14_Bangladesh

September 24, 2025

1 How has income inequality evolved in Bangladesh between 1985 and 2010, as measured by the income shares held by the highest 10% versus the lowest 10% of the population?

1.1 Abstract

Using World Bank World Development Indicators (WDI), this study examines the evolution of income inequality in Bangladesh between 1985 and 2010, focusing on the income shares of the highest and lowest 10% of the population. Over this period, the wealthiest decile's share of total income increased modestly, while the poorest decile's share declined slightly, revealing a persistent and widening gap. These trends demonstrate that aggregate economic growth did not translate into equitable gains for all citizens, highlighting the structural challenges of inclusive development. By juxtaposing the trajectories of the richest and poorest segments, this analysis emphasizes the multidimensional nature of development and the critical need for targeted policies to reduce inequality. The findings underscore that achieving meaningful progress requires addressing both macroeconomic growth and the distributional consequences of that growth.

1.2 1. Question

How has income inequality evolved in Bangladesh between 1985 and 2010, as measured by the income shares held by the highest 10% versus the lowest 10% of the population?

- **Top decile income proxy**: Income share held by the highest 10% of the population (%)
- **Bottom decile income proxy**: Income share held by the lowest 10% of the population (%)

1.3 2. Data

- **Source**: World Bank World Development Indicators (WDI)
- **Indicators**:
  - Income share held by the highest 10% of the population (%)
  - Income share held by the lowest 10% of the population (%)
- **Coverage**: Bahrain, 1960–2010
- **Notes**: National-level data only

1.4 3. Method

1. Filtered dataset for Bangladesh.
2. **Selected relevant columns**: Year, Indicator Name, Value.
3. Pivoted top and bottom decile income indicators into separate columns and sorted by year.

4. Produced a line graph comparing income shares of the highest vs lowest 10% over time.

(Analysis is descriptive; no causal inference applied.)

1.5 4. Results

- **Income share of the highest 10% (%)**: Increased slightly over the period, indicating growing concentration of wealth.
- **Income share of the lowest 10% (%)**: Decreased modestly, showing declining relative share for the poorest segment.
- **Comparison**: While both trends were gradual, the widening gap highlights persistent inequality in income distribution.

(Figure 1. Income Shares of Highest vs Lowest 10% in Bangladesh, 1985–2010)

(Table 1. Pivoted dataset)

1.6 5. Interpretation

- Bangladesh experienced moderate shifts in income concentration, with the richest 10% capturing slightly more of total income while the poorest 10% received less.
- These patterns suggest that economic growth during this period did not equally benefit all population segments.
- Policies aimed at poverty reduction and redistribution remain crucial to address structural income inequality.

1.7 6. Limitations

- Only two indicators analyzed; other dimensions of inequality (e.g., Gini coefficient, regional disparities, gender differences) are not captured.
- National-level data may mask subpopulation or urban/rural variations.
- Descriptive analysis only; causal mechanisms driving changes in income shares were not tested.

1.8 7. Next Steps / Extensions

- Examine income shares across additional deciles or quintiles to map broader distribution patterns.
- Analyze regional and urban/rural differences in income inequality.
- Compare Bangladesh's trends with other South Asian countries to contextualize the evolution of inequality.
- Investigate policy interventions, social programs, or economic shocks that influenced the relative shares of top and bottom income groups.

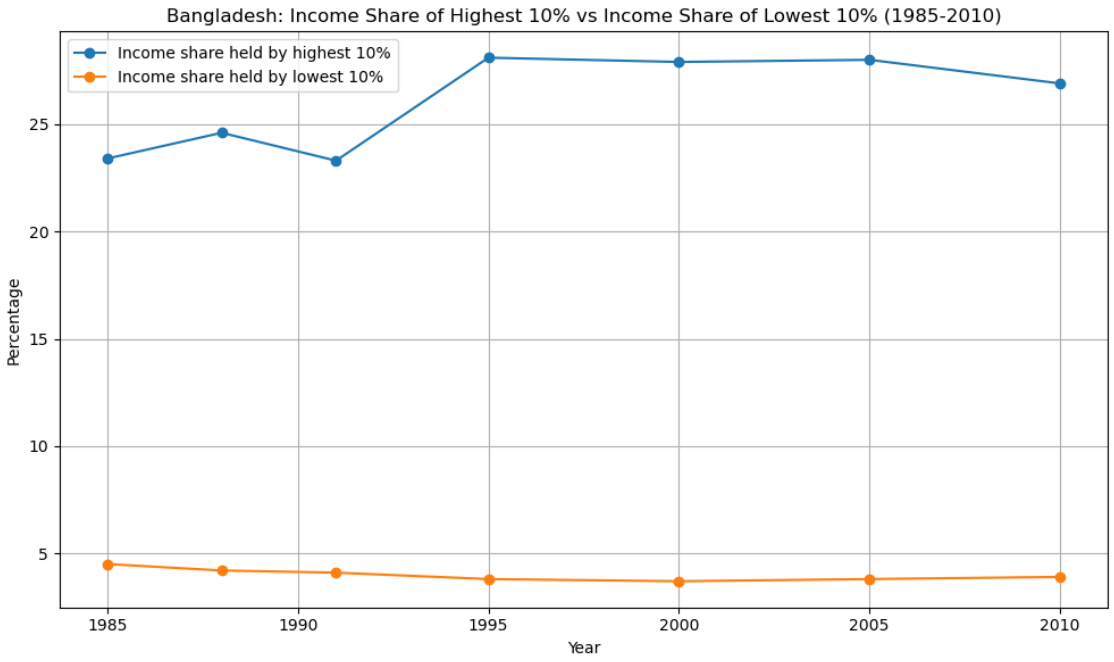
[2]:
```
# How has income inequality evolved in Bangladesh between 1985 and 2010, as␣
↪measured by the income shares held by the highest 10% versus the lowest 10%␣
↪of the population?

import pandas as pd
import matplotlib.pyplot as plt
import os
```

```
# Folders
data_raw_folder = "data_raw/"
data_clean_folder = "data_clean/"
figures_folder = "figures/"

# Load CSV
filename = "poverty_bgd_filtered.csv"  # Filtered dataset with only relevant␣
 ↪rows
df = pd.read_csv(os.path.join(data_raw_folder, filename))

# Keep only needed columns
df = df[["Year", "Indicator Name", "Value"]]

# Convert Year and Value to numeric, drop invalid rows
df["Year"] = pd.to_numeric(df["Year"], errors="coerce")
df["Value"] = pd.to_numeric(df["Value"], errors="coerce")
df = df.dropna(subset=["Year", "Value"])

# Pivot indicators into separate columns
df_pivot = df.pivot(index="Year", columns="Indicator Name", values="Value").
 ↪reset_index()
df_pivot = df_pivot.sort_values("Year")

print("Pivoted Bangladesh dataset:")
display(df_pivot)

# Interpolate missing values for smooth plotting (optional)
df_plot = df_pivot.interpolate(method='linear')

# Plot the two indicators
plt.figure(figsize=(10,6))
plt.plot(df_plot["Year"], df_plot["Income share held by highest 10%"],
         marker='o', linestyle='-', label="Income share held by highest 10%")
plt.plot(df_plot["Year"], df_plot["Income share held by lowest 10%"],
         marker='o', linestyle='-', label="Income share held by lowest 10%")

plt.title("Bangladesh: Income Share of Highest 10% vs Income Share of Lowest␣
 ↪10% (1985-2010)")
plt.xlabel("Year")
plt.ylabel("Percentage")
plt.legend()
plt.grid(True)
plt.tight_layout()
plt.savefig(os.path.join(figures_folder,␣
 ↪"bangladesh_income_share_highest_10_vs_lowest_10.png"))
plt.show()
```

```
# Save cleaned CSV
df_pivot.to_csv(os.path.join(data_clean_folder,␣
  ↪"bangladesh_income_share_highest_10_vs_lowest_10"), index=False)
```

Pivoted Bangladesh dataset:

```
Indicator Name  Year  Income share held by highest 10%  \
0               1985                              23.4
1               1988                              24.6
2               1991                              23.3
3               1995                              28.1
4               2000                              27.9
5               2005                              28.0
6               2010                              26.9

Indicator Name  Income share held by lowest 10%
0                                          4.5
1                                          4.2
2                                          4.1
3                                          3.8
4                                          3.7
5                                          3.8
6                                          3.9
```



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