CEPII

CENTRE D'ÉTUDES PROSPECTIVES ET D'INFORMATIONS INTERNATIONALES

N° 2008 – 20

October

THE IMPACT OF ECONOMIC GEOGRAPHY ON WAGES: DISENTANGLING THE CHANNELS OF INFLUENCE

Laura Hering & Sandra Poncet

NON-TECHNICAL SUMMARY

This paper evaluates the role of economic geography in explaining regional wages in China. Proximity to markets may impact wages not only directly but also through various indirect channels. Proximity to markets can for instance foster the accumulation of human capital, reinforcing the wage premium for skilled workers in central regions. This effect will occur if intermediate and transport cost-intensive goods use relatively more skilled labor. More central locations where the production of these goods is concentrated will then offer higher wages for skilled labor, which increases the incentives for human capital accumulation (Breinlich, 2006; Faíña and López-Rodríguez, 2006). An analogous mechanism could hold for capital-intensive goods such that capital accumulation may also be affected by spatial proximity and geography centrality.

However, no work to date analyzing the indirect channels of economic geography has computed a proper theory-based measure of market access. This article derives an econometric specification directly from a NEG model to investigate the relevance of market access in China. It builds on previous work which has confirmed the validity of the NEG "wage equation" in China: locations closer to consumer markets (i.e. with greater "market access") experience lower transport costs and enjoy higher income (Cui, 2006; de Sousa and Poncet, 2007; Hering and Poncet, 2008; Lin, 2005; Ma, 2006) (Fujita et al., 1999). The contribution of this article is to disentangle the various channels of influence in order to provide an explanation of the result.

Moving away from single-equation estimates, our results based on a simultaneous-equation system capture the different channels via which economic geography impacts on wages. Variables proxying these various channels (export performance, physical and human capital accumulation) are included in a wage regression. The indirect contribution of market access through the different channels is calculated as the joint effect of market access on the channel and of the channel on wages.

The estimations on 29 Chinese provinces over the 1995-2002 period suggest that access to sources of demand is indeed an important factor in shaping regional wages in China. A one standard deviation rise in market access is associated with a 0.2 standard deviation increase in the annual average wage. A fair share of the market access effect on wages transits via increased incentives for accumulating physical capital and exporting (25 and 15 percent of the total effect respectively). Direct transport effects remain however the main source of influence, accounting for almost 60 percent of the total. To better understand the size of these impacts we compute the change in wages were Xinjiang to obtain the same market access as Guangdong (which was ten times larger in 2002). The ten-fold increase in market access in the far-West province of Xinjiang leads to a 60% rise in wages, bringing Xinjiang level with Zhejiang in third place in China.

Considering that market access has a significant international component, it is likely that, with further integration into the world economy, the already pervasive spatial-wage differences will grow if access to new markets is not evenly distributed across the country. We found that while the wage increasing impact of market access appears on average to be small in magnitude, the wage disparity increasing impact of market access seems to be more significant since high market access provinces are the ones characterized with the most rapid improvement. These inequalities will increase directly through lower trade costs, and indirectly through enhanced incentives to export and accumulate physical capital.

J.E.L. Classification: F12, F15, R11, R12.

Keywords: Economic geography, International Trade, Wage, Trade Openness, Capital accumulation, China.