Lecture 26 will cover the following transparencies, Figures 1 – 4, and Table 1 of chapter 16 of the textbook.
Money Multiplier

\[ M \text{ (M1)} = m \text{ (multiplier)} \times MB \]
(monetary base)

Deriving Money Multiplier

\[ R \text{ (reserves)} = RR \text{ (required)} + ER \text{ (excess)} \]

\[ RR = r_D \text{ (required reserve ratio)} \times D \text{ (deposits)} \]

\[ R = (r_D \times D) + ER \]
Money Multiplier

Adding *currency* to both sides

\[ R + C \text{ (currency)} = MB = (r_D \times D) + ER + C \]

1. Tells us amount of \( MB \) needed to support \( D, ER \) and \( C \)

2. \$1 of \( MB \) in \( ER \), not support \( D \) or \( C \)

\[ MB = (r_D \times D) + (\frac{ER}{D} \times D) + (\frac{C}{D} \times D) \]

\[ = (r_D + \frac{ER}{D} + \frac{C}{D}) \times D \]
Money Multiplier

\[ M = D + (\{\frac{C}{D}\} \times D) = (1 + \{\frac{C}{D}\}) \times D \]

\[ m = \frac{1 + \{\frac{C}{D}\}}{r_D + \{\frac{ER}{D}\} + \{\frac{C}{D}\}} \]

\[ m < \frac{1}{r_D} \] because no multiple expansion for currency and because as \( D \uparrow \) \( ER \uparrow \)