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The interrelatedness of global equity markets, money markets, and foreign exchange markets

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Abstract

This article investigates different aspects of global financial markets, specifically relationships among equity markets, money markets, and foreign exchange markets across countries. To represent the three major financial markets of the world, Japan is the proxy for Asia, Germany is the proxy for Europe, and the United States is the proxy for North America. Strong evidence exists that international money markets and international equity markets are becoming increasingly integrated over time. This article incorporates foreign exchange values as partial determinants of equity returns and money market returns and investigates the interactions among these three asset markets from a global perspective.

JEL classification: G15; F30
Keywords: International financial markets; Market integration; International equity markets; International money markets; Foreign exchange markets

1. Introduction

The world economic order appears to be evolving into three primary geographic regions: Asia, Europe, and the Americas. Financial markets are leading the charge due largely to their ability to transmit and incorporate information rapidly. Linkages between and among countries continue to increase in importance, and the recent Asian financial markets crises

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have emphasized the need to better understand the interactions. Shocks, such as stock market disruptions, attacks on currency values, or interest rate changes to protect exchange rates spill over not only into other financial markets within the originating country but also into financial markets of other countries around the world. The effects are felt through changes in basic economic fundamentals and often result in political instability as trade flows are disrupted, production costs and sales of multinational firms change, and social unrest begins to appear. These issues affect investors as they attempt to evaluate returns; domestic, foreign, and multinational businesses as they try to maintain profit levels; and governments as they strive to sustain political stability while accomplishing domestic economic goals.

Extensive research has focused on cross-country relationships of equity markets, money markets, and foreign exchange markets, separately. The studies have investigated international correlations, cause/effect, and mean/volatility spillovers for each of the three financial market segments. However, in the domestic setting, the interaction of equity markets, interest rates, and exchange rates within national boundaries has received appreciable attention. This study combines the domestic and the international analysis and (1) investigates relationships among national equity markets, national money markets, and foreign exchange markets and (2) examines linkages among the three sets of financial markets. An extensive literature exists for each of these markets.

In recent years, relationships between national stock markets seem to have received the most attention. The crash of October 1987 made clear that none of the world's major equity markets operates autonomously, and the jolt to global stock markets spurred new studies relating to how closely markets are tied, which markets influence other markets, and whether identified relationships are intertemporally stable.

A primary method of studying linkages and measuring the degree of integration between national stock markets has been to analyze the correlation structure between returns of indices in the different markets. Findings have been somewhat mixed. Ripley (1973) found that well-developed markets displayed a high degree of comovement during the decade of the 1960s, while Dwyer and Hafer (1988) found low correlations when studying the 1973–1987 period. Meric and Meric (1989) concluded that the comovements were more stable when measured over long as opposed to short-time horizons, and Medewitz, Abdullah, and Olson (1991) found the correlation coefficients of national market index returns to be increasing over time. Increased integration has been supported by additional studies, which focused on the behavior of equity market relationships before and after the October 1987 crash, such as Arshanapalli and Doukas (1993), Jeon and von Furstenberg (1990), Koch and Koch (1991), Lee and Kim (1993/1994), Longin and Solnik (1995), Malliaris and Urrutia (1991), and Tang (1995). Theodossiou, Kahya, Koutmos, and Christofi (1997), however, discovered little change in correlations for the United States, Japan, and the United Kingdom as a result of the October 1987 crash.

Researchers have also studied cause/effect relationships. Eun and Shim (1989) and Knif and Pynnonen (1999) found innovations in the U.S. equity market to be transmitted to other markets with no significant feedback effects, while Koch and Koch (1991) found U.S. market influence decreasing over time. Arshanapalli, Doukas, and Lang (1997) and Theodossiou and Lee (1993) found that both mean and volatility spillover effects were stronger from the U.S.