Investment Distribution between Food and Non-food Industries in Regional Disparity of China

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1. Motivation of this study

In the context of the regional disparity debates, the resource allocation between sectors and/or regions should be discussed. Chen and Shuto [1] estimated regional growth convergence with growth accounting approach in China, which proved that labor allocation between sectors and the capital accumulation in especially secondary sector in high income region may not cause regional growth convergence. This approach would be significant because of considering the industrial structure in regions.

Here, it should be noted that the food industry in the secondary sector could have important roles in the regional balanced growth. This sector has intrinsically linkage with agricultural or primary sectors. In the lagged regions where the primary sector is more dominant, the growth in the food sectors of these regions would have positive effects on the regions.

In this context, the investment allocation between food and non-food industries, and regions should be examined.

2. Approach

For the purpose above, Theil index is adopted to exam the regional and sub industrial-wise allocation of investment in this study. Theil index is known as a measurement of inequality. This index has a positive property for the present study as it can be decomposed into within and between terms. This study adopts this decomposition property of Theil index in the following two ways.

$$T = T_{within\_regions} + T_{between\_regions}$$

$$T = T_{within\_sectors} + T_{between\_sectors}$$

Where, T denotes Theil index for whole country. $T_{within\_regions}$ ($T_{within\_sectors}$) describes the weighted sum of Theil Index in each region (sector). This is reflected from disparities between sectors (regions) in each region (sector). $T_{between\_regions}$ ($T_{within\_sectors}$) reveals disparity between regions (sectors) in the country.

3. Data

This study adopts this index and the above decomposition for the value added per labor and

capital formation per labor. Data for estimation is referred from *China Industry Economic Statistical Yearbook*. Our food industry sector includes food processing, food manufacturing, beverage and tobacco in this source. And for the regional decomposition, the whole country is divided into eight sub regions; northeast, northern coast, east coast, south coast, middle reach of the Huanghe River, middle reach of the Yangtze, southwest China, and northwest China.

4. Estimation Result

Our estimation results for 2000 - 2008 are summarized as follows. The regional disparities for industrial sector in both of the value added per labor and the investment per labor are getting larger for 2000s. And it should be noticed that the disparity of investment per labor among food/non-food sectors and regions is larger than that of labor productivity. For the decomposed components, the between region component is dominant of total disparity in the both of value added per labor and investment per labor. However, the component of between food and non-food sectors in the case of investment per labor, in both of whole country and region wise, cannot be neglected in comparison with that in the case of the value added per labor.

Reference

[1] Chen, Liangliang and Hisato SHUTO, "Structural Change and Regional Growth Convergence in China", Journal of Rural Economics, Special Issues, 2010, pp. 541-548.