Calculating with our Money Demand Function

Part 1

$$r_N = r_R + \eta^e + r_R\eta^e$$

The Basic Model

$$m_{i,t} = \xi \frac{1+r_N}{r_N} c_{i,t}$$

The Consumption Fraction

$$c_{i,t} = \frac{1}{(n-i+1)+\xi(n-i)} z_i$$

Period 1

$$m_1 = \xi \frac{1+r_N}{r_N} c_1$$

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$$c_1 = \frac{1}{4+3\xi} z_1$$

Period 2

$$c_1 = \frac{1}{4+3\xi} z_1 \qquad m_1 = \xi \frac{1+r_N}{r_N} c_1$$

$$c_2 = \frac{1}{3+2\xi} z_2 \qquad m_2 = \xi \frac{1+r_N}{r_N} c_2$$

Period 3

$$c_1 = \frac{1}{4+3\xi} z_1 \qquad m_1 = \xi \frac{1+r_N}{r_N} c_1$$

$$c_2 = \frac{1}{3+2\xi} z_2 \qquad m_2 = \xi \frac{1+r_N}{r_N} c_2$$

$$c_3 = \frac{1}{2+\xi} z_3 \qquad m_3 = \xi \frac{1+r_N}{r_N} c_3$$

Period 4

$$c_1 = \frac{1}{4+3\xi} z_1 \qquad m_1 = \xi \frac{1+r_N}{r_N} c_1$$

$$c_2 = \frac{1}{3+2\xi} z_2 \qquad m_2 = \xi \frac{1+r_N}{r_N} c_2$$

$$c_3 = \frac{1}{2+\xi} z_3 \qquad m_3 = \xi \frac{1+r_N}{r_N} c_3$$

$$c_4 = z_4 \qquad m_4 = 0$$

An Illustration

- **y_2=\$300,000, y_3=\$630,000, y_1=y_4=0**
- r_R = 50%, η^e=50%
- ξ = 1/3

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Real and Nominal Rates

- **y_2=\$300,000, y_3=\$630,000, y_1=y_4=0**
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$$r_N = r_R + \eta^e + r_R \eta^e$$

Fisher's Law

- y_2=$300,000, y_3=$630,000, y_1=y_4=0
- r_R = 50%, η^e=50%
- ξ = 1/3

$$r_N = r_R + \eta^e + r_R \eta^e$$

(Irving) Fisher's Law

Fisher's Law

$$r_N = r_R + \eta^e + r_R \eta^e$$

$$r_N = (0.50) + (0.50) + (0.50)(0.50)$$

$$= 1.25$$

End