

Chapter 12 – Fiscal Policy, page 1 of 8

- fiscal policy and investment:
 - fiscal policy refers to government policy regarding revenue and expenditures
 - fiscal policy is under the capital resources section of the text because it used to be believed that government was a major saver in the economy; government can contribute to saving through a surplus in the government budget and profit from government enterprises
- government and taxation:
 - LDC governments have less taxing capacity than industrialized countries; LDCs also earn more from taxing trade than income taxes, unlike industrialized countries
 - developed countries have lower taxes on profits than on wages, which may increase inequality; however, in LDCs, income taxes might increase equality because only a small proportion of people (usually those who work in the formal sector) pay them
 - the incidence and efficiency of taxation is also an important consideration
- government as a major saver in an economy:
 - it was believed at one time that people in poor countries do not save; because capital formation depends on saving, if this were true, then poor countries would be stuck in poverty; it was argued that in order for a developing country economy to save, the government should tax as much as possible and reallocate the revenue to investment projects; this idea has gone out of fashion because there is no evidence that governments have a higher propensity to save than private individuals
 - the classification of expenditures by government as investment or consumption can be arbitrary – for example, the wages of teachers and healthcare workers are considered consumption, although they could be considered investment
 - governments can still be effective at aiding development; differences in growth could be due to the government's capacity to be efficient and foster development; for example, economists generally agree that a government should provide public goods because private firms will not find it profitable to sell them and people will not pay for them (because they are nonrival and nonexcludable) – government can fund schooling, healthcare, transportation, communication, infrastructure, etc.
- differences in the size of government, government revenue, and government expenditure between industrialized and developing countries:
 - page 422, table 12-1 – government expenditure as a share of GNP:

government expenditure as a share of GNP is an indicator of the government's size; government expenditure as a share of GNP in developing countries is less in poor countries than it is in rich countries – it rises from 17% in low-income countries to 32% in high-income countries; this follows Wagner's law, which states that as an economy grows, the relative size of government does also

social spending as a proportion of GNP is higher in rich countries than in poor countries; it rises from 1% in low-income countries to 11% in high-income countries (about 1/3 of total government expenditure in rich countries)

military spending in high-income countries is a greater proportion of GNP than in low-income countries; however, low-income countries spend a greater proportion of their government revenue on military spending than do high-income countries

Chapter 12 – Fiscal Policy, page 2 of 8

- page 424, table 12-2 – government recurrent expenditure:

transfers to subnational governments refer to payments to provincial governments, etc. (not found in unitary states)

- page 443, table 12-6 – sources of tax revenue:

income taxes are a larger share of government revenue in developed countries than in developing countries (from 28% in developed countries to 18.8% in low-income countries); it is difficult for LDCs to collect income taxes because 80+% of the population is not in the formal sector and does not report its earnings, and the cost of enforcing income taxes in the informal sector is prohibitively high

taxes on international trade are a larger share of government revenue in developing countries than in developed countries (from 25% in LDCs to 0-1% in OECD countries); although taxes on international trade are inefficient and policy advisors encourage LDCs to lower them, developing countries rely on them as a source of tax revenue; taxes on international trade are easier to collect and enforce because the government can concentrate its administration at a few ports

- equity and efficiency of a tax system:

- there are two types of costs to taxation:

- 1) administrative – the cost of imposing, collecting, and enforcing the tax
- 2) the discouragement of economic activity – deadweight loss

- to be efficient, a tax should raise revenue in the least costly way

- equity considers the fairness of a tax by looking at the distribution of the ultimate burden of a tax

- if a tax is progressive, people with higher incomes pay a larger proportion of their income than do people with lower incomes; if a tax is regressive, people with lower incomes pay a larger proportion of their income than do people with higher incomes

- a poll tax (a head tax), which requires all people to pay the same amount, is regressive because poorer people pay a larger fraction of their income (although everybody pays the same absolute amount)

- an excise tax (a sales tax), which is levied on the purchase of a basic consumption good, is regressive because poorer people pay a larger fraction of their income for the tax on a good (although all people must pay the same tax for a given good); according to the Keynesian model of saving, richer people spend a smaller proportion of their income on consumption than poorer people – if both have to pay an excise tax equal to a certain fraction of their consumption, then the poorer people will pay a larger fraction of their total income as a tax, and the tax is regressive

- government expenditure and equity:

- government expenditure could be regressive, if it funds urban hospitals, higher education, etc.; however, government could use its expenditure to reduce inequality through progressive spending, such as by subsidizing necessities, funding primary education, etc.

- governments might not have much ability to control the progressivity of the tax system because it is constrained in its ability to earn tax revenue, but it can achieve equity goals

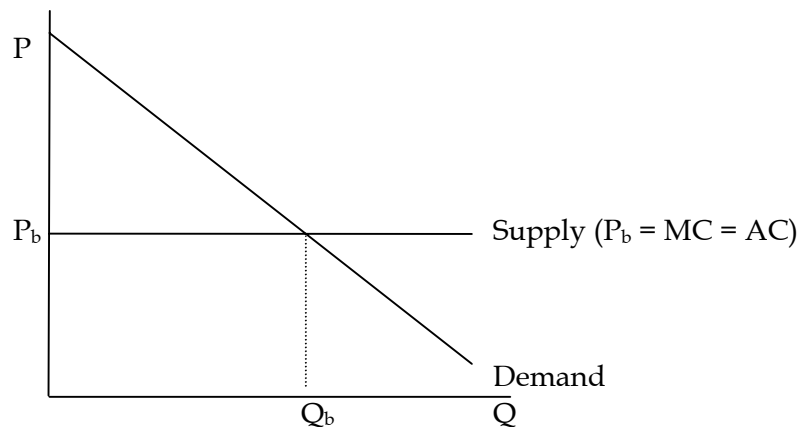
Chapter 12 - Fiscal Policy, page 3 of 8

on the expenditure side; thus, the text suggests the government tax neutrally and use expenditures to reduce inequality

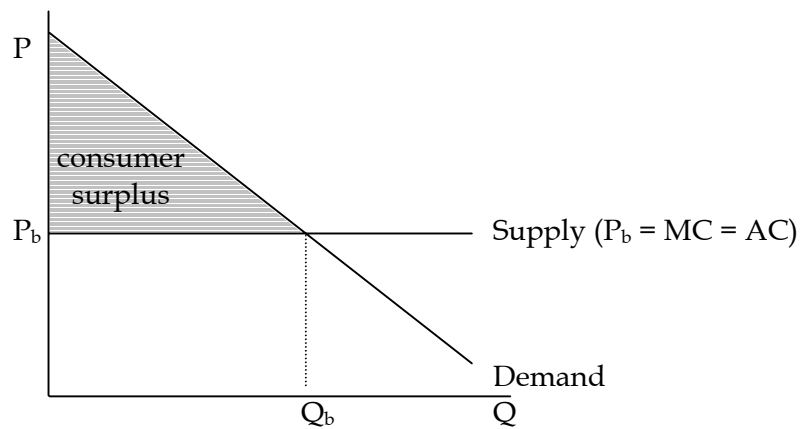
- excess burden (deadweight loss) of taxation:
an excise tax is a common source of tax revenue

when assessing a tax, the government will gain revenue but somebody loses income, revenue, or wealth; the excess burden is the difference between what the government gains and what people lose

an elastic demand curve is shown:

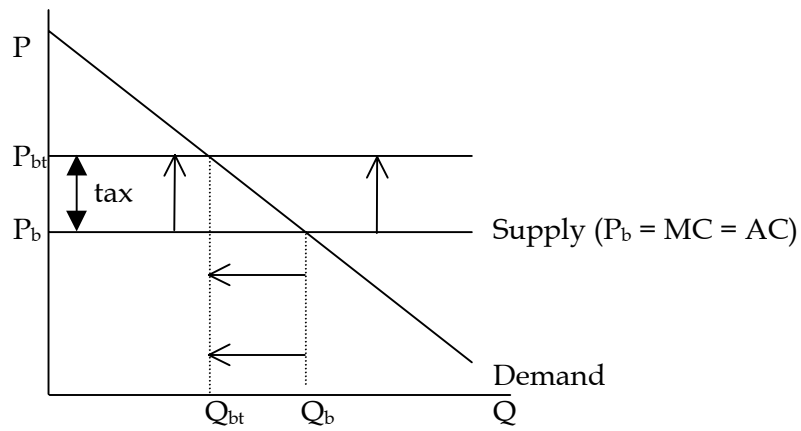


the consumer surplus is the difference between what consumers as a whole are willing to pay and how much they actually pay; in this graph, the consumer surplus is given by the area between the demand curve and the supply curve up to Q_b :

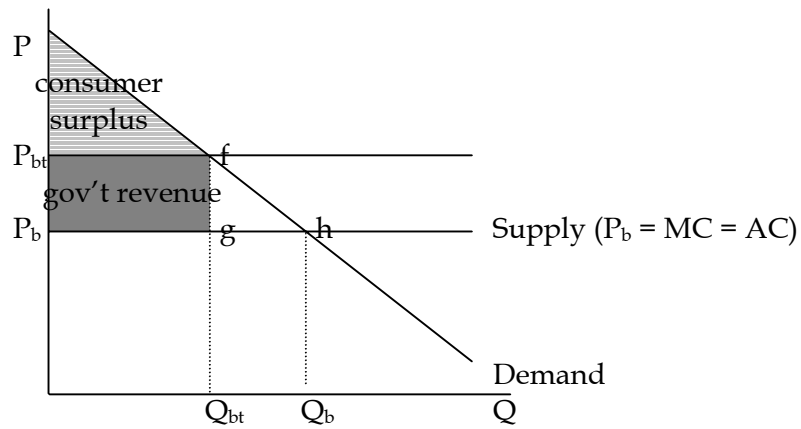


Chapter 12 - Fiscal Policy, page 4 of 8

when the tax is levied, the price rises from P_b to P_{bt} and the quantity demanded drops from Q_b to Q_{bt} :

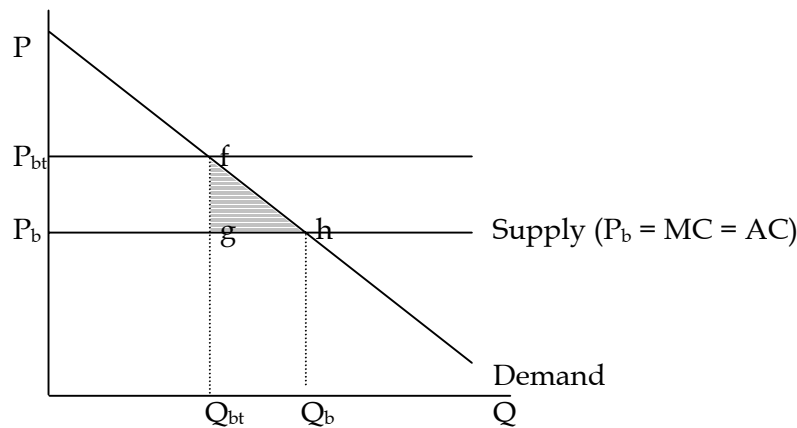


when the tax is levied, the consumer surplus is reduced in size (compare shaded area to previous graph) and consumers lose $P_{bt}fhP_b$, but the government gains revenue $P_{bt}fgP_b$:

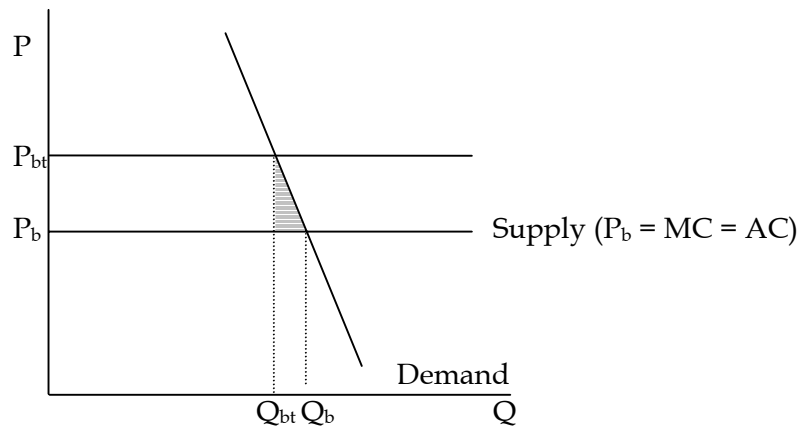


Chapter 12 – Fiscal Policy, page 5 of 8

however, as a result of the tax there is an excess burden (also known as a deadweight loss), which is the consumer surplus lost and not gained by the government; the excess burden is the triangle fgh as shown:



if the supply curve is totally inelastic, then the excess burden is determined by the elasticity of the demand curve; for an inelastic good the excess burden is smaller than for an elastic good; an inelastic demand curve is shown (compare the deadweight losses of the elastic and inelastic demand curves):



thus, in order to maximize the efficiency (minimize the excess burden) of a tax, the government should tax inelastic goods, for which the demand is less responsive to price; however, inelastic goods tend to be less responsive to price because they are necessities

in this case, efficiency objectives run counter to equity objectives; for example, taxes on staple foods would be more efficient than taxes on a luxury item but would hurt the poor more

- increasing government saving:
 - government saving is the difference between tax revenue and the expenditures labeled "government consumption"; government saving can be increased by increasing tax revenue or decreasing government consumption

Chapter 12 – Fiscal Policy, page 6 of 8

- high government consumption can lead to harmful deficits if expenditure is greater than revenue; deficits are often financed by printing money, which increases inflation; thus, organizations like the IMF take measures to reduce government expenditure in developing countries; however, it can be difficult to reduce government expenditure in a developing country because it is already low
- reducing expenditure:

to reduce expenditure, governments in the past have reduced expenditure on maintenance, which has caused expensive projects to have to be rebuilt after a few years because of disrepair; thus, reducing funds for maintenance is not a good way to reduce government expenditure

reducing government employee salaries is not desirable because it leads to greater corruption or lower efficiency (because employees spend time on private sector activities to earn additional income); reducing the number of government employees could be a better way to reduce government expenditure than reducing salaries

reducing military spending is often a favored way to reduce government expenditure, even though military spending is not a large proportion of expenditure, because there is a perception of waste in the military

subsidies to government enterprises, which often run at a loss, can be reduced, or the enterprises can be privatized

- increasing tax revenue:

raising tax rates to increase tax revenue is often not desirable because higher taxes create distortions in the economy (people switch to different activities, a black market develops, etc.)

instead of raising tax rates, the government should increase the effectiveness of tax collection to increase tax revenue

- taxation in developing countries:
 - when implementing a tax, the government should consider both the efficiency and the ultimate incidence of the tax
 - a progressive tax taxes people with higher incomes a higher proportion of their income than people with lower incomes; a proportionate tax taxes all people the same proportion of their income; and a regressive tax taxes people with lower incomes a greater proportion of their income than people with higher incomes
 - income taxes:

income taxes tend in poor countries to be paid by the formal sector employees (who earn high wages) and they therefore tend to be progressive; thus, an income tax might be desirable for equity reasons

- value-added taxes (VAT's):

Chapter 12 – Fiscal Policy, page 7 of 8

value-added taxes have become popular among economists; a VAT is levied on the value-added at each state of production and is paid by the producers of the good or service

different VAT's for consumer and producer goods could be used to encourage investment

- problems of taxation in developing countries:

one of the main problems of developing country governments is operating its tax system effectively

taxation can be part of the institutional infrastructure developing countries need to consider

- although equity and efficiency are important to consider in a tax system, often one must be traded-off for the other; the textbook advocates a broad and neutral system of taxation:

under this system, all citizens would pay the same proportion of their income; equity goals would be achieved by the government by disproportionately spending on the poor (such as by supporting primary schools over universities, preventative healthcare over curative care, etc.)

- cost-benefit analysis:

- page 434, equation 12-2 – the net present value is the discounted stream of benefits and cost:

$$NPV = \sum_{t=0}^n \frac{(B_t - C_t)}{(1-i)^t}$$

NPV = net present value

B_t = the benefits in year t

C_t = the cost in year t

i = the discount rate

the NPV can be used to evaluate how beneficial a project is

- page 434, equation 12-3 – the benefit-cost ratio:

$$BCR = \frac{\sum_{t=0}^n \frac{B_t}{(1-i)^t}}{\sum_{t=0}^n \frac{C_t}{(1-i)^t}}$$

BCR = benefit-cost ratio

B_t = the benefits in year t

C_t = the cost in year t

i = the discount rate

for a project to be worthwhile, it's BCR must be greater than 1

Chapter 12 – Fiscal Policy, page 8 of 8

- the internal rate of return is the best criterion to use when choosing a project; the internal rate of return is defined by:

$$\sum_{t=0}^n \frac{B_t}{(1-r)^t} \equiv \sum_{t=0}^n \frac{C_t}{(1-r)^t}$$

B_t = the benefits in year t

C_t = the cost in year t

r = the internal rate of return

In words, the IRR is that rate that causes discounted benefits to exactly equal discounted costs. It is a sort of “break even” interest rate for the project.

- shadow prices:
 - shadow prices are prices that reflect true scarcity; in theory, shadow prices would prevail in a perfectly competitive economy
 - the actual price does not always equal the shadow price; for example, in the two-sector labor-surplus model, the opportunity cost of the surplus labor in agriculture equals zero because the marginal product of this labor equals zero; thus, the shadow price of this labor equals zero; however, these workers receive the subsistence wage plus the wage premium to move to the industrial sector; thus, the shadow price of the surplus rural labor is not equal to the actual price of the surplus rural labor
 - if prices are distorted in an economy (such as by capped interest rates, overvalued exchange rates, minimum wages, etc.) then shadow prices instead of actual prices should be used in a social cost-benefit analysis; when appraising projects, the rate of return is likely to differ in a social cost-benefit analysis if the shadow price is used instead of the actual price (for example, if the cost of labor is among the costs of a project and if the shadow wage is below the market wage, the IRR of the project is higher when the shadow wage is used in calculating the project’s cost rather than the market wage)
- national goals and project appraisal:
 - shadow prices (instead of actual prices) can be used to consider national goals in a social cost-benefit analysis
 - alternately, the government could attach a monetary value to a national goal in the social cost-benefit accounting method (for example, adding a certain amount of money on the benefits side for each additional job created)