



# Migration, spillovers, and trade diversion: The impact of internationalization on domestic stock market activity

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Received 1 July 2005; accepted 14 November 2006

Available online 16 January 2007

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## Abstract

This paper studies the relation between internationalization (firms cross-listing, issuing depositary receipts, or raising capital in international stock markets) and the trading activity of the remaining firms in domestic markets. Using a panel of 3000 firms from 55 emerging economies during 1989–2000, we find that internationalization is negatively related to the trading activity of domestic firms. We identify two channels. First, the trading of international firms migrates from domestic to international markets and this migration along with the reduction in domestic trading of international firms has negative spillover effects on domestic firm trading activity. Second, there is trade diversion within domestic markets as trading activity shifts out of domestic firms and into international firms. © 2006 Elsevier B.V. All rights reserved.

*JEL classification:* G15; F36; F20

*Keywords:* International finance; Equity markets; Trading; Cross-listing; Depositary receipts; ADRs; GDRs

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## 1. Introduction

What is the impact of firms that participate in international stock markets on the trading activity of the remaining firms in the domestic market? We address this question by studying the effects of firms becoming “international” (by participating in international equity markets through issuing depositary receipts, cross-listing, or raising new capital) on the trading activity of “domestic firms” (the firms that do not internationalize). Understanding the effects of internationalization on trading activity is important because domestic market trading affects the growth rate and performance of firms, industries, and the overall economy.<sup>1</sup>

To study the effects of internationalization, we use trading information on over 3000 firms across 55 emerging market countries during the years 1989 to 2000. We measure trading activity using turnover, which equals the value of a firm’s transactions in a market divided by the firm’s market capitalization. Turnover, and similar trade-based indicators, are frequently used to proxy for liquidity since (i) theory and evidence suggest a close association between turnover and bid-ask spreads, (ii) many countries do not have bid-ask spread information (especially time series data), and (iii) some research finds that turnover can be a better proxy for liquidity than bid-ask spreads due to problems with measuring spreads.<sup>2</sup> We measure the country-level degree of internationalization by the share of international firms in a country in a given year.

By providing empirical evidence on how internationalization is related to domestic trading activity, we shed light on different theories that yield conflicting predictions on the effects of internationalization. Consider first the “migration and spillovers” argument. According to the migration view, internationalization will induce a shift in the trading of international firms out of the domestic market and into major international financial markets. This may occur because major international markets have lower information and transaction costs (Lang et al., 2003; Chowdhry and Nanda, 1991). Spillovers mean that a drop in the domestic trading of international firms hurts the trading and liquidity of domestic firms. Indeed, using data from the United States, Chordia et al. (2000) find that liquidity is not simply an asset-specific attribute; rather, individual asset liquidity tends to co-move with aggregate market liquidity. Spillovers could occur because of fixed costs associated with operating a market, running brokerage firms, clearing and settling transactions, among other things. Thus, a drop in the domestic trading of international stocks could increase the per-trade cost of domestic stock transactions and reduce the trading and

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<sup>1</sup> Theory predicts a positive link between trading activity and both firm and national growth (Levine, 1991). On the empirical side, Amihud and Mendelson (1986) estimate that a one percentage point increase in the bid-ask spread is associated with 0.2 of a percentage point increase in the monthly risk-adjusted excess return. Levine and Zervos (1998) find that a one standard deviation increase in domestic market turnover boosts steady-state real per capita annual economic growth by 0.8 percentage points, which is large considering that the average per capita growth rate in their sample is less than two percentage points per year. Also see. Beck and Levine (2002), Beck and Levine (2004).

<sup>2</sup> From a theoretical perspective, Stoll (1978a) and Amihud and Mendelson (1986) suggest a direct link between trading costs and trading volume and holding periods, respectively. Empirically, Stoll (1978b) confirms these predictions. Petersen and Fialkowski (1994) demonstrate the problems with computing accurate bid-ask spreads. Consequently, a large number papers use turnover and volume based proxies of liquidity (e.g., Haugen and Baker, 1996; Brennan et al., 1998). Levine and Schmukler (2006) find that alternative measures of liquidity based on price changes are highly correlated with turnover.

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