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International portfolio diversification: US and Central European equity markets

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Abstract

This paper examines the short- and long-term relationships between the US stock market and three Central European markets. Low short-term correlations between these markets and the US are found. Application of the Johansen cointegration procedure indicates that there is no long-term relationship. The Granger-causality test does reveal a causality running from the Hungarian to the Polish market, but none with the US. Overall, the results suggest that US investors can obtain benefits from international diversification into these markets. © 2002 Elsevier Science B.V. All rights reserved.

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1. Introduction

The case for international portfolio diversification was established in the 1960s and 1970s. Accordingly, US and other investors have become increasingly active in foreign securities markets. However, in recent years, global markets have tended to become more integrated as a result of a broad tendency toward liberalization and deregulation in the money and capital markets of developed as well as developing countries. These changes raise the possibility that greater correlations may now

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exist between national stock markets, which would imply reduced benefits from international diversification. This issue has led to a renewed attention to the potential benefits from international diversification, mostly in the emerging markets of Asia and Latin America. Given the currency crises and other macroeconomic issues experienced in many of these markets in recent years, US and other investors are now actively looking for other emerging markets, such as those in Central Europe, that may hold more promise for international portfolio diversification. In varying degrees, countries in Central Europe have evolved from communist toward first-world economies as far as currency and industry issues are concerned. At the present time, some Central European exchanges have been functioning for nearly a decade and a number of countries in the region are endeavoring to bring their economies, markets, and institutions into line with Western European models, in the hope of joining the European Union (EU) and the European Monetary Union (EMU). In particular, the Czech Republic, Hungary and Poland, currently associate members of the EU, are the three countries in Central Europe most likely to become full members and to join the EMU in 2004.

The purpose of this paper is to explore the issue of possible diversification benefits for US investors in the three most important Central European equity markets, those of the Czech Republic, Hungary and Poland, using the methodology of cointegration. Although correlation tests may indicate benefits for short-term investors, bivariate and multivariate cointegration tests will reveal whether long-term common trends exist between the US and the three Central European stock markets, while allowing for the possibility of short-run divergences. Evidence of such long-run comovement would suggest greatly overstated benefits for US investors with longer-term investment horizons who diversify into these emerging markets.

Our results, based on weekly data over the 1995–2001 period, indicate that the stock markets of the Czech Republic, Hungary and Poland are not integrated, either individually or as a group, with the US stock market. The results suggest that the relatively low correlations of these emerging markets with the US market are, therefore, appropriate indicators of the benefits of international diversification for not only short-term but also long-term US investors.

The remainder of the paper is organized as follows. Section 2 discusses the relevant literature and explains the contribution made by this study. We present basic information about the three Central European markets in Section 3. In Section 4 the methodology is briefly presented, while Section 5 discusses the data. Section 6 reports the empirical results and Section 7 contains the concluding remarks.

2. Literature review

According to modern portfolio theory, the gains from international portfolio diversification are inversely related to the correlations of security returns. The advantages of international diversification emanating from the low correlations