

Unleashing Development Potential by River Crossings: Evidence Based on Satellite Imagery from Shanghai

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It has been said that China, especially its largest city, Shanghai, has achieved the fastest growth around the globe in the last few decades. We quantify overall economic growth and impact of large infrastructure of Shanghai accurately using daytime satellite images covering 1988 to 1995. There are three findings emerged from our analysis. First, using before-and-after analysis, we find the overall economic growth rate of the Shanghai-Pudong area to be 6 ~ 9% per year, which is not far from the 9.9% official growth rate of China during 1988-1995. Second, a difference-in-difference analysis shows that the very first major three river-crossings (a tunnel and two bridges) in Shanghai generated the average positive growth effect on Pudong relative to Shanghai, ranging from 0.7% to 2.1% with substantial heterogeneties depending on the proximity to the river-crossings. Pudong regions close to the river-crossings had much higher growth rates than Shanghai regions close to the river. Third, in disentangling the impact of the three river-crossings, we find significant positive impacts of Nanpu bridge in promoting economic growth of the Nanpu vicinity.

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