

# **Equity Prices and Equity Flows: Testing Theory of the Information-Efficiency Tradeoff**

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## **Summary**

Liberalization of international capital markets gave rise to large amounts of international equity flows in recent years. These flows seem to have had a major impact on the cost of capital, on the volatility of capital markets, and even on economic growth.

In assessing the costs and benefits of the globalization of international equity markets, it is important to take account of the composition of international equity flows. These flows generally take two forms: Foreign Direct Investments (FDI) – that usually involve a control position by the foreign investor – and Foreign Portfolio Investments (FPI) – that do not involve a control position. It is well known that these two forms of investment generate very different implications for the stability of international capital markets and of host countries. It is claimed that FPI investors usually rush to liquidate their investments during financial crises, whereas FDI is more resilient and thus contributes to the stability of investment in the host country.

Despite the importance of the distinction between FDI and FPI, not much is known about the factors that guide the choice of international investors between them. Traditionally, Multinationals engaged in FDI, while collective investment funds – including private equity funds, mutual funds and hedge funds – engaged in FPI. In such a world, investors seeking international exposure had to choose between investing in multinationals or in investment funds. This choice influenced in turn the composition of equity flows between FDI and FPI. More recently, the choice between FDI and FPI has become even more direct, as collective investment funds became sources of FDI and started competing with traditional multinationals in acquiring foreign companies.

According to the 2006 World Investment Report, collective investment funds have become growing sources of FDI. These funds raised an amount of \$261 billion in 2005 from institutional investors, such as banks, pension funds and insurance companies. About half of the funds raised were then used towards FDI. Moreover, their main type of FDI, cross-border M&As, reached \$135 billion and accounted for as much as 19% of total cross-border M&As in 2005.

Both forms of equity flows were downscaled during the 2008-9 global financial crisis.

Our investigation has strong implications for the future of FDI investments by collective investment funds. These funds have expanded significantly in the past few years due to historically low interest rates, high liquidity of investors and the good performance of private equity funds. However, events such as the recent global financial crisis, and the resulting credit crunch, led to difficulties for the private equity funds in conducting FDI investments.

The goal of the present paper is to shed empirical light on the factors that affect gross flows of FDI and FPI at a bilateral country level.

The anticipation of a future increase in liquidity risk at the source and the host countries affect the choice between FDI and FPI flows. The basic idea is that there is an efficiency-information trade-off between FDI and FPI. On the one hand FDI run project yield an expected higher payoff, because the investment decisions are more efficient due to a narrowing of the information gap between ownership and management. But, on the other hand, FDI investments are illiquid and more difficult to sell before they mature, and thus FPI investments become more desirable in the face of expected liquidity needs. In this model, FDI investors are more informed than FPI investors about the prospects of the firms they invest in. This information enables direct investors to manage their projects more efficiently. The informational advantage, however, comes at a cost. If investors need to sell their investments before maturity because of liquidity shocks, the price they get is typically lower when buyers know that the seller has more information about the fundamentals of the investment project. A key implication of the model is that the choice between FDI and FPI is linked to the likelihood with which investors expect to get a liquidity shock. High liquidity risk investors tend to invest in the form of portfolio investment, whereas low liquidity risk investors tend to invest in the form of direct investment in a separating equilibrium. This captures the idea that individual investors are forced to sell their investments early particularly at times when there are aggregate liquidity problems which depress the market values of debt collaterals. In those times, some individual investors have deeper pockets than others, and thus are less exposed to the liquidity issues. Thus, once an aggregate liquidity shock occurs, some individual investors will need to sell, but they will get a low price because buyers do not know if they have deep pockets, and sell because of adverse information on the profitability of their investment projects, or because they are truly affected by the aggregate liquidity crisis.

Problem faced by FDI investors who prematurely liquidate their project is however lessened when future liquidity risks increase if relatively more investors choose the FDI form for their foreign investment.

We use across the board liquidation of external assets as an indicator of aggregate liquidity problems. Our measures of FDI and FPI are based on source countries' stocks of external assets as compiled by Lane and Milesi-Ferretti (2007). Using a sample of 65 countries between 1985 and 2004, we first estimate the determinants of expected liquidity needs. Then, we examine the effect of predicted future liquidity events on the choice of a source country between FDI and FPI and on the FDI to FPI price differential.

We bring to the data the following hypotheses which are formulated from previous section (adverse-selection theory).

1. "Price Discount Hypothesis". The ratio of FDI price to FPI price is negatively affected by liquidity risk. The idea is that a market participant does not know whether the FDI investor liquidates the firm because of an idiosyncratic liquidity shock, or because she has some negative information about the firm productivity.

2. "Equity-Composition Hypothesis". The ratio of (gross) flows of FPI to (gross) flows of FDI increases if investors expect more severe liquidity problems. The idea is that direct investments are more costly to liquidate, because during liquidity crisis they are sold at a discount. Hence, once expecting greater liquidity needs in the future, investors tend to tilt their investments towards a relatively more liquid asset, which is the portfolio investment.

Greenfield FDI is characterized by more investor control than typical FPI, and so does M&A FDI. Hence, both components of FDI are relatively less liquid than FPI.

3. "Strategic Complementarity Hypothesis". The effect of greater liquidity risk on gross outflows and outflows of FDI, relative to FPI, depends on the initial number of FDI investors, relative to the FPI investors. The idea is that, among direct investors, high liquidity need investors generate a positive information-externality over low liquidity need investors. That is, following aggregate liquidity shock, the increase in the number of FDI investors comes proportionally more from high liquidity need investors. This reinforces such externality, thereby lowering the price discount, and creating incentives for even more investors to choose to become direct investors rather than FPI investors.