



Changes in women's economic participation after the implementation of national and subnational policies: a global systematic review

Negar Omidakhsh^a, PhD; Vanessa Ríos-Salas^a, PhD; Aleta Sprague^a, JD; Jody Heymann^a, MD, PhD

^aWorld Policy Analysis Center, University of California Los Angeles, 621 Charles E. Young Drive South, 2225 Life Science Building, Los Angeles, CA 90095-1772, USA,



Abstract

Despite global commitments to gender equality, women's economic outcomes continue to lag men's. To understand whether policies can advance equality, we systematically reviewed studies examining the impacts of public policies on women's economic outcomes. Three reviewers examined studies published from 01/01/2000 to 03/01/2018 across 13 academic databases, identifying 23,946 unique articles. These were reviewed for applicability and for rigor in evaluating causal impact; 61 studies met inclusion criteria. Work-family reconciliation policies, including paid leave and childcare, had the largest positive impact on all women's economic outcomes (participation, hours worked, and wages). Other policies that had positive impacts on some or all economic outcomes included conditional cash transfers, labor market reform, tax credits, legalized divorce, improved inheritance laws, pay-equity legislation, and abortion rights.



Abbreviations

ALMP	Active Labor Market Programs
AYC	Age-of-youngest-child
CCT	Conditional Cash Transfer
DDD	Triple Difference
DID	Difference in Difference
FMLA	Family Medical Leave Act
NHI	National Health Insurance
RCT	Randomized Control Trial
SCHIP	State Children’s Health Insurance Program
TANF	Temporary Assistance for Needy Families

INTRODUCTION

Around the world, countries have committed to realizing women’s equal rights. As of this writing, 189 governments have ratified the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW), the 1979 treaty that established an “an international bill of rights for women,” while all 193 U.N. member states unanimously adopted the Sustainable Development Goals (SDGs) in 2015, which oblige countries to “achieve gender equality and empower all women and girls.” Advancing gender equality in the economy is central to these commitments. Access to employment and income fundamentally shape women’s economic agency, lifelong opportunities, and ability to participate fully in public life. And indeed, both instruments—among others—explicitly recognize that economic equality is integral to women’s full and equal rights. CEDAW mandates that countries “take all appropriate measures to eliminate discrimination against women in the field of employment,” including by ensuring equal job opportunities, guaranteeing equal pay, and providing maternity leave and childcare (United Nations 1979). Similarly, the SDGs establish that countries should eliminate all forms of discrimination against women and girls, including by ensuring “women’s full and effective participation and equal opportunities for leadership” in the economy (United Nations 2021).

These commitments notwithstanding, large gender inequalities persist across economies worldwide. Globally, women’s average labor force participation rate remains 25 percentage points lower than that of men (International Monetary Fund 2018). When women do work, they continue to earn less than their male counterparts, with an average global wage gap of around 20% and much wider disparities evident in many countries (International Labour Organization 2018). In the context of restrictive gender norms, women and girls also continue to disproportionately bear the responsibility of unpaid care work at home, creating a double burden of labor outside and within the home and

ultimately creating barriers to women's entry and/or retention in the workforce. Similarly, much of the work carried out by women in low-income countries is in the informal market, where earnings are lower and access to formal work protections is limited to nonexistent. Moreover, while gender inequalities in some areas have narrowed, the pace of change remains slow: the World Economic Forum estimates that it will take another 257 years to close the overall global gender gap in economic participation if the current rate of progress remains unchanged (World Economic Forum 2020).

Persistent economic inequality is not inevitable, but directly shaped by laws and social policies that govern women's ability to fully participate in economies. As of 2018, legal restrictions preventing women from working in certain occupations were present in 104 countries (World Bank 2019). Yet gender inequalities in the law extend much more broadly, and often both directly affect women's access to employment while also reflecting and perpetuating gendered norms and expectations about work and care. For example, while 186 countries provide at least some paid leave to new mothers, only 107 likewise guarantee any leave to fathers, which is often limited to a few days—reinforcing gender inequalities in caregiving that undermine women's ability to fully engage in paid work (WORLD Policy Analysis Center 2019). Meanwhile, numerous countries globally have yet to address common forms of discrimination that affect women's employment; for example, one-third have no legislation specifically prohibiting sexual harassment in the workplace (Raub et al. 2021).

Further, countries' failure to close these gaps represents a significant missed opportunity to improve health and economic outcomes across societies. Women's participation in the workforce significantly contributes to countries' productivity and GDP (Elborgh-Woytek et al. 2013); when women work, economies grow. In contrast, failing to realize women's economic potential undermines prosperity for all: evidence suggests that gender gaps in the labor market can result in per capita GDP losses of up



to 27% (Cuberes and Teignier 2012). Moreover, equal labor force participation increases women's access to and control over their work, time, voices, and bodies, resulting in greater autonomy and increased decision-making power (International Labour Office 2017). Additionally, women's economic participation improves health at both the individual and national levels. Countries with higher female labor force participation observe reduced rates of child mortality and child malnutrition and greater investment in children's education (Gonzales et al. 2015) (Tulasidhar 1993; Burroway 2017). Women's labor force participation has strong, positive associations with their overall health outcomes and, in turn, is associated with long-term economic productivity, creating a positive feedback loop (Onarheim, Iversen, and Bloom 2016; Leatherman et al. 2012; Kuruvilla et al. 2016).

Gender equality also directly benefits employers. Research has shown that companies with women in leadership positions score higher in all dimensions of organizational performance (Nekhili, Chakroun, and Chtioui 2018). Gender diversity on company boards can improve corporate decision making by providing a wider range of perspectives (OECD 2012). Research conducted by the International Monetary Fund reported a return on assets of 8–13 basis points more for European companies with an additional woman in senior management or corporate board positions (Christiansen et al. 2016).

Increasing gender equality in the economy thus represents a powerful step toward not only fulfilling women's fundamental rights but also advancing a range of societal goals. Yet only by taking action to accelerate progress on equal opportunities in employment will these benefits be realized. Social policy in both its actions and assumptions can either widen gender inequalities or actively reduce them. In this study, we carried out a systematic review of peer-reviewed research examining how legislation, policies, and programs can affect women's labor force participation and outcomes, with the



goal of identifying those interventions that showed the greatest potential for impact across countries. In order to capture the most reliable and directly applicable research for national policymakers, we limited our scope to studies using rigorous quantitative or mixed method evaluations to evaluate interventions that were implemented at a national or large sub-national level.

METHODS

Information Sources and Search

PRISMA systematic review guidelines served as the template for our search strategy. The search strategy consisted of five categories of search terms: *policy/intervention* (terms related to: policy, program, reform, intervention, legislation, initiative, regulation, law, campaign), *setting/scale* (terms related to: nation, region, large-scale, international, state, province, country, district, city, global, county, wave, major), *population* (terms related to: female, woman, girl, gender, couple, mother), *evaluation/method* (terms related to: evaluate, assess, randomized control trial, experiment, longitudinal, panel data, fixed effects, difference in difference, propensity score matching, instrumental variable, regression discontinuity, time series, causal, random assignment, multilevel model, mixed methods, hierarchical model, triple difference, investigate, examine, analyses, compare), and *work outcomes* (terms related to: career, workforce, equal pay, earnings, economic, employment, equal opportunity, income, labor supply, occupation, labor force participation, promotion, salary, wage, gender gap, gender parity, labor market). Search terms within a category were joined by “or” and search categories were joined by “and” in order to identify all relevant literature with a single search (Table 1). An additional search was conducted to ensure common policy evaluations were reviewed including paid leave, parental leave, paternity leave, family leave, maternity, childcare, child marriage, breastfeeding breaks, breastfeeding leave, act, and cash transfer. A separate search was conducted with the

Changes in women’s economic participation after the implementation of national and subnational policies: a global systematic review



setting/scale search terms replaced by the 193 countries in the United Nations, and the evaluation/method terms limited to more rigorous techniques (Table 2). Abstracts had to include at least one term from each search category to be considered in this review.

Table 1. Primary search strategy in ProQuest.

Category	Query
Policy/Intervention	(policy OR policies OR program* OR reform* OR intervention* OR legislat* OR initiative* OR regulation* OR law* OR campaign* OR "paid leave" OR "parental leave" OR "paternity leave" OR "family leave" OR maternity OR childcare OR "child marriage" OR "breastfeeding breaks" OR "breastfeeding leave" OR act OR "cash transfer")
Setting/Scale	AND (nation* OR region* OR "large-scale" OR "large scale" OR international OR state* OR provinc* OR countr* OR district* OR city OR cities OR global OR county OR counties OR wave* OR major)
Population	AND (female* OR wom?n OR girl* OR gender OR couple OR couples OR mother*)
Evaluation/Method	AND (evaluat* OR assess* OR "randomized control trial" OR "randomized controlled trial" OR "randomised controlled trial" OR experiment* OR longitudinal OR "panel data" OR "fixed effects" OR "fixed-effects" OR "difference in difference" OR "difference-in-difference" OR "difference in differences" OR "difference-in-differences" OR "propensity score matching" OR "instrumental variable" OR "regression discontinuity" OR "time series" OR causal* OR "random assignment" OR RCT OR "multilevel model" OR "multilevel models" OR "mixed methods" OR "mixed-methods" OR "hierarchical model" OR "hierarchal models" OR "triple difference" OR investigat* OR examin* OR multilevel OR analy* OR compar*)
Work Outcomes	AND ("career readiness" OR "workforce readiness" OR "equal pay" OR earning* OR economic* OR employ* OR "equal opportunity" OR "equal opportunities" OR income OR "labor supply" OR "labour supply" OR occupation* OR "labor force participation" OR "labour force participation" OR promotion OR salary OR wage* OR "gender gap" OR "gender parity" OR "labor market" OR "labour market")

Table 2. Secondary country-specific search strategy in ProQuest.

Category.	Query
Policy/Intervention	(policy OR policies OR program* OR reform* OR intervention* OR legislat* OR initiative* OR regulation* OR law* OR campaign* OR "paid leave" OR "parental leave" OR "paternity leave" OR "family leave" OR maternity OR childcare OR "child marriage" OR "breastfeeding breaks" OR "breastfeeding leave" OR act OR "cash transfer")
United Nations Countries	AND (Afghanistan OR Albania OR Algeria OR Andorra OR Angola OR "Antigua and Barbuda" OR Argentina OR Armenia OR Australia OR Austria OR Azerbaijan OR Bahamas OR Bahrain OR Bangladesh OR Barbados OR Belarus OR Belgium OR Belize OR Benin OR Bhutan OR Bolivia OR "Bosnia and Herzegovina" OR Botswana OR Brazil OR Brunei OR Bulgaria OR "Burkina Faso" OR Burundi OR Cabo Verde OR Cambodia OR Cameroon OR Canada OR "Central African Republic" OR Chad OR Chile OR China OR Colombia OR Comoros OR Congo OR "Costa Rica" OR "Cote d'Ivoire" OR Croatia OR Cuba OR Cyprus OR "Czech Republic" OR Denmark OR Djibouti OR Dominica OR "Dominican Republic" OR Ecuador OR Egypt OR "El Salvador" OR "Equatorial Guinea" OR Eritrea OR Estonia OR Ethiopia OR Fiji OR Finland OR France OR Gabon OR Gambia OR Georgia OR Germany OR Ghana OR Greece OR Grenada OR Guatemala OR Guinea OR "Guinea-Bissau" OR Guyana OR Haiti OR Honduras OR Hungary OR Iceland OR India OR Indonesia OR Iran OR Iraq OR Ireland OR Israel OR Italy OR Jamaica OR Japan OR Jordan OR Kazakhstan OR Kenya OR Kiribati OR Kosovo OR Kuwait OR Kyrgyzstan OR Laos OR Latvia OR Lebanon OR Lesotho OR Liberia OR Libya OR Liechtenstein OR Lithuania OR Luxembourg OR Macedonia OR Madagascar OR Malawi OR Malaysia OR Maldives OR Mali OR Malta OR "Marshall Islands" OR Mauritania OR Mauritius OR Mexico OR Micronesia OR Moldova OR Monaco OR Mongolia OR Montenegro OR Morocco OR Mozambique OR Myanmar OR Namibia OR Nauru OR Nepal OR Netherlands OR "New Zealand" OR Nicaragua OR Niger OR Nigeria OR "North Korea" OR Norway OR Oman OR Pakistan OR Palau OR Palestine OR Panama OR "Papua New Guinea" OR Paraguay OR Peru OR Philippines OR Poland OR Portugal OR Qatar OR Romania OR Russia OR Rwanda OR "Saint Kitts and Nevis" OR Saint Lucia OR "Saint Vincent and the Grenadines" OR Samoa OR "San Marino" OR "Sao Tome and Principe" OR "Saudi Arabia" OR Senegal OR Serbia OR Seychelles OR "Sierra Leone" OR Singapore OR Slovakia OR Slovenia OR "Solomon Islands" OR Somalia OR "South Africa" OR "South Korea" OR "South Sudan" OR Spain OR "Sri Lanka" OR Sudan OR Suriname OR Swaziland OR Sweden OR Switzerland OR Syria OR Taiwan OR Tajikistan OR Tanzania OR Thailand OR "Timor-Leste" OR Togo OR Tonga OR "Trinidad and Tobago" OR Tunisia OR Turkey OR Turkmenistan OR Tuvalu OR Uganda OR Ukraine OR "United Arab Emirates" OR "United Kingdom" OR "United States of America" OR Uruguay OR Uzbekistan OR Vanuatu OR "Vatican City" OR Venezuela OR Vietnam OR Yemen OR Zambia OR Zimbabwe)
Population	AND (female* OR wom?n OR gir!* OR gender OR couple OR couples or mother*)
Evaluation/Method	AND ("randomized control trial" OR "randomized controlled trial" OR "randomised controlled trial" OR "fixed effects" OR "fixed-effects" OR "difference in difference" OR "difference-in-difference" OR "difference in differences" OR "difference-in-differences" OR "propensity score matching" OR "instrumental variable" OR "regression discontinuity" OR "time series" OR causal* OR "random assignment" OR RCT)

Changes in women's economic participation after the implementation of national and subnational policies: a global systematic review



Work Outcomes	AND ("career readiness" OR "workforce readiness" OR "equal pay" OR earning* OR economic* OR employ* OR "equal opportunity" OR "equal opportunities" OR income OR "labor supply" OR "labour supply" OR occupation* OR "labor force participation" OR "labour force participation" OR promotion OR salary OR wage* OR "gender gap" OR "gender parity" OR "labor market" OR "labour market")
Previous Setting/Scale	NOT (nation* OR region* OR "large-scale" OR "large scale" OR international OR state* OR provinc* OR countr* OR district* OR city OR cities OR global OR county OR counties OR wave* OR major)

Our final systematic search of the literature was performed in ProQuest, an academic search engine with a collection of 59 databases that spans all disciplines. For the present study, the following 13 databases were selected for inclusion: AGRICOLA, EconLit, ERIC, Ethnic NewsWatch, GenderWatch, MEDLINE, PAIS Index, Periodicals Archive Online, Periodicals Index Online, PsycARTICLES, PsycINFO, Sociological Abstracts, and Political Science Abstracts. The search was restricted to English-language, peer-reviewed articles that were published between January 1, 2000 and March 1, 2018.

Study Selection

Six reviewers independently screened all relevant titles and abstracts for study eligibility. Abstracts were advanced to the second round of reviews if they met the following criteria: (1) the study evaluated the effect of a public policy or program, and the public policy or program was enforced at the subnational (county or state) or national level; (2) the study included quantitative methods and inferential statistical analyses that adjusted for individual-level factors; and (3) the study reported employment- or income-related outcomes for women. In the second round of reviews, articles were read in full by three reviewers, including at least one senior reviewer to determine whether they met all study inclusion criteria (Supplemental Figure 1). Inclusion criteria for full articles included publication after 2000, examination of a topic related to gendered outcomes in income/work, examination of an intervention(s) in place in the form of a policy or program, medium to large scale (defined as 500 or more observations), examination of the intervention's effects, and reported outcomes for women or stratified by gender.

Some working papers were identified by our search strategy. In these instances, we searched for the peer-reviewed articles and, if they were available, included them in our study. Where questions were raised about whether an article met inclusion criteria, the full-text articles were reviewed by a

second senior reviewer and the group discussed the article until a consensus was reached. Only studies using rigorous quantitative methodologies on their own or as part of mixed methods studies were included in the present review. Specifically, studies were included if they utilized data from before and after policy/program implementation, employed an experimental or quasi-experimental study design, and adjusted or stratified on age and socioeconomic factors (education, work status, income, marital status, etc.). We excluded studies that compared country or multinational averages without using individual-level data. The methodology in the papers selected use methods widely considered appropriate for causal inference.

We extracted the following data from each article: first author and year of publication, study location (at both the country and regional level), name and description of policy or program, originating data, population characteristics (sample, inclusions/exclusions, and size), evaluation design, outcome measurement, and main findings. The principal summary measures varied across studies, depending on the outcome of interest. Data was entered into piloted forms by the first two reviewers and confirmed or revised by the third (senior) reviewer for each article. In instances of ambiguity, corresponding authors were contacted to confirm the accuracy of our data entry.

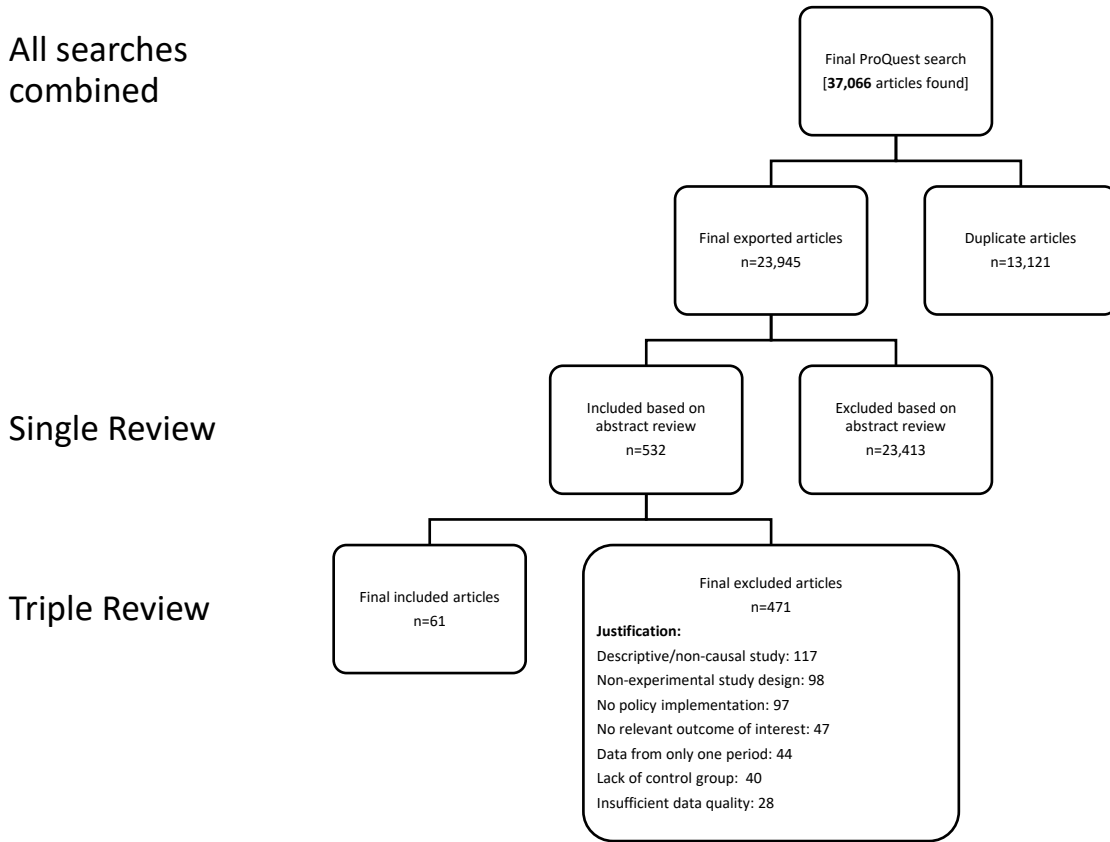
RESULTS

Our review process (summarized in Figure 1) retrieved 37,066 articles. After duplicates were excluded, there were 23,945 articles available for review. A single-review of titles and abstracts retained 532 articles for full-text screening by three people. Of these articles, 182 were excluded because they did not employ rigorous quantitative or mixed methods evaluation approaches (non-experimental study



design: 98, data from only one period [before or after policy]: 44, lack of control group: 40), 117 because they were descriptive in nature without causal analyses, 97 because they did not evaluate a specific policy or intervention, 47 because they did not evaluate an outcome related to women's work, and 28 because they utilized data of insufficient quality. We recognize the importance of qualitative studies but they were beyond the scope of this review. In total, 61 manuscripts met all criteria for inclusion in this study. Of the 61 articles included, 23 examined wage and productivity outcomes and 50 examined employment outcomes. The majority of the studies examine interventions in high-income countries (48/61, 79%).

Figure 1. Article selection flowchart.



We identified different intervention types that affected women’s economic outcomes. Half of all papers (34/61, 56%) examined women’s labor force participation as an outcome of interest (either binary or other). The remaining study outcomes were weeks and/or hours worked in the previous year, total annual earnings, hourly wage, work sector, female-to-male wage gap, and unemployment. In the following section, we examine the evidence separated by outcome.

Labor Force Participation

We identified 33 articles that examined the relationship between changes in law, policy, or programs and women’s labor force participation as a binary variable (most often currently “employed” vs. “unemployed”). An additional eight articles were selected that examined women’s labor force participation in further defined subgroups including part-time employment, work by women with disabilities, and work performed off-farm or outside the home (Table 3). Policies that increased access to childcare or paid family leave had consistent and strong statistically positive effects on women’s labor force participation, as did egalitarian legislative changes to divorce and inheritance laws. The few studies examining women’s labor force participation associated with changes in minimum wage laws did not find consistent significant effects. However, these minimum wage changes were implemented without consideration of gender and studies found there was greater implementation for men than women.

Table 3. Summary of policies and outcomes associated with women’s labor force participation

Policy Type	Citation (Author and Year)	Policy Change	Location	Evaluation Design	Sample Size	Association
Childcare	Felfe, 2016	Provision of after-school care until 6PM	Switzerland	DID	4,412	Positive
	Fitzpatric, 2010	Introduction of pre-kindergarten programs: 2.5-6.5 hrs/day	USA	Regression discontinuity	205,826	No effect
	Haeck, 2015	Provision of daycare spaces at a subsidized fee (5 CAD/day)	Canada	DID	65,880	Positive
	Lefebvre, 2009	Provision of daycare spaces at a subsidized fee (5 CAD/day)	Canada	DDD; DID	46,687	Positive
	Mikucka, 2008	Provision of childcare	25 European countries	Hierarchical logistic regression		Positive
Cash-for-Care Programs	Naz, 2010	Cash benefits to parents who do not utilize state-subsidized daycare	Norway	DID	107,723	No effect
	Schone, 2004	Cash benefits to parents who do not utilize state-subsidized daycare	Norway	DDD	298,418	Negative
Conditional Cash Transfers	Alzua, 2013	All programs were CCTs providing cash benefits for school attendance	Latin America	DID	97,784	No effect
	Scarlato, 2016	CCT offering social services and employment support	Chile	DID	32,308	Positive
	Shamsuddin, 2015	Girls received free tuition, monthly stipend, and book allowance	Bangladesh	DDD; DID	67,146	Positive
Divorce	Bargain, 2012	Legalization of divorce	Ireland	DID	15,682	Positive
	Genadek, 2007	No fault divorce laws	USA	DDD	3,889,847	Positive
Education and Training	Attanasio, 2011	Providing subsidized vocational training to the unemployed	Colombia	Random assignment	3,549	Positive
Family Leave	Baum, 2003	Provision of 12 weeks unpaid leave for mothers	USA	DID	7,289	No effect
	Baum, 2016	Provision of 6 weeks paid family leave	USA	DID	2,187	Positive
	Das, 2015	Provision of 6 weeks paid family leave	USA	DID	34,270	Positive
	Lalive, 2014	Various changes in job protection and cash benefits	Austria	Regression discontinuity	93,306	Positive
	Mullerova, 2017	Extending paid leave to four years without extending job protection	Czech	DID	1,464	Negative
	Rossin-Slater, 2013	Provision of 6 weeks paid family leave	USA	DID	16,255	Positive
	Joseph, 2013	Increase in parental leave by 6 months for first birth	France	DID	2,939	Positive
	Ziefle, 2014	Multiple policy changes to parental leave entitlements	Germany	Piecewise regression	26,364	Positive
Fertility Incentives	Ang, 2014	Introduction of cash-transfer fertility incentives	Canada	DDD; DID	2,048,800	Positive
Health	Kalist, 2004	Legalization of abortion	USA	Probit regression, DDD	100,000	Positive
	Lee, 2008	Health insurance coverage for children not eligible for Medicaid	USA	Probit regression, DDD	50,772	No effect
	Liao, 2010	Introduction of a universal National Health Insurance	Taiwan	DID	7,809	No effect
	Strumpf, 2011	Federal law authorizing the Medicaid program	USA	DDD, DID	54,782	Positive
Inheritance	Hallward-Driemeier, 2015	Expanding wives’ access to marital property and removing restrictions to working outside the home	Ethiopia	DID	NR	Positive



	Sapkal, 2017	Policy giving daughters equal inheritance rights as sons	India	Quadruple DID	363,846	Positive
Joint Custody	Nunley, 2010	Law favoring joint custody	USA	DID	182,168	Positive
Labor Market	Deidda, 2015	ALMP to improve employment probabilities and income for disadvantaged workers	Italy	Propensity score matching	859	Positive
	Knoef, 2016	Introduction of an earnings disregard and direct job creation	Netherlands	DID	63,058	Positive
	Sorensen, 2016	Job search assistance program, meetings with caseworker, job training	Denmark	RCT	5,180	No effect
	Vall Castello, 2012	Increased deduction of employers social security contributions to hire disabled women	Spain	DID	49,989	Positive
Minimum Wage*	Jia, 2014	Changes to minimum wage policy	China	DID	3,353	Negative
	Menon, 2017	Changes to national minimum wage	India	Weighted regression	597,621	Negative
Tax	Adireksombat, 2010	Earned income tax credit available to a family with 2 or more children	USA	DID	86,044	Positive
	Bosch, 2012	Reduced marginal tax rates and replaced tax allowances with tax credits	Netherlands	Instrumental variable	75,299	Positive
	Fitzgerald, 2008	Increases in family and child tax credits	New Zealand	DID	57,066	Positive
	Lalunia, 2008	Introduction of joint-taxation for married couples	USA	DID	114,958	No effect
Welfare	Achdut, 2017	Program gave cash bonuses to mothers receiving income support benefits	Israel	Propensity score matching, DID	45,104	Positive
	Hill, 2012	Mothers exemption from welfare work requirements after child's birth	USA	DID	4,243	No effect

*Studies found that these were enforced differentially across gender

DDD: triple difference (difference in difference in difference); DID: difference in difference; RCT: randomized control trial

Childcare and Labor Force Participation

In total, seven papers examined the association between women's employment status and childcare reform. The introduction of subsidized daycare and after-school care options in Canada (Haeck, Lefebvre, and Merrigan 2015; Lefebvre, Merrigan, and Verstraete 2009) and Switzerland (Felfe, Lechner, and Thiemann 2016) resulted in an increase in mothers' labor force participation of up to 13 percentage points.

In contrast, the provision of a cash-for-care subsidy in Norway (up to 400E a month per child, given to individuals who stayed home to provide care), had a null or slightly negative effect on women's economic participation even when provided in the presence of subsidized daycare options for young children (Naz 2010; Schone 2004). The authors' interpretation of these negative effects was that cash benefits increase the incentive for parents to stay at home in order to care for their children themselves. While some parents express a preference for parental care during early childhood, without shifting underlying gender norms and gaps in earnings, policies that directly subsidize parental caregiving are likely to reinforce inequalities by implicitly positioning mothers as the default caregiver. Moreover, for mothers in paid employment who do utilize childcare centers and are ineligible for the cash-for-care subsidy, the relative price of childcare increases and may result in less time spent in the labor market. Finally, both papers utilized "mothers with older children" as the control group; thus, as this group may differ systematically with respect to important and unmeasured labor supply confounders, the observed differences in outcome may not be fully attributable to the treatment effect.

Only one study examined the impact of childcare policies for older pre-primary children and did not find any meaningful associations of universal pre-K availability on maternal labor supply. Of note,

the amount of subsidized care offered in the pre-K program ranged from 2.5 to 6.5 hours per day, suggesting that only those women who worked fewer than the number of hours of care provided by the program (about 1/3 of the population sample) had the potential to increase their labor supply in response to the subsidy. Authors did not have the power to restrict analyses to this subgroup of women (Fitzpatrick 2010).

Family Leave and Labor Force Participation

All seven studies examining family leave policies were conducted in high-income countries (Austria, Czech Republic, France, and USA). The majority of these papers examined women's economic outcomes as a result of changes to paid leave policies. Only one examined the impact of unpaid leave via the United States Family and Medical Leave Act (FMLA), which provides 12 weeks of unpaid leave. In general, providing unpaid leave did not significantly alter women's employment or wage outcomes (Baum 2003). Though some research has found unpaid leave to be associated with an increased probability of leave taking and returning to work (Waldfogel 1999), these results are in line with previous studies that report small and insignificant changes in economic outcomes associated with unpaid family leave, including a recent large systematic review (Nandi et al. 2018).

In contrast, providing paid leave or increasing the amount of paid leave available led to improved labor outcomes across several studies. In the USA, the introduction of paid family leave in California had significant positive effects on women's employment status after childbirth (Baum II and Ruhm 2016; Das and Polachek 2015; Rossin-Slater, Ruhm, and Waldfogel 2013). As a result of this policy, California's labor force participation rate for young women increased by 1.4 percentage points more than in other states; however, it was also associated with higher rates of unemployment among young women, possibly due to discrimination from potential employers (discrimination based on family status



is not explicitly prohibited in most U.S. states, including California) (Das and Polachek 2015). It was unclear whether the periods out of the labor force were due to longer periods of leave taking by mothers; further studies are needed to examine this question. Only one study, utilizing data from the National Longitudinal Survey of Youth, examined the pattern of leave taking over time both before and after childbirth. Authors reported an increase in labor force participation from 8 weeks before childbirth (7.7%) to one year after childbirth (18%), suggesting that the policy increased job continuity (Baum II and Ruhm 2016).

In Europe, increasing the amount of paid leave available and extending the duration of job protection were both associated with longer periods out of the labor force immediately following birth (Lalive et al. 2014; Joseph et al. 2013). However, neither study reported long-term effects on women's labor market outcomes after the leave period was exhausted. One study examining six successive changes to Germany's parental leave program, including changes to both leave entitlements and wage replacement rates, found that although women's hazard rate back into employment fell with each increase in leave entitlements, it strongly peaked at the end of the leave period (Ziefle and Gangl 2014).

Not all family leave policies were intended to improve labor force participation among women. A Czech reform that extended monetary parental benefits from 3 to 4 years without an equivalent extension of job protection was designed to withdraw mothers from the labor market in response to the threat of large-scale unemployment. The study found that when mothers had to choose between job security and 12 extra months of benefits, both low- and high-skilled mothers were more likely to respond to the incentive, resulting in a strong negative impact on maternal labor force participation (16% to 23%) in both the short term and the long term (Mullerova 2017).

Conditional Cash Transfers and Labor Force Participation

Changes in women's economic participation after the implementation of national and subnational policies: a global systematic review

We identified three studies that rigorously examined the impact of conditional cash transfers (CCTs) on women's economic outcomes (Alzua, Cruces, and Ripani 2013; Scarlato, D'Agostino, and Capparucci 2016; Shamsuddin 2015). In each of these studies, receipt of monetary benefits was subject to a series of verifiable conditions including school attendance, child vaccinations, nutrition, and medical checkups. For each study, the control group consisted of women without exposure to the relevant CCT. In alignment with previous literature (Baird et al. 2014), our review confirms that these programs work to increase girls' educational attainment, which can in turn increase their future labor force participation. In Bangladesh, exposure to five years of a CCT linked to education was associated with one additional year of schooling and an increase in women's labor force participation of up to 6.1 percentage points (Shamsuddin 2015).

Active Labor Market Programs and Labor Force Participation

Active labor market programs (ALMPs) are often designed to keep workers employed; increase employment opportunities, wages, and productivity; and improve working conditions. Few programs are targeted to address gender disparities, and most studies that report gender-specific outcomes have estimated the impact of the same program on men and women separately. Our review identified only one ALMP that targeted women separately from men, which took place in Italy where women's employment remains at 46%, well below the European Union strategy target of 60% (Deidda et al. 2015). The policy had large and significant positive outcomes for women, especially lower-educated women, whose probability of being employed increased by 45% following their participation in the program (Deidda et al. 2015). Another ALMP in Denmark, which was not gender-specific, reported positive but insignificant effects on women's labor force participation in the short term; however, unemployment in the participating counties was less than 6% and market tightness, defined as the

number of vacant jobs per unemployed, ranged from 0.1 to 0.6 (Sorensen 2016). The need for gender-specific labor market policies, and empirical research examining their effectiveness, is a necessary step in identifying and closing the gender gaps that persist in labor force participation.

Training and Labor Force Participation

Equal access to training opportunities can shape whether workers have the same opportunities for employment and advancement regardless of gender. One study examined the impacts of subsidized vocational training for women, finding that it increased employment and paid employment by 6.1 and 7.1 percentage points, respectively (Attanasio, Kugler, and Meghir 2011).

Health Insurance, Health Policies, and Labor Force Participation

Three studies examined changes to national health insurance coverage and reported mixed findings. In the USA, the introduction of the Medicaid program, which provided health insurance to very low-income, lawful residents, did not decrease the labor supply of eligible women compared to non-eligible women. Indeed, authors report an increase in labor force participation rates among single women with children, supporting past evidence that improvements in health status may facilitate an increase in labor force participation (Strumpf 2011). Similar results were observed among married women, for whom labor supply was unaltered after the introduction of the State Children's Health Insurance Program (SCHIP), which provides health insurance coverage to near-poor children ineligible for Medicaid (Lee and Tomohara 2008). However, married women who were non-white and those with low education reduced their labor force participation after SCHIP implementation by 8% and 11%, respectively. Women whose oldest child was pre-school age also reduced their labor supply, though estimates were not significant at the 5% level. This population of women may have chosen not to participate in the workforce in order to be eligible for SCHIP, particularly since many low-wage



workplaces do not provide healthcare (U.S. Bureau of Labor Statistics 2020) and the USA does not provide national health insurance coverage to all citizens. Though several studies have found the availability of free or significantly subsidized health insurance to have substantive positive effects on labor force participation and wages (Currie and Madrian 1999), the availability of Medicaid in the USA, which provides health coverage only to those with very low income, may result in a financial disincentive to work. Thus, the availability of federally funded health coverage only to the very poor or individuals who are not working creates a range of financial and health pressures unique to the USA that must be considered when interpreting the results of these studies. In Taiwan, the introduction of a government-instituted National Health Insurance (NHI) program resulted in reduced labor force participation among wives of agricultural workers who, prior to the NHI, could obtain health coverage for their families only through employer-sponsored health insurance (Liao and Taylor 2010).

Access to abortion increases women's economic participation through several mechanisms including a decrease in fertility, a reduction in labor turnover and exit due to unwanted pregnancies, and an increase in high school graduation rates and college attendance. One health policy study, examining economic changes after the legalization of abortion in the USA, reported a 2% overall increase in the probability of women working 40 or more weeks a year (Kalist 2004).

Financial Incentives and Labor Force Participation

Studies found that changes to national tax reform that increased "take-home" pay by either reducing the marginal tax rates or increasing family tax credits were associated with increased probability of employment among women (Adireksombat 2010; Bosch and van der Klaauw 2012; Fitzgerald, Maloney, and Pacheco 2008). Though labor force participation rates in the Netherlands were similar to those in other OECD countries, the proportion of women working part-time was drastically



higher (55% vs. 25%, on average). In response, the Netherlands introduced a tax reform that aimed to increase female labor force participation by making work financially more attractive. The reform reduced marginal tax rates and replaced tax allowances, which incentivized higher partner earnings, with a fixed tax credit. The new reform resulted in an increase in both entry into the labor force and average weekly hours of work (Bosch and van der Klaauw 2012). In the USA, an increase in the maximum tax credits available to families with two or more children (relative to families with one or no children) significantly increased the labor supply of unmarried women with two or more children by 5 percentage points when compared to unmarried women with no children, who would have not benefited from the tax reform (Adireksombat 2010). Policies that provided financial incentives to employers to increase working opportunities for specific groups of women, including the young (Ayhan 2013) and those with disabilities (Vall Castello 2012), as well as a policy in the Netherlands designed to create job opportunities for single mothers on welfare (Knoef and Ours 2016), led to increased labor force participation.

Other Policies

Policies designed to expand financial incentives for women also led to increases (Achdut 2017). For example, in Israel prior to legislative changes, single mothers on welfare with at least one child under the age of 7 years were exempt from a work test; however, under the new law, only mothers with a child under the age of 2 years were exempt. In addition to these changes, a new back-to-work bonus program provided additional cash bonuses to single mothers on welfare who were continuously employed for at least four months. Mothers who participated in the program were more likely to be employed four years later than mothers who did not, and the employment rate grew by 21% (Achdut 2017). Similar results were observed in the USA after changes to the age-of-youngest-child (AYC)



exemptions, which waived work requirements for families receiving Temporary Assistance for Needy Families (TANF). Low-income, single mothers living in states that did not provide work exemption (i.e., where mothers with infants had to work in order to receive TANF program benefits) were up to 22% more likely to be employed full time (Hill 2012). However, the overall impact of these policy changes among low-income families goes beyond labor force participation, and more stringent work requirements for TANF have also been associated with a sharp increase in deep poverty and racial disparities in enforcement (Pavetti 2018), alongside a significant redistribution of funds away from single-parent families in the poorest wealth index (Moffitt 2015). Other approaches could have supported increased labor force participation without withdrawing support from and economically disadvantaging the poorest families.

In our review, we found that increasing minimum wage regulations had negative effects on equality because of differential responses by companies and differential enforcement across gender (Jia 2014; Menon and van der Meulen Rodgers 2017). More comprehensive studies on minimum wage regulations, and conditions required for equal enforcement, are needed. The legalization of divorce in Ireland and the introduction of no-fault divorce laws in the USA significantly increased the labor supply of married women (Bargain et al. 2012; Genadek, Stock, and Stoddard 2007). Similarly, policies that removed systematic gender bias in inheritance laws resulted in a greater number of women working for pay outside the home (Hallward-Driemeier and Gajigo 2015; Sapkal 2017).

Hours Worked Per Year:



Change in time spent at work is an important indicator of women’s employment status. Often, the criteria used to define “employment” do not consider differences in work arrangements such as part-time, seasonal, and/or discontinuous working times, nor do they measure total work potential. Unlike using binary measures of labor force participation, which are limited to detecting women’s entry into and exit from a job, examining time at work allows for a more detailed assessment of how policies impact women’s economic decisions, particularly for women who are already in the labor market. We found 19 studies that examined time worked in a year as the outcome variable of interest (Table 4). Policies designed to improve women’s access to paid family leave and childcare had strong positive effects on amount worked across several studies, as did legislative changes that increased tax credits for families.

Table 4. Summary of policies and outcomes associated with hours worked per year

Policy Type	Citation (Author and Year)	Policy Change	Location	Evaluation Design	Sample Size	Association
Childcare	Fitzpatric, 2010	Introduction of pre-kindergarten programs: 2.5-6.5 hrs/day	USA	Regression discontinuity	205,826	No effect
	Haeck, 2015	Provision of daycare spaces at a subsidized fee (5 CAD/day)	Canada	DID	65,880	Positive
	Lefebvre, 2009	Provision of daycare spaces at a subsidized fee (5 CAD/day)	Canada	DDD; DID	46,687	Positive
Cash-for-Care Programs	Schone, 2004	Cash benefits to parents who do not utilize state-subsidized daycare	Norway	DDD	298,418	No effect
Conditional Cash Transfers	Alzua, 2013	All programs were CCTs providing cash benefits for school attendance	Latin America	DID	98,054	Positive
Divorce	Bargain, 2012	Legalization of divorce	Ireland	DID	15,682	Positive
	Genadek, 2007	No fault divorce laws	USA	DDD	3,889,847	Positive
Education and Training	Attanasio, 2011	Providing subsidized vocational training to the unemployed	Colombia	Random assignment	3,549	Positive
Family Leave	Baum, 2016	Provision of 6 weeks paid family leave	USA	DID	2,187	Positive
	Rossin-Slater, 2013	Provision of 6 weeks paid family leave	USA	DID	16,255	Positive
Fertility Incentives	Ang, 2015	Introduction of cash-transfer fertility incentives	Canada	DDD; DID	2,048,800	Positive
Joint Custody	Nguyen, 2018	Child joint custody reform	USA	Bias corrected MLE	490,447	Positive
Labor Market Policy	Medina, 2007	Labor market reform that increased daytime hours	Colombia	DID	NR	No effect
Minimum Wage Policies*	Jia, 2014	Changes to minimum wage policy	China	DID	3353	No effect
Tax	Adireksombat, 2010	Earned income tax credit available to a family with 2 or more children	USA	DID	86,044	Positive
	Bosch, 2012	Reduced marginal tax rates and replaced tax allowances with tax credits	Netherlands	Instrumental variable	75,299	Positive
	Fitzgerald, 2008	Increases in family and child tax credits	New Zealand	DID	57,066	Positive
	Klevmarken, 2000	Decreased tax rates	Sweden	Change models	1063	Positive
	Lalumia, 2008**	Introduction of joint-taxation for married couples	USA	DID	114,958	Negative

* Studies found that these were enforced differentially across gender.

**This policy for married couples lowered the marginal tax rate of the higher earner and raised the marginal tax rate of the lower earner.

DID: difference in difference; MLE: maximum likelihood estimate; RCT: randomized control trial

Early Childcare and Hours Worked

Employment-supportive arrangements that subsidized or improved accessibility of childcare increased women's time in the labor force. These policies tend to support women's efforts to compete with men in the economic market and can potentially shift norms that position women as secondary breadwinners (Stier and Mandel 2009). In our review, we found that childcare-related policy solutions designed to assist in care options for very young children (those too young for pre-primary education) had the strongest positive associations with amount of time women worked in the previous year (Haeck, Lefebvre, and Merrigan 2015; Lefebvre, Merrigan, and Verstraete 2009). In Canada, the 1997 Quebec childcare policy that provided families with subsidized daycare spaces at a fee of 5 CAD per day was associated with an increase in the number of weeks and hours women worked in the reference year (Haeck, Lefebvre, and Merrigan 2015; Lefebvre, Merrigan, and Verstraete 2009). The policy was implemented with two explicit goals: to increase mothers' labor force participation and to improve school readiness among young children. Three features characterized the policy: the subsidized price of childcare, the financial support for the creation of new childcare facilities, and increased wages for childcare workers. The policy was introduced in phases so that in 1997 children 4 years of age were eligible for the subsidy, in 1998 children 3 years of age were eligible, in 1999 children 2 years of age were eligible, and starting September 1, 2000, all children aged 0–5 were eligible. In 2000, Haeck et al. (2015) utilized difference-in-difference methodology to estimate an increase in labor force participation of almost two weeks per year with gradual increases each year until 2009. A second paper examined long-term impacts of the policy and confirmed that women in later years (after 2001) had greater benefits from the program, likely due to the larger proportion of mothers benefiting from the program as time went on, and observed an increase of up to 4 working weeks per year (Lefebvre, Merrigan, and



Verstraete 2009). However, strong and significant estimates were observed only for women without any post-secondary education—i.e., among mothers who are likely to be earning less money. In contrast, Fitzpatrick et al. examined the effects of a USA childcare policy on the number of weeks worked and found that providing publicly funded childcare to older children, through the introduction of a universal pre-kindergarten program, did not significantly impact maternal time at work (Fitzpatrick 2010). Two factors may have contributed to this outcome: women who have been out of the workforce for several years after childbirth may have difficulty finding new employment, and the number of hours of provided care may not have sufficed for most women to be able to work.

Paid Leave and Hours Worked

Other policies originally aimed at improving women's workplace opportunities, such as paid family leave, similarly improved women's work outcomes as related to number of weeks and hours worked annually (Baum II and Ruhm 2016; Ang 2015; Rossin-Slater, Ruhm, and Waldfogel 2013). More generous parental leave benefits in Quebec resulted in substantial increases in both birth rate and female labor supply (Ang 2015). Similarly, rights to paid parental leave in California increased mother's leave taking by almost 5 weeks and was associated with an increase up to 7.1 working weeks in the second year of the child's life (Baum II and Ruhm 2016). These results were strongest among mothers with a considerable amount of work experience during pregnancy (20 weeks or more) and still positive, though weaker, among women with any employment during the previous calendar year. In another study examining the labor force impact of California's paid parental leave policy and using data from the Current Population Survey, authors reported a significant increase of 6% (treatment group: mothers of children aged 2) to 10% (treatment group: mothers of children aged 3) in the number of hours worked in

the reference week and a 6% increase in the usual weekly work hours during the previous year (Rossin-Slater, Ruhm, and Waldfogel 2013). Paid family leave, in and of itself, is designed to increase job continuity, and the resulting human retention may, in turn, be associated with longer work hours over time.

Policies Affecting Shared Child Rearing and Hours Worked

A change in USA child custody law that shifted from sole to joint custody during the 1970s and 1990s was also thought to alter female labor market participation through both the change in household bargaining power within marriages as well as the redistribution of childrearing responsibilities between divorced couples (Nguyen, Van, and Phan 2018). Using current population survey data, authors report an increase of up to 18 working hours per year for wives after the introduction of joint custody laws; for couples with children, the working hours of wives increased by 24 hours per year (Nguyen, Van, and Phan 2018).

Financial Incentives and Hours Worked

An expansion of the US Earned Income Tax Credit for families with two or more children increased the total annual working hours of unmarried mothers of two or more children by 98 hours compared to women without children (Adireksombat 2010). Among unmarried mothers with high school or less than high school education, the relative increase in hours was substantially greater at 105 hours and 250 hours, respectively (Adireksombat 2010). No significant changes in working hours were observed for mothers with educational attainment beyond high school or when the analyses were restricted to mothers who were already working (i.e., those who had a positive number of working hours at baseline) (Adireksombat 2010). These results were corroborated by other global studies



examining changes in female labor force participation after national tax reforms that either reduced the marginal tax rates or increased family tax credits (Bosch and van der Klaauw 2012; Fitzgerald, Maloney, and Pacheco 2008; Klevmarken 2000). In contrast, joint taxation laws in the USA had small but significant negative impacts on women's work outcomes. In general, joint taxation lowers the primary earners', most often the husbands', marginal tax rates, thus subsequently raising the wives' marginal tax rates. Lalumia et al. (2008) hypothesized that such changes in tax law would reduce the labor supply of married women. Through a difference-in-difference framework, the authors compared women's labor outcomes after the federal introduction of joint taxation in 1948 among couples in community property states, where joint taxation did not change the division of income between spouses for tax purposes (considered the control group), and couples in common law states, where joint taxation had more substantial impacts on spousal taxation (considered the treatment group). After 1950, the average number of weeks worked by married women fell by 1.1 and the probability of a wife working any week in the previous year fell by 2.1 percentage points in common law states, relative to married women in community property states (Lalumia 2008).

Education and Training and Hours Worked

We identified one study examining the impact of a subsidized vocational training program in Colombia on the number of days women worked per month. The authors reported an increase of 1.5 working days per month and 3.4 hours per week (Attanasio, Kugler, and Meghir 2011). CCTs are another well-established mechanism for increasing school attendance, particularly among girls, and were also associated with an increase in the number of hours worked by female beneficiaries in Latin America (Alzua, Cruces, and Ripani 2013).

Other Policies and Hours Worked

Changes in women's economic participation after the implementation of national and subnational policies: a global systematic review



One study that examined the economic impact of no-fault divorce laws in the USA among married mothers compared to married non-mothers found that the relative increase in number of weeks worked annually was greater for mothers—specifically for mothers of children under 2 years old, who reported working 1.2 weeks ($P < 0.001$) more per year than their counterparts in states without no-fault divorce laws (Genadek, Stock, and Stoddard 2007). In Quebec, cash-transfer fertility incentives were introduced at the provincial level in the 1980s and 1990s in an attempt to increase birth rates (Ang 2015). The incentives, which provided payments to parents of children aged 5 and under, were more generous for children of higher birth order (i.e., C\$500 for first born children vs. up to C\$8000 for third- or higher-born children). Consistently with previous theories, however, authors found no meaningful increase in either birth rate or labor supply (Ang 2015).

Earnings and Wages

We identified 24 studies examining the association between national policy and women's wages (Table 5). Among these studies, those examining the effects of childcare policy had mixed results. Childcare appears to be most effective at increasing women's earning potential if it is offered full-time to both younger and older children. Additionally, CCTs—targeting girls and conditioned on a combination of school attendance, child vaccination, and medical check-ups—were not found to increase income of the women who participated as children in the program, though providing subsidized vocational training opportunities to girls did result in statistically significant positive effects on earnings.

Table 5. Summary of policies and outcomes associated with women's earnings

Policy Type	Citation (Author and Year)	Policy Change	Location	Evaluation Design	Sample Size	Association
Childcare	Fitzpatrick, 2010	Introduction of pre-kindergarten programs: 2.5-6.5 hrs/day	USA	Regression discontinuity	205,826	No effect
	Lefebvre, 2009	Provision of daycare spaces at a subsidized fee (5 CAD/day)	Canada	DDD; DID	46,687	Positive
	Stier, 2009	Employment supportive policies including rate of childcare, paid leave and rate of part time employment	21 countries	Multilevel modeling	5,000-18,000 households in each country	Positive
Cash-for-Care Programs	Naz, 2010	Cash benefits to parents who do not utilize state-subsidized daycare	Norway	DID	93,951	No effect
	Schone, 2005	Cash benefits to parents who do not utilize state-subsidized daycare	Norway	DDD; DID	105,787	No effect
Conditional Cash Transfers	Alzua, 2013	All programs were CCTs providing cash benefits for school attendance	Latin America	DID	98,054	No effect
	Shamsuddin, 2015	Girls received free tuition, monthly stipend, and book allowance	Bangladesh	DDD; DID	25,990	No effect
Education and Training	Attanasio, 2011	Providing subsidized vocational training to the unemployed	Colombia	Random assignment	3,549	Positive
Family Leave	Baum, 2016	Provision of 6 weeks paid family leave	USA	DID	2,187	Positive
	Lalive, 2014	Various changes in job protection and cash benefits	Austria	Regression discontinuity	60,998	Positive
	Rossin-Slater, 2013	Provision of 6 weeks paid family leave	USA	DID	16,255	Positive
	Baum, 2003	Provision of 12 weeks unpaid leave for mothers	USA	DID	7,289	No effect
	Joseph, 2013	Increase in parental leave by 6 months for first birth	France	DID	2,939	No effect
Fertility Incentives	Ang, 2014	Introduction of cash-transfer fertility incentives	Canada	DDD; DID	2,048,800	Positive
Labor Market	Deidda, 2015	ALMP to improve employment probabilities and income for disadvantaged workers	Italy	Propensity score matching	859	Positive
	Knoef, 2016	Introduction of an earnings disregard and direct job creation	Netherlands	DID	63,058	Positive
	Medina, 2007	Labor market reform that increased daytime hours	Colombia	DID	NR	No effect
	Sorensen, 2016	Job search assistance program, meetings with caseworker, job training	Denmark	RCT	5,180	No effect
Pay Equity	Baker, 2004	Introduction of pay equity law	Canada	DDD	33,408	No effect
	Kim, 2015	Policy to outlaw pay secrecy	USA	DID	2,100,000	Positive
Minimum Wage*	Menon, 2019	Changes to national minimum wage	India	Weighted regression	597,621	No effect
Tax	Bosch, 2012	Reduced marginal tax rates and replaced tax allowances with tax credits	Netherlands	Instrumental variable	75,299	Positive
	Lalunia, 2008	Introduction of joint-taxation for married couples	USA	DID	114,958	No effect
Welfare Policy	Achdut, 2017	Program gave cash bonuses to mothers receiving income support benefits	Israel	Propensity score matching; DID	45,104	Positive

* Studies found that these were enforced differentially across gender.

DDD: triple difference (difference in difference in difference); DID: difference in difference; RCT: randomized control trial

Childcare and Earnings

Of the studies examining changes to national childcare policy, one reported a positive association with women's wages in Canada and found the new policy to increase women's earnings by up to 4500 CAD a year (Lefebvre, Merrigan, and Verstraete 2009). This policy increased the number of subsidized daycare spaces for children ages 4 and older as well as subsidized before- and after-school daycare programs for children in school. It was implemented at a time where GDP growth in Canada was strong, helping mothers who wanted to take advantage of the policy find reliable employment. A USA policy providing universal pre-kindergarten did not have the same positive effects on wages; however, childcare was limited to 6 hours a day (Fitzpatrick 2010).

Paid Leave and Earnings

While the concern has been raised that paid family leave could lead employers to discriminate, paid family leave did not negatively impact women's earning potential, and some evidence of a wage increase was observed, though this data was collected in countries with smaller durations of paid leave and the respective wage increases were weaker and non-significant (Baum II and Ruhm 2016; Rossin-Slater, Ruhm, and Waldfogel 2013). One Austrian study of three policy reforms occurring between 1990 and 2000 did not find any of the leave policies to have detrimental impacts on daily earnings, suggesting that even longer leaves do not lead to significant reductions in human capital (Lalive et al. 2014). According to one study, women's financial contribution to the household income increased in countries with access to longer durations of leave (24 weeks or more); however, these results did not hold after controlling for women's economic activity (Stier and Mandel 2009). A policy introducing a part-time parental leave program in France was associated with a reduction in wages up to two years after childbirth, particularly among medium or highly educated women (Joseph et al. 2013). However, these



results were not sustained across different model specifications; even so, authors believed a likely explanation was that women continued part-time work even after the period of the benefit, possibly fueled by plans for a second child (Joseph et al. 2013). One study examined the effects of unpaid family leave on wages and did not report any meaningful associations (Baum 2003).

Training and Education and Earnings

Two studies examining wage outcomes after the implementation of CCT programs did not report positive findings (Alzua, Cruces, and Ripani 2013; Shamsuddin 2015). In Bangladesh, five-year exposure to a tuition-free, female-stipend program decreased earnings by 17% (Shamsuddin 2015). This may be due in part to women moving from manufacturing to service sectors. Alternatively, because an increase in demand for labor did not accompany the increase in labor force participation, the excess labor supply may have pushed down wages. However, a program that introduced subsidized vocational training for disadvantaged youth had significant and positive effects on earnings of up to 20% (Attanasio, Kugler, and Meghir 2011). The increase in earnings was due to increased employment rates, increased productivity, and access to better jobs (as measured by an increase in formal and contract work). The program offered three months of classroom training and three months of on-the-job training to young men and women, of whom a large proportion were high school dropouts; however, consistent positive effects were observed only among women (Attanasio, Kugler, and Meghir 2011).

Pay Equity and Earnings

Pay equity policies and changes to the male–female wage gap were examined across several studies. An Ontario pay-equity law did not have significant effects on women’s wages or the male–female wage gap, as authors documented a large lapse in compliance (almost 100% non-compliance) with the law among smaller private-sector firms with 10–49 employees (Baker and Fortin 2004). Only



one study reported a decrease in the gender wage gap as a result of an amendment to the Fair Labor Standards Act, passed in 1938, that outlawed pay secrecy in the USA (Kim 2015). Pay secrecy includes both formal and informal rules, policies, and practices that prohibit workers from sharing or discussing information about their earnings (Gely and Bierman 2003). Pay secrecy is one mechanism through which gender discrimination in earnings continues and is regarded as an integral factor perpetuating the gender wage gap. Expectedly, outlawing pay secrecy had strongest positive effects among college-educated women, increasing their earnings by up to 3% (Kim 2015). We identified one study examining a policy that increased minimum wages in China (Jia 2014). The regulations contributed to increased gender disparities in employment. A study in India found that there was greater enforcement of minimum wage laws by those who employed men than those who employed women, and that the uneven enforcement led to greater gender disparities (Menon and van der Meulen Rodgers 2017).

Active Labor Market Policies and Earnings

ALMPs designed to create jobs or improve employability of women were associated with increased earnings (Deidda et al. 2015; Knoef and Ours 2016), while a Colombian policy that increased the number of daytime work hours did not have a significant impact on female wages (Medina D and Escobar R 2007). Only one study examined non-wage income as an outcome variable, related to changes in joint taxation law, and results were self-reported based on earnings from business profits, rental properties, or financial assets. Joint taxation law was associated with a decrease (1.5%) in the probability of having non-wage income and greater among women married to self-employed men (3.9%). Among older married women (60 years and older) the reduction was more pronounced at 6.8%. These results were considered economically significant given that only 10% of women had non-wage income at baseline (Lalumia 2008).

Work Sector

We identified a limited number of empirical studies examining the role of national policy on women's working sector. CCT programs were one mechanism through which changes in women's work sector were observed (Scarlato, D'Agostino, and Capparucci 2016; Shamsuddin 2015). One program in Chile not only provided cash payments directly to women but also provided social worker support that allowed the beneficiaries to gain access to education, training, and work (Scarlato, D'Agostino, and Capparucci 2016). As a result, women were more likely to be employed in the private and public sectors (Scarlato, D'Agostino, and Capparucci 2016). Five-year exposure to a similar program in Bangladesh increased women's probability of working in the service industry by 11.9% and decreased their likelihood of working in manufacturing (Shamsuddin 2015). An educational expansion reform in Taiwan that increased the island's tuition-free compulsory education to nine years (previously six) was also associated with an increased probability of women being employed in the service sector and was negatively associated with employment in agriculture or manufacturing (Tsai et al. 2009). Further, each additional year of schooling led to a 9% increase in the probability of working in the private sector (Tsai et al. 2009). One other study reported an increased probability of women working in the service sector after the introduction of an employment policy that prescribed a cut in social security contributions by employers who hired women (Ayhan 2013). A USA health policy mandating that group health plans (most often employer-sponsored health plans) cover assisted reproductive technologies for women had positive associations with women's career choices (Kroeger and La Mattina 2017). The authors hypothesized that laws enabling women to delay childbearing to a later point in their careers would encourage them to invest in professional degrees and, as a result, place them in professional



occupations (defined here as attorney, judge, physician, dentist, or veterinarian). Their study reports an increase in the probability of women obtaining professional degrees and being in a professional occupation at least four years after the mandate was introduced. It is crucial to change educational and workplace policies and cultures to enable all adults to start families without facing career setbacks; this would improve women's economic outcomes while respecting each household's needs and choices around birth timing and spacing. At the same time, legislation to make reproductive technologies widely available can support those who choose to delay childbearing.

CONCLUSION

This study identified a growing number of research articles that have examined the association between national and subnational policies and women's work outcomes, including labor force participation, wages, and work hours. Our review identified 61 experimental and quasi-experimental studies that examined the impacts of 13 policy types on women's work outcomes.

Work-family reconciliation policies had the largest positive impacts on women's economic participation. Importantly, while not all women have children, gendered assumptions about work and caregiving structure economies around the world in ways that have implications for everyone. For example, discrimination based on presumptions of caregiving responsibilities can affect all women at the beginning of their careers, regardless of their actual plans to become mothers, while the gendered devaluing of caregiving more broadly contributes to occupational segregation and low wages for work performed predominantly by women. Gendered stereotypes about care also limit men's ability to engage at home and can result in workplace retaliation against men who prioritize care responsibilities. Policies that ensure women have adequate support to remain in the paid workforce after becoming mothers can help shift practices and expectations around caregiving and employment in ways that



expand opportunities for all while strengthening economies. Among them, family leave policies, which are often designed to secure women's place in the job market, increase women's entry and reentry into jobs, amount of time spent at work, and employment earnings. Similarly, our review found that employment-supportive arrangements that subsidized or increased women's access to childcare improved women's economic outcomes. However, policies that provided publicly funded childcare only to older children through the introduction of a universal pre-kindergarten program, or that provided care for a limited number of hours a day, had mixed findings. One other review paper noted that when childcare policies were restricted in the number of hours provided, or of poor quality, women were less likely to work and more likely to hold lower-wage jobs with higher turnover (Hegewisch and Gornick 2011).

Other policies intended to increase women's economic participation included ALMPs. These policies had large and significant positive outcomes for women, particularly women with lower levels of education. Over the last decade, ALMPs have become an important tool for increasing rates of employment across numerous countries. In 2008, on average, OECD countries spent approximately 2.1% of their GDP on ALMPs. A review paper examining 73 studies on ALMPs across 15 countries found evidence of a modest increase in the probability of finding a job after participating in an ALMP; however, only four of these studies reported separate effect measures for women, and the results were not included in the review (Filges et al. 2015). Further research is needed on the effects of ALMPs on women's economic participation, particularly in low- and middle-income countries.

Our review also identified three different policy reforms aimed at realizing women's equal rights in different spheres that measurably improved their economic outcomes. These included legislation on divorce, equal inheritance, and women's reproductive health. All policies were associated with strong



improvements in women's economic participation. In contrast, minimum wage policies did not reduce gender disparities because of their greater enforcement for men than for women.

Globally, gender equality in the economy has not yet been achieved. Indeed, according to a report by the World Economic Forum, women's economic participation and opportunity have regressed. The report highlights three reasons for this regression, including greater representation of women in roles that are being automated, low rates of female participation in industries with the highest wage growth, and factors related to their access to capital and care infrastructure (World Economic Forum 2020). Moreover, due in substantial part to inadequate investments and attention to care, women's employment rates markedly regressed amidst the COVID-19 pandemic. According to the ILO, women globally were around 40% more likely than men to lose jobs between 2019 and 2020, and 13 million fewer women were employed worldwide in 2021 compared to two years earlier (International Labour Organization 2021). In the U.S. alone—a country that as of this writing guarantees neither paid parental leave nor childcare through national policy—women's labor force participation hit a 33-year low in January 2021 (Ewing-Nelson 2021).

In the long-term, advancing gender equality in the economy will require addressing both laws and norms, including by adequately valuing both paid and unpaid caregiving, encouraging and facilitating gender equity in care, and creating on-ramps for women's greater representation in emerging fields and leadership positions.

Our review identified studies published between 2000 and 2018. We restricted to our review to this period because changes in the economy may make older studies less applicable. Likewise, this period won't capture research coming out now which highlights the unique circumstances of COVID-19,



as well as the policies and regulations that have worked or failed to keep women employed during and post the pandemic.

Though our rigorous inclusion criteria largely reduced the amount of bias observed in the selected studies, the current body of work has some systematic weaknesses that warrant being addressed. First, much of the literature is from high-income countries. Second, though we identified a large body of literature on family leave and childcare policies, significant gaps remain in the rigorous analysis of other policy types, particularly those that can meaningfully contribute to women's economic participation, such as paternity leave, sick leave, and workplace discrimination and sexual harassment legislation. Third, few studies examined the long-term impact of these policies on women's work status. It is crucial that future research aims to address these gaps. Family leave policies have consistently shown an increase in labor force participation in the long term despite some evidence suggesting a reduction in employment in the short term (Ziefle and Gangl 2014; Lalive et al. 2014; Joseph et al. 2013). Other policy types, including ALMPs and CCTs, would similarly benefit from a longitudinal examination approach. Though we attempted to catch all relevant articles through our list of search terms, it is nevertheless likely we missed some. Finally, very few studies examined different subgroups of women, including single mothers, women with children, women from marginalized groups, women with disabilities, or low-income women. It remains unclear whether certain subgroups of women are more likely to benefit from the different policy types presented here. Of note, not all women were eligible to benefit from each policy presented in this report. For example, only women working in the formal economy were able to benefit from some of the policies. Thus, it may be that some of these policies have not reached the most marginalized and vulnerable women. Whether these policies contribute to



and/or further divisions and social inequalities among these women is unclear. Study-specific limitations include our restriction of English-language studies.

As countries worldwide seek to fulfill their commitments to gender equality—and to realize its significant potential to improve outcomes for individual households and national economies alike—understanding the role of social policies in either advancing or inhibiting this progress can yield meaningful and actionable information for policymakers. As this review has demonstrated, a range of national policies, and in particular those that better support workers to meet their dual responsibilities of paid work and care, can make a powerful difference, and accelerate our collective efforts to achieve gender equality in the economy.



References

- Achdut, Netta. 2017. 'Financial incentives to work: A quasi-experimental analysis of in-work cash benefits for single mothers', *International Journal of Social Welfare*, 26: 21-36.
- Adireksombat, Kampon. 2010. 'The Effects of the 1993 Earned Income Tax Credit Expansion on the Labor Supply of Unmarried Women', *Public Finance Review*, 38: 11-40.
- Alzua, Maria Laura, Guillermo Cruces, and Laura Ripani. 2013. 'Welfare Programs and Labor Supply in Developing Countries: Experimental Evidence from Latin America', *Journal of Population Economics*, 26: 1255-84.
- Ang, Xiaoling Lim. 2015. 'The Effects of Cash Transfer Fertility Incentives and Parental Leave Benefits on Fertility and Labor Supply: Evidence from Two Natural Experiments', *Journal of Family and Economic Issues*, 36: 263-88.
- Attanasio, Orazio, Adriana Kugler, and Costas Meghir. 2011. 'Subsidizing Vocational Training for Disadvantaged Youth in Colombia: Evidence from a Randomized Trial', *American Economic Journal: Applied Economics*, 3: 188-220.
- Ayhan, Sinem H. 2013. 'Do Non-wage Cost Rigidities Slow Down Employment? Evidence from Turkey', *IZA Journal of Labor Policy*, 2.
- Baird, Sarah, Francisco H. G. Ferreira, Berk Özler, and Michael Woolcock. 2014. 'Conditional, unconditional and everything in between: a systematic review of the effects of cash transfer programmes on schooling outcomes', *Journal of Development Effectiveness*, 6: 1-43.
- Baker, Michael, and Nicole M. Fortin. 2004. 'Comparable Worth in a Decentralized Labour Market: The Case of Ontario', *Canadian Journal of Economics*, 37: 850-78.
- Bargain, Olivier, Libertad Gonzalez, Claire Keane, and Berkay Ozcan. 2012. 'Female Labor Supply and Divorce: New Evidence from Ireland', *European Economic Review*, 56: 1675-91.
- Baum, Charles L. 2003. 'The Effect of State Maternity Leave Legislation and the 1993 Family and Medical Leave Act on Employment and Wages', *Labour Economics*, 10: 573-96.
- Baum II, Charles L., and Christopher J. Ruhm. 2016. 'The Effects of Paid Family Leave in California on Labor Market Outcomes', *Journal of Policy Analysis and Management*, 35: 333-56.
- Bosch, Nicole, and Bas van der Klaauw. 2012. 'Analyzing Female Labor Supply--Evidence from a Dutch Tax Reform', *Labour Economics*, 19: 271-80.
- Burroway, Rebekah. 2017. 'Are all jobs created equal? A cross-national analysis of women's employment and child malnutrition in developing countries', *Social Science Research*, 67: 1-13.
- Christiansen, Lone Engbo, Huidan Huidan Lin, Joana Pereira, Petia Topalova, and Rima Turk. 2016. 'Unlocking Female Employment Potential in Europe : Drivers and Benefits', *IMF Departmental Paper. International Monetary Fund, Washington, DC*.
- Cuberes, David, and Marc Teignier. 2012. "Gender Gaps in the Labor Market and Aggregate Productivity." In.: The University of Sheffield, Department of Economics.
- Currie, Janet, and Brigitte C. Madrian. 1999. 'Chapter 50 Health, health insurance and the labor market.' in, *Handbook of Labor Economics* (Elsevier).
- Das, Tirthatanmoy, and Solomon W. Polachek. 2015. 'Unanticipated Effects of California's Paid Family Leave Program', *Contemporary Economic Policy*, 33: 619-35.



- Deidda, Manuela, Adriana Di Liberto, Marta Foddi, and Giovanni Sulis. 2015. 'Employment Subsidies, Informal Economy and Women's Transition into Work in a Depressed Area: Evidence from a Matching Approach', *IZA Journal of Labor Policy*, 4.
- Elborgh-Woytek, Katrin, Monique Newiak, Kalpana Kochhar, Stefania Fabrizio, Kangni Kpodar, Philippe Wingender, Benedict Clements, and Gerd Schwartz. 2013. 'Women, Work, and the Economy: Macroeconomic Gains From Gender Equity', *International Monetary Fund, Washington, DC*.
- Ewing-Nelson, Claire. 2021. 'Another 275,000 Women Left the Labor Force in January. National Women's Law Center.', <https://nwlc.org/wp-content/uploads/2021/02/January-Jobs-Day-FS.pdf>, Accessed on December 13, 2021.
- Felfe, Christina, Michael Lechner, and Petra Thiemann. 2016. 'After-School Care and Parents' Labor Supply', *Labour Economics*, 42: 64-75.
- Filges, Trine, Geir Smedslund, Anne-Sofie Due Knudsen, and Anne-Marie Klint Jørgensen. 2015. 'Active Labour Market Programme Participation for Unemployment Insurance Recipients: A Systematic Review', *Campbell Systematic Reviews*, 11: 1-342.
- Fitzgerald, John, Tim Maloney, and Gail Pacheco. 2008. 'The Impact of Recent Changes in Family Assistance on Partnering and Women's Employment in New Zealand', *New Zealand Economic Papers*, 42: 17-57.
- Fitzpatrick, Maria Donovan. 2010. 'Preschoolers Enrolled and Mothers at Work? The Effects of Universal Prekindergarten', *Journal of Labor Economics*, 28: 51-85.
- Gely, Rafael, and Leonard Bierman. 2003. 'Pay Secrecy/Confidentiality Rules and the National Labor Relations Act', *Pennsylvania Journal of Labor & Employment Law*. Available at SSRN: <https://ssrn.com/abstract=467303>.
- Genadek, Katie R., Wendy A. Stock, and Christiana Stoddard. 2007. 'No-Fault Divorce Laws and the Labor Supply of Women with and without Children', *Journal of Human Resources*, 42: 247-74.
- Gonzales, Christian, Sonali Jain-Chandra, Kalpana Kochhar, and Monique Newiak. 2015. 'Fair Play : More Equal Laws Boost Female Labor Force Participation', *Staff Discussion Note 15/20*, *International Monetary Fund, Washington, DC*.
- Haeck, Catherine, Pierre Lefebvre, and Philip Merrigan. 2015. 'Canadian Evidence on Ten Years of Universal Preschool Policies: The Good and the Bad', *Labour Economics*, 36: 137-57.
- Hallward-Driemeier, Mary, and Ousman Gajigo. 2015. 'Strengthening Economic Rights and Women's Occupational Choice: The Impact of Reforming Ethiopia's Family Law', *World Development*, 70: 260-73.
- Hegewisch, Ariane, and Janet C. Gornick. 2011. 'The impact of work-family policies on women's employment: a review of research from OECD countries', *Community, Work & Family*, 14: 119-38.
- Hill, Heather D. 2012. 'Welfare as Maternity Leave? Exemptions from Welfare Work Requirements and Maternal Employment', *Social Service Review*, 86: 37-67.
- International Labour Office. 2017. 'Towards a better future for women and work: Voices of women and men', Accessed on 01 July 2020 at https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_546256.pdf.



- International Labour Organization. 2018. 'Global Wage Report 2018/19: What lies behind gender pay gaps', https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_650553.pdf, Accessed on December 13, 2021.
- . 2021. 'Building Forward Fairer: Women's rights to work and at work at the core of the COVID-19 recovery', https://www.ilo.org/wcmsp5/groups/public/---dgreports/---gender/documents/publication/wcms_814499.pdf, Accessed on December 13, 2021.
- International Monetary Fund. 2018. 'Pursuing Women's Economic Empowerment', Available at <https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/05/31/pp053118pursuing-womens-economic-empowerment>.
- Jia, Peng. 2014. 'Employment and Working Hour Effects of Minimum Wage Increase: Evidence from China', *China and World Economy*, 22: 61-80.
- Joseph, Olivier, Ariane Pailhe, Isabelle Recotillet, and Anne Solaz. 2013. 'The Economic Impact of Taking Short Parental Leave: Evaluation of a French Reform', *Labour Economics*, 25: 63-75.
- Kalist, David E. 2004. 'Abortion and Female Labor Force Participation: Evidence Prior to Roe v. Wade', *Journal of Labor Research*, 25: 503-14.
- Kim, Marlene. 2015. 'Pay Secrecy and the Gender Wage Gap in the United States', *Industrial Relations*, 54: 648-67.
- Klevmarken, N. Anders. 2000. 'Did the Tax Cuts Increase Hours of Work? A Statistical Analysis of a Natural Experiment', *Kyklos*, 53: 337-62.
- Knoef, Marike, and Jan C. van Ours. 2016. 'How to Stimulate Single Mothers on Welfare to Find a Job: Evidence from a Policy Experiment', *Journal of Population Economics*, 29: 1025-61.
- Kroeger, Sarah, and Giulia La Mattina. 2017. 'Assisted Reproductive Technology and Women's Choice to Pursue Professional Careers', *Journal of Population Economics*, 30: 723-69.
- Kuruvilla, Shyama, Flavia Bustreo, Taona Kuo, C. K. Mishra, Katie Taylor, Helga Fogstad, Geeta Rao Gupta, Kate Gilmore, Marleen Temmerman, Joe Thomas, Kumanan Rasanathan, Ted Chaiban, Anshu Mohan, Anna Gruending, Julian Schweitzer, Hannah Sarah Dini, John Borrazzo, Hareya Fassil, Lars Gronseth, Rajat Khosla, Richard Cheeseman, Robin Gorna, Lori McDougall, Kadidiatou Toure, Kate Rogers, Kate Dodson, Anita Sharma, Marta Seoane, and Anthony Costello. 2016. 'The Global strategy for women's, children's and adolescents' health (2016-2030): a roadmap based on evidence and country experience', *Bulletin of the World Health Organization*, 94: 398-400.
- Lalive, Rafael, Analia Schlosser, Andreas Steinhauer, and Josef Zweimuller. 2014. 'Parental Leave and Mothers' Careers: The Relative Importance of Job Protection and Cash Benefits', *Review of Economic Studies*, 81: 219-65.
- Lalumia, Sara. 2008. 'The Effects of Joint Taxation of Married Couples on Labor Supply and Non-wage Income', *Journal of Public Economics*, 92: 1698-719.
- Leatherman, S., M. Metcalfe, K. Geissler, and C. Dunford. 2012. 'Integrating microfinance and health strategies: examining the evidence to inform policy and practice', *Health Policy Plan*, 27: 85-101.
- Lee, Ho Jin, and Akinori Tomohara. 2008. 'Public Health Insurance Expansions and Labour Supply of Married Women: The State Children's Health Insurance Programme', *Applied Economics*, 40: 863-74.



- Lefebvre, Pierre, Philip Merrigan, and Matthieu Verstraete. 2009. 'Dynamic Labour Supply Effects of Childcare Subsidies: Evidence from a Canadian Natural Experiment on Low-Fee Universal Child Care', *Labour Economics*, 16: 490-502.
- Liao, Pei-An, and J. Edward Taylor. 2010. 'Health Care Reform and Farm Women's Off-Farm Labor Force Participation: Evidence from Taiwan', *Journal of Agricultural and Resource Economics*, 35: 281-98.
- Medina D, Carlos, and Jose Escobar R. 2007. 'The Effects of Changes in the Legal Work Shift on Wages and Hours Worked in Colombia', *Coyuntura Social*: 63-87.
- Menon, Nidhiya, and Yana van der Meulen Rodgers. 2017. 'The Impact of the Minimum Wage on Male and Female Employment and Earnings in India', *Asian Development Review*, 34: 28-64.
- Moffitt, Robert A. 2015. 'The Deserving Poor, the Family, and the U.S. Welfare System', *Demography*, 52: 729-49.
- Mullerova, Alzbeta. 2017. 'Family Policy and Maternal Employment in the Czech Transition: A Natural Experiment', *Journal of Population Economics*, 30: 1185-210.
- Nandi, A., D. Jahagirdar, M. C. Dimitris, J. A. Labrecque, E. C. Strumpf, J. S. Kaufman, I. Vincent, E. Atabay, S. Harper, A. Earle, and S. J. Heymann. 2018. 'The Impact of Parental and Medical Leave Policies on Socioeconomic and Health Outcomes in OECD Countries: A Systematic Review of the Empirical Literature', *Milbank Q*, 96: 434-71.
- Naz, Ghazala. 2010. 'Effect of a Family Policy Reform on Immigrants' Labour Supply and Earnings', *Labour*, 24: 74-92.
- Nekhili, Mehdi, H ela Chakroun, and Tawhid Chtioui. 2018. 'Women's Leadership and Firm Performance: Family Versus Nonfamily Firms', *Journal of Business Ethics*, 153: 291-316.
- Nguyen, Dung Kieu, Anh Tran Thi Van, and Trang Phan. 2018. 'Child Custody and Family Labour Supply: Evidence from the United States', *Labour*, 32: 74-92.
- OECD. 2012. 'Closing the Gender Gap: Act Now', *Organization for Economic Cooperation and Development Paris*.
- Onarheim, Kristine Hus oy, Johanne Helene Iversen, and David E. Bloom. 2016. 'Economic Benefits of Investing in Women's Health: A Systematic Review', *PLOS ONE*, 11: e0150120.
- Pavetti, Ladonna. 2018. 'TANF Studies Show Work Requirement Proposals for Other Programs Would Harm Millions, Do Little to Increase Work', *Center on Budget and Policy Priorities* https://www.cbpp.org/research/family-income-support/tanf-studies-show-work-requirement-proposals-for-other-programs#_ftn28, Accessed on December 13, 2021.
- Raub, Amy, Vahe Khachadourian, Elizabeth Wong, Aleta Sprague, Milad Pournik, and Jody Heymann. 2021. 'Ending Sexual Harassment at Work: Creating a Baseline on Laws in 193 Countries', *Human Rights Quarterly*, 43(2), 378-393.
- Rossin-Slater, Maya, Christopher J. Ruhm, and Jane Waldfogel. 2013. 'The effects of California's paid family leave program on mothers' leave-taking and subsequent labor market outcomes', *Journal of Policy Analysis and Management*, 32: 224-45.
- Sapkal, Rahul Suresh. 2017. 'From Mother to Daughter: Does Equal Inheritance Property Laws Reform Improve Female Labor Supply and Educational Attainments in India?', *Asian Journal of Law and Economics*, 8.



- Scarlato, Margherita, Giorgio D'Agostino, and Francesca Capparucci. 2016. 'Evaluating CCTs from a Gender Perspective: The Impact of Chile Solidario on Women's Employment Prospect', *Journal of International Development*, 28: 177-97.
- Schone, Pal. 2004. 'Labour Supply Effects of a Cash-for-Care Subsidy', *Journal of Population Economics*, 17: 703-27.
- Shamsuddin, Mrittika. 2015. 'Labour Market Effects of a Female Stipend Programme in Bangladesh', *Oxford Development Studies*, 43: 425-47.
- Sorensen, Kenneth Lykke. 2016. 'Heterogeneous Impacts on Earnings from an Early Effort in Labor Market Programs', *Labour Economics*, 41: 266-79.
- Stier, Haya, and Hadas Mandel. 2009. 'Inequality in the family: The institutional aspects of women's earning contribution', *Social Science Research*, 38: 594.
- Strumpf, Erin. 2011. 'Medicaid's Effect on Single Women's Labor Supply: Evidence from the Introduction of Medicaid', *Journal of Health Economics*, 30: 531-48.
- Tsai, Wehn-Jyuan, Jin-Tan Liu, Shin-Yi Chou, and Robert Thornton. 2009. 'Does Educational Expansion Encourage Female Workforce Participation? A Study of the 1968 Reform in Taiwan', *Economics of Education Review*, 28: 750-58.
- Tulasidhar, V. B. 1993. 'Maternal education, female labour force participation and child mortality: evidence from the Indian census', *Health Transit Rev*, 3: 177-90.
- U.S. Bureau of Labor Statistics. 2020. 'Lower-wage workers less likely than other workers to have medical care benefits in 2019', <https://www.bls.gov/opub/ted/2020/lower-wage-workers-less-likely-than-other-workers-to-have-medical-care-benefits-in-2019.htm>, Accessed on December 13, 2021.
- United Nations. 1979. 'U.N. Convention on the Elimination of All Forms of Discrimination Against Women', *Dec. 18, 1979, 1249 U.N.T.S. 13, Art. 11*.
- . 2021. 'SDG 5: Achieve gender equality and empower all women and girls', *United Nations Department of Economic and Social Affairs*. Accessed December 13 2021, <https://sdgs.un.org/goals/goal5>
- Vall Castello, Judit. 2012. 'Promoting Employment of Disabled Women in Spain: Evaluating a Policy', *Labour Economics*, 19: 82-91.
- Waldfoegel, Jane. 1999. 'The impact of the family and medical leave act', *Journal of Policy Analysis and Management*, 18: 281-302.
- World Bank. 2019. 'Women, Business and the Law 2019: A Decade of Reform', Accessed on 01 July 2020 at <https://openknowledge.worldbank.org/bitstream/handle/10986/31327/WBL2019.pdf>.
- World Economic Forum. 2020. 'Global Gender Gap Report 2020', ISBN-13: 978-2-940631-03-2. Accessed on 01 July 2020 at http://www3.weforum.org/docs/WEF_GGGR_2020.pdf.
- WORLD Policy Analysis Center. 2019. 'Is paid leave available for both parents of infants?', <https://www.worldpolicycenter.org/policies/is-paid-leave-available-for-both-parents-of-infants>, Accessed on December 13, 2021.
- Ziefle, Andrea, and Markus Gangl. 2014. 'Do Women Respond to Changes in Family Policy? A Quasi-Experimental Study of the Duration of Mothers' Employment Interruptions in Germany', *European Sociological Review*, 30: 562-81.



Supplemental Figure 1. Systematic review selection guidelines

TYPE/DATE: Is it a journal article or policy report published since 2000?

NO → Mark “No”

YES → next

FOCUS: Is the topic related to gendered outcomes in income/workplace?

NO → Mark “No”

YES → next

INTERVENTION: Is there a presence of an intervention or multiple interventions in the form of a policy or program implemented at the local or federal government level?

NO → Mark “No”

YES → next

SCALE: Is the intervention of medium- or large-scale, defined as more than 500 individual-level observations?

NO → Mark “No” [intervention small-scaled]

YES → next

EFFECTS: Does the study examine the effects of this intervention/group of interventions?

NO → Mark “No” [just describes the intervention(s) with no examination of effects of any sort]

YES → next

OUTCOMES: Does the study report outcomes for women only or separately for women and men?

NO → Mark “No”

YES → next

RIGOR: Based on the limited information provided in the abstract, how rigorous would you rate this paper’s impact evaluation?

1. Are outcome measurements collected at the individual level before and after policy/program implementation? The analysis should include data collected in at least two periods (before and after the reform).
NO → Mark “No”
YES → next
2. Does the empirical analysis in the study (i.e., a regression analysis –OLS, logit, probit, tobit, etc.) generate a measure of association (OR, RR, etc.) with confidence intervals, p-values or standard deviations, and does it control for individual-level characteristics?
NO → Mark “No”
YES → next
3. Does the study perform an RCT, or quasi-experimental evaluation (e.g., regression discontinuity design, instrumental variables, difference-in-difference)
NO → Mark “No”
YES → next
4. Does the article adjust, restrict or stratify for at least the following individual level variables: age and one SES or lifestyle factor?
NO → Mark “No”
YES → Mark “Yes”

Changes in women’s economic participation after the implementation of national and subnational policies: a global systematic review