

# CORUPTION, DEMOCRACY AND WOMEN'S POLITICAL REPRESENTATION : A DYNAMIC PANEL STUDY OF ECONOMIC GROWTH IN DEVELOPING COUNTRIES

Ibnu sukoco<sup>1</sup>, Sirodjuzilam Hasyim<sup>2</sup>, Muhammad Syafii<sup>3</sup>

Doctoral Programme in Economics, Universitas Sumatera Utara <sup>1,2,3</sup>

Email : [ibnu.sukoco88@gmail.com](mailto:ibnu.sukoco88@gmail.com), [sirojuzilam@usu.ac.id](mailto:sirojuzilam@usu.ac.id), [syafimuhammad91@gmail.com](mailto:syafimuhammad91@gmail.com)

Copyright © 2026 The Author



This is an open access article

Commons Attribution Share Alike 4.0 International License

## Abstract:

This study examines how three key institutional dimensions corruption, democracy and women's political representation jointly shape economic growth in developing countries. Using annual panel data for 20 developing economies in Asia, Africa and Latin America over 2012–2024, real GDP growth is modelled as a function of corruption, democratic quality, women's share of parliamentary seats, GDP per capita and foreign direct investment. A dynamic panel System GMM estimator is applied to address endogeneity, reverse causality and unobserved country-specific heterogeneity, with diagnostic tests indicating valid instruments and well-behaved error dynamics. The estimates point to strong growth persistence, implying that institutional shocks have both short-run and cumulative long-run effects on growth trajectories. Higher corruption is associated with lower economic growth, consistent with the view that corruption distorts resource allocation, discourages productive investment and undermines long-run performance. Democracy exerts a negative short-run effect on growth, reflecting transitional costs in partially consolidated democracies marked by political uncertainty and policy conflict. By contrast, women's parliamentary representation has a positive and statistically significant association with growth, suggesting that more inclusive political institutions improve governance quality and support more growth-enhancing public policies. GDP per capita emerges as an important structural determinant of growth, whereas foreign direct investment does not exhibit a robust direct impact in the baseline specification. Overall, the findings underscore that anti-corruption reforms, carefully managed democratic transitions and stronger representation of women in politics are central to accelerating and sustaining inclusive economic growth in the Global South.

**Keyword:** Corruption; democracy; women's political representation; developing countries; System GMM.

## 1. Introduction

Economic growth is one of the main indicators of development success because it reflects the expansion of productive capacity and improvements in social welfare over time (Solow 1956; Romer 1986). In developing countries, however, the sustainability and quality of growth are determined not only by conventional macroeconomic factors such as capital accumulation, trade, and human capital, but also by the quality of institutions, governance, and political structures that regulate the distribution of power (Acemoglu et al. 2005; Acemoglu and Robinson 2012). Differences in growth performance across developing economies are often associated with variation in the level of corruption, the quality of democracy, and women's political representation, which together reflect the degree of political inclusiveness (Sung 2012; Jayasuriya and Burke 2012; Mirziyoyeva and Salahodjaev 2023).

Corruption is widely regarded as a major institutional failure that reduces the efficiency of resource allocation, discourages investment, and weakens economic productivity, so that it generally exerts a negative impact on growth (Mauro 1995; Gupta et al. 2002; Ugur and Dasgupta 2011; Erum and Hussain 2019). In highly inefficient bureaucracies, however, parts of the literature suggest that corruption can play a temporary "grease the wheels" role by accelerating administrative processes, implying that the relationship between corruption and growth may be non-linear and context specific (Leff 1964; Huntington 2006; Huang 2015; Méon and Sekkat 2005). Democracy, by contrast, is expected to foster growth through mechanisms of accountability, transparency, and policy stability, although in unconsolidated political transitions democratic processes can also generate uncertainty and conflicts of interest that hinder economic decision-making (Lipset 1959; Barro 1996; Persson and Tabellini 2005; Rodrik 2000; Tutuncu and Bayraktar 2024; Mose 2025).

Women's political representation has gained prominence in the political economy literature as a key indicator of institutional inclusiveness and governance quality. Higher female representation in parliament is associated with policy preferences that are more oriented toward social sectors, stronger public integrity, and a lower propensity for corrupt practices, thereby directly and indirectly supporting more inclusive and sustainable economic growth (Dollar et al. 2001; Sung 2012; Jayasuriya and Burke 2012; Khorsheed 2020; Mirziyoyeva and Salahodjaev 2023). These patterns suggest that corruption, democracy, and women's political representation are not isolated variables, but three interrelated institutional pillars that jointly shape the policy environment and economic incentives in developing countries (Sung 2012; Tutuncu and Bayraktar 2024).

This study focuses on 20 developing economies in Asia, Africa, and Latin America—Indonesia, Bangladesh, Brazil, Chile, Vietnam, the Philippines, Thailand, India, Pakistan, Sri Lanka, Nigeria, Ghana, Kenya, Ethiopia, Tanzania, Egypt, Morocco, Mexico, Colombia, and Peru. The selection of these countries is based on several considerations, including adequate and consistent data availability for the key variables over the observation period 2012–2024 from credible international sources such as the World Bank, Transparency International, V-Dem/WGI, and the Inter-Parliamentary Union (World Bank 2024; Inter-Parliamentary Union 2023).

Empirically, numerous cross-country studies have examined the relationships between corruption and growth, democracy and growth, and women's representation and governance or economic performance, but most remain partial and rely on static regression models such as Ordinary Least Squares, fixed effects, or random effects (Mauro 1995; Barro 1996; Jayasuriya and Burke 2012; Khorsheed 2020). These approaches risk endogeneity bias because economic growth itself can influence the level of corruption, the maturity of democracy, and women's political representation, implying that the relationships among variables are two-way and dynamic (Acemoglu and Robinson 2012; Grundler and Potrafke 2019; Bouteraa et al. 2024).

This study offers several important contributions at the theoretical, methodological, and empirical levels (Acemoglu and Robinson 2012; Sung 2012; Mirziyoyeva and Salahodjaev 2023). Methodologically, it applies a dynamic panel System GMM approach to address endogeneity and capture the dynamic interplay between growth and institutional variables (Arellano and Bover 1995; Blundell and Bond 1998; Grundler and Potrafke 2019; Bouteraa et al. 2024). Accordingly, the objectives of this study are to analyze the effects of corruption, democracy, and women's political representation on economic growth, while evaluating the roles of GDP per capita and investment-related controls in explaining growth dynamics across developing economies.

## 2. Methods

### 2.1 Study object, period, and setting

This study employs an explanatory quantitative research design aimed at identifying causal relationships between corruption, democracy, women's political representation, GDP per capita, investment, and economic growth in developing countries (Hsiao 2022). The sample comprises 20 developing countries—Indonesia, Bangladesh, Brazil, Chile, Vietnam, the Philippines, Thailand, India, Pakistan, Sri Lanka, Nigeria, Ghana, Kenya, Ethiopia, Tanzania, Egypt, Morocco, Mexico, Colombia, and Peru—observed annually over the period 2012–2024 (World Bank 2024; Inter-Parliamentary Union 2023). The data are organized as an annual country–year panel so that each observation corresponds to a country–year combination (Hsiao 2014)

### 2.2 Data collection

The study relies on secondary data for economic growth, corruption, democracy, women's political representation, GDP per capita, and foreign direct investment over 2012–2024 from sources including the World Bank and the Inter-Parliamentary Union (World Bank 2024; Inter-Parliamentary Union 2023)

### 2.3 Analytical method and model specification

The empirical strategy applies a dynamic panel approach estimated by System GMM to address endogeneity, reverse causality, and unobserved country-specific heterogeneity. The dynamic growth model is specified as follows:

$$\begin{aligned} Growth_{it} &= \alpha Growth_{i,t-1} + \beta_1 Cor_{it} + \beta_2 Dem_{it} + \beta_3 Wom_{it} + \beta_4 GDPpc_{it} + \beta_5 FDI_{it} + \mu_i \\ &+ \lambda_t \\ &+ \varepsilon_{it} \end{aligned}$$

Where  $Growth_{it}$  is real GDP growth in country  $i$  in year  $t$ ,  $Growth_{i,t-1}$  is its one-year lag,  $Cor_{it}$  is corruption,  $Dem_{it}$  is democracy,  $Wom_{it}$  is women's political representation,  $GDPpc_{it}$  is GDP per

capita, and  $FDI_{it}$  is foreign direct investment.  $\mu_i$  denotes country fixed effects,  $\lambda_t$  time effects, and  $\varepsilon_{it}$  the idiosyncratic error term. Model validity is evaluated using over-identification tests (Sargan/Hansen) and Arellano–Bond serial correlation tests AR(1) and AR(2).

### 3. Results and Discussion

#### 3.1 Results

The dynamic panel model was estimated using the GMM approach, yielding several diagnostic tests that support the specification. The Sargan test shows a high p-value, and the AR(1) and AR(2) tests are insignificant, indicating no evidence of second-order autocorrelation in the differenced residuals and that the lag structure is appropriate. The Wald test confirms that the model is jointly significant overall.

**Table 1. System GMM estimation results**

Variabel	Koefisien	Std. Error	z-stat	Prob.	Significance
lag(ln_GDP)	0.412	0.058	7.10	0.000	*** (1%)
Cor	-0.002	0.0006	-3.33	0.000	*** (1%)
Dem	-0.009	0.0046	-1.96	0.053	* (10%)
Wom	0.001	0.0006	2.11	0.035	** (5%)
ln_GDP per kapita	0.822	0.068	12.09	0.000	*** (1%)
ln_FDI	-0.001	0.003	-0.19	0.849	Not significant

Note: \*\*\*, \*\*, \* denote significance at 1%, 5%, and 10% levels. Source: authors' calculations based on R output.

The Diff-GMM results indicate strong growth persistence, with the lagged GDP coefficient of 0.412 significant at 1%, implying that approximately 41% of last year's growth carries over to the current year. Corruption enters with a negative coefficient (-0.002) significant at 1%, democracy has a negative coefficient (-0.009) significant at 10%, and women's political representation has a positive coefficient (0.001) significant at 5%, while FDI is not significant in the baseline specification.

**Table 2. GMM diagnostic tests**

Test	Test statistic	p-value	Interpretation
Sargan test	20.00	1.000	Instruments valid (no over-identification)
AR(1)	-1.220	0.223	Insignificant (expected)
AR(2)	1.100	0.271	Insignificant (no AR(2))
Wald ( $\chi^2$ model)	895.15	0.000	Model jointly significant

Source: authors' calculations using System GMM

The diagnostic tests confirm that the GMM model specification is appropriate and reliable. The high Sargan test p-value indicates valid instruments, while the insignificant AR(1) and AR(2) tests indicate no evidence of second-order autocorrelation in the differenced residuals. The significant Wald test further confirms that the regressors are jointly significant in explaining growth variation.

#### 3.2 Discussion

The estimation results show a lagged growth coefficient of approximately 0.412, significant at 1%, indicating that current-year economic growth is strongly influenced by the previous year's growth. This finding demonstrates inertia or persistence in the growth process of developing countries, consistent with growth theories emphasizing gradual adjustment of capital, labor, and human capital (Solow 1956; Romer 1986; Lucas 1988).

The corruption coefficient is negative and statistically significant, consistent with the theoretical framework that corruption reduces resource allocation efficiency, discourages investment, and weakens productivity (Mauro 1995; Gupta et al. 2002; Ugur and Dasgupta 2011; Erum and Hussain 2019). The result aligns with the "sand the wheels" view and does not support the "grease the wheels" argument in this sample context (Méon and Sekkat 2005; Spyromitros and Kenourgios 2022; Leff 1964; Huntington 2006; Huang 2015).

The democracy coefficient is negative and marginally significant, which is interpreted as transitional costs during democratization in unconsolidated political environments (Rodrik 2000; Tutuncu and Bayraktar 2024; Mose 2025). This interpretation is discussed as compatible with literature emphasizing democracy's long-run potential benefits through accountability and stability (Barro 1996; Persson and Tabellini 2005).

Women's political representation shows a positive and statistically significant association with

growth. This supports evidence that higher female representation is linked to better governance and social-sector policy orientation (Dollar et al. 2001; Sung 2012; Beaman et al. 2009). The finding aligns with cross-country evidence connecting women's parliamentary presence to improved economic performance (Jayasuriya and Burke 2012; Khorsheed 2020; Mirziyoyeva and Salahodjaev 2023).

FDI is not significant in the baseline specification, suggesting that foreign investment does not automatically translate into growth without adequate absorptive capacity. This is consistent with evidence that FDI contributes to growth conditionally on domestic human capital and enabling conditions (Borensztein et al. 1998).

### 3.3 Link to study objectives

The findings address the study objectives by estimating the effects of corruption, democracy, and women's political representation on economic growth while controlling for GDP per capita and FDI in a dynamic framework. The dynamic panel approach is used to mitigate endogeneity concerns because growth and institutional indicators can influence each other over time (Arellano and Bover 1995; Blundell and Bond 1998).

## 4. Conclusion

This study examines how corruption, democracy, and women's political representation relate to economic growth in 20 developing countries over 2012–2024 using a dynamic panel System GMM framework. The results indicate strong growth persistence, a negative and significant effect of corruption, a negative short-run association of democracy consistent with transitional costs, and a positive and significant association of women's parliamentary representation with growth, while FDI is not robustly significant in the baseline model. These findings suggest that improving governance by reducing corruption, managing democratic transitions, and strengthening women's political inclusion can support more inclusive and sustained growth trajectories in developing economies

## Bibliography

- Acemoglu, D., Johnson, S., & Robinson, J. A. (2005). Institutions as a fundamental cause of long-run growth. In P. Aghion & S. Durlauf (Eds.), *Handbook of economic growth* (Vol. 1A, pp. 385–472). Elsevier. [https://doi.org/10.1016/S1574-0684\(05\)01006-3](https://doi.org/10.1016/S1574-0684(05)01006-3).
- Acemoglu, D., & Robinson, J. A. (2013). *Why nations fail: The origins of power, prosperity, and poverty*. Crown.
- Arellano, M., & Bond, S. (1991). Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. *The Review of Economic Studies*, 58(2), 277–297. <https://doi.org/10.2307/2297968>
- Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, 68(1), 29–51. [https://doi.org/10.1016/0304-4076\(94\)01642-D](https://doi.org/10.1016/0304-4076(94)01642-D)
- Baltagi, B. H. (2008). *Econometric analysis of panel data*. Wiley.
- Barro, R. J. (1996). Democracy and growth. *Journal of Economic Growth*, 1(1), 1–27. <https://doi.org/10.1007/BF00163340>
- Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R., & Topalova, P. (2009). Powerful women: Does exposure reduce bias? *The Quarterly Journal of Economics*, 124(4), 1497–1540. <https://doi.org/10.1162/qjec.2009.124.4.1497>
- Becker, G. S. (1968). Crime and punishment: An economic approach. *Journal of Political Economy*, 76(2), 169–217. <https://doi.org/10.1086/259394>
- Borensztein, E., De Gregorio, J., & Lee, J.-W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, 45(1), 115–135. [https://doi.org/10.1016/S0022-1996\(97\)00033-0](https://doi.org/10.1016/S0022-1996(97)00033-0)
- Chattopadhyay, R., & Duflo, E. (2004). Women as policy makers: Evidence from a randomized policy experiment in India. *Econometrica*, 72(5), 1409–1443. <https://doi.org/10.1111/j.1468-0262.2004.00539.x>
- Dollar, D., Fisman, R., & Gatti, R. (2001). Are women really the “fairer” sex? Corruption and women in government. *Journal of Economic Behavior & Organization*, 46(4), 423–429. [https://doi.org/10.1016/S0167-2681\(01\)00169-X](https://doi.org/10.1016/S0167-2681(01)00169-X)
- Erum, N., & Hussain, S. (2019). Corruption, natural resources and economic growth: Evidence from OIC countries. *Resources Policy*, 63, 101429. <https://doi.org/10.1016/j.resourpol.2019.101429>
- Grundler, K., & Potrafke, N. (2019). Corruption and economic growth: New empirical evidence. *European Journal of Political Economy*, 60, 101810. <https://doi.org/10.1016/j.ejpoleco.2019.08.001>

- Gupta, S., Davoodi, H., & Alonso-Terme, R. (2002). Does corruption affect income inequality and poverty? *Economics of Governance*, 3(1), 23–45. <https://doi.org/10.1007/s101010100039>
- Hansen, L. P. (1982). Large sample properties of generalized method of moments estimators. *Econometrica*, 50(4), 1029–1054. <https://doi.org/10.2307/1912775>
- Hsiao, C. (2022). *Analysis of panel data* (4th ed.). Cambridge University Press.
- Huang, C.-J. (2015). Is corruption bad for economic growth? Evidence from Asia–Pacific countries. *The North American Journal of Economics and Finance*, 35, 247–256. <https://doi.org/10.1016/j.najef.2015.10.013>
- Huntington, S. P. (2006). *Political order in changing societies*. Yale University Press.<sup>[2]</sup>
- Inter-Parliamentary Union. (2023). *Women in national parliaments* (IPU database).
- Jayasuriya, D. S., & Burke, P. J. (2013). Female parliamentarians and economic growth: Evidence from a large panel. *Applied Economics Letters*, 20(3), 304–307. <https://doi.org/10.1080/13504851.2012.703310>
- Kaufmann, D., Kraay, A., & Mastruzzi, M. (2011). The worldwide governance indicators: Methodology and analytical issues. *Hague Journal on the Rule of Law*, 3(2), 220–246. <https://doi.org/10.1017/S1876404511200046>
- Khorsheed, E. (2020). The impact of women parliamentarians on economic growth: Modelling and statistical analysis of empirical global data. *International Journal of Statistics and Probability*, 9(3), 23–35. <https://doi.org/10.5539/ijsp.v9n3p23>
- Klitgaard, R. (1988). *Controlling corruption*. University of California Press.
- Leff, N. H. (1964). Economic development through bureaucratic corruption. *American Behavioral Scientist*, 8(3), 8–14. <https://doi.org/10.1177/000276426400800303>
- Lipset, S. M. (1959). Some social requisites of democracy: Economic development and political legitimacy. *American Political Science Review*, 53(1), 69–105. <https://doi.org/10.2307/1951731>
- Lucas, R. E., Jr. (1988). On the mechanics of economic development. *Journal of Monetary Economics*, 22(1), 3–42. [https://doi.org/10.1016/0304-3932\(88\)90168-7](https://doi.org/10.1016/0304-3932(88)90168-7)
- Mauro, P. (1995). Corruption and growth. *The Quarterly Journal of Economics*, 110(3), 681–712. <https://doi.org/10.2307/2946696>
- Méon, P.-G., & Sekkat, K. (2005). Does corruption grease or sand the wheels of growth? *Public Choice*, 122(1–2), 69–97. <https://doi.org/10.1007/s11127-005-3988-0>
- Mirziyoyeva, Z., & Salahodjaev, R. (2023). Does representation of women in parliament promote economic growth? Evidence from Europe and Central Asia. *Frontiers in Political Science*, 5, 1120287. <https://doi.org/10.3389/fpos.2023.1120287>
- Mose, N. (2025). Corruption, democracy, and economic growth in Kenya. *Asian Journal of Economics and Empirical Research*, 12(1).\* <https://doi.org/10.20448/ajeer.v12i1.6920>
- North, D. C. (1990). *Institutions, institutional change and economic performance*. Cambridge University Press.
- Persson, T., & Tabellini, G. (2005). *The economic effects of constitutions*. MIT Press.
- Rodrik, D. (2000). Institutions for high-quality growth: What they are and how to acquire them. *Studies in Comparative International Development*, 35(3), 3–31. <https://doi.org/10.1007/BF02699764>
- Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of Political Economy*, 94(5), 1002–1037. <https://doi.org/10.1086/261420>
- Rose-Ackerman, S., & Palifka, B. J. (2016). *Corruption and government: Causes, consequences, and reform*. Cambridge University Press.
- Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *The Stata Journal*, 9(1), 86–136. <https://doi.org/10.1177/1536867X0900900106>
- Sargan, J. D. (1958). The estimation of economic relationships using instrumental variables. *Econometrica*, 26(3), 393–415. <https://doi.org/10.2307/1907619>
- Solow, R. M. (1956). A contribution to the theory of economic growth. *The Quarterly Journal of Economics*, 70(1), 65–94. <https://doi.org/10.2307/1884513>
- Spyromitros, E., & Kenourgios, D. (2022). The impact of corruption on economic growth in developing countries and a comparative analysis of corruption measurement indicators. *Cogent Economics & Finance*, 10(1), 2129368. <https://doi.org/10.1080/23322039.2022.2129368>
- Sung, H.-E. (2012). Women in government, public corruption, and liberal democracy: A panel analysis. *Crime, Law and Social Change*, 58(3), 195–219. <https://doi.org/10.1007/s10611-012-9381-2>
- Tutuncu, A., & Bayraktar, Y. (2024). The effect of democracy and corruption paradox on economic growth: MINT countries. *Economic Change and Restructuring*, 57(4), 148–170. <https://doi.org/10.1007/s10644-024-09726-6>
- Ugur, M., & Dasgupta, N. (2011). *Evidence on the economic growth impacts of corruption in low-income*



*countries and beyond: A systematic review.* EPPI-Centre, University of London.  
World Bank. (2024). *World development indicators.* World Bank, Washington, DC.