

Mapping the hot and cold spots of spatial change in Tokyo following the bubble economy period

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Abstract:

After the bubble economy collapsed at the beginning of the 1990s, the government's deregulation policies accelerated urban development in the Tokyo Metropolitan Area. This resulted in increased trade in real estate and accelerated population growth in downtown Tokyo. However, that trend was not observed in all areas: instead, it exacerbated the spatial differentiation that was already apparent in the Tokyo Metropolitan Area. Hirayama (2005, 2006, 2011) found that government policy to promote housing supply and increase urban redevelopment split urban space into hot spots, with new investments, and redeveloped districts and cold spots, with stagnant and depopulated districts. However, the precise locations of such spots are not obvious, as those studies did not map them.

This study identified and mapped hot and cold spots in Tokyo with the use of spatial analysis with GIS. To this end, we employed grid square population statistics for 1985, 1995, and 2005, which encompasses the entire period of the bubble economy and its aftermath. The analysis of hot spots using the Getis-Ord G_i^* statistic was performed on data for population change in 23 wards of Tokyo in this period. Then, we explored the detailed composition of the population and the background of the changes in a consideration of the socio-economic shift of Tokyo during this period.

The results of the analysis indicated that hot and cold spots coexisted in central Tokyo, and their spatial distribution changed drastically following the collapse of the bubble economy at the beginning of the 1990s. Between 1985 and 1995, populations show a concentric pattern of change: cold spots are observed in areas close to the city center and hot spots appear on the outskirts of the study area. This pattern is a result of population outflows due to soaring land prices during the period of the bubble economy.

However, population changes between 1995 and 2005 indicated a different pattern and the resulting distribution of hot and cold spots was dispersed. Specifically, hot spots appeared in the south and east parts of central Tokyo, where high-rise condominiums were being built on the sites of former factories or warehouses in the coastal areas of Tokyo Bay. In these districts, a marked increase of white-collar workers was observed, an indicator of gentrification. By contrast, cold spots are noted on the northern side of central Tokyo, where large public housing estates are located and their population has declined and aged. The contrast between the north and the south of Tokyo became obvious after the bubble economy collapsed.