Portfolio allocations and the emerging equity markets of Central Europe

Claire G. Gilmore [a,1], Ginette M. McManus [b,*], Ahmet Tezel [b,2]

[a] *King's College, McGowan School of Business, Wilkes-Barre, PA 18711, USA*
[b] *Department of Finance, Saint Joseph's University, Haub School of Business,
5600 City Avenue, Philadelphia, PA 19131-1395, USA*

Abstract

We examine the issue of possible diversification benefits into three leading Central European equity markets. We construct portfolios for both US and German investors using various optimization models and several risk measures. We then compare the portfolio out-of-sample performance using Sharpe ratios and the Jobson–Korkie statistic. Our results show that diversification benefits are statistically significant for US investors, but not for German investors. Optimized portfolios based on lower partial moments exhibit less diversification into the Central European markets than those based on standard deviations. Overall, we show that investors could have benefited from diversifying into the Central European equity markets.
© 2005 Elsevier B.V. All rights reserved.

* Corresponding author. Tel.: +1 610 660 1632; fax: +1 610 660 1986.
E-mail addresses: cggilmor@kings.edu (C.G. Gilmore), gmcmanus@sju.edu (G.M. McManus), atezel@sju.edu (A. Tezel).
[1] Tel.: +1 570 208 5900; fax: +1 570 208 5989.
[2] Tel.: +1 610 660 1670; fax: +1 610 660 1986.

1. Introduction

Investors in developed countries have gradually diversified more heavily into emerging markets, given the well-documented potential benefits from international portfolio diversification. However, the currency crises and other macroeconomics issues experienced in recent years in many security markets of Asia and Latin America have led investors to consider other emerging markets, such as those in Central Europe. Their moderate correlations and absence of long-term comovements with developed equity-market returns can lead to lower portfolio risk. Furthermore, in contrast to most equity markets, those of Central Europe have performed well in recent years. For example, the Czech and the Hungarian equity markets rose 40.9% and 28.9% in 2002, respectively; both, along with Poland, advanced strongly through most of 2003. Finally, these Central European countries, along with several others, became full members of the European Union (EU) and the European Monetary Union (EMU) on May 1, 2004. These developments have the potential to positively affect their economies and equity markets.

The purpose of this paper is to investigate the question of possible diversification benefits into the three most developed Central European equity markets: those of the Czech Republic, Hungary, and Poland. Among the first to be re-established after the demise of communism in the area, these markets have undergone extensive liberalization and they have the largest market capitalizations. In particular, we examine the issue of possible diversification benefits from the viewpoint of investors both within and outside the EU. The German equity market is the predominant player within the European Union; we have therefore selected it as representative for investors in the more developed countries of the EU. For representative investors outside the EU, we selected the US, as the economic and geopolitical relations of the US with the Central European countries are not as strong.

We construct portfolios for both US and German investors, based on weekly data over the 1995–2000 period, using various optimization models and several measures of risk. We then compare the out-of-sample performance of the constructed portfolios over the 2000–2003 period employing Sharpe ratios and the Jobson–Korkie (1981) statistical pairwise test of equality of Sharpe ratios. In addition, we construct optimized portfolios based on an asymmetric risk measure, referred to as the lower partial moment (LPM), which is being used increasingly in the literature involving nonnormality issues in emerging equity market. The Markowitz mean-variance portfolio optimization approach assumes normality unless investors have a special type of utility function (the quadratic utility function). Bekaert and Harvey (1995, 1997), Bekaert et al. (1998), and Stevenson (2000), among others, question the assumption of normality of returns in emerging markets and find that skewness and kurtosis are present and the return distributions cannot be completely described by the mean and variance.

Our results indicate that, for US investors, naively or optimally diversifying into the Central European equity markets significantly outperforms investing solely in the home market. For German investors a naïve diversification strategy yields results superior to any optimized portfolio. The results based on optimized portfolios suggest considerably less diversification into Central European equity markets than an equally weighted portfolio, especially for US investors. In addition, the results based on the lower partial moment as a measure of risk for optimizing portfolios are similar to those based on the standard