The W-GDP Index: Empowering Women's Economic Activity through Addressing Legal Barriers

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Executive Summary

Many developing countries place legal restrictions on women that inhibit their ability to make economic decisions in the same way as men, or fail to have in place basic protections to prohibit discrimination against women on the basis of sex. These legal barriers to women's full and free participation in the economy impede economic success. Similar to other forms of government intervention, regulating women's participation in the labor market, ownership of property, access to credit, ability to travel freely, and access to institutions distorts economic activity and leads to the underutilization of productive inputs in an economy, lowering economic output. The Trump Administration's Women's Global Development and Prosperity (W-GDP) Initiative, launched in February 2019, focuses on addressing these barriers worldwide. Tackling legal barriers to women's full and free participation in the economy is smart economic policy.

In this report, we develop country-specific measures of women's legal and economic freedom for each of the five foundational factors that are targeted by the W-GDP Initiative. These measures combine to form the single W-GDP Women's Economic Freedom Index, which we refer to as the W-GDP Index. This index quantifies prior legal reforms that affect women's economic freedom in developing countries and can be used to track the W-GDP Initiative's progress in removing barriers to equal economic opportunity for women.

Deregulating women's economic activity by removing legal restrictions on them and providing them with the same legal protections as men can yield large increases in economic output and promote overall economic development. Our research indicates that fully removing the legal barriers to women's economic activity could increase annual global gross domestic product (GDP) by $7.7 trillion, or 8.3 percent. Most of this estimated increase in global GDP comes from gains in South Asia, East Asia, and the Pacific, areas with large populations where sex-specific regulations are fairly prevalent. In the most restrictive regions, fully eliminating these legal barriers could increase per capita GDP in South Asia and Sub-Saharan Africa by over 60 percent. Separate estimates focusing on employment restrictions predict that fully eliminating restrictions on women's employment would generate annual gains to global GDP of $1.5 trillion.

Introduction

In this report, we review the economic evidence on the relationship between women's economic freedom and economic development, particularly as it relates to the core areas of legal reform identified by the Trump Administration's W-GDP Initiative through the "Presidential Memorandum on Addressing Legal and Societal Barriers to Women's Global Development and Prosperity." Substantial economic research suggests that removing legal barriers to women's participation in the economy and society has large benefits not only for women and children but also for overall economic development and the development of a modern, advanced economy. The W-GDP Initiative focuses on five foundational areas of legal reforms to provide women with equal opportunities to access institutions, access credit, own and manage property, travel freely, and work in occupations and jobs of their choosing.

To measure legal restrictions that women face in different areas of economic activity, we construct empirical measures of women's economic freedom by country by using the World Bank's (2020) data from its "Women, Business, and the Law Report 2020." Our analysis uses these measures to quantify the possible near-term economic benefits if all countries changed their laws to allow women to participate in the economy in the same way as men. These short-term benefits are the result of expanded female labor market participation, as labor markets can adjust relatively quickly. We are unable to quantify the exact timing of these short-term benefits, and the timing could depend other features of the economy. Longer-term benefits resulting from increasing human capital investment in women and children would be even larger, but would take longer to be fully realized. We reach our estimates using simple regression models, and our main finding is that there is a statistically significant negative relationship between restrictive regulations on women's economic activity and real per capita GDP. We also generate estimates of the benefits of removing these restrictions using calibrated macroeconomic models.

Removing all restrictions would be predicted to increase annual global GDP by up to $7.7 trillion in 2018 dollars, or 8.3 percent using the simple regression models. Most of this increase is estimated to occur in South Asia and East Asia and the Pacific, regions with large populations where restrictive sex-specific regulations are fairly prevalent. We estimate that fully deregulating women's economic activity in the most restrictive regions would increase real per capita GDP by over 60 percent. Removing legal restrictions on jobs and labor force participation, along with on owning and managing property, are predicted to generate the largest increases to GDP. Given data limitations, our estimates are not able to isolate the effect of legal restrictions on their own, and these predicted gains could reflect unaccounted-for differences between countries. Separate estimates focusing on employment restrictions, where there is sufficient variation in the data to control for permanent cross-country

differences, predict that fully eliminating restrictions on women's employment would generate annual gains to global GDP of $1.5 trillion.

In order to support our regression analysis, we also conduct macroeconomic model-based estimates that suggest gains of a similar magnitude, in the range of $4.9 trillion to $9.2 trillion. Importantly, the macroeconomic models suggest that the GDP gains would not just be a one-time level shift, but that long-run global economic growth rates would increase by 0.41 percentage point per year (e.g., 3.91 percent vs. the current forecast of 3.5 percent).

Although our estimates do not establish a causal relationship, our results suggest that there are large potential economic gains associated with deregulating women's economic activity. Supporting our estimates is a wealth of theoretical and empirical economics literature finding that expanded economic freedom for women is a critical component of overall economic development. Furthermore, the specific areas of legal reform in the developing world targeted by the W-GDP Initiative have been shown to have positive benefits in microeconomic studies.

The economic case for equal economic freedom for women can be made by using the cost-benefit analysis framework commonly used when evaluating regulations. When the cost imposed by a restrictive law or regulation exceeds its benefit, there is a net benefit to repealing the law or regulation. In a previous report, we find large benefits from the Administration's deregulatory agenda, which follow a similar cost-benefit framework when evaluating restrictive regulations (CEA 2019). In another earlier report, we also highlighted the benefits of free market systems and the large costs of socialist policies (CEA 2018).

The remainder of the report is organized as follows. In the second section, we describe the W-GDP Initiative in detail. In the third section, we discuss the relationship between economic development and the expansion of women's economic freedom. In the fourth section, we present an overview of the economic literature as it relates to the types of restrictive laws targeted by the W-GDP Initiative. In the fifth section, we discuss the data used in our analysis and develop an empirical measure of women's relative economic freedom, which we refer to in this report as the W-GDP Women's Economic Freedom Index, or W-GDP Index. In the sixth section, we propose a simple model to estimate the relationship between economic output and the W-GDP Index, and we present our main findings for the benefits of expanding women's economic freedom. The seventh section concludes the report.

The W-GDP Initiative

President Trump established the W-GDP Initiative in February 2019 to advance women's global economic empowerment. The initiative has three pillars: women prospering in the workforce, women succeeding as entrepreneurs, and women enabled in the economy. The first pillar's goal is increasing female labor force participation through vocational education and skills training. The second pillar's goal is increasing women entrepreneurs' and business owners' access to capital, markets, and networks. The third pillar's goal is reducing barriers and enhancing protections in policies, laws, regulations, and practices to facilitate women's full and free participation in the economy. This report focuses specifically on the economic evidence on the effects of legal and regulatory barriers on women's economic empowerment, an important component of the W-GDP Initiative's third pillar.

In many developing countries, women face some relative disadvantage compared with men due to laws, regulations, and social norms that either restrict their economic activity or fail to offer them the same legal protections as men. The third pillar of the W-GDP Initiative focuses on five foundational areas of legal reform:

1. *Accessing institutions:* Lifting restrictions on women's authority to sign legal documents, such as contracts and court documents, and addressing unequal access to courts and administrative bodies for women, whether officially or through a lack of proper enforcement.
2. *Building credit:* Ensuring women's equal access to credit and capital to start and grow their businesses, and prohibiting discrimination in access to credit on the basis of sex or marital status.
3. *Owning and managing property:* Lifting restrictions on women's possessing and managing property, including limitations on inheritance and the ability to transfer, purchase, or lease property.
4. *Traveling freely:* Addressing constraints on women's freedom of movement, including restrictions on obtaining passports on the basis of sex.
5. *Removing restrictions on employment*: Eliminating barriers that limit working hours, occupations, or tasks on the basis of sex.

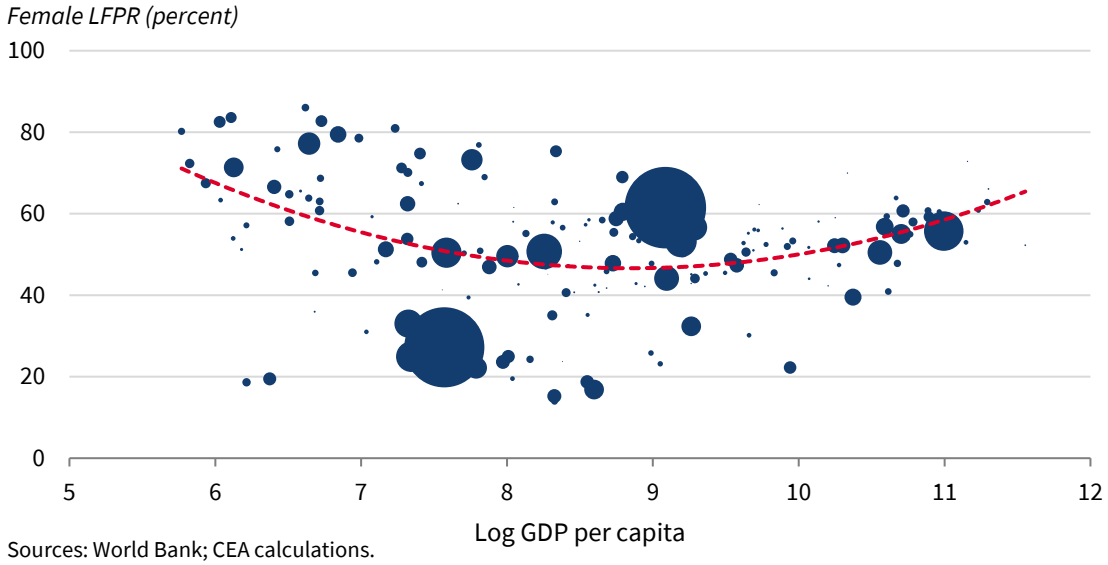
The Relationship between Women's Economic Rights and Economic Development

This section outlines the overall patterns of women's participation in the economy and role in driving economic development. As economies industrialize and develop, women tend to gain

more economic rights. Economic development also changes female labor force participation, education, and fertility, along with human capital investments in children. We first discuss the empirical relationship between economic development and female labor force participation. We then discuss the causal relationship between women's economic empowerment and economic development.

There is a well-established, "U-shape" relationship between female labor force participation and economic development when looking at the cross section of countries at a given point in time (see figure 1). Female labor force participation rates (LFPRs) are highest in low-income countries where women engage in subsistence activities and work in informal sectors. But as GDP rises, the female LFPR falls as the economy transitions to industrial employment that

Figure 1. Female Labor Force Participation Rate by GDP per Capita, 2017



Sources: World Bank; CEA calculations.
Note: LFPR = labor force participation rate. Bubble size reflects country population. The dashed red line is the second-order polynominal best-fit line to the unweighted country level data. Labor force participation rates are among all women age 15 and older.

consists of mainly men. As education rises, fertility rates tend to decrease, so higher-income countries experience increases in the female LFPR in response to the expanding services sector.

Heath and Jayachandran (2017) note that the U-shaped curve has shifted upward over the past few decades, as fertility has fallen more quickly than expected. This upward shift means that individual countries might not follow the U-shaped pattern of decreasing female labor force participation in their initial stages of development.

As economies industrialize, they experience a demographic transition. Economic development leads to rising incomes, falling mortality, declining fertility, and, often, expanding rights for women. Galor and Weil (1996) develop a macroeconomic model and explain this demographic transition. Before the demographic transition, economies are characterized by slow technological progress and slow growth in income per capita. Advanced economies are characterized by faster growth in per capita income and lower fertility rates.

There is a strong positive relationship between economic development and women's economic empowerment. Economic development tends to be associated with an increase in women's economic rights. However, the exact causal relationship is not clear. Though expanding women's economic rights could cause economic growth, the process of economic development could also naturally lead to greater women's empowerment. Doepke and Tertilt (2009) argue that economic development naturally leads to an increase in women's rights. In the process of economic development, human capital becomes more important, which leads men to voluntarily extend rights to women for the future benefit of their children.

The other possibility is that women's empowerment causes economic development. For example, if women have a greater preference for health and human capital investments in children, greater women's empowerment could promote economic growth. Duflo (2003) studies the expansion of South Africa's pension system at the end of apartheid and finds that girls who lived with a grandmother who received the pension when the girls were young were taller, which likely reflects better childhood nutrition.

There can also be production inefficiencies in agriculture when men make decisions for agricultural production on plots of land owned by different members of the household. Udry (1996) and Goldstein and Udry (2008) find evidence of production inefficiencies in Africa, where, in many countries, women maintain separate ownership of property and production decisions are made collectively in the household (where the woman might have little decision-making power).[1] Expanding women's legal protections can also promote economic growth through credit and household portfolio choice (Hazan, Weiss, and Zoabi 2019).[2]

[1] In Burkina Faso, Udry (1996) finds that more fertilizer was used on male owned plots than on women-owned plots, which led to a decrease in household production of 6 percent compared with a situation where the plots were fertilized equally. In Ghana, Goldstein and Udry (2008) find that weak property rights led to an overutilization of the land. Women farmers fallowed their land less often, which is necessary to restore nutrients, as their property rights are less secure and fallowed land is more likely to be claimed by another.
[2] Under the British common law system, women had an incentive to hold real estate that husbands could not bequeath or sell without the wife's permission. Giving married women property rights over non-real assets increased holdings of financial assets and led to the development of non-agriculture and capital-intensive industries in the economy.

In a review of the literature, Duflo (2012) argues that there is evidence to suggest that causality runs in both directions. Thus, economic growth leads to women's empowerment, and women's empowerment can promote economic growth. However, the causal interrelationship is likely to be too weak for the process to be self-sustaining in a virtuous cycle. Moreover, economic growth by itself is likely not sufficient to generate equal economic opportunity for women without a separate push for legal reforms.

An Overview of the Literature on Specific Laws, Regulations, and Restrictions Targeted by the W-GDP Initiative

In this section, we examine the theoretical and empirical economics literature on the effects of removing barriers to equal economic rights for women for each of the five categories of laws targeted by the W-GDP Initiative. Although many of the studies described in this section do study the effect of legal reform on economic development directly, the legal reforms generate positive outcomes along a number of dimensions in ways that are likely to support current and future economic growth. These outcomes include improvements in women's health, schooling, labor force participation, job outcomes, and entrepreneurship. In some areas, the effects of removing legal (de jure) restrictions has not been widely studied, so we also include studies of de facto barriers.

Accessing Institutions

A 2015 report from the International Monetary Fund found that removing legal restrictions on access to legal institutions and property reduces the gap in men and women's labor force participation by 2 to 3 percentage points (Gonzales et al. 2015). The report uses an earlier version of the World Bank's *Women, Business, and the Law* (*WBL*) report and database that measure access to legal institutions and property protections for a set of 100 countries from 1960 through 2010.[3] The labor force gap is estimated using simple regression models with country fixed effects. There is also evidence that greater women's participation in the political system can lead to improved outcomes for women. Iyer and others (2012) find that greater women's representation in local government in India led to increased reporting of crimes against women. Additionally, Ghani, Mani, and O'Connell (2013) find that greater women's political representation in India is associated with increased female labor force participation.

Building Credit

[3] According to the World Bank, "*Women, Business, and the Law* (*WBL*) measures gender inequality in the law. The dataset identifies barriers to women's economic participation and encourages the reform of discriminatory laws." For more information and the database, see https://wbl.worldbank.org/.

Ensuring women's equal access to credit and capital to start and grow their businesses is critical to promoting inclusive economic growth. Empowering women entrepreneurs can also benefit the overall economy. Cuberes and Teignier (2016) estimate that excluding women from entrepreneurship reduces the average output per worker in the economy by 12 percent, and a decrease in the average quality of entrepreneurs drives this reduction. Research also shows that increasing women's financial inclusion strengthens their economic security, with positive spillover effects for their children.

Giving women access and control over a bank account has been found to have positive effects in a number of studies. Field and others (2019) use a field experiment in India to determine that depositing women's earnings into women-owned bank accounts rather than those owned by male heads of households increased the share of women classified as workers by 40 percent. This increase was particularly strong for women who had not previously worked and for women whose husbands disapprove of women working. A study in Chile finds that individuals (91 percent of whom were women) randomly assigned to receive access to no-fee savings accounts reduced their short-term debt by 20 percent and reduced consumption cutbacks associated with negative income shocks (Kast and Pomeranz 2014). Finally, in a field experiment in Nepal, women in impoverished communities who randomly received access to no-fee bank accounts increased their spending on education and nutrition (Prina 2015). Follow-up research on the study participants suggests that financial access among these women also led to an increase in schooling for their daughters (Chiapa, Prina, and Parker 2015).

The overall evidence on access to credit for women entrepreneurs is more mixed, with many studies showing little to no effect, though the literature tends to focus on the effects of microcredit programs.[4] Many microcredit programs target women because women are less likely to have access to formal credit. De Mel, McKenzie, and Woodruff (2009) study cash grants to businesses in Sri Lanka. They find that the grants led to profit increases in male-owned businesses but not for women-owned businesses. Based on a microcredit field experiment in India, Banerjee and others (2015) find a small effect on profits of existing businesses but no significant effect on health, education, or women's empowerment. Attanasio and others (2015) find modest positive effects from a microcredit program in Mongolia on the creation (but not profits) of women-owned businesses.

Owning and Managing Property

A large body of research shows that women having legal authority to own and manage their property plays an important role in overall economic development. The studies by Udry

[4] Although the research on microcredit programs is mixed, it is important to note that the W-GDP Initiative supports credit for women-owned enterprises more broadly, including small and medium-sized businesses.

(1996) and Goldstein and Udry (2008) mentioned above show that agricultural output can suffer as the result of weak property rights for women. Women have also been found to make different decisions when deciding how to allocate household resources. Giving women greater control over household spending decisions has been found to promote overall economic growth—if women are more likely to invest in the human capital of their children. Using data on Mexico's Progresa, a conditional cash transfer program, Doepke and Tertilt (2009) find that an increase in women's share of household incomes leads to increased expenditures on children.

Geddes and Lueck (2002) find an association between the expansion of women's self-ownership rights and property rights and increases in the wealth and growth of cities in historical U.S. data. Geddes, Lueck, and Tennyson (2012) use historical U.S. data and find that extending property rights to women increases school attendance for girls, particularly those age 15 to 19 years. Deininger, Goyal, and Nagarajan (2013) find that allowing women to inherit property in India led to increased women's education.

Traveling Freely

Among the five categories of laws addressed by the W-GDP Initiative, there is the least economic research covering the effects of removing legal restrictions on women's travel.[5] However, there is some evidence that improving access to transportation improves women's outcomes. Removing legal restrictions on travel may also be a necessary condition for women to fully benefit from expanded legal protections in the other four categories of laws.

Martinez and others (2019) find that women who received access to public transit as the result of the expansion of the transit system in Lima had an increase in employment of 8 to 16 percent and an increase in hourly earnings of 12 to 23 percent. Muralidharan and Prakash (2017) find that giving bicycles to girls who remained in secondary school increased women's secondary school enrollment by 32 percent in a state in India.

Removing Restrictions on Employment

Many research papers find negative effects on the overall economy from the employment gap between men and women and legal restrictions on women participating in the labor force. Woetzel and others (2015) estimate that fully closing the employment gap could increase global GDP by up to $28 trillion. Under the more conservative estimated scenario, where each country is assumed to match the improvement of the best-performing country in the region, global GDP would increase by $12 trillion. Esteve-Volart (2004) finds that a 10 percent

[5] Note that the W-GDP Initiative focuses in particular on women's ability to travel freely from their homes and across international borders, including women's ability to obtain passports. However, to the best of our knowledge, the effects of these restrictions have not been studied in the economics literature.

increase in the female-to-male worker ratio would increase total output per capita by 8 percent in India, and a 10 percent increase in the female-to-male managers ratio would increase this measure by 2 percent. Klasen and Lamanna (2009) use a panel regression of countries from 1960 through 2000 to estimate the lost output due to gaps between men and women in employment and education. They find that the Middle East and North Africa have lost 0.9 to 1.7 percentage points and 0.1 to 1.6 percentage points of growth, respectively, compared with East Asia due to their gaps between men and women. Cavalcanti and Tavares (2016) find that barriers to female labor force participation can have large macroeconomic effects. They estimate that a 50 percent increase in the wage gap between men and women reduces steady-state per capita GDP by 35 percent.

Restrictions on the types of occupations women can enter can lead to a misallocation of talent. Hsieh and others (2019) argue that discrimination causes misallocation of talent to different occupations. They find that the reduction in discrimination against African Americans and women from 1960 to 2010 was responsible for between 20 and 40 percent of the increase in aggregate market output per person in the United States. Mulligan and Rubinstein (2005) estimate that a large fraction of the GDP growth in the United States since 1973 has been due to the increase in the human capital supply of women.

Country-Specific Data Measures

In this section, we develop country-specific data measures of women's legal economic freedom for each of the five categories that are targeted by the W-GDP Initiative. These measures are combined to form the single W-GDP Index, which measures women's economic freedom. The W-GDP Index quantifies prior legal reforms affecting women's economic freedom and can be used to track the progress of the W-GDP Initiative in removing barriers to equal economic opportunity for women.

The World Bank's Women, Business, and the Law Report

The following data are from the World Bank's *Women, Business, and the Law* report, which report measures legal barriers to women's participation in the economy relative to men's in eight different categories. The 2020 *WBL* report included 12 years of country-level data for 2009 to 2020.[6] The questions ask about legal conditions in the year preceding the report year in the largest business city in each economy, so the data years are 2008 to 2019. The *WBL* constructs indices for each of the eight categories; these indices are the percentage of the measures within each category where women have the same legal rights and protections as men. The *WBL* only considers de jure legal rights and restrictions and does not include de

[6] The 2020 report includes 50 years of data, but the full 50 year data set has not yet been released.

facto restrictions such as cultural practices. The overall WBL Index is the average of the eight category indices.

We use 11 years of the *WBL* data through 2018, because economic data like GDP are not yet available for 2019. The remaining data used in this report come from the World Bank's World Development Indicators database.[7]

W-GDP measures and the W-GDP Index

The *WBL's* eight categories differ from the five W-GDP Initiative categories, so a crosswalk is needed to map the *WBL* measures to the W-GDP Initiative's categories. The *WBL* is broader than the five foundational categories in the W-GDP Initiative, so some of the *WBL* measures do not map to any W-GDP category. The W-GDP measures provide an empirical framework for measuring progress in removing legal barriers to women's participation in the economy.

Table 1 presents the *WBL* measures that are used to calculate the W-GDP measures. The W-GDP category indices are defined as the percentage of "yes" answers to the *WBL* measures that are contained within the category. These form the five W-GDP sub-indices: Travel Index, Employment Index, Institutions Index, Credit Index, and Property Index. The overall W-GDP Index is the average of these five sub-Indices.[8] All the indices can range from 0 to 100, where 100 represents women being fully empowered as it relates to the law. The Travel and Property indices correspond to World Bank indices ("Mobility" and "Assets"). The Employment, Institutions, and Credit indices do not correspond to a single World Bank index but are constructed from components of one or multiple indices.

[7] For the World Bank's World Development Indicators database, see http://datatopics.worldbank.org/world-development-indicators/.

[8] We follow the *WBL* by using equal weighting of the measures within category, and equally weighting the category indices when forming the overall index. This could create bias in the index if certain measures are more important than others.

Table 1. Crosswalk from the World Bank's Women, Business, and the Law Measures to the W-GDP Measures

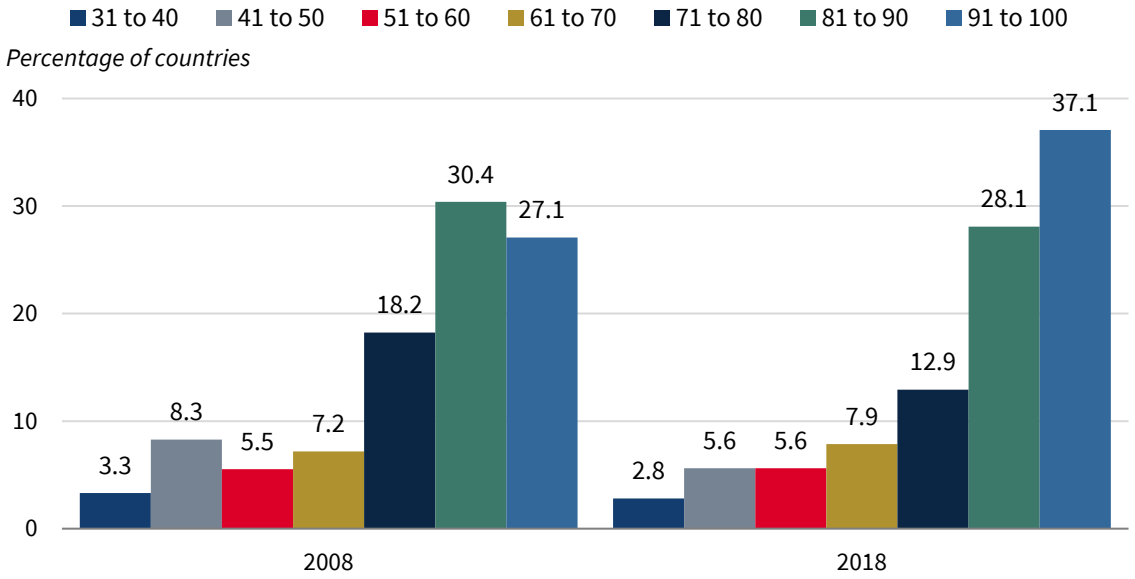
W-GDP measure	*WBL* measure
Travel	Can a woman apply for a passport in the same way as a man?
	Can a woman travel outside the country in the same way as a man?
	Can a woman travel outside her home in the same way as a man?
	Can a woman choose where to live in the same way as a man?
Employment	Can a woman get a job or pursue a trade or profession in the same way as a man?
	Does the law prohibit discrimination based on gender in employment?
	Can women work the same night hours as men?
	Can women work in jobs deemed dangerous in the same way as men?
	Are women able to work in the same industries as men?
	Is dismissal of pregnant workers prohibited?
Institutions	Can a woman be head of household in the same way as a man?
	Can a woman sign a contract in the same way as a man?
Credit	Can a woman register a business in the same way as a man?
	Can a woman open a bank account in the same way as a man?
	Does the law prohibit discrimination in access to credit based on gender?
Property	Do men and married women have equal ownership rights to immovable property?
	Do sons and daughters have equal rights to inherit assets from their parents?
	Do female and male surviving spouses have equal rights to inherit assets?
	Does the law grant spouses equal administrative authority over assets during marriage?
	Does the law provide for the valuation of nonmonetary contributions?

Sources: White House; World Bank.

Summary Statistics and Changes over Time

We omit from the sample any country with missing W-GDP Index data or per capita GDP data in any of the 11 years. This leaves a sample of 174 countries, with 11 observations per country. Figure 2 shows the change in the distribution of the overall W-GDP Index from the start of the sample in 2008 to its end in 2018. The W-GDP Index scores tend to be bunched toward the top of the range, and this feature has become more pronounced over time. In 2008, there were 25 countries with a W-GDP Index of 100; by 2018, the number of countries with a W-GDP Index of 100 had nearly doubled, to 47.

Figure 2. Distribution of W-GDP Indices, 2008–18



Sources: World Bank; CEA calculations.

Table 2 shows the number of countries that had an increase, decrease, or no change in each of these indices from 2008 to 2018. The majority of countries have no change for each of the indices over this period, with the Property, Travel, and Institution indices having an overwhelming majority of countries with no change (greater than 90 percent). Changes in the indices are almost always positive, as only one country had a decrease in the W-GDP Index during these 11 years. There were 62 countries with a positive change in their W-GDP Index, and the majority of the countries (about 64 percent) had no change in the W-GDP Index.

Table 2. Number of Countries That Experienced a Change or No Change in Various Indices from 2008 to 2018

Change (2008–18)	W-GDP	Travel	Employment	Institutions	Credit	Property
Positive	62	10	37	7	26	8
No change	111	163	137	167	148	166
Negative	1	1	0	0	0	0

Sources: World Bank; CEA calculations.

Table 3 shows the average W-GDP Index across regions, weighted by country population in 2008 and 2018. The Middle East and North Africa region has the lowest average W-GDP Index, and the high-income countries that belong to the Organization for Economic Cooperation and Development (OECD) have the highest average W-GDP Index.[9] The change in the average W-GDP Index for all countries over this period is 1.03. Low-income countries generally saw the largest average increase and high-income countries saw the smallest (many high-income countries started at or close to the maximum). The Latin America and the Caribbean region had the largest increase in the average W-GDP Index over this period, though all regions showed some improvement in their average W-GDP Index.

Table 3. Average W-GDP Index by Region in 2008 and 2018

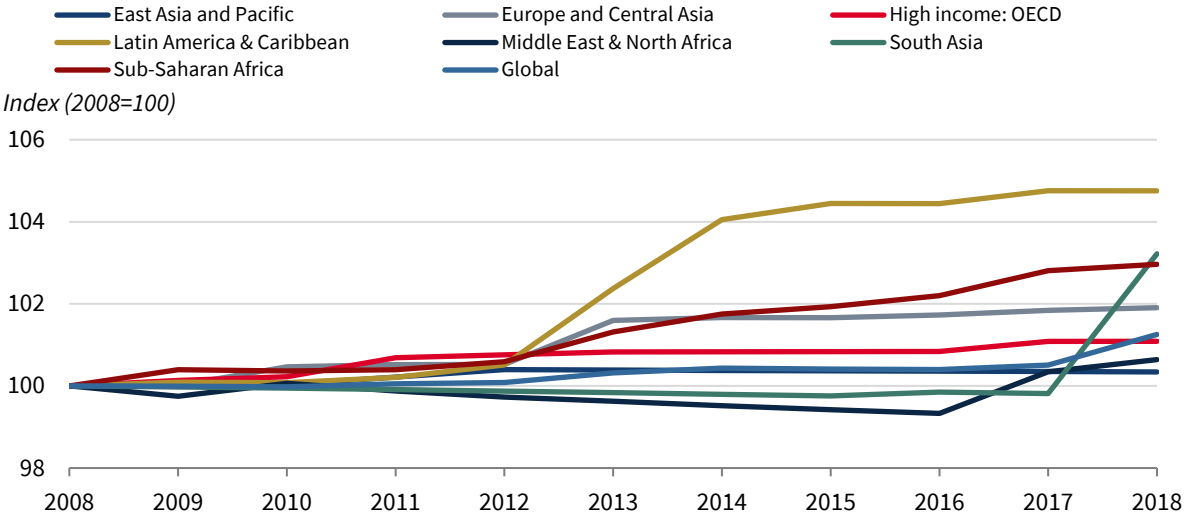
Region	Number of countries	2008	2018
High-income: OECD	32	96.54 (5.87)	97.58 (5.25)
East Asia and Pacific	23	84.86 (5.55)	85.15 (5.73)
Europe and Central Asia	22	87.87 (3.03)	89.55 (3.66)
Latin America and Caribbean	29	89.82 (5.30)	94.10 (5.09)
Middle East and North Africa	16	52.03 (15.08)	52.37 (14.43)
South Asia	8	75.18 (8.80)	77.60 (10.20)
Sub-Saharan Africa	44	73.47 (16.77)	75.65 (16.22)
All countries	174	82.27 (13.22)	83.31 (13.64)

Sources: World Bank; CEA calculations.
Note: OECD = Organization for Economic Cooperation and Development. Average values are weighted by population. Standard deviations are in parentheses.

[9] The high-income OECD region is composed of OECD member countries that are classified as high-income countries by the World Bank. These countries do not appear in any of the other regions.

Figure 3 shows the change relative to the 2008 Index values by region. The average W-GDP Index for all the regions experienced very little change until 2013. In 2013 and 2014, there were relatively large increases in the average W-GDP Index for Latin America and the Caribbean. Sub-Saharan Africa saw a steady increase in the average W-GDP Index over the sample period. South Asia experienced a relatively large increases in 2018. Because the averages are weighted by population, changes in countries with larger populations will have a greater impact on the regional W-GDP Index.

Figure 3. Change in WGDP Index, 2008–18

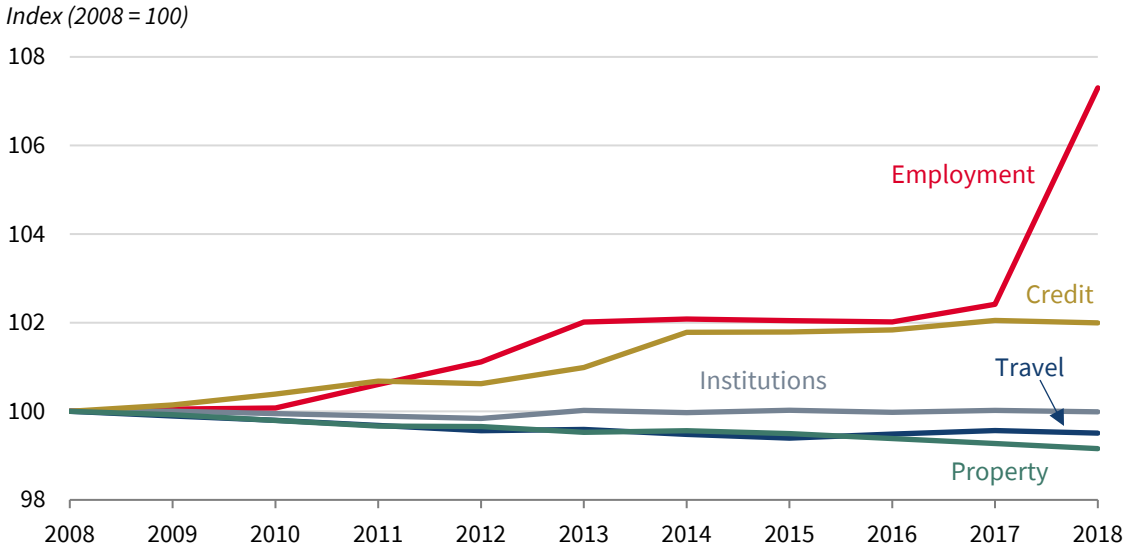


Sources: World Bank; CEA calculations
Note: Data are weighted by population.

Figure 4 shows the change in the average component W-GDP indices relative to the 2008 global average values. The Employment and Credit indices experienced the largest relative increases over the period. The Institutions Index was largely unchanged over the period. The Property and Travel indices experienced slight declines over the period. The decline in these indices was generally not due to countries becoming more restrictive, but were the result of population growth in countries with lower-than-average index values. Similar to figure 3, changes in the indexes of high-population countries can have a relatively large effect on the overall index.[10]

[10] A change in the Employment Index in India is largely responsible for the 2018 increase in the Employment Index and the 2018 increase in the South Asia regional index.

Figure 4. Change in the W-GDP Component Indices, 2008–18



Sources: World Bank; CEA calculations.
Note: Data are weighted by population.

Table 4 presents the summary statistics for the key variables over the period, weighted by each country's population. The average W-GDP Index during the period is 82.54. Of the component indices, the Institutions Index is the highest, at an average of 94.88, followed by the Travel Index, at an average of 92.57, reflecting that many countries have no restrictions on access to institutions or travel for women. The average ratio of the female LFPR to the male LFPR is 63.7, indicating that the female LFPR is on average 63.7 percent as much as the male LFPR. The average per capita GDP across countries for the period is $11,754 in 2018 dollars.

Table 4. Summary Statistics, 2008–19

Variable	N (country years)	Mean	Standard deviation	Minimum	Maximum
W-GDP Index	1914	82.54	13.51	31.33	100
Travel Index	1914	92.57	19.13	0	100
Employment Index	1914	68.78	22.79	0	100
Institutions Index	1914	94.88	15.19	0	100
Credit Index	1914	71.86	15.68	0	100
Property Index	1914	84.61	20.84	0	100
LFPR ratio	1815	63.71	23.01	8.45	103.8
Per capita GDP (2018 dollars)	1914	11,754	17,439	242.1	124702

Sources: World Bank; CEA calculations.
Note: LFPR = labor force participation rate. Average values are weighted by population.
Standard deviations are in parentheses.

Estimating the Relationship between the W-GDP Index and Economic Output

In this section, we quantify the relationship between women's economic freedom in a country and real GDP per capita using a simple regression framework that provides us with plausible estimates. These estimates are used to predict the effect of removing all legal barriers that are targeted by the W-GDP Initiative. We also estimate the relationship between the W-GDP indices and other social and economic outcomes. Finally, we present results from calibrated macroeconomic models and find benefits of a similar magnitude as the regression model. Although these results are not causal, they are consistent with the extensive literature reviewed above in showing that expanding women's economic freedom generally and removing legal barriers in these specific areas have significant economic benefits.

Simple Regression Models of Country per Capita GDP

We estimate the correlational relationship between per capita GDP and the W-GDP indices using simple regression models. The basic model takes the form of

$$per\ capita\ GDP_{i,t} = \beta * I_{i,t}^{WGDP} + \alpha * Region_i + \gamma * year_t + \epsilon_{i,t.}$$

Per capita GDP for country *i* in year *t* is a function of the W-GDP Index in that year, as well as an indicator of a country's region and an indicator of the year. The results tend to be similar using gross national income instead of GDP (not reported). The advantage of GDP is that it is available for more countries, while gross national income may be a better measure for smaller countries with a large foreign sector. We also present results using the LFPR ratio as the outcome variable.

Challenges to Causal Identification

Estimating the effect of legal restrictions (W-GDP Index) on economic output is challenging, for a number of reasons. First, the W-GDP Index may be endogenous due to reverse causality (economic development leading to greater women's economic rights). Even without addressing the endogeneity issue, the simple regression model would ideally estimate the within-country effect of changes in the W-GDP Index over time. As presented above, there is little within-country variation in the W-GDP Index during the period. This makes panel data estimation methods or even a model with country fixed effects unfeasible. Additionally, there is very little variation across countries for some of the component indices, which could generate misleading coefficient estimates.

The basic model that we estimate recovers the correlations observed in the data and should be interpreted accordingly. We use these correlations to predict what would happen if the legal barriers to women's economic participation were removed. Because the correlations primarily measure cross-country variation, this exercise should be interpreted as what would happen if highly restrictive countries were made to resemble less restrictive countries. In addition to the legal barriers, this could involve other differences between the countries that we are unable to control for in the estimation.

The Employment Index is the only index with sufficient within country variation during the sample period to estimate a model with country fixed effects. In addition to the main model, we also estimate a version of the model with country fixed effects using the Employment Index for the sample of countries that have a change in the Employment Index over the sample period.

Correlation between the W-GDP Index and GDP

Table 5 presents the regression result of the W-GDP Index on per capita GDP. An increase in the index by 1 is associated with an increase in per capita GDP of $63.48. This represents an increase of a little over 1 percent for the population-weighted median country. Some of the remaining correlation—after controlling for year and region between per capita GDP and the W-GDP Index—could be due to permanent, unobserved differences across countries within the same region.

Table 5. Results from Regressing Real Per Capita GDP on the W-GDP Index, 2008–18

Indicator	Result
W-GDP Index	63.48***
	(16.48)
Region indicators	Yes
Year indicators	Yes

Sources: World Bank; CEA calculations.
Note: Data are weighted by population. Robust standard errors are in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

Instead of estimating the model with the aggregate W-GDP Index, the individual component indices can be used. Given that the various indices likely interact in ways that are not captured by this simple regression model, along with the limited variation within some of the component indices, the results using the individual component indices should be interpreted with some caution. These results are presented in table 6. In terms of the component indices,

the Employment, Institutions, and Property indices have positive and significant coefficients. The Travel and Credit indices have negative and significant coefficients. The Travel Index's coefficient should be interpreted with some caution, given that most countries start with a perfect or near-perfect Travel Index. The benefits of freedom of movement also may not be readily apparent in the data because empowerment, along the other dimensions, may be a necessary condition for realizing the economic benefits of greater freedom of travel. Finally, the harm of travel restrictions may be most intense at low values of the index, and there were very few countries with highly restrictive travel for women during this period.

Table 6. Results from Regressing Per Capita GDP on the W-GDP Component Indices, 2008–18

Variable	Estimated coefficient
Travel Index	–93.21***
	(11.69)
Employment Index	83.82***
	(14.09)
Institutions Index	49.24***
	(8.74)
Credit Index	–39.73***
	(14.38)
Property Index	72.24***
	(9.69)
Region indicators	Yes
Year indicators	Yes

Sources: World Bank; CEA calculations.
Note: Data are weighted by population. Robust standard errors are in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

The Correlation between the W-GDP Index and other Economic Variables

Table 7 presents the results for different outcome variables. Looking at the relationship between the W-GDP Index and other social and economic outcomes shows that a higher W-GDP Index is associated with a higher female LFPR relative to the male LFPR. An increase in the W-GDP Index is also associated with a higher female school enrollment relative to male enrollment.

Table 7. Results from Regressing the Labor Force Participation Rate Ratio and School Attendance Ratio on the W-GDP Index in Separate Regressions, 2008–18

	LFPR ratio (female/male)	School attendance ratio (female/male)
W-GDP Index	0.332***	0.343***
	(0.039)	(0.047)

Sources: World Bank; CEA calculations.
Note: LFPR = labor force participation rate. All regressions include region, year, and income group indicators. Data are weighted by population. Robust standard errors are in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

The Economic Effect of Improving Women's Empowerment

In this subsection, the simple regression models are used to predict the effect of eliminating legal restrictions for women. It is important to note that the results are not causal. Countries that have higher W-GDP indices and higher per capita GDP or female LFPRs could differ from countries with a lower W-GDP Index and lower per capita GDP or female LFPRs for reasons that are not captured in the regression. It could be due to country-specific factors that are constant over time, or to country-specific factors that tend to change along with the legal rights.

One example of a country-specific factor that is likely to vary with women's legal rights is cultural attitudes toward women, and this factor could cause both the legal changes and the changes in economic outcomes. Changes in any unobserved factors would need to accompany the hypothetical legal changes in order for these predicted economic gains to be accurate.

Because the correlations primarily capture correlations across countries, this numerical exercise does not isolate the effect of legal barriers. The results presented in this subsection should be interpreted as the predicted gains from making more restrictive countries more like less restrictive countries. Therefore, the estimates are likely an upper bound of the effect of the legal reforms themselves.

Simulating the female LFPR effect. Table 8 presents the predicted changes to the LFPR ratio (the ratio of female LFPR to the male LFPR, times 100) from removing all legal barriers reflected in the W-GDP Index to women's full participation in the economy implied by the correlations in the data. If all countries had a W-GDP Index of 100, female labor force participation relative to male participation could have been 5.55 percentage points higher in 2018. If the male participation rate and female population remained unchanged, this implies

that there would be 5.55 additional female workers for every 100 male workers in the economy in 2018. The regions with the largest increase of female participation relative to male participation would be the Middle East and North Africa (+15.8 percentage points) followed by Sub-Saharan Africa (+8.1 percentage points) and South Asia (+7.4 percentage points).[11]

Table 8. Predicted Changes to the LFPR Ratio from Removing Legal Barriers

Region	Average LFPR ratio	Predicted change in LFPR ratio if W-GDP Index = 100
High-income: OECD	79.94	0.80
East Asia and Pacific	77.22	4.94
Europe and Central Asia	69.80	3.47
Latin America and Caribbean	67.42	1.96
Middle East and North Africa	27.72	15.83
South Asia	33.09	7.44
Sub-Saharan Africa	83.96	8.09
All Countries	64.00	5.55

Sources: World Bank; CEA calculations.
Note: LFPR = labor force participation rate. Average values are weighted by population.

Simulating the GDP effect. In this subsection, we use the basic correlational estimates to evaluate the effect on per capita GDP of increasing women's empowerment. These estimates will likely capture the short term gains from deregulating women's economic activity, but there could also be a longer term impact. For example, if women tend to invest more in health and human capital, that should lead to faster long-term growth; but the simple regression cannot capture this dynamic effect. Table 9 compares the average per capita GDP in 2018 by region with the predicted average per capita GDP if all countries had a W-GDP Index of 100. Because countries can differ in ways other than their W-GDP Index for which the simple correlations are not able to control, these results do not isolate the effects of removing legal restrictions. Therefore, this effect should be interpreted as the change in per capita GDP that would occur if countries with restrictions on female economic activity more closely

[11] Sub-Saharan Africa has a relatively high level of relative female labor force participation because many countries are on the left of the U-shaped women's relative LFPR observed in figure 1. In this case, economic development may lower relative female LFPR. A more flexible, functional-form specification in the regression model would be needed to capture nonlinearities in the relationship between relative women's labor force participation and the W-GDP Index.

resembled countries without any of these restrictions. The per capita gain times the total population gives the total benefit.

Table 9. Average per Capita GDP in 2018 by Region versus Predicted Average if the W-GDP Index = 100

Region	Mean per capita GDP (in 2018 dollars)	Predicted change in per capita GDP if W-GDP Index = 100	Total population in 2017 (in billions)	Total benefit (in billions of 2018 dollars)
High-income: OECD	52,060	153.32	1.090	167
East Asia and Pacific	7,813	943.00	2.068	1,950
Europe and Central Asia	11,068	663.53	0.401	266
Latin America and Caribbean	10,471	374.80	0.581	218
Middle East and North Africa	8,715	3,023.76	0.336	1,015
South Asia	2,171	1,422.09	1.814	2,580
Sub-Saharan Africa	2,073	1,545.93	0.965	1,492
All countries	12,722	1,059.67	7.255	7,688

Sources: World Bank; CEA calculations.
Note: Average values are weighted by population.

Based on this model, increasing the W-GDP Index to 100 for all countries would increase global per capita GDP by $1,060 in 2018 dollars, or by about 8.3 percent. This represents an increase in global GDP of about $7.7 trillion. South Asia and East Asia and the Pacific would see the majority of these gains, due in part to their large populations. Sub-Saharan Africa and the Middle East and North Africa would also see large gains. The predicted increase in per capita GDP in Sub-Saharan Africa and South Asia represents an increase of more than 50 percent from current levels.

Table 10 uses the regression results with the individual W-GDP Indices to estimate the effect of removing all legal barriers within a given category. Given the limited variation within some of the component indices, these estimates should be interpreted with caution. The largest potential gains come from the Employment Index, at nearly $17 trillion dollars, followed by the Property Index, at $8.3 trillion. The cumulative predicted effect of setting all the component indices to 100 would be an increase in global per capita GDP of $1,901 (2018 dollars), or 14.9 percent. This represents an increase in global GDP of about $13.8 trillion.

Table 10. Simulated Change of Removing All Legal Barriers within Specific Categories

Effect of removing all restrictions on:	Predicted change in global per capita GDP (in 2018 dollars)	Total benefit (in billions of 2018 dollars)
Travel	–702.5	–5,097
Employment	2,308.3	16,748
Accessing institutions	251.4	1,824
Accessing credit	–1,094.0	–7,937
Owning and managing property	1,137.4	8,252
All	1,900.7	13,790

Sources: World Bank; CEA calculations.
Note: The total benefit is calculated as the predicted change in global per capita GDP times the total population in 2018 (7.255 billion).

Model-based GDP effects. In addition to the GDP effects estimated using simple regression models, we also used a variety of macroeconomic models to predict the effect of removing all legal barriers to women's participation in the economy. The models and methodology behind these estimates are described in appendix A. By removing barriers that prevent women from becoming full participants in economic life, global economic output would increase as a result of improved productivity, a larger stock of productive capital, enhanced labor market participation, and improved educational outcomes. We estimate that fully removing these barriers would result in $4.9 trillion to $9.2 trillion in additional global economic output per year, depending on the time horizon. Long-run global economic growth rates would also increase by 0.41 percentage point per year (e.g., 3.91 percent vs. the current forecast of 3.5 percent).

The Effect of the Employment Index on the LFPR and GDP

As shown in the previous subsection, isolating the contribution of the individual component indices is challenging, due to the limited variation across countries and over time in some of the component indices. The component index with the greatest variation over the sample period is the Employment Index. In this subsection, we estimate the effect of changes in the Employment Index on the LFPR and GDP ratios for the set of countries where the Employment Index changed over the sample period. The within-country variation present in this index allows for the estimation of the model with country fixed effects. Unlike the results in the previous section, these results are identified by the within-country variation over time rather than the variation across countries. Therefore, these estimates more closely capture the causal effect of changes in legal restrictions surrounding women's employment (though the issue of potential reverse causality remains).

Regression results. Table 11 presents the regression results for the 37 countries that have a change in the Employment Index over the sample period. There is a strong, statistically significant relationship between the Employment Index and the LFPR ratio. The relationship between the Employment Index and per capita GDP is only marginally significant.

Table 11. Country Fixed-Effect Regression Results for the Employment Index

	LFPR ratio	Per capita GDP
Employment Index	0.101***	7.514*
	(0.019)	(4.467)
Country indicators	Yes	Yes
Year indicators	Yes	Yes

Sources: World Bank; CEA calculations.
Note: LFPR = labor force participation rate. Regressions are weighted by population. The sample is restricted to countries with a change in their Employment Index over the sample period. Robust standard errors are in parentheses. *$p < 0.1$, **$p < 0.05$, ***$p < 0.01$.

The effect of removing legal barriers to employment. In Table 12 we use the coefficient estimates for the Employment Index to predict what would happen to the LFPR ratio and per capita GDP if all countries removed all legal barriers for women's employment. We predict that removing all legal barriers to women's employment would increase the global LFPR ratio by 2.77 percentage points and global per capita GDP by about $207. The overall increase in GDP would be about $1.5 trillion annually.

Table 12. Predicted Change to the LFPR Ratio and Per Capita GDP If All Countries Removed Legal Barriers to Women's Employment

Region	Predicted change in LFPR ratio	Predicted change in per capita GDP	Change in GDP (billions)
High-income: OECD	0.38	28.68	31.27
East Asia and Pacific	2.71	202.52	418.88
Europe and Central Asia	2.79	208.22	83.40
Latin American and Caribbean	0.70	52.63	30.59
Middle East and North Africa	6.16	460.20	154.53
South Asia	4.14	309.13	560.89
Sub-Saharan Africa	3.08	229.93	221.84
All countries	2.77	206.94	1,501.43

Sources: World Bank; CEA calculations.
Note: LFPR = labor force participation rate. Average values are weighted by population.

Conclusion

Our review of existing economic research indicates that removing legal barriers to women's participation in the economy will generate substantial economic benefits. These barriers are targeted by the Trump Administration's W-GDP Initiative. Some of these benefits will be relatively quick to appear as labor resources are more efficiently allocated in the economy. But perhaps more important, women's economic empowerment increases human capital investment. Over the long term, greater human capital can help to drive the process of economic development and the transition from traditional to modern economies.

Appendix A:

Macroeconomic Model-Based Estimate Methodology

This appendix describes the methodology behind the model-based estimates of the GDP effects of all legal barriers to women's participation in the economy.

Methodology 1: Growth Accounting

Consider the following production function:

$$Y_t = Z_t K_t^a (h_t L_t)^b,$$

where Z_t is total factor productivity (which implicitly includes other factor inputs), K_t is physical capital, h_t is human capital per worker, L_t is labor, and a (b) is the capital (labor) share of aggregate income. The impact on output from changes to productivity, physical capital, human capital, and labor is given by

$$\%\Delta Y^{GDP} = \%\Delta Z^{GDP} + a * \%\Delta K^{GDP} + b * \%\Delta h^{GDP} + b * \%\Delta L^{GDP}$$

All that is required is to plug in country-specific values for a and b along with empirical estimates from the literature for the impact of the W-GDP Initiative on each of the ratios on the right. Unfortunately, reliable estimates are difficult to come by for the impact of W-GDP on physical capital, so this method only assesses the contribution of W-GDP to higher output through total factor productivity, human capital, and labor.

Methodology 2: Growth Models

Methodology 1 is atheoretical, in that it makes no claims about equilibrium relationships between A_t, K_t, h_t, and L_t. In reality, a wide range of macroeconomic models predict that an increase in one variable often leads to a long-run positive response of the other variables. As a result, even if the data provide empirical estimates for the response of labor to the W-GDP Initiative but not the response of capital, it is possible to derive the equilibrium response of the other variables to arrive at the total impact on economic output.

A basic Solow model. Assume that $Y_t = ZK_t^a (A_t L_t)^{1-a}$, where A_t is labor-augmenting productivity and $L_t = E_N N_t$ is the product of the employment-to-population ratio E_N and the

working age population N_t. In this model, *Z* is constant, the population grows at rate *n,* and productivity grows at rate *g*, both of which are policy-insensitive parameters. Assume that the savings rate *s* is constant and the depreciation rate of capital is *d*. The model says that the long-run growth rate is *g* + *n* and is therefore independent of policy. However, the W-GDP Initiative alters the level of output through changes to the savings rate *s* and the employment-to-population ratio:

$$\frac{Y_t^{WGDP}}{Y_t} = \left(\frac{Z^{WGDP}}{Z}\right)^{\frac{1}{1-a}} \left(\frac{E_N^{WGDP}}{E_N}\right) \left(\frac{s^{WGDP}}{s}\right)^{\frac{a}{1-a}}$$

The required inputs to this calculation are the country-specific value of *a* as well as the impact of W-GDP on total factor productivity, the employment-to-population ratio, and the savings rate.

Endogenous growth. Consider a simple version of the Romer model. Output is given by $Y_t = A_t h L_y$, where A_t is technological progress, *h* is human capital, and L_Y is labor in the production sector. Technological progress is generated in the research-and-development (R&D) sector according to $\Delta A_{t+1} = Z A_t h L_a$. Suppose labor $L_y + L_a = E_N N$ is divided between the production and R&D sectors according to $L_a = \theta_a E_N N$ and $L_y = (1 - \theta_a) E_N N$. The resulting economic growth rate is $g_Y = Z \theta_a h E_N N$. Thus, the impact of the W-GDP Initiative on the growth rate through changes to *Z*, *h*, and *E* is given by

$$\frac{g_Y^{WGDP}}{g_Y} = \left(\frac{Z^{WGDP}}{Z}\right) \left(\frac{h^{WGDP}}{h}\right) \left(\frac{E_N^{WGDP}}{E_N}\right)$$

Data sources and calculations.

Labor share, a:

Data come from the Penn World Table.

Human capital, h:

Our measure of human capital is average years of schooling from the Barro-Lee data set. To assess the impact of the W-GDP Initiative, we do the following:

1. Calculate the average schooling gap in countries with a current W-GDP Index above 80.
2. For each country with a W-GDP Index below 80, we rescale the average years of schooling for females such that the male/female gap is brought into line with the average for countries with a W-GDP above 80.
3. We then calculate the overall average years of schooling under the W-GDP Initiative's reforms by taking a population-weighted average of the raw male years of schooling from the Barro-Lee data and the counterfactual female years of schooling constructed in the previous step.
4. The ratio of human capital h^{WGDP}/h is then the ratio of this newly constructed h^{GDP} and the overall average years of schooling in each country from the Barro-Lee data.

Labor, L:

Data on the labor force participation and employment-to-population rates come from the International Labor Organization's database. To assess the impact of the W-GDP Initiative, we follow an analogous procedure to the one for human capital to arrive at counterfactual values of L in each country.

Total factor productivity, Z:

Using data from Sub-Saharan Africa, Udry (1996) finds that 6 percent of output is lost because of inefficient factor allocation within the household. By empowering women, the W-GDP Initiative can lead to efficient within-household bargaining and therefore eliminate this lost productivity. Thus, we model a 6 percent increase in Z from the W-GDP Initiative.

Savings rate, s:

Baseline savings rates come from the Penn World Table's data on the share of gross capital formation. To assess the effect of women's empowerment from the W-GDP Initiative on the savings rate, we look to two relevant papers from the academic literature. Hazan, Weiss, and Zoabi (2019) find that improving women's property rights (by eliminating coverture)

increases financial saving by anywhere from 1.0 to 6.3 percentage points (for a mean of 3.65). Tertilt (2006) finds a larger increase, of 8 percentage points, in the savings rate from empowering women. Thus, the analysis here assumes that the W-GDP Initiative increases the savings rate by 5.83 percentage points (the average between 3.65 and 8) in countries with a current W-GDP Index score below 80.

Appendix B:

2019 W-GDP Index Values

Table A-1 presents the population-weighted W-GDP indices for 2019. These data are not used in the analysis, because 2019 economic data are not yet available.

Table A-1. Population-Weighted W-GDP Indices, 2019

Measure	Average	Standard deviation
W-GDP Index	83.61	13.10
Travel Index	93.08	17.49
Employment Index	72.75	21.11
Institutions Index	95.19	14.81
Credit Index	72.63	16.43
Property Index	84.39	21.04

Sources: World Bank; CEA calculations.
Note: Values are weighted by population.

Table A-2 presents the W-GDP indices by country for 2019.

Table A-2. W-GDP Indices by Country, 2019

Economy	Region	W-GDP Index	Travel Index	Property Index	Employ-ment Index	Institutions Index	Credit Index
Afghanistan	South Asia	54.7	50.0	40.0	16.7	100.0	66.7
Angola	Sub-Saharan Africa	93.3	100.0	100.0	66.7	100.0	100.0
Albania	Europe and Central Asia	100.0	100.0	100.0	100.0	100.0	100.0
United Arab Emirates	Middle East and North Africa	63.0	25.0	40.0	83.3	100.0	66.7
Argentina	Latin America & Caribbean	86.7	100.0	100.0	66.7	100.0	66.7
Armenia	Europe and Central Asia	93.3	100.0	100.0	100.0	100.0	66.7
Antigua and Barbuda	Latin America and Caribbean	81.0	75.0	80.0	83.3	100.0	66.7
Australia	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Austria	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Azerbaijan	Europe and Central Asia	90.0	100.0	100.0	50.0	100.0	100.0
Burundi	Sub-Saharan Africa	75.3	100.0	60.0	100.0	50.0	66.7
Belgium	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Benin	Sub-Saharan Africa	72.7	50.0	80.0	66.7	100.0	66.7
Burkina Faso	Sub-Saharan Africa	81.7	75.0	100.0	66.7	100.0	66.7
Bangladesh	South Asia	68.0	100.0	40.0	33.3	100.0	66.7
Bulgaria	Europe and Central Asia	100.0	100.0	100.0	100.0	100.0	100.0
Bahrain	Middle East and North Africa	58.0	50.0	40.0	33.3	100.0	66.7
Bosnia and Herzegovina	Europe and Central Asia	93.3	100.0	100.0	66.7	100.0	100.0
Belarus	Europe and Central Asia	86.7	100.0	100.0	66.7	100.0	66.7
Belize	Latin America and Caribbean	81.7	75.0	100.0	66.7	100.0	66.7
Bolivia	Latin America and Caribbean	90.0	100.0	100.0	50.0	100.0	100.0
Brazil	Latin America and Caribbean	93.3	100.0	100.0	100.0	100.0	66.7
Brunei Darussalam	East Asia and Pacific	68.7	50.0	60.0	66.7	100.0	66.7

Economy	Region	W-GDP Index	Travel Index	Property Index	Employ-ment Index	Institutions Index	Credit Index
Bhutan	South Asia	82.7	100.0	80.0	100.0	100.0	33.3
Botswana	Sub-Saharan Africa	73.7	75.0	60.0	66.7	100.0	66.7
Central African Republic	Sub-Saharan Africa	65.0	75.0	100.0	33.3	50.0	66.7
Canada	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Switzerland	High-income: OECD	93.3	100.0	100.0	100.0	100.0	66.7
Chile	High-income: OECD	75.3	100.0	60.0	100.0	50.0	66.7
China	East Asia and Pacific	86.7	100.0	100.0	66.7	100.0	66.7
Côte d'Ivoire	Sub-Saharan Africa	86.7	100.0	100.0	66.7	100.0	66.7
Cameroon	Sub-Saharan Africa	45.3	50.0	60.0	33.3	50.0	33.3
Congo, Rep.	Sub-Saharan Africa	52.0	50.0	60.0	33.3	50.0	66.7
Colombia	Latin America and Caribbean	90.0	100.0	100.0	83.3	100.0	66.7
Comoros	Sub-Saharan Africa	63.0	75.0	40.0	83.3	50.0	66.7
Cabo Verde	Sub-Saharan Africa	100.0	100.0	100.0	100.0	100.0	100.0
Costa Rica	Latin America and Caribbean	86.7	100.0	100.0	66.7	100.0	66.7
Cyprus	Europe and Central Asia	91.7	75.0	100.0	83.3	100.0	100.0
Czech Republic	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Germany	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Dominica	Latin America and Caribbean	78.3	75.0	100.0	50.0	100.0	66.7
Denmark	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Dominican Republic	Latin America and Caribbean	100.0	100.0	100.0	100.0	100.0	100.0
Algeria	Middle East and North Africa	63.0	75.0	40.0	33.3	100.0	66.7
Ecuador	Latin America and Caribbean	93.3	100.0	100.0	100.0	100.0	66.7
Egypt, Arab Rep.	Middle East and North Africa	48.0	50.0	40.0	33.3	50.0	66.7
Spain	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Estonia	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Ethiopia	Sub-Saharan Africa	86.7	100.0	100.0	66.7	100.0	66.7

Economy	Region	W-GDP Index	Travel Index	Property Index	Employ-ment Index	Institutions Index	Credit Index
Finland	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Fiji	East Asia and Pacific	85.0	75.0	100.0	83.3	100.0	66.7
France	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Micronesia, Fed. Sts.	East Asia and Pacific	78.7	100.0	60.0	66.7	100.0	66.7
Gabon	Sub-Saharan Africa	48.7	50.0	60.0	50.0	50.0	33.3
United Kingdom	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Georgia	Europe and Central Asia	100.0	100.0	100.0	100.0	100.0	100.0
Ghana	Sub-Saharan Africa	86.0	100.0	80.0	83.3	100.0	66.7
Guinea	Sub-Saharan Africa	67.0	75.0	60.0	50.0	50.0	100.0
Gambia, The	Sub-Saharan Africa	85.3	100.0	60.0	100.0	100.0	66.7
Guinea-Bissau	Sub-Saharan Africa	40.3	75.0	60.0	16.7	50.0	0.0
Equatorial Guinea	Sub-Saharan Africa	53.7	75.0	60.0	83.3	50.0	0.0
Greece	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Grenada	Latin America and Caribbean	93.3	100.0	100.0	100.0	100.0	66.7
Guatemala	Latin America and Caribbean	86.7	100.0	100.0	66.7	100.0	66.7
Guyana	Latin America and Caribbean	95.0	75.0	100.0	100.0	100.0	100.0
Hong Kong SAR, China	East Asia & Pacific	100.0	100.0	100.0	100.0	100.0	100.0
Honduras	Latin America and Caribbean	96.7	100.0	100.0	83.3	100.0	100.0
Croatia	Europe and Central Asia	100.0	100.0	100.0	100.0	100.0	100.0
Haiti	Latin America and Caribbean	79.3	50.0	80.0	100.0	100.0	66.7
Hungary	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Indonesia	East Asia and Pacific	75.3	100.0	60.0	100.0	50.0	66.7
India	South Asia	82.7	100.0	80.0	66.7	100.0	66.7
Ireland	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Iraq	Middle East and North Africa	46.3	25.0	40.0	50.0	50.0	66.7
Iceland	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0

Economy	Region	W-GDP Index	Travel Index	Property Index	Employ-ment Index	Institutions Index	Credit Index
Israel	High-income: OECD	86.7	100.0	100.0	66.7	100.0	66.7
Italy	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Jamaica	Latin America and Caribbean	86.7	100.0	100.0	66.7	100.0	66.7
Jordan	Middle East and North Africa	38.0	0.0	40.0	33.3	50.0	66.7
Japan	High-income: OECD	90.0	100.0	100.0	83.3	100.0	66.7
Kazakhstan	Europe and Central Asia	86.7	100.0	100.0	66.7	100.0	66.7
Kenya	Sub-Saharan Africa	82.7	100.0	80.0	100.0	100.0	33.3
Kyrgyz Republic	Europe and Central Asia	93.3	100.0	100.0	66.7	100.0	100.0
Cambodia	East Asia and Pacific	100.0	100.0	100.0	100.0	100.0	100.0
Kiribati	East Asia & Pacific	85.3	100.0	60.0	100.0	100.0	66.7
St. Kitts and Nevis	Latin America and Caribbean	82.7	100.0	80.0	66.7	100.0	66.7
Korea, Rep.	High-income: OECD	86.7	100.0	100.0	66.7	100.0	66.7
Kuwait	Middle East and North Africa	51.3	50.0	40.0	0.0	100.0	66.7
Lao PDR	East Asia and Pacific	100.0	100.0	100.0	100.0	100.0	100.0
Lebanon	Middle East and& North Africa	78.0	100.0	40.0	83.3	100.0	66.7
Liberia	Sub-Saharan Africa	89.3	100.0	80.0	100.0	100.0	66.7
Libya	Middle East & North Africa	63.0	75.0	40.0	83.3	50.0	66.7
St. Lucia	Latin America & Caribbean	88.3	75.0	100.0	100.0	100.0	66.7
Sri Lanka	South Asia	79.3	100.0	80.0	50.0	100.0	66.7
Lesotho	Sub-Saharan Africa	86.0	100.0	80.0	83.3	100.0	66.7
Lithuania	Europe & Central Asia	100.0	100.0	100.0	100.0	100.0	100.0
Luxembourg	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Latvia	Europe & Central Asia	100.0	100.0	100.0	100.0	100.0	100.0
Morocco	Middle East & North Africa	81.3	100.0	40.0	66.7	100.0	100.0
Moldova	Europe & Central Asia	100.0	100.0	100.0	100.0	100.0	100.0
Madagascar	Sub-Saharan Africa	71.7	75.0	100.0	66.7	50.0	66.7
Maldives	South Asia	88.0	100.0	40.0	100.0	100.0	100.0

Economy	Region	W-GDP Index	Travel Index	Property Index	Employ-ment Index	Institutions Index	Credit Index
Mexico	Latin America & Caribbean	100.0	100.0	100.0	100.0	100.0	100.0
Marshall Islands	East Asia & Pacific	70.7	100.0	20.0	66.7	100.0	66.7
North Macedonia	Europe & Central Asia	96.7	100.0	100.0	83.3	100.0	100.0
Mali	Sub-Saharan Africa	59.3	50.0	80.0	50.0	50.0	66.7
Malta	Middle East & North Africa	96.7	100.0	100.0	83.3	100.0	100.0
Myanmar	East Asia & Pacific	74.3	75.0	80.0	50.0	100.0	66.7
Montenegro	Europe & Central Asia	90.0	100.0	100.0	50.0	100.0	100.0
Mongolia	East Asia & Pacific	100.0	100.0	100.0	100.0	100.0	100.0
Mozambique	Sub-Saharan Africa	90.0	100.0	100.0	83.3	100.0	66.7
Mauritania	Sub-Saharan Africa	50.0	100.0	0.0	33.3	50.0	66.7
Mauritius	Sub-Saharan Africa	100.0	100.0	100.0	100.0	100.0	100.0
Malawi	Sub-Saharan Africa	83.3	50.0	100.0	100.0	100.0	66.7
Malaysia	East Asia & Pacific	65.3	50.0	60.0	50.0	100.0	66.7
Namibia	Sub-Saharan Africa	88.3	75.0	100.0	100.0	100.0	66.7
Niger	Sub-Saharan Africa	49.0	75.0	20.0	66.7	50.0	33.3
Nigeria	Sub-Saharan Africa	69.3	50.0	80.0	50.0	100.0	66.7
Nicaragua	Latin America & Caribbean	100.0	100.0	100.0	100.0	100.0	100.0
Netherlands	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Norway	High-income: OECD	93.3	100.0	100.0	100.0	100.0	66.7
Nepal	South Asia	78.0	100.0	40.0	83.3	100.0	66.7
New Zealand	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Oman	Middle East & North Africa	41.3	0.0	40.0	50.0	50.0	66.7
Pakistan	South Asia	56.3	75.0	40.0	33.3	100.0	33.3
Panama	Latin America & Caribbean	90.0	100.0	100.0	83.3	100.0	66.7
Peru	Latin America & Caribbean	100.0	100.0	100.0	100.0	100.0	100.0
Philippines	East Asia & Pacific	87.0	75.0	60.0	100.0	100.0	100.0
Palau	East Asia & Pacific	70.7	100.0	20.0	66.7	100.0	66.7

Economy	Region	W-GDP Index	Travel Index	Property Index	Employ-ment Index	Institutions Index	Credit Index
Papua New Guinea	East Asia & Pacific	74.3	75.0	80.0	50.0	100.0	66.7
Poland	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Puerto Rico (United States)	Latin America & Caribbean	100.0	100.0	100.0	100.0	100.0	100.0
Portugal	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Paraguay	Latin America & Caribbean	100.0	100.0	100.0	100.0	100.0	100.0
Qatar	Middle East & North Africa	53.0	25.0	40.0	33.3	100.0	66.7
Russian Federation	Europe & Central Asia	86.7	100.0	100.0	66.7	100.0	66.7
Rwanda	Sub-Saharan Africa	90.0	100.0	100.0	83.3	100.0	66.7
Saudi Arabia	Middle East & North Africa	78.0	100.0	40.0	50.0	100.0	100.0
Sudan	Sub-Saharan Africa	34.7	0.0	40.0	16.7	50.0	66.7
Senegal	Sub-Saharan Africa	53.0	75.0	40.0	33.3	50.0	66.7
Singapore	East Asia & Pacific	86.7	100.0	100.0	66.7	100.0	66.7
Solomon Islands	East Asia & Pacific	71.0	75.0	80.0	33.3	100.0	66.7
Sierra Leone	Sub-Saharan Africa	79.3	100.0	80.0	50.0	100.0	66.7
El Salvador	Latin America & Caribbean	100.0	100.0	100.0	100.0	100.0	100.0
Serbia	Europe & Central Asia	100.0	100.0	100.0	100.0	100.0	100.0
São Tomé and Príncipe	Sub-Saharan Africa	93.3	100.0	100.0	100.0	100.0	66.7
Suriname	Latin America & Caribbean	80.0	100.0	100.0	66.7	100.0	33.3
Slovak Republic	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Slovenia	High-income: OECD	96.7	100.0	100.0	83.3	100.0	100.0
Sweden	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Eswatini	Sub-Saharan Africa	45.3	100.0	60.0	66.7	0.0	0.0
Seychelles	Sub-Saharan Africa	84.3	75.0	80.0	100.0	100.0	66.7
Chad	Sub-Saharan Africa	53.7	75.0	60.0	50.0	50.0	33.3
Togo	Sub-Saharan Africa	89.3	100.0	80.0	100.0	100.0	66.7
Thailand	East Asia & Pacific	90.0	100.0	100.0	83.3	100.0	66.7
Tajikistan	Europe & Central Asia	93.3	100.0	100.0	66.7	100.0	100.0

Economy	Region	W-GDP Index	Travel Index	Property Index	Employ-ment Index	Institutions Index	Credit Index
Tonga	East Asia & Pacific	70.7	100.0	20.0	66.7	100.0	66.7
Trinidad and Tobago	Latin America & Caribbean	91.7	75.0	100.0	83.3	100.0	100.0
Tunisia	Middle East & North Africa	64.7	100.0	40.0	66.7	50.0	66.7
Turkey	Europe Central Asia	90.0	100.0	100.0	83.3	100.0	66.7
Tanzania	Sub-Saharan Africa	85.3	100.0	60.0	100.0	100.0	66.7
Uganda	Sub-Saharan Africa	76.3	75.0	40.0	100.0	100.0	66.7
Ukraine	Europe and Central Asia	90.0	100.0	100.0	50.0	100.0	100.0
Uruguay	Latin America and Caribbean	90.0	100.0	100.0	83.3	100.0	66.7
United States	High-income: OECD	100.0	100.0	100.0	100.0	100.0	100.0
Uzbekistan	Europe and Central Asia	90.0	100.0	100.0	83.3	100.0	66.7
St. Vincent and the Grenadines	Latin America and Caribbean	81.7	75.0	100.0	66.7	100.0	66.7
Vietnam	East Asia and Pacific	93.3	100.0	100.0	66.7	100.0	100.0
Vanuatu	East Asia and Pacific	67.0	75.0	60.0	50.0	50.0	100.0
Samoa	East Asia and Pacific	88.3	75.0	100.0	100.0	100.0	66.7
Yemen, Rep.	Middle East and North Africa	43.0	25.0	40.0	33.3	50.0	66.7
South Africa	Sub-Saharan Africa	100.0	100.0	100.0	100.0	100.0	100.0
Zambia	Sub-Saharan Africa	91.0	75.0	80.0	100.0	100.0	100.0
Zimbabwe	Sub-Saharan Africa	100.0	100.0	100.0	100.0	100.0	100.0

Sources: World Bank; CEA calculations.
Note: OECD = Organization for Economic Cooperation and Development.

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