

Impact of remittances on poverty and economic growth: A case of BRIC economies

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ABSTRACT

Aim: This research article aims to evaluate the impact of the remittance on the economic growth and poverty while drawing the evidence from the BRIC economics

Methodology: Quantitative secondary data was used, and data were collected from the four countries from 2001 to 2020. The data were analysed through the STATA software, which provides the results of the GLS regression model.

Results: The results state an insignificant positive relationship between the GDP and remittance. While on the other hand, there is a significant relationship between remittance and poverty.

Limitations: To conduct this research, the data was collected specifically from the BRIC countries, which restricts to incorporate the evaluation of other nations, and future researchers must evaluate the impact of remittance on the poverty and the economic growth while considering the other countries

Keywords: Poverty, Economic Growth, GDP, remittance, BRIC economies

INTRODUCTION

Remittances are considered an essential source of earnings from foreign exchange for the BRIC countries (Emara, and Zhang, 2021). Poverty eradication considers an urgent task established by the communities presented in a world in the development of millennium goals. In addition, the progress of BRICS countries, which involve Brazil, Russia, Indonesia, China, and South Africa,

is considered the regional leaders in decreasing poverty. Moreover, it consists of great practical and scientific interest for the recipient economies' geographers concerning the typological individualities and the tools and approaches used (Elbatanony et al., 2021). In addition, poverty is present in a significant part of today's world population. Moreover, it is also identified that poverty is considered one of the urgent challenges confronting the worldwide communities as it mainly threatens the stability of politics and gives the idea of a magnitude of irregular and not equal distribution of the rare resources (Oad Rajput, Bajaj, and Siyal, 2019).

Furthermore, according to the report performed by World Bank (2017), it is recognized that the BRIC states that Brazil, China, India, and South Africa mainly account for approx. 44% poor population of the countries generally lie down in the developing stage and around 42% globally. According to Massarova and Potapenko (2018), the major three countries, Brazil, Russia, and China have exposed massive progress in eradicating the BRICS countries. The least rate of poverty generally characterizes them.

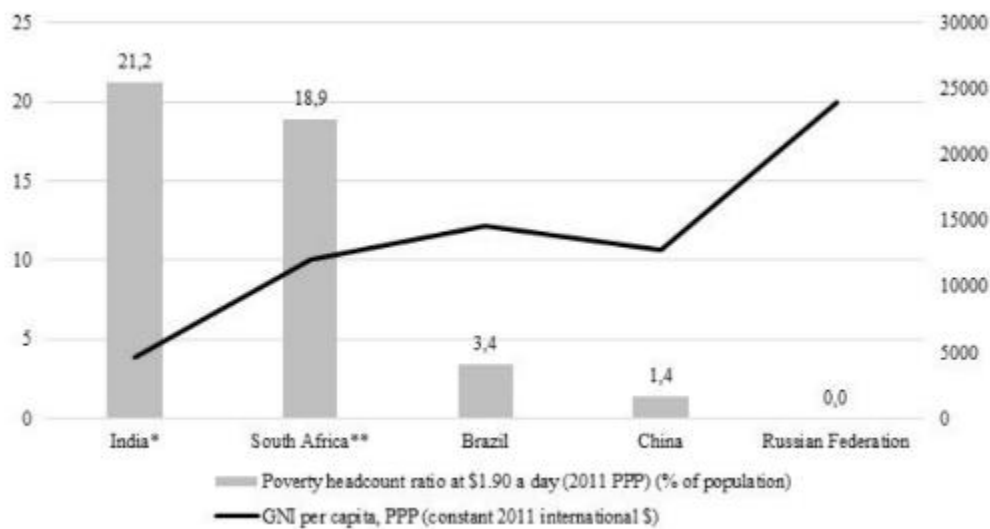


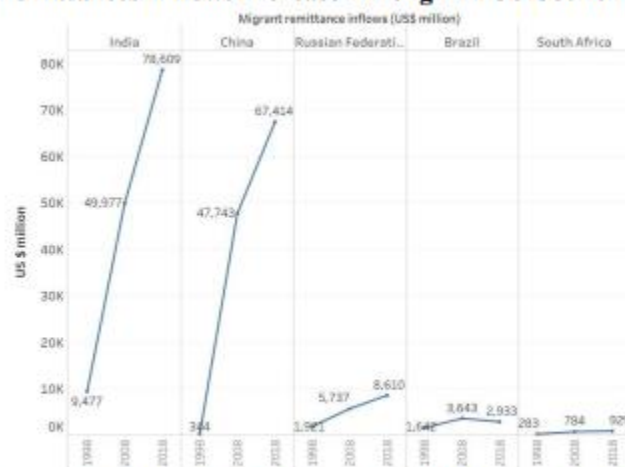
Figure 1: Poverty Headcount Ratio
Source: Massarova and Potapenko, (2018)

Additionally, the remittances inflow positively influences the poverty level and the economy's growth by declining the current account discrepancies, enhancing the balances of payment

positions, and declining the dependency on external borrowing (Abduvaliev and Bustillo, 2020). In addition, the remittances inflows strengthen the growth of an economy and reduce the level of poverty by inspiring the revenue and income of the proposed countries, declining the constraints of credit, and increasing the development of humans by providing finances evenly for better health and education (Tsaurai, 2020).

While on the other hand, Asiedu and Chimbar (2020) identify that the remittances negatively influence the economic growth of a recipient country because an essential flow of the remittances decreases the labour force participation and the efforts of a work which depresses the output. Consequently, the influence of remittances on the recipient countries' development and economic growth has been controversial. Even though, according to Abduvaliev and Bustillo (2020), it has been identified that international remittances impact poverty reduction in particular villages or countries. Moreover, very little attention has been compensated to the influence of the global remittances on poverty reduction in BRIC countries. In addition, Asiedu and Chimbar (2020) highlighted other pointers to poverty. The substantial enhancement in the average flow of remittances in the BRIC economies is primarily derived from the vertical enhancement in the remittances on mainly two regions of the BRIC economies, namely India and China, over a similar period, getting around the \$67 BN and \$79 BN in the year 2018 respectively.

Figure 3
Remittances Inflows Increase Among BRICS Countries



Source: Authors based on data from World Bank staff calculation based on data from IMF Balance of Payments Statistics database and data releases from central banks, national statistical agencies, and World Bank country desks.

Figure 2 Remittances Inflows Increase among BRICS Countries
 Source: Emara and Zhang, (2021)

In addition, emphasizing the interest in Brazil, China, and Russia is practical because two of the major countries, China and Brazil, are identified as the regional leader in eradicating poverty. Besides, in the comparative to the extreme global poverty threshold level inside the strategies of attaining the primary developmental goals. Moreover, consideration paid to Russia is described by the existence of a kind of inconsistency (Pinto et al., 2018). While on the other side, Russia is considered the only country in the BRIC group where the rate of the amount of the poor, measured by the extreme global level of the poverty threshold, is equal to zero (World Bank, 2017). Moreover, it has been evaluated that the concern of poverty in Russia positions firmly in the continual crises, and the poverty rate has grasped the record since 2008 (Jakovljevic et al., 2019). In addition, 19.2 million individuals (the rate of 13.3% of the recipient country's population) in the year 2016.

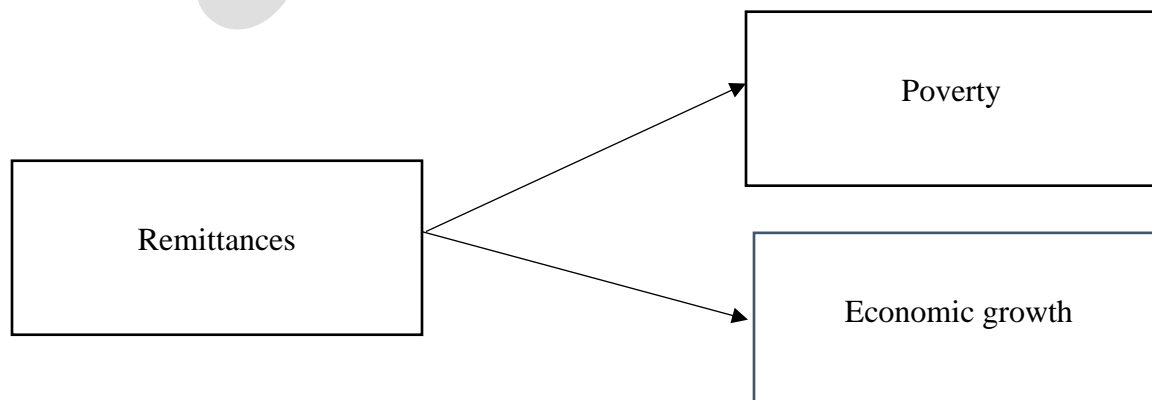
The balanced remittances flow due to the integration of financial aspects has already taken hold of the attention of policy advisors and academicians (Bindu et al., 2021). Despite the growing significance of remittances, the investigation of the impact of remittances on economic growth and poverty in the BRIC countries (Bindu et al., 2021). In addition, despite the rising significance of

the remittances, examining the remittances on economic growth and poverty in Brazil, Russia, India, and China remain unexplored. Consequently, the following paper analyses the impact of remittances on poverty and economic growth. Moreover, the paper also investigates the short-run and long-run relationship between the proposed variables utilizing the information from Brazil, Russia, India, and China. `

LITERATURE REVIEW

The following paper examines the differences and features in measuring poverty in Russia, China, and Brazil. In addition, for these devotions, the journal utilizes a comparative analysis of the techniques that can measure the poverty rate at the national level. Apart from this, according to the study performed by Nielsen and Holdt (2019), it is observed that studying these characteristics and features in the instance of Brazil, Russia, and China have primarily different ways of evaluating the poverty, which has a higher level of practical implication (Bindu et al., 2021).

Conceptual Framework



The conceptual framework demonstrates the proposed variables undertaken in the study to identify the influence of remittances on economic growth and poverty. However, the independent variable of the journal consists of one independent variable: remittances. And two dependent variables are poverty and economic development. In addition, the only independent variable is remittances which are considered a significant source of earnings economy. While on the other hand, there are two dependent variables. The first dependent variable consists of poverty which eradication considers an urgent task in the progress of a country. The second variable consists of economic growth, which assesses the recipient country's progress and success (Bindu et al., 2021). Similarly, the controlling variables presented in the study involve the rate of inflation and unemployment in a country, which can help determine the economies of BRIC countries. From this time, by following all the particular components, it will be helpful for a country to take a further step towards enhancing the economy and eradicating poverty in the BRIC countries by considering the influence of the remittances on them.

H1: There is a significant impact of remittances on poverty

It has been observed that the local approaches to the poverty measurement mainly reflect the individualities of distinct countries' socio-economic development, highlighting the concerns integral to them (Bindu et al., 2021). According to the study conducted by Khan, Ahmad, and Khan (2020), it is identified that the various components of remittances mainly differentiate them from the other international flows of investment. Moreover, remittances play a crucial role in the entire income obtainable to the recipient communities. Similarly, the study also identified that they also give the idea to be more established and stable than other worldwide flows. In line with that, the light of the respective research by Islam (2022) suggests that the critics of the specific policies that motivate the remittances in a country claim a negative influence on Brazil, Russia, India, and China. Moreover, in an analysis of the present review of literature, it is identified that the respective view implies that the additional income from attaining the remittances becomes set in the structures

with the disseminated rate of poverty in the BRIC countries and can encourage the stagnation of an economy instead of the economic growth (Osinubi, and Asongu, 2020).

Additionally, a slightly diverse view of the economy's dependency holds that remittances are mainly responsible for generating the dependent associations between the receiving and sending countries (Islam, 2022). In addition, at the level of nationalization, the dependency on migration and remittance does not mainly release the governments from the task of providing various employment opportunities and establishing various welfare associations for those indeed in need. Osinubi and Asongu (2020) observed that the remittance support in the countries is not considered a substitute whose aim is to reduce the level of poverty in a country and economic growth.

H2: There is a significant impact of remittances on economic growth

It has been evaluated that the remittances are considered a constant premium which is not mainly affected by the remitting migrants from the similar and identical family or the status which determine the poverty level of the receiving family household (Meyer and Shera, 2017). However, it is assumed that remittances are not considered a substitute that mainly relies on reducing the poverty level and benefiting the economy's growth. In addition, an essential contribution to the research study of the socio-economic concerns in BRIC countries involves Brazil (Khan, Ahmad, and Khan, 2020; Bajra, 2021). They mainly focus that the primary principles of the association between the "state," "society," or "market" predominant in the previous past eras cannot mainly operate efficiently during the proactive alteration of the international economic system. Moreover, according to the study performed by Khan, Ahmad, and Khan (2020), it is identified that the economic growth remains imbalanced and inflames the social inequality.

Additionally, without the inclusive systems of finance and economies, the less privileged individuals must rely on their limited savings to invest in their education of these individuals and become entrepreneurs (Deng, Liu, and Sohail, 2022). In addition to that, small enterprises necessarily rely on the limited earnings of these earnings to pursue promising opportunities for promising growth. In addition, this may contribute to the persistent income inequality and slower growth of an economy (Tsauroi, 2021). Additionally, in the study of Bajra (2021), the economies that are financially competitive markets, the financial enclosure assists these individuals in

diversifying the possible risk. Moreover, it lowers the inequality in income levels and contributes to the international management system, which finally becomes an essential factor for the growth of an economy.

Moreover, for the countries where the communities and the trust systems are in need, the financial remittances provide an opportunity for the countries to play a role in the international financial system (Cihak and Sahay, 2020). For that reason, the strengths of the financial aspects and remittances end with the power-up engine for economic growth and declining the level of risk and inequality.

METHODOLOGY

The following research article mainly investigates the impact of remittance on economic growth and poverty while drawing evidence from BRIC economics. To conduct this study, the quantitative secondary data collection method was adopted. The data was also collected from the relevant sources related to BRIC economics as the research is concentrated on the BRIC economies. Therefore the data was collected from the four countries, Brazil, Russia, India, and China, as these are considered the BRIC economies. The time frame in which the data was collected is from 2001 and 2020, based on the accessibility of the dataset.

Variables of the study

The study investigates the impact of remittance on economic growth and poverty, mainly in the BRIC economies. Therefore the research adopts the variables that are appropriate for the research. The table that is presented below concerns the variables included in the research and the name of the sources through which the data was collected for that variable.

| Variable | description | Source of data collection |
|-----------------------------------|---|------------------------------|
| Remittance (independent variable) | Remittance is demarcated as the money direct by individuals employed in | World development indicators |

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|--|--|------------------------------|
| | foreign nations and sent cash to their family | |
| Poverty (dependent variable) | Poverty is described as the decline or reduction in poverty index or poverty rates, or It is measured as a proxy infant mortality rate (IMR) | World development indicators |
| GDP growth (dependent variable) | GDP growth signifies the % of the growth that has happened due to the manufacture of goods and services | World development indicators |
| Households and NPISHs (control variable) | It is described as the combined gross income for all members of a household above the pre-determined age | World development indicators |
| External debt stocks (control variable) | It is described as the debt portion of a nation that was attained from international lenders, including administrations, commercial banks, or worldwide financial institutions | World development indicators |
| Gross capital formation (control variable) | Gross fixed capital formation, also denoted as investment, is defined as the completion of generated assets encompassing second-hand assets acquisitions, containing | World development indicators |

| | | |
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| | the making of such assets by producers for their different use, deducted from clearances. | |
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DATA ANALYSIS

The data was analysed by incorporating the STATA software, where the dataset is presented as the panel data set since it includes the different nations and periods. The panel data analysis is conducted using the GLS regression model after detecting diagnostic issues. Apart from these, descriptive statistics and correlation analysis were common techniques used to interpret the results.

Descriptive statistics

The table below reflects descriptive statistics, and it is presented in the table that there are 80 observations in the data set. The mean mortality rate is 21.263%, which states that the average mortality rate around the BRIC countries is 21.263% while the standard deviation is 15.731%. The second variable is a household expenditure, which has an average value of 52.480% and deviates or decreases to 9.429%. Moreover, the mean value of the remittance is 1.005%, which indicates that the average personal remittance in the BRIC economies is 1.005% and has a standard deviation of 1.294%, which signifies the possible decrease or increase in the mean value. The mean value of gross capital formation is calculated as 29.442%, which validates an average rise of GCF in BRIC economies by 29.442%. The standard deviation is calculated as 10.214%, which determines the decline or incline of GCF by 10.214%. Moreover, the external debt has an average value of 23.333%, and the standard deviation is computed as 9.831%. Lastly, the mean value of the GDP is computed as 4.933%, indicating that the average level of GDP in the BRIC nations is 4.933%, and follows the standard deviation is computed as 4.220%.

| Variable | Obs | Mean | Std. Dev. | Min | Max |
|----------------|-----|--------|-----------|--------|--------|
| mortality rate | 80 | 21.263 | 15.731 | 4.4 | 64.4 |
| households | 80 | 52.480 | 9.429 | 34.326 | 64.764 |
| remittance | 80 | 1.005 | 1.294 | 0.090 | 4.169 |

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|---------------|----|--------|--------|--------|--------|
| GCF | 80 | 29.442 | 10.214 | 14.626 | 46.660 |
| external debt | 80 | 23.333 | 9.831 | 8.359 | 47.077 |
| GDP | 80 | 4.933 | 4.220 | -7.800 | 14.231 |

Correlation analysis

Correlation analysis assesses the relationship's strength between the variables denoted from the correlation coefficient. On the other hand, the significance among the variable can be identified by the p-value, which should be less than 0.05; however, concerning the results mentioned below, values that have the (*) sign indicates the significance among the variables (Senthilnathan, 2019). The table below concerns the correlation analysis, and it can be seen that there is a significant and strong interconnection between remittance and poverty, having a value of 0.83*. On the other hand, it can also be observed that there is a significant relationship between GDP and poverty. However, the variables have a weak interconnection between each other as the value of the coefficient is computed as 0.2265*. The relationship between the household's expenditure and poverty has a moderate as well as significant interconnection as the coefficient value is computed as 0.4205*.

| | mortality rate | Households | remittance | GCF | external debt | GDP |
|----------------|----------------|------------|------------|----------|---------------|-----|
| mortality rate | 1 | | | | | |
| households | 0.4205* | 1 | | | | |
| remittance | 0.8357* | 0.3549* | 1 | | | |
| GCF | 0.2005 | -0.7288* | 0.2657* | 1.0000 | | |
| external debt | -0.2196 | 0.4281* | -0.1594 | -0.7330* | 1 | |
| GDP | 0.2265* | -0.5340* | 0.1024 | 0.6368* | -0.5389* | 1 |

Diagnostics test

There are two analyses in the Diagnostics test: heteroskedasticity and autocorrelation. These two tests are analysed to examine whether the OLS regression model or the GLS regression model will be used. Heteroskedasticity signifies the state where the variance of residuals is not equivalent over a degree's value assortment (Baum and Lewbel, 2019). Autocorrelation evaluates the interconnection of the observation between the different points in a period and pursues the drifts or forms over time (Ching and Phoon, 2019). To examine the heteroskedasticity modified Wald

test is applied. The null hypothesis of the test state that the residuals are homoskedastic, while the alternative hypothesis indicates that residuals are heteroskedastic. To accept the null hypothesis, the value of the modified Wald test must be above 0.05 (Siddiqui and Qadri, 2019). Other than the autocorrelation can be evaluated through the Woolridge test, where the null hypothesis presents that there is no presence of an autocorrelation issue and the alternative hypothesis indicates the presence of an autocorrelation issue. The null hypothesis acceptance threshold is that the value of the Wooldridge test must be higher than 10% (Mwangi, 2013). The table presented below shows that the heteroskedasticity null hypothesis will be accepted as the value of the Modified Wald test is 0.482 which is above the threshold and indicates no heteroskedasticity issue. At the same time, the null hypothesis of autocorrelation is rejected as Wooldridge test P-value is 0.025. The value is less than the threshold indicates that the three is the issue of autocorrelation. Hence, the GLS regression model will be adopted to clear the autocorrelation issues.

| | |
|--------------------|--------|
| Modified Wald test | 0.4824 |
| Wooldridge test | 0.0246 |

Regression Analysis

GLS Regression model for GDP:

In the table below, the GLS model of regression for the GDP is presented. It can be observed in the table that there is an insignificant relationship between the GDP and the remittance as the p-value is 0.240, which is higher than the regression threshold, which is the value must be below 0.05. Moreover, the coefficient value is calculated as 0.668, which validates that remittance positively affects the GDP development of BRIC economies. Regarding household expenditure, it is found to have a negative and significant influence on the GDP growth of the BRIC economies. It describes that household expenditure has a negative influence on the growth of GDP, where one unit rise in household expenditure can cause a decrease in the GDP by -0.202. Gross capital information has an insignificant positive relationship with the GDP with the external debt also has an insignificant as well as the negative relationship with the GDP that has a p-value of 0.051, and the coefficient value is computed as -0.118

| GDP | Coef. | Std. Err. | z | P> z |
|----------------------------|--------|-----------|--------|-------|
| Personal remittance | 0.668 | 0.568 | 1.180 | 0.240 |
| Householdsandnpishs | -0.202 | 0.112 | -1.790 | 0.073 |
| Grosscapitalformationofgdp | 0.022 | 0.125 | 0.170 | 0.863 |
| Externaldebtstocksofgni | -0.118 | 0.061 | -1.950 | 0.051 |
| _cons | 16.974 | 9.776 | 1.740 | 0.083 |

GLS Regression model for poverty

The table presented below concerns the GLS model of regression for the GDP. It can be observed that there is a significant impact of remittance on poverty as the p-value is computed as 0.00, which is lower than the threshold. Hence, it also positively influences poverty as the coefficient value is 5.257. Moreover, household expenditure also has a significant and positive influence on poverty [P value= 0.00, C= 1.161]. Concerning the gross capital information, it is found to have a significant and positive influence on poverty with a p-value of 0.004 followed by a coefficient value of 0.879. The last component in the table below is the external debt, and it can be seen that external debt has an insignificant and negative interconnection with poverty.

| mortalityrateinfantper1000livebi | Coef. | Std. Err. | Z | P> z |
|----------------------------------|---------|-----------|--------|-------|
| personalremittances | 5.257 | 1.390 | 3.780 | 0.000 |
| householdsandnpishs | 1.161 | 0.275 | 4.220 | 0.000 |
| grosscapitalformationofgdp | 0.879 | 0.305 | 2.880 | 0.004 |
| externaldebtstocksofgni | -0.048 | 0.148 | -0.330 | 0.743 |
| _cons | -69.700 | 23.924 | -2.910 | 0.004 |

Discussion

The purpose of conducting this research was to analyse the impact of the remittance on economic growth and poverty while considering the BRIC economies. The results have stated an insignificant and positive relationship between the GDP and remittance. On the other hand, there is a significant relationship between remittance and poverty. By relating this research with the previous studies, Javid, Arif, and Qayyum (2012) study investigated the remittance impact on poverty and the economy's growth. The data was collected from Pakistan, and the period taken

was 1973-2010. The results of the study state that there is a significant and positive effect of remittance on economic growth that the study also presents that remittances have a statistically significant as well as strong impact on the reduction of poverty.

CONCLUSION AND RECOMMENDATIONS

It has been concluded that throughout the establishment of the millennium goals, the communities represented in the world deemed the eradication of poverty to be an urgent issue. Poverty is regarded as one of the most pressing issues facing global communities since it primarily jeopardizes political stability and suggests a significant uneven and unequal allocation of scarce resources. By reducing current account imbalances, improving the balance of payments positions, and reducing reliance on external borrowing, remittance inflows favor poverty levels and economic growth. Other than that, it is recommended to the government and the policymakers that they boost the revenue and income of the suggested nations, eliminate credit restrictions, and enhance human development by distributing funds more fairly for better health and education and remittance inflows. It would help an economy thrive and lower the degree of poverty.

Moreover, to provide for more effective management of remittances, measures of policy must be defined. The managements of remittance-receiving nations could classify a variety of potential policy tools for forming their respective countries' national remittance policies. First, they must increase remittances, especially through official channels.

Limitations and future implications

Generally, the research has some limitations, and concerning with this research also has certain limitations. The data was collected specifically from the BRIC countries to conduct this research. It restricts the incorporation of the evaluation of other nations. Therefore, future researchers must evaluate the impact of remittance on poverty and economic growth while considering the other countries. Future researchers can also evaluate the impact on other countries and compare that with this to examine the difference between the studies.

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