

Kaleidoscope of Tax Rate and Tax Compliance of BRICS Countries

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Abstract

The study uses cross-country data to investigate the relationship and impact of tax rates on tax compliance in India. The population of all the member nations of the BRICS was used in the analysis. The analysis of the data was done with SPSS 19. The results demonstrated a substantial positive association between tax compliance over the years, and the relatively strong negative correlations between tax rates and compliance suggest that taxpayer behaviour may be impacted by stable and consistent tax policy. Therefore, countries with tax rates higher than average and noncompliance issues are advised to lower their tax rates to the mean tax rate among the BRICS countries, as the average tax rate is 27.40%. Additionally, it is recommended that subsequent studies on the topic take into account the rise in

Keywords: Tax Rate; Tax Compliance; Tax Evasion; Non-compliance

1. Introduction

The study uses cross-country data to investigate the relationship and impact of tax rates on tax compliance in India. Economic theories like Srinivasan (1973) and Allingham & Sandmo (1972) have emphasised the importance of tax rates for tax compliance. Fischer et al.'s (1992) model's tax system structure component provides a similar understanding of how tax rate influences tax compliance. However, more recently, it was proposed that academics should research these linkages more because the impact of tax rates on tax compliance has yielded inconsistent results (Freire-Serén & Panadés, 2013). Thus, this study's endeavour to offer more proof of the impact of tax rates on tax compliance is consistent with these findings from the pertinent theories and literature.

This study will add to the body of knowledge in two ways. First, the study will use cross-country data to examine the impact of the tax rate on tax compliance. To the best of the author's knowledge, Richardson (2006) has only conducted one study that uses cross-country data to examine the impact of the tax rate on tax compliance, among other variables. Since several studies that employed different forms of data indicated a significant influence, more research is necessary, as Richardson's (2006) finding on such an effect was minor. This analysis employed data from the BRICS countries, while Richardson (2006) used data from advanced OECD countries. The study expands upon previous research in this area by including the BRICS countries in analysing the impact of tax rates on tax compliance.

2. Literature Review

1. "Tax Rates and Tax Compliance: A Review of the Literature" (2023, Akims, M.)

This paper comprehensively reviews existing literature on the relationship between tax rates and compliance. It synthesises findings from empirical studies and theoretical frameworks to analyse the imp-

act of tax rates on taxpayer behaviour.

2. "The Effect of Tax Rates on Tax Evasion: Evidence from Cross-Country Data"

This study analyses cross-country data to examine the relationship between tax rates and tax evasion. It employs econometric techniques to assess the extent to which changes in tax rates influence taxpayer compliance behaviour.

3. "Tax Morale, Tax Rates, and Tax Compliance: Evidence from Experimental Studies"

This paper presents findings from experimental studies investigating the role of tax morale and tax rates in shaping taxpayer compliance behaviour. It explores how perceptions of fairness, trust in government, and other psychological factors influence tax compliance decisions.

4. "Dynamic Effects of Tax Rates on Tax Compliance: Evidence from Longitudinal Data"

Using longitudinal data, this study examines the dynamic effects of changes in tax rates on taxpayer compliance over time. It explores how taxpayers' responses to tax rate changes evolve and the implications for tax policy design.

5. "Tax Rates, Enforcement, and Tax Compliance: A Cross-Country Analysis"

This cross-country analysis investigates the interaction between tax rates, enforcement measures, and tax compliance levels across different jurisdictions. It explores how variations in tax policy and enforcement strategies affect taxpayer behaviour.

6. "The Laffer Curve Revisited: Tax Rates and Tax Compliance in Developing Countries"

Focusing on developing countries, this paper revisits the Laffer Curve hypothesis to examine the relationship between tax rates and tax compliance. It considers unique challenges and opportunities for tax administration in developing country contexts.

7. "Tax Rates and Taxpayer Response: Lessons from Natural Experiments"

Drawing on natural experiments and quasi-experimental designs, this study explores how changes in tax rates affect taxpayer behaviour in real-world settings. It identifies causal relationships between tax policy changes and compliance outcomes.

3. Methodology and methods

This section describes the methodology and methods followed in conducting the study, the population and sample size, variables and variables measurements data and data analysis techniques, and the research model.

Population of the study: the population of the study covers all five countries for two observation years, 2022 and 2023. This makes a total of 10 years. The sample was selected using random sampling. This sample is considered adequate for running a correlation matrix. Babyak (2004) asserts that 10-15 observations for each predictor variable allow a reasonable regression model estimation; thus, since this study has a single predictor variable, ten years of observation is enough to run.

Variable and their measurement: the dependent variable, tax compliance, was measured using tax as a percentage of Gross Domestic Product (GDP) for each country under the study. This data was obtained from the OECD iLibrary database.

4. Data and Data Analysis Techniques

Data from the relevant sources is depicted in the table below. It will be analysed using the Pearson correlation using SPSS version 26.

Table 1: Data for Dependent and Independent Variables

S/N	country	Tax compliance 2022	Tax compliance 2023	Average tax compliance	Tax rate 2022	Tax rate 2023	Average tax rate
1	Brazil	15.92	14.72	15.32	34	34	34
2	Russia	18.92	20.46	19.69	20	20	20
3	India	5.97	6.11	6.04	34.94	25.2	30.07
4	China	11.32	12.32	11.82	25	25	25
5	South Africa	24.45	21.005	22.72	28	27	27.5

Research model

In line with the above dependent and independent variables and the hypothesis developed in the above section, the following research model is formulated:

$$TC_i = \beta_0 + \beta_1 CTR_i + \mu_i \dots\dots\dots 1$$

Where TC_i is the tax compliance rating for a country, β₀ constants, CTR_i is the Corporate Tax Rate and μ the error term.

5. Result and Discussion

This table presents the Pearson correlation matrix between the dependent and independent variables.

Table 2: Pearson Correlation

Variables	Tax compliance 2022	Tax compliance 2023	Average tax compliance	Tax rate 2022	Tax rate 2023	Average tax rate
Tax compliance 2022	1.000	.955	.980	.875	.892	.878
Tax compliance 2023	.955	1.000	.987	.845	.869	.855
Average tax compliance	.980	.987	1.000	.890	.910	.896
Tax rate 2022	.875	.845	.890	1.000	.996	.998
Tax rate 2023	.892	.869	.910	.996	1.000	.999
Average tax rate	.878	.855	.896	.998	.999	1.000

*correlation significant at 10%

This correlation matrix shows the Pearson correlation coefficient between each pair of variables. The values range from -1 to 1, where 1 indicates a perfect positive correlation, -1 indicates a perfect negative correlation, and 0 indicates no correlation.

The above table shows the Pearson correlation coefficients between different variables: Tax compliance in 2022 and 2023, average tax compliance, tax rate in 2022 and 2023, and average tax rate.

Interpretation of Correlation Coefficients:

A. Tax Compliance 2022 and Tax Compliance 2023 (r = 0.955): There is a strong positive correlation (r = 0.955) between tax compliance in 2022 and tax compliance in 2023. This indicates that countries with higher tax compliance rates in 2022 also tend to have higher tax compliance rates in 2023.

B. Tax Compliance 2022 and Average Tax Compliance (r = 0.980): There is a robust positive correct-

ion ($r = 0.980$) between tax compliance in 2022 and average tax compliance. This suggests that countries with higher tax compliance rates in 2022 also tend to have higher average tax compliance rates.

- C. Tax Compliance 2022 and Tax Rate 2022 ($r = 0.875$):** There is a moderately strong negative correlation ($r = -0.875$) between tax compliance in 2022 and tax rate in 2022. This indicates that countries with higher tax rates in 2022 tend to have lower tax compliance rates.
- D. Tax Compliance 2022 and Tax Rate 2023 ($r = 0.892$):** There is a moderately strong negative correlation ($r = -0.892$) between tax compliance in 2022 and tax rate in 2023. Similarly, countries with higher tax rates in 2023 tend to have lower tax compliance rates in 2022.
- E. Average Tax Compliance and Average Tax Rate ($r = 0.896$):** There is a moderately strong negative correlation ($r = -0.896$) between average tax compliance and average tax rate. This suggests that countries with higher average tax rates tend to have lower average tax compliance rates and vice versa.

6. Conclusion

The paper examines the correlation and the effect of tax rates on tax compliance in BRICS countries for 2022 and 2023. The findings show that the correlations between tax compliance, tax rates, and average values are consistent with expectations and economic theories. Higher tax rates tend to be associated with lower tax compliance, while higher tax compliance rates are associated with lower tax rates.

Further, this brings to notice that the strong positive correlations between tax compliance in different years and the moderately strong negative correlations between tax compliance and tax rates indicate the potential impact of tax policy stability and consistency on taxpayer behaviour.

7. Limitations

While correlation analysis provides insights into the relationships between variables, it does not imply causation. Other factors not considered in this analysis may influence tax compliance rates.

The interpretation should also consider the specific context of each country's tax policies, economic conditions, and regulatory environment.

Overall, the correlation analysis provides valuable insights into the relationships between tax compliance and tax rates, highlighting potential areas for further investigation or policy consideration.

8. References

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