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The contribution of foreign capital to U.S. productivity growth

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Abstract

U.S. Bureau of Labor Statistics productivity data show annual output growth per hour since 1995 roughly doubling the rate achieved over the preceding two decades. A rapid inflow of foreign investment paralleled the brisk productivity growth, suggesting a positive link between the growth of productivity and foreign capital. The goal of this study is to investigative this relationship and determine the extent to which foreign capital contributed to U.S. productivity growth during this period of vigorous productivity growth. Applying a Cobb–Douglas production function to data from 1988 to 1999, it is found that foreign capital accounted for almost 16% of overall U.S. productivity growth. Moreover, foreign capital was responsible for more than one-third of the manufacturing sector's productivity growth between 1988 and 1994. More importantly, foreign capital contributed almost 16% of productivity growth between 1995 and 1999, significantly more than domestic capital's contribution.

JEL classification: F2; O4

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1. Introduction

During the latter half of the 1990s, the U.S. experienced exceptional productivity gains, almost doubling the yearly growth rate achieved over the preceding two decades. Paralleling this growth

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Table 1
FDIUS (in millions), 1988 and 1999 and growth rates

	1988	1999	Compound annual growth rate 1988–1999 (%)
All countries (US$)	314,754	955,726	10.6
Japan	51,126	153,815	10.5
United Kingdom	95,698	153,797	4.4
Netherlands	48,128	125,010	9.1
Germany	25,250	112,126	14.5
Canada	26,566	90,559	11.8
France	13,233	89,945	19.0
Switzerland	14,372	52,973	12.6

Source: U.S. BEA.

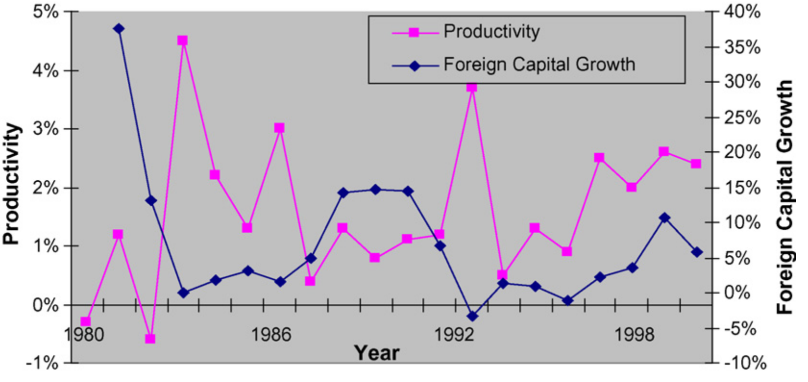

Fig. 1. Annual gains in U.S. productivity and annual increases in foreign capital stock, 1980–1999.

in productivity was a rapid increase in foreign direct investment (FDIUS) suggesting a positive link between the productivity upturn and foreign capital. Table 1 provides country detail for FDIUS on a historical basis from 1988 to 1999. Over the time span, FDIUS grew each year with the overall growth rate greatly exceeding that of overall GDP growth. While the amount of FDIUS from each countries varied from year-to-year, the major countries investing in the U.S. were developed countries. Fig. 1 depicts the relationship between foreign capital and U.S. productivity from 1980 to 1999. The figure shows several consecutive years of productivity growth coupled with growth in foreign capital stocks. In particular, during the latter half of the 1990s, foreign capital's growth path paralleled that of productivity gains.

Despite the possible linkage between foreign capital and productivity, no research, to the authors' knowledge, has estimated foreign capital's contribution to U.S. economic performance during this period. This dearth in research can be attributed to the relative small magnitude of foreign to domestic capital, and to the traditional belief that capital is fungible. As such, skeptics argue that the surge in aggregate productivity owes little to foreign capital, and can instead be traced to other factors such as the rapid buildup in information technology capital, both domestic and foreign. The goal of this study is to examine the extent to which foreign capital contributed to the revival in U.S. productivity growth focusing on two periods, 1988–1994 and 1995–1999.[1]

[1] Stiroh (2002) found that 1995 was a breakpoint in U.S. productivity growth.