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The dynamics of Central European equity market comovements

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Abstract

This paper examines short-term and long-term comovements between developed European Union (EU) stock markets and those of three Central European (CE) countries which recently joined the EU. Dynamic cointegration and principal components methods are applied, in addition to static tests. While we find no evidence of cointegration for the period July 1995–February 2005 as a whole, dynamic tests reveal alternating period of cointegration disrupted by episodes dominated by short-term domestic factors. Principal components analysis reveals that a stable factor explains a large proportion of return variances. Ultimately, despite the decade-long process of alignment by CE countries with the EU, evidence of steadily increasing convergence of equity markets is lacking.

Keywords: International financial market; Dynamic cointegration; Central European equity markets

1. Introduction

Investors in developed countries have been diversifying into emerging equity markets for some time, in search of potential benefits from international portfolio diversification. However,

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currency, banking, and other economic crises experienced in the last decade in a number of Asian and Latin American countries have led investors to branch out into other areas, including the markets of Central Europe (CE). A history of moderate correlations and relatively high returns, particularly in countries such as the Czech Republic, Hungary, and Poland, suggest that diversification benefits in these equity markets can be substantial. Further, the process of accession to the European Union (EU) has increased prospects of growing economic and political stability in this area. However, the increasing association of the economies of the CE countries with those of developed EU members raises the question of whether closer linkages between these equity markets have resulted in significantly reduced diversification benefits for international investors.

Equity market comovements can arise from international trade, increasing capital mobility, relaxation of controls on international capital movements, as well as the various forms of policy alignment associated with the creation of economic unions. Since 1989 the economies of the Czech Republic, Hungary, and Poland have undergone a rapid and largely successful transformation from Communist to market economies. Also, trade ties with EU countries have increased during this period. By 2004 the EU accounted for approximately 65% of Czech exports and 73% of imports, 79% and 72%, respectively for Hungary, with 67% and 74% for Poland. Roughly 40% of these figures are accounted for by Germany in recent years (International Monetary Fund, 2000; International Monetary Fund, 2005). Capital flows to the region had begun by 1993, with several equity funds for the region created by 1996 (Sobol, 1996). In 2002–2003, during the run-up to EU accession, increased investments were made by American and other foreign emerging market funds, and for 2004 net private portfolio inflows for the European emerging markets as a group were estimated to be $7.6 billion (Economic Commission for Europe, 2005; Institute of International Finance, 2006; New York Times, 2005).

Along with other aspiring new members, the Czech Republic, Hungary, and Poland have for some years pursued a deliberate policy of aligning their economic systems with the EU. During 1994–1995 they became associate members, which involved creation of a free-trade area, cooperation in the areas of industry, environmental protection and transport, and alignment of some national legislation. Accession negotiations began in 1998 and were concluded in December 2002 at the Copenhagen European Council meeting. On May 1, 2004, these three countries, along with seven others, became full members of the EU. Each country also “participates” in the European Monetary Union (EMU) from the date of accession “as a Member State with a derogation” (European Central Bank, 2005). The euro is to be adopted by each country in the future, as the necessary conditions are fulfilled.

Short-term linkages between Central European equity markets and those of developed countries during the late 1990s have been examined in several studies. Gelos and Sahay (2000) found only weak evidence of changing linkages as a consequence of the 1997 Asian crisis but did establish higher correlations and volatility spillovers after the 1998 Russian crisis. Comparing the periods 1994–1996 and 1996–1998, Chelley-Steeley (2005) found increasing correlations between the CE equity markets and those of the UK, Germany, and other developed countries. In addition, a variance decomposition methodology showed that nearly 40% of variation in equity market returns for Hungary and Poland were due to non-domestic factors in the latter period, as opposed to about 10% for 1994–1996; there was little difference for the Czech equity market across the two periods.

Cointegration studies involving the Central European equity markets have yielded differing findings that may in part be sample dependent. Early studies largely support the idea of significant long-run comovements involving the CE markets in the mid 1990s, while also yield-