

Infrastructure Investment Location and Western Development

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Western region development is fundamental to the sustainable growth of China. The rapid growth in the East and the backwardness in the West vividly demonstrate its unbalanced regional economic structure. The catching-up of the Western region constitutes a major concern for the long-term sustainable development in terms of economic growth as well as in terms of politic stability.

Western region suffers the remoteness from economic centers. This paper sets out to measure the geographic attractiveness of a province by its effective remoteness to economic center. For a given distance, transport cost varies with the level of infrastructure development of the trajectory. We first construct our *adjusted distance*, which equals the real distance divided by an infrastructure development indicator, to measure the transport cost between two provinces. Then, we define our peripheral degree as the sum of the adjusted distance between the concerning provinces and the economic center (the coastal provinces), weighted by the relative importance of the economic size of the latter. Using the panel data of 1979-1999, we show that geographic attractiveness plays a significant role in regional growth – the farther away from the center, the poorer is the economic performance. Given the invariability of pure geographic position, progress in transport facilities is essential to alleviate the geographic handicap and to encourage the catching-up of the Western region.

However, different location of infrastructure investment generates different effects on regional growth. On the one hand, infrastructure investment strongly encourages local growth by its multiplier effects; on the other hand, progress in transport network reduces transport cost and favors all provinces concerned. To investigate in the efficient choice of infrastructure investment location which privileges Western development, we simulate the effects of a given transport network density increase in different province on regional development. Our results show that it is the central transportation hubs (Hubei, Henan and Hunan) that merit most the infrastructure investments for they favor the development of many provinces. In particular, improvement of the transportation facilities in central hubs will have greater effects on Western development than that in Western region. It strongly increases the geographic attractiveness of the Western region by reducing the transport cost from the West to the Coast and by favoring the emergence of new economic centers, as suggested the theory of geographic economics (Fujita, Krugman and Venables, 1999) in such central hubs that changes economic structures.

Key words: western development, geographic position, infrastructure, economic centers, structural change