The risk of foreign currency contingent claims at US commercial banks

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Abstract

This study investigates the relationship between market-based measures of risk and foreign currency contingent claims activity at US commercial banks. Specifically, four types of foreign currency contingent claims are examined: purchased foreign currency option contracts, foreign-exchange swaps, commitments to purchase foreign currency and forward contracts. Within the context of the Comptroller of the Currency’s (OCC’s) Banking Circular 277, we differentiate between the risk exposure of dealer banks and non-dealer banks. Empirical results suggest that (i) the use of options tends to increase all market-based measures of bank risk, (ii) swaps are used primarily for risk-control purposes and (iii) the use of forward contracts and currency commitments contributes mildly, if at all, to any type of risk. There is some evidence that swaps activity at dealer banks increases unsystematic risk. Otherwise, dealer and non-dealer banks appear to similarly manage foreign currency risk. © 2000 Elsevier Science B.V. All rights reserved.

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1. Introduction

This study empirically investigates the relationship between market-based measures of risk and foreign currency contingent claims activity at US commercial banks. The impetus is the rapidly growing use of these off-balance sheet items and regulatory concerns regarding bank risk management practices. The Office of the Comptroller of the Currency (OCC) (1993) issued Banking Circular 277 to provide guidance on risk management activities for national banks and federal branches and agencies of foreign banks entering into derivative activities. While the circular encourages banks to use derivatives for prudent purposes, it states

The complexities of financial derivatives raises concerns about some institutions’ use of derivatives under some circumstances. National banks engaging in derivatives transactions must do so in accordance with safe and sound banking practices. The OCC is concerned about how the use of financial derivatives can influence the risk of failure of any institution, and particularly those institutions whose failures might threaten the solvency of other institutions or negatively affect liquidity in the nation’s financial system.

More recently, central bankers from Europe, Japan and North America agreed to implement a proposal for monitoring foreign-exchange risk at banks to better assess risk exposure to interest rates and exchange rates. One component of foreign-exchange risk is the net open position in certain off-balance sheet instruments.

The purpose of this research is to examine the breadth of US banks’ use of foreign-exchange contingent claims and to investigate the market’s perception of bank risk associated with different levels of usage. We specifically examine bank purchases of foreign currency option contracts, commitments to purchase foreign currency, and the notional principal amount of forward contracts and foreign-exchange swaps. Banks use these instruments for varied purposes, as end-users with the typical objective to reduce undesirable exposure to currency fluctuations, and by offering derivatives to bank customers as part of dealer operations. Banks also use these instruments speculatively to increase income. If management truly attempts to hedge, derivatives should serve to decrease bank risk, while any speculative use of these instruments will increase risk.

We extend existing research in two important ways. First, we document US banks’ use of these four types of foreign-exchange contingent claims and, in the

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1 This proposal was introduced in 1995 as an amendment to the Basle Committee Accord with full implementation by year-end 1997.
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