

# Determinants of Economic Growth and Spread-backwash Effects in Western and Eastern China

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## Abstract

This paper comparatively assesses the major contributors to economic growth and spread-backwash effects in Western and Eastern China over the period 2000–2007. The empirical findings indicate that economies in both regions increasingly agglomerated in large cities; the marginal products of domestic capital and labor in the western region were, respectively, two-thirds and half of those in the eastern region; FDI was more productive than domestic capital. Spatial econometric analysis reveals that the central cities in Western China had mild spread effects on each other and backwash effects on the nearby rural counties and, in contrast, the central cities in the eastern region competed with each other and had backwash effects on nearby rural counties but spread effects on neighboring county-level cities. The paper draws several policy implications in relation to the improvement of factor inputs and construction of growth centers in the western region.

## References

Au, C-C. and V. Henderson, 2006, How migration restrictions limit agglomeration and productivity in China. *Journal of Development Economics*, **80**, pp. 350–88.

 | [Web of Science®](#) | [Google Scholar](#) |

Bao, S., G. H. Chang, J. D. Sachs and W. T. Wood, 2002, Geographic factors and China's regional development under market reforms, 1978–1998. *China Economic Review*, **13**, pp. 89–111.

 | [Web of Science®](#) | [Google Scholar](#) |

Barro, R., 1991, Economic growth in a cross section of counties. *Quarterly Journal of Economics*, **106**, pp. 407–43.

 | [Web of Science®](#) | [Google Scholar](#) |

Boarnet, M. G., 1994, An empirical model of intrametropolitan population and employment growth. *Papers in Regional Science*, **73**, pp. 135–52.

 | [Google Scholar](#) |

---

Boudeville, J. R., 1966, *Problems of Regional Economic Planning*. Edinburgh: Edinburgh University Press.

 | [Google Scholar](#) |

---

Brun, J. F., J. L. Combes and M. F. Renard, 2002, Are there spillover effects between the coastal and non-coastal regions in China? *China Economic Review*, **13**, pp. 161–9.

 | [Web of Science®](#) | [Google Scholar](#) |

---

Cai, F., D. Wang and D. Yang, 2002, Regional disparity and economic growth in China the impact of labor market distortions. *China Economic Review*, **13**, pp. 197–212.

 | [Web of Science®](#) | [Google Scholar](#) |

---

Carlino, G. A., 1978, *Economies of Scale in Manufacturing Location*. Martinus Nijhoff Social Science Division, Boston.

 | [Google Scholar](#) |

---

Casetti, E., L. J. King and J. Odland, 1971, The formalization and testing of concepts of growth poles in a spatial context. *Environment and Planning*, **3**, pp. 377–82.

 | [Web of Science®](#) | [Google Scholar](#) |

---

Cheung, K-Y. and P. Lin, 2004, Spillover effects of FDI on innovation in China: Evidence from the provincial data. *China Economic Review*, **15**, pp. 25–44.

 | [Web of Science®](#) | [Google Scholar](#) |

---

Demurger, S., 2001, Infrastructure development and economic growth: An explanation for regional disparities in China? *Journal of Comparative Economics*, **29**, pp. 95–117.

 | [Web of Science®](#) | [Google Scholar](#) |

---

Faini, R., 1996. Increasing returns, migrations and convergence. *Journal of Development Economics*, **49**, pp. 121–36.

 | [Web of Science®](#) | [Google Scholar](#) |

---

Feser, E. and A. Isserman, 2007, Urban spillovers and rural prosperity. Report to U.S. Department of Agriculture. University of Illinois at Urbana-Champaign, Champaign, IL.

 | [Google Scholar](#) |

Fleisher, B. M., J. Chen, 1997, The coastal and non-coastal income gap, productivity, and regional economic policy in China. *Journal of Comparative Economics*, 25, pp. 220–36.

[Web of Science®](#) | [Google Scholar](#) |

Friedmann, J., 1972, A generalized theory of polarized development. In: *Growth Centers in Regional Economic Development* (ed. N. M Hansen.). The Free Press, New York, pp. 82–107.

[Google Scholar](#) |

Fu, Xiaolan, 2004, Limited linkages from growth engines and regional disparities in China. *Journal of Comparative Economics*, 32, pp. 148–64.

[Web of Science®](#) | [Google Scholar](#) |

Fujita, M, P. Krugman and A. Venables, 1999, *The spatial economy: Cities, Regions, and International Trade*. The MIT Press, Cambridge, MA.

[Google Scholar](#) |

Gaile, G. L., 1980, The spread-backwash concept. *Regional Studies*, 14, pp. 15–25.

[Web of Science®](#) | [Google Scholar](#) |

Glaeser, E., H. D. Kallal, J. A. Scheinkman and A. Shleifer, 1992, Growth in cities. *Journal of Political Economy*, 100, pp. 1126–52.

[Web of Science®](#) | [Google Scholar](#) |

Glaeser, E., J. A. Scheinkman and A. Shleifer, 1995, Economic growth in a cross-section of cities. *Journal of Monetary Economics*, 36, 117–43.

[Web of Science®](#) | [Google Scholar](#) |

Groenewold, N., G. Lee and A. Chen, 2007, Regional output spillovers in China: Estimates from a VAR model. *Papers in Regional Science*, 86, 101–22.

[Web of Science®](#) | [Google Scholar](#) |

Henderson, J. V., 1986, Efficiency of resource usage and city size. *Journal of Urban Economics*, 19, pp. 47–70.

[Web of Science®](#) | [Google Scholar](#) |

Henry, M. S., D. L. Barkley and S. Bao, 1997, The hinterland's state in metropolitan growth: Evidence from selected southern regions. *Journal of Regional Science*, 37, pp. 479–501.

---

Henry, M. S., B. Schmitt, K. Knud, D. Barkley and S. Bao, 1999, Extending Carlino–Mills models to examine urban size and growth impacts on proximate rural areas. *Growth and Change*, **30**, pp. 526–48.

---

Hirschman, A. O., 1958, *The Strategy of Economic Development*. Yale University Press, New Haven.

---

Krugman, P., 1991, Increasing returns and economic geography. *Journal of Political Economy*, **99**, pp. 488–99.

---

Madariaga, N. and S. Poncet, 2007, FDI impact on growth: Spatial evidence from China. *The World Economy*, **30**, pp. 837–62.

---

Myrdal, G., 1957, *Economic Theory and Underdeveloped Regions*. Harper and Row, New York.

---

NBS (National Bureau of Statistics of China), 20012008, *China Statistical Yearbook*. China Statistics Press, Beijing (in Chinese).

---

NBS (National Bureau of Statistics of China), 20012008, *China County (City) Socioeconomic Statistical Yearbook*. China Statistics Press, Beijing (in Chinese).

---

NBS (National Bureau of Statistics of China), 20012008, *China Statistical Yearbook for Urban Construction*. China Statistics Press, Beijing (in Chinese).

---

Neil, Gregory, S. Tenev and D. Wagle, 2000, *China's Emerging Private Enterprises: Prospects for the New Century*, International Finance Corporation, Washington, DC.

---

Perroux, F., 1950, Economic space: Theory and application. *Quarterly Journal of Economics*, **64**, pp. 89–104.

[Web of Science®](#) | [Google Scholar](#) |

Rey, S. J. and M. G. Boarnet, 2004. A taxonomy of spatial econometric models for simultaneous equations systems. In: *Advances in Spatial Econometrics: Methodology, Tools and Applications* (ed. L. Anselin et al.), pp. 99–119. Springer, Berlin.

[Web of Science®](#) | [Google Scholar](#) |

Richardson, H. W., 1976, Growth pole spillover: The dynamics of backwash and spread. *Regional Studies*, 10, pp. 1–9.

[Web of Science®](#) | [Google Scholar](#) |

Wang, Y. and Y. Yao, 2003, Sources of China's economic growth 1952–1999: Incorporating human capital accumulation. *China Economic Review*, 14, pp. 32–52.

[CAS](#) | [Web of Science®](#) | [Google Scholar](#) |

Wei, H., 2002. The effects of foreign direct investment on regional economic growth in China. *Economic Research Journal*, 4, pp. 19–26.

[Google Scholar](#) |

Yao, S., K. Wei, 2007, The perspective of newly industrializing economies, Economic growth in the presence of FDI. *Journal of Comparative Economics*, 35, pp. 211–34.

[Web of Science®](#) | [Google Scholar](#) |

Ying, L. G., 2000. Measuring the spillover effects: Some Chinese evidence. *Papers in Regional Science*, 79, pp. 75–89.

[Web of Science®](#) | [Google Scholar](#) |

Young, A., 2003. Gold into base metals: Productivity growth in the People's Republic of China during the reform period. *Journal of Political Economy*, 111, pp. 1220–61.

[Web of Science®](#) | [Google Scholar](#) |

Zheng, J., A. Bigsten and A. Hu 2006, An empirical analysis of provincial productivity in China (1979–2001). *Journal of Chinese Economic and Business Studies*, 4, pp. 221–39.

[Google Scholar](#) |

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