

Inter - Relatedness of Stock Markets : A Spectral Investigation of USA, Japanese, and Indian Markets - A Note

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I. Introduction

As a recurrent theme in the investigation of the existence of international portfolio diversification (Grubel, 1968), several studies have sought to examine the extent of the inter-temporal relationship amongst national stock price indices in an effort to discover the degree to which national capital markets are integrated (Granger and Morgenstern, 1970, Hilliard, 1979, Agmon 1974).

Further, significant developments in world capital markets during the decade of the eighties have contributed to renewed interest in this area. The event of October, 1987, in which many international markets witnessed virtually simultaneous price collapses in sympathetic resonance, and the various measures for deregulation of national capital markets which have possibly reduced the extent of capital market segmentation have been the subject of study by various authors (Gultekin et.al. (1989), Furstenberg and Jeon (1989), Eun and Shim (1989).

It is generally argued that changes in movements in stock prices are influenced by flow of market information. One possible information source is movements in other stock markets of the world. It is also possible that one stock market may be opening while another may be closing, so that a lag relationship between stock price movements in the two markets through transmission of information may perhaps exist. There are others of course who contend that stock prices in any two markets do not move together as small price fluctuations in one market are not very relevant for the other market.

In general, the earlier pre'80 stream of studies has documented a surprisingly low degree of correlation between various national capital markets, leading to the conclusion that the then prevailing high level of international capital market segmentation can be attributed to domestic factors which work to impede the international flow of capital across national boundaries. Using spectral methods, Granger and Morgenstern (1970), concluded that "in almost all cases the price indices on the various markets moved independently of one another, although this would not be likely