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FDI Spillovers and Industrial Policy: The Role of Tariffs and Tax Holidays

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Summary. — This paper examines how industrial policy – specifically tariff liberalization and tax subsidies – affects the magnitude and direction of FDI spillovers. We examine these spillover effects across the diverse ownership structure of China's manufacturing sector for 1998 through 2007. We find that tariff reforms, particularly tariff reductions associated with China's WTO ascension, increased the productivity impacts of FDI's backward spillovers. Tax policy – both corporate income and VAT subsidies – has seemingly drawn FDI into strategic industries that spawn significant vertical spillovers. We conclude that liberalization measures during the critical 1998–2007 period on balance served to enhance productivity growth in Chinese industry.

Key words — foreign direct investment, industrial policy, manufacturing productivity, China, spillovers

1. INTRODUCTION

The Chinese government intervenes extensively to promote industrialization, relying on a range of policy instruments. In this paper, we examine three such policies that affect the magnitude and direction of the spillovers from foreign direct investment (FDI). These policies are the ownership structure of the enterprise system, including direct state ownership and accommodations to FDI, and tariffs and tax subsidies, both of which serve the purpose of promoting foreign investment in key sectors. In this paper, we extend our understanding of how each of these policies – state and foreign ownership, tariffs and trade reform, and tax incentives – operates through intra- and/or inter-industry FDI spillovers to affect the performance of Chinese-based manufacturing firms.

Incorporating these policy instruments into the analysis of FDI spillovers addresses two objectives. The first is to assess the effectiveness of different forms of industrial policy, including their indirect effects. A second purpose is to control for possible bias associated with econometric estimates of FDI spillovers resulting from the omission of industrial policies that are systematically correlated with FDI clusters. These FDI clusters include both within- industry clusters spurring horizontal spillovers or between-industry FDI clusters leading to vertical upstream or downstream effects. Given the likely interactions of industrial policy and FDI, studies of FDI spillovers should attempt to control for the direct and indirect impacts of these policies.

The period during 1998–2007 witnessed many policy shifts as China altered and experimented with a range of industrial policies. Tens of thousands of state-owned enterprises changed ownership or were liquidated. At the end of 2001, China became a member of the World Trade Organization (WTO). Average tariffs on manufacturing in China, which stood at 43% in 1994, following China's accession to the WTO fell to 9.4% by 2004. [1] FDI inflows accelerated, and by the end of the period China was one of the top destinations for foreign investment. Over these 10 years, many foreign investors in China faced much lower corporate tax rates than domestic enterprises. Before 2008, foreign investors received a 15% corporate tax rate while domestic enterprises faced a regular 33% corporate tax rate. [2] This policy of promoting foreign invested firms and other favored firms was only discontinued in 2008. It is difficult to imagine that these substantial changes have not, both directly and through their impact on FDI, affected the productivity performance of Chinese manufacturing.

Other countries have received extensive FDI within the context of state- and foreign-ownership, tariff protection, and tax incentives. However, probably no country to the extent of China has sponsored such an active range of industrial policies in combination with as heterogeneous a group of enterprise types. China's enterprise system includes an extensive system of state-owned enterprises (SOEs), including those with a mix of state and foreign ownership; foreign-owned firms distinguish overseas investment from Hong Kong, Macao, and Taiwan versus that from other areas including the OECD countries. Patterns of tariff protection and liberalization, as well as the fabric of tax subsidies, are likely to be interconnected with patterns of enterprise ownership.

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Our results suggest that the trade reforms and tax policies adopted by China during the 10 years of our sample period increased the gains from incoming FDI. Our first result is that both tariff reductions and China's entry into the WTO increased the gains from vertical FDI spillovers. By interacting measures of tariff reform and WTO entry with our foreign investment measures, we find significant increases in the benefits from FDI after trade reform, especially for backward linkages. Second, we find that foreign investors who received corporate tax breaks transmitted larger externalities to domestic enterprises. Third, the evidence suggests that pairing foreign firms with SOEs led to gains for SOE partners that generally exceeded gains for other domestic firms.

We suggest a set of reasons for the robustness of downstream FDI and backward spillovers; some of these are general, while some are specific to China. Recent analyses of vertical FDI spillovers for other countries (see the survey in Harrison and Rodriguez-Clare (2010)) have emphasized the importance of backward linkages from domestic suppliers to foreign buyers. Strong backward linkages were present in studies of Lithuania, Great Britain, and Indonesia, for example. Other conditions are specific to China: formal and informal "technology for markets" programs have emphasized the provision of knowledge in exchange for market access in a variety of sectors such as automobiles where the acquisition of knowledge by local suppliers is a key constraint.

While the focus of this paper is on the interaction between FDI spillovers and domestic policies, the stand-alone results for ownership and spillover effects are themselves of interest. Horizontal spillovers, which measure spillovers from foreign to domestic firms in the same sector, are robust only for firms with foreign partners and for SOEs. Forward linkages, which include positive spillovers from upstream foreign suppliers to downstream firms, are generally significant. Backward linkages, which measure linkages from domestic suppliers to foreign buyers, are largest in magnitude and significant once we control for trade policies and their interaction with FDI.

In addition to measuring the impact of formal tariff reductions on final goods and on inputs, we also explore the impact of China's entry into the WTO at the end of 2001. Tariff changes do not capture the important shift in access to foreign markets induced by China's WTO entry. Tariff changes also do not capture other changes associated with WTO membership, such as reductions in non-tariff barriers and domestic content laws. To capture this, we also explore the impact of a WTO dummy on firm performance. For all enterprises except the foreign-invested firms, WTO entry was associated with a very large and significant improvement in performance. The evidence suggests that market access to foreign markets was a more important driver of firm performance, as measured by TFP growth, than internal tariff reductions.

We also explore the differential impact of tax subsidies bestowed on foreign investors. If the Chinese government correctly targets, through tax concessions, those sectors and firms with greater potential for creating spillovers, we would expect stronger linkages associated with tax breaks. We do, in fact, find statistically significant evidence of stronger FDI productivity externalities associated with sectors and firms that received tax breaks.

We examine these connections in the five sections that follow. Section 2 reviews the existing literature and Section 3 lays out the analytical framework of the paper. Our data set, described in Section 4, consists of a comprehensive panel of firm-level data constructed from extensive annual firm surveys covering the period 1998–2007. We use these data to implement our econometric strategy described in Section 5. Section 5 also describes and analyzes the key results of the analysis, and Section 6 presents the concluding comments.

2. LITERATURE REVIEW

China's transition from a highly centralized, monopolistic trade regime with extensive import and export controls began at the end of 1978. Figure 1 shows that the share of trade (exports plus imports) in GDP for China was less than 10% in the 1970s, but increased rapidly as the regime liberalized. By the mid-1990s, the share of trade in GDP had reached over 40%. Naughton (1996) documents the transition to a more open trade and foreign investment regime from 1978 onward.[3] One important feature of the reforms was its dualistic nature, similar to other types of dual track reforms introduced in China the last several decades. The dualism was characterized by a rapidly expanding system of export processing operating alongside a fairly protected domestic economy.

In 1980 the government established the first four Special Economic Zones and extended these to 14 coastal cities in 1984 (Brandt, Van Biesebroeck, Wang, & Zhang, 2012). Foreign investment inflows were encouraged to bring in capital, and the government began a policy of sometimes explicit and other times implicit bargaining to grant domestic market access to foreign companies in exchange for technological know-how. Duty-free importation was also allowed outside special zones, particularly for targeted foreign firms.

As Figure 1 shows, beginning in the mid-1990s China's integration into the global economy accelerated, with trade growing to 70% of GDP right before the financial crisis in 2007. One factor that has facilitated the continued growth in trade is the spectacular rise in inward foreign investment, which is documented in Figure 2. Major reforms to encourage incoming foreign investment were introduced in 1986 and 1991. Inducements to foreign investors included duty drawbacks, tariff exemptions, subsidies, infrastructure provisions, and tax holidays.

Numerous papers have examined the existence and magnitude of FDI spillovers in China. Jefferson and Ouyang (2014) review much of the literature and try to explain the lack of consistency regarding the research findings concerning China's FDI spillovers. Their central finding, resulting from their review of 16 Chinese FDI spillover papers, is that the multiplicity of data sources and research methodologies render impossible an effective comparison of the results. These differences include the use of value-added versus gross output measures of factor productivity; some analyses are derived with the assumption of constant returns to scale; others are not. Moreover, while the earlier papers focused largely on horizontal, intra-industry spillovers, more recent papers have included vertical, forward and backward, as well as horizontal spillovers. Different papers invariably impose different controls. Some papers control, often in different ways, for China's extensive set of ownership types; some seek to identify the channels through which FDI might affect host firm productivity, such as labor market movement and trade; most do not. With respect to econometric strategy, some use industry, region or province, or firm-level fixed effects; others do not. These are but some of the differences that Jefferson and Ouyang identify which frustrate efforts to arrive at robust conclusions regarding research on Chinese FDI spillovers.[4] By introducing tariff and tax policy into the analysis, this paper extends the variety of research approaches. We are able to compare FDI spillover impacts on different ownership types with such attention given in other papers.