Income Inequality and Economic Convergence in Turkey: A Spatial Effect Analysis

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\textbf{Abstract}. Even though the convergence of regional per capita incomes has been a highly debated issue internationally, empirical evidence regarding Turkey is limited as well as contradictory. This paper is an attempt to investigate regional income inequality and convergence dynamics in Turkish per capita GDP for the time period 1987-2001 using province level data. First, Theil coefficient of concentration index has been employed in order to analyze the dispersion aspects of convergence process. Four alternative partitionings have been implemented in this analysis, in order to obtain a partitioning which is as homogeneous as possible. They are NUTS 1, NUTS 2, four regions and East-West partitionings. Empirical analysis suggests a regional convergence throughout the period under consideration. Moreover, Theil coefficient exhibits a pro-cyclical character, such that it has a tendency to increase in periods of economic expansion and to decrease in periods of recession. Inequality decomposition analysis indicates that shares of interregional and intraregional inequalities are sensitive to the partitioning implemented.

Even though there are differences in the magnitudes, all partitioning schemes yield interregional inequality shares that are declining over time, with the exception of NUTS 2 partitioning. The interregional inequality share of total inequality based on NUTS 2 partitioning has an increasing trend, indicating that homogeneity of provinces increase over time in the groupings of this partitioning. After applying inequality decomposition, the role of inference in regional inequality analysis is investigated following Rey (2004). The extension of the traditional decomposition analysis to include an inferential component enabled the analysis to capture some aspects of the spatial structure, in spite of the fact that this interregional inequality component is relatively small and can be ignored otherwise. This also supports the findings of Rey (2004) who reports that without the inferential test, this partition...

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might have been viewed as irrelevant or misspecified given that the interregional share was found to be stronger in the other partitions.

Then, spatial variations in the relationships are examined with geographically weighted regression (GWR) to reveal some geographical variations in the results. This approach can directly assess error residuals using measured and predicted values. Moreover it can calculate residuals for locations where there is no measured data and provides confidence information using the goodness of fit statistic. GWR produces local parameter values for each region/province in the data set rather than simply estimating global coefficient values over the whole data set. In each province’s individual regression, other provinces in the sample are weighted by their spatial proximity. Thus, the spatial variations in parameters are smoothed by spatial weighting, revealing broad regional differences in the parameters. Empirical findings suggest that there is a considerable variation in speeds of convergence of provinces, which cannot be captured by the traditional beta convergence analysis. The visualization of the GWR model coefficients and statistics highlighted the spatial distribution of the relationship under study. Empirical analysis indicates that provincial income has become geographically more concentrated for the time period under consideration. It appears that the degree of convergence is higher in less developed Eastern and Southeastern provinces of Turkey. This may be due to the fact that these provinces have been given public priority in investment to accelerate the process of regional convergence. The development plans considered direct government investment expenditures and investment incentives as the main instruments of regional policy, with the aim of attracting new investments to these provinces and hence to increase production.

JEL Classification: O18, R10, R11, R12.

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References