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# Intellectual property rights protection and the surge in FDI in China

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#### ABSTRACT

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There is scarcity of empirical studies focusing on the role of intellectual property rights (IPR) in attracting FDI into developing nations, especially large economies with relatively strong threat of imitation. This paper examines the contribution of IPR to the recent surge in China's inward FDI. We consider two alternative measures of IPR and explore the possibility that the effect of IPR protection on FDI may vary by the level of economic development. Using a panel data for 38 countries, the empirical results indicate that the strengthening of IPR protection in China has a positive and significant effect on FDI. The results also show that FDI from Hong Kong and Taiwan behaves differently from the FDI originating from other high-income countries. *Journal of Comparative Economics* **38** (2) (2010) 217–224. Department of Food and Resource Economics, University of Delaware, Newark, DE 19717, USA.

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#### 1. Introduction

China has experienced a phenomenal surge in its inflow of foreign direct investment (FDI) in the past two decades. While Asia receives the bulk of FDI flows to the developing world, China accounts for almost half of Asia's share of global FDI (see Table 1). China's FDI grew from virtually nothing in 1979 to \$45.5 billion in 1998; and less than a decade later in 2006, its FDI inflow increased to \$69.5 billion. FDI flow into China accounts for more FDI than that of the entire African continent (\$35.5 billion) and is just a bit behind all of Latin America (\$83.8 billion) combined (see UNCTAD, 2007). Since 1993, it has become the largest recipient of FDI among developing countries and the most popular destination of choice for multinational firms, second only to the United States. This substantial volume and growth of FDI to China naturally raises the question: what is the driving force behind this growth?

To this end, the sources and drivers of FDI in China have been studied extensively (Wang and Swain, 1995; Heid and Ries, 1996; Sun et al., 2002; Hsiao and Hsiao, 2004; Zhang, 2005; Du et al., 2008). However, very little empirical analysis has focused on the impact of intellectual property rights (IPR) on FDI flow. This oversight could be partially attributed to data constraint. Until recently, extended time series data on the effects of the strengthening of China's IPR laws was scarce. Furthermore, China's recent patent laws reform and its past reputation as a very large developing economy with strong threat of imitation makes it an interesting case study on the effect of IPR protection on FDI. Thus, it is timely to investigate the impact of IPR on FDI in China after a period of significant policy reforms to China's IPR laws.

Among developing countries, China is particularly suitable as a case study for analyzing the impact of IPR reforms on FDI flows. Surprisingly, China had no IPR protection before 1985. However, since the establishment of its first patent law in 1985

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| Table 1 | l |
|---------|---|
|---------|---|

| Overview of recent trends in global flow of FDI. Source: U | UNCTAD, World Investment Report 2005. |
|--|---------------------------------------|
|--|---------------------------------------|

| Region/Country                                  | 1993–1998 (annual average) | 1999   | 2000   | 2001  | 2002  | 2003  | 2004  |  |  |
|---|----------------------------|--------|--------|-------|-------|-------|-------|--|--|
| FDI inflows (billions of dollar, current price) |                            |        |        |       |       |       |       |  |  |
| World   | 401.7                      | 1092.1 | 1396.5 | 825.9 | 716.1 | 632.6 | 648.1 |  |  |
| Developed economies                             | 256.3                      | 848.6  | 1134.0 | 596.3 | 547.8 | 442.2 | 379.8 |  |  |
| Developing Economies                            | 139.0                      | 232.6  | 252.8  | 218.0 | 155.4 | 166.4 | 233.3 |  |  |
| United State                                    | 86.1                       | 283.4  | 314.0  | 159.5 | 71.3  | 56.8  | 95.9  |  |  |
| Asia  | 83.4                       | 111.6  | 145.7  | 108.6 | 92.0  | 101.3 | 147.5 |  |  |
| China   | 38.5                       | 40.3   | 40.7   | 46.9  | 52.7  | 53.5  | 60.6  |  |  |

and its substantial revision in 1992 and 2000, China has undergone a gradual reform of its patent systems. In 1992, mainly due to pressure from the United States, China's patent law was substantially amended to make it more aligned with those of many industrial nations (Allison and Lin, 1999). The strengthening of China's patent laws was also accelerated by its membership in the WTO that required that Chinese IPR laws (i.e. patents, copyrights and trademarks) be better aligned with the WTO's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) and other major international IPR conventions (Maskus, 2004). Since 1992, foreign patents have increased steadily with an annual growth rate of 19% (see Fig. 1). The majority of Chinese patents (invention patent applications) were filed by foreign firms with the most important patentees coming from Japan, the US, EU member countries, and South Korea.

The objective of this paper is to investigate the impact of China's IPR laws on its ability to attract FDI from 1992–2005. This paper contributes to the literature in several ways. First, this is the first empirical analysis focusing on a large and influential developing economy that has experienced significant changes in its IPR systems in the past two decades. Thus, this analysis provides an alternative to most previous studies that usually emphasize FDI flows from the perspective of a major industrialized parent-nation (e.g., United States) to a diverse group of host nations. Second, we also explore the possibility that the effect of IPR protection on FDI may vary by the level of economic development in partner countries (Smith, 2001). Third, in contrast to studies based on cross-sectional data from a single year, this study uses a panel data for 38 countries which covers a more extended time period (1992–2005) and allows for the consideration of the dynamic nature of the relationship between FDI and policy changes in IPR regimes. Fourth, this paper applies two alternative measures of IPR as a proxy for IPR regimes: (1) Annual foreign patent applications as a measure of the strength of IPR protection in China and (2) IPR index developed by Ginarte and Park (1997).

The IPR index, used by most previous studies, is based on a scoring method that is often arbitrary in their choice of weights on the importance of various criteria. Although useful in some cases, the index-based measures of IPR, based on laws on the books, may not adequately capture the dynamic nature of the interaction between changes in patent laws and standards over time as well as their potential impact on other economic variables (e.g., FDI). Alternatively, we use actual data on the number of patent applications from parent countries over time. The growing number of foreign patents filed each year could be a good indicator of growing confidence of foreign firms in the IPR protection laws and enforcement offered in China. Relative to the index-based approach, this measure of IPR protection strength accounts for more variation across time and may be less susceptible to measurement errors.

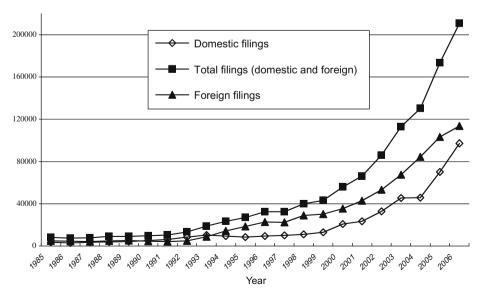


Fig. 1. Patent filings in China from 1985-2004. Source: Chinese patent database, CNPAT ABSDAT (http://www.sipo.gv.n).

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