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## Emerging market crises and US equity market returns

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#### 1. Introduction

#### ABSTRACT

We find contagion effects are present in US small size portfolios during emerging market crises due to risk and liquidity concerns. Investors display flight from risk during emerging market crises, and as a result, safer larger stocks exhibit positive abnormal returns. We find little evidence of contagion in aggregate excess US market returns, indicating studies that focus on national aggregates may miss important within market dynamics during emerging market crises. The international dynamics that we document have important implications for investors, even when they may have limited global exposure.

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We examine the impact of emerging market crises on US portfolio returns to measure the international spillover of financial crises. Recent emerging market crises make the topic of contagion especially pertinent. Carrieri, Errunza, and Hogan (2007) demonstrate that world integration tends to increase through time. Bekiros and Georgoutsos (2008) discuss a dramatic increase in private capital flows into emerging markets in recent years. As developing nations become increasingly integrated in the world market, the role of financial crises may become more important. For example, Broner, Gelos, and Reinhart (2006) argue that contagion results from investors scaling back areas that were overweighted, and Bayoumi, Fazio, Kumar, and MacDonald (2007) find that developed market investors herding into emerging markets may be an important precondition for a crisis. As we provide evidence that emerging market crises influence the US market, understanding the dynamics of these crises may be vital. Specifically, as international mechanisms influence worldwide capital markets, this will affect even a purely domestic investor.

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Models and explanations for contagion often focus on portfolio rebalancing in response to financial shocks, illustrating how fundamental shocks within one market may spread globally (cf. Kodres and Pritsker (2002)). Existing research tends to focus on measuring the impact of a financial crisis in one country on national aggregates across the globe. However, in addition to predicting the transmission of shocks across the globe, when applied to a single market, many models also predict a response within domestic portfolios following an international shock. Our innovation is to focus on portfolios within the US market following international shocks. At an aggregate US market level of analysis, we find no impact due to emerging market shocks. However, when we disaggregate the US market, we find interesting dynamics across US portfolios related to both risk and liquidity.

Our focus on portfolios within the US market allows for a relatively clean test of contagion, relative to many existing studies. Researchers typically define contagion as an increase in the relation across assets during crises (cf. Forbes and Rigobon (2002)). Therefore, studies must disentangle fundamental shocks from pure contagion effects, and by construction, both contagion effects and fundamental valuation shifts tend to co-exist. For example, Yang and Bessler (2008) point out that analyzing contagion within a region, such as Latin America during the Argentine crisis, may be difficult, as all Latin American countries may share similar fundamentals or risk exposures with Argentina, the country of origin. Our study within the US market mitigates this concern. Finding contagion for some portfolios, flight to quality for others, and no effect at the aggregate market level, suggests our results are due to emerging market events, rather than weakened fundamentals across all securities.<sup>1</sup>

We examine US equity returns conditional on emerging market crises and define contagion as abnormal negative returns after controlling for developed market factors. In a similar fashion, flight to quality refers to abnormally strong performance during international crises, after controlling for systematic sources of risk. Our results support the flight from risk hypothesis. Namely, we find contagion within our riskier US portfolios during emerging market crises, as well as positive return shocks to the safer portfolios. This indicates that investors may optimally rebalance the risk exposure of their entire portfolio in response to a shock within one specific market.<sup>2</sup> Our results document important contagion dynamics missed by analyses of aggregate national markets.

#### 2. Hypothesis development

A large body of literature discusses mechanisms by which a crisis can spread across assets. Further, many models describe how a shock can transmit across markets without underlying fundamental risk factors in common. Empirically, existing research estimates the propagation of shocks across national markets, comparing relations across crisis and calm periods. We argue that the models and explanations for contagion imply varying effects across portfolios within one country in response to a shock elsewhere. Thus, rather than test for contagion spreading from one country to multiple other countries during a specific crisis, we test for contagion effects across multiple US portfolios in response to many emerging market events. After reviewing the relevant models for contagion, we develop contagion related hypotheses for disaggregated domestic portfolios in response to emerging market shocks.

Explanations and models for financial contagion often focus on portfolio rebalancing strategies related to risk and liquidity. Kodres and Pritsker (2002) model contagion via investors optimally rebalancing their exposure to multiple risk factors and consequently transmitting shocks across markets. They also discuss that investors may choose to sell their most liquid assets in response to a liquidity shock stemming from a crisis, regardless of the origin of the shock. Schinasi and Smith (2000) describe contagion based on portfolio management rules, suggesting that a shock causes leveraged investors to scale back their positions in all risky assets, and Fazio (2007) argues that flight from risk behavior could transmit shocks across markets.

<sup>&</sup>lt;sup>1</sup> Our hypotheses consider the impact of emerging market shocks on the US market. We assume that each crisis originates within the identified emerging market country. Further, each crisis centers around a currency event within the identified country. This interpretation is consistent with the findings of Conover, Jensen, and Johnson (2002) who find high integration between monetary policy in developed markets, but weaker correlations between emerging and developed markets. Nonetheless, we cannot rule out the 'monsoon' hypothesis, in which changes in US fundamentals simultaneously impact US portfolios as well as emerging markets. We thank an anonymous referee for making this point.

<sup>&</sup>lt;sup>2</sup> Unfortunately, we cannot offer guidance on whether the primary adjustment mechanism in the US equity market relates to international or domestic US investors. We acknowledge an anonymous referee for this question.

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