

Ass # 1

18 Part One: Introduction

- #1.
3. In each of the following circumstances, decide whether the impact of government on the economy increases or decreases and why. In each case, how does your answer compare to that given by standard measures of the size of government?
- Provincial governments mandate that employers provide daycare centres for the use of their employees.
 - Provincial governments subsidize daycare centres with parents paying \$5 in user fees per day.
 - Provincial governments open government-run daycare centres.
 - The federal budget is brought into balance by reducing grants to provincial governments.
4. High and rising health care expenditures are one important element that has contributed to provincial government deficits. New, or additional, payroll taxes may be one way to finance the higher health care costs. If adopted, how would the higher payroll taxes affect the size of the provincial budgets? How would this affect the role of government in the economy?
- #2.
5. Proponents argue that the government guarantees on loans to students do not result in an increase in government spending since only "loans" are involved. The same claim is heard from corporations that receive government guarantees on billions of dollars of loans by (private) banks for private sector projects. Evaluate these claims.
6. Use the data in Table 1.1 to calculate the following: the rate of growth in total government expenditures, in real government spending, and in real, per capita spending over the period from 2000 to 2009.
- What do the data tell you about the growth in government spending relative to population growth in Canada over this nine year period?
 - Based on the data for the period 2000 to 2009, would you argue that the size of government has increased or decreased over this period? Explain.
7. Consider the data presented in the table below. Suppose that the federal government increases grants to provincial governments by \$6 billion in 2010. Does the increase in grants necessarily lead to an increase in total government spending? Why or why not?

Government Expenditures before and after Intergovernmental Grants
(millions of dollars)

	Federal Government		Provincial Governments		Local Governments		Total
	Including Grants	Excluding Grants	Including Grants	Excluding Grants	Including Grants	Excluding Grants	Excluding Grants
2009	258,209	193,130	377,313	324,778	144,736	144,589	662,497

Source: Data taken from Karin Treff and Deborah Ort, *Finances of the Nation, 2010* (Toronto: Canadian Tax Foundation, 2011), B5. Note that for this example CPP and QPP have not been included in the total. "Excluding grants" refers to grants made to other levels of government.

APPENDIX

Doing Research in Public Finance

Throughout the text, we cite many books, articles, and Web sites. These references are useful for those who want to delve into the various subjects in more detail. Students interested in writing term papers or theses on subjects in public finance should also consult the following journals that specialize in the field:

- *Journal of Public Economics*
- *Canadian Tax Journal*
- *National Tax Journal*
- *Public Finance*

- Despite its appeal, Pareto efficiency has no obvious claim as an ethical norm. Society may prefer an inefficient allocation on the basis of equity, justice, or some other criterion. This provides one possible reason for government intervention in the economy.
- A social welfare function summarizes society's preferences concerning the utility of each of its members. It may be used to find the allocation of resources that maximizes social welfare.
- The *Second Fundamental Theorem of Welfare Economics* states that society can attain any Pareto efficient allocation of resources by making a suitable assignment of initial endowments and then letting people freely trade with each other.
- Welfare economics is based on an individualistic social philosophy. It does not pay much attention to the processes used to achieve results. Thus, although it provides a coherent and useful framework for analyzing policy, welfare economics is controversial.

EXERCISES

1. Hamlet will trade two pizzas for one six-pack of beer and be equally happy. At the same time, Ophelia will gladly exchange two of her six-packs for six pizzas. Is the allocation of beer and pizza Pareto efficient? Illustrate using an Edgeworth Box.
2. Imagine a simple economy comprising only two people, Augustus and Livia.
 - a. Let the social welfare function be

$$W = U_L + U_A$$
 where U_L and U_A are the utilities of Livia and Augustus, respectively. Graph the social indifference curves.
 - b. Repeat (a) when

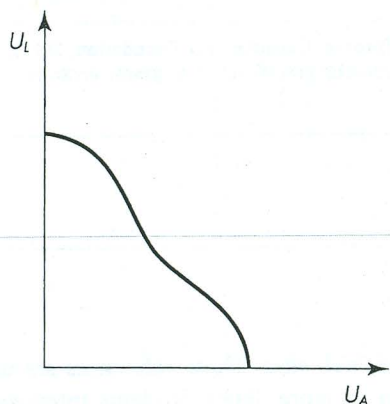
$$W = U_L + 2U_A$$
 - c. Assume that the utility possibility frontier is as depicted in the accompanying figure.
3. Consider an economy with two people, Henry and Catherine, who consume two commodities, bread and water. Suppose that, due to a drought, the authorities decided to allocate exactly half the available water to each person. In order to prevent one person from "exploiting" the other, neither person may trade away any water to the other in exchange for more bread. Set up an Edgeworth Box to depict this situation and explain why it is unlikely to be Pareto efficient. Can this framework be used to analyze the Canadian policy of banning exports of water to the United States?
4. The government of France taxes movies that are produced outside of the country and subsidizes domestically produced movies. Is this policy consistent with a Pareto efficient allocation of resources? (*Hint:* Consider a model in which consumers choose between two goods, "foreign movies" and "domestic movies." How does the marginal rate of substitution between the goods compare to the marginal rate of transformation?)
5. Consider a simple economy with two individuals, John and Marsha. The economy is endowed with 30 kilograms of cheese and 30 loaves of bread each month. John and Marsha's preferences for bread and cheese are given by their marginal rates of substitution of bread for cheese:

$$MRS_{bc}^J = \frac{10}{x_b^J}$$

$$MRS_{bc}^M = \frac{5}{x_b^M}$$

where x_b^J is the quantity of bread consumed by John and x_b^M is the quantity of bread consumed by Marsha.

- a. If each individual only had one loaf of bread, how much cheese would each individual be willing to give up in order to have another loaf of bread?
- b. In the initial allocation, each individual has 15 kilograms of cheese and 15 loaves of bread. Draw the Edgeworth Box diagram for this economy and explain whether the initial allocation of cheese and bread is Pareto efficient.
- c. Draw the contract curve for this economy.



Graphically show how the optimal solution differs between the welfare functions given in parts (a) and (b). Contrast these solutions with the position taken by an egalitarian—one who holds that the optimum is the point on the frontier where the utilities of Augustus and Livia are the same.