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# Economic Reforms, FDI, and Economic Growth in India: A Sector Level Analysis

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**Summary.** — Booming foreign direct investment (FDI) in post-reform India is widely believed to promote economic growth. We assess this proposition by subjecting industry-specific FDI and output data to Granger causality tests within a panel cointegration framework. It turns out that the growth effects of FDI vary widely across sectors. FDI stocks and output are mutually reinforcing in the manufacturing sector, whereas any causal relationship is absent in the primary sector. Most strikingly, we find only transitory effects of FDI on output in the services sector. However, FDI in the services sector appears to have promoted growth in the manufacturing sector through cross-sector spillovers.
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*Key words* — foreign direct investment, economic reform, growth effects, India, cointegration, causality

## 1. INTRODUCTION

The stock of foreign direct investment (FDI) in India soared from less than US$ 2 billion in 1991, when the country undertook major reforms to open up the economy to world markets, to about US$ 45 billion in 2005 (UNCTAD, online database). Policymakers attach high expectations to FDI. According to the Minister of Finance, P. Chidambaram, "FDI worked wonders in China and can do so in India" (Indian Express, November 11, 2005). Various economists, including Bajpai and Sachs (2000, p. 1), advise policymakers in India to throw wide open the doors to FDI which is supposed to bring "huge advantages with little or no downside."

Yet, it is far from obvious that FDI in India will have the desired growth effects. Skepticism may be justified for several reasons. The recent boom notwithstanding, FDI inflows may still be too low to make a big difference (Bhat, Sundari, & Raj, 2004; Kamalakanthan & Laurenceson, 2005). Some observers doubt that economic reforms went far enough to change the character of FDI in India and, thus, result in types of FDI that may have more favorable growth effects (Balasubramanyam & Mahambare, 2003; Fischer, 2002). Others suspect that the type of FDI and its structural composition matter at least as much for economic growth effects as does the overall volume of inward FDI (Agrawal & Shahani, 2005; Enderwick, 2005). All the more surprisingly, the structure and the type of FDI are hardly considered in previous empirical studies on the FDI–growth links in India.

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Against this backdrop, this paper addresses two major issues: first, we discuss in Section 2 whether India's reforms in 1991, apart from giving rise to FDI, have also induced changes in the structure and type of FDI which may be relevant for its growth impact. Second, we evaluate in Section 3 whether the growth impact of FDI differs between the primary, secondary, and tertiary sectors. We apply cointegration and causality analyses on the basis of industry-specific FDI stock data which are available for the period 1987–2000. We find that the growth impact of FDI differs significantly across sectors. Most notably, there is at best weak evidence for a causal link between FDI and output growth in the services sector, which attracted the bulk of additional FDI in recent years. By contrast, manufacturing output appears to have been promoted not only by FDI in this sector but also by FDI in the services sector through spillovers across sectors.

## 2. THEORETICAL BACKGROUND AND STYLIZED FACTS

### (a) *Major arguments and cross-country findings*

FDI is widely regarded as a composite bundle of capital inflows, knowledge, and technology transfers (Balasubramanyam, Salisu, & Sapsford, 1996). Hence, the impact of FDI on growth is expected to be manifold (De Mello, 1997). Greenfield FDI, in particular, may complement local investment and can thus add to the production capacity of the host country. FDI can promote growth through productivity gains resulting from spillovers to local firms. As noted by Borensztein, De Gregorio, and Lee (1998), the rate of growth of a lower-income country depends on the extent to which this country adopts and implements advanced technologies applied in higher-income countries. FDI by multinational corporations based in higher-income countries is considered a major mechanism through which lower-income countries may access advanced technologies (see also Findlay, 1978). Likewise, managerial expertise and knowledge about international markets may spill over to local companies in lower-income host countries of FDI. This may promote growth by relaxing human-capital constraints in the host country and strengthening the competitiveness of its export sector. Taken together, FDI is supposed to help overcome various bottlenecks which, according to new growth theory, tend to constrain growth in lower-income countries such as India.

Some of the theoretically expected growth implications of FDI are difficult to capture empirically. The controversial debate on the reasons underlying India's recent acceleration in growth clearly reveals the problems involved. According to a skeptical view, of which DeLong (2003) is a prominent proponent, it may even be misleading to trace higher growth to the whole reform program of the early 1990s. [1] While DeLong's reasoning is strongly contested, for example, by Panagariya (2005), [2] this still leaves the problem of isolating the effects of FDI, the liberalization of which constituted just one, though an important element of the reform program. According to DeLong (2003, p. 203), it may well be that "deeper changes," notably the general change in official attitudes in India and the widespread belief that the rules of the economic game had become more favorable to entrepreneurial activities, "had more importance for Indian growth than did individual policy moves." Furthermore, DeLong clearly has a point in that reforms in general, and FDI liberalization in particular could have long-run effects that escape econometric investigations.

These arguments imply that assessments of the growth impact of capital inflows, including the present one on FDI effects in India, may suffer from two biases working in opposite directions. On the one hand, the impact of concrete reforms such as FDI liberalization tends to be overstated if general attitudes and beliefs are important but cannot be measured. Attribution problems of this sort appear to be insurmountable in econometric analyses relying on measurable explanatory variables. The present analysis shares this limitation with essentially all empirical studies investigating the effects of financial globalization on economic growth. [3]

On the other hand, the impact of FDI (and other types of capital inflows) tends to be understated when focusing on relatively short-term effects. It may thus be surprising that most of the studies surveyed by Kose *et al.* (2006) consider a time period of up to 5 years to assess the growth effects of financial globalization. This also applies to prominent FDI studies, including Hermes and Lensink (2003) as well as Carkovic and Levine (2005). [4] This restriction is mainly for two reasons. First, as noted by Rajan and Subramanian (2005, p. 7), empirical studies often "bow to fashion and examine 5 year growth horizons" in order to have