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Central bank swap line effectiveness during the euro area sovereign debt crisis☆

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A B S T R A C T

The Federal Reserve re-established a swap line with the European Central Bank in response to the international liquidity stresses created by the euro area sovereign debt crisis. We examine the swap line's effectiveness in addressing these stresses in 2010–11. We find that announcements about the swap line had a significant effect in reducing euro-dollar FX swap spreads during the 2010–11 crisis, but that the swap line only had limited effectiveness in alleviating the stresses, probably owing to some stigma being attached to its use.

1. Introduction

The euro area sovereign debt crisis erupted in May 2010 when the Greek government needed and received financial support. Other euro area governments received support subsequently, and the Greek government received further help. The crisis persisted after May 2010 as the authorities struggled to assess and agree on how large a fiscal adjustment member countries could be expected to make, and

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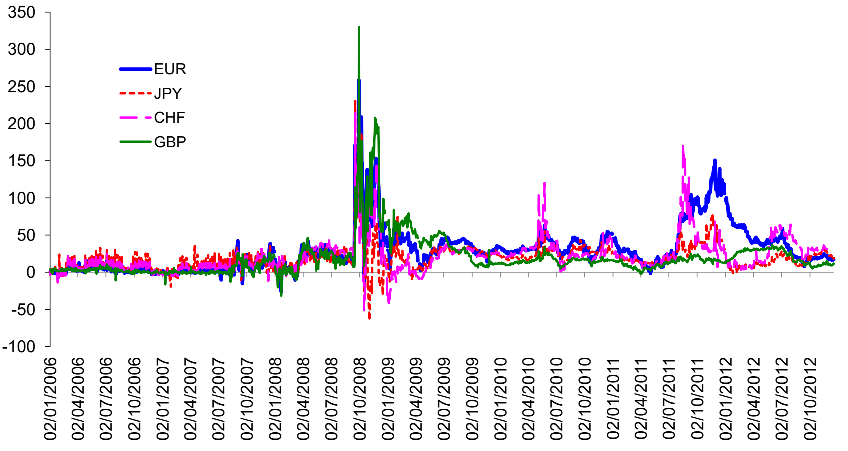

Fig. 1. CIP deviations as measured by 3-month FX swap spreads against the US dollar (in basis points).

how the losses arising from the inability of some governments and banks to pay their debts should be distributed.

FX swap spreads (covered interest rate differentials) of the euro against the US dollar provide indicators of the relative ease or difficulty that banks experienced in acquiring liquidity in the two currencies. They showed major stress for banks wanting dollar liquidity after the failure of Lehman Brothers in September 2008[1]; more recently, they showed moderate stress for such banks in May 2010 and greater stress from mid – 2011 onwards. This reflected periodic surges in demand for dollar liquidity in the euro area.

In May 2010, the Federal Reserve re-established a swap line to provide dollars to the European Central Bank in response to the international liquidity stresses created by the euro area sovereign debt crisis, as part of coordinated action by major central banks. We examine the effectiveness of the swap line in addressing international liquidity stresses in 2010–11, by studying the effects of swap line announcements, and of the auction allotments of dollar funds, on euro-dollar FX swap spreads. To our knowledge this is the first study of this kind.

We find that the Fed-ECB swap line announcements had a significant effect in reducing euro-dollar FX swap spreads at the three-month maturity during the 2010–11 crisis, but that the swap line nevertheless only had limited effectiveness in alleviating international liquidity stresses, probably owing to some stigma being attached to its use.

The outline of the paper is as follows. Section 2 presents the financial markets data and the data on central bank swap lines. Section 3 presents a literature review and the regression equations. Section 4 discusses the results and determines the preferred model based on out-of-sample forecasting performance. Finally, Section 5 concludes.

2. Data

Large violations of covered interest parity (CIP) in foreign exchange swap markets such as were observed in the 2008–09 and the 2010–11 crises betrayed severe tensions in those markets (Fig. 1). The large deviations from euro-dollar CIP, as measured by 3-month FX swap spreads against the US dollar, reflected the difficulties that euro area banks experienced in swapping euros into dollars.[2]

[1] See Baba et al. (2008), Baba and Packer (2009), Goldberg et al. (2011).

[2] Dollar-specific liquidity shortages in the euro area before the 2008–09 crisis are discussed in McGuire and von Peter (2009) and Moessner and Allen (2012).