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iShares Australia: a clinical study in international behavioral finance

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Abstract

Using iShares Australia returns as a proxy for the influence of overseas investors in the Australian market, we found that U.S.-based investors in the Australian market overreact to contemporaneous and lagged returns of the U.S. equity market, the U.S.–Australian dollar exchange rate, and past iShares Australia returns. In response to changing conditional risk, however, investors behave rationally: increasing (decreasing) expected risk is associated with falling (rising) prices. In light of these findings, we hypothesize that behavioral finance might explain the observed correlations between international equity markets.
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1. Introduction

If equity markets are weak form efficient (Fama, 1970), we should not be able to forecast tomorrow's return using information available today. In an international context, if returns in one market today could be used to forecast returns in another market tomorrow, international equity markets are arguably weak form inefficient (Becker, Finnerty, & Gupta, 1990).

There is a large body of empirical evidence suggesting that international markets violate this criterion for weak form efficiency. A number of studies demonstrate that international equity returns may be forecasted. These studies include Durand, Koh and Watson (2001), Eun and Shim (1989), Ghosh, Saidi, and Johnson (1999), Kahya (1997), Theodossiou, Kahya,

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Table 1
Variables

Description of variable	Mnemonic
The daily percentage change in the ASX All Ordinaries Index	AOPIRET
The daily percentage change in iShares Australia	EWAPIRET
The daily natural log change in iShares Australia volume	EWAVOLN
The daily percentage change in the S&P 500 Composite Index	SPPIRET
The daily natural log change in volume of the stocks comprising the S&P 500 Composite Index	SPVOLLN
The daily percentage change in the U.S.–Australia exchange rate—expressed in A$ as how many A$ can be bought by US$1	XRATE

Koutmos, and Christofi (1997), and Theodossiou and Lee (1993). Durand et al. (2001) illustrate the general findings of this literature. Using 11 years of daily data, they test a number of variables for their influence on seven Pacific-Rim markets and find that the U.S. equity markets have a significant leading relationship with those markets (Australia, Hong Kong, South Korea, Malaysia, Singapore, Taiwan, and Thailand). In the equation modelling Australian returns, for example, the R^2 is, at around 27%, surprisingly high. In a related work, Olienyk, Schweback, and Zumwalt (1999) approach the topic of global market integration using World Equity Benchmark Shares (WEBS), now known as iShares,[1] and Standard & Poor's Depository Receipts (SPDRs) and find that the markets represented by the WEBS have equilibrium relationships with the U.S. market and that there are short-run inefficiencies among the instruments which might be arbitraged.

This paper focuses on iShares Australia to examine why such a relationship might exist between the United States and a foreign market. While we might have chosen any number of markets, we have chosen Australia due to the strong relationship documented by Durand et al. (2001). In particular, we explore how foreign investors (in this case, investors active

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[1] The American Stock exchange provides a general introduction to iShares at http://www.amex.com/indexshares/index_shares_intl.stm. Formerly known as WEBS Australia, iShares Australia trades on the AMEX and passively tracks the Morgan Stanley Capital International (MSCI) Australia Index. In practice, iShares must have at least 80% of its total assets in stocks prescribed by the benchmark MSCI index. Half of the other 20% must be invested in stocks either included in the benchmark index or not included in the benchmark index. The remaining 10% must be invested in other securities, including money market instruments, derivatives, and forward currency exchange contracts for the express purpose of reducing the tracking error (iShares MSCI Index Funds' *Prospectus and Statement of Additional Information* dated 30 December 1999 and revised 22 May 2000). Further aspects of relevance to this study are discussed in Olienyk et al. (1999). That study highlighted that, unlike market proxies used in previous studies, iShares represent directly tradeable assets and overcome problems of nonsynchronous trading and illiquidity. It is particularly important to note that units may be created or redeemed for net asset value. Therefore, there should not be bias in the analysis due to a close-end fund discount (Dimson & Minio-Kozerski, 1998). In addition, buying and selling of iShares may be done through most brokers in the United States in the same way as purchasing common equity stock; iShares settle in the same manner as other U.S. equities (i.e., 3 days after the transaction is entered, which is also the case in Australia) and they can also be sold short and bought on margin (iShares MSCI Index Funds' *Prospectus and Statement of Additional Information* dated 30 December 1999 and revised 22 May 2000).