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| **Exercises from old exams to chapters in B & W** |

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| **Chapter 4** |

**Exercise 1**

1. Define indifference curves and the marginal rate of substitution (MRS) in a model showing the household’s trade-off between consumption and leisure.
2. Use the consumption – leisure trade off to explain the household’s optimal choice.
3. Explain how you can derive the labour supply curve from the consumption – leisure trade off model.
4. In the model used in this exercise, explain the difference between the substitution effect and the income effect, if the wage increases.
5. As a follow up to d): explain the slope of the labour supply curve if the substitution effect dominates.

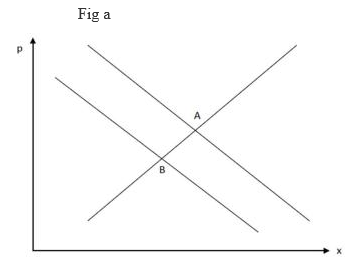
**Exercise 2**

Consider a labour market model where household’s supply of labour is seen as a trade-off between consumption and leisure.

1. Define terms and explain by using a figure, the household’s optimal choice.
2. Use the model to discuss the reaction of the household to a real wage increase.
3. As a follow up to question b), describe the situation if the income effect dominates?

**Exercise 3**

The diagram below (fig a) represents a market characterized by perfect competition. Now, assume that the diagram is a representation of two different equilibria in the labour market, where p refers to the wage rate and x refers to units of labor.



Assume that A is the old equilibrium and that B is the new equilibrium. What can explain the transition from the old to the new equilibrium?

a) There has taken place a decrease in labour supply, for example due to trade unions demanding higher wages.

b) There has taken place a decrease in labour demand, for example due to a negative shock to labor productivity.

c) There has taken place an increase in labour demand, for example due to a positive shock to labor productivity.

d) There has taken place an increase in labour supply, for example because households assign a lower value to leisure relative to consumption.

**Exercise 4**

1. Define the unemployment rate.
2. Explain how the unemployment rate can go down without more people have found jobs.
3. What is business cycles and how is the unemployment rate related to the business cycle?
4. Use a diagram for the labour market with real wage on the vertical axis and labour on the horizontal axis. Define the supply and demand curves.
5. Use the model from d) to explain the difference between involuntary - and voluntary unemployment.
6. Suppose an extreme case where the labour supply decrease when the real wage increase. Use economic terms to explain reasons.

**Exercise 5**

In this exercise you are going to discuss different topics using a model for the household’s trade-off between consumption and leisure.

1. Define indifference curves and the budget line in a model showing the household’s trade-off between consumption and leisure.
2. What do the shape of a typically indifference curve tell about a household’s trade-off between consumption and leisure?
3. In a diagram with leisure on the horizontal axis and consumption on the vertical axis. Suppose a household’s marginal rate of substitution (MRS) = 2 while the real wage (w) = 1. In what way is it not optimal?
4. Using a diagram, how do you explain that the real wage (w) increase and how does such a change affect the trade-off between consumption and leisure?
5. Explain the difference between the substitution effect and the income effect in this model.
6. According to Burda & Wyplosz the response to rising wages varies widely across individuals. Give examples of such factors and explain the typical case using the two effects from e).
7. According to Burda & Wyplosz what are the very long run results of increasing real wage on labour supply? Also, use the two effects from e) to explain this result.