

Dollar Illiquidity and Central Bank Swap Arrangements
During the Global Financial Crisis: Non-Technical Summary

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The recent global financial crisis originated and was centered in the United States. Between October 2007 and October 2008, there was an \$8 trillion sell-off in American equity. Surprisingly, the American dollar *rose* in value at the peak of the crisis. This striking fact motivates our paper.

We view the appreciation of the dollar as a flight to *liquidity*. Prominent financial institutions experienced shortages in dollar liquidity at the height of the crisis. In response, the Federal Reserve extended dollar assets through swap arrangements to foreign central banks to alleviate these dollar shortages.

Existing studies which examine the impact of these interventions provide *time-series* analysis that examine conditions before and after the creation of swap facilities. The literature currently provides only mixed results; some studies find no impact, while others find significant but small impacts. However, public-sector interventions were clearly *endogenous*, provided when and where they were most needed. This poses a challenge in evaluating their impact and may explain the weak effects found to date.

In this paper, we use the *cross-sectional* impact of official efforts to address dollar shortages. We use the cross-sectional predictions of theory to reassess the impact of the attempts by the Federal Reserve and others to inject dollar liquidity into the global financial system. Our theoretical results are consistent with the dollar appreciation observed during the crisis, and suggest that the impact of these injections should be greater among countries that have greater exposure to the United States through trade and financial channels, less transparent holdings of dollar assets, and greater illiquidity difficulties. We then take these cross-sectional tests to the data, avoiding the endogeneity issues that arise in earlier studies.

We examine the impact of announcements concerning U.S. dollar auctions by foreign central banks (weighted by the size and average maturity of auctioned assets), on CDS spreads for a large cross-section of countries. We find robust evidence that the auctions disproportionately benefited countries that were more exposed to the United States, either through trade or financial channels, as the theory predicts. We obtain weaker or incorrect results for national differences in the impact of the auctions by the transparency of their dollar holdings and measures of illiquidity.

We also examine the impacts of the major announcements concerning international swap arrangements. For several of the most important announcements (such as the news that ceilings on

swaps had been removed for major foreign central bank partners, or the announcement that initiated swaps with a broad set of countries), our results roughly match those for the actual auctions. However, for others, such as the actual launch of the program, we find disproportionate benefits among countries exhibiting greater illiquidity.

Overall, our results suggest that the swap arrangements disproportionately benefited countries that were more exposed to the United States, and we also obtain some evidence of disproportionate benefits to countries holding more opaque US asset portfolios. Our theory suggests that this is what one would expect from an injection of dollar liquidity. Our results therefore support the claim that the swap arrangements provided tangible liquidity improvements. However, we make no claim about the overall welfare implications of swap arrangements.