

Does Corruption Impede the Influence of Women Empowerment on Economic Growth? Empirical evidence from BRICS Countries

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Abstract. Women have a prime importance in the developmental process of any state. The significance of this particular gender can be observed by the investments made in particular areas to raise gender equalities and women awareness. However, corruption inhibits economic growth even when women are putting their efforts into economic output. The current research has investigated the impact of women's empowerment on economic growth with the moderating role of corruption through time series data from 1997 to 2019. This research adopted single and average methods for data analysis. The estimated outcomes showed a similar pattern: women's empowerment is found to have a significant positive impact on economic growth. However, corruption is found to be moderating with an enhancing effect instead of a buffering effect. From the empirical investigation, it is concluded that more empowered women are likely to decline the corruption rate in selected BRICS countries. Because they began with the concept that women are essential to the process of economic growth, empowered women affiliated with the BRICS countries have been successful in enhancing their economic growth.

Key words: Women Empowerment, Economic Growth, Gross Domestic Product, Corruption

1 Introduction

In a growing competitive world, economic growth remains an important factor for maintaining and sustaining identity in this world. Women now form almost the 50% (49.6%) population of the world and an important factor contributing in GDP, thus getting involved in economic growth process. But this economic growth is hindered somewhat by the increasing corruption in competing states. The purpose of the study is to check the influence of women empowerment on economic growth in terms of GDP with identifying the moderating impact of corruption. Economic growth unaccompanied is not sufficient. It requires to be reticulated instead in the direction of comprehensive growth of women (e Saqib et al., 2016). Women are an important part of an economy. They contribute a lot towards economic growth specially if measured in terms of GDP. There is sufficient substantiation that when women are talented enough to build up their full labour market potential, there can produce momentous macroeconomic returns which contribute in raising GDP (Anderson et al., 2021). New speculations of economic growth also take

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this into contemplation that gender fairness is a primary element for economic development and the function of women to boost as economic welfare of the general public (Phan et al., 2020). Women a lot take part in a sovereign role in the commerce and specialized life by owning and running their own small degree enterprises (Madison et al., 2022). Research has revealed that communities that distinguish by gender be inclined to know-how less quick economic development and scarcity lessening than communities that take care of males and females more fairly and that social gender discrepancy generate economically incompetent outcomes (Bertay et al., 2020).

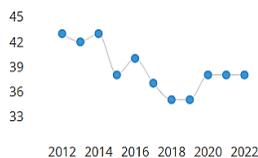
Encouraging honest and fruitful employment and income opportunities evenly for women and men is one of the core priorities of the International Labour Organisation (ILO). Merging gender concerns into employment endorsement can add on to more effectual elevation of production and economic growth; human resources development; long-lasting development; and minimizing poverty. Universally now women empowerment is taken as a key issue discussed on both formal and informal grounds especially with regards to women representation on political grounds. At first the conference of NAIROBI in 1985, the notion women empowerment was introduced. To boost women empowerment, education has a central role as it helps them to respond to challenges by performing their transformational role. India is such a state that still lacks in its development. India can only improve its growth and reach developmental goals through empowerment of its women (Sha and Sharma, 2020). As statistics show that literacy rate of women (39%) is almost the half of that is of men (64%) in India (Sha and Sharma, 2020). An independent structure of politics and policy regulation will enable women' development in diverse spheres of economy. Women being a major part of society contribute well in its welfare by participating in economic growth at both macro and micro levels (Osabuohien et al., 2019). This participation may be for the purpose of their individual lifestyle improvement or for being a useful part of their economies. Women can act as competent distributors of the supply of goods and services. As they can be a vital source for removing poverty and eradicating scarcity of resources from a state by indulging in different programs, for example cash shift programs (Siba, 2019). Further, Wei and Han (2021), add that with the passage of time women have started to earn more reducing the helplessness and enhancing the asset formation. Further, Hussain et al. (2021), state that if women are brought on prominent positions with specific changes in communities and economic structures, then a better economic output can be seen.

To make women a participative factor in economy, women need to be empowered. Nahar and Mengo (2022) state that women empowerment is specifically important in developing countries where women literacy, labour participation and employment-to-population rate is quite low. The actual concept of empowerment is still not properly expressed in writing, making it a prime concern for academicians and analysers. In beginning, United Nations in 2001 took the matter to consideration to for the relevant structures. They then described the concept of empowerment with regards to women as their possession and hold over their activities through which they make expansion in their choices (Topal et al., 2019). The concept also includes the understanding of women of their worth, their own assurance and how they influence as a gender (Topal et al., 2019). Literature on economics elaborates two of the stated measures in writing that direct the concept of empowerment (Nahar and Mengo, 2022). One of the measures of the empowerment is referred to as grant of self-confidence to the women are deprived in the men dominating societies and the other in labelled as economic protection to this gender in particular. World Bank defines the empowerment concept the same as providing right to strengthen and construct confidence in someone.

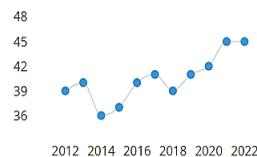
When an individual in public office makes wrong utilization of its power for the sake of

self-benefit that person is said to be performing the act of corruption. Women are mostly the underrepresented examining their position at executive levels in different domains of state including political as well as societal (Hessami and da Fonseca, 2020). The world has transformed to an advanced world with numerous transformations in it, but still women is gender experiencing inequality pressures at both family and state level (MacLeavy et al., 2021). Whereas advancements in health Pant (2020) and right to have education have been astonishing (Habib and Hasan, 2019). There is still unsatisfaction with regards to female representation in politics (Kage et al., 2019). The authority over the wealth and the power makes corruption an easy practice for the individuals. In criminology provisions, authority offers the needed inspiration and incentives for immoral attitudes (Cohen and Felson, 1979). But this was not found to be true for women at the leading positions by the World Bank's Engendering Development report. Using the corruption index compiled by the International Country Risk Guide, women were found to be less effective of the corruption and were perceived to have a negative association with corruption. In "Are Women Really the 'Fairer' Sex? Corruption and Women in Government" article published by World Bank females were found to be less effective of corruption which means women impart a greater contribution in the economy by conducting activities in a fairer way (a healthy economy). Corruption stood a central issue both in deprived countries and highly developed economies because of its negative influence on economic off-shoots such as investment, economic growth, and per capita income (Jha and Sarangi, 2018). The influence of women empowerment on economic growth is an analytical subject since the conceptual argument around it is still unclear, especially in the presence of high corruption rates. Moreover, Malanski and Santos Póvoa (2021) claim that corruption limits the economic freedom of a state. Further, Urbina and Rodríguez (2022) add that BRICS economies have been limited in their economic growth with the rising corruption rates. In a race to achieve sustainable developmental goals, BRICS countries are putting their efforts into women empowerment. In such a case, what impact corruption holds on women contribution towards the economic growth in BRICS countries, is a question to be answered. The current research will make this novel contribution in the context of BRICS countries.

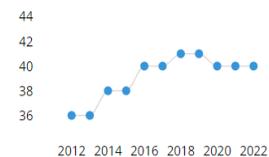
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BRICS countries, however, face a high corruption perception rate. Russia among all other BRICS countries has the highest corruption rate (Bitterhout et al., 2020). Due to high rates of corruption in BRICS countries, it is significant to study corruption's effect that it holds on economic growth of these countries (Bitterhout et al., 2020). Gender inequality is a common and most prevailing issue in BRICS countries (Kizilova and Mosakova, 2019). Santos Silva and Klasen (2021), states that a country facing gender inequality and less empowered women bear reduction in their economic growth. But even if the women empowered in BRICS countries, is there a still chance of economic growth in the situation of prevailing high corruption rates? Whereas,

[Merkle \(2022\)](#) supports the idea that women have a significant role in anti-corruption initiatives. To answer the query, the current research aims at investigating the impact of women empowerment on economic growth with corruption as ([Bitterhout et al., 2020](#)).

The current study is an interesting investigation for the economist and policy makers of BRICS countries as it is identifying an important determinant for their economic growth i.e., women empowerment and describing the intensity of its effect. In the light of current research policy makers and governments will be able to identify more opportunities for women in the state making them empowered. But the problem of high corruption exists in these states. This paper further investigates the buffering effect of corruption on the impact of women empowerment on economic growth. As according to Asia-Pacific Economic Cooperation Report 2021 there are the social networks and systems that enable corruption to spread more difficult, however, women's empowerment is a potent strategy for reducing it. Moreover, the current research can be interesting addition to the theory filling the gap of studying the above mentioned three variables (i.e., women empowerment, economic growth and corruption) together in the BRICS countries.

2 Literature Review

2.1 Women Empowerment and GDP

The most crucial factor in assessments of economic growth is Gross Domestic Product (GDP). GDP tracks short term fluctuations in growth ([Kizilova and Mosakova, 2019](#)). The OECD defines GDP as "an aggregate measure of production equal to the sum of the gross values added of all resident and institutional units engaged in production and services (plus any taxes, and minus any subsidies, on products not included in the value of their outputs)." GDP is viewed as the most significant pointer for measuring economic growth and progress ([Lepenies, 2016](#)). Over the long term the operations of swift economic growth appear to be powerfully concurrent with developments in the wealth and health of the humanity ([Pomi et al., 2021](#)). There is, therefore, no uncertainty as to the fundamental nature of the affiliation between speedy economic growth and the health of the industrial functioning population in Britain during its traditional era of industrialization ([Szreter, 1997](#)).

[Mishra et al. \(2020\)](#) state that women play a significant role in making a state prosperous by contributing and participating in economic growth. Now states are focusing their attention on gender equality policies to empower women so as to enhance economic growth. Women are now scene in the world at both macro and micro levels multiplying the state's prosperity. Moreover, [Haq et al. \(2021\)](#), state that female labour force participation rate positively influences the economic growth of a state i.e., GDP. They conducted their research in specific to Bangladesh. Another study in Mediterranean countries support the notion that changes in female labour force participation rates bring changes in gross domestic product of that economy ([Dursun and DAMADOĞLU, 2020](#)).

Established on International Labour Organization (ILO) statistics, [Aguirre and others \(2021\)](#) state that out of the total 865M females that have the ability to participate in the economic activities, 812M women are part of the developing states. The above data shows the influential power of women in an economy. In regard to this, now intelligent nations are focusing on empowering their women to make their economies flourish. An example of this can be seen in Saudi Arabia. It has a \$23,000 GDP per capita. And on the other side Saudi Arabia is ranked as on 123rd position out of the total 128 for its women involvement in economic activities. The ranking is

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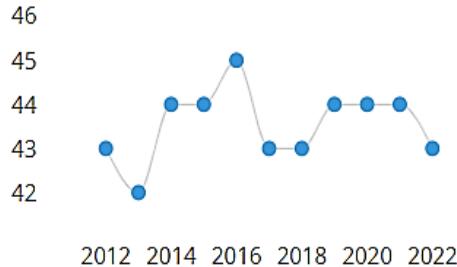


Figure 1: CPI of BRICS Countries from 2012

given in Third Billion Index which was actually conducted by Booz & Company for the third time. In addition to economic growth, Saudi Arabia introduced the policy to let women drive to make them feel ease in participating in economic activities. Before this most of the Saudi women have to leave their jobs as they couldn't afford rent to hire a car to go to the job place. This raised women participation rate in Saudi Arabia from 22% to 30%. This leads us to our first hypothesis:

H₁: Women empowerment has a significant and positive impact on GDP (economic growth).

2.2 Moderation of Corruption

The next question this paper raises that how much effect does corruption imparts on women empowerment impact on economic growth. To address this question author reviewed a lot of literature which in conclusion states that women are less likely to be corrupt as compared to male gender thus contributing more into the economic prosperity (Jha and Sarangi, 2018). A study on France women, it was found that women at executive posts are more likely reduce the corruption risks. Moreover, DiRienzo and Das (2019) results show that women in their positions are more likely to reduce corruption bringing positive environmental outcomes. Results were reliable at all levels of investigation. In comparison to women men are more prone to corrupt activities, bribery is a common practice in most businesses controlled by the men, and it was seen that less corrupt countries had more women in leading positions (DiRienzo and Das, 2019). This bulk of proof at multiple levels directed investigators to foretell that strategies that encouraged and aided gender equality would successfully trim down corruption (Guerra and Zhuravleva, 2022; Jha and Sarangi, 2018). Jha and Sarangi (2018) found out that lesser corruption to be concurrent with both women's existence in the labour force as well as in parliament by means of cross-country analysis. Studies show that women and corruption have negative association, thus women empowerment is accompanied by less corruption and more economic prosperity in terms of GDP. This leads us to our second hypothesis:

H₂: Corruption moderates the relationship between women empowerment and GDP (economic growth).

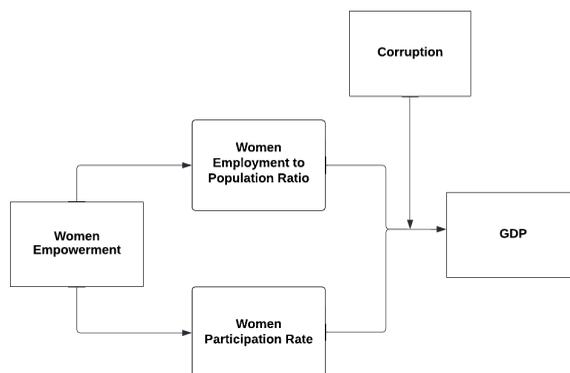


Figure 2: Research Model

3 Research Methodology

In this paper, secondary data is used. The data is analysed using conventional method technique. The data was collected from worldbank.com and transparency.com. Data used was gathered for developing BRICS countries: Brazil, China, Russia, India and South Africa. The data is analysed using E-Views. Women empowerment was measured with two scales including women employment-to-population ratio women labour participation rate. Economic growth is measured in terms of GDP. Corruption is measured in terms of corruption purpose.

3.1 Data Source

Data of dissimilar constructs of different time durations have been used in this research investigation. The women empowerment index was designed that indicates women employment-to-population ratio women labour participation rate. Data was gathered from numerous world development indicator; data of Corruption was collected from transparency.com while data of GDP growth was collected from IFS (International financial statistics) of IMF various issue. Data set consists of the period of 1997 to 2019.

3.2 Econometric Modelling

Women empowerment has been explored by many previous researchers especially in the domain of microfinance. However, researches still lack the proper investigations describing the significance of the women empowerment. determinant to quantify women empowerment was created. To investigate the construct of women empowerment the current investigation undertakes the design as follows:

1. Women employment-to-population ratio.
2. Women labour participation rate.

Equivalent weight (50%) to each variable is given which may be valuable to gauge women empowerment.

$$GDP_t = \zeta_0 + \zeta_1.EPR_t + \zeta_2.EPR_t * CR_t + \mu_t$$

$$GDP_t = \lambda_0 + \lambda_1.LPR_t + \lambda_2.LPR_t * CR_t + \mu_t$$

$$GDP_t = \eta_0 + \eta_1.WE_t + \eta_2.WE_t * CR_t + \mu_t$$

The model defines as, the women empowerment increases in a country over the time a positive increase in GDP can be seen. Women play a significant role in making a state prosperous by contributing and participating in economic growth. Now states are focusing their attention on gender equality policies to empower women so as to enhance economic growth. Women are now scene in the world at both macro and micro levels multiplying the stats prosperity. More women participation leads to a more prosperous economy. According to economic theory and studies, women are a source of eradicating poverty as how by studies their exist an inverse relationship between women empowerment and poverty (Hussin et al., 2021). The more the women are educated the more prosper is the economy. As studies found a positive association between education and women empowerment (Osabuohien et al., 2019).

Also, studies of previous authors show the more the women employment rate the more is the GDP of that state or economy (Doepke and Tertilt, 2019; Edmans, 2011; Firmansyah and Sihaloho, 2021). Further, Doepke and Tertilt (2019) in their study elaborated that women empowerment has a positive association with the economic state of a country. The developing state lack the women participation in economic activities thus making those states lag behind in economic activities (Firmansyah and Sihaloho, 2021). Results for all the constructs is shown in elasticity form means that results are taken in natural log explaining the percentage change in explanatory construct source to percentage change endogenous construct. Figure 1 shows GDP index from 1997 to 2019 it has increased over the period for all the developing states listed below. This is due to the reason that there is an increased women participation in these economies over the period.

4 Results

4.1 EPR-to-GDP with CR as Moderator

Table 4.1: EPR-to-GDP with CR as Moderator

Source of Variation	Gross Domestic Product – GDP		
Employment-to-Population Ratio – EPR	ζ_0	ζ_1	ζ_2
	0.012481	6.782150	2.346305
	(0.7711)	(0.0000)	(0.0001)

Source: Author's Own Calculations. () indicates p-values.

Table 1 runs the analysis using single tool women employment to population rate (EPR) to measure women empowerment. Table 1 depicts that women employment to population ratio has a significant positive impact on GDP with a p value 0.0000 and with a beta value of 6.782150. Thus, supporting our first hypothesis on economic growth (GDP). However, corruption was

found have enhancing moderating effect between the relationship of Women Empowerment (EPR) and GDP, partially rejecting our second hypothesis.

4.2 LPR-to-GDP with CR as Moderator

Table 4.2: LPR-to-GDP with CR as Moderator

Source of Variation	Gross Domestic Product – GDP		
Labour-to-Population Ratio – LPR	λ_0	λ_1	λ_2
	0.006572	6.547198	2.399798
	(0.8865)	(0.0019)	(0.0040)

Source: Author's Own Calculations. () indicates p-values.

Table 2 runs the analysis using single tool women labour participation rate (EPR) to measure women empowerment. Table 2 depicts that women labour participation rate has a significant positive impact on GDP with a p value 0.0019 and with a beta value of 6.547198. Thus, supporting our first hypothesis on economic growth (GDP). However, corruption was found have enhancing moderating effect between the relationship of Women Empowerment (LPR) and GDP, partially rejecting our second hypothesis.

4.3 WE (Avg. of EPR & LPR)-to-GDP with CR as Moderator

Table 4.3: WE (Avg. of EPR & LPR)-to-GDP with CR as Moderator

Source of Variation	Gross Domestic Product – GDP		
Women Empowerment – WE	η_0	η_1	η_2
	0.012160	7.697854	2.780900
	(0.7844)	(0.0001)	(0.0003)

Source: Author's Own Calculations. () indicates p-values.

Table 3 depicts impact of women empowerment on GDP by suing average of both tools for women empowerment measurement (ERP and LPR). Table 3 shows that women empowerment holds significant positive impact on GDP with a p value of 0.0001 and a beta value of 7.697854. Thus, accepting our first hypothesis on economic growth (GDP). However, moderation of corruption between women empowerment and GDP was found to be positive and enhancing thus partially accepting our second hypothesis. Women empowerment (ERP + LPR) and Corruption both combinedly predict 15.97% of GDP of the countries under investigation. Both methods show the same results for our data under study. Thus, accepting our first hypothesis completely that women empowerment has a significant positive impact on gross domestic product. Similarly, both the results show partial acceptance of moderation of corruption between women empowerment and gross domestic product. Thus, partially accepting our second hypothesis.

5 Discussion

Results support our first hypothesis that women empowerment has a significant positive impact on gross domestic product. Women play a vital role in the development of their economies. [Girón et al. \(2022\)](#) found in their research a negative association between gender inequality and economic growth. It means the more the women involvement in the economic activities the more that economy develops. [Saqib \(2016\)](#) also found in his research that more women participation and empowerment lead to better GDP and long-term economic growth. [Duflo \(2012\)](#) argue in their research work that both women empowerment and economic growth (GDP) complement each other. Rise in women empowerment leads to economic growth (GDP). Contrarily, economic growth (GDP) leads to more women empowerment in a state. Saudi Arabia has shown a much growth in their economy with recent rise in involvement in their economic activities.

Our results, however, partially accept our second hypothesis that corruption moderates between the relationship women empowerment and gross domestic product. Our results show that the moderation exist between women empowerment and gross domestic product but in an enhancing role. However, our research hypothesized it in buffering role. [Dutta et al. \(2018\)](#) found that women empowerment and corruption hold an inverse relationship. He stated that states facing higher corruption rates results into more gender inequality leading to less empowered women. A significant justification to the current results can be explained by [Alexander and de Vries \(2021\)](#) work. In his review of literature, he identified two theories regarding gender and corruption. The current paper hypothesized the first theory that a higher gender equality rate by empowering women contributing to economy is hindered by corruption. However, results showed the second theory explained by [Alexander and de Vries \(2021\)](#) that higher corruption rates weaken gender inequality this indicates more corruption. Women perceive corruption differently than men. [Forgues-Puccio & Lauw \(2021\)](#) also state that women's participation in economic activities reduces the possibility of corruption thus enhancing economic development. Being a fighter, women then more contribute to the economic growth in the presence of corruption.

6 Conclusion and Future Recommendations

This paper has investigated the impact of women empowerment on GDP (economic growth) with the moderation of corruption in five developing states including Brazil, Russia, India, China, and South Africa using time series data from 1997 to 2019. Using both single and average method results depicted the same pattern. Women empowerment was found to have significant positive impact on GDP (economic growth). Corruption was however, found to be moderating with enhancing effect instead of buffering effect. As women are considered agents of anticorruption, they are likely to contribute more to economic growth in the presence of corruption. The current research undertakes only developing states. Future researchers can test the same model on different developing states. Furthermore, the data for the current study was collected over a span of 22 years from 1997 to 2019. Future researchers can test the same model on different developing states. The current study undertakes only two tools to measure women empowerment i.e., women employment to population ratio and women labour participation rate. Future researchers can test women empowerment using different tools like women literacy rate, population, women and men in families, health, education, work, and political decision-making etc.

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