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FINANCIAL DEREGULATION, ABSORPTIVE CAPABILITY, TECHNOLOGY DIFFUSION AND GROWTH: EVIDENCE FROM CHINESE PANEL DATA

Qichun He*
Central University of Finance and Economics

Meng Sun
Beijing Normal University

Heng-Fu Zou
Development Research Group, World Bank

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Technological diffusion via FDI is essential for the economic growth of backward economies. However, institutional and policy barriers may slow down technology diffusion. Using a simple theory based on Acemoglu (2009), we predict that inward FDI (pool of available world frontier technologies) and financial deregulation (enhancing absorptive capability via lowering institutional and policy barriers) have a complementary effect on economic growth. We test the predictions using panel data on Chinese provinces during the reform and opening-up period. The Chinese experience is appealing because of the symbiotic financial deregulation and inflow of FDI. We find robust evidence that there is a significant interaction effect between FDI and the level of financial deregulation that promotes economic growth. This furthers our understanding of the reform and opening-up strategy of China.

JEL classification codes: O11, O33, F43, C23
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* Qichun He (corresponding author): China Economics and Management Academy, Central University of Finance and Economics, No. 39 South College Road, Haidian District, Beijing, 100081, China; email: qichunhe@gmail.com. Meng Sun: School of Economics and Business Administration, Beijing Normal University, No. 19, XinJieKouWai St., Haidian District, Beijing, 100875, China; email: sunmeng@bnu.edu.cn. Heng-fu Zou: Development Research Group, World Bank, Washington, DC, USA: email: hzoucema@gmail.com. We are grateful to the editor Jorge M. Streb and an anonymous referee for comments that substantially improved this paper. We thank the 2009 Canadian Economics Association Annual Meeting for accepting our paper for presentation. We also thank the seminar participants at the China Economics and Management Academy, Central University of Finance and Economics for helpful comments. The encouragement and comments from Paul Beaudry are greatly appreciated, as are the comments from seminar participants at University of British Columbia, Hong Kong University of Science and Technology, University of Manitoba, and Central University of Finance and Economics on the measurement of the financial deregulation indicators.

I. Introduction

For developing countries, their rate of economic growth depends on the adoption of new technologies transferred from leading countries (Acemoglu 2009, ch. 18; Barro and Sala-i-Martin 2004, ch. 8). Foreign direct investment (FDI) is considered to be a major channel for technology diffusion (e.g., Findlay 1978; Keller and Yeaple 2003).[1] There are two types of FDI: inward FDI (the direct investment into production in a country by foreign companies) and outward FDI (a country's direct investment abroad). In our paper, we focus exclusively on inward FDI. Therefore, in the rest of our paper, FDI refers to the inflow of FDI (inward FDI). Although theory predicts that FDI spurs the growth of the host country, the empirical evidences are mixed both at the macro-level (Borensztein et al. 1998; Alfaro et al. 2004) and the micro-level (e.g., Aitken and Harrison 1999; Markusen and Venables 1999; Harrison and McMillan 2003). Acemoglu (2009: 614) argues technology diffusion may also depend on the absorptive capability that is affected by institutional or policy barriers besides human capital. Following Acemoglu, we investigate, at the macro-level, the role of relaxing institutional or policy barriers in technology diffusion. To do so, we use the Chinese financial reform and opening-up experience for the period 1981-1998.

The Chinese experience offers a natural experiment that suits our purpose. First, the Chinese economy switched from a closed central-planning regime to an open and market-oriented one in 1978. Since then, the Chinese government has made herculean efforts not only in attracting FDI,[2] but also in reforming its unhealthy financial system.[3] This yields a symbiotic evolution of financial deregulation and FDI inflow. Second, China adopted the gradual approach to reform and opening-up (Naughton 1995), which results in substantial time and province variations in policies and FDI inflows. Figure 1 illustrates some of the large variation in our measure of FDI, which displays yearly FDI to GDP (gross domestic product) ratios for two provinces (GD, i.e., Guangdong, and GS, i.e., Gansu).

[1] There are works studying outward FDI (e.g., Desai et al., 2005). Export and import are also deemed as channels for technological diffusion. For a critical evaluation of this strand of literature, see Rodriguez and Rodrik (2000). Keller and Yeaple (2003) find evidence that FDI raises the productivity of domestic firms more than imports do.

2 Attracting more FDI for technological imitation is emphasized by Mr. Deng, the designer of the reform and opening-up and the leader of China since 1978 (see Deng, 1975). Consequently, the share of world FDI inflow to East Asia increases from 2% in 1979 to 17% in 1994, which is mainly due to the increasing volumes of FDI to China (UNCTAD, 2008). Technological diffusion from abroad is important for the technological progress of China, as emphasized in Barro and Sala-i-Martin (2004: 350).

[3] Brandt and Rawski (2008), Naughton (1995) and Shirk (2003) have reviewed China' s financial reform.