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# Do effective public governance and gender (in)equality matter for poverty?

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**ABSTRACT**
In this study, we examined the relationship between determinants of governance and poverty reduction. We also investigated how female participation in the labour market helps alleviate poverty. We collected the balanced panel data of 29 countries over the period 2004–2016 from the World Bank database and Worldwide Governance Indicators database. Results indicated that robust governance is necessary for poverty reduction and that policy implementation timeliness is more likely to mitigate poverty. Moreover, the inclusion of females in the labour market and an efficient governance system contribute to enhanced well-being among the poor.

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## 1. Introduction

Poverty is one of the most severe social issues in every society, and its elimination is indispensable for sustainable social development (Wang, 2017). According to the United Nations (2020), 15.7 per cent of the world's population live in extreme poverty in 2010; however, global extreme poverty rates were reduced to 10 per cent and 8.2 per cent by 2015 and 2019, respectively. Poverty alleviation is not just about providing food and other material things to the poor; instead, it is also about uplifting local economies (Zameer et al., 2020). Many models and innovative techniques have been tested to reduce poverty, including cash transfers; however, their effects can only be observed on the target population (Afzal et al., 2019). To date, skills development, providing credit for microenterprises and many other techniques are being practiced. All of these need an abundance of resources for implementation, and the proper utilisation of these resources must be equally considered.

The link between resource utilisation and poverty reduction depends on the governance system, and resources could be appropriately used through good governance

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(USAID, 2006). Governance is essential for poverty elimination and the entire sustainable livelihood process (Abdulai & Shamshiry, 2014). It can be a very productive instrument for poverty reduction and is a beneficial factor that eradicates poverty and promotes development (Pal, 2017). The millennium development goals (MDGs) and sustainable development goals (SDGs) have set a minimum target to eradicate poverty. Those goals continue to be challenging for most developing countries and essential for human well-being and socio-economic development (Elkins et al., 2018; Gaiha, Imai, & Nandhi, 2009; Kura, 2008; Sane, 2004). The formulation of this target portrays the severity of the issue, whilst the United Nations' commitment indicates that it is a global problem that must be addressed immediately.

Good governance can catalyse economic growth, equity in all spheres of life and human development (Ram & Kaur, 2011). Meanwhile, economic growth helps increase income and reduce poverty (Yameogo & Omojolaibi, 2020). The combination of economic growth and effective governance has been shown to decrease rural poverty through the adoption of pro-poor policies (Li, 2014). The previous literature paid little attention to the possible impacts of a higher ratio of workers of a certain gender and a robust governance mechanism on eradicating poverty to the best of the authors' knowledge. Moreover, the effect of the determinants of governance and female participation at work on poverty has been rarely investigated. Therefore, this research fills that gap by considering the determinants of governance and gender.

Governance refers to the implementation of a set of traditions and institutions. A country exercises power through these institutions, which have the authority to formulate and execute sound policies (Kaufmann et al., 2011). The UNDP defines governance as the exercise of authority, including political, economic and administrative authority, in the management of a country's affairs at all levels (United Nations, 2006). Under weak governance, corruption may arise and lead to a slower growth rate and poverty reduction (Gupta et al., 1998; R. Martin & Shaohua, 1997). Governance also refers to the government's skilfulness to formulate and implement effective policies (Enoff & Mckinnon, 2011; Kaufmann et al., 2011). Poor governance weakens the institutions, which is a failure to implement policies and strategies. The World Bank and the United Nations Development Programme also support this theory by stressing the importance of good governance for economic growth (Kwon & Yi, 2009). As mentioned previously, good governance is a prerequisite for growth, so the rate of the growth relies on the nature of governance, making it an essential factor in resolving issues and mitigating their intensity.

Moreover, the link between poverty and gender at work is another challenge that has affected many countries, although the intensity may vary in each nation (Itodo & John, 2016). The lower ratio of females in the labour market is a huge issue, and its causes and effects remain a challenge. A study has reported that the rise in female labour share in the total labour force has a positive and significant impact on economic growth (Kabeer & Natali, 2013). Aside from the contribution of female labour force participation to economic growth, female workers' income can help reduce poverty in their respective households (United Nations, 2015).

The contribution of the current study to the poverty governance literature is twofold: firstly, the present study contributes to the poverty literature by considering the

role of female labour force participation in the labour market. Secondly, this study contributes to the literature on good governance.

The rest of the paper is organised as follows: Section 2 provides the literature review, Section 3 presents the data and methodology, Section 4 provides the empirical analysis and discussion, and Section 5 states the study's conclusion.

## 2. Literature Review and Hypothesis Development

### 2.1. Governance and poverty

Government effectiveness can be measured through the quality of public and civil services, the degree of a government's independence from political pressure, the quality of policy formulation and execution, and the credibility of the government's commitment to its policies (Kaufmann et al., 2010). Government effectiveness decreases poverty risk (Bosco & Poggi, 2020) and increases GDP per capita (Thirtle & Piesse, 2007). As one example, China's rising GDP per capita suggests that poverty rates are closely related to its growth rates (Donaldson, 2007). Over the years, the Chinese government has implemented policies and strategies to lift 700 million people out of poverty between 1978 and 2012 (Guo et al., 2019). Meanwhile, weaker institutions cannot mobilise their resources, and one such example is the Sub-Saharan African region (World Bank, 2018). Good governance is a crucial prerequisite in dealing with poverty, growth and development. Governance regulations (i.e., government effectiveness) ensure accountability and transparency in management and administrative affairs to reduce poverty (Martin, 2006). Thus far, no specific literature has suggested the possible role of good governance in mitigating poverty; however, one study (Jindra & Vaz, 2019) suggested that government effectiveness has a direct effect on multidimensional poverty. Thus, based on the literature cited above and the characteristics of government effectiveness, the following hypothesis is proposed:

*H1: Government effectiveness has a significant negative relationship with poverty.*

The concept of corruption is broadly defined as government officials' use of authority for private gains during the formulation of policies (Kaufmann et al., 2010). Corruption manifests in a variety of behaviours, such as public officials stealing funds from public coffers. Corruption constrains a country's social, economic and political development (Slijepčević et al., 2020), as it is a direct cause of income inequality and poverty (Maeda & Ziegfeld, 2015). Moreover, corruption reduces national revenue and wealth and increases government expenses (Chaudhry et al., 2006). Certainly, corruption is one of the reasons why many poverty eradication efforts have been rendered ineffective (Vahideh & Abd, 2010). Dincer and Gunalp (2008) found that corruption increases poverty and income inequality.

Meanwhile, countries with higher control over corruption have been shown to have low multidimensional poverty levels (Santos et al., 2019). Economic growth increases employment opportunities and decreases inflation, which benefits low-income people by breaking the poverty chain. When corruption is endemic in a country, it hinders economic growth, and its benefits cannot trickle down to the lowest levels of society. According to a past study (Fayissa & Nsiah, 2010), controlling

corruption positively impacts economic growth. Based on the literature, we assume that corruption reduces social services and leads to the rise of poverty. Hence, based on the prior literature, the following hypothesis is proposed:

*H2: Controlling corruption has a negative impact on poverty.*

Regulatory quality refers to a government's ability to formulate and execute strong policies and regulations that promote private sector development (Kaufmann et al., 2010). Similarly, in poverty reduction, the role of regulatory quality is to formulate effective and inclusive policies and ensure the successful implementation of these policies. Regulatory quality has an efficacious role in enabling governance institutions to alleviate poverty; thus, ensuring better regulatory quality and sustained economic growth are the only ways to break free from poverty chains (DFID, 2008). Haq and Zia (2009) also support the hypothesis that a robust regulatory quality mechanism helps reduce poverty. However, a study (Sittha, 2012) based on Thailand found that better regulatory quality helped promote private sector development and led to moderate GDP growth; however, the relationship with poverty is not statistically significant. The preceding studies on the role of regulatory quality in poverty reduction present contradictory findings. Nevertheless, considering the characteristics and indicators of regulatory quality, the following hypothesis is developed.

*H3: Robust regulatory quality has a negative association with poverty.*

### 2.2. Gender equality and poverty

Women's economic empowerment depends on their labour participation, and women's access to more employment opportunities is seen as a path towards gender equality and poverty reduction (Khanie, 2019). One of the primary objectives of the SGDs is to end extreme poverty, and goal number five is to achieve gender equality and empower all women (Finlay & Lee, 2018). Anyanwu (2016) highlighted the importance of female employment in Africa and considered female youth employment as a necessary component in fighting against poverty. Women comprise half of the world's population, so the world recognises the value of empowering women and gender equality for poverty reduction and economic development (Mishra et al., 2020). Moreover, women empowerment and equality can further strengthen economic development (Woetzel et al., 2018). As mentioned previously, poverty reduction is possible through economic growth, and gender equality in labour force participation has a positive impact on GDP growth (World Economic Forum, 2019). Based on the ideas mentioned above, we assume that female participation in the labour market could significantly reduce poverty. Thus, the following hypothesis is proposed:

***H4**: The higher participation of female workers in the labour market has a negative relationship with poverty.*

### 2.3. Governance, gender equality and poverty

Women's empowerment and gender equality are top issues that have persisted in many countries throughout the world (Bayeh, 2016). The strategies and policies

implemented through governance mechanisms have positively affected females' participation in the labour market, consequently enabling female earnings to influence poverty status. Morrison, Dhushyanth, and Nistha (2007) claimed that an increase in female earnings could reduce current and future poverty and stimulate economic growth. In Saudi Arabia, poor governance is associated with gender inequalities (Al-Khaldi, 2014). In OECD countries, promoting gender equality in the labour market has been a policy objective (Casey et al., 2011). Women's income contribution to a household plays a consequential role in poverty reduction (Rahman & Islam, 2013). Awumbila (2007) suggested that inequality against women in the labour market forces them to choose informal employment, which may lead them to even worse poverty conditions. According to The World Bank (2012), female participation has rapidly increased amongst low-income women, and such a phenomenon helps explain the contribution of female earnings to poverty reduction. Robust governance mechanisms, such as government effectiveness, control of corruption and regulatory quality could have a significant effect on poverty when a higher proportion of females are considered in the labour market. Based on the prior literature, the following hypothesis is proposed:

***H5:*** *The higher proportion of female labour in the workforce moderates the relationship between determinants of governance and poverty*

## 3. Research Methodology

### 3.1. Indicators

#### 3.1.1. Poverty: Dependent variable

The dependent variable in this study is the poverty headcount ratio. Consistent with Gentilini & Sumner (2012), poverty was measured in the current study as the percentage of the population living below the national poverty line. National estimates were based on population-weighted subgroup estimates from household surveys. Data were either collected by the World Bank and the Global Poverty Working Group from various government sources or computed by World Bank staff using national (i.e., country-specific) poverty lines.

#### 3.1.2. Determinants of governance and female labour: Independent variable

The determinants of governance (government effectiveness, control of corruption and regulatory quality) were collected from the Worldwide Governance Indicators (WGI), a set of widely used indicators by researchers. For example, Wang (2019) and Samimi et al. (2012) investigated the role of these determinants of governance and carbon emission, and found the vital role of governance in policymaking and reducing environmental degradation. Governance determinants were measured on a scale of −2.5 to 2.5, with values indicating better governance.

Moreover, female participation in the labour market was used as a proxy for gender equality. The data of female labour to total labour were collected from the World Bank's data bank. Many studies on female labour force participation have previously

obtained data from the same source (i.e., Berrebi & Ostwald, 2016; Korotayev et al., 2015).

#### 3.1.3. Control variables

Based on prior research, the effects of inflation, unemployment, population growth and GDP growth were controlled (Nkalu et al., 2019; Sulaiman & Abdul-Rahim, 2018; van der Lippe et al., 2018). The high inflation and higher employment ratio could increase poverty. However, higher GDP growth and population growth with higher female labour ratio could decrease poverty.

### 3.2. Sample

This study's data were obtained from the World Bank's data bank and the Worldwide Governance Indicators database. The balanced panel data of 29 developing countries for 13 years (2004–2016) were used in the study, the list of countries shown in Table 6. Initially, we selected all countries but eventually eliminated the countries with missing data for all the variables from 2004–2016. Poverty data were also incomplete in some years, so we used extrapolation and interpolation methods to cover the missing data.

### 3.3. Empirical model

We used the fixed effects model to investigate the nexus between the predictor and response variable. One of this study's objectives is to examine the impacts on the poverty of governance determinants: government effectiveness, control of corruption, and regulatory quality. The following regression is employed to estimate this relationship and to test H1, H2 and H3:

$$Y_{it} = \beta_o + \beta_1 X_{it} + \beta_2 INF_{+} \beta_3 UNEMP + \beta_4 POPG + \beta_5 GDPR + \varepsilon_{it}, \quad (1)$$

where $Y_{it}$ is poverty and $X_{it}$ represents the determinants of governance, i.e., government effectiveness (GOVEFF), regulatory quality (REQU) and control of corruption (CONTCU). The control variables included inflation to GDP (INF), unemployment (UNEMP), population growth (POPG) and GDP growth (GDPR). It is expected that $\beta_2 > 0$, which shows robust governance.

To examine the relationship between female labour participation and poverty, and to test H4, the following regression model is employed:

$$Y_{it} = \beta_o + \beta_1 FEMLAB + \beta_2 INF_{+} \beta_3 UNEMP + \beta_4 POPG + \beta_5 GDPR + \varepsilon_{it}, \quad (2)$$

where FEMLAB represents female labour, it is expected that $\beta_1 > 0$, which means higher female labour participation.

The equation below deals with the determinants of governance and the moderating effect of female labour on poverty. To measure this relationship and to test H5, Eq. (3) is employed:

**Table 1.** Descriptive statistics.

| Variable | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|
| Poverty | 0.235 | 0.157 | 0.0025 | 0.693 |
| FEMLB | 0.427 | 0.066 | 0.1679 | 0.510 |
| GOVTEFF | 0.398 | 0.490 | 0 | 1 |
| CONTCU | 0.300 | 0.459 | 0 | 1 |
| REQU | 0.517 | 0.500 | 0 | 1 |
| INF | 0.074 | 0.087 | −0.097 | 0.752 |
| UNEMP | 0.075 | 0.043 | 0 | 0.195 |
| POPG | 0.006 | 0.010 | −0.023 | 0.026 |
| GDPR | 0.040 | 0.042 | −0.148 | 0.183 |

Source: author's calculations and estimation.

$$Y_{it} = \beta_o + \beta_1 X_{it} * FEMLAB + \beta_2 INF + \beta_3 UNEMP + \beta_4 POPG + \beta_5 GDPR + \varepsilon_{it}, \quad (3)$$

where $X_{it}$ represents the determinants of governance, and FEMLAB is the female labour force. It is expected that $\beta_3 \geq 0$ or $\beta_3 \leq 0$, which depends on the governance structure, political will, and policy implementation timeliness.

## 4. Empirical Results

### 4.1. Descriptive statistics and correlation

The descriptive statistics of poverty, determinants of governance and control variables are shown in Table 1. The average of poverty is 0.2, and the standard deviation is (0.15), which shows that most countries face severe poverty with higher standard deviation. The average of FEMLAB is 0.427, and the standard deviation is 0.066; thus, the average for countries almost reaches the maximum value (0.51). This means that the unequal gender ratio should be addressed immediately. However, the average values of GOVTEFF, CONTCU and REQU are 0.39, 0.30 and 0.517, respectively; the average value of regulatory quality is higher but reaches 50% of the governance measurement index. The rest of the determinants' average values are below 0.50, which reveal weaker government effectiveness and control of corruption. However, minor political will could make a difference. The corresponding average values (standard deviation) of INF, UNEMP, OPG and GDPR are 0.074, 0.075, 0.006 and 0.040 (0.087, 0.043, 0.010 and 0.042).

The correlation matrix shown in Table 2 explains two things: the multicollinearity and relationship between dependent and independent variables. The correlation values of all variables are less than 0.8; however, the values of governance determinants (GOVTEFF, CONTCU and REQU) are slightly higher. Therefore, all variables are free from multicollinearity. The variables, such as FEMLAB, GOVTEFF, CONTCU and REQU, are all significant at a 5% level of significance and are negatively correlated with poverty, supporting the hypotheses.

### 4.2. Governance and poverty

Table 3 shows the effects of governance indicators (government effectiveness, control of corruption, and regulatory quality) on poverty. The fixed effects regression model

**Table 2.** Correlation.

| | Poverty | FEMLAB | GOVTEFF | CONTCU | REQU | INF | UNEMP | POPG | GDPR |
|---|---|---|---|---|---|---|---|---|---|
| Poverty | 1 | | | | | | | | |
| FEMLAB | −0.26* | 1 | | | | | | | |
| GOVTEFF | −0.44* | 0.1489* | 1 | | | | | | |
| CONTCU | −0.37* | 0.1941* | 0.7930* | 1 | | | | | |
| REQU | −0.35* | 0.1791* | 0.7853* | 0.632* | 1 | | | | |
| INF | 0.023 | −0.0006 | −0.348* | −0.328* | −0.40* | 1 | | | |
| UNEMP | 0.0003 | 0.1908* | 0.2614* | 0.274* | 0.39* | −0.14* | 1 | | |
| POPG | 0.293* | −0.712* | −0.422* | −0.441* | −0.38* | 0.051 | −0.472* | 1 | |
| GDPR | 0.1717* | −0.106* | −0.126* | −0.110* | −0.081 | 0.12* | −0.0976 | 0.10* | 1 |

Source: author's calculations and estimation.

**Table 3.** The relationship between governance and poverty.

| | H1 | H2 | H3 | H4 | |
|---|---|---|---|---|---|
| VARIABLES | (1) | (2) | (3) | (4) | (5) |
| Constant | 0.149*** | 0.147*** | 0.187*** | 0.664*** | 0.311*** |
| | (0.0278) | (0.0297) | (0.0319) | (0.144) | (0.0618) |
| GOVTEFF | −0.0496*** | | | | |
| | (0.0156) | | | | |
| CONTCU | | −0.0514*** | | | |
| | | (0.0159) | | | |
| REQU | | | −0.100*** | | |
| | | | (0.0223) | | |
| FEMLAB | | | | −1.203*** | −0.459*** |
| | | | | (0.318) | (0.128) |
| INF | 0.158** | 0.161** | 0.153*** | 0.158*** | 0.0658 |
| | (0.0695) | (0.0704) | (0.0565) | (0.0563) | (0.0479) |
| UNEMP | 0.926*** | 0.921*** | 0.914*** | 0.887*** | 0.811*** |
| | (0.277) | (0.282) | (0.168) | (0.169) | (0.112) |
| POPG | 1.111 | 0.787 | 0.371 | −1.695 | 4.167*** |
| | (2.165) | (2.214) | (1.397) | (1.560) | (0.822) |
| GDP | 0.435** | 0.432** | 0.432*** | 0.396*** | 0.546*** |
| | (0.182) | (0.181) | (0.0962) | (0.0963) | (0.105) |
| Observations | 377 | 377 | 377 | 377 | 377 |
| Number of country1 | 29 | 29 | 29 | 29 | 29 |

Standard errors in parentheses *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: author's calculations and estimation.

was employed to investigate the nexus between governance and poverty. The results are presented in Columns 1–3, representing H1, H2 and H3, respectively.

In Column 1 of Table 3, the coefficient of GOVEFF (magnitude = −0.0496) is significant at a 1% level of significance, indicating a negative relationship with poverty. The result reveals that government effectiveness decreases poverty to some extent. Similarly, in Column 2, the estimated coefficient of CONTCU (–0.0514) is negative and significant at a 1% level of significance. In Column 3, the coefficient of REQU shows a similar result to GOVEFF and CONTCU. Amongst the three, the coefficient of REQU is higher, indicating that regulatory quality has a significantly higher effect than the other variables of governance. The results show an important relationship between good governance and poverty reduction, thus supporting H1, H2 and H3, respectively. The results strongly confirm that good governance leads to poverty reduction. The results are consistent with the prior literature (Doumbia, 2019; Kaufmann & Kraay, 2002; Muhammad & C.A, 2013). Governance can be evaluated based on the economic growth of a country; economic growth leads to an increase in

income and more earning opportunities, thus bringing about prosperity, better life, and people's social well-being (Woo, 2018). Therefore, governance is considered a state's ability to implement effective and transparent public policies (Tuozzo, 2004). Good governance, which can reduce poverty, has become a necessary tool for growth and development; it is essential for attaining welfare to the greatest extent by society and an economy (United Nations, 2007).

### 4.3. Gender equality

In Column 4 of Table 3, the association between female labour (FEMLAB) and poverty is examined. The coefficient of FEMLAB (magnitude = −1.203) is statistically significant (at 1% level) and has a negative relationship with poverty. The higher ratio of female labour at work is a good indicator of poverty reduction, as it shows that a wide gender gap also broadens the poverty ratio. This coefficient supports H4. The results are consistent with Awumbila (2007), who reported that a significant proportion of females in the informal employment sector could reduce poverty and vulnerability among women.

### 4.4. Determinants of governance, gender equality and poverty

Table 4 shows the effects of determinants of the governance and female labour on poverty. The results of government effectiveness shown in Columns 1–3 and the estimated results of control of corruption are stated in Columns 4–6. The last three columns report the results of regulatory quality. We used three estimators, namely, Feasible Generalized Least Square (FGLS), Panel-Correlated Standard Error (PCSE) and Newey and West (N–W) estimators. Of these, N-W and PCSE were employed to test the robustness of the coefficients.

Column 1 in Table 4 presents the effects of government effectiveness and female labour on poverty reduction. The coefficient of GOVEFF × FEMLAB is statistically significant at a 1% level of significance, but shows a positive relationship with poverty, whereas the result is contrary to the expectation but supports H5. The result is consistent with the N-W and PCSE robustness test results, as shown in Columns 2 and 3. The unfavourable outcome can be attributed to the government's insufficient policies regarding female labour, resulting in a stagnant gender gap. Columns 4–6 report the moderation effect of female labour on the relationship between control of corruption and poverty reduction. In Column 4, the coefficient of CONTCU × FEMLAB is significant at 1% and is positively associated with the control of corruption. The result is similar to that for government effectiveness, thus supporting H5. The robust results, as shown in Columns 5 and 6, are consistent with the FGLS results. Therefore, the main analysis is robust and free from self-selection biased. Similarly, the coefficient of REQU × FEMLAB is significant at a 1% level of significance and has a positive association with poverty, as shown in Column 7, thus supporting H5. The robustness test results presented in Columns 8 and 9 authenticate the FGLS results and also support H5; hence, the result is not subject to selection bias and other biases. The result indicates that government policies have yet to

**Table 4.** The relationship between good governance, gender equality and poverty.

| | Government Effectiveness | | | Control of Corruption | | | Regulatory Quality | | |
|---|---|---|---|---|---|---|---|---|---|
| Variables | FGLS (1) | N-W (2) | PCSE (3) | FGLS (4) | N-W (5) | PCSE (6) | FGLS (7) | N-W (8) | PCSE (9) |
| Constant | 0.577*** | 0.506*** | 0.506*** | 0.466*** | 0.362*** | 0.362*** | 0.553*** | 0.440*** | 0.440*** |
| | (0.0636) | (0.0873) | (0.0504) | (0.0524) | (0.0872) | (0.0609) | (0.0657) | (0.0864) | (0.0432) |
| FEMLAB | −0.885*** | −0.733*** | −0.733*** | −0.670*** | −0.428** | −0.428*** | −0.910*** | −0.672*** | −0.672*** |
| | (0.133) | (0.176) | (0.0975) | (0.109) | (0.179) | (0.124) | (0.137) | (0.177) | (0.0861) |
| GOVEFF | −1.133*** | −0.992*** | −0.992*** | | | | | | |
| | (0.0719) | (0.0837) | (0.0936) | | | | | | |
| GOVEFF × FEMLAB | 2.305*** | 1.992*** | 1.992*** | | | | | | |
| | (0.166) | (0.195) | (0.216) | | | | | | |
| CONTCU | | | | −1.116*** | −0.939*** | −0.939*** | | | |
| | | | | (0.0969) | (0.107) | (0.216) | | | |
| CONTCU × FEMLAB | | | | 2.269*** | 1.882*** | 1.882*** | | | |
| | | | | (0.219) | (0.246) | (0.472) | | | |
| REQU | | | | | | | −1.077*** | −1.035*** | −1.035*** |
| | | | | | | | (0.0674) | (0.0834) | (0.0570) |
| REQU × FEMLAB | | | | | | | 2.249*** | 2.161*** | 2.161*** |
| | | | | | | | (0.156) | (0.195) | (0.150) |
| INF | −0.0538 | −0.134** | −0.134* | −0.0303 | −0.114* | −0.114 | −0.0173 | −0.0829 | −0.0829 |
| | (0.0460) | (0.0598) | (0.0797) | (0.0473) | (0.0641) | (0.0779) | (0.0478) | (0.0604) | (0.0765) |
| UNEMP | 0.635*** | 0.739*** | 0.739*** | 0.694*** | 0.656*** | 0.656*** | 0.808*** | 0.999*** | 0.999*** |
| | (0.0802) | (0.141) | (0.129) | (0.0801) | (0.150) | (0.128) | (0.0949) | (0.151) | (0.120) |
| POPG | 2.619*** | 3.388** | 3.388*** | 2.669*** | 3.994*** | 3.994*** | 3.727*** | 5.504*** | 5.504*** |
| | (0.774) | (1.335) | (0.802) | (0.782) | (1.417) | (0.868) | (0.778) | (1.281) | (0.783) |
| GDP | 0.413*** | 0.561*** | 0.561*** | 0.402*** | 0.525*** | 0.525*** | 0.470*** | 0.644*** | 0.644*** |
| | (0.0715) | (0.135) | (0.178) | (0.0697) | (0.150) | (0.183) | (0.0836) | (0.137) | (0.179) |
| R-squared | | | 0.412 | | | 0.308 | | | 0.405 |
| Observation | 377 | 377 | 377 | 377 | 377 | 377 | 377 | 377 | 377 |

Standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: author's calculations and estimation.

**Table 5.** Robustness test.

| | Government effectiveness | | | | Control of Corruption | | | Regulatory Quality | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Variables | FGLS (1) | N-W (2) | PCSE (3) | | FGLS (4) | N-W (5) | PCSE (6) | FGLS (7) | N-W (8) | PCSE (9) |
| Constant | 0.220*** | 0.214*** | 0.214*** | | 0.175*** | 0.185*** | 0.185*** | 0.202*** | 0.194*** | 0.194*** |
| | (0.0142) | (0.0215) | (0.0268) | | (0.0133) | (0.0199) | (0.0242) | (0.0139) | (0.0213) | (0.0228) |
| GOVEFF | −0.138*** | −0.141*** | −0.141*** | | | | | | | |
| | (0.0104) | (0.0152) | (0.0166) | | | | | | | |
| CONTCU | | | | | −0.116*** | −0.120*** | −0.120*** | | | |
| | | | | | (0.00952) | (0.0148) | (0.0173) | | | |
| REQU | | | | | | | | −0.129*** | −0.127*** | −0.127*** |
| | | | | | | | | (0.0118) | (0.0183) | (0.0140) |
| INF | −0.0683 | −0.231*** | −0.231** | | −0.0312 | −0.168** | −0.168* | −0.0917* | −0.243*** | −0.243** |
| | (0.0587) | (0.0726) | (0.103) | | (0.0574) | (0.0721) | (0.0890) | (0.0547) | (0.0749) | (0.105) |
| UNEMP | 0.676*** | 0.745*** | 0.745*** | | 0.896*** | 0.747*** | 0.747*** | 0.826*** | 1.019*** | 1.019*** |
| | (0.0869) | (0.157) | (0.135) | | (0.0920) | (0.161) | (0.129) | (0.0983) | (0.173) | (0.135) |
| POPG | 2.300*** | 3.125*** | 3.125*** | | 3.261*** | 3.561*** | 3.561*** | 3.036*** | 4.128*** | 4.128*** |
| | (0.599) | (0.915) | (0.381) | | (0.601) | (0.948) | (0.431) | (0.583) | (0.876) | (0.389) |
| GDP | 0.315*** | 0.495*** | 0.495*** | | 0.321*** | 0.531*** | 0.531*** | 0.481*** | 0.586*** | 0.586*** |
| | (0.0772) | (0.158) | (0.190) | | (0.0807) | (0.162) | (0.184) | (0.0871) | (0.163) | (0.178) |
| R-squared | | | 0.271 | | | | 0.222 | | | 0.242 |
| Observations | 377 | 377 | 377 | 377 | | 377 | 377 | 377 | 377 | 377 |

Standard errors in parentheses.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
Source: author's calculations and estimation.

**Table 6.** List of developing countries.

| | | |
|---|---|---|
| Armenia | Indonesia | Russian Federation |
| Belarus | Jamaica | Slovak Republic |
| Bolivia | Kazakhstan | Slovenia |
| Brazil | Latvia | Thailand |
| Colombia | Lithuania | Turkey |
| Czech Republic | Malaysia | Ukraine |
| Dominican Republic | Moldova | Venezuela, RB |
| Ecuador | Pakistan | |
| Georgia | Paraguay | |
| Honduras | Peru | |
| Hungary | Poland | |

Source: author's calculations and estimation.

incorporate the SGDs to eradicate poverty by considering female labour in the mainstream workforce. These results are consistent with those reported in another study (Bosco & Poggi, 2020).

### 4.5. Robustness check

Ensuring the reliability and robustness of the main analysis is essential. Thus, to check the robustness of the H1, H2 and H3 coefficients produced by the fixed effects model, we used the FGLS PCSE and N-W estimators. We validated that the results are free from self-selection bias, as shown in Table 5. Columns 1–3 present the results of government effectiveness, Columns 4–6 present the results of the control of corruption, and Columns 7–9 reveal the results of regulatory quality.

Columns 1–3 show that the effect of government effectiveness (GOVEFF) on poverty is significantly negative, indicating that government efficiency plays a vital role in poverty reduction. The result is similar to the main analysis. Columns 4–6 indicate that the control of corruption (CONTCU) also reduces poverty, such that the lower the corruption level, the lower the poverty rate would be. The results are also robust with main hypothesis testing. Moreover, the results for regulatory quality (REQU) are consistent with the main result of the hypothesis testing shown in Columns 7–9. These supportive results are estimated for H2; thus, the results are free from self-selection bias. To check the robustness results of the relationship between the female labour force and poverty (H4), we only used the FGLS estimator. The robustness results are presented in Table 1, Column 5. The robustness test result is consistent with the main analysis result, thus lending support to the latter.

## 5. Conclusion

This paper aimed to investigate the link between determinants of governance and poverty. Further, this research investigates female labour and poverty in the context of the determinants of governance. The empirical results highlight the importance of governance and a higher ratio of female workers to mitigate poverty. We have examined the direct effect of the female labour force on poverty and the moderating role of such labour force, and in both cases, female labour force participation has been found to have beneficial impacts.

The results of this study suggest that the determinants of governance significantly mitigate poverty. The connection between governance and poverty is strong, given that governance is a reliable tool to alleviate poverty. Importantly, this study's significant results indicate that the employed governance indicators are effective enough to mitigate poverty. Furthermore, we found that female workers' participation in the mainstream economy is a necessary instrument that can protect many families against different kinds of vulnerabilities associated with poverty. The moderation effects of the female labour force on poverty and the determinants of governance are not negligible. Compared to those in developed countries, female labour force participation in developing countries is less, and such a phenomenon is one of the reasons behind the prevailing poverty in developing countries.

This research has some limitations that must be considered. Firstly, the determinants of governance could match political leadership's tenure to judge the political will to mitigate poverty, which is not considered in this research. Secondly, the adoption of SDGs in mitigating poverty is another way to measure the policy impact of a country or a region. This prospect is also not considered in this work. Thirdly, female inclusion in the workforce at varying levels, i.e., short-term employment, contingent employment or part-time employment, has different impacts, and this could also have distinct impacts on poverty. Again, this is not considered in the study.

Nevertheless, from a policy angle, this study provides thorough insights into the importance of governance determinants in mitigating poverty. Firstly, whilst formulating the poverty programs, policy-makers must consider all features of effectivities government (i.e., free from any political pressure, prioritisation of public services and strict policy implementation). Secondly, the likelihood of any corruption cannot be overruled; therefore, transparency at all levels is necessary. The authorities who execute the poverty programs must be scrutinised regularly to ensure that authoritative power is not being abused. Thirdly, this study recommends that policy-makers must consider the indispensable role of regulatory quality in alleviating poverty. Aside from the determinants of governance, the other important factor that must be addressed to reduce poverty is female workers' participation in economic activities. Thus, creating income generation opportunities for women must be a priority of future poverty eradication programmes.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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