PIIE PETERSON INSTITUTE FOR INTERNATIONAL ECONOMICS

WORKING PAPER

PIIE
Women's Economic Empowerment
Research Initiative

21-5 Do Gendered Laws Matter for Women's Economic Empowerment?

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March 2021

ABSTRACT

Greater legal equality between men and women is associated with a narrower gender gap in opportunities and outcomes, fewer female workers in positions of vulnerable employment, and greater political representation for women. These associations are robust to conditioning on a country's stage of development, as proxied by income per capita. They mask considerable heterogeneity across countries, however. Case studies from the Democratic Republic of the Congo, India, and Spain demonstrate how individual countries' experiences may deviate from average trends. Analysis of a 50-year panel of gendered laws in 190 countries reveals that country attributes that are significant predictors of legal gender equality (including religion, legal origin, and geography) evolve slowly, if at all. The path to meaningful legal reform may thus be long and arduous.

JEL Codes: J16, K31, K38, N40
Keywords: Law, gender equality, discrimination, empowerment

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Authors' note: We thank Marie Dry and Liang Shen for their research assistance. We are grateful to David O'Brien of the Peterson Institute for International Economics and to Tea Trumbic and other members of the World Bank's Women, Business and the Law (WBL) team for their helpful comments. The findings, interpretations, and conclusions expressed in this paper are entirely those of the authors. They do not necessarily represent the views of the World Bank or its affiliated organizations or those of the Executive Directors of the World Bank or the governments they represent.

INTRODUCTION

The question of whether laws matter for economic outcomes lingers in several fields of economics—sadly, given how much blood has been shed over the centuries in pursuit of legal reform. In development economics, Max Weber posited the thesis that the law matters in a series of essays published in 1904–05 (first published in English in 1930). This notion has been part of the economics of growth ever since Douglass North's 1981 forceful historical account of how nations develop. Yet it was not until the 1990s, when countries in Eastern Europe opened up, reformed their laws, and experienced faster growth than their peers that Weber was vindicated.[1]

In the area of women's emancipation, there is a long history of debate on the relevance of gendered laws (laws that discriminate on the basis of gender). The year 2020 marked the 100th anniversary of the 19th Amendment to the US Constitution, which granted women the right to vote. At the time, many people questioned the wisdom of this change. Cascio and Shenhav (2020) note that until the 1940s, it was widely speculated that the female vote would do nothing more than duplicate the male vote.[2] This reaction reflected the widely held view that de jure changes are often not informative about de facto changes.

This paper puts this view to the test by focusing on laws that affect women's economic opportunities. In an earlier paper (Hyland, Djankov, and Goldberg 2020), we introduced the World Bank's Women, Business and the Law (WBL) index as a measure of legal equality between men and women. In this paper, we ask whether this de jure measure of equality correlates in a meaningful way with several de facto measures of women's economic empowerment. Our focus is on correlation, not causation; we do not attempt to establish that legal reforms have a causal impact on economic outcomes. Such a conclusion is tempting in light of some of the empirical results we present, but it inherently involves an uphill battle with endogeneity, which is better fought using country case studies and specific reform episodes than with the cross-country framework of our analysis. Our goal is the more modest one of establishing whether a de jure measure of legal gender equality has predictive power for de facto measures of women's empowerment.

The WBL index charts the inequality in legislation that a woman faces as she navigates her working life, from the time she can enter the labor force through retirement. Scores range from 0 to 100, where a score of 100 implies that there are no legal inequalities between men and women in the areas covered by the index. The most recent data show that the global average WBL score in 2020 is 76.1 (World Bank 2021), implying that, on average, women around the world have about three-quarters the rights of men when it comes to laws affecting their economic opportunity. Only ten countries—Belgium, Canada, Denmark, France, Ireland, Latvia, Luxembourg, Iceland, Portugal, and Sweden—received a perfect score.

1 Before then, the importance of law for development had been questioned in light of the East Asian growth experience, which by most accounts was unrelated to legal reforms (see, for example, Pistor and Wellons 1999).

2 Other authors have studied the gradual influence of the female vote on the levels and distribution of government expenditure (Lott and Kenny 1999; Miller 2008; Carruthers and Wanamaker 2015; Kose, Kuka, and Shenhav 2019).

There are several reasons to be skeptical a priori about the relation between a de jure measure of gender equality and actual experience, especially in developing countries. A common finding in the literature is that deeply entrenched social norms render legal reforms ineffective.[3] Holden and Chaudhary (2013) and Ahmad, Batool, and Dziegielewski (2016) find that despite a legal change, women in Pakistan were not able to claim their entitled inheritances, because of factors such as lack of education and forced marriage. Gedzi (2012) highlights a similar result in Ghana, where reforms to inheritance laws led to few positive changes in terms of women's inheritance.

An issue that comes up frequently when studying legal reform of property rights in Africa is legal pluralism (Djurfeldt 2020). Ali, Deininger, and Goldstein (2014) note that the coexistence of different types of customary and formal laws can lead to a situation in which formal laws are disregarded if informal codes are less costly to execute, as is often the case. Reversion to informal courts, headed by village elders, leads to resolutions that favor men. Women's reluctance to resort to formal courts is also the subject of several studies. Vatuk (2013) notes that victims of domestic violence and other kinds of marital dissonance may not even consider turning to the state for support.

On the other side of the argument, this discussion of whether formal laws matter neglects the issue of interdependencies. Williamson and Kerekes (2011) find that the law provides a useful backstop mechanism. Aldashev et al. (2012) discuss how changes to formal laws have a reformatory effect on informal laws—by, for example, strengthening land claims in India (Rao 2007) and Sub-Saharan Africa (Hillhorst 2000) and granting women divorce rights in Sahel countries (Kevane 2004).

There is also some evidence directly linking specific laws to better outcomes for women. Agarwal (2003) documents a link between women's land rights and their possibility of leaving a violent spouse. Deininger Goyal, and Nagarajan (2013) show that reform of India's Hindu Succession Act increased daughters' likelihood of inheriting land. Reforms to the Succession Law in Rwanda made it more likely for women to leave their marriages while still receiving permanent rights to land and increased their ability to resist the customary practice of polygamy (Daley, Dore-Weeks, and Umuhoza 2010). Ali, Deininger, and Goldstein (2014) find that formalization of land rights in Rwanda increased women's investment in soil conservation. In the United States, there is evidence that divorce laws affect household savings behavior and female employment (Voena 2015) and that expanding women's economic rights has measurable impacts on women's patent holding (Khan 1996) and educational attainment (Geddes, Lueck, and Tennyson, 2012). Combs (2005) shows that passage of the 1870 British Married Women's Property Act caused women to hold a greater proportion of their wealth in a form of property that they could legally control during marriage. Combs (2006) shows that the Act caused a dramatic increase in the bargaining power of married women, an increase in the amount of property they owned, and

3 The importance of norms and culture is emphasized in the work of Fernandez (2013); Fernandez and Fogli (2009); Fernandez, Fogli, and Olivetti (2004); and Ashraf et al. (2020) among others, as well as in the overview chapter of Bertrand (2011), which examines the factors shaping gender identity and behavior.

a change in their investment behavior. Crisman et al. (2016) provide evidence that laws do matter, as female genital mutilation declined in Burkina Faso following the passage of legislation there banning the practice.

We contribute to this literature by exploiting panel data from 190 countries to investigate how gendered laws relate to women's empowerment. We proceed in three steps. First, we ask what explains the considerable variation across countries in the legal treatment of women. We relate the WBL index to a number of country attributes that the literature has suggested are correlated with social and economic outcomes. We find that such attributes have high explanatory power. Attributes that do not vary or change only slowly over time—such as a country's legal origin, form of government, geographic characteristics, and dominant religion—explain a very large portion of the variation across countries. This finding suggests that the path to legal equality between men and women may be a long one. Nevertheless, the data also show that the past five decades have seen considerable progress toward legal gender equality. Gendered laws do evolve, suggesting a role for legal reforms.

Second, we investigate whether legal gender discrimination correlates with several measures of women's economic empowerment. We find that lower discrimination is associated with a narrower gender gap in opportunities and outcomes, with fewer women in positions of vulnerable employment, and with greater political representation for women. These results are robust to conditioning on the level of economic development as proxied by GDP per capita. Moreover, they are robust to conditioning on country fixed effects, where the association between laws and outcome measures is identified based on variation over time within each country rather than on cross-country comparisons. Our findings suggest that at a minimum, gendered laws, while slow to change, do matter for economic outcomes, and that de jure measures of legal discrimination are informative about women's actual status in an economy.

Third, we present three case studies illustrating the pathway to reform of gender-discriminatory laws. We use these studies to demonstrate that although our empirical findings reveal a strong and robust positive association between legal gender equality and women's empowerment on average, there is considerable heterogeneity across countries in the relationship between de jure and de facto gender equality. Understanding the sources of this heterogeneity is an important area for future research.

The paper is structured as follows: Section 1 explores the cross-country variation in legal gender equality and discusses the relationship between country characteristics and gender-discriminatory laws. Section 2 examines how gendered laws correlate with women's economic opportunities and outcomes, in both the cross-section and the time series. Section 3 presents three case studies, outlining the reform of gendered laws in the Democratic Republic of the Congo, India, and Spain. Section 4 summarizes the paper's main findings.

1 EXPLAINING GENDERED LAWS

We start by asking which factors explain the variation in legal gender equality across countries. We investigate the relationship between specific country characteristics and the level of legal gender equality, as measured by the Women,

Business, and the Law (WBL) index, using an ordinary least squares (OLS) model represented by the following equation:

$$WBL_{i,t} = \alpha + \beta X_{i,t} + \delta GDPPC_{i,t-3} + \emptyset_t + u_{i,t} \quad (1)$$

where represents the $WBL_{i,t}$ index score for country i at time t; $X_{i,t}$ represent the various country characteristics that we correlate with the WBL index score; and $GDPPC_{i,t-3}$ (a proxy for income level) is real per capita GDP at time t-3. Per capita GDP is measured with a three-year lag, in order to minimize concerns about simultaneity bias (other lags or the contemporaneous level produced similar results). The term $\emptyset_t$ represents year fixed effects; $u_{i,t}$ is the error term. Country-level fixed effects are not included, as several of the country characteristics included in the regression are fixed over time and would therefore be perfectly colinear with the country fixed effects. The coefficient β is the main coefficient of interest. It represents the relationship between country characteristics and the WBL index score.

Data Description

Legal Gender Equality (Women, Business and the Law index)

The WBL index measures the legal inequalities that a woman may face as she navigates her working life, from the time she enters the workforce through her retirement. It is based on eight indicators: mobility, workplace, pay, marriage, parenthood, entrepreneurship, assets, and pension. Four or five data points underly each indicator. For example, the first data point in the workplace indicator is responses to the question "Does the law prohibit discrimination based on gender in employment?"[4] Each indicator is scaled from 0 to 100, where 100 is a perfect score (no legal gender discrimination). The aggregate WBL index is an unweighted average of the underlying eight indicators. The WBL data cover the period 1970–2019.[5]

Figure 1 illustrates the heterogeneity in legal gender equality across regions. It also reveals the uneven pace at which progress toward equality has been made.

Geography

Motivated by earlier studies that have found a strong correlation between geography and measures of economic development, we explore the association between geographic characteristics and legal gender equality, using data from Nunn and Puga (2012).[6] Nunn and Puga note that the historic impacts of geographic characteristics are difficult to estimate because locations can be affected by both historical events linked to geography and the direct contemporaneous impacts that geography might have. They use a measure of ruggedness of terrain as their main explanatory variable and also collect

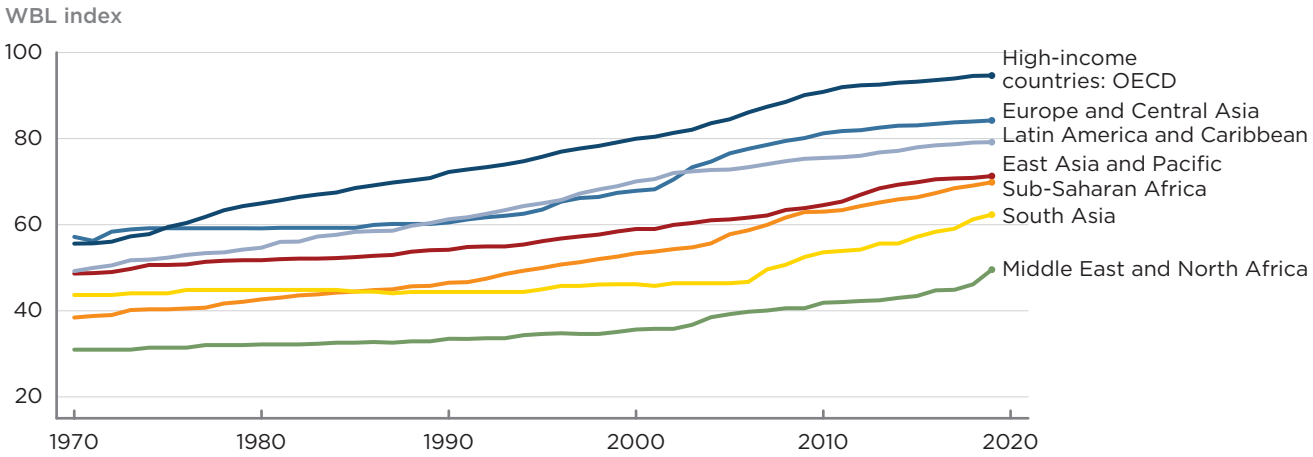
4 For a full list of indicators and data points included in the WBL index, see table A.2 of the appendix. For a detailed discussion of the WBL database and methodology, see Hyland, Djankov, and Goldberg (2020).

5 Data are available at https://wbl.worldbank.org/en/wbl-data (accessed on November 18, 2020).

6 Data are available at https://diegopuga.org/data/rugged/ (accessed on November 18, 2020).

information on a range of other characteristics, including land area, longitude and latitude, percentage of each country's land with fertile soil, percentage of each country with a tropical climate, average distance to the nearest ice-free coast, gem-quality diamond extraction per square kilometer, and an estimate of the numbers of slaves exported between 1400 and 1900.[7] In addition to the geographic characteristics provided by Nunn and Puga, we test the correlation between legal gender equality and population density, measured as the number of people per square kilometer of land, available from the World Bank's World Development Indicators database.[8]

Figure 1
Regional progress toward legal gender equality, as measured by the Women, Business and the Law (WBL) index, 1970–2019



OECD = Organization for Economic Cooperation and Development
Source: Hyland, Djankov, and Goldberg (2020), based on data from the WBL index.

Religion

Data on religion are from the Pew Research Center (2015). This dataset projects global religious trends from 2010 to 2050. We use the 2010 values. For each country, the data show the percentage of the population that belongs to each of the following religious groups: Islam, Hinduism, Christianity, Judaism, Buddhism, folk religions, other religions, and unaffiliated.

Legal Origin

Data on legal origin are from La Porta, Lopez-de-Silanes, and Shleifer (2008), expanded to a larger set of countries in Djankov et al. (2020). Two broad legal traditions can be identified: common law and civil law. Within civil law, there

7 This variable is also included for countries from which no slaves were exported; for all countries, the variable is calculated by taking the natural logarithm of the number slaves exported per square kilometer of land area plus one. For a discussion of why this measure is discussed, including a description of why this functional form is appropriate, see Nunn (2008).

8 See https://datatopics.worldbank.org/world-development-indicators/.

are four subdivisions: French, German, Scandinavian, and socialist. Although a country's legal systems can be a hybrid, containing elements of multiple traditions, one tradition generally dominates. The Porta, Lopez-de-Silanes, and Shleifer database captures the dominant legal tradition.[9] Djankov et al. (2020) update the legal origin dataset to reflect the fact that most socialist countries returned to their original legal tradition after the fall of the Berlin Wall.

Form of Government

Polity data, which measure characteristics of democracy or autocracy in governing institutions, are from the Center for Systemic Peace.[10] Polity is captured on a scale from –10 to +10, where the lowest score refers to hereditary monarchy and the highest to full democracy. In general, scores from –10 to –6 indicate autocratic regimes, scores from –5 to +5 indicate anocracies (regimes that combine elements of autocracy and democracy), and scores from +6 to +10 indicate democracies.

The polity data have been coded and published in several research rounds. The current round—Polity5—includes 167 countries and covers 1990–2018. These data have become the most widely used resource for monitoring regime change (Marshall and Gurr 2020). In addition to the variable capturing polity, we also include a variable from the same data source that measures the durability of a political regime (the number of years since the last change of three or more points in authoritarian characteristics).

Empirical Findings

Figure 2 summarizes the estimation results from equation (1).

Research by Nunn and Puga (2012), among others, establishes the important relationship between geographic characteristics and economic development. Our research shows that the correlations between geographic characteristics and the WBL index hold even after controlling for real income per capita (figure 2, panel a). Countries in which the land is more rugged have lower levels of legal gender equality. Legal equality is greater in countries located farther from the Equator (latitude); it declines with distance eastward from the prime meridian (longitude). Where soil quality is more amenable to productive agriculture, gender equality is greater. Equality is decreasing in the proportion of a country that is classified as desert or tropical and increasing in the average distance from an ice-free coast. Countries that were historically associated with more intensive diamond extraction and the exporting of a larger number of slaves have lower levels of legal gender equality. Gender equality is also higher in more densely populated countries.

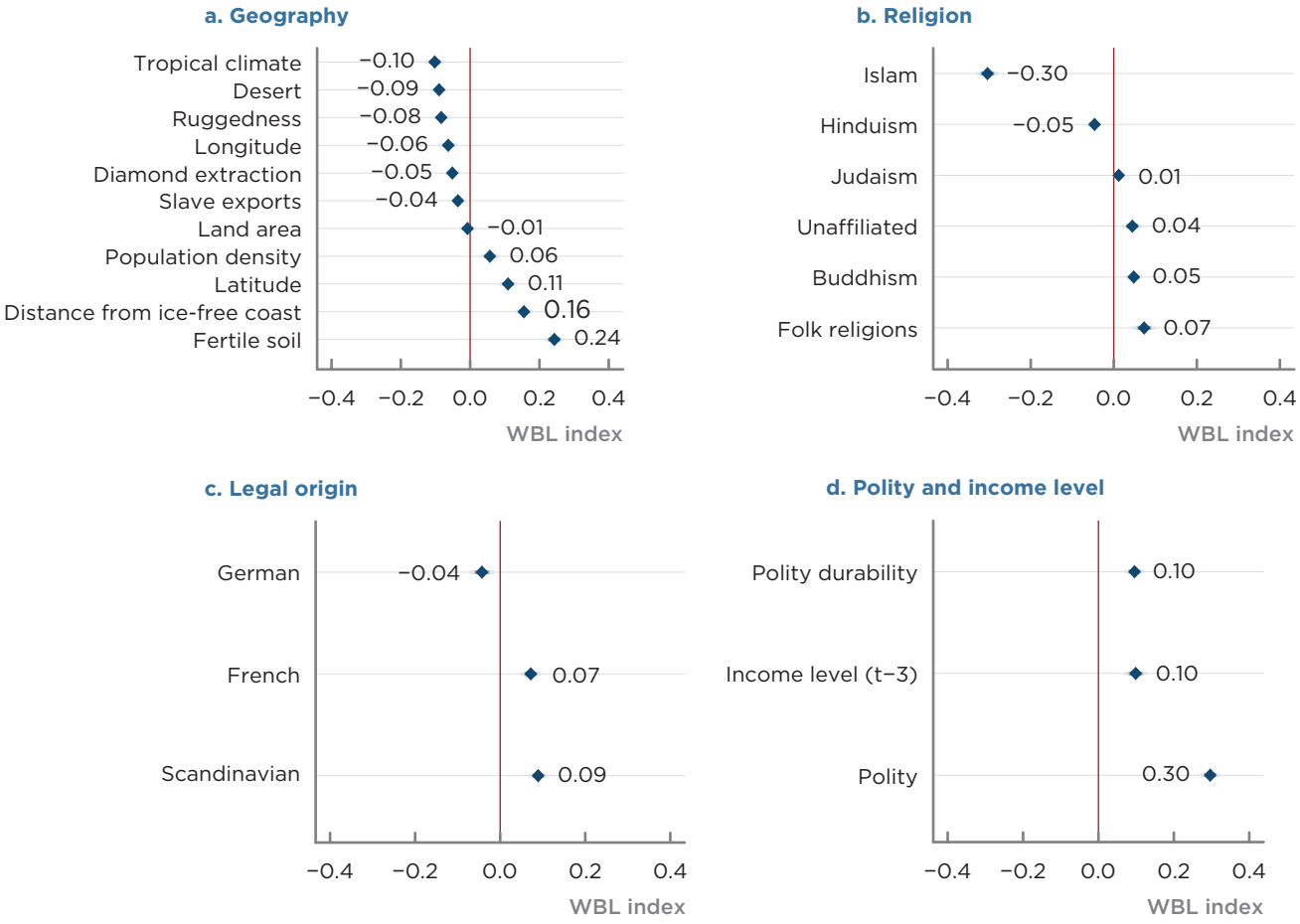
Gender equality is also correlated with the predominant religion in a country. Relative to countries in which the main religion is Christianity (the reference category), countries in which the main religion is a folk religion, Buddhism, unaffiliated with any religion, or Judaism have higher gender equality; countries

9 Data are available at https://scholar.harvard.edu/files/shleifer/files/economiccon_data.xls (accessed on November 18, 2020).

10 Data are available at http://www.systemicpeace.org/inscrdata.html (accessed on November 18, 2020).

in which the main religion is Hinduism have slightly lower levels of gender equality, and countries that are predominately Muslim are characterized by significantly lower levels of gender equality (figure 2, panel b).

Figure 2
Correlation between geography, religion, legal origin, and polity and income level with the Women, Business and the Law (WBL) index



Note: Figure presents standardized regression coefficients from estimation of equation (1). The dependent variable is the WBL index score. All groups of variables are included in a single regression, along with year fixed effects. The *R*-squared for the regression is 0.72. Figure displays estimated coefficients and associated confidence intervals. For full regression results, see table A.1 of the appendix.
Source: Authors' calculations.

That gender equality is lower in Muslim countries is not surprising. In most majority Muslim countries in our sample, restrictions are in place on women's rights to inheritance; predominately Muslim country are also less likely to have equal pay legislation in place and more likely to place restrictions on the sectors in which women can work. Several such restrictions documented in the WBL data are sometimes attributed to countries' compliance with *Sharia* law. But numerous authors (including Mashhour 2005, Ross 2008, and Barlas 2019) argue that it is patriarchal cultures, not Islamic law, that often lie behind gender inequalities and that achieving greater gender equality within the parameters of *Sharia* law is possible.

Legal origin is a significant predictor of legal gender equality (figure 2, panel c). The reference category in the regression is the English common law system. The results show that economies with French or Scandinavian legal origins have more gender-equal laws and that gender equality in economies in which laws are of a German origin is lower.[11] Legal systems based on common law adhered—in some cases for several centuries—to the doctrine of *couverture*, whereby upon marriage, a woman's legal rights were subsumed by her husband. It is thus unsurprising that countries in which legislative texts are based on English common law would have lower levels of gender equality relative to French- or Scandinavian-based legal systems.

The coefficient on the polity variable is positive and statistically significant, showing that more democratic systems of government are associated with greater legal equality between men and women. A priori, it is not clear what relationship would be expected here. On the one hand, democratic forms of government are associated with more rights and freedoms in general. On the other hand, socialist regimes have traditionally granted women more rights in certain areas. In the early 1970s, for example, women in the socialist countries of Europe and Central Asia faced fewer discriminatory laws than women in any other regions. Htun and Weldon (2011) show how socialist countries liberalized family law in the 20th century in order to allow women to participate in the workforce and to constrain the influence of religion. Independent of the form of government, our results show that government stability (the durability of the polity regime) is positively associated with gender equality under the law (figure 2, panel d). They also show that even after country characteristics are accounted for, a country's income level (as proxied by per capita GDP) is a significant predictor of legal gender equality in the areas measured by the WBL.

Summary

The analysis of the determinants of cross-country differences in gendered laws leads to two main insights. First, the regression model explains a large part of the observed cross-country variation, with an adjusted *R*-squared in the regression reported in table A.1 of about 0.7, despite the fact that country fixed effects are not included. Second, almost all of the statistically significant characteristics presented in figure 2 evolve either slowly (measures of governance and religion) or not at all (legal origin and geography). The only exception is lagged GDP per capita, suggesting that growth contributes to more equal laws for women. However, the impact of time-invariant characteristics on laws remains large and significant, independent of whether we condition on GDP per capita. This finding suggests that at any point in time, a large part of a country's legal environment relevant to women is predetermined and may therefore be hard to change in the short or medium term.

These cross-country patterns notwithstanding, considerable progress has been made over time. Gendered laws do evolve, as figure 1 shows, suggesting a potential role for legal reforms and interventions. Hyland, Djankov, and Goldberg (2020) discuss the evolution of gendered laws in detail. One highlight of their

11 This relationship emerges only after other characteristics are included in the regression. Uncontrolled averages show that the average WBL score is higher in countries with German-based legal systems than in countries in which the legal system is based on common law.

research is the significant increase in women's rights that occurred over the past five decades. The pace of reform has been uneven, however, with some regions, such as Sub-Saharan Africa and high-income OECD economies, making greater progress than others, as figure 1 shows. There has also been sharper focus on reforming certain areas of the law. Discriminatory legislation affecting women's ability to work has evolved at a rapid pace, for example; reform to laws that affect women's pay has been slower.

2 DO LAWS MATTER?

Legal gender equality is significantly correlated with country characteristics, including legal origins, geography, religion, and the protection of human rights. But do legislative measures translate into actual empowerment?

To answer the question, we model the relationship between the WBL index and the metrics of economic inclusion and empowerment:

$$Y_{i,t} = \alpha + \beta WBL_{i,t} + \delta GDPPC_{i,t-3} + \emptyset_t + u_{i,t} \quad (2)$$

where $Y_{i,t}$ represents the various metrics of women's economic inclusion and empowerment for country i in time t; WBL represents the WBL index score, also in time t; and $GDPPC_{i,t-3}$ (a proxy for income level) is real per capita GDP at time t–3 (per capita GDP is measured with a three-year lag in order to minimize concerns about simultaneity bias). The terms Y_i and $\emptyset_t$ represent country and year fixed effects, respectively; $u_{i,t}$ is the error term.

The coefficient β represents the association between gender equality and women's economic outcomes across the world, accounting for unobservable differences between countries and time periods, which are captured by the fixed effects as well as a country's level of economic development.

Measures of Women's Economic Empowerment and Inclusion

We use three broad measures of women's economic inclusion and empowerment: an aggregate measure of the gap between women and men in outcomes, women's propensity to be in positions of vulnerable employment as opposed to wage and salaried jobs, and women's representation in politics. In the appendix (tables A.5–A.7), we explore associations with several other measures. The results reinforce the conclusions of this section.

The first metric is the Global Gender Gap index score, published annually by the World Economic Forum (WEF) since 2006. The most recent data cover 153 countries.

The Global Gender Gap index focuses on outcomes—de facto measures rather than laws. It seeks to measure gaps in outcomes and opportunities between men and women in the areas of economic participation and opportunity, educational attainment, health and survival, and political empowerment. By focusing on gender-based gaps in outcomes, rather than the levels of outcomes, the WEF methodology abstracts from countries' levels of economic development and facilitates comparisons across countries. Because the methodology has remained constant since the index was first published, the index also tracks progress toward equality over time.

Three concepts underly the calculation of the index (WEF 2019): a focus on gaps rather than levels, outcomes rather than inputs, and equality rather than empowerment. The index does not reward countries in which the outcomes of women outperform those of men (for example, in the area of educational attainment).

The four areas covered by the index (economics, health, education, and politics) are tracked using 14 indicators, details of which are provided in table A.3 of the appendix. Points for each subindex are calculated as a weighted average of the relevant indicators. Weights are calculated based on the variability of each indicator, such that indicators with lower variability are given greater weight. As a result, countries with, for example, a large gap in primary school enrollment where most countries have achieved near parity, are more heavily penalized. The overall Gender Gap index score is a simple average of each of the four subindexes.

The current population-weighted average index score is 68.6. This figure means that 68.6 percent of the gender gap in opportunity and outcomes has been closed, with 31.4 percent remaining to be closed in order to reach gender parity.

The second metric of women's empowerment and economic inclusion that we use is the percentage of female workers who are in positions of vulnerable employment. This data series, available from the World Bank's Gender Data Portal, represents estimates by the International Labor Organization (ILO). Vulnerable employment refers to two categories of self-employed workers: own-account workers (self-employed without any employees) and contributing family works (also referred to as unpaid family workers). The data are derived mainly from national labor force surveys. As noted in the metadata, a large proportion of paid employees in an economy is indicative of a high level of economic development, and a larger proportion of own-account workers signals greater reliance on agricultural employment and slow growth in the formal economy. A large proportion of the total workforce classified as contributing family workers suggests slow development and job growth. Own-account workers and contributing family workers are the most likely groups to fall into poverty. They are also the least likely to have access to social protection and safety nets or to be in a position to save, leaving them particularly exposed to future shocks. According to data for 2019, women are more likely than men to be in vulnerable employment: The (unweighted) global average is 41 percent for women and 36 percent for men. These figures vary by income level. Women are more likely than men to be in vulnerable employment in low- and lower-middle income economies but less likely than men to be in vulnerable employment in upper-middle- and high-income economies.

The third metric of progress toward gender equality is women's representation in parliament. The source of these data is the Inter-Parliamentary Union (IPU),[12] which reports the proportion of seats held by women in single chambers in unicameral parliaments or lower chambers in bicameral parliaments. In 2019, women held just 22 percent of seats in parliament. In only two

12 These data can be accessed via the World Bank's Gender Data Portal (accessed on November 18, 2020).

countries—Bolivia (where women hold 53 percent of the seats) and Rwanda (where they hold 61 percent)—are more than half the seats held by women. In general, countries that closed the aggregate gender gap have made substantial progress in achieving near-parity in parliamentary representation. This is not always the case, however. Germany, for example, is ranked 10th in the world on the WEF index, but women there hold just a third of seats in parliament.

Women's representation in politics is a matter of democracy and human rights. It may also have important outcomes for women's rights more broadly, as research shows that countries with greater female representation in parliament are more likely to pass laws on sexual harassment, rape, divorce, and domestic violence (Asiedu et al. 2018). Evidence from Rwanda, however, suggests that although women's representation in parliament may change the policy agenda, it need not have an impact on policy outcomes (Delvin and Elgie 2008).

Empirical Findings

Regressions of the aforementioned metrics of women's economic inclusion and empowerment on the WBL data show robust and statistically significant relationships. The results, summarized in figure 3, show that where women face lower levels of legal discrimination, a larger percentage of the gender gap in outcomes has been closed (panel a), fewer women are in vulnerable employment (panel b), and there are more female representatives in national parliaments (panel c). Although one cannot attribute causality to these results, they remain robust after controlling for unobserved time and country-level effects as well as income level.

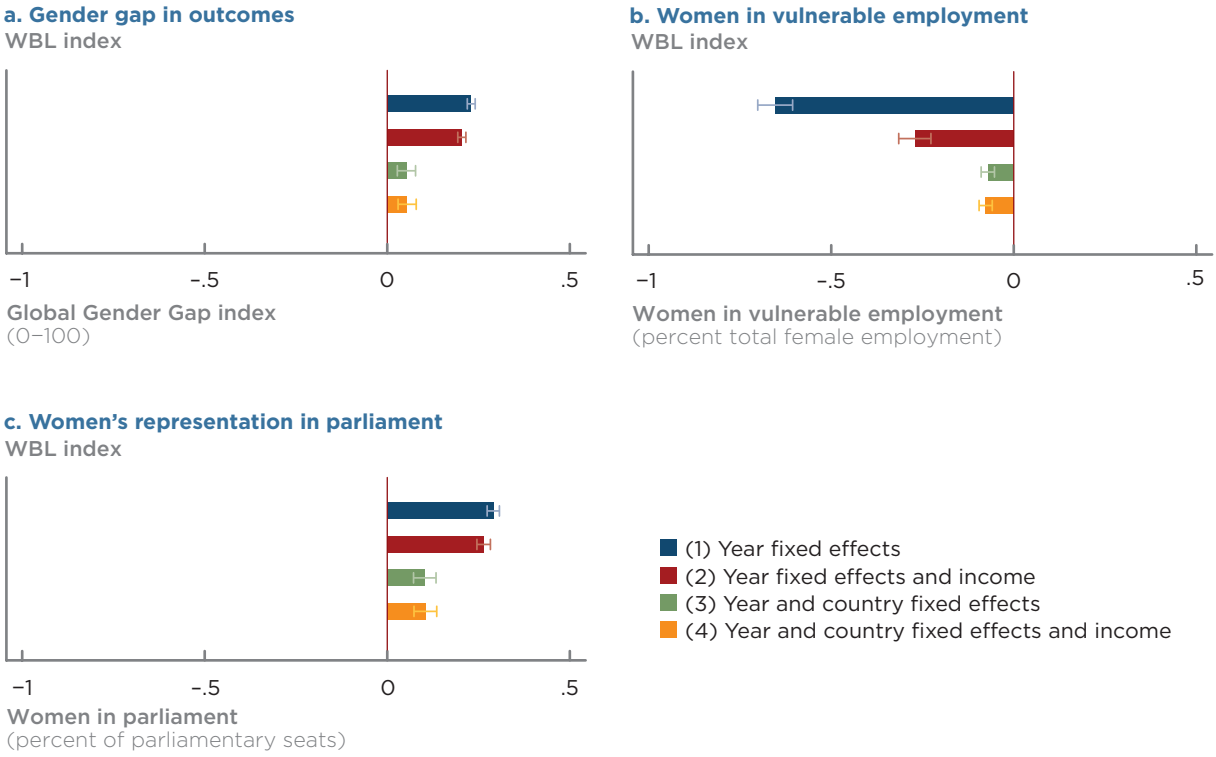
In panel a, when only time effects are controlled for, a one-point increase in the WBL index is associated with a 0.23 percentage point increase in the Global Gender Gap index score. Controlling for the level of economic development (bar two) does not have a large impact on the magnitude. Controlling for unobserved effects at the country level reduces the order of magnitude, but the relationship remains positive and statistically significant.

Panel b shows that greater legal equality between men and women in the areas covered by the WBL index is associated with fewer women in vulnerable employment. Based on the most parsimonious specification, a one-point increase in the WBL index is associated with a 0.65 percentage point reduction in the percentage of female workers in vulnerable employment.

The magnitude of this relationship drops once income level is controlled for; it declines further when unobserved country fixed effects are included, although the relationship remains significant under each specification. The fourth bar in panel b, which includes controls for country and year fixed effects and income level, shows that a one-point increase in the WBL index is associated with 0.08 percentage points fewer women in vulnerable employment. Putting this in context, over the past decade, the global average increase in the WBL index was approximately six points.[13] Based on the coefficients displayed in the fourth bar of panel b and the global prevalence of vulnerable employment in 2019, this global average increase would be associated with almost 6 million fewer women in vulnerable employment.

13 The change in the WBL index over this period ranged from a low of –3.13, in Uzbekistan, where women's equality as measured by the WBL index declined, to a high of 44.4 points, in Saudi Arabia.

Figure 3
Correlation between the Women, Business and the Law (WBL) index and the gender gap in outcomes, women in vulnerable employment, and women's representation in parliament



Note: Each panel represents the estimation of a model with a different outcome variable. Each bar represents the coefficient on the WBL index variable under four different model specifications, as explained by the figure legend. Figure displays estimated coefficients and associated confidence intervals. The full regression results are presented in table A.4 in the appendix.

Source: Authors' calculations.

Panel c looks at the relationship between legal equality and women's political representation, as measured by the proportion of seats held by women in national parliaments. The most basic regression results (displayed in the first bar) show that a one-point increase in the WBL index is associated with a 0.29 percentage point increase in women's representation in parliament. Once income and unobserved country-level effects are accounted for, the magnitude is reduced to 0.10 percentage points, but the relationship remains statistically significant. Based on the estimated coefficient and the average six-point increase in the WBL index over the past decade, this increase is associated with a 0.63 percentage point increase in women's representation. The effect is small, but this indicator of empowerment moves very slowly (the average annual global increase in women's political representation in parliament since 1998 is only 0.56 percentage points).

Summary

The relationships discussed in this section summarize the ways in which legal equality is positively correlated with better outcomes for women. However, the positive associations extend beyond what is presented in figure 3. Tables A.5–A.7

in the appendix document additional correlations between equality under the law and others measures of women's economic inclusion and empowerment.

The cumulative evidence strongly suggests that legal emancipation, as reflected in the WBL index, goes hand in hand with measures of actual female empowerment. The association is most salient in cross-country comparisons: Countries that have a higher WBL index are also countries in which women have better opportunities and outcomes. The association is also evident in within-country comparisons over time (although the magnitude is smaller). Countries that reformed their laws to the benefit of women are also countries in which women fare better. The magnitudes are small, but this is to be expected given that laws are only one of many ways in which women's outcomes are affected.

3 PATHWAYS TO LEGAL REFORM: EXAMPLES FROM THREE COUNTRIES

Figure 2 shows that many of the country characteristics closely associated with legal gender equality are fixed or evolve only very slowly. Nonetheless, some countries have made significant progress toward legal gender equality. Women today have about three-quarters the rights of men in the areas covered by the index, up from less than half in 1970.

The path to reform can look very different in different contexts. This section presents case study evidence from three countries (the Democratic Republic of the Congo, India, and Spain) to showcase some of the important changes that have been made to gendered laws in specific contexts.

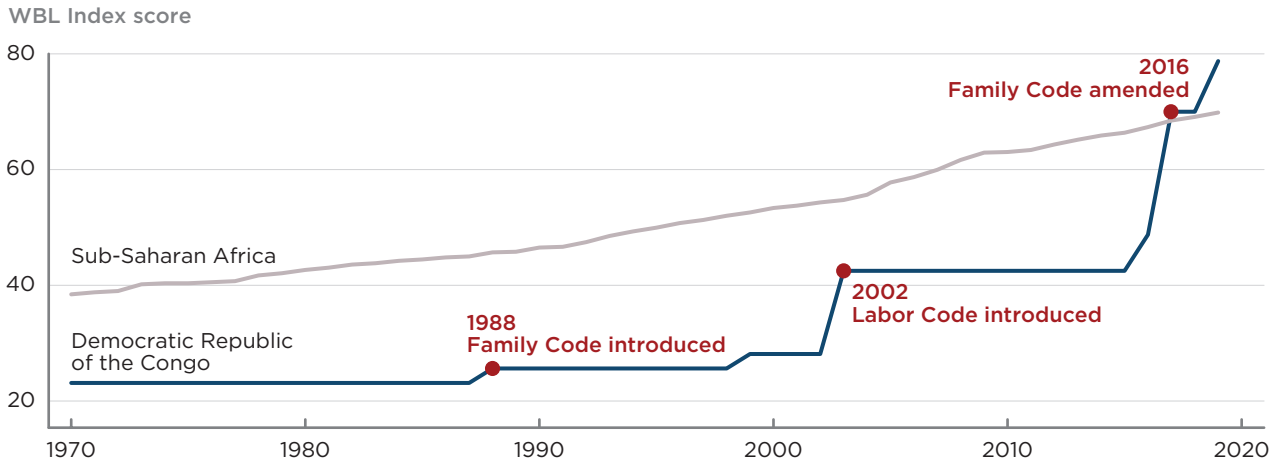
In the first two countries, the association between legal reforms toward gender equality and women's economic empowerment is weak. In the Democratic Republic of Congo, this weakness may be attributable to the fact that the reforms are recent. This explanation is less compelling for India, which has been gradually reforming its legal environment for the past two decades but experienced a decline in female labor force participation over the last three decades. In contrast, Spain's progress toward legal gender equality has translated into measurably better outcomes for women.

The country case studies serve as a reminder that while legal equality is on average associated with better outcomes for women, the experience of individual countries may differ significantly from this average trend. Understanding why legal reform is more conducive to actual change in some settings than in others is an important area for future research.

Legal Reform and Women's Empowerment in the Democratic Republic of the Congo

Figure 4 charts the progress toward legal gender equality in the Democratic Republic of the Congo from 1970 to 2019. As it shows, for most of the first two decades covered by the WBL index, legal equality between men and women was low and unchanging. In 1970–88, women had less than one quarter the rights of men in the areas covered by the index. The Democratic Republic of Congo received zero points on the WBL's workplace, pay, parenthood, and entrepreneurship indicators.

Figure 4
Women, Business and the Law (WBL) index in the Democratic Republic of the Congo, 1970–2020



Source: Authors' calculations.

The first reform was the introduction of the Family Code, which entered into force in August 1988. Before this codification, customary law, alongside the civil code of the former colonial power (Belgium), governed family law. The new Family Code attempted to unify customary rules with the written laws from the former colonial power (Ntampaka 2005). The revised Family Code granted women new rights, including equality in inheritance of sons and daughters and surviving spouses of both sexes. It also included a provision stating that a married woman was legally obliged to obey her husband, a law that had not formerly existed and which represented a regression in the path toward equality—a prime example of the fact that reforms are not always positive.

Following the introduction of the Family Code, further progress toward legal gender equality stalled for more than a decade, at least in the areas covered by the WBL index. But the early 21st century was an important period of progress. In October 2002, the Democratic Republic of Congo introduced a new Labor Code. Political will to modernize the country's laws was a major motivating factor behind the new code. Its adoption is reflected by a 14-point increase in the WBL index.

Further advancement toward legal gender equality was made in 2006, when a new constitution was adopted. The new constitution enshrined the principles of gender equality and prohibited discrimination on the basis of sex in its articles 12, 13, and 14.[14] Also in 2006, the Democratic Republic of Congo became a member of the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (better known as the Maputo Protocol), which guarantees wide-ranging rights to women. In 2009, a National Policy on Gender Issues and a corresponding action plan were designed and implemented.

14 See Présidence de la République République Démocratique du Congo, Constitution de la République Démocratique du Congo du 18 février 2006.

In 2015, the Democratic Republic of Congo enacted Law No. 15/03 on the rights of women and parity, which prohibited gender-based discrimination in access to financial services and employment. This reform is reflected in a 6.25 increase in the WBL index in 2016. The reform does not stand out in figure 4 because of a much larger increase in the index the following year, which reflects the July 2016 amendment to the 1988 Family Code.

Although the index shows a sudden improvement, bringing about these reforms was a process that took many years. The Permanent Consultation Framework for Congolese Women was established in 2005. It provided women's rights NGOs with a formal platform for addressing gender issues with the government. Congolese women's organizations used this platform in 2014 to develop propositions to amend the discriminatory provisions in the Family Code. The reform was also rooted in the political will to align the body of laws with the principles of equality contained in the 2006 constitution and in international and regional legal instruments. This reform had several implications for women's rights. It allowed a woman to get a job without the permission of her husband and to choose where to live, open a bank account, register a business, and enter into legally binding contracts in the same way as a man. It also removed the provision that required a married woman to obey her husband. This fundamental change to women's rights is reflected in a 21.3 increase in the WBL index.

The two most recent reforms captured by the WBL index reflect the administration of maternity leave benefits by the government and the equalization of the age at which men and women can retire with full pension benefits. After implementation of these reforms, the WBL index score for the Democratic Republic of Congo reached 78.8, above the global average value. In 1970, women in the country faced a level of legal discrimination that was much more severe than the global or regional average.

Lack of data prevents a complete study of how women's economic inclusion evolved alongside their legal equality. The Democratic Republic of Congo was included in the WEF's *Global Gender Gap* report only in the past two years. Data on the percentage of female workers in vulnerable employment for 1991–2019 show that despite the progress made in women's rights, the proportion of female workers deemed vulnerable decreased by less than 5 percentage points, from 94.8 percent to 90.2 percent, in 29 years. In contrast, the proportion of male workers in vulnerable employment dropped by almost 10 percentage points, from 79.0 percent to 69.7 percent. Gains in women's rights were also not reflected in their political representation: Between 2004 and 2019, the share of parliamentary seats held by women fell from 12 percent to 10 percent.

It is unclear why the large gains in legal equality have not been reflected in similar gains in women's economic inclusion and empowerment. Some of the most important reforms, at least in terms of their impact on the WBL index, have been made relatively recently. It may take more time before these legal changes are reflected in women's outcomes.

Legal Reform and Women's Empowerment in India

The first decade and a half covered by the WBL index saw no movements toward legal equality between men and women in India. The first reform captured occurred in 1987, when the Equal Remuneration Act of 1976 was amended

to specifically prohibit discrimination on the basis of gender when recruiting employees. The act was amended to widen the protection against discrimination. It refers to the principle of equal remuneration, but it does not meet the standards set by the International Labor Organization of "equal remuneration for work of equal value." As such, the WBL data point that asks, "Does the law mandate equal remuneration for work of equal value?" was, and remains, no.

The next reform occurred in 1995, when inheritance rights between surviving spouses and between daughters and sons were equalized. The reform of these two data points resulted in a five-point increase in the aggregate WBL index. This reform reflected a legislative change that was enacted at the state level in Maharashtra, where Mumbai is located.[15] The legal basis for the reform is the Hindu Succession (Maharashtra Amendment) Act, 1994. Agarwal (2002) discusses the gradual reform of India's inheritance laws from a position of substantial inequality before the original Hindu Succession Act of 1956 to near equality today. She notes that progress toward equality was the result of a gradual bargaining process, in which, over time, various groups have had different degrees of bargaining power in relation to the state. Factors that affect bargaining power include the size and cohesion of the group of agents seeking change, support from civil society organizations, entrenched political structures, and social norms. In 2005, the Maharashtra Amendment was expanded to the federal level.

The next step toward legal equality in India, as captured by WBL, occurred in 1998, when legislation addressing domestic violence went into effect. This reform reflected a 1997 Supreme Court ruling on public interest litigation by the women's rights group Vishaka and other women's groups against the State of Rajasthan and India's central government. Their case sought to seek enforcement of the fundamental rights of working women under Articles 14, 19, and 21 of India's Constitution. The impetus for this petition was the raping of a social worker who had sought to prevent a child marriage.[16] The litigation, and the court's subsequent ruling, brought about what are known as the Vishaka Guidelines, a set of guidelines for use in cases of sexual harassment. This ruling was seen as a significant legal victory for women's rights groups in India.

The reform in 1998 was followed by a long period of stagnation in the area of women's economic rights. Indeed, the WBL index score for India remained fixed at 62.5 points for 15 years. The next reform occurred in 2013, with implementation of the Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act of 2013. This legislation prohibited sexual harassment in employment and introduced both criminal penalties and civil remedies for violation of the law; it superseded the Vishaka Guidelines.

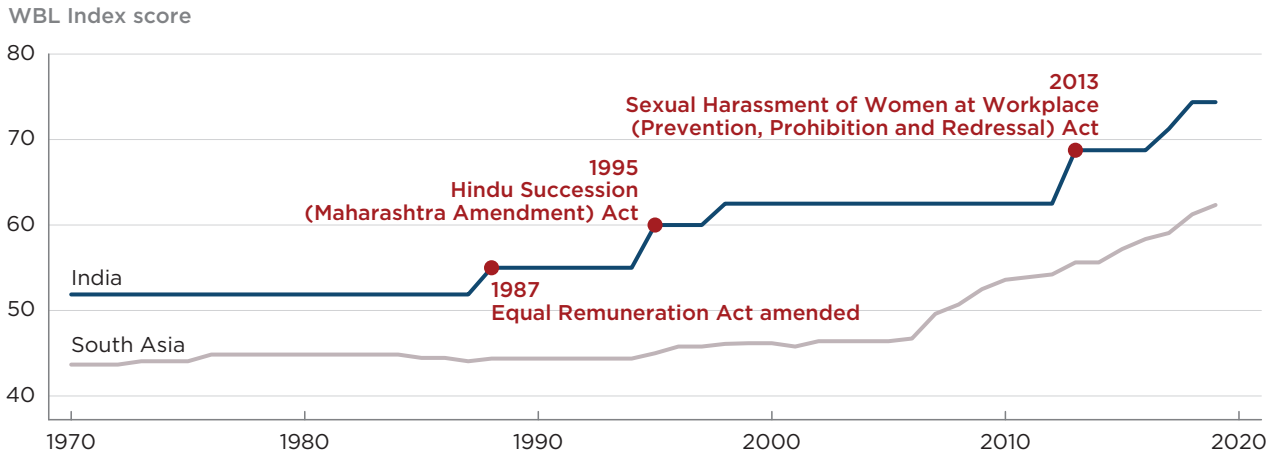
Bringing about this legislative change was a long process. The process to ban sexual harassment in the workplace began in 2000, with the Sexual Harassment of Women at the Workplace (Prevention) Bill (Geetha 2012). This bill was amended in 2001, 2002, and 2003, but none of these iterations was passed

15 The WBL methodology analyzes the constraints that a hypothetical woman faces as she navigates her working life. Several assumptions underly this approach, including the assumption that she lives and works in her country's main business city. Historically, the main business city in India was Mumbai.

16 *Indian Express*, "Sexual Harassment at Workplace," January 26, 2010.

into law. In 2007, the National Commission for Women submitted the Protection of Women against Sexual Harassment at Workplace Bill, which included a comprehensive definition of sexual harassment. In 2010, the Ministry for Law and Justice submitted a draft of the same bill to the lower house of India's parliament. A report on the bill was published in 2011, an amendment was approved in 2012, and, the bill was passed by both houses of parliament and signed by the president in 2013. This legal reform increased the WBL score for India to almost 68.8 (figure 5).

Figure 5
Women, Business and the Law (WBL) index in India, 1970–2020



Source: Authors' calculations.

The last two reforms captured by the WBL index occurred in close succession. On March 9, 2017, India increased paid maternity leave from 12 to 26 weeks under the Maternity Benefit (Amendment) Act. The amendment pushed the allocated paid maternity leave beyond the international labor standard of 14 weeks and mandates the provision of childcare facilities. It is unclear what impact this measure will have on women's economic empowerment in India. Employers bear the costs of implementing the act.[17] Although the act may have some positive implications for women's health, well-being, and job security, it may also reduce demand for female labor and reverse gains made in sharing domestic responsibilities, given that India provides no paternity leave.

The next reform captured by WBL occurred later in 2017, when the State of Maharashtra enacted the Maharashtra Shops and Establishments (Regulation of Employment and Conditions of Service) Act, which repealed and replaced the 1948 Shops and Establishments Act. The 1948 act had prohibited women from performing tasks the state considered dangerous. The aim of this provision in the

17 Mitali Nikore, "Supporting Motherhood–or Discouraging Parenthood? A Curious Case of the Extended Maternity Leave in India. Blog," South Asia@ LSE, March 17, 2017.

1948 was to protect women. Research has shown that job-related restrictions are associated with lower levels of female employment (Ogloblin 2005).

Over the 50 years covered by the WBL index, India increased its aggregate score from 51.9 to 74.4. Despite this progress—which is slightly above the average rate of reform in the region but below the global average pace—the economic reality of women does not appear to have improved radically. In fact, over the past two decades, the female labor participation rate for women aged 15–64 fell significantly, from 31.7 percent in 1991 to 22.0 percent in 2019.

At the same time, data from the WEF reveal progress in closing the aggregate gender gap in outcomes. The share of the gender gap in outcomes that had been bridged rose from 60.1 percent in 2006 to 66.8 percent in 2019. However, the subcomponent of the WEF's aggregate score that measures progress in closing gender-based gaps in economic participation and opportunity fell. On a more positive note, women's representation in parliament doubled, from about 7 percent in 1997 to about 14 percent in 2019.

Legal Reform and Women's Empowerment in Spain

Historically, laws in Spain discriminated against women in many ways—and because of its history of colonization, economies in other regions inherited these restrictions. Spain's gendered laws have thus had an impact on women's rights beyond the country's borders, where the legacy of its gendered laws persists.

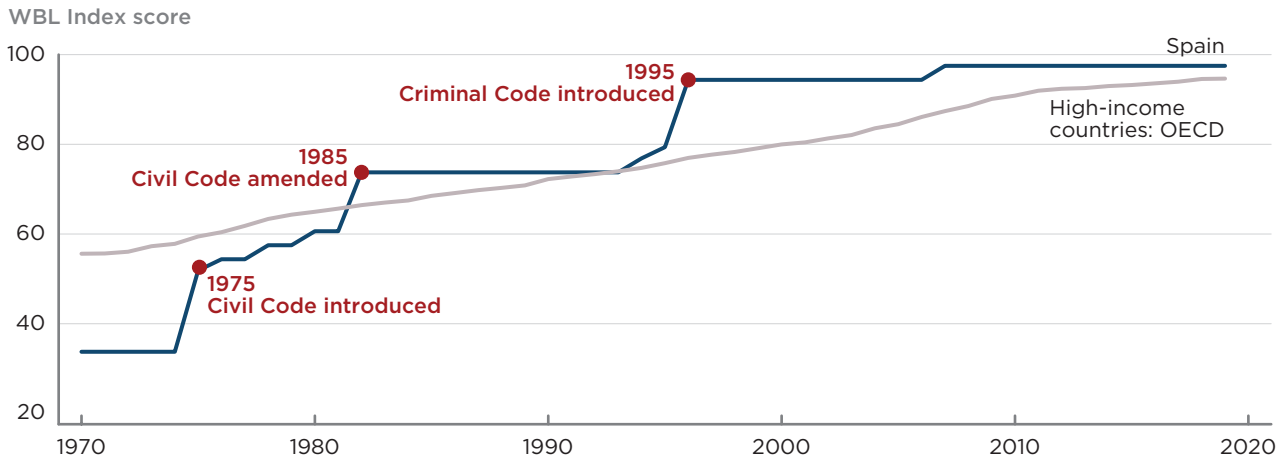
Legal gender equality in Spain—at least in the areas covered by the WBL index—is now close to parity, with Spain scoring 97.5 on the 2019 WBL. It failed to reach perfect score because it lacks legal provisions for paid parental leave.

Spain's score is now above average for a high-income OECD economy. In 1970, women had only about a third the rights of men in the areas covered by the index (figure 6); scores on both the workplace and entrepreneurship indicators were zero, indicating that Spanish laws were particularly discriminatory to women as employees and entrepreneurs. Under Franco's dictatorship, women's rights were severely curtailed by the 1945 Charter, whose *permiso marital* prohibited a married woman from most economic activities without her husband's permission. In particular, a married woman could not seek employment, sign a contract, or open a bank account without her husbands' permission (Solsten and Meditz 1988).

The first notable reform in Spain came in 1975, when Spain adopted a new Civil Code. It equalized the way in which men and women could get a job; removed the legal provision stating that a married woman had to obey her husband; and ensured that a woman could sign a contract, open a bank account, and register a business in the same way as a man. It thus affected three of the eight WBL indicators (workplace, marriage, and entrepreneurship).

Around this time, two other legislative changes were made, granting women a minimum of 14 weeks paid maternity leave and ensuring that periods of absence from work because of childcare were included in the calculation of pension benefits. As a result of all of these changes, the WBL index value increased by 20.6 points.

Figure 6
Women, Business and the Law (WBL) index in Spain, 1970–2020



OECD = Organization for Economic Cooperation and Development
Source: Authors' calculations.

Both push and pull factors influenced the more gender equal Civil Code. Economic growth pushed the government to make reforms that would allow more women to enter the workforce, in order to keep pace with the industrial expansion (Solsten and Meditz 1988). At the same time, the global feminist movement reached Spain in the 1970s. In response to the pressure the Spanish government came under to revise the Civil Code, it created a commission to reform legislation to align with that of other Western European countries (Armenia 2014). In 1972, the United Nations declared that 1975 would be the International Women's Year and that the period from 1975 to 1985 would be the "Decade for Women." The new Civil Code came out during International Women's Year. By removing the *permiso marital*, it ensured that "marriage does not restrict the capacity of either marriage partner" (Sponsler 1982).

Spain made incremental reforms throughout the 1970s and into the early 1980s. In 1981, it amended the Civil Code to remove restrictions formerly placed on a woman's right to choose where to live, obtain a divorce, and manage property. Progress stalled, however, until the Workers' Statute was introduced, in 1994. This statute aimed to improve working conditions for all workers. In an important move to improve women's economic rights, it included a clause ensuring that women receive equal remuneration for work of equal value. The impetus to include this condition came from women's rights advocates. Particularly influential was the Women's Institute, created in 1983 by the governing Socialist Party to promote gender equality.

The 1995 Criminal Code also had important impacts on women's economic inclusion, by addressing sexual harassment and violence against women. It criminalized domestic violence (included under the marriage indicator of the WBL index) and sexual harassment in the workplace (part of the workplace indicator). These issues were addressed under Articles 173 (domestic violence) and 184 (sexual harassment at work) of the 1995 Criminal Code. Trade unions in Spain

played a key role in addressing violence and sexual harassment in the workplace (Pillinger 2017).

In 2007, Spain passed the Ley Orgánica, which banned gender-based discrimination in access to credit (a data point included in the WBL entrepreneurship indicator). This change was brought about by the Law for Equality of Women and Men (Law 3/2007), which allows individuals to take judicial action to claim their rights in courts (European Parliament 2009). Political will appears to have driven introduction of this reform. In 2004, the new Socialist government led by Prime Minister Jose Luis Zapatero begun to enact several laws to reduce gender inequality. The creation of the Equality Policies General Secretariat, which had greater powers than the Women's Institute, strengthened the focus on gender.

Lack of data availability limits the time period over which the comparison between progress in legal gender equality and progress in women's empowerment can be made. National data on female labor supply are available from 1970. They show a huge increase in the female labor force participation rate, which rose from 17.9 percent in 1970 to 52.7 percent in 2019. Other metrics of women's economic inclusion and empowerment also show progress, albeit over a shorter time horizon. The WEF Global Gender Gap index score rose from 73.2 percent in 2006 to 79.5 percent in 2019. Other data also indicate that the economic situation of women improved. The share of female employees in vulnerable employment plummeted from 23.5 percent in 1991 to 8.4 percent in 2019. Progress was also made in women's political representation, with the share of women in Spain's national parliament increasing from just under 25 percent in 1997 to 44 percent in 2019.

4 CONCLUSIONS

The main factors determining the level of discrimination against women—a country's legal origin, measures of governance, geographic characteristics, and the dominant religion—are all either time-invariant or slow to change. Nevertheless, considerable progress in legal gender equality took place over the past five decades. Moreover, lower de jure gender discrimination is associated with a smaller gender gap in opportunities and outcomes, fewer female workers in positions of vulnerable employment, and greater political representation by women. On average, gendered laws correlate meaningfully with important economic outcomes, both in the cross-section and in the time-series data.

Three country case studies illustrate the pathway to reform of gender-discriminatory laws and show how women's outcomes have evolved in tandem with legal reforms in each country. They reveal that there is substantial cross-country heterogeneity in the relationship between de jure and de facto gender equality. Understanding the sources of that heterogeneity using detailed micro data from individual countries is a fruitful area for future research.

REFERENCES

Agarwal, Bina. 2002. "*Bargaining" and Legal Change: Toward Gender Equality in India's Inheritance Laws*. IDS Working Paper 165. Brighton, United Kingdom: Institute for Development Studies.

Agarwal, Bina. 2003. Gender and Land Rights Revisited: Exploring New Prospects via the State, Family and Market. *Journal of Agrarian Change* 3, no. 1–2: 184–224.

Ahmad, Mahtab, Moazma Batool, and Sophia F. Dziegielewski. 2016. State of Inheritance Rights: Women in a Rural District in Pakistan. *Journal of Social Service Research* 42, no. 5: 622–29.

Aldashev, Gani, Imane Chaara, Jean-Philippe Platteau, and Zaki Wahhaj. 2012. Using the Law to Change the Custom. *Journal of Development Economics* 97, no. 2: 182–200.

Ali, Daniel Ayalew, Klaus Deininger, and Markus Goldstein. 2014. Environmental and Gender Impacts of Land Tenure Regularization in Africa: Pilot Evidence from Rwanda. *Journal of Development Economics* 110: 262–75.

Armenia, Yerevan. 2014. Women, Transition and Social Changes. The Case of Spain, 1976-1986. Women, Leadership and Society Conference Paper.

Ashraf, Nava, Natalie Blau, Nathan Nunn, and Alessandra Voena. 2020. Bride Price and Female Education. *Journal of Political Economy* 128, no. 2: 591–641.

Asiedu, Elizabeth, Claire Branstette, Neepa Gaekwad-Babulal, and Nanivazo Malokele. 2018. The Effect of Women's Representation in Parliament and the Passing of Gender Sensitive Policies. Paper presented at the Allied Social Science Association (ASSA) annual meeting, Philadelphia, January 5–7.

Barlas, Asma. 2019. *Believing Women in Islam: Unreading Patriarchal Interpretations of the Qur'an*. Austin: University of Texas Press.

Bertrand, Marianne. 2011. New Perspectives on Gender. In *Handbook of Labor Economics*, vol. 4: 1543–90.

Carruthers, Celeste K., and Marianne H. Wanamaker. 2015. Municipal Housekeeping: The Impact of Women's Suffrage on Public Education. *Journal of Human Resources* 50, no. 4: 837–72.

Cascio, Elizabeth U., and Na'ama Shenhav. 2020. A Century of the American Woman Voter: Sex Gaps in Political Participation, Preferences, and Partisanship Since Women's Enfranchisement. *Journal of Economic Perspectives* 34, no. 2: 24–48.

Combs, Mary Beth. 2005. A Measure of Legal Independence: The 1870 Married Women's Property Act and the Portfolio Allocations of British Wives. *Journal of Economic History* 65, no. 4: 1028–57.

Combs, Mary Beth. 2006. Cui Bono? The 1870 British Married Women's Property Act, Bargaining Power, and the Distribution of Resources Within Marriage. *Feminist Economics* 12, no. 1–2: 51–83.

Crisman, Benjamin, Sarah Dykstra, Charles Kenny, and Megan O'Donnell. 2016. *The Impact of Legislation on the Hazard of Female Genital Mutilation/Cutting: Regression Discontinuity Evidence from Burkina Faso*. Working Paper 432. Washington: Center for Global Development.

Daley, Elizabeth, Rachel Dore-Weeks, and Claudine Umuhoza. 2010. Ahead of the Game: Land Tenure Reform in Rwanda and the Process of Securing Women's Land Rights. *Journal of Eastern African Studies* 4, no. 1: 131–52.

Deininger, Klaus, Aparajita Goyal, and Hari Nagarajan. 2013. Women's Inheritance Rights and Intergenerational Transmission of Resources in India. *Journal of Human Resources* 48, no. 1: 114–41.

Devlin, Claire, and Robert Elgie. 2008. The Effect of Increased Women's Representation in Parliament: The Case of Rwanda. *Parliamentary Affairs* 61, no. 2: 237–54.

Djankov, Simeon, Edward L. Glaeser, Valeria Perotti, and Andrei Shleifer. 2020. *Measuring Property Rights Institutions*. NBER Working Paper 27839. Cambridge, MA: National Bureau of Economic Research.

Djurfeldt, Agnes Andersson. 2020. Gendered Land Rights, Legal Reform and Social Norms in the Context of Land Fragmentation: A Review of the Literature for Kenya, Rwanda and Uganda. *Land Use Policy* 90: 104305.

European Parliament. 2009. Spanish Policy on Gender Equality: Relevant Current Legislation and Policies. Directorate General for Internal Policies, Policy Department C - Citizens' Rights and Constitutional Affairs, Brussels.

Fernandez, Raquel. 2013. Cultural Change as Learning: The Evolution of Female Labor Force Participation over a Century. *American Economic Review* 103, no. 1: 472–500.

Fernandez, Raquel, and Alessandra Fogli. 2009. Culture: An Empirical Investigation of Beliefs, Work, and Fertility. *American Economic Journal: Macroeconomics* 1, no. 1: 146–77.

Fernandez, Raquel, Alessandra Fogli, and Claudia Olivetti. 2004. Mothers and Sons: Preference Formation and Female Labor Force Dynamics. *Quarterly Journal of Economics*: 1249–99.

Geddes, Rick, Dean Lueck, and Sharon Tennyson. 2012. Human Capital Accumulation and the Expansion of Women's Economic Rights. *Journal of Law and Economics* 55, no. 4: 839–67.

Gedzi, Victor Selorme. 2012. Women's Property Relations after Intestate Succession PNDC Law 111 in Ghana. *Research on Humanities and Social Sciences* 2, 9.

Geetha, K. K. 2012. Bill on Sexual Harassment: Against Women's Rights. *Economic and Political Weekly*, 47, no. 3: 18-22.

Hilhorst, Thea. 2000. Women's Land Rights: Current Developments in Sub-Saharan Africa. In *Evolving Land Rights, Policy and Tenure in Africa*, ed. C. Toulmin and J. Quan, 181–96. London: International Institute for Environment and Development (IIED) and Natural Resources Institute.

Holden, Livia, and Azam Chaudhary. 2013. Daughters' Inheritance, Legal Pluralism, and Governance in Pakistan. *Journal of Legal Pluralism and Unofficial Law* 45, no. 1: 104–23.

Htun, Mala, and S. Laurel Weldon. 2011. State Power, Religion, and Women's Rights: A Comparative Analysis of Family Law. *Indiana Journal of Global Legal Studies* 18, no. 1: 145–65.

Hyland, Marie, Simeon Djankov, and Pinelopi Koujianou Goldberg. 2020. Gendered Laws and Women in the Workforce. *American Economic Review: Insights* 2, no. 4: 475–90.

Kevane, Michael. 2004. *Women and Development in Africa: How Gender Works*. London: Lynne Rienner Publishers.

Khan, B. Zorina. 1996. Married Women's Property Laws and Female Commercial Activity: Evidence from United States Patent Records, 1790–1895. *Journal of Economic History* 56, no. 2: 356–88.

Kose, Esra, Elira Kuka, and Na'ama Shenhav. 2019. *Who Benefited from Women's Suffrage?* (accessed on March 17, 2021).

La Porta, Rafael, Florencio Lopez-de-Silanes, and Andrei Shleifer. 2008. The Economic Consequences of Legal Origins. *Journal of Economic Literature* 46, no. 2: 285–332.

Lott, Jr, John R., and Lawrence W. Kenny. 1999. Did Women's Suffrage Change the Size and Scope of Government? *Journal of Political Economy* 107, no. 6: 1163–98.

Marshall, M., and T. Gurr. 2020. *Polity5: Political Regime Characteristics and Transitions, 1800–2018*. Vienna, VA: Center for Systemic Peace. Available at www.systemicpeace.org/inscr/p5manualv2018.pdf.

Mashhour, Amira. 2005. Islamic Law and Gender Equality: Could There Be a Common Ground? A Study of Divorce and Polygamy in Sharia Law and Contemporary Legislation in Tunisia and Egypt. *Human Rights Quarterly*: 562–96.

Miller, Grant. 2008. Women's Suffrage, Political Responsiveness, and Child Survival in American History. *Quarterly Journal of Economics* 123, no. 3: 1287–327.

North, Douglass Cecil. 1981. *Structure and Change in Economic History*. New York: Norton.

Ntampaka, Charles. 2005. *Introduction aux systemes juridiques Africains*, vol. 26. Namur, Belgium: Presses Universitaires de Namur.

Nunn, Nathan. 2008. The Long-Term Effects of Africa's Slave Trades. *Quarterly Journal of Economics* 123, no. 1: 139–76.

Nunn, Nathan, and Diego Puga. 2012. Ruggedness: the Blessing of Bad Geography in Africa. *Review of Economics and Statistics* 94, no. 1: 20–36.

Ogloblin, C. G. 2005. The Gender Earnings Differential in Russia after a Decade of Economic Transition. *Applied Econometrics and International Development*, 5, no. 3: 5–26

Pew Research Center. 2015. *The Future of World Religions: Population Growth Projections, 2010–2050*.

Pillinger, Jane. 2017. *ETUC "Safe at Home, Safe at Work": Spain Country Case Study*. Brussels: European Commission.

Pistor, Katharina, and Philip A. Wellons. 1999. *The Role of Law and Legal Institutions in Asian Economic Development, 1960-1995*. Oxford: Oxford University Press.

Rao, Nitya. 2007. Custom and the Courts: Ensuring Women's Rights to Land, Jharkhand, India. *Development and Change* 38, no. 2: 299–319.

Ross, Michael L. 2008. Oil, Islam, and Women. *American Political Science Review*: 107–23.

Solsten, Eric, and Sandra W. Meditz. 1988. *Spain: A Country Study*. Washington: GPO for the Library of Congress.

Sponsler, Lucy A. 1982. The Status of Married Women under the Legal System of Spain. *Louisana Law Review* 42, no. 5.

Vatuk, Sylvia. 2013. The "Women's Court" in India: An Alternative Dispute Resolution Body for Women in Distress. *Journal of Legal Pluralism and Unofficial Law* 45, no. 1: 76–103.

Voena, Alessandra. 2015. Yours, Mine and Ours: Do Divorce Laws Affect the Intertemporal Behavior of Married Couples? *American Economic Review* 105, no. 8: 2295–32.

Weber, Max. 1930. *The Protestant Ethic and the Spirit of Capitalism*. New York: Charles Scribner's Sons.

WEF (World Economic Forum). 2019. *Global Gender Gap Report 2020*. Geneva.

Williamson, Claudia R., and Carrie B. Kerekes. 2011. Securing Private Property: Formal Versus Informal Institutions. *Journal of Law and Economics* 54, no. 3: 537–72.

World Bank. 2021. *Women, Business and the Law 2021*. Washington.

APPENDIX

ADDITIONAL RESULTS

Table A.1 presents the standardized regression coefficients from the estimation of equation (1), which are also illustrated in figure 2.[18]

Table A.1
Country characteristics and legal gender equality
Dependent variable = WBL index

Variable	Standardized coefficient
Geographic characteristics	
Ruggedness (Terrain Ruggedness Index, 100 meters)	−0.0835*** (0.0083)
Land area (1,000 hectares)	−0.0075 (0.0092)
Latitude	0.1094*** (0.0100)
Longitude	−0.0632*** (0.0101)
Percent of country with fertile soil	0.2430*** (0.0110)
Percent of country that is desert	−0.0897*** (0.0084)
Percent of country that has tropical climate	−0.1022*** (0.0105)
Average distance to nearest ice-free coast (1,000 kilometers)	0.1553*** (0.0096)
Gem diamond extraction 1958–2000 (1,000 carats)	−0.0515*** (0.0080)
Estimate of the numbers of slaves exported 1400–1900	−0.0353*** (0.0070)
Population density (people per square kilometer)	0.0569*** (0.0098)

18 We also explored the relationships between legal gender equality and measures of governance and human rights. The results show that higher scores for voice and accountability and government effectiveness, as measured by the World Governance Indicators, are positively associated with legal gender equality. Regression results also confirm that where human rights are protected and respected, gender equality under the law is greater. Inclusion of these variables does not affect the pattern of results displayed in figure 2 and table A.3. We do not include them in our main specifications out of concerns about simultaneity bias.

Variable	Standardized coefficient
Religion (Reference category: Christianity)	
Buddhism	0.0482*** (0.0081)
Hinduism	−0.0463*** (0.0065)
Islam	−0.3041*** (0.0101)
Unaffiliated	0.0446*** (0.0092)
Folk religions	0.0731*** (0.0106)
Judaism	0.0119* (0.0062)
Legal origin (Reference category: English)	
French	0.0719*** (0.0093)
German	−0.0429*** (0.0111)
Scandinavian	0.0893*** (0.0084)
Polity	
Polity score: −10 (autocracy) to +10 (full democracy)	0.2964*** (0.0102)
Number of years since last substantive change in authority characteristics	0.0956*** (0.0098)
Real GDP per capita (*t*−3)	0.0987*** (0.0118)
Number of observations	6,041
R^2	0.718
Adjusted R^2	0.715

Note: * = 10 percent, ** = 5 percent, *** = 1 percent. Standard errors are in parentheses. Regression includes time fixed effects.

Tables A.2 and A.3 provide additional details on the Women Business and the Law and Global Gender Gap indices, respectively.

Table A.2
Indicators included in the World Bank's Women, Business and the Law Index

Topic	Question
Mobility	1. Can a woman choose where to live in the same way as a man?
	2. Can a woman travel outside her home in the same way as a man?
	3. Can a woman apply for a passport in the same way as a man?
	4. Can a woman travel outside the country in the same way as a man?
Workplace	5. Can a woman legally get a job or pursue a trade or profession in the same way as a man?
	6. Does the law mandate nondiscrimination in employment based on gender?
	7. Is there legislation on sexual harassment in employment?
	8. Are there criminal penalties or civil remedies for sexual harassment in employment?
Pay	9. Does the law mandate equal remuneration for work of equal value?
	10. Can women work the same night hours as men?
	11. Can women work in jobs deemed hazardous, arduous, or morally inappropriate in the same way as men?
	12. Are women able to work in the same industries as men?
Marriage	13. Is a married woman not legally required to obey her husband?
	14. Can a woman legally be "head of household" or "head of family" in the same way as a man?
	15. Is there legislation specifically addressing domestic violence?
	16. Can a woman obtain a judgment of divorce in the same way as a man?
	17. Do women have the same rights to remarry as men?
Parenthood	18. Is there paid leave of at least 14 weeks available to women?
	19. Does the government pay 100% of maternity leave benefits or parental leave benefits (where maternity leave is unavailable)?
	20. Is there paid paternity leave?
	21. Is there paid parental leave?
	22. Is dismissal of pregnant workers prohibited?
Entrepreneurship	23. Does the law prohibit discrimination by creditors based on sex or gender in access to credit?
	24. Can a woman legally sign a contract in the same way as a man?
	25. Can a woman legally register a business in the same way as a man?
	26. Can a woman legally open a bank account in the same way as a man?

Topic	Question
Assets	27. Do men and women have equal ownership rights to immovable property?
	28. Do sons and daughters have equal rights to inherit assets from their parents?
	29. Do female and male surviving spouses have equal rights to inherit assets?
	30. Does the law grant spouses equal administrative authority over assets during marriage?
	31. Does the law provide for valuation of nonmonetary contributions?
Pension	32. Are the ages at which men and women can retire with full pension benefits equal?
	33. Are the ages at which men and women can retire with partial pension benefits equal?
	34. Is the mandatory retirement age for men and women equal?
	35. Does the law establish explicit pension credits for periods of childcare?

Table A.3
Indicators included in the Global Gender Gap index

Area	Indicator
Economic participation and opportunity	Labor force participation rate (percent)
	Wage equality for similar work (survey, 1–7 scale)
	Estimated earned income (PPP, international dollars)
	Legislators, senior officials and managers (percent)
	Professional and technical workers (percent)
Educational Attainment	Literacy rate (percent)
	Enrolment in primary education (percent)
	Enrolment in secondary education (percent)
	Enrolment in tertiary education (percent)
Health and Survival	Sex ratio at birth (percent)
	Healthy life expectancy (years)
Political Empowerment	Women in parliament (percent)
	Women in ministerial positions (percent)
Political Empowerment	Years with female head of state (last 50), share of tenure years

Source: World Economic Forum, 2019.

Table A.4 presents the regression coefficients underlying the results displayed in figure 3.

Table A.4
Legal gender equality and equality in outcomes

	(1)	(2)	(3)	(4)
Variable	*Year fixed effects*	*Year fixed effects and GDP*	*Year fixed effects and country fixed effects*	*Year fixed effects, country fixed effects, and GDP*
Percentage of gender gap in outcomes closed				
WBL index score	0.2300***	0.2043***	0.0525***	0.0544***
	(0.0055)	(0.0057)	(0.0127)	(0.0127)
Real GDP per capita at *t*–3		0.0001***		0.0000
		(0.0000)		(0.0000)
Number of observations	1,909	1,894	1,909	1,894
R^2	0.498	0.535	0.937	0.938
Adjusted R^2	0.494	0.532	0.931	0.932
Percentage of female workers in vulnerable employment				
WBL index score	–0.6535***	–0.2710***	–0.0711***	–0.0770***
	(0.0243)	(0.0225)	(0.0093)	(0.0092)
Real GDP per capita at *t*–3		0.0011***		0.0001***
		(0.0000)		(0.0000)
Number of observations	5,162	4,860	5,162	4,860
R^2	0.126	0.402	0.989	0.990
Adjusted R^2	0.121	0.399	0.989	0.990
Percentage of seats held by women in national parliaments				
WBL index score	0.2904***	0.2641***	0.1028***	0.1044***
	(0.0085)	(0.0094)	(0.0157)	(0.0159)
Real GDP per capita at *t*–3		0.0001***		–0.0002***
		(0.0000)		(0.0000)
Number of observations	3,965	3,874	3,965	3,874
R^2	0.311	0.321	0.842	0.844
Adjusted R^2	0.307	0.317	0.833	0.835

Note: * = 10 percent, ** = 5 percent, *** = 1 percent. Standard errors are in parentheses.

Tables A.5–A.7 display the correlations between the WBL index and additional metrics of women's economic inclusion and empowerment. Table A.5 displays the correlations between the WBL index and each of the four subcomponents of the Global Gender Gap index (economic participation and opportunity, educational attainment, health and survival, and political empowerment). The results show that legal equality is negatively correlated with gender-based gaps on each of the four subcomponents, based on the most basic regression, presented in column (1) of table A.5. Three of the four correlations remain positive and statistically significant when country and year fixed effects as well as per capita GDP are controlled for. The only correlation that does not survive the inclusion of country fixed effects is that between the WBL index and the subcomponent that captures gender-based gaps in educational attainment.

Table A.5
Legal inequality and subcomponents of the Global Gender Gap index

	(1)	(2)	(3)	(4)
Subcomponent	*Year fixed effects*	*Year fixed effects and GDP*	*Year fixed effects and country fixed effects*	*Year fixed effects, country fixed effects, and GDP*
Economic participation and opportunity score				
WBL index	0.4080***	0.3883***	0.0741**	0.0815***
	(0.0123)	(0.0131)	(0.0321)	(0.0315)
Real GDP per capita at *t*–3		0.0000*		0.0000
		(0.0000)		(0.0001)
Number of observations	1,909	1,894	1,909	1,894
R^2	0.379	0.366	0.901	0.902
Adjusted R^2	0.374	0.361	0.892	0.893
Educational attainment score				
WBL index	0.1653***	0.1313***	0.0137	0.0163
	(0.0101)	(0.0105)	(0.0150)	(0.0151)
Real GDP per capita at *t*–3		0.0001***		–0.0001***
		(0.0000)		(0.0000)
Number of observations	1,909	1,894	1,909	1,894
R^2	0.128	0.190	0.955	0.955
Adjusted R^2	0.122	0.183	0.950	0.951

	(1)	(2)	(3)	(4)
Subcomponent	*Year fixed effects*	*Year fixed effects and GDP*	*Year fixed effects and country fixed effects*	*Year fixed effects, country fixed effects, and GDP*
Health and survival score				
WBL index	0.0139***	0.0153***	0.0108***	0.0112***
	(0.0012)	(0.0013)	(0.0037)	(0.0038)
Real GDP per capita at *t*–3		–0.0000		–0.0000
		(0.0000)		(0.0000)
Number of observations	1,909	1,894	1,909	1,894
R^2	0.065	0.072	0.804	0.804
Adjusted R^2	0.058	0.064	0.785	0.785
Political empowerment score				
WBL index	0.3329***	0.2823***	0.1127***	0.1098***
	(0.0145)	(0.0152)	(0.0349)	(0.0352)
Real GDP per capita at *t*–3		0.0001***		0.0001
		(0.0000)		(0.0001)
Number of observations	1,909	1,894	1,909	1,894
R^2	0.245	0.285	0.898	0.897
Adjusted R^2	0.239	0.280	0.888	0.888

Note: * = 10 percent, ** = 5 percent, *** = 1 percent. Standard errors are in parentheses.

Table A.6 shows the correlation between the WBL index and several labor market outcomes for women. The first two sets of results show that a higher WBL index score is associated with a lower percentage of female workers in self-employment and fewer female contributing family workers. These correlations are expected, as these categories of employment are highly correlated with vulnerable employment. The results displayed in table A.6 also show that when time effects are controlled for but country fixed effects and income level are not, legal equality is significantly correlated with a larger share of female workers in positions of management. However, this correlation is not significant once country effects and income are included in the regressions.

A similar pattern holds for the correlation between the WBL index and female employment in industry. The results in column (1) show a positive correlation, but this relationship becomes negative and statistically significant once country fixed effects are included. The relationships between the WBL index and employment in services and agriculture are more robust: All specifications show that greater equality under the law is associated with a larger proportion of female workers employed in the services sector and fewer women engaged in agricultural employment.

Table A.6
Legal inequality and labor market outcomes

	(1)	(2)	(3)	(4)
	Year fixed effects	*Year fixed effects and GDP*	*Year fixed effects and country fixed effects*	*Year fixed effects, country fixed effects, and GDP*
Self-employed, female				
WBL index	−0.6302*** (0.0241)	−0.2501*** (0.0222)	−0.0747*** (0.0093)	−0.0803*** (0.0091)
Real GDP per capita at *t*−3		−0.0011*** (0.0000)		0.0001*** (0.0000)
Number of observations	5,162	4,860	5,162	4,860
R^2	0.120	0.401	0.989	0.990
Adjusted R^2	0.115	0.397	0.989	0.990
Contributing family workers, female				
WBL index	−0.3828*** (0.0144)	−0.1941*** (0.0145)	−0.0793*** (0.0120)	−0.0854*** (0.0120)
Real GDP per capita at *t*−3		−0.0005*** (0.0000)		0.0001*** (0.0000)
Number of observations	5,162	4,860	5,162	4,860
R^2	0.132	0.263	0.950	0.951
Adjusted R^2	0.127	0.258	0.948	0.949
Employment in senior and middle management, female				
WBL index	0.1466*** (0.0206)	0.2508*** (0.0233)	−0.0438 (0.0367)	−0.0476 (0.0367)
Real GDP per capita at *t*−3		−0.0001*** (0.0000)		−0.0002** (0.0001)
Number of observations	991	991	991	991
R^2	0.084	0.148	0.826	0.827
Adjusted R^2	0.065	0.130	0.800	0.801
Employment in industry, female				
WBL index	0.0468*** (0.0067)	0.0539*** (0.0075)	−0.0643*** (0.0071)	−0.0502*** (0.0072)
Real GDP per capita at *t*−3		−0.0001*** (0.0000)		−0.0002*** (0.0000)
Number of observations	5,162	4,860	5,162	4,860

	(1)	(2)	(3)	(4)
	Year fixed effects	*Year fixed effects and GDP*	*Year fixed effects and country fixed effects*	*Year fixed effects, country fixed effects, and GDP*
R^2	0.032	0.035	0.909	0.915
Adjusted R^2	0.027	0.029	0.905	0.911
Employment in services, female				
WBL index	0.5480***	0.2545***	0.0903***	0.0817***
	(0.0188)	(0.0176)	(0.0099)	(0.0096)
Real GDP per capita at *t*–3		0.0008***		–0.0001***
		(0.0000)		(0.0000)
Number of observations	5,162	4,860	5,162	4,860
R^2	0.170	0.421	0.981	0.983
Adjusted R^2	0.165	0.417	0.980	0.983
Employment in agriculture, female				
WBL index	–0.5949***	–0.3084***	–0.0260**	–0.0315***
	(0.0207)	(0.0205)	(0.0119)	(0.0117)
Real GDP per capita at *t*–3		–0.0008***		0.0002***
		(0.0000)		(0.0000)
Number of observations	5,162	4,860	5,162	4,860
R^2	0.151	0.333	0.977	0.979
Adjusted R^2	0.146	0.329	0.976	0.978

Note: * = 10 percent, ** = 5 percent, *** = 1 percent. Standard errors are in parentheses.

Table A.7 presents the relationship between the WBL index and female employment by economic classification. These data are modelled estimates from the International Labour Organization of the number of employees, disaggregated by gender, that are categorized as extremely poor (income of less than $1.90 per day in purchasing power parity [PPP]), moderately poor ($1.90–$3.20), near poor ($3.20–$5.50) and not poor (greater than $5.50)[19] The results, displayed in table A.7, show that a higher WBL score is associated with fewer female workers in the extremely poor category of worker and a larger share of female workers in each of the other three categories. The positive correlation is strongest for the proportion of female workers classified as moderately poor, suggesting that more equality under the law is associated with better economic outcomes at the lower level of the income distribution. These correlations remain statistically significant after the level of economic development (proxied by per capita GDP) is included in the regressions.

19 See https://ilostat.ilo.org/data/ (accessed on November 18, 2020).

Table A.7
Legal inequality and economic classification of female employees

	(1)	(2)	(3)	(4)
	Year fixed effects	*Year fixed effects and GDP*	*Year fixed effects and country fixed effects*	*Year fixed effects, country fixed effects, and GDP*
Extremely poor (female employees/100,000 population)				
WBL index	−0.0107**	−0.0327***	−0.0226***	−0.0188***
	(0.0049)	(0.0048)	(0.0041)	(0.0043)
Real GDP per capita at *t*−3		−0.0002***		0.0001***
		(0.0000)		(0.0000)
Number of observations	3,817	3,626	3,817	3,626
R^2	0.028	0.153	0.927	0.927
Adjusted R^2	0.021	0.146	0.924	0.923
Moderately poor (female employees/100,000 population)				
WBL index	0.0090***	−0.0025	0.0127***	0.0142***
	(0.0023)	(0.0021)	(0.0026)	(0.0027)
Real GDP per capita at *t*−3		−0.0001***		−0.0000***
		(0.0000)		(0.0000)
Number of observations	3,817	3,626	3,817	3,626
R^2	0.009	0.194	0.859	0.867
Adjusted R^2	0.001	0.188	0.852	0.861
Near poor (female employees/100,000 population)				
WBL index	0.0263***	0.0186***	0.0083***	0.0090***
	(0.0019)	(0.0018)	(0.0029)	(0.0029)
Real GDP per capita at *t*−3		−0.0001***		−0.0001***
		(0.0000)		(0.0000)
Number of observations	3,817	3,626	3,817	3,626
R^2	0.050	0.179	0.766	0.777
Adjusted R^2	0.043	0.172	0.756	0.766

	(1)	(2)	(3)	(4)
	Year fixed effects	*Year fixed effects and GDP*	*Year fixed effects and country fixed effects*	*Year fixed effects, country fixed effects, and GDP*
Not poor (female employees/100,000 population)				
WBL index	0.1710***	0.1976***	0.0158***	0.0105*
	(0.0056)	(0.0049)	(0.0055)	(0.0056)
Real GDP per capita at *t*–3		0.0003***		0.0002***
		(0.0000)		(0.0000)
Number of observations	3,817	3,626	3,817	3,626
R^2	0.247	0.500	0.924	0.930
Adjusted R^2	0.241	0.496	0.921	0.927

Note: * = 10 percent, ** = 5 percent, *** = 1 percent. Standard errors are in parentheses.

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