



Does investment allocation affect the inter-regional output gap in China? A time-series investigation [☆]



Anping CHEN ^a, Nicolaas GROENEWOLD ^{b,*}

^a School of Economics, Jinan University, Guangzhou, 510632, Guangdong Province, China

^b Department of Economics, University of Western Australia, Crawley, WA 6009, Australia

ARTICLE INFO

Article history:

Received 7 November 2011

Accepted 6 March 2012

Available online 29 March 2012

JEL classification:

E62

O18

O23

R58

Keywords:

Regional disparities

Regional policy

China

Investment allocation

ABSTRACT

Inter-regional disparities in China have been an important concern for central-government policy-makers for most of the past 60 years. One of the main policy instruments for redressing the imbalance between the prosperous coastal region and the poorer inland region has been the allocation of investment spending. Yet there is little empirical work evaluating the response of disparities to changes in the regional distribution of investment. We help fill this gap and analyse the two-way relationship between these variables within a VAR/VECM framework. We find, surprisingly, that changes in the regional allocation of investment have only a modest beneficial effect on inter-regional output disparities while the effect in the opposite direction is much larger. We find this conclusion to be robust to numerous variations in variable definition. The effects of investment allocation on output disparities are larger, although, for the post-1978 period they are smaller for SOE investment.

© 2012 Elsevier Inc. All rights reserved.

1. Introduction

China has experienced a high rate of economic growth in the past 30 years. Its average growth rate in terms of real GDP has been about 9.5% per annum between 1978 and 2009.¹ This rapid growth has, however, been far from evenly spread across its regions with the coastal region, for example, growing at a higher average rate than the interior region. At the provincial level, the post-1978 average annual growth rate has varied from a low of 8.4% for Qinghai province in the north-west of China to rates over 13% for the south coastal provinces of Zhejiang, Jiangsu, Fujian and Guangdong. By and large, these growth differences have exacerbated already large disparities in per capita output levels. Thus in 2009 Qinghai had a per capita GDP of 19,454 yuan compared to that of Zhejiang of 44,641, Jiangsu of 44,744, Fujian of 33,840 and Guangdong of 41,166.²

Not surprisingly, the spatial distribution of economic activity and welfare has been the subject of considerable interest to both policy-makers and academic researchers. Apart from concerns about the inequity of an uneven distribution, regional disparities

[☆] We are grateful to the Australian Department of Education, Employment and Workplace Relations and to the Business School at UWA for their support for Chen's visit to UWA under the Endeavour Award scheme in 2009. We have benefited from the comments of seminar participants at UWA, Jinan University in Guangzhou, South East University in Nanjing, Zhejiang University in Hangzhou and from conference participants at the Western Economics Association Conference in Portland, Oregon, the CESA conference at UWA, the TED conference at Fudan University, the CWE conference at CASS in Beijing and the Japanese Regional Science Association conference in Wakayama.

* Corresponding author.

E-mail addresses: anping.chen@yahoo.com.cn (A. Chen), nic.groenewold@uwa.edu.au (N. Groenewold).

¹ The measurement of China's economic growth has not been without controversy. See Woo (1998), Young (2003) and Bosworth and Collins (2008) for details.

² Data for per capita GDP are from State Statistical Bureau, *China Statistical Year Book 2010*. For a more extensive recent discussion of regional disparities in China, see Groenewold, Chen, and Lee (2008) and for a recent econometric analysis of trends in and explanations of disparities, see Lau (2010).

have the potential to generate large inter-regional population movements as well as social unrest stemming from resentment in the poor regions at the obviously higher welfare in the richer provinces.

Beginning with the first Five-Year Plan (1953–1957), the central government attempted to “correct” the inherited imbalance between the interior and coastal regions, with the allocation of investment resources being the most important instrument. The investment allocated to the interior region increased from 52% to 60% during the first Five-Year Plan. This trend continued until the end of the third Five-Year Plan by which time the proportion of investment going to the interior had increased further to 70%, although by then national security had become a major factor driving this policy since the relationship with the Soviet Union had deteriorated considerably by the mid-1960s and an important motivation for increased allocation of funds to the interior was to create several zones of economic self-sufficiency within China for strategic purposes. The allocation of investment to the interior slowed in the fourth Five-Year Plan (1971–1975) with China’s greater interaction with western economies and less concern for the national security. However, the investment share of the interior was still above 50% and continued higher than that of the coastal region until 1978.

Despite the increase in investment in the interior region, inter-regional income disparities did not improve much. The ratio of GDP per capita in the interior to that in the coast was stable at about 0.7 in the 1950s and 1960s and actually fell to 0.5 by 1977 despite the biased investment allocation. Therefore, it appears that the investment allocation policy had little effect in reducing regional disparities in the pre-1978 period.

From the beginning of reforms in 1978, there was an explicit policy of unbalanced growth, favouring the coastal region under the argument that the limited resources of the country should be allocated to those provinces with higher productivity in the expectation that the consequently higher coastal growth would pull the rest of the country behind it. As a result, the investment allocated to the coast outstripped that in the interior in 1979 for the first time since 1953 and continued to do so, rising to 65% by the end of the eighth Five-Year Plan (1991–1995). Not surprisingly, the regional income gap widened during this time period, although not by as much as might be expected on the basis of the substantial change in investment allocation – the ratio of real GDP per capita in the interior to that in the coast fell from about 0.5 in 1978 to 0.4 in 1995.

During the ninth Five-Year Plan (1996–2000), in the face of growing concern in Beijing about the unequal regional distribution of the prosperity generated by the 1978 reform and opening-up policy, a co-ordinated development strategy was advocated by the central government in which the focus shifted back to the interior region. A number of special policies, such as the Great Western Experiment (announced in 1999 during the ninth Five-Year Plan), the Resurgence of North-Eastern Old Industry Base and the Stimulation of the Central Region (both during the tenth Five-Year Plan) were implemented. The investment allocated to the interior region increased slowly in the ninth Five-Year Plan and has accelerated since 2004 with the investment share in the interior region increasing by about 10 percentage points from 1996 to 2008. However, the regional income gap has not changed much during the past decade; the ratio of real GDP per capita in the interior to that of the coast even fell from 0.4 to 0.36 from 1996 to 2004 and then rose back to 0.4 by 2008.

The brief historical summary suggests that inter-regional investment allocation policy has had little effect on regional disparities during the history of the People’s Republic of China, either before or after the opening-up that started in 1978. Given the importance of this question, it is surprising that this relationship has been the subject of so little empirical research. Our paper sets out to begin to fill this gap in the literature. Our objective is the relatively modest one of subjecting the relationship between investment allocation and the inter-regional output gap to systematic statistical analysis and stopping short of a structural explanation of the relationship between these variables. This would require a comprehensive structural econometric model of regional output and its determinants. Instead, we use a simple bivariate time-series framework involving investment allocation and the output gap.

We measure investment allocation policy by the ratio of per capita investment in the interior to that in the coast while output disparities are measured by the ratio of real per capita output in the interior to that in the coast. We analyse the dynamic relationship between them in a time-series framework, using either a vector-auto-regressive (VAR) model or a vector-error-correction model (VECM), depending on the properties of the data. This modelling strategy allows us to clearly assess the effects of investment allocation on regional disparities, both the strength and timing of these effects, as well as analysing the possibility of reverse effects running from regional inequality to investment allocation. Being a time-series model, it does not, however, allow us to identify the economic forces that underlie any estimated relationship. For this we can offer only conjectures that are, strictly speaking, *obiter dicta*.

The remainder of the paper is structured as follows. We briefly discuss some of our theoretical priors and review the limited literature in the area in [Section 2](#) and describe the data in [Section 3](#). [Section 4](#) begins with a brief description of our empirical method before reporting our results. Sensitivity tests are reported and discussed in [Section 5](#) and conclusions are drawn in [Section 6](#).

2. Some theoretical priors and a literature review

We begin by entertaining the possibility of a two-way relationship between investment allocation and the output ratio. The effect from investment to output is the one underlying the policy motivation of this paper: have the substantial changes in the regional allocation of investment over the life of the People’s Republic had a systematic effect on the regional distribution of output? Clearly the use of investment allocation as a policy instrument has been premised on an affirmative answer to this question and there are many good economic reasons why this should be so. In the first place, there is the simple demand effect of an investment boost. Secondly, there are possible Keynesian multiplier effects that would reinforce this effect. It should be pointed out, however, that there may be offsetting effects; for example, much of the capital equipment required for a boost to investment in the interior may be “imported” from the coastal region, thus reducing the initial demand boost. Moreover, an increase in

Download English Version:

<https://daneshyari.com/en/article/5047581>

Download Persian Version:

<https://daneshyari.com/article/5047581>

[Daneshyari.com](https://daneshyari.com)