

## Unit 5: Disincentive Effects of Taxes and Transfers

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### **Objectives:**

Students will be able to:

1. distinguish between gross income and disposable income;
2. explain how taxes and transfers affect people's disposable income;
3. explain the effect of taxes on working incentive;
4. explain the effect of transfers on working incentive.

### **Prerequisite knowledge:**

1. Sources of income.
2. Meaning of tax and transfer.

### **Time allocation:**

80 minutes

### **Learning Activities:**

Two learning activities

## Activity 1: To examine the effect of tax on working incentive

### A. Objectives:

After the activity, students will understand the possible effects of tax on working incentive.

### B. Time required: 40 minutes

### C. Prerequisite knowledge: Sources of income and examples of taxes.

### D. Materials needed:

A concept map about the post-tax post-social transfer income distribution (TM1), and a worksheet with questions.

### E. Teaching plan and instructional procedures:

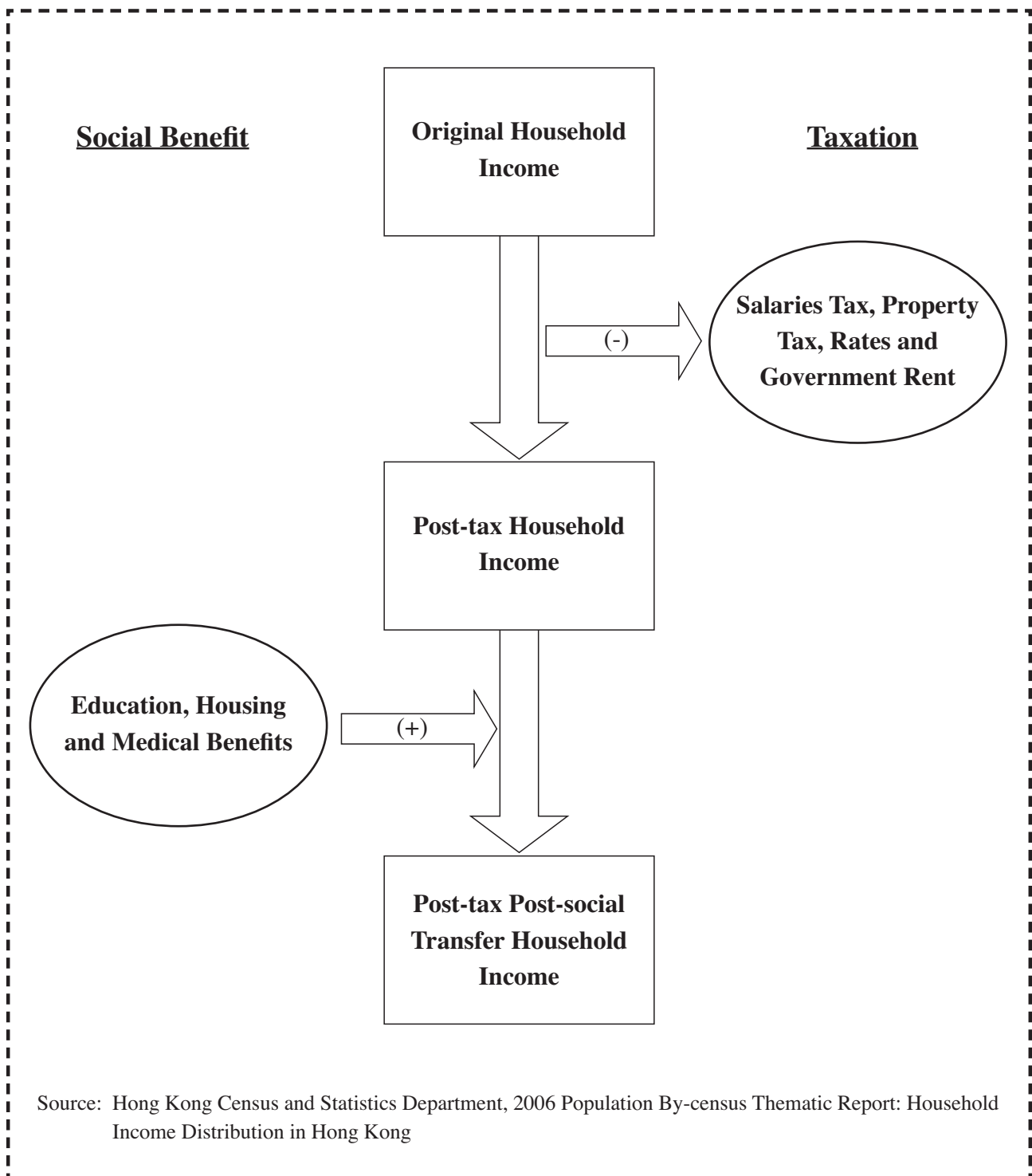
Teacher Activities	Student Activities	Time (mins)	Target Content/ Skills	Remarks
1. Ask students “Hong Kong Government spends a lot of money every year. Do you know where the money comes from?” (taxation)  2. Summarise students’ answers and group them into different categories. One of them should be taxation.  3. Remind students that for the unemployed or low-income group, whose living standard falls below certain standard, may apply for subsidy from the government. Introduce the concept of transfers.	1. Answer the questions.  2. Listen to teacher’s presentation.	15	Relationship between taxes, transfers, gross income and disposable income.	TM1

4. Introduce the concepts of gross income, disposable income, taxation and transfers using the concept map attached. (TM1)				
<p>5. Arrange students to work on worksheet 1, or worksheet 2, in pairs and supervise them.</p> <p>6. Invite one representative of every few pairs to report the answer.</p> <p>7. Summarise students' answers and point out that taxes may reduce the working incentive. Give assignment.</p>	<p>3. Form pairs and use 10 mins to discuss and write down answers in the worksheet.</p> <p>4. Participate in the discussion and express opinions.</p> <p>5. Listen and jot notes.</p>	25	Cooperate; understand the effects of taxes on working incentive.	Teacher may adapt worksheet 1 according to the abilities of students.

F. Teaching Materials

Teaching Material 1 (TM1)

**Concepts of Original Household Income and Post-tax Post-social Transfer Household Income**



Source: Hong Kong Census and Statistics Department, 2006 Population By-census Thematic Report: Household Income Distribution in Hong Kong

## G. Worksheets:

### Worksheet 1: The effects of the changes of tax allowance and tax rate on working incentive

Suppose a country changes its income tax structure as follows:

Old tax system	
Tax allowance*	\$100,000
Taxable Income#	Tax rate
1st \$100,000	5%
2nd \$100,000	10%
Remainder	15%

New tax system	
Tax allowance*	\$150,000
Taxable Income#	Tax rate
1st \$100,000	10%
2nd \$100,000	25%
Remainder	45%

\* Tax allowance is part of income that is not subject to tax.

# Taxable income = Gross income – Tax allowance

**(Teacher may change the tax rates to fit the needs of teaching)**

Consider the following three persons (you may interpret A as a low-income worker, B as a middle-class member and C as a millionaire) and show the effects of the changes in the tax system on the disposable income by completing the following tables. How would their working incentive be affected?

#### Under the old tax system

Person	Gross income	Taxable income	Tax payment	Disposable income	Disposable income / Gross Income
A	\$120,000	\$20,000	\$1,000	\$119,000	99.2%
B	\$300,000	\$200,000	\$15,000	\$285,000	95%
C	\$1,000,000	\$900,000	\$120,000	\$880,000	88%

#### Under the new tax system

Person	Gross income	Taxable income	Tax payment	Disposable income	Disposable income / Gross Income
A	\$120,000	0	0	\$120,000	100%
B	\$300,000	\$150,000	\$22,500	\$277,500	92.5%
C	\$1,000,000	\$850,000	\$327,500	\$672,500	67.35%

**Questions**

Q.1 If we assume that the three individuals have no change in income under the new tax system.

a. Who may gain under the new tax system? Why?

Person A, because his/her disposable income increases.

b. Who may lose under the new tax system? Why?

Persons B and C, because they have less disposable income.

Q.2 However, it is not realistic to assume that their earnings remain unchanged when the tax system changes, because people will respond to tax incentive or disincentive. Based on the above data,

a. Who is/are more willing to work under the new system? Explain your answer.

Person A.

b. Who is/are less willing to work under the new system? Explain your answer.

Person C.

Q.3 What conclusion(s) can be drawn from the above questions?

(Hints: what factors will affect the working incentive in response to a rise in (marginal) tax rate?)

(Assume no income effect.) Income tax (or direct tax) has negative effect on people's working incentive. The case of Person A shows that people are more willing to work if they are required to pay less tax. The case of Person C shows that extremely high tax rate makes people have weaker incentive to work because his/her disposable income decreases significantly under the new system.

**Worksheet 2: The effects of the change of tax rate on working incentive**

**(This is an alternative exercise which focuses on the change of tax rate on working incentive excluding the effect of the change of tax allowance on working incentive.)**

Suppose a country changes its income tax structure as follows:

Old tax system	
Tax allowance*	\$100,000
Taxable Income#	Tax rate
1st \$100,000	5%
2nd \$100,000	10%
Remainder	15%

New tax system	
Tax allowance*	\$100,000
Taxable Income#	Tax rate
1st \$100,000	10%
2nd \$100,000	25%
Remainder	45%

\* Tax allowance is part of income that is not subject to tax.

# Taxable income = Gross income – Tax allowance

**(Teacher may change the tax rates to fit the needs of teaching)**

Consider the following three persons (you may interpret A as a low-income worker, B as a middle-class member and C as a millionaire) and show the effects of the changes in the tax system on the disposable income by completing the following tables. How would their working incentive be affected?

**Under the old tax system**

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A	\$120,000	\$20,000	\$1,000	\$119,000	99.2%
B	\$300,000	\$200,000	\$15,000	\$285,000	95%
C	\$1,000,000	\$900,000	\$120,000	\$880,000	88%

**Under the new tax system**

Person	Gross income	Taxable income	Tax payment	Disposable income	Disposable income / Gross Income
A	\$120,000	\$20,000	\$2,000	\$118,000	98.3%
B	\$300,000	\$200,000	\$35,000	\$265,000	83.3%
C	\$1,000,000	\$900,000	\$350,000	\$650,000	65%

**Questions**

Q.1 If we assume that the three individuals have no change in income under the new tax system. Who is affected most under the new system? Why?

C is affected most. Because he has the greatest drop in the ratio of disposable income to gross income (represented by percentage).

Q.2 However, it is not realistic to assume that their earnings remain unchanged when the tax system changes, because people will respond to tax incentive or disincentive. Based on the above data,

Who is/are less willing to work under the new system? Explain your answer.

Person C.

Q.3 What conclusion(s) can be drawn from the above questions?

(Hints: what factors will affect the working incentive in response to a rise in (marginal) tax rate?)

(Assume no income effect.) Income tax (or direct tax) has negative effect on people's working incentive. The more significant of the percentage drop of the disposable income, the weaker working incentive will the people have. Therefore, an extremely high tax rate makes people have weaker incentive to work because his/her disposable income decreases significantly under the new system.



**Activity 2: A mini-debate on the thesis:**  
**“Transfer will discourage people to work” or**  
**“Transfer would help the poor more effectively”**

(Teacher should choose based on the needs and abilities of students)

**A. Objectives:**

- After the activity, students will be able to:
  1. understand the effect of transfer payment on working incentive;
  2. review critically the effect of transfer payment on working incentive.

**B. Time required:** 40 minutes

**C. Materials needed:** Two news articles for students

**D. Teaching plan and instructional procedures:**

- Refer to the guidelines on mini-debate.
- It is necessary to ask students to collect and summarise information before the activity. After the debate, teacher should assign Assignment 1 to students.

**E. Teaching materials:**

Students may read the following articles to prepare for the debate.

**(Teacher may give an extract of the article, depending on the needs and abilities of students)**

**Article 1:****To Fight Poverty is to Get People to Work**

The report published by the Commission on Poverty tells us that more and more people without handicap are getting social welfare and stay on welfare for a longer period. This means the Comprehensive Social Security Assistance (CSSA) makes more lazy people. The Government must come up with some ways to reduce the expenditure and abuse of the CSSA.

The report also reveals that many of those on welfare are young people (704 persons in 2005) and 30% of them have never worked. They are mostly less educated and remain jobless after the local industry moved to the mainland. They rely on welfare for an average period of five years. But if they want to work, there are actually opportunities in other fields.

A restaurant owner said he once hired three persons on \$30 an hour to make deliveries. The employees, aged between 20 and 50, quitted after a short time though the job would pay \$4,800 if one works for 8 hours a day and 20 days a month. The owner pointed out that they all relied on welfare as the main source of income. They came to work for some extra money and asked the owner not to report them to the Social Welfare Department (SWD). Otherwise, their welfare amount would be cut.

Therefore, the root of the problem lies at the lack of time limit for receiving welfare. Once the application for CSSA is approved, SWD still has to pay the recipients even if they refuse to work. Another problem is that CSSA provides more money than jobs. Many recipients thus do not want to work and have become long-term dependent on welfare.

If we want to get rid of the ill effects of CSSA, we must set a maximum period for receiving welfare. Those who are young and healthy should get a job instead of CSSA. If they earn less than the CSSA, the Government should then give them some subsidies, such as 'rent allowance'.

Source: Adopted from Ming Pao, 16 June 2007

**Article 2:****Tax Reform and Wage Supplement -- Singapore Case for Hong Kong**

The Singapore government has launched measures to attract foreign investment, to maintain a rapid economic growth, to help low-education, low-skilled workers and to stabilise the country. As Hong Kong and Singapore share similar economic structure and both face the impact of globalisation and widening rich-poor gap, Singapore's new policies may provide a good reference for Hong Kong.

In this year's budget, Singapore is going to lower business tax from 20% to 18%, making it more attractive to foreign investors. It will reduce the revenue by 800 million. The budget also proposes to increase commodity and service tax (CST) from 5% to 7%, to make up for the loss of revenue. At the same time, there will be exemption and assistance to help the poor for the next five years. The rise in CST will bring 750 million in the first year and 1500 million each year afterwards. The Singapore government will use the additional money to improve medical services, to enhance education and to provide wage supplement for the low-income groups.

The 'wage supplement' aims to improve the lives of the low-income groups while not to take away their willingness to work. No more than 100 dollars a month will be distributed as wage supplement to those aged 45 or above and earning less than 1,000 dollars a month, and to the self-employed. A small portion of the supplement will be cash and the rest will be deposited into the recipients' mandatory pension accounts and medical saving accounts. Employees and the self-employed aged between 35 and 45 making less than 1,500 dollars a month will receive 3/4 of the wage supplement. The government estimates that this measure will benefit 438,000 low-income workers and cost 400 million annually.

Why does Singapore cut profit tax and increase CST? It's because Singapore knows that this is the way to attract international capital. More importantly, Singapore has introduced CST several years ago and is fully prepared to do so.

Why does Singapore introduce wage supplement? Singapore finds out that the lower classes have not been benefited by economic growth. Some have even been seriously affected by inflation and pay freeze. The Government has done all it can to help them, but to no good results. Meanwhile, the gap between the rich and the poor keeps widening. Hence, the government goes for 'workfare' to help the low-wage earners to stay in the workforce, not for a 'welfare' making people dependent and lazy.

Source: Adopted from Ming Pao, 18 February 2007

**F. Assignment:****Assignment 1**

After the debate, you have heard the arguments for and against the statement of “Transfers will discourage people to work”.

1. What are the arguments of both sides?
2. What is your view? Justify your view. (for more able students)

**Assignment 2**

1. In some countries, the tax rates for high-income groups are around 40-50%. It is common for the public organisations, such as schools and hospitals, to have difficulty recruiting senior management staff. Explain this phenomenon with some economic concepts.

Some middle-level managers do not want to be promoted to senior management posts as the post-tax wages/disposable income may only increase slightly in spite of the pay rise. Therefore, the rise in wages after tax may not compensate the risk and work pressure of being a senior manager.

2. In some countries, the USA for example, the recipients of unemployment benefits need to show records of seeking jobs. Moreover, these governments set the maximum period of provision of unemployment benefits. Explain the possible economic rationales behind these policies.

As the transfer/ unemployment subsidy is quite a considerable amount, earnings from work do not increase the income of the recipients substantially. Therefore, they do not have much incentive to look for jobs and the governments need to monitor them.