China Economic Review 34 (2015) 39–63

Contents lists available at ScienceDirect

China Economic Review

Spatial rebalancing and industrial convergence in China

Françoise LEMOINE, Sandra PONCET, Deniz ÜNAL *

CEPII, France

ARTICLE INFO

Article history:
Received 24 April 2014
Received in revised form 13 March 2015
Accepted 13 March 2015
Available online 21 March 2015

JEL classification:
F63
O14
O25
O53
R12

Keywords:
China
Regional inequality
Manufacturing industry
Convergence
Growth

ABSTRACT

Our study documents the recent narrowing of the coast-inland divide in China. We argue that this rebalancing reflects, with a time lag, the catching up process which has been at work in the industry of the inland region since the end of the 1990s. The pattern is in line with the rapid and unconditional convergence observed in China's manufacturing industry over this period. The convergence of labor productivity suggests that advanced coastal regions have transferred capital and technology to the interior.

1. Introduction

In a country as vast as China (the fourth largest country in the world by geographic dimension and the first by size of population) regional differences are huge. They stem from natural and historical conditions.[1] Regional development has also been shaped by political power. In the economic strategies that have been followed since the founding of the People's Republic of China (PRC), spatial imbalances and regional disparities have been a crucial concern. In China, regional inequality and geographic imbalances go hand in hand as the dividing line between advanced and backward provinces roughly coincides with the dichotomy between coast and inland. This dichotomy has structured China's development process since the 19th century as the center of gravity of the economy has been alternately located in the coast and in the interior.

From the early 1990s to the mid-2000s, China's rapid economic growth was associated with widening regional disparities and growing spatial imbalances (OECD, 2010). A reversal has been underway since: regional inequality peaked in the mid-2000s and the center of gravity of the economy has begun to move from the advanced eastern region to the inland (Andersson, Edgerton, & Opper, 2013; Feng, 2009; Wei, 2009). The paper investigates the mechanisms at work behind the ongoing spatial rebalancing in China with a specific focus on contribution productivity convergence in manufacturing across China.

* Corresponding author at: CEPII, 113, rue de Grenelle, 75007, Paris, France. Tel.: +33 1 53 68 55 08; fax: +33 1 53 68 55 03.
E-mail address: deniz.unal@cepii.fr (D. Ünal).

[1] The extreme diversity of the climate and relief, the large variations in population density, in natural resources and in communication facilities create different conditions for economic development.

http://dx.doi.org/10.1016/j.chieco.2015.03.007
1043-951X/

Our work combines two complementary approaches. In the first part it puts the changes in the geographic pattern of China's economy in a long term (1950–2012) perspective to properly identify the timing and likely explanations of the recent inland catch-up process. The analysis is complementary to other studies on China's regional convergence (Feng, 2009; Wei, 2009). We differ in that we focus on the great dividing line that runs between "Blue China" i.e. the coastal area, open to the outside world, with seaports and merchant traditions; and "Yellow China" which encompasses the central and western regions and makes up a continental area, less advanced economically. We show that from the early stage of economic modernization until now, the center of gravity has been alternately located in the coastal area ("Blue China") and in the inland area ("Yellow China"). We contribute to the understanding of the recent rebalancing as we highlight striking differences in the regional industrial trajectories, in terms of openness and ownership patterns. Notably the comparison of the inland and coastal industrial performance and specialization at the level of distinctive manufacturing branches over this period suggests that the flying geese model is at work in China. The advanced coastal regions are losing their comparative advantage in labor intensive industries and have now to build up new specialization in high value-added industry and services.

In the second part of our paper we investigate the possibility that the rebalancing simply reflects, with a time lag, the catching up process which has been at work in the industry of the inland region since the end of the 1990s. We test whether the "unconditional convergence" that exists in manufacturing at the international level according to Rodrik (2013) also operates in China. Our contribution is two-fold. First, we propose the first econometric estimation of the "intrinsic" speed at which labor productivities catch-up in the manufacturing sector in China. Second, we exploit the heterogeneity in the convergence coefficients across industries, firm-types and regions to investigate the drivers of convergence. We show that productivity catch-up is greater for private firms and in low-skill industries suggesting that consistency with the local productive structure yields positive spillovers. Our results are in line with other studies (Cai, Harrison, & Lin, 2011; Hale & Long, 2011; Poncet & Starosta de Waldemar, 2015) that argue that policy interventionism should not focus on the players and sectors with limited links with the existing local comparative advantages.

The paper is organized as follows. Section 2 provides an overview of the recent literature on spatial rebalancing and regional convergence. Section 3 sketches out how the center of gravity of China's economy oscillated between the coast and the interior from the early phase of modernization up to now. Section 4 focuses on the regional pattern of industry in the 2000s and highlights the inland catch-up process. Section 5 presents the econometric estimates of the convergence pace in manufacturing from 1998 to 2009. Section 6 concludes.

2. Overview of the recent literature on regional rebalancing and industrial convergence

The studies analyzing regional imbalances and disparities at the macroeconomic level agree on the conclusion that economic reforms since 1978 led to a widening fault line between the coast and the inland, associated with increased regional disparities. They also find a mitigation of provincial divergence in the mid-2000s. Wei (2009) observes that the increase mobility of capital and labor accentuated the trend towards concentration of economic activities (in particular of industry) in the east up to 2004 which marked a turning point, when regional disparities of GDP per capita have ceased to increase. Industrial production is moving to north and to west as a result of government policies and of rising costs of labor and land in the coast. Industrial productivity and profitability provide evidence of the economic take off of the central region. The author considers that regional development has entered a watershed period and that the latecomers may become economic pace setters. In a similar way, Feng (2009) observes that since 2004 the geometric gravity center of economy has moved from east to west, as growth rates has slowed in the East and increased in the West. The OECD (2010) indicates that inter-provincial inequalities peaked around 2004 and have declined in the following years. According to Andersson et al. (2013) a regional divergence corresponding to the east/west divide characterized the initial phase of reforms and the divergence peaked as early as 1994. Since the 2003, the "followers" (mostly inland provinces) have grown faster than the "leaders" (mainly coastal provinces) and productivity levels have begun to converge.

Other studies, using firm-level datasets, put forward a convergence of industrial labor productivity across regions. They find that the catch-up process of backward regions has taken place since the mid-1990s and has been associated with a spatial diffusion of industry. Jefferson, Rawski, and Zhang (2008) analyze the multifactor productivity gap between four regions (the coast, the center, the north-east and the west), using the manufacturing enterprise census database covering the period 1998–2005. They find that in term of multifactor productivity, the center has caught up with the coast as early as 2005 and that this rapid improvement is mainly explained by the restructuring of SOEs, which is taking place in the interior during this period (and had taken place earlier in the coast). They conclude that the center's higher productivity growth may be temporary. However, they also observe that an extensive diffusion of technology and efficiency has contributed to the convergence of labor productivity.

Deng and Jefferson (2010, 2011) carry an analysis based on a large and medium industrial enterprise dataset from 1995 to 2004. They consider labor productivity in reference with the international technology frontier (the US). They find that coastal industry reduced its technology gap with the international frontier at an especially rapid pace from 1995 to 2000, but that this gap-growth advantage disappeared in the mid-2000s. From 1995 to 2004, the labor productivity gap between the coastal and interior regions narrowed significantly as the relatively backward inland regions exploited the advantages of backwardness. The larger the initial gap for a given industry-province, the higher the subsequent growth rate of labor productivity. They underline that the coast and the inland follow different growth trajectories: initially the coast benefited from "the advantage of openness" and later on, the inland grew faster due to the "advantage of backwardness". This growth pattern offers China a rare opportunity simultaneously to reduce income inequality while maintaining a high overall growth rate.