

PART 1. (10 marks) Short Answer. Answer each question in the space provided.

1. Write down consumer's life-time budget constraint.

Consumer's current budget constraint : $C + S^P = w(h - \ell) + \pi - T$

Consumer's future budget constraint : $C' = w'(h' - \ell') + \pi' - T' - (1 + r)S^P$

Consumer's life-time budget constraint : $\frac{C + C'}{1+r} = \frac{w(h-\ell) + \pi - T + w'(h'-\ell') + \pi' - T'}{1+r}$

PART 2. (90 marks) Multiple choices. Please choose the correct answer.

1. Suppose substitution effect is equal to income effect. When current real wage (w) increases, labor supply(N^S) is
 - a. upward sloping
 - b. downward sloping
 - c. vertical**
 - d. horizontal
 - e. else, specify
2. Suppose substitution effect is higher than income effect. When current real wage (w) increases, leisure , labor supply(N^S) curve is
 - a. increases, upward sloping
 - b. decreases, upward sloping**
 - c.increases, downward sloping
 - d. decreases, downward sloping
 - e. else, specify
3. Suppose tax (T) increases, what is the income effect on leisure (ℓ) ? Leisure
 - a. increases
 - b. decreases**
 - c. remains the same
 - d. else, specify
4. Suppose labor supply slopes upward. When taxes (T) decreases, labor supply(N^S)
 - a. shifts to the left**
 - b. shifts to the right
 - c. remains the same
 - d. else, specify
5. Suppose substitution effect is higher than income effect. When real interest rate (r) increases, current leisure becomes relatively Relative price between current leisure and future leisure ($\frac{w(1+r)}{w'}$) Labor supply shifts to the
 - a. more expensive, increases, right**
 - b. more expensive, decreases, left
 - c. cheaper, increases, right
 - d. cheaper, decreases, left
 - e. else, specify
6. Suppose substitution effect is higher than income effect for the lender. When decreases, current consumption increases.
 - a.current income
 - b. future income
 - c. interest rate**
 - d. else, specify
7. As Tax (T) decreases, what is the income effect on consumption (C)?
 - a. increases**
 - b. decreases
 - c. remains the same
 - d. else, specify
8. When labor input increases, marginal product of labor (MPN)..... Firm will adjust labor demand until $w = MPN$. Hence, as w decreases , N^d
 - a. increases, increases
 - b. decreases, decreases
 - c. decreases, increases**
 - d. decreases, remain the same
 - e. else, specify
9. When capital increases, the firm will adjust labor demand until $w = MPN$. Hence, N^d
 - a. shifts to the left
 - b. shifts to the right**
 - c. remains the same
 - d. else, specify
10. As labor input (N) increases, total output and MPN
 - a. increases, decreases**
 - b. decreases, increases
 - c. increases, increases
 - d. decreases, decreases
 - e. else, specify
11. As interest rate (r) increases, consumption (C) (substitution effect is higher than income effect for lenders : consumption - saving) and labor supply (N^S) (substitution effect is higher than income effect : consumptionn - leisure)
 - a. increases, decreases
 - b. decreases, increases**
 - c. increases, increases
 - d. decreases, decreases
 - e. else, specify
12. As tax (T) increases, consumption (C) for all level of income (Y) and labor supply for all levels of wage (w)
 - a. increases, decreases
 - b. decreases, increases**
 - c. increases, increases
 - d. decreases, decreases
 - e. else, specify

PART 1. (10 marks) Short Answer. Answer each question in the space provided.

1. Write down consumer's life-time budget constraint.

Consumer's current budget constraint : $C + S^P = w(h - \ell) + \pi - T$

Consumer's future budget constraint : $C' = w'(h' - \ell') + \pi' - T' - (1 + r)S^P$

Consumer's life-time budget constraint : $\frac{C + C'}{1+r} = \frac{w(h-\ell) + \pi - T + w'(h'-\ell') + \pi' - T'}{1+r}$

PART 2. (90 marks) Multiple choices. Please choose the correct answer.

- Suppose substitution effect is equal to income effect. When current real wage (w) increases, labor supply(N^S) is
 a. vertical b. downward sloping c. upward sloping d. horizontal e. else, specify
- Suppose substitution effect is higher than income effect. When current real wage (w) increases, leisure , labor supply(N^S) curve is
 a. decreases, downward sloping b. increases, upward sloping c. increases, downward sloping
 d. decreases, upward sloping e. else, specify
- Suppose tax (T) increases, what is the income effect on leisure (ℓ) ? Leisure
 a. increases b. remains the same c. decreases d. else, specify
- Suppose labor supply slopes upward. When taxes (T) decreases, labor supply(N^S)
 a. shifts to the right b. remains the same c. shifts to the left d. else, specify
- Suppose substitution effect is higher than income effect. When real interest rate (r) increases, current leisure becomes relatively Relative price between current leisure and future leisure $\left(\frac{w(1+r)}{w'}\right)$ Labor supply shifts to the
 a. cheaper, decreases, left b. cheaper, increases, right c. more expensive, decreases, left
 d. more expensive, increases, right e. else, specify
- Suppose substitution effect is higher than income effect for the lender. When decreases, current consumption increases.
 a. interest rate b. future income c. current income d. else, specify
- As Tax (T) decreases, what is the income effect on consumption (C)?
 a. increases b. remains the same c. decreases d. else, specify
- As tax (T) increases, consumption (C) for all level of income (Y) and labor supply for all levels of wage (w)
 a. increases, decreases b. increases, increases c. decreases, increases
 d. decreases, decreases e. else, specify
- As interest rate (r) increases, consumption (C) (substitution effect is higher than income effect for lenders : consumption - saving) and labor supply (N^S) (substitution effect is higher than income effect : consumptionn - leisure)
 a. increases, decreases b. increases, increases c. decreases, increases
 d. decreases, decreases e. else, specify
- When labor input increases, marginal product of labor (MPN)..... Firm will adjust labor demand until $w = MPN$. Hence, as w decreases , N^d
 a. increases, increases b. decreases, decreases c. decreases, increases
 d. decreases, remain the same e. else, specify
- As labor input (N) increases, total output and MPN
 a. increases, decreases b. decreases, increases c. increases, increases
 d. decreases, decreases e. else, specify
- When capital increases, the firm will adjust labor demand until $w = MPN$. Hence, N^d
 a. shifts to the right b. remains the same c. shifts to the left d. else, specify

PART 1. (10 marks) Short Answer. Answer each question in the space provided.

1. Write down consumer's life-time budget constraint.

Consumer's current budget constraint : $C + S^P = w(h - \ell) + \pi - T$

Consumer's future budget constraint : $C' = w'(h' - \ell') + \pi' - T' - (1 + r)S^P$

Consumer's life-time budget constraint : $\frac{C}{1+r} + \frac{C'}{1+r} = \frac{w(h-\ell) + \pi - T}{1+r} + \frac{w'(h'-\ell') + \pi' - T'}{1+r}$

PART 2. (90 marks) Multiple choices. Please choose the correct answer.

- Suppose substitution effect is equal to income effect. When current real wage (w) increases, labor supply(N^S) is
 - upward sloping
 - downward sloping
 - vertical**
 - horizontal
 - else, specify
- Suppose substitution effect is higher than income effect. When current real wage (w) increases, leisure , labor supply(N^S) curve is
 - increases, upward sloping
 - decreases, upward sloping**
 - increases, downward sloping
 - decreases, downward sloping
 - else, specify
- Suppose tax (T) increases, what is the income effect on leisure (ℓ) ? Leisure
 - increases
 - decreases**
 - remains the same
 - else, specify
- Suppose labor supply slopes upward. When taxes (T) decreases, labor supply(N^S)
 - shifts to the left**
 - shifts to the right
 - remains the same
 - else, specify
- Suppose substitution effect is higher than income effect. When real interest rate (r) increases, current leisure becomes relatively Relative price between current leisure and future leisure ($\frac{w(1+r)}{w'}$) Labor supply shifts to the
 - more expensive, increases, right**
 - more expensive, decreases, left
 - cheaper, increases, right
 - cheaper, decreases, left
 - else, specify
- Suppose substitution effect is higher than income effect for the lender. When decreases, current consumption increases.
 - current income
 - future income
 - interest rate**
 - else, specify
- As Tax (T) decreases, what is the income effect on consumption (C)?
 - increases**
 - decreases
 - remains the same
 - else, specify
- When labor input increases, marginal product of labor (MPN)..... Firm will adjust labor demand until $w = MPN$. Hence, as w decreases , N^d
 - increases, increases
 - decreases, decreases
 - decreases, increases**
 - decreases, remain the same
 - else, specify
- When capital increases, the firm will adjust labor demand until $w = MPN$. Hence, N^d
 - shifts to the left
 - shifts to the right**
 - remains the same
 - else, specify
- As labor input (N) increases, total output and MPN
 - increases, decreases**
 - decreases, increases
 - increases, increases
 - decreases, decreases
 - else, specify
- As interest rate (r) increases, consumption (C) (substitution effect is higher than income effect for lenders : consumption - saving) and labor supply (N^S) (substitution effect is higher than income effect : consumption - leisure)
 - increases, decreases
 - decreases, increases**
 - increases, increases
 - decreases, decreases
 - else, specify
- As tax (T) increases, consumption (C) for all level of income (Y) and labor supply for all levels of wage (w)
 - increases, decreases
 - decreases, increases**
 - increases, increases
 - decreases, decreases
 - else, specify

PART 1. (10 marks) Short Answer. Answer each question in the space provided.

1. Write down consumer's life-time budget constraint.

Consumer's current budget constraint : $C + S^P = w(h - \ell) + \pi - T$

Consumer's future budget constraint : $C' = w'(h' - \ell') + \pi' - T' - (1 + r)S^P$

Consumer's life-time budget constraint : $\frac{C}{1+r} + \frac{C'}{1+r} = \frac{w(h-\ell) + \pi - T}{1+r} + \frac{w'(h'-\ell') + \pi' - T'}{1+r}$

PART 2. (90 marks) Multiple choices. Please choose the correct answer.

- Suppose substitution effect is equal to income effect. When current real wage (w) increases, labor supply(N^S) is
 a. vertical b. downward sloping c. upward sloping d. horizontal e. else, specify
- Suppose substitution effect is higher than income effect. When current real wage (w) increases, leisure , labor supply(N^S) curve is
 a. decreases, downward sloping b. increases, upward sloping c. increases, downward sloping
 d. decreases, upward sloping e. else, specify
- Suppose tax (T) increases, what is the income effect on leisure (ℓ) ? Leisure
 a. increases b. remains the same c. decreases d. else, specify
- Suppose labor supply slopes upward. When taxes (T) decreases, labor supply(N^S)
 a. shifts to the right b. remains the same c. shifts to the left d. else, specify
- Suppose substitution effect is higher than income effect. When real interest rate (r) increases, current leisure becomes relatively Relative price between current leisure and future leisure $\left(\frac{w(1+r)}{w'}\right)$ Labor supply shifts to the
 a. cheaper, decreases, left b. cheaper, increases, right c. more expensive, decreases, left
 d. more expensive, increases, right e. else, specify
- Suppose substitution effect is higher than income effect for the lender. When decreases, current consumption increases.
 a. interest rate b. future income c. current income d. else, specify
- As Tax (T) decreases, what is the income effect on consumption (C)?
 a. increases b. remains the same c. decreases d. else, specify
- As tax (T) increases, consumption (C) for all level of income (Y) and labor supply for all levels of wage (w)
 a. increases, decreases b. increases, increases c. decreases, increases
 d. decreases, decreases e. else, specify
- As interest rate (r) increases, consumption (C) (substitution effect is higher than income effect for lenders : consumption - saving) and labor supply (N^S) (substitution effect is higher than income effect : consumptionn - leisure)
 a. increases, decreases b. increases, increases c. decreases, increases
 d. decreases, decreases e. else, specify
- When labor input increases, marginal product of labor (MPN)..... Firm will adjust labor demand until $w = MPN$. Hence, as w decreases , N^d
 a. increases, increases b. decreases, decreases c. decreases, increases
 d. decreases, remain the same e. else, specify
- As labor input (N) increases, total output and MPN
 a. increases, decreases b. decreases, increases c. increases, increases
 d. decreases, decreases e. else, specify
- When capital increases, the firm will adjust labor demand until $w = MPN$. Hence, N^d
 a. shifts to the right b. remains the same c. shifts to the left d. else, specify