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Abstract

We show that the cross-sectional dispersion of conditional foreign exchange (FX) correlation is countercyclical and that currencies that perform badly (well) during periods of high dispersion yield high (low) average excess returns. We also find a negative cross-sectional association between average FX correlations and average option-implied FX correlation risk premiums. Our findings show that while investors in spot currency markets require a positive risk premium for exposure to high dispersion states, FX option prices are consistent with investors being compensated for the risk of low dispersion states. To address our empirical findings, we propose a no-arbitrage model that features unspanned FX correlation risk.

JEL classification: F31, G15

Keywords: Correlation risk, Exchange rates, International finance

1. Introduction

Existing literature has shown that stock return correlations are counter cyclical and correlation risk is priced, arguably due to the reduction of diversification benefits that occurs when stock return correlations increase. However, the literature has largely ignored the foreign exchange (FX) market. In this paper, we explore the properties of FX correlations using both spot and options market data and we propose a reduced-form no-arbitrage model that is consistent with our empirical findings.

We begin by exploring the empirical properties of conditional FX correlations. We consider exchange rates against the US dollar (USD) and find substantial cross-sectional heterogeneity in the average conditional correlation of FX pairs. Furthermore, using several business cycle proxies, we find that the cross-sectional dispersion of FX correlations is counter cyclical, as FX pairs with high (low) average correlation become more (less) correlated in adverse economic times. We exploit the cyclical properties of conditional FX correlation by defining an FX correlation dispersion measure, FXC, and sort currencies into portfolios based on the beta of their returns with respect to innovations in FXC, denoted by ΔFXC. We find that currencies with low ΔFXC betas have high average excess returns and that currencies with high ΔFXC betas yield low excess returns, suggesting that FX correlation risk has a negative price in

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