} * \text{rural} + \mu_i d_{age} + \theta_i d_{age} * \text{fem} + \vartheta_i X_i + b_j + a_k + \epsilon_i & \text{if } Li > 0 \end{cases}$$

Where: Y_i^* is the probability of moderate or severe/severe food insecurity. Specifications include female (=1 if sex female, 0 otherwise); rural (=1 if living in rural areas, 0 otherwise); interaction between female & rural; age groups dummies (for age groups 15-24; 25-34; 35-64; 65+); interaction of age dummies & female. Some additional controls: married (=1 if married, 0 otherwise); education dummies (elementary or less; secondary; tertiary or above); number of children in the household; number of adults in the household; labour market dummies (unemployed; self-employed; full-time; part-time, out of the labour force); income per capita - international \$ (in Ln); sub-region fixed effects or country-fixed effects; year fixed effects.

III. FAO statistics: The gender gap in food security from 2014-2021

16. This section describes the trends of the prevalence of moderate or severe food insecurity for women and men from 2014 to 2021 through the official statistics used by FAO to monitor SDG indicator 2.1.2 based on FIES data.
17. Globally, the food security has increase significantly for both women and men since 2014, but the gap between men and women has more than doubled during the pandemic, from 1.7 percentage point in 2019 to 4.3 percentage points in 2021, with 31.9% of adult women being moderately or severely food insecure compared to 27.6% of adult men (Figure 1).
18. Results at the UNECE sub-regional level show that moderate or severe food insecurity has doubled in Central Asia and slightly increased in Europe and North America, since 2014. Food insecurity is systematically higher for women than for men in all regions. The gender gap has increased the most during the pandemic in North America, from 2.5 percentage points in 2019 to 6.1 percentage points in 2021, while in Europe the gap has increased from 0.6 to 1.8 percentage points during the same period. In Central Asia, instead, after a widening of the gender gap in 2020, food insecurity among men has increased by 5.7 percentage points in 2021 and thus the gender gap is within the margins of error (respectively, 25.7 % for men vs 24.2% for women).

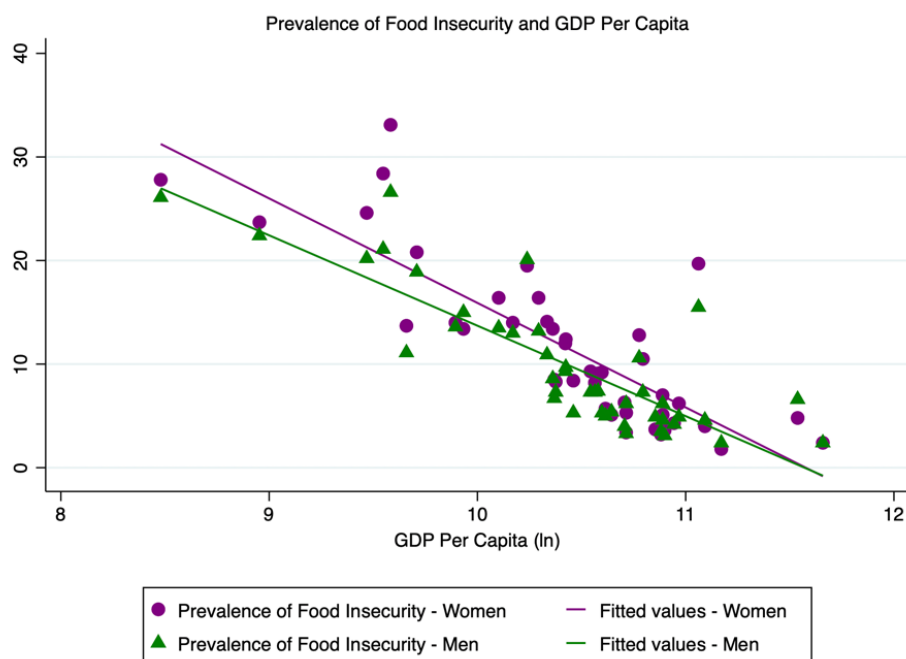
Figure 1
Evolution of food insecurity, 2014-2021



Source: FAOSTAT, Suite of Food Security Indicators, 15 January 2023. <https://www.fao.org/faostat/en/#data/FS>

19. The relation between the prevalence of food insecurity and GDP is described by the scatterplot in Figure 2. As expected, the prevalence of food insecurity falls with income and the fitted line for women is above the fitted line for men, meaning higher food insecurity among women. However, the fitted lines show that the gender gap also declines with higher incomes.

Figure 2
Prevalence of moderate or severe food insecurity and GDP per capita in UNECE countries, by sex

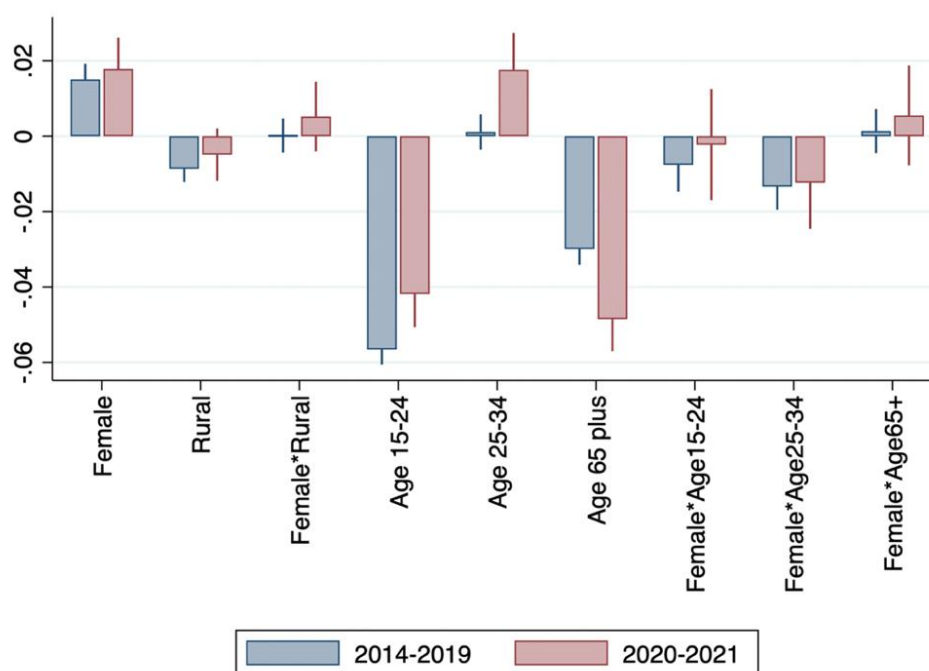


Source: FAOSTAT, Suite of Food Security Indicators, 15 January 2023. <https://www.fao.org/faostat/en/#data/FS>

IV. Socio-economic determinants of food insecurity

20. The analysis of the Tobit model pre- and post-pandemic shows that women remain more food insecure than men within UNECE region, while the rural areas were significantly less likely to experience moderate or severe food insecurity before COVID-19 (Figure 3). Surprisingly, youth (aged 15-24) and elderly (65 plus) are significantly more food secure than the other age groups. Individuals aged 25-34 have been disproportionately affected during COVID-19 in the UNECE countries. In general, women in the 25-34 age group are more food secure than those in the 35-64 age group and men in the 23-34 age group. Before the pandemic outbreak, girls aged 15-24 were more food secure than women in the 35-64 age group. These results are statistically significant after controlling for income, education, employment, marital status and household composition. Further coefficient estimates are provided in the appendix (Table 1A).

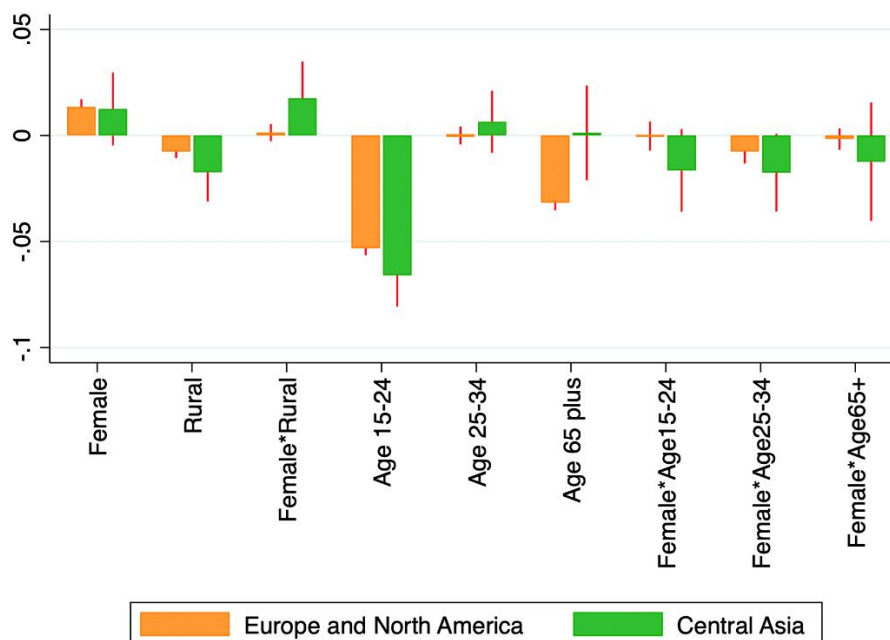
Figure 3
Socio-economic determinants of moderate or severe food insecurity in the UNECE region



Source: Tobit estimates and 95% confidence intervals based on Gallup WP 2014-2021 microdata for UNECE countries

21. By pooling all years, we run the Tobit model described in section II separately for Europe and North America and for Central Asia to explore structural differences between the two sub-regions. The estimates show that women are more likely to experience moderate or severe food insecurity than men in both regions, but in Northern America and Europe the difference is statistically significant. Being in rural area seems to act as an insurance mechanism against food insecurity for both men and women, but women in the rural areas of Central Asia are more likely to experience food insecurity compared to rural men (Figure 4). This finding confirms the findings by Junussova et al. (forthcoming), which show that women's food security was more likely to be affected by COVID-19.
22. As seen in Figure 3, individuals in the age group 15-24 are, on average, less likely to be food insecure compared to the other age groups in both sub-regions. Additionally, men and women aged 65+ are less likely to experience food insecurity in Europe and North America but not in Central Asia. This highlights that social insurance and pension systems work better in Europe and North America. Instead, in Central Asia, females aged 15-34 are less likely to be food insecure compared to those in the 35-64 age group. These differences are statistically significant after controlling for income, education, employment, marital status and household composition. The full coefficients are provided in the appendix (Table 2A).

Figure 4
Socio-economic determinants of moderate and severe food insecurity for all years,
by sub-regions



Source: Tobit estimates and 95% confidence intervals based on Gallup WP 2014-2021 for UNECE countries

V. Simulation results: what does it mean for food security to close the gender gap in education, employment and income?

23. To estimate the potential gain in terms of food security in closing the gender gap in education, employment and income, we implement a simulation exercise. By combining Coarsen Exact Matching- CEM (Iacus et al.2012) and Entropy Balancing-EB (Hainmueller, 2012), we achieved observation equivalence between males and females on the covariates of interest. Usually, this technique has been used to assess causality (among others, Ho et al., 2007; Jones et al., 2020; Macchioni Giaquinto et al., 2022). However, in our context, we are interested in the difference between the predicted conditional mean for the probability of moderate or severe food security in the Ordinary Least Squared (OLS) model and in Ordinary Least Squared (OLS) model implemented on pre-processed data, after equivalence is achieved. This difference allows for estimating the potential gain in terms of the food security gap in the case of equality between men and women in income, education and employment.
24. Combining CEM and EB retains the advantages of both. The first stage of our matching technique involves Coarsen Exact Matching (CEM) to achieve common support and exact matching through stratification on categorical or binary variables such as country, education level and employment variables (self-employment and full-time as an employee). Instead, given that per capita income in international dollars (ln) is continuous, we coarsen those in 10 bins (with cut-offs of income per capita (ln) at -4.61 ; -2.24 ; 0.12 ; 2.48 ; 4.83 ; 7.20 ; 9.56 ,

11.92; 14.28; 16.64). The main advantage is that coarsening income is less data-hungry than exact matching. CEM stratifies males and females into 1,611 strata and retains only individuals in a subset of 1,238 strata where at least one male and one female are found. This corresponds to discarding 0,02% of individuals.

25. CEM has the monotonic imbalance bounding property so that it allows to improve the balance on covariate of interest without worsening others. Importantly, throughout the matching procedure, we make sure that women are equalising men by increasing their income, education and employment rather than the other way around. Moreover, by combining CEM weights with the survey weighting scheme, we are allowed to obtain estimates that account for the sample design and that are generalisable to the original survey target population (Ridgeway et al. 2015; Dugoff et al., 2014; Dong et al., 2020 with reference to propensity score matching).
26. The second stage of pre-processing data involves Entropy Balancing (EB). EB operates by minimising an entropy distance metric subject to balance constraints and normalising constraints and re-weights the dataset. We include in the EB function income, educational level and employment variables, but also their first-order interactions to balance co-moments distributions (Hainmueller and Xu, 2013; Blackwell et al. 2010). In our case, we extend the specified moment conditions up to the third moment so that male and female are balanced in means, variance and skewness. Table 2 reports the mean differences between males and females before and after balancing.

Table 2
Balancing of per capita income(ln), education and employment variables

	Mean difference (Female - Male)	
	Unbalanced	Balanced
Education	- 0.0261	0.0000
Income (ln)	- 0.0959	0.0000
Self-employment	- 0.0424	0.0000
Full employment	- 0.1046	0.0000

Source: GWP 2014-2021 data.

27. After pre-processing by CEM and EB, we obtained predicted conditional mean for the probability of moderate or severe food security through parametric regression models (OLS) on the pre-processed data for females and males (Cameron and Trivedi, 2010).
28. We estimate that the gender gap in food security is reduced by 1.1 percentage points, if we equalize income, employment and education. We compare the estimates with the predicted conditional mean for the probability of moderate or severe food security obtained from non-pre-processed data. In this case, the difference in predicted value between females and males was 1.98 percentage points. Hence, we conclude that if women had the same income, education and employment rate as male, we could have a reduction of 54.6% of the gender gap in food insecurity for countries under the UNECE scope. The remaining gap is due to other inequalities and unobserved discriminatory factors, such as gender norms and stereotypes.

VI. Conclusion

29. This paper shows that women are more food insecure than men in the UNECE region and food insecurity has drastically increased for both women and men in Central Asia, particularly after the outbreak of the pandemic. North America is instead the region where the gender gap has widened the most, from 2.5 percentage points in 2019 to 6.1 percentage points in 2021. Our empirical analysis shows that women are more likely than men to be food insecure, particularly in the rural areas of Central Asia, while individuals aged 25-34, regardless of gender have been disproportionately affected during the pandemic.
30. We find that if gender gaps in education, income and labour force participation were closed, the gender gap in food insecurity would fall by [54.6%], while the remaining gap is due to other inequalities and unobserved discriminatory factors, including gender norms and stereotypes.
31. Finally, this paper shows that individual-level data are key to address gender inequality in food security. The efforts to collect sex-disaggregated data for monitoring SDG indicators are essential for improving the design and effectiveness of policies and programming in terms of gender equality and women's empowerment.

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Appendix

Table 1A
Socio-economic determinants of moderate or severe food insecurity and disparities by residence and age, UNECE countries, 2014-2019 and 2020-21

VARIABLES	(1) Prob Mod-Severe 2014-2019	(2) Prob Mod-Severe 2014-2019	(3) Prob Mod-Severe 2020-2021	(4) Prob ModSev – 2020-2021
female	0.020*** (0.002)	0.015*** (0.002)	0.021*** (0.004)	0.018*** (0.004)
rural	0.009*** (0.002)	-0.009*** (0.002)	0.008** (0.004)	-0.005 (0.004)
female_rural	0.002 (0.003)	0.000 (0.002)	0.004 (0.005)	0.005 (0.005)
1.gr_age1524		-0.057*** (0.002)		-0.042*** (0.004)
1.gr_age2534		0.001 (0.002)		0.018*** (0.005)
1.gr_age65plus		-0.030*** (0.002)		-0.049*** (0.004)
female_age1524		-0.008** (0.004)		-0.002 (0.008)
female_age2534		-0.013*** (0.003)		-0.012** (0.006)
female_65plus		0.001 (0.003)		0.006 (0.007)
secondary.education		-0.059*** (0.002)		-0.045*** (0.005)
tertiary.education		-0.106*** (0.002)		-0.095*** (0.005)
n_child		0.011*** (0.001)		0.010*** (0.001)
n_adults		-0.005*** (0.000)		-0.001 (0.001)
1.married		-0.030*** (0.001)		-0.031*** (0.003)
ln_income_pcap_USD		-0.018*** (0.000)		-0.018*** (0.001)
1.self_empl		-0.071*** (0.002)		-0.065*** (0.003)
1.empl_full		-0.091*** (0.002)		-0.082*** (0.004)
1.empl_partime		-0.055*** (0.002)		-0.058*** (0.004)

VARIABLES	(1) Prob Mod-Severe 2014-2019	(2) Prob Mod-Severe 2014-2019	(3) Prob Mod-Severe 2020-2021	(4) Prob ModSev – 2020-2021
1.out_LF		-0.078*** (0.002)		-0.068*** (0.005)
Year Fixed-Effects	Yes	Yes	Yes	Yes
Subregion-Fixed Effects	Yes	Yes	Yes	Yes
Observations	215,120	215,120	62,431	62,431

Note: we report the marginal effects of the censored expected value $E(y_i^*)$, describing how the observed variable y_i changes with respect to the regressors –i.e., $E(y_i|x)$. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Source: Gallup WP 2014-2021 for the UNECE countries.

Table 2A

Socio-economic determinants of moderate or severe food insecurity and disparities by residence and age, by regions in the UNECE scope, all years

VARIABLES	Europe and North America		Central Asia	
	(1) Prob Mod-Sev All Years	(2) Prob. Mod-Severe All Years	(3) Prob Mod-Severe All Years	(4) Prob.Mod-Severe All Years
female	0.019*** (0.002)	0.014*** (0.002)	0.003 (0.008)	0.013 (0.009)
rural	0.004** (0.002)	-0.008*** (0.002)	0.002 (0.007)	-0.017** (0.007)
female_rural	0.003 (0.002)	0.001 (0.002)	0.016* (0.009)	0.018** (0.009)
1.gr_age1524		-0.053*** (0.002)		-0.066*** (0.008)
1.gr_age2534		-0.000 (0.002)		0.006 (0.007)
1.gr_age65plus		-0.032*** (0.002)		0.001 (0.011)
female_age1524		-0.000 (0.003)		-0.016* (0.010)
female_age2534		-0.008*** (0.003)		-0.018* (0.009)
female_65plus		-0.002 (0.003)		-0.012 (0.014)
secondary.education		-0.052*** (0.002)		-0.036*** (0.006)
tertiary.education		-0.098***		-0.100***

VARIABLES	Europe and North America		Central Asia	
	(1) Prob Mod-Sev All Years	(2) Prob. Mod-Severe All Years	(3) Prob Mod-Severe All Years	(4) Prob.Mod-Severe All Years
n_child		(0.002) 0.010***		(0.006) 0.008***
n_adults		(0.001) -0.006***		(0.001) -0.006***
1.married		(0.001) -0.037***		(0.001) -0.026***
ln_income_pcap_USD		(0.001) -0.012***		(0.005) -0.018***
1.self_empl		(0.001) -0.065***		(0.001) -0.084***
1.empl_full		(0.001) -0.080***		(0.007) -0.064***
1.empl_partime		(0.002) -0.047***		(0.008) -0.063***
1.out_LF		(0.002) -0.064***		(0.007) -0.121***
Year Fixed Effects	Yes	Yes	Yes	Yes
Country-Fixed Effects	Yes	Yes	Yes	Yes
Observations	239,236	239,236	31,232	31,232

Note: we report the marginal effects of the censored expected value $E(y_i^*)$, describing how the observed variable y_i^* changes with respect to the regressors –i.e., $E(y_i^*|x)$. Standard errors in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Source: Gallup WP 2014-2021 for UNECE's countries.