

Question #50

Answer: E

$$({}_{20}V + P_{20})(1+i) - q_{40}(1 - {}_{21}V) = {}_{21}V$$

$$(0.49 + 0.01)(1+i) - 0.022(1 - 0.545) = 0.545$$

$$(1+i) = \frac{(0.545)(1 - 0.022) + 0.022}{0.50}$$

$$= 1.11$$

$$({}_{21}V + P_{20})(1+i) - q_{41}(1 - {}_{22}V) = {}_{22}V$$

$$(0.545 + 0.01)(1.11) - q_{41}(1 - 0.605) = 0.605$$

$$q_{41} = \frac{0.61605 - 0.605}{0.395}$$

$$= 0.028$$