Financial Markets of Emerging Economies

Part I: Do Foreign Investors Contribute to their Volatility?

Part II: Is there Contagion from Mature Markets?

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Part I: Investor Types

- Four types of stock market investors:
  → Individual domestic and foreign investors: private investment decisions
  → Institutional domestic and foreign investors: mutual funds, insurance companies, pension funds, commercial banks

- Foreign investors:
  → Mainly institutional investors → use emerging markets to diversify portfolios, follow active or passive portfolio investment strategies
  → International portfolio diversification implies reduction of risk for investors

Part I: Foreign Investors and Asian Crisis in 1997 (I)

- Asian “Flu” in 1997:
  - → Crisis in East Asia started with Thailand in June 1997
  - → Most remarkable collapse in Hong Kong in October 1997
  - → Korea in December 1997: a dollar invested on October 1 would have been worth 35 cents on the last trading day of 1997
  - → Across Asia: asset price drop, speculative runs, capital flight, financial instability

- Reactions to Asian crisis:
  - → Popular view: foreign investors destabilize emerging capital markets
  - → Foreign investors partly responsible for collapse of currencies and stock markets

Part I: Foreign Investors and Asian Crisis in 1997 (II)

- Reactions to Asian crisis (continued):
  - → Policymakers concerns: foreign investors withdraw their capital in case of a crisis and profit at the expense of domestic investors
  - → Emerging countries are more vulnerable to extreme fluctuations in international capital flows relative to mature markets
  - → Greater regulation of capital flows to emerging markets than before needed
  - → Benefits from financial opening capital markets to foreign investors overcompen-sated by difficulties they are generating
  - → Financial liberalization → increase in foreign investors' activity → liberalization implies more difficulties than benefits

Part I: Investment Behavior of Foreign Investors (I)

- Destabilizing investment behavior by foreign institutional investors:
  - → Stock prices overreact to changes in fundamental values → stock prices contain a non-fundamental component → speculative bubbles in stock prices, autocorrelation and excess volatility in stock returns
  - → Herding behavior: investment decisions are correlated, buy and sell decisions on the same stocks at the same time → destabilizing because foreign investors trade as a group ending on the same side of the market
  - → Positive feedback trading: buy stocks after their price increased and sell stocks after a price decline → destabilizing due to reinforcement of non-fundamental stock price changes

Part I: Investment Behavior of Foreign Investors (II)

- Stabilizing investment behavior by foreign institutional investors:

  → Herding and positive feedback trading do not necessarily destabilize stock prices

  → Herding behavior stabilizes, if institutions herd and all react to the same fundamental information → speed up adjustment of stock prices to new information

  → Moreover, stabilizing effect in case institutions collectively counter irrational behavior in individual investors' sentiment

  → In case institutional investors are better informed than individual ones, institutions are likely to herd to undervalued stocks and away from overvalued stocks

  → Positive feedback trading is stabilizing, if institutional investors under-react to news

Part I: Investment Behavior of Foreign Investors (III)

- Stabilizing investment behavior by foreign institutional investors (continued):

  → Institutional investors do not exhibit attention-based trading on days of abnormally high trading volume, extremely high and low stock returns and when stocks are in the news → in contrast, individual investors do

  → Stabilizing effect even if institutions herd and act as positive feedback traders

- Informational advantage of institutional investors:

  → Institutions are informed traders making the stock market more efficient

  → Informational advantage: economies of scale in information acquisition and processing, marginal costs of gathering are lower relative to individual investors

Part I: Investment Behavior of Foreign Investors (IV)

- Informational advantage of institutional investors (continued):
  - → Foreign institutional investors have better access to expertise and talent than local investors
  - → Smarter investment decisions relative to local investors

Part I: Evidence from Korea during Asian Crisis in 1997

- Choe, Kho and Stulz (*JFE* 1999):

  → Empirical investigation how foreign investors trade and impact stock prices before and during the Korean crisis in 1997

  → Before Korean crisis: herding and positive feedback trading

  → During the crisis: herding and positive feedback trading of foreign investors to a much lesser extent

  → No convincing evidence that foreign investors play a destabilizing role in Korean stock market before and during the crisis

  → Karolyi (*PBFJ* 2002): confirmation for Japan during Asian crisis → foreign investors do not destabilize stock prices

Part II: Contagion from Mature to Emerging Markets

- Description of phenomenon:
  - → Large drop of stock returns in one country is associated with a large drop in another country
  - → Transmission of large stock market shocks from a crisis-country to other countries → crisis in mature countries and reaction of emerging countries
  - → Spillovers can be observed through co-movements of different financial indices
  - → Forbes and Rigobon (*JF* 2002) distinguish between interdependence and contagion

Part II: Defining Contagion

- Difference between contagion and interdependence:
  - → Contagion requires a change in the structure of stock market linkages
  - → Increase in cross-market linkages during the crisis must be significant → contagion
  - → Non-significant change in cross-market linkage → interdependence

- Contagion:
  - → Excessive transmission of shocks from one crisis stock market to others, beyond fundamental financial links which constitute interdependence
  - → Large enough parallel movements so that correlation is truly increasing in crises

Implication of Contagion Definition

- Questionable evidence based on correlation coefficients:

  → Empirical methods measuring contagion are based on cross-market correlation coefficient estimates

  → Correlation coefficients rise automatically during crises due to higher volatility

  → Rise in correlation does not necessarily imply contagion as defined above

- Methodological suggestion: Usage of volatility adjusted correlation coefficients (Forbes and Rigobon (*JF* 2002), Corsetti, Pericoli and Sbracia (*JIMF* 2005)) → arbitrary selection of stable and crises period needed

Part II: Empirical Investigations on Contagion (I)

- Loretan and Englisch (*BIS* 2000):
  → Correlations increase in periods of market turbulence due to higher volatility but true correlations remain constant
  → Consequence: Non contagion, only interdependence between financial markets

- Forbes and Rigobon (*JF* 2002):
  → Cross-market correlation coefficients are biased due to changing volatility
  → Heteroskedasticity adjusted correlation coefficient: interdependence, no contagion

Part II: Empirical Investigations on Contagion (II)

- Serwa and Bohl (*ES* 2005):

  → Empirical investigation of 17 stock markets: U.S., selected markets in Latin America, largest stock markets in Central Eastern European countries, selected markets in West Europe, Hong Kong and South Korea

  → Investigation of 7 crises: crises in Asia (1997), Russia (1998), Brazil (1998), Turkey (1999), Argentina (2002), U.S. (2001, 2002)

  → Result: above implication holds also for emerging markets → emerging capital markets are not more vulnerable to external shocks than mature stock markets

  → Finding for Hong Kong: strong linkages to mature stock markets but no evidence of contagion

Part II: Empirical Investigations on Contagion (III)

- Chiang, Jeon and Li (*JIMF* 2007):

  → Empirical investigation of 8 Asian stock markets seriously affected by the 1997 Asian financial crisis: TH, MA, IN, the PH, KO, TW, HK and SG

  → Dynamic multivariate GARCH model to address heteroskedasticity problem without arbitrarily dividing the sample into a stable and a crises sub-sample

  → First result: evidence of contagion effects during Asian financial crisis → in contrast to the "no contagion, only interdependence" findings mentioned above

  → Second result: first phase (July – November 1997) contagion spreading from country to country, second phase (end 1997 – through 1998) herding behavior among investors across Asian countries

Summary and Conclusion (I)

- Discussion of two topics:
  → Foreign institutional investors' contribution to volatility in emerging stock markets
  → Contagion form mature to emerging stock markets

- Impact of foreign investors:
  → Herding behavior and positive feedback trading seem to characterize investment behavior of foreign traders in emerging stock markets
  → Nevertheless, no convincing empirical evidence that foreign investors destabilize stock prices

Summary and Conclusion (II)

- Contagion from mature stock markets:
  - → Evidence of strong linkages between merging and mature stock markets
  - → “No contagion, only interdependence” result questionable given new empirical findings