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Dynamic investment strategies with and without emerging equity markets

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Abstract

This study examines the geometric returns of and investment strategies governing portfolios of stocks and bonds with and without allocations to emerging equity markets. We apply the discrete-time dynamic investment model that allows all moments of the return distribution to affect the analysis. This is important given that earlier studies have found that emerging equity market returns tend to be non-normally distributed. Our principal findings are that risk-tolerant investors may achieve substantially higher capital growth by actively diversifying into emerging equity markets, this being achieved only at the expense of higher risk. Overall, the results suggest that the gains accrued from diversifying into emerging equity markets are modest, and that they only originated from high emerging equity market returns experienced over a relatively short period at the beginning of the sample period.

JEL classification: G11; G23

Keywords: Emerging equity markets; Asset allocation; Dynamic investments

1. Introduction

Bekaert et al. (1998b) argue that standard mean-variance analysis is somewhat problematic with respect to emerging equity markets. This is because emerging market returns cannot be completely characterized by expected returns, variances, and covariances, as they exhibit significant skewness and kurtosis. Since it is reasonable to assume that investors have preferences pertaining to skewness and kurtosis (see Rubinstein, 1973; Kraus and

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Litzenberger, 1976; Scott and Horvath, 1980; Harvey and Siddique, 2000), we should emphasize the return distribution's higher moments.

This paper expands the literature on emerging markets by evaluating gains from diversifying into emerging equity markets using the discrete-time dynamic investment model of Grauer and Hakansson (1985, 1986, 1987, 1995, 2001). This methodology provides an interesting alternative to standard mean-variance analysis since it focuses on capital growth. Because the capital growth rate is affected by the higher moments of the return distribution, optimizing capital growth given a certain risk tolerance implicitly takes all moments of the return distribution into account. This methodology should therefore be of practical importance to portfolio managers and investors since it can guide them in avoiding potentially sub-optimal solutions that would result from the use of a standard mean-variance framework. We apply the model in a dynamic setting where capital is reallocated on a monthly basis. For each periodic reallocation, the entire joint return distribution is estimated and used to approximate all possible future states for the subsequent month.

Grauer and Hakansson (1986) employed the model to construct and rebalance portfolios of US stocks, corporate bonds, government bonds, and a risk-free asset. The results revealed that the gains from active diversification among the major US asset categories were substantial, especially in the case of highly risk-averse strategies. In a later study, Grauer and Hakansson (1987) found that additional diversification could be obtained from including non-US asset categories in the portfolios. Further, Grauer and Hakansson (1995) compared the investment policies and returns on portfolios of stocks and bonds, with and without real estate. Their principal findings were that the gains obtained by adding real estate to portfolios of US financial assets using an active strategy were rather large, especially in the case of highly risk-averse strategies, but that the gains from adding US real estate to portfolios of global assets were mixed. In a recent paper, Hagelin and Pramborg (2004) used the model to investigate the gains from including hedge funds in the investment opportunity set. They found that the inclusion of hedge funds produced portfolios with significantly higher growth rates and lower risk.

This paper examines the geometric returns of and investment strategies governing portfolios of stocks and bonds, with and without allocations to emerging equity markets. Our principal findings are as follows. First, adding emerging equity markets to the portfolios increases the geometric returns of all active strategies, especially those that accept more risk. Second, the increases in returns produced by active diversification into emerging equity markets are rarely significant. This is likely because the increase in returns mainly occurred in the first part of the sample period. Third, investors who accept more risk invested substantially in emerging market equities early in the sample period, while risk-averse investors were much less inclined to do so. Overall, we find the gains obtained by active diversification into emerging equity markets to be modest, at least during the latter part of the investigated period.

The remainder of this paper is organized as follows. Section 2 outlines the discrete-time dynamic investment model and the method employed to make it operational while Section 3 identifies the data used. The following section reports the results while the last section summarizes the paper.