deposits. If, on the other hand, demand deposits are a close substitute for time deposits, central bank expansion pushing down the rate on time deposits will lead to the extinction of time deposits, thus augmenting creation of demand deposits.[18] The evidence of the last few years seems to indicate very clearly that short-term securities like Treasury bills are close substitutes for time deposits in the form of certificates of deposit.

Similar arguments could be made with respect to currency and excess reserves. There is little reason, to be sure, for thinking that currency might be affected by substitutions between securities, time deposits, and money. But the evidence is uncertain as to the dependence of the demand for currency on money supply and on income, respectively. To the extent that demand for currency is a function of income, the increase in money resulting from a given expansion of central bank liabilities (the money multiplier) will be larger in the short run, before income has risen, than in the long.

Furthermore, excess reserves are clearly elastic with respect to interest rates. Some evidence has been adduced that this elasticity did not become infinite even during the 1930s, that is, that no liquidity trap existed at the bank level.[19] In recent years, however, variations in excess reserves in American banks have been small relative to changes in reserves absorbed by time deposits.

As an extreme, it is conceivable that the creation of central bank liabilities may reduce the money supply, if a decrease in the rate on securities resulting from central bank expansion should generate sufficient increases in the amounts of time deposits, currency, and excess reserves demanded. As a practical matter, the conclusion remains that the behavior of time deposits is the most powerful factor interfering with central bank control of the money supply, as long as the analysis remains limited to the domestic sphere.

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[18] Cf. Lyle E. Gramley and Samuel B. Chase, Jr., "Time Deposits in Monetary Analysis," *Federal Reserve Bulletin*, October 1965; and William G. Dewald, "Money Supply Versus Interest Rates as Proximate Objectives of Monetary Policy," *National Banking Review*, June 1966, pp. 509–522.

[19] Cf. David Laidler, "The Rate of Interest and the Demand for Money—Some Empirical Evidence," *Journal of Political Economy*, December 1966, p. 551; Allan H. Meltzer, "The Demand for Money: The Evidence from the Time Series," *Journal of Political Economy*, June 1963, p. 245; Karl Brunner and Allan H. Meltzer, "Liquidity Traps for Money, Bank Credit and Interest Rates" unpublished manuscript; George R. Morrison, *Liquidity Preferences of Commercial Banks*, University of Chicago Press, Chicago, 1966.