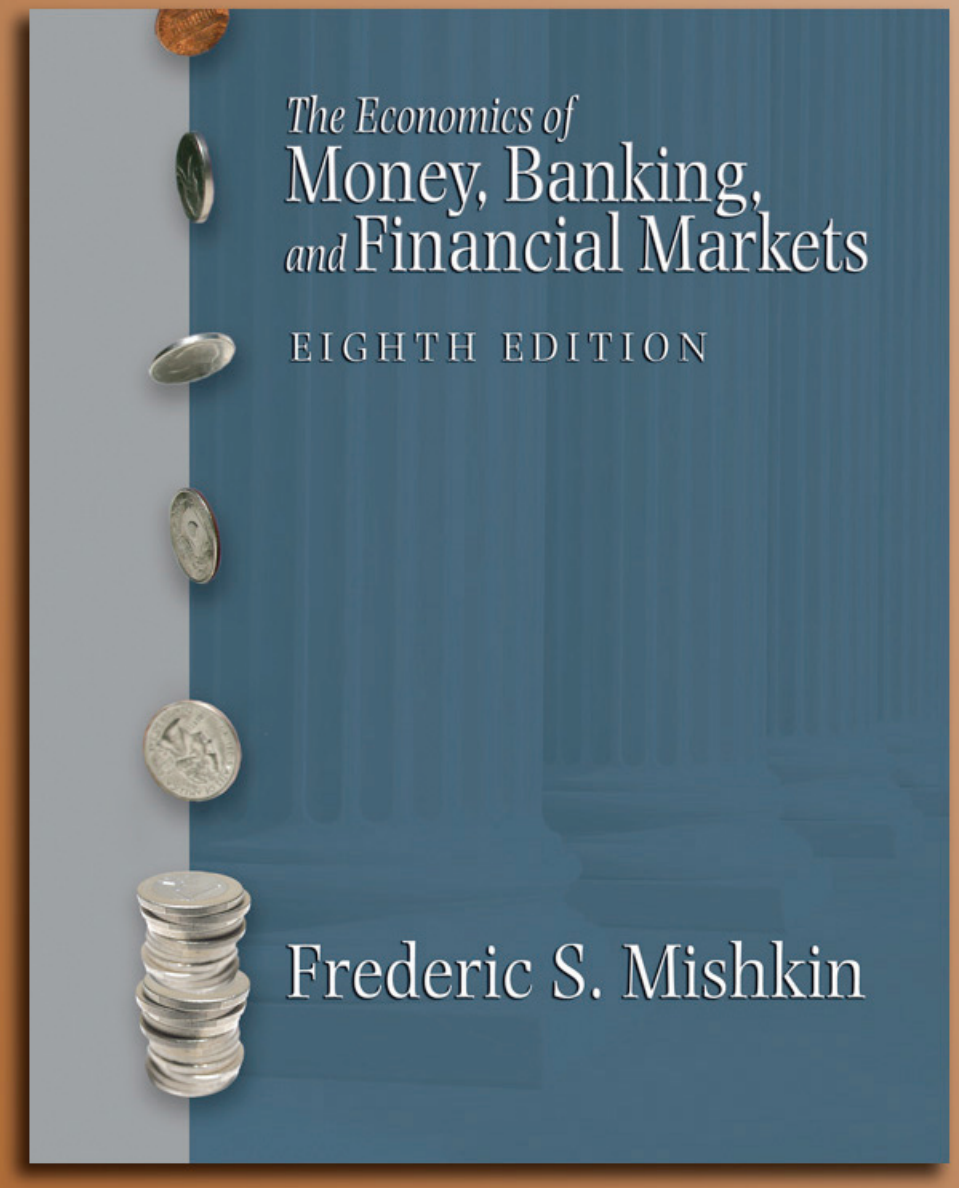

Appendix to Chapter 14

The M2 Money Multiplier

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Deriving the M2 Multiplier

$$M2 = C + D + T + MMF$$

C = currency in circulation

D = checkable deposits

T = time and savings deposits

MMF = money market mutual fund shares, money market deposit accounts, overnight repurchase agreements and overnight Eurodollars

All desired quantites of these variables rise proportionally with checkable deposits.

The equilibrium ratios set by depositors are treated as constants as before

$$C = c \times D$$

$$T = t \times D$$

$$MMF = mm \times D$$

The M2 Money Multiplier

Substituting in the definition of M2

$$M2 = D + (C \times D) + (t \times D) + (mm \times D)$$

$$= (1 + c + t + mm) \times D$$

Using the expression for D from the chapter

$$M2 = \frac{1 + c + t + mm}{r + e + c} \times MB$$

An example using the numbers from the chapter and using

T = \$2,400B; MMF = \$400 B $\Rightarrow$ $t = 3$ and $mm = 0.5$

$$m_2 = \frac{1 + 0.5 + 3 + 0.5}{0.10 + 0.001 + 0.5} = \frac{5.0}{0.601} = 8.32$$

Which is much larger than the multiplier for M1 because the reserve requirement for time deposits is less.

SUMMARY **TABLE 1** **Response of the M2 Money Supply to Changes in MB_n, BR, r, e, c, t, and mm**

Variable	Change in Variable	M2 Money Supply Response	Reason
MB_n	↑	↑	More *MB* to support *C* and *D*
BR	↑	↑	More *MB* to support *C* and *D*
r	↑	↓	Less multiple deposit expansion
e	↑	↓	Fewer reserves to support *D*
c	↑	↓	Less multiple deposit expansion
t	↑	↑	More multiple deposit expansion
mm	↑	↑	More multiple deposit expansion

Note: Only increases (↑) in the variables are shown; the effects of decreases in the variables on the M2 money supply would be the opposite of those indicated in the "Response" column.