ECO415 – Economic Development

Assignment 2

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Introduction

Quah's mobility matrix aims to capture economic growth/decline over a period of time by looking at the transition of countries across various income categories. By doing so, we can attempt to explain the differences in economic growth among countries with respect to their pre – existing income levels. This essay aims to replicate the methodology of Quah (1993) to generate a mobility matrix for a different data set and explain the findings.

Methodology

Data for last ten years (2014 - 2023) for 185 countries was collected from worldbank.org data bank.

1. First, per capita GDP for all countries was converted to fraction of world's average GDP per capita.
2. Secondly, each fraction was divided into one of five categories — ¼, ½, 1, 2, and ∞ (3).
    - ¼ corresponds to countries less than or equal to one fourth of the world average GDP per capita (poorest).
    - ½ corresponds to countries that were between half the world average and one fourth of the world average.

- 1 corresponds to countries between the world average and half the world average GDP per capita.
- 2 corresponds to countries between the world average and twice the world average.
- ∞ corresponds to countries that have per capita income levels greater than twice the world average GDP per capita (richest).

3. Lastly, the mobility matrix was generated for two years — 2014 and 2023.

Results

	Index2023					
Index2014	.25	.5	1	2	3	Total
.25	96.15	3.85	0.00	0.00	0.00	100.00
.5	12.50	65.63	21.88	0.00	0.00	100.00
1	0.00	23.53	61.76	14.71	0.00	100.00
2	0.00	0.00	19.23	69.23	11.54	100.00
3	0.00	0.00	0.00	2.44	97.56	100.00
Total	29.19	16.76	17.84	12.97	23.24	100.00

The above is a matrix for 10 years, 2014 – 2023. The rows and columns are the income categories, each cell shows the percentage of countries as a mix of categories across the two years 2014 and 2023, if they transitioned over the ten-year period or stayed in the same category.

Findings

1. Low mobility at the extremes.

   96.15 % countries in the poorest income category (0.25) stayed in the same category over the ten years. Similarly, countries in the richest income category (∞) predominantly remained in the same category, with 97.56 % showing no mobility.

   This is similar to Quah's observation in the original analysis and implies that a history of superior infrastructure benefits richer countries. Conversely, limited access to resources and technology puts poorer countries at a disadvantage and hampers economic growth.

2. Higher mobility in middle – income countries.

   Countries in the 1/2, 1, and 2 categories showed higher mobility. 21.88% in the ½ category showed economic growth and moved higher up to 1. Similarly, for 1 and 2, 14.71% and 11.54% moved higher up in the categories to 2 and ∞ respectively. So, middle income countries experience higher mobility compared to the extremes. Middle income nations may leverage new technology from other developed countries and move higher up in the economy.

3. Economic decline in middle – income countries.

   Out of countries starting in the 1 category in 2014, 23.53 % moved downwards to category ½. Similarly, 19.23% of countries starting in the 2 categories in 2014 moved downwards to category 1.

   This is similar to Quah's observation in the original analysis and implies that at lower levels of income the overall transition seems to be in the downward direction. This can be due to several economic reasons government instability, inequality, and external macro shocks.

4. Higher percentages of countries in the main diagonal.

   A significant proportion of countries remained in their original categories. Higher percentages on the diagonal of the matrix mean overall low economic mobility. This implies that historical status plays a huge role in determining future economic growth. This is similar to Quah's findings where countries predominantly stayed in the same category.

Limitations

1. The matrix only focuses on income levels to analyze economic growth but does not provide insights into qualitative factors that may facilitate/stunt economic growth such as inequality, macro shocks, government, etc.

2. It also does not account for structural differences across countries. For instance, economic growth across middle income countries cannot be explained by one factor alone that is historical conditions.

Conclusions

In conclusion, Quah’s mobility provides valuable insights into the global economic mobility of countries. The results suggest that, while there is some movement within the middle-income categories, overall economic mobility is low, particularly for countries in the lowest and highest income groups. The findings highlight income inequality, with wealthier nations maintaining their economic dominance and lower-income countries struggling to increase income.