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Equity market integration in the NAFTA region: Evidence from unit root and cointegration tests

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Abstract

This study examines integration of the three participating equity markets before and after the 1993 passage of NAFTA based on daily, weekly, and monthly data. As expected, unit root tests for the overall period 1988–2001 and the two subperiods, 1988–1993 (pre-NAFTA) and 1994–2001 (post-NAFTA), indicate that stock prices are non-stationary but stock returns are generally stationary for all three markets for all three periods. However, daily, weekly, and monthly equity prices in the three NAFTA countries are cointegrated only for the post-NAFTA period. Similarly, US stock prices are more integrated with both Canadian and Mexican stock prices after the passage of NAFTA. This evidence of increased financial integration and co-movement in NAFTA equity markets after the passage of NAFTA has important implications for policymakers and managers.

JEL classification: F36; F15; G15
Keywords: NAFTA; Cointegration; Financial market integration

1. Introduction

There is much interest in the nature of regional trade and currency blocs. The North American Free Trade Agreement (NAFTA), passed in November 1993, is such an important trading bloc. NAFTA outlined an extensive process of trade liberalization

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between the U.S., Mexico, and Canada. NAFTA stipulates rules relaxing trade restrictions for virtually every good and service exchanged among these three countries. With the elimination of trade barriers and alignment of legal and regulatory infrastructure, studies document increasing economic integration in the region after the passage of NAFTA. Because of the lower transactions costs associated with cross border portfolio investments (as compared to direct investments), equity markets in the region may be expected to be more integrated than the markets for goods and services. However, if equity markets reflect primarily local rather than regional (NAFTA-wide) conditions, such integration is less likely. Thus, equity market integration in the NAFTA region is an empirical issue but prior studies of this topic have not been conclusive and have not examined data with multiple frequencies (daily, weekly, and monthly) or for recent periods.[1] The integration of equity markets in NAFTA is an important topic for policymakers and managers not only in North America, but potentially also for policymakers and managers in other areas with regional economic agreements.

This study examines equity market integration in the NAFTA region using monthly, weekly, and daily data for the period 1988–2001, a period that covers both pre-(1988–1993) and post-(1993–2001) NAFTA periods. It documents that the three equity markets in the NAFTA region become cointegrated only after the formation of NAFTA. Correlation coefficients are higher and cointegration tests show evidence of cointegration among the three markets for the post-NAFTA period. Also, there is stronger cointegration for the US–Canada and the US–Mexico pairs of markets in the post-NAFTA period. These finding indicate that financial market integration with its lower transactions costs seems to be easier than integration of the markets for goods and services and have important implications for managers, policymakers, and scholars interested in other trade and economic unions such as the Euro or ASEAN areas.[2]

2. Economic and financial integration in the NAFTA region

The passage of NAFTA in 1993 started a continuing process of trade liberalization and cross-border strategic production alliances. NAFTA's ability to alter trade and investment among its three members is based on five principal spokes: (1) reduction of direct and indirect trade barriers, (2) harmonization of commercial and legal frameworks, (3) national treatment to member foreign direct and portfolio investment, (4) clear specification of the rules of origin, and (5) rationalization of dispute settlement procedures. Thus, NAFTA can be expected to speed up the integration of real and financial markets among the three countries in the NAFTA region.

[1] As discussed later, prior studies of NAFTA capital market integration (e.g., Darrat & Zhong, forthcoming; Ewing, Payne, & Sowell, 1999, 2001; Atteberry & Swanson, 1997; Karolyi, 1995) obtain mixed results and do not study recent periods.

[2] In order to speed up economic integration, in spite of the political difficulties, some studies recommend monetary union in the NAFTA region and/or the dollarization of Canada and Mexico (Chriszt, 2000; Salvatore, 2001).