



IS THERE A CHINESE WALL?

Information flow to Chinese markets from the rest of the world is surprisingly efficient.

STEVEN WANG

Assistant professor of finance, Hong Kong Polytechnic University.

The October 1997 Asian financial crisis has attracted significant interest in how financial information transfers from the Asian markets to the rest of the world. Using a recent sample period (1994-2001) which covers both the pre- and post-Asian financial crisis eras, we investigate how returns and volatilities are correlated between Greater China's four stock markets—the Shanghai Stock Exchange (SH), the Shenzhen Stock Exchange (SZ), the Stock Exchange of Hong Kong (HK), and the Taipei Stock Exchange (TW)—and three major international financial markets: the Tokyo, London, and New York stock exchanges. The four Greater China exchanges examined in this study are linked together because of economic and business ties, but they are quite different in terms of degree of market openness, transparency, and maturity.

Since the trading hours of the Greater China markets are not synchronous with the three major international stock markets, we divide daily (close-to-close) returns into overnight (previous close-to-open) returns and daytime (open-to-close) returns. We use a two-stage procedure to investigate the short-run interdependence of returns and return volatilities of the stock indices across the seven markets. In the first stage, we estimate the unexpected returns for each index and market that cannot be forecast using public information when the market opens. In the second stage, we use the estimated unexpected returns to investigate the interdependence of returns and volatilities between different markets. During the trading hours of each market, information or trading noise is incorporated into the price of the market index. Since there are no overlapping trading hours between the Greater China markets and the LSE and NYSE, the estimation of the means and variances in each market is assumed to be conditional on each one's own past information as well as information generated from the other market.

Our results show that the contemporaneous correlations between each stock market's overnight returns with

other markets' unexpected daytime returns are in general unidirectional, i.e., from the developed markets to the emerging Chinese markets. We find that while Mainland China's two stock markets (SH and SZ) are influenced the most by the Japanese market, the other two Chinese markets (HK and TW) are influenced strongly by the U.S. and UK markets. Furthermore, since HK and TW are more open than SH and SZ, our results support the view that the extent to which an emerging market is influenced by developed financial markets is associated with the degree of openness of that emerging market. On the other hand, for all the stock indices in the sam-

"AFTER THE ASIAN FINANCIAL CRISIS, INVESTORS IN OTHER MARKETS APPEAR TO OBSERVE ASIAN MARKETS MORE CLOSELY."

ple, the volatility spillovers among different markets are generally significant and bi-directional.

Both the pre-crisis and post-crisis estimates indicate there are significant return spillover effects which are mainly unidirectional from more advanced stock markets to less developed markets, and that the U.S. is the most influential market. However, our results suggest that after the Asian financial crisis, investors in other markets appeared to observe information from Asian markets more closely.

We also find that there are no one-period lagged return spillover effects from the three advanced markets to Chinese markets, except Taipei. This implies that the Chinese markets adjust to information from the UK and U.S. markets in an efficient manner. It is also notable that while the developed stock market indices have significant asymmetric coefficients, the volatility of Greater China's stock markets, except HK, are not affected by delayed 'bad news'. Bears seemingly do not swim across the oceans to the Chinese Mainland and Taiwan. The overall findings provide evidence to support the view that the Chinese stock markets are partially integrated with the international stock markets. ■