Integration Costs and Missing Women in Firms around the World

 $By\,$ Conrad Miller, Jennifer Peck and Mehmet Seflek

Online Appendix

Table A1—: Manufacturing Firms with Zero Female Employees and Workforce Composition, by Region

| | All-male share of fi | rms (%), by size | Female share $(\%)$ | | |
|------------------------------|----------------------|------------------|---------------------|-------------|--|
| | Medium $(20 - 99)$ | Large $(100+)$ | Surveyed firms | Labor force | |
| Sub-Saharan Africa | 10.5 | 2.3 | 27.0 | 47.5 | |
| East Asia and Pacific | 1.8 | 0.5 | 41.2 | 42.8 | |
| Eastern and Central Europe | 2.5 | 0.7 | 38.4 | 43.9 | |
| Latin America and Caribbean | 3.0 | 0.8 | 32.8 | 41.1 | |
| Middle East and North Africa | 48.1 | 22.7 | 16.9 | 21.1 | |
| South Asia | 49.9 | 28.6 | 14.5 | 23.5 | |

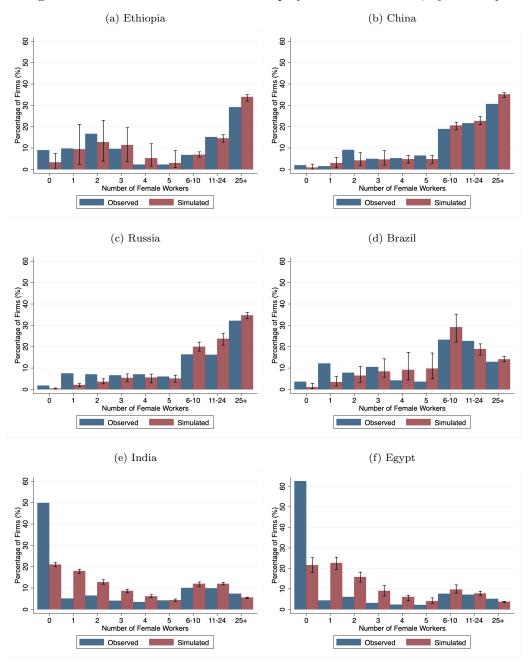
Note: Table reproduced from Miller, Peck and Seflek (2022). All-male share of firms calculated from World Bank Enterprise Survey, 2006–2018. Female share of labor force is derived from 2018 World Bank Development Indicators for the same countries and is not restricted to manufacturing.

Table A2—: List of World Bank Enterprise Surveys

| Country | Region | Year | # Firms | % Female | Country | Region | Year | # Firms | % Female |
|----------------------------|--------|---------------------|------------|---------------------|-------------------|-------------|---------------------|-------------------|---------------------|
| Argentina | LAC | 2006 | 559 | 23.8 | Lao | EAP | 2018 | 119 | 34.5 |
| Argentina | LAC | 2010 | 703 | 18.9 | Lebanon | MNA | 2013 | 174 | 21.0 |
| Argentina | LAC | 2017 | 571 | 20.8 | Madagascar | AFR | 2009 | 185 | 50.5 |
| Armenia | ECA | 2009 | 108 | 35.3 | Mexico | LAC | 2006 | 1060 | 35.9 |
| Azerbaijan | ECA | 2009 | 118 | 39.2 | Mexico | LAC | 2010 | 1065 | 31.5 |
| Azerbaijan | ECA | 2013 | 107 | 31.8 | Mongolia | EAP | 2009 | 126 | 56.7 |
| Bangladesh | SAR | 2007 | 1160 | 46.1 | Mongolia | EAP | 2013 | 106 | 51.7 |
| Bangladesh | SAR | 2013 | 1073 | 46.1 | Morocco | MNA | 2013 | 120 | 45.8 |
| Belarus | ECA | 2013 | 110 | 44.0 | Myanmar | EAP | 2014 | 314 | 58.2 |
| Bosnia-Herzegovina | ECA | 2009 | 112 | 36.3 | Nepal | SAR | 2009 | 122 | 12.7 |
| Bosnia-Herzegovina | ECA | 2013 | 103 | 37.3 | Nepal | SAR | 2013 | 231 | 14.9 |
| Bolivia | LAC | 2006 | 340 | 28.0 | Nicaragua | LAC | 2006 | 292 | 19.0 |
| Bolivia | LAC | 2010 | 106 | 20.2 | Pakistan | SAR | 2007 | 640 | 1.5 |
| Botswana | AFR | 2006 | 101 | 45.3 | Panama | LAC | 2006 | 223 | 27.3 |
| Brazil | LAC | 2009 | 1205 | 34.3 | Panama | LAC | 2010 | 105 | 33.0 |
| Bulgaria | ECA | 2007 | 501 | 52.2 | Paraguay | LAC | 2006 | 351 | 28.3 |
| Chile | LAC | 2006 | 602 | 25.7 | Paraguay | LAC | 2010 | 107 | 33.8 |
| Chile | LAC | 2010 | 755 | 19.0 | Peru | LAC | 2006 | 337 | 45.0 |
| China | EAP | 2012 | 1597 | 39.8 | Peru | LAC | 2010 | 715 | 25.4 |
| Colombia | LAC | 2006 | 588 | 53.0 | Peru | LAC | 2017 | 508 | 29.9 |
| Colombia | LAC | 2010 | 665 | 50.4 | Philippines | EAP | 2009 | 846 | 44.3 |
| Colombia | LAC | 2017 | 481 | 43.3 | Poland | ECA | 2009 | 108 | 43.7 |
| Costa Rica | LAC | 2010 | 285 | 22.5 | Poland | ECA | 2013 | 123 | 24.7 |
| Croatia | ECA | 2007 | 303 | 40.5 | Romania | ECA | 2009 | 135 | 44.7 |
| Croatia | ECA | 2013 | 109 | 42.0 | Romania | ECA | 2013 | 157 | 24.0 |
| Dominican Republic | LAC | 2010 | 109 | 27.2 | Russia | ECA | 2009 | 540 | 45.3 |
| DRC | AFR | 2006 | 128 | 10.1 | Russia | ECA | 2012 | 1106 | 42.6 |
| DRC | AFR | 2010 | 100 | 11.0 | Serbia | ECA | 2009 | 119 | 33.7 |
| Ecuador | LAC | 2006 | 336 | 24.2 | Serbia | ECA | 2013 | 105 | 40.8 |
| Ecuador | LAC | 2010 | 114 | 25.8 | South Africa | AFR | 2007 | 619 | 30.1 |
| Egypt | MNA | 2013 | 1535 | 11.4 | Sri Lanka | SAR | 2011 | 345 | 42.5 |
| Egypt | MNA | 2016 | 1063 | 13.0 | Sweden | ECA | 2014 | 277 | 22.8 |
| El Salvador | LAC | 2006 | 384 | 48.2 | Tajikistan | ECA | 2008 | 102 | 39.3 |
| El Salvador | LAC | 2010 | 121 | 44.0 | Trinidad & Tobago | LAC | 2010 | 110 | 29.1 |
| El Salvador El Salvador | LAC | 2016 | 336 | 39.1 | Tunisia Tobago | MNA | 2013 | 280 | 43.1 |
| Ethiopia Ethiopia | AFR | 2010 | 218 | 44.6 | Turkey | ECA | 2013 | 699 | $\frac{43.1}{27.7}$ |
| Ethiopia Ethiopia | AFR | 2015 | 340 | 37.0 | Turkey | ECA | 2013 | 872 | 23.0 |
| Georgia | ECA | 2013 2008 | 104 | 38.9 | Uganda | AFR | 2015 | 254 | 20.7 |
| Guatemala | LAC | 2006 | 266 | 32.1 | Uganda | AFR | 2013 | 267 | 24.1 |
| Guatemala | LAC | 2010 | 326 | 30.3 | Ukraine | ECA | 2013 | 381 | 47.0 |
| Guatemala | LAC | 2017 | 118 | 33.3 | Ukraine | ECA | 2013 | 537 | 43.4 |
| Honduras | LAC | 2006 | 221 | 29.0 | Uruguay | LAC | 2015 | 315 | 38.9 |
| Honduras | LAC | 2010 | 111 | 28.4 | Uruguay | LAC | 2010 | 303 | 31.4 |
| India | SAR | 2014 | 6282 | 11.6 | Uzbekistan | ECA | 2008 | 116 | 37.8 |
| Indonesia | EAP | 2014 | 978 | 39.4 | Uzbekistan | ECA | 2013 | 116 | 32.8 |
| Iraq | MNA | $\frac{2013}{2011}$ | 978 377 | 39.4 1.6 | Vietnam | EAP | $\frac{2013}{2009}$ | 716 | 32.8 47.5 |
| Iraq Israel | MNA | 2011 2013 | 170 | 29.0 | West Bank & Gaza | MNA | 2009 | 123 | 47.5 |
| Jordan | MNA | 2013 2013 | 238 | $\frac{29.0}{13.2}$ | Yemen Yemen | MNA | $\frac{2013}{2010}$ | 123 191 | $\frac{4.1}{3.4}$ |
| Jorgan Kazakhstan | | $\frac{2013}{2009}$ | 238 147 | 13.2 40.8 | Yemen Zambia | MINA AFR | | $\frac{191}{276}$ | $\frac{3.4}{12.2}$ |
| | ECA | | | | | - | 2007 | | |
| Kazakhstan | ECA | 2013 | 153 | 28.5 | Zambia | AFR | 2013 | 283 | 13.9 |
| Kenya | AFR | 2007 | 373 | 15.5 | Zimbabwe | AFR | 2011 | 332 | 16.2 |
| Kenya | AFR | 2013 | 338 | 19.0 | Zimbabwe | AFR | 2016 | 262 | 21.1 |
| Kenya | AFR | 2018 | 269 | 15.5 | l 4 il l. i | 1 | *** | 1::4 | 1 |

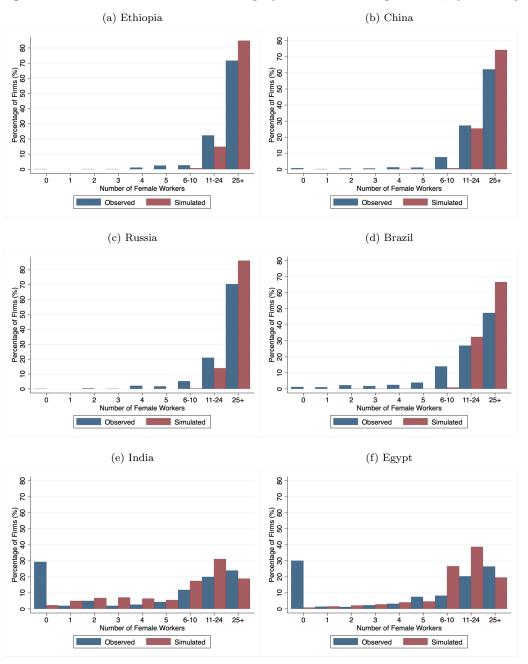
Note: This table lists the World Bank Enterprise Surveys that we include in our analysis. We limit our samples to manufacturing firms, where surveys include questions on the gender composition of employees by occupation. Next, we drop surveys where information on gender composition is missing for more than 20% of firms. In remaining surveys, we drop firms with missing data on gender composition or fewer than 5 employees. We then drop surveys with fewer than 100 remaining firms. This leaves us with 105 surveys in 65 countries. The six regions are: sub-Saharan Africa (AFR), East Asia and Pacific (EAP), Eastern and Central Europe (ECA), Latin America and Caribbean, Middle East and North Africa (MENA), and South Asia (SAR). '# of Firms refers to the number of firms remaining in the survey following our sample restrictions. '% Female is the female share of workers in these firms, weighted by firm sample weights.

Figure A1.: Distribution of Female Employment across Firms, by Country



Note: This set of figures compares observed and simulated distributions of female employment across firms for six countries: Ethiopia, China, Russia, Brazil, Egypt, and India. The simulated distributions are simulated under the null hypothesis that no firm in that country faces binding integration costs. Sample selection and simulation details are described in Sections I and II.A.

Figure A2.: Distribution of Female Employment Across Large Firms, by Country



Note: This set of figures compares observed and simulated distributions of female employment across firms for six countries: Ethiopia, China, Russia, Brazil, Egypt, and India. We limit to firms with at least 50 employees. The simulated distributions are simulated under the null hypothesis that no firm in that country faces binding integration costs. Sample selection and simulation details are described in Sections I and II.A.

Table A3—: Female Employment and Integration Rates Across Countries

| | EMP_F | | $EMP_F - EMP_M$ | |
|--|---------|----------|-----------------|---------|
| | (1) | (2) | (3) | (4) |
| Ex-ante integration rate: | | | | |
| Overall $(\hat{\theta}^{EP})$ | 0.388** | 0.243** | 0.420** | 0.264** |
| | (0.083) | (0.097) | (0.065) | (0.073) |
| Overall $(\hat{\theta}^S)$ | 0.572** | 0.262~ | 0.582** | 0.237~ |
| | (0.137) | (0.152) | (0.113) | (0.119) |
| Representative firm $(\theta_i^{EP} \cdot n_j = 10)$ | 0.461** | 0.321** | 0.459** | 0.324** |
| · | (0.085) | (0.101) | (0.069) | (0.075) |
| Region FEs | | √ | | ✓ |
| Observations | 65 | 65 | 65 | 65 |

Note: Table reports OLS estimates of regressions of female employment measures on ex-ante integration rates. EMP_F is the average percentage of women age 15+ that are employed in the years the manufacturing surveys were conducted, averaged across years, and $EMP_F - EMP_M$ is the difference between female and male employment rates. Robust standard errors are in parentheses. $\tilde{}$ p<0.01; *p<0.05; **p<0.01.