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Sweep accounts, reserve management, and interest rate volatility[1]

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Abstract

Retail sweep accounts have reduced required bank reserve balances by more than 70% since 1995, raising concerns in some quarters about increased volatility of interest rates and reduced monetary policy effectiveness. We develop a model of bank reserve management and daily payment flows that indicates that the effect of lower reserve balances on funds rate volatility is theoretically ambiguous. We empirically test the relationships among reserve balances, federal funds-rate volatility, and the variation in short-term money market rates. Our conclusion is that reductions in reserve balances have not impinged on the ability of the Federal Reserve to conduct monetary policy in the manner that it has in recent years.

JEL Classification Codes: E51, G21, E43

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1. Introduction

Retail sweep accounts were introduced in 1993 and have led to a 70% reduction in required bank reserve balances with the Federal Reserve since 1995. While this has led to a 70% reduction in the reserve requirement tax, it also has complicated reserve management by banks and interest rate targeting by the Federal Reserve. During this process, the Federal Reserve has suggested that the reduction in reserve balances can lead to a rise in Federal funds rate volatility and hinder the implementation of monetary policy.

Sweep accounts shift funds from retail transactions accounts subject to reserve requirements to interest- or noninterest bearing savings accounts exempt from reserve requirements.[1] Sweep balances at banks increased from about $10 billion in January 1995 to $382 billion in February 2000. During this period, required reserve balances held in accounts at Federal Reserve banks fell from around $22 billion to $6 billion. This reserve reduction continues a trend initiated earlier in 1990 and 1992 when reserve requirements were reduced and reserve balances, which were then on the order of $33 billion to $38 billion, started their recent decline.[2] At present, required reserves are around $6 billion while clearing balances (which earn a return and are used to pay for priced payment services) are $7 billion. Although the sum of these balances ($13 billion) can be used to fund daily bank payment flows over Fedwire, these flows total $1.8 trillion and exceed reserve balances by a factor of over 100. The uncertain nature of daily payments means that unexpected payment flows can significantly affect intraday and overnight bank borrowing, potentially making it difficult for the Federal Reserve to closely target the funds rate.

Concerns about potential adverse monetary policy effects of reduced bank reserve balances are not new with sweep accounts. Indeed, after the 1990 reduction in reserve requirements, there was a considerable increase in the volatility of the federal funds rate. In documenting the volatility rise, Feinman (1993) took it one step further and suggested that the elimination of reserve requirements would "engender a significant increase in volatility in the reserves market and seriously complicate the conduct of open market operations." More recently, in a letter to Congress, Alan Greenspan (1996) stressed this same argument with respect to sweep accounts:

> "retail sweep" programs, which have further blurred the distinction between transaction and savings deposits,. . . and the more widespread adoption of sweep programs that is evidently in train could impair the predictability of overall reserve demand and hence adversely affect the ability of the Federal Reserve to gauge the supply of reserves consistent with the FOMC's intended policy stance.

Reinforcing this view, the Federal Reserve announced that sweep accounts ". . . could eventually suggest changes in the structure of reserve requirements" (*American Banker*, 1997), raising them, since the reduction in reserve balances ". . . could impair the predictability of reserve demand and hence adversely affect the ability of the Federal Reserve to gauge the supply of reserves consistent with its intended monetary policy stance" (*Wall Street Journal*, 1997). This concern has led the Federal Reserve to support legislation which would permit the payment of interest on reserves, if needed to reverse the current erosion of the reserve base (Greenspan, 1998), and also to propose that banks return to a system of