

General Discussion*

James Morley thanked Shafiq Ebrahim for his comments. He added that many of them were quite useful, particularly in terms of what the authors had wanted to do for diagnostic tests. Having conditional transitional probabilities is a particularly important extension in making the modelling of the crisis regime richer, he said, and that is something that they would want to do. He noted that these models—even with a fairly simple specification—become complicated. The authors had sought to be transparent in the model by keeping it simple. Morley thought that the Forbes-Rigobon distinction between common shocks and structural linkages was sensible in terms of dynamics, and that dynamics are important to model with these techniques. But one of the ways the authors simplified their model was in terms of dynamics: the shocks did not show up across different places and across time. However, he emphasized that no observational distinction really exists between a common shock and a shock that transmits immediately from country A to country B. Thus, he said, although the model ended up being simpler than the Forbes-Rigobon model, the Gravelle, Kichian, and Morley model can be considered a special case. He added that another useful extension for the paper would be to look at markets where the dynamics could be examined more carefully, and that would give them more power to detect this kind of change in the structural linkages across countries and time.

Toni Gravelle said that a footnote indicating that the coefficients are available upon request could have been included. He mentioned that there are 14 per country pairs or country-market pairs, and that would have

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implied a large number of tables. He added that it would be a good idea to provide a sample of the coefficients.

Mark Zelmer suggested that most of the contagion being found seems to involve the European currencies. He asked to what extent the results were being driven by the breakdown of the European system in 1992, and therefore to what extent are the results being driven by one event as opposed to being more robust.

Morley answered that the authors had not done that robustness check. He added that it was a statistically significant result and that there were other common shocks for those countries than just the exchange rate mechanism (ERM) crisis. He said that from a statistical point of view—and this may help answer some of the other questions—they were simplifying. He stressed that there are common shocks and that they have a certain type of propagation. And they are allowed to have a different propagation in another regime. Thus, he noted, the authors were really thinking of only two different types of shocks. The real world, he added, is a lot more complicated, where various shocks—commodity prices, U.S. monetary policy shocks—all have different transmission mechanisms. But, he stressed that if it really were just the ERM crisis, the methodology should pick that up as a one-time spike. He pointed out that regime-switching models sometimes, unfortunately, tend to fit a single data point. But, that is not what they had found. They found that there were repeated common shocks with sometimes clearly different transmissions than with the shift contagion.

Richard Lyons said that he had enjoyed the paper very much and that he considered the issue an important one. He thought that if he estimated the model at the monthly frequency, and if he had enough data (so the test had power), he suspected that in the currency markets one might still find what could be called shift contagion semantically, but one wouldn't associate it with crises. It would be a lower-frequency phenomenon. Lyons had in mind a paper written by Charles Engel and Jim Hamilton (1990), which suggested that long swings in the dollar would effectively show up as common shocks if the identification scheme is looking at the ratios of various common shocks to idiosyncratic shocks. If one sees a long swing in the dollar against many other currency pairs, the data are going to indicate many common shocks in a row and a model might suggest shift contagion. Thus, while similar results might be found at lower frequencies, one would conceptualize it very differently.

Morley thought that the advantage of independent switching is that it really does limit the methodology to picking up just one-time crisis events rather than longer-term structural changes in the data or longer swings in the dollar. He added that it might be useful to make the regime-switching model

a little more complicated, but one has to be wary that in doing so one will pick up other non-linearities in the data and distract oneself from the question at hand, which is: do crises have shift contagion?

David Longworth mentioned that one of the slides indicated that there are many different kinds of common shocks, and one might think of some of them as being fundamentals, for example, U.S. interest rate movements or Canadian and Australian commodity price movements. And, he added, there are things that would be difficult to relate to economic events that preceded the shock. He asked how far one can go with this methodology without returning to examine the pairs where there is no shift contagion and trying to dig a little deeper into those spikes of the common shocks. He said that there would appear to be no reason to believe that the coefficients would shift equally—or not—between U.S. interest rate movements and changes in commodity prices and things that were disturbing financial markets for unknown reasons.

Morley responded that one would want to look into each case where one finds shift contagion, examine the common shocks, and try to identify them. He added that the authors had done a bit of that in the paper to identify them with the events that were occurring at the time, to try to determine whether they are the types of shocks that they had thought were fundamentals or whether they were something else.

Reference

Engel, C. and J.D. Hamilton. 1990. "Long Swings in the Dollar: Are They in the Data and Do Markets Know It?" *The American Economic Review* 80 (4): 689–713.