

Filling the Gaps: Childcare Laws for Women’s Economic Empowerment

By S Anukriti, Lelys Dinarte-Diaz, Maria Montoya-Aguirre, and Alena Sakhonchik

ONLINE APPENDIX

A1. Variable definitions

CHILDCARE LAWS

The World Bank’s WBL database collects information on the legal and policy environment pertaining to women’s economic participation and opportunity. Data collection builds on established WBL methodology and expertise and relies on the review and assessment of official laws and regulations, and contributions of lawyers, judges, civil society representatives and public officials.

Both federal and local legislation applicable to a country’s main business city are considered. For federal systems, where the provision of childcare is not established at the national level, legislation applicable to the main business city is explored. Non-binding documents and instruments—typically referred to as policy notes, national strategies, guidelines, recommendations, declarations, and opinions—are not considered for the purposes of this paper. Official ministerial websites specifying or explaining certain regulatory aspects covered within the established three-pillar framework are cited in limited circumstances. More information on the 2024 WBL dataset and the methodology are available on the WBL [website](#).

The WBL database maps current legal and regulatory measures adopted by each country to ensure or strengthen three pillars of childcare: availability, affordability, and quality. The definition of each pillar and the variables included in each are defined as follows:

- **Childcare availability:** the childcare law expands access to childcare by supporting different types of childcare provision and its convenience. A score of 1 is assigned if the law establishes the provision of childcare services for children ages 0 to 2 years in center-based settings (nurseries, day cares, creches, or formal preschools) by at least one of the following:
 - Does the law establish the provision of childcare services by the government?
 - Does the law establish the provision of childcare services by private centers?
 - Does the law establish the provision of childcare services by employers?
 - Where the law establishes the provision of childcare services by employers, is it conditional on the number of employees regardless of gender?

A score of 0 is assigned if the law does not establish any provision of center-based childcare services. A score of 0 is also assigned if the law establishes childcare provision solely through a direct government mandate for employers, contingent on the number of female employees.

- **Childcare affordability:** the childcare regulation improves childcare service provision, especially for low-income or vulnerable families through government financial or tax support to parents, private childcare centers, or employers. A score of 1 is assigned if the law establishes at least one of the following types of government support:
 - Does the law establish any form of financial support to families for childcare services?
 - Does the law establish tax incentives to families for childcare services?

- Does the law establish any form of financial support to private childcare centers?
- Does the law establish tax incentives to private childcare centers?
- Does the law establish any form of financial support to employers for providing or supporting childcare services for their employees?
- Does the law establish tax incentives to employers for providing or supporting childcare services for their employees?

A score of 0 is assigned if: the law does not establish any form of support for families specifically for using childcare services; the law establishes that the government may provide support without specifying entitlement conditions; parents receive government support that is not specifically designated for using childcare services; the law does not establish any form of support for nonstate childcare providers; there are tax benefits with no explicit reference to childcare services; among others.

- **Childcare quality:** the childcare regulation ensures a safe environment for children, contributes to healthier nutrition and school readiness, and promotes uptake. A score of 1 is assigned if the law mandates quality requirements for public or private center-based childcare, covering the following parameters:
 - Does the law establish caregiver-to-child ratio in childcare centers (public or private)?
 - Does the law establish maximum group size in childcare centers (public or private)?
 - Does the law establish workforce quality standards in childcare centers (public or private)?
 - Does the law establish mandatory periodic inspection of childcare centers (public or private) by authorized bodies?
 - Does the law establish a mandatory periodic reporting by childcare centers (public or private) to authorized bodies?

A score of 0 is assigned if there are no laws mandating quality standards for the provision of center-based childcare services. A score of 0 is also assigned if the law does not mandates all quality parameters. Furthermore, a score of 0 is assigned if the law recommends but does not require compliance with all the quality parameters.

LABOR MARKET OUTCOMES

- **Female labor force participation rate:** The percentage of women aged 25 to 54 who are in the labor force (i.e., either employed or unemployed).
- **Female labor force participation rate for women living with children under age six:** The percentage of prime-age women (aged 25 to 54) who live with a prime-age partner in a household with at least one child aged six or younger and are in the labor force (either employed or unemployed).
- **% of women working:** The fraction of women aged 25 and older who are working.
- **Female unemployment rate:** The fraction of the female labor force aged 25 and older that is without work but available for and seeking employment.

A2. Estimation sample

Table T.1 presents summary statistics for the main sample used to estimate the effects of childcare law enactment on FLFP rates among women aged 25–54. This estimation sample is a balanced yearly panel for 155 countries over the 1991 to 2022 time period. Figure F.1 illustrates the temporal variation in childcare law enactment within the estimation sample, while Figure F.2 depicts the variation in childcare law commencement.

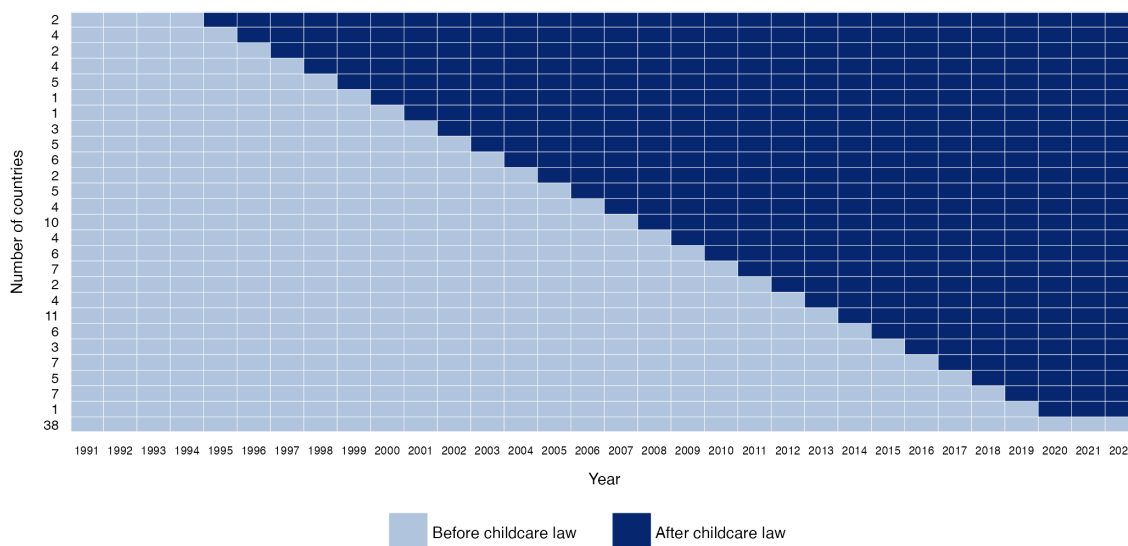
The sample varies depending on the treatment variable used in the estimations. For the analysis in Table 2, which focuses on specific components of childcare laws, such as affordability or quality, the sample includes 163 and 168 countries, respectively. These sample sizes are larger than those in the estimation of the effects of laws that regulate the availability of childcare in general. This is because fewer countries have enacted laws regulating childcare affordability or quality compared to those addressing childcare availability overall, allowing more countries to serve as “clean” controls. Figures F.3 and F.4 illustrate this distinction.

TABLE T.1—SUMMARY STATISTICS FOR THE ESTIMATION SAMPLE

	Obs.	Mean	SD	Median	Min	Max
Has a childcare law	4960	0.75	0.43	1	0	1
Law regulates childcare availability	4960	0.76	0.43	1	0	1
Law regulates childcare affordability	4960	0.39	0.49	0	0	1
Law regulates childcare quality	4960	0.34	0.47	0	0	1
FLFP among women aged 25–54	4960	64.44	19.31	68.50	5.13	96.36
FLFP among women aged 25–54 with children < 6	2940	58.49	20.03	61.01	4.02	96.34
% of women working (age 25 and above)	4960	50.39	17.27	51.14	3.54	91.64
Female unemployment rate (age 25 and above)	4960	7.40	6.16	5.43	0.07	37.87

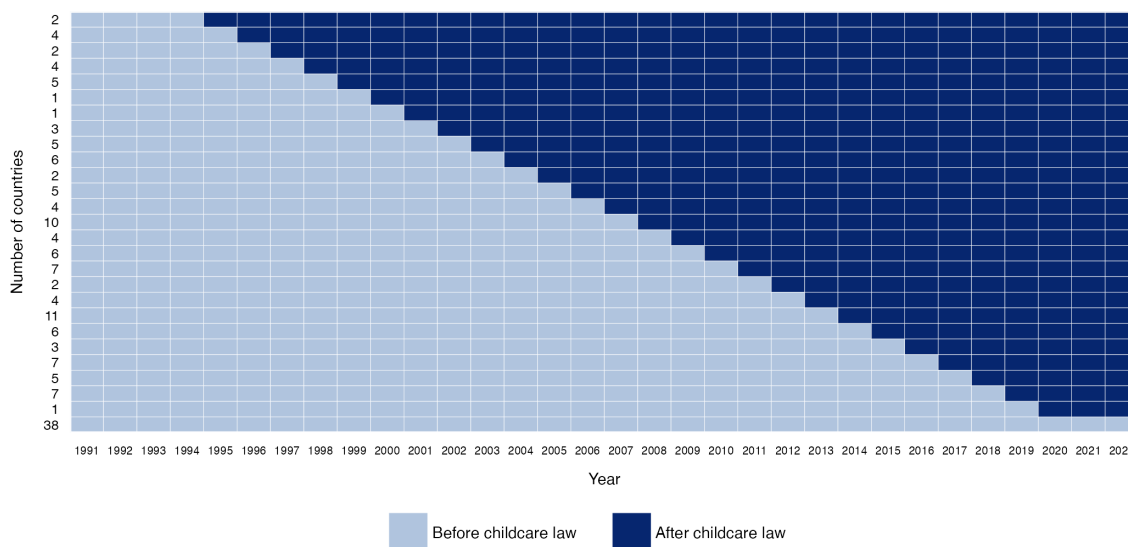
Note: The tables show the number of observations, the mean, the standard deviation (SD), the median, and the minimum and the maximum values for each variable in our estimation sample. Each observation represents one country in a given year. The data on childcare laws are from the World Bank’s 2024 WBL database and labor market indicators come from ILO’s ILOEST and GEND databases.

FIGURE F.1. TEMPORAL VARIATION IN CHILDCARE LAW ENACTMENT IN THE ESTIMATION SAMPLE



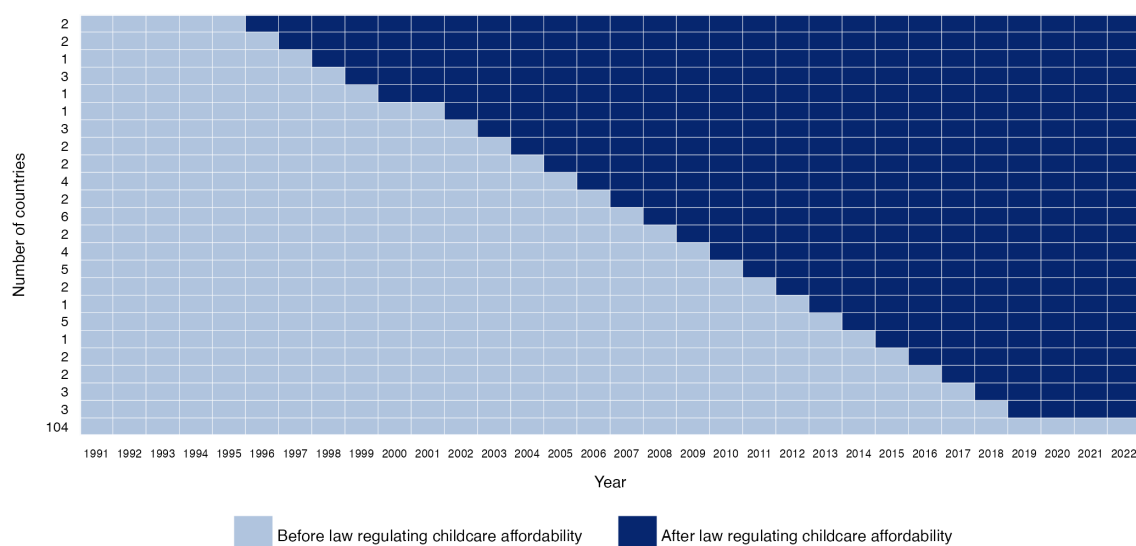
Note: This figure shows the temporal variation in the enactment of childcare laws across the 155 countries in our estimation sample. The x-axis represents the year, while the y-axis indicates the number of countries enacting a childcare law in that year. The color coding shows whether the observation corresponds to before or after the enactment of the law. In this context, the enactment of a childcare law corresponds to whether it regulates childcare availability. For temporal variations in the regulation of childcare affordability and quality, refer to Figures [F.3](#) and [F.4](#).

FIGURE F.2. TEMPORAL VARIATION IN CHILDCARE LAW COMMENCEMENT IN THE ESTIMATION SAMPLE



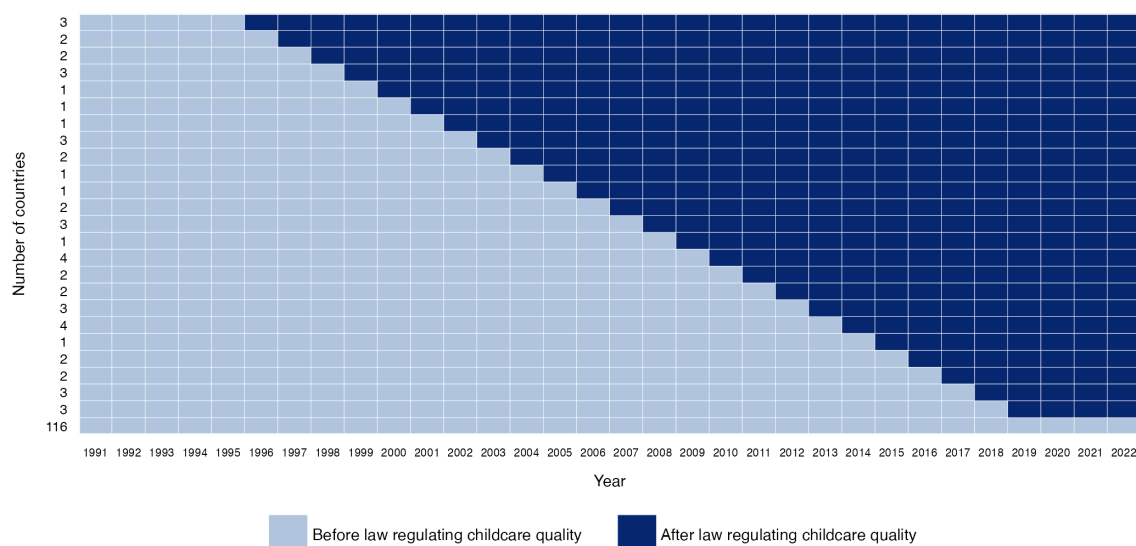
Note: The figure demonstrates the temporal variation in childcare law commencement for the 154 countries in our estimation sample. The x-axis shows the year and the y-axis displays the number of countries that have the variation represented by that row. The color indicates whether the observation is before or after the law commencement.

FIGURE F.3. TEMPORAL VARIATION IN THE REGULATION OF CHILDCARE AFFORDABILITY IN THE ESTIMATION SAMPLE



Note: This figure shows the temporal variation in the regulation of childcare affordability for 163 countries in our estimation sample. The x-axis represents the year, while the y-axis indicates the number of countries enacting a law that regulates affordability of childcare in that year. The color coding shows whether the observation corresponds to before or after the enactment (or update) of the law regulating childcare affordability.

FIGURE F.4. TEMPORAL VARIATION IN THE REGULATION OF CHILDCARE QUALITY IN THE ESTIMATION SAMPLE



Note: This figure shows the temporal variation in the regulation of childcare quality for 168 countries in our estimation sample. The x-axis represents the year, while the y-axis indicates the number of countries enacting a law that regulates quality of childcare in that year. The color coding shows whether the observation corresponds to before or after the enactment (or update) of the law regulating childcare quality.

A3. Stacked difference-in-differences estimation

To estimate a stacked DID regression, we construct a separate dataset for each feasible sub-experiment, corresponding to each year of law enactment (or commencement). Each sub-experiment dataset includes observations for countries that enact the law in year k : periods $t \geq k$ are treated units, while periods $t < k$ are part of the control group. Additionally, all observations from countries that never enact a childcare law (*never-treated*) are included as controls, as well as observations from $t < k$ for countries that enact their childcare law after year k (*not-yet-treated*). Then, these datasets are stacked to form one single dataset that is used to estimate a weighted stacked regression following [Wing, Freedman and Hollingsworth \(2024\)](#).

We estimate a weighted event-study version of the two-way fixed effects model with indicators for different periods before and after the enactment of the law using the following regression specification:

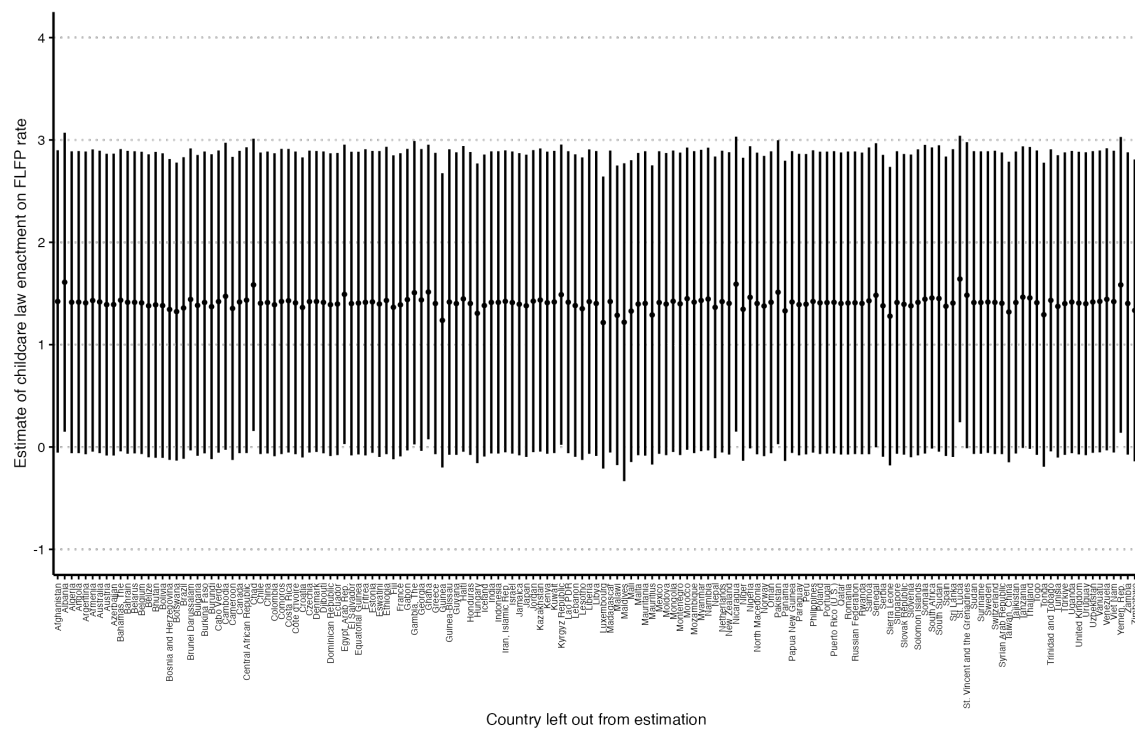
$$(A1) \quad Y_{ct} = \theta + \sum_{k=-6}^7 \gamma_k W_{c,t+k} + \phi_c + \omega_t + \epsilon_{ct}$$

where $k = 0$ is the year of enactment in country c and $W_{c,t+k}$ equals one if $k \geq 0$. The γ_k coefficients capture the evolution of the outcome Y_{ct} before and after the enactment of the childcare law over a 14-year period in countries where the law has been enacted relative to countries where the law has not yet been enacted.

A4. Leave-one-out estimation

To assess whether our results are influenced by any specific country, we conduct a “leave-one-out” analysis in which the main specification is estimated 155 times, excluding one country from the sample in each iteration. The results from this robustness check are presented in Figure [F.5](#) and show that the estimates remain consistently stable across these iterations.

FIGURE F.5. CHILDCARE LAW ENACTMENT AND FEMALE LABOR FORCE PARTICIPATION: ROBUSTNESS CHECK



Note: The plot displays the estimates and the 95 percent confidence intervals from a synthetic DID estimation of the effect of childcare law enactment on the FLP rate among women aged 25–54. The specification outlined in equation (1) is estimated 155 times, with one country excluded from the sample in each iteration. The excluded country is indicated on the x-axis.