

# Spatial Disequilibrium, Provincial Inequality and Individual Inequality in Urban China

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Regional inequality in China is a subject of substantial scholarly and policy interest. Almost all of that interest is directed at comparisons of average income measures across provinces and regions. The extent to which these comparisons are insightful regarding regional components, if any, of differences in individual welfare is unknown.

This paper estimates these differences. It constructs measures of the extent to which earnings vary depending upon the province of residence for urban Chinese workers. These measures are based on estimates of potential earnings in multiple provinces. As workers reside in only one province, these estimates require the construction of counter-factual comparisons.

The counter-factual comparisons here are based on simple province-specific regressions of observed labor earnings on worker characteristics associated with human capital. These regressions predict earnings in every province for all workers, regardless of the province in which they actually reside. These predictions identify the province in which each worker would maximize predicted labor earnings.

The difference between predicted earnings in this province and in the province of residence is an indication of the earnings gains that might be available through increased economic mobility. Between 40% and 75% of non-migrant Chinese urban workers predict relocation gains of more than 50%. Average gains across all urban workers are equivalent to the earnings increases that would accrue from at least seven additional years of schooling. Potential gains of this magnitude indicate that there is substantial inequality in opportunity across provinces.

The 1988, 1995, 2002, 2008 and 2013 urban surveys of the China Household Income Project (CHIP) provide the data for these analyses. The first of these surveys took place when China was less developed, early in economic reform. The most recent took place when China had attained middle-income status, after 25 years of rapid growth. The evolution of potential gains from economic mobility over time illuminates the relationship between macroeconomic growth and inter-regional integration in China.

An additional counter-factual assesses whether the pattern of potential mobility gains in China is distinctive. The U.S. has a Constitutional commitment to inter-regional integration. Its experience provides an interesting standard to which that of China can be compared.

The analysis described above, applied to the urban U.S. in 1940, provides the appropriate reference. This is the earliest year in which the U.S. Census recorded individual income. It is therefore the year in which observed individual income levels in the U.S. were most comparable to those of contemporary China. In that year, 92.6% of urban workers predict relocation gains of less than 20%. In other words, almost all of them were, roughly, in spatial equilibrium.

China's hukou restrictions on labor mobility (Chan, 2009) surely contribute to inter-provincial differences in the value of human capital. The legal obligation to reside in the province, the rural

or urban sector and perhaps even the county of birth imposes substantial inequality of opportunity, *ex ante*, as well as inequality of realized earnings.

In response to these inequalities, workers increasingly disregarded formal restrictions and migrated to Chinese cities for which they did not have hukous during the period under study. These unprecedented increases in urban labor supply nevertheless failed to equilibrate earnings across regions. To the contrary, migrants have been segregated in dual labor markets in which they are complementary to, rather than competitive with, legal urban workers. Consequently, they have exacerbated spatial earnings disequilibria.

Equilibration has probably also been impeded by barriers to inter-provincial mobility of final goods (Tombe and Zhu, 2019). Moreover, Hsieh and Klenow (2009) and Brandt, Van Biesebroeck and Zhang (2012) demonstrate that there are large variations in productivity across Chinese employers. The new evidence of geographic variations in human capital valuations presented in this paper implies that variations in productivity probably also have a hitherto unexamined geographic component. More generally, the results here imply that there are important barriers to the diffusion of non-labor factors of production and of the most productive technologies, as well as of final goods, across provincial boundaries in China.

The partial equilibrium calculations here cannot account for all of the consequences that would ensue were these barriers to be removed. Nevertheless, the large estimates of personal income losses that they yield are of similar magnitude to general equilibrium estimates for China of productivity losses attributable to firm-level distortions (Hsieh and Klenow, 2009), welfare losses attributable to internal trade restrictions (Tombe and Zhu, 2019), and welfare losses attributable to interference with urban agglomeration economies and accessibility to amenities (Au and Henderson, 2006; Desmet and Rossi-Hansberg, 2013). This raises the possibility that, while these papers examine distinct issues, their results reflect, at least in part, a common set of substantial distortions at the core of the Chinese economy.