



3. Suppose improvements in production methods lead to an increase in labor demand, leading eventually an increase in the real wage.

(a) Describe and illustrate the impact on consumers' optimal choices for consumption, leisure, and labor supply. What is the impact on consumer welfare?

(b) Describe intuitively the income and substitution effects on consumption and leisure.

(c) Describe and illustrate the income and substitution effects on consumption and leisure.

4. Suppose there are global supply chain disruptions which make labor and capital less productive.

(a) Describe and illustrate the impact on the production function

(b) Describe and illustrate the impact on producers' profit maximizing choice for labor.

(c) Describe and illustrate the impact on *equilibrium* real wage and real GDP.