

# The impact of deviation from relative purchasing power parity equilibrium on U.S. foreign direct investment

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## Abstract

Analyzing inbound and outbound foreign direct investment (FDI) between the U.S. and seven developed countries over the period from 1994 to 2004, this study provides strong evidence for a positive relationship between aggregate FDI flows and a strengthening of a home currency. Further, taking exchange rate disequilibrium into account, we find that an increase in U.S. inbound FDI is related to a strengthening of an *undervalued* and *overvalued* U.S. dollar, while an increase in U.S. outbound FDI (foreign inbound FDI) is mainly related to a strengthening of an overvalued foreign currency. Disaggregate FDI flow data show that these findings hold mainly for the manufacturing (food and machinery) and the wholesale industry. We argue that our findings may provide evidence for a co-existence of the wealth-effect hypothesis and a more profit and production oriented hypothesis, once the U.S. dollar is undervalued. Additionally, the results support the argument that the profit and production oriented hypothesis dominates the wealth effect in developed countries, especially in the manufacturing and wholesale industry. Moreover, the results support the view that foreign investors are interested in how overvalued or undervalued a currency is, rather than being interested only in the recent direction of change in the exchange rate. Finally, all findings are robust with respect to several estimation procedures.

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## 1. Introduction

The globalization of capital markets accompanied by productivity and infrastructure improvements in developing countries seems to have shifted global allocations of foreign direct investments (FDI). For example, China's inbound FDI rose from \$40.8 billion in 2000 to \$52.7 billion in 2002. While over the same time span, U.S. inbound FDI decreased from \$314 billion to \$30 billion (UNCTAD World Investment Report, 2003). This downturn in U.S. FDI inflows, combined with the current depreciation of the U.S. dollar, has revitalized the discussion on the impact of the exchange rate on U.S. inbound FDI.

The recent decline in U.S. inbound FDI is especially puzzling if one considers that, according to the wealth-effect hypothesis (Froot & Stein, 1991), a depreciating U.S. dollar makes U.S. assets cheaper for foreign investors. A depreciating currency, however, may not encourage foreign investments if the currency was previously overvalued. Foreigners may be hesitant to invest in this context, as the currency may be expected to depreciate further. This would impair the returns from any FDI in two ways: (1) domestic profits repatriated abroad will be converted at a less advantageous rate of exchange,<sup>3</sup> and (2) the weakening of the currency may also increase the cost of production if the producer relies on intermediate goods imported from abroad.

Consequently, we hypothesize in this paper that in addition to the strengthening or weakening of a currency, exchange rate disequilibrium (overvalued or undervalued currency) might be of importance with respect to FDI decisions. In this context, we argue that an undervalued currency, rather than a depreciating currency, may be related to the wealth effect. A depreciation of an overvalued home currency may prevent foreign investors from bidding for a domestic asset since such an investment may still be too expensive. An undervalued home currency, however, leaves domestic assets clearly at a bargain for foreign investors.

Therefore, once a currency is undervalued, foreign investors might intensify their investment activities abroad due to the wealth effect (cheaper foreign assets). Additionally, if agents expect a revaluation of the currency, they may also benefit from higher future repatriated profits due to a more advantageous exchange rate and lower cost of production (profit and production oriented hypothesis). Hence, we hypothesize that an appreciating home currency might trigger an increase in FDI inflow, if the currency was previously undervalued, which we argue is in line with both the wealth-effect hypothesis and a more profit and production oriented hypothesis. Further, if the profit- and production-oriented effect dominates the wealth effect, which we hypothesize is the case for developed countries, then an appreciating overvalued home currency may still cause an increase of inbound FDI. Consequently, combining both above stated hypotheses, one should find for developed countries a positive relationship between a strengthening home currency and inbound FDI.

The purpose of this study is to determine the extent to which deviations of the U.S. dollar spot rate from a relative purchasing power parity (PPP) equilibrium exchange rate may influence U.S. inbound and outbound FDI. Focusing on relative PPP-based equilibrium exchange rate misalignments rather than simply looking at the change in the exchange rate, as has been done in the majority of previous research in this area, bears the following advantages. First, using exchange rate misalignments allows us to investigate if overvaluation or undervaluation of the U.S. dollar matters in determining U.S. FDI flows. An overvalued (undervalued) U.S. dollar is defined as

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<sup>3</sup> This argument assumes that FDI flows are motivated as a substitute for exports to save transaction costs and to be closer to the customers, which seems to hold for developed countries (see for example Krugman & Obstfeld, 2006, p. 159).

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