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Mean and volatility linkages for closed-end country funds

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Abstract

This study investigates information flows between fund share prices and NAVs of 40 closed-end single country funds, compares behaviors between emerging and developed market funds, and evaluates the impact of the Asian financial market crisis on the relationships. Findings include: (1) For emerging markets, price returns bear most of the long-term adjustment while for developed markets both price returns and NAV returns adjust to long-term disequilibria; (2) Short-term effects, via both mean and volatility measures, are from NAV returns to price returns for both emerging and developed markets; (3) NAV returns dominate the relationships in all cases; and (4) Asian crisis effects were limited to Asian funds. Price returns and NAV returns relationships consistently reflect a degree of market segmentation between the U.S. market and emerging markets and provide useful information for U.S. investors.

JEL classification: E44; F02; G15

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1. Introduction

The globalization of financial markets has greatly increased the demand for cross-border investments. In response to this globalization trend, an increasing number of financial products have

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been created to facilitate international investment. Of these products, closed-end country equity funds have been one of the most rapidly expanding.[1]

A closed-end country fund invests in securities of foreign markets but is traded on a U.S. stock exchange. A fund's share price and NAV movements are driven by the same underlying return-generating process. However, a fund's NAV would be expected to reflect information and expectations about local stock markets, primarily driven by local investors, while a fund's share price should include information and expectations about the U.S. market. As such, country funds have dual investment characteristics: fund share price returns are affected by both local markets and U.S. markets.

Financial decisions such as asset pricing and portfolio selection increasingly require an understanding of information flows in international markets. Economic theory implies that a fund's share price and its NAV are closely linked, driven by the same underlying return-generating process. However, due to various market imperfections, it is reasonable to assume that global capital markets are somehow segmented (Eun & Janakiramanan, 1986). Market segmentation typically should generate asymmetric information and divergent expectations on asset pricing across markets. Therefore, dynamic relationships between country fund share prices and NAVs may be expected to differ across markets which exhibit different degrees of cross-border information access and integration. As a result, benefits offered by country funds may differ between emerging and developed markets, between regions, and within countries.

A little studied aspect of country fund pricing has been the role of risk factors. Asymmetric information of U.S. and local investors may lead to divergent pricing of assets, and differences in valuation in the two markets may be capturing the risk differentials between markets. As country fund shares are traded in the U.S. market and their underlying assets are valued in foreign markets, fund share prices and NAVs are perceived to react with more sensitivity toward each's own market information. In addition, differences in economic conditions, market expectations and market access are expected to produce different risk assessments which may be reflected in volatility measures. Interrelationships between returns and volatilities should provide important insights into the cross-border market information linkages.

Earlier works have shown that the strength of inter-market relationships is reduced during periods of turbulence and crisis. Thus, the relationship between a fund's share price and its NAV may change as financial markets experience various degrees of volatility. For example, Frankel and Schmukler (1996) argue that differing investor sentiment and/or the existence of asymmetric market information induces divergent expectations across local and U.S. investors during periods of market turbulence. This issue is particularly crucial when investing in emerging market funds where (1) financial market liberalization decisions are being made on a continuing basis, and (2) unexpected reversals of international capital flows may destabilize financial markets. Financial market liberalization would be expected to increase capital flows, thereby providing a means for major outflows of foreign funds during periods of market instability. Heterogeneous information between U.S. and foreign investors may lead to different market behaviors toward the increased risk and affect the interrelationships between return and volatility behavior of country funds.

To address these issues, this study focuses on dynamic relationships between fund share prices and NAVs and between fund returns and volatilities. Three aspects are studied: (1) the causality

[1] Prior to 1986, only four country funds were listed on U.S. stock exchanges (Japan, Mexico, First Australia, and Korea funds). By December 2001, more than 50 closed-end single country funds and regional funds were trading on U.S. stock exchanges. The Morningstar website (http://www.morningstar.com) provides a detailed comparison between closed-end funds (CEFs) and exchange traded funds (ETFs).