The Role of Optimal Risk Management in the Global Adjustment Process
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Since about 1990 the stocks of cross-border financial assets as well as the flows of such assets between countries have reached proportions (relative to global output) that are unprecedented in world history. This project will help us understand simultaneously the structure of international portfolios, why the US current account deficit increased for so long, and what will happen when the process of unwinding the deficit begins. The proposed work will also improve our understanding of how the unwinding will affect exchange rates, interest rates, and equity returns. It will thus help to quantify the probability distribution of future risks in these markets, which we can’t infer from statistical analysis of past data.

Changes in the payoffs on asset stocks can lead to massive international wealth redistributions, while the nature of asset-stock preferences determines how variations in flows will affect these payoffs, as well as levels of general economic activity. Understanding the optimal portfolio problem is thus critical to understanding how the unwinding of the current account deficit will take place. The goal of our research is to better understand the forces driving the allocation of international asset stocks, as well as the effects of investors’ asset preferences on the process of international adjustment to changes in financial flows.

The first part of the project develops models of international portfolio allocation in a static one-period model. These models will comprise both flexible-price settings and more realistic macroeconomic settings with nominal price rigidities, in environments with complete and incomplete markets (i.e. environments where some risks cannot be hedged by any of the available securities). The models will emphasize that good market frictions have important consequences for optimal asset allocation. The models advance the research frontier through their consideration of multiple sources of uncertainty, under which different asset classes (specifically stocks and bonds) may have different relative efficiencies for hedging consumption risks. They are also expected to deliver testable implications that will be explored to assess their usefulness as guides to international risk management and as factors in influencing international adjustment patterns.

The second part of the project considers dynamic models of investment and trade flows in which the dynamics of international adjustment can be analyzed over alternative time horizons ranging from the short run to the long run. Because the unwinding of current account deficit depends critically not just on the magnitude of the capital flows, but also on how the capital is invested. The analysis will build upon the models of international portfolio allocation developed in the first part and be performed under both complete and incomplete markets. Such a framework allows one to think about the different types of shocks -- for example, China's growth and its effect on world commodity prices -- that can impact international imbalances and the world real interest rate, as well as the paths through which countries eliminate these imbalances to return to sustainable trajectories -- affecting exchange rates, asset prices, and commodity prices, including energy prices.