Chapter

22

The Government and Fiscal Policy

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The Government and Fiscal Policy

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$$Y_d \equiv Y - T$$

Chapter Outline

THE GOVERNMENT AND FISCAL POLICY

fiscal policy Kebijakan belanja pemerintah dan kebijakan perpajakan.

monetary policy Perilaku bank sentral menyangkut penawaran uang negara.

GOVERNMENT IN THE ECONOMY

discretionary fiscal policy Perubahan di pajak dan belanja pemerintah yang merupakan hasil perubahan yang disengaja dalam kebijakan pemerintah

GOVERNMENT IN THE ECONOMY

Belanja Pemerintah (*G*), Pajak bersih (*T*), Dan Pendapatan Disposible (Y_D)

net taxes (*T*) Pajak yang dibayar perusahaan atau rumah tangga kepada pemerintah minus transfer payment yang diberikan pada rumah tangga oleh pemerintah

GOVERNMENT IN THE ECONOMY

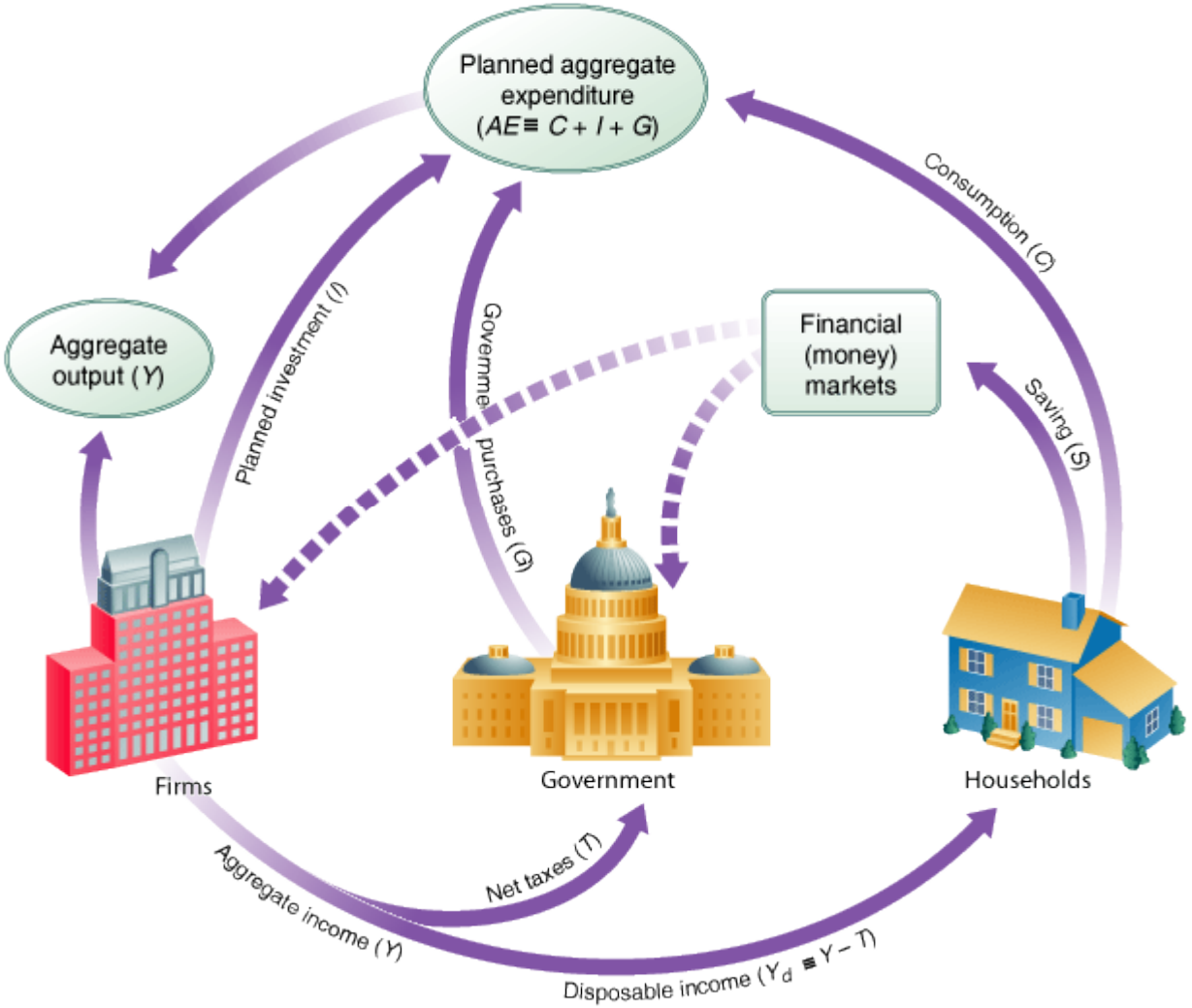


FIGURE 9.1 Adding Net Taxes (*T*) and Government Purchases (*G*) to the Circular Flow of Income

GOVERNMENT IN THE ECONOMY

disposable, or **sesudah pajak, income** (**Y_d**) Total income minus net taxes: $Y - T$.

disposable income ≡ total income − net taxes

$$Y_d \equiv Y - T$$

GOVERNMENT IN THE ECONOMY

When government enters the picture, the aggregate income identity gets cut into three pieces:

$$Y_d \equiv Y - T$$

$$Y_d \equiv C + S$$

$$Y - T \equiv C + S$$

$$Y \equiv C + S + T$$

And aggregate expenditure (*AE*) equals:

$$AE = C + I + G$$

GOVERNMENT IN THE ECONOMY

budget deficit Selisih antara jumlah yang dibelanjakan oleh pemerintah dengan yang diterima dari pajak pada suatu periode tertentu : $G - T$.

budget deficit $\equiv G - T$

T = penerimaan negara
G = belanja negara
Defisit → G > T
Surplus → G < T

GOVERNMENT IN THE ECONOMY

Menambahkan pajak pada fungsi konsumsi

To modify our aggregate consumption function to incorporate disposable income instead of before-tax income, instead of $C = a + bY$, we write

$$C = a + bY_d$$

or

$$C = a + b(Y - T)$$

$C = a + bY_d$
$= a + b(Y - T)$

Our consumption function now has consumption depending on disposable income instead of before-tax income.

GOVERNMENT IN THE ECONOMY

Investasi

Pemerintah dapat mempengaruhi perilaku investasi melalui perlakuan pajaknya atas depresiasi dan kebijakan pajak lain.

GOVERNMENT IN THE ECONOMY

EQUILIBRIUM OUTPUT: $Y = C + I + G$

equilibrium condition: $Y = C + I + G$

TABLE 9.1 Finding Equilibrium for $I = 100$, $G = 100$, and $T = 100$
(All Figures in Billions of Dollars)

(1) OUTPUT (INCOME) Y	(2) NET TAXES T	(3) DISPOSABLE INCOME $Y_d = Y - T$	(4) CONSUMPTION SPENDING ($C = 100 + .75\ Y_d$)	(5) SAVING S ($Y_d - C$)	(6) PLANNED INVESTMENT SPENDING I	(7) GOVERNMENT PURCHASES G	(8) PLANNED AGGREGATE EXPENDITURE $C + I + G$	(9) UNPLANNED INVENTORY CHANGE $Y - (C + I + G)$	(10) ADJUSTMENT TO DISEQUILIBRIUM
300	100	200	250	– 50	100	100	450	– 150	Output ↑
500	100	400	400	0	100	100	600	– 100	Output ↑
700	100	600	550	50	100	100	750	– 50	Output ↑
900	100	800	700	100	100	100	900	0	Equilibrium
1,100	100	1,000	850	150	100	100	1,050	+ 50	Output ↓
1,300	100	1,200	1,000	200	100	100	1,200	+ 100	Output ↓
1,500	100	1,400	1,150	250	100	100	1,350	+ 150	Output ↓

GOVERNMENT IN THE ECONOMY

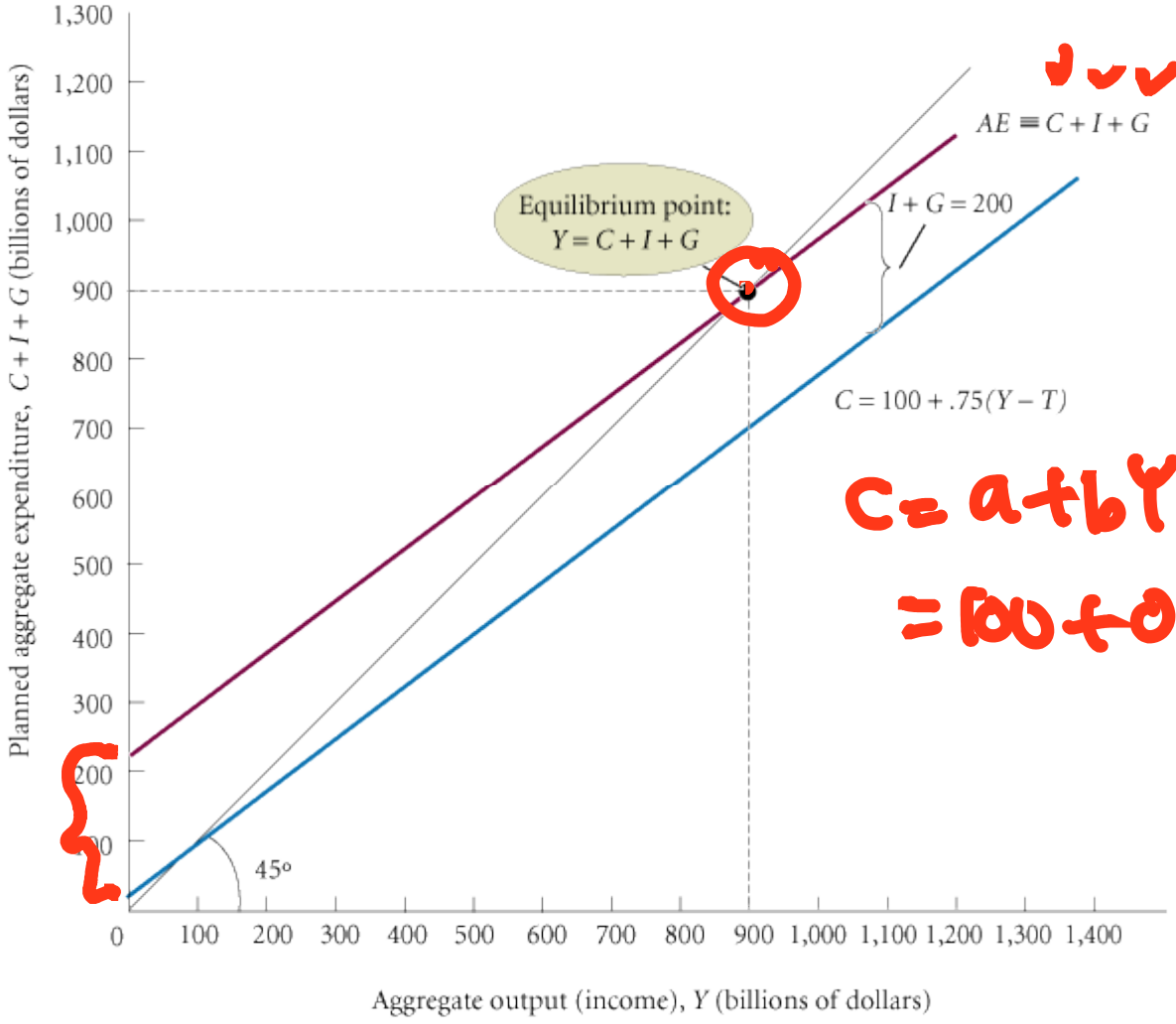


FIGURE 9.2 Finding Equilibrium Output/Income Graphically

GOVERNMENT IN THE ECONOMY

Pendekatan suntikan/bocoran dalam ekuilibrium

Taxes (*T*) are a leakage from the flow of income. Saving (*S*) is also a leakage.

In equilibrium, aggregate output (income) (*Y*) equals planned aggregate expenditure (*AE*), and leakages (*S* + *T*) must equal planned injections (*I* + *G*). Algebraically,

$$AE \equiv C + I + G$$

$$Y \equiv C + S + T$$

$$C + S + T = C + I + G$$

leakages/injections approach to equilibrium: ***S* + *T* = *I* + *G***

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

THE GOVERNMENT SPENDING MULTIPLIER

TABLE 9.2 Finding Equilibrium After a $50 Billion Government Spending Increase (All Figures in Billions of Dollars; *G* Has Increased from 100 in Table 9.1 to 150 Here)

(1) OUTPUT (INCOME) *Y*	(2) NET TAXES *T*	(3) DISPOSABLE INCOME $Y_d = Y - T$	(4) CONSUMPTION SPENDING ($C = 100 + .75\ Y_d$)	(5) SAVING *S* ($Y_d - C$)	(6) PLANNED INVESTMENT SPENDING *I*	(7) GOVERNMENT PURCHASES *G*	(8) PLANNED AGGREGATE EXPENDITURE $C + I + G$	(9) UNPLANNED INVENTORY CHANGE $Y - (C + I + G)$	(10) ADJUSTMENT TO DISEQUILIBRIUM
300	100	200	250	– 50	100	150	500	– 200	Output
500	100	400	400	0	100	150	650	– 150	Output
700	100	600	550	50	100	150	800	– 100	Output
900	100	800	700	100	100	150	950	– 50	Output
1,100	100	1,000	850	150	100	150	1,100	0	Equilibrium
1,300	100	1,200	1,000	200	100	150	1,250	+ 50	Output

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

$$\text{government spending multiplier} = \frac{1}{MPS}$$

Multiplier belanja pemerintah
Rasio perubahan dalam tingkat ekuilibrium output terhadap perubahan belanja pemerintah.

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

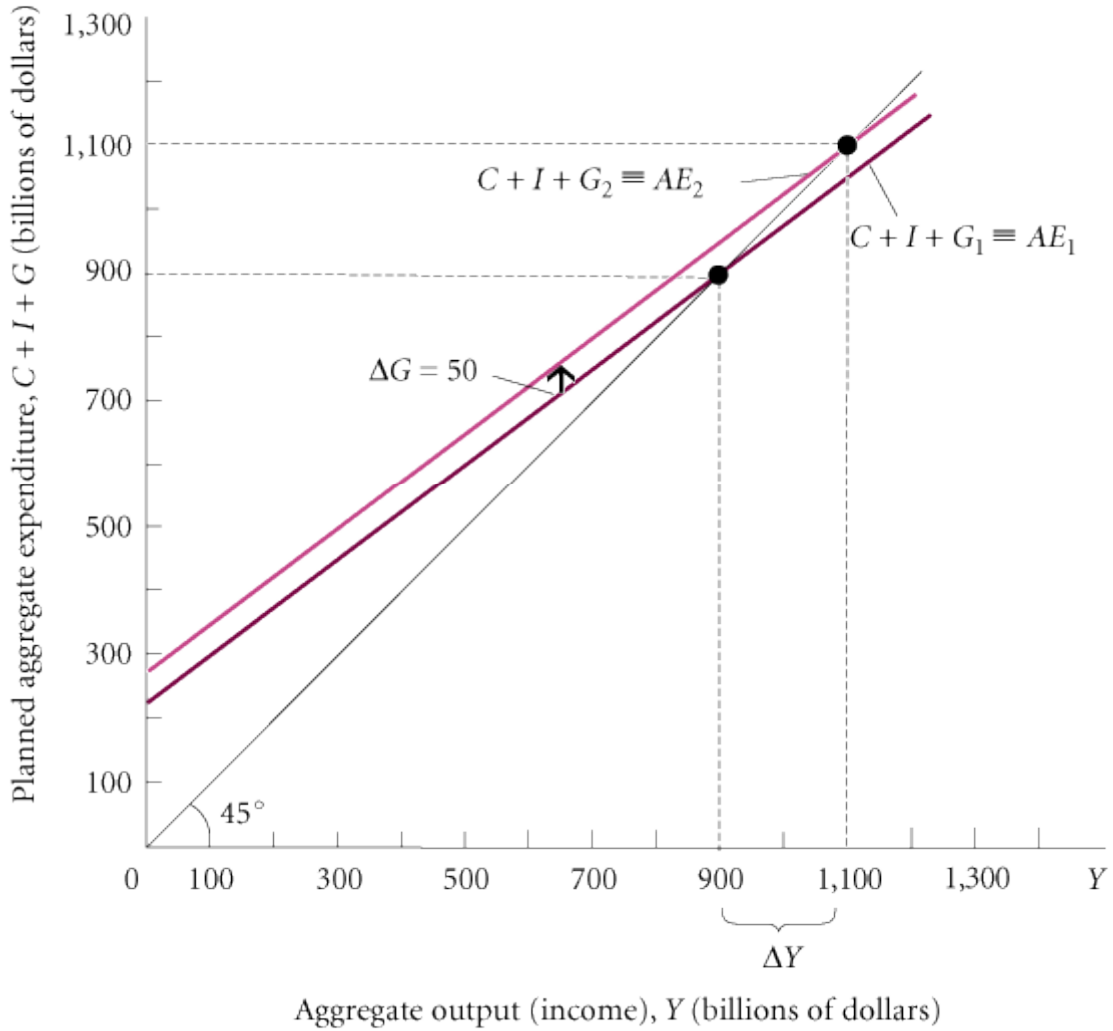


FIGURE 9.3 The Government Spending Multiplier

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

THE TAX MULTIPLIER

The multiplier for a change in taxes is *not* the same as the multiplier for a change in government spending.

tax multiplier The ratio of change in the equilibrium level of output to a change in taxes.

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

$$\Delta Y = \text{(initial increase in aggregate expenditure)} \times \left(\frac{1}{MPS}\right)$$

$$\Delta Y = (-\Delta T \times MPC) \times \left(\frac{1}{MPS}\right) = -\Delta T \times \left(\frac{MPC}{MPS}\right)$$

$$\text{tax multiplier} \equiv \left(\frac{MPC}{MPS}\right)$$

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

Angka Pengganda Anggaran Berimbang

balanced-budget multiplier The ratio of change in the equilibrium level of output to a change in government spending where the change in government spending is balanced by a change in taxes so as not to create any deficit. The balanced-budget multiplier is equal to 1: The change in *Y* resulting from the change in *G* and the equal change in *T* is exactly the same size as the initial change in *G* or *T* itself.

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

$$\text{balanced-budget multiplier} = 1$$

An increase in government spending has a direct initial effect on planned aggregate expenditure; a tax increase does not. The initial effect of the tax increase is that households cut consumption by the MPC times the change in taxes. This change in consumption is less than the change in taxes, because the MPC is less than 1. The positive stimulus from the government spending increase is thus greater than the negative stimulus from the tax increase. The net effect is that the balanced-budget multiplier is 1.

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

TABLE 9.3 Finding Equilibrium After a $200-Billion Balanced-Budget Increase in *G* and *T* (All Figures in Billions of Dollars; Both *G* and *T* Have Increased from 100 in Table 9.1 to 300 Here)

(1) OUTPUT (INCOME) *Y*	(2) NET TAXES *T*	(3) DISPOSABLE INCOME $Y_d \equiv Y - T$	(4) CONSUMPTION SPENDING ($C = 100 + .75\ Y_d$)	(5) PLANNED INVESTMENT SPENDING *I*	(6) GOVERNMENT PURCHASES *G*	(7) PLANNED AGGREGATE EXPENDITURE $C + I + G$	(8) UNPLANNED INVENTORY CHANGE $Y - (C + I + G)$	(9) ADJUSTMENT TO DISEQUILIBRIUM
500	300	200	250	100	300	650	– 150	Output
700	300	400	400	100	300	800	– 100	Output
900	300	600	550	100	300	950	– 50	Output
1,100	300	800	700	100	300	1,100	0	Equilibrium
1,300	300	1,000	850	100	300	1,250	+ 50	Output
1,500	300	1,200	1,000	100	300	1,400	+ 100	Output

FISCAL POLICY AT WORK: MULTIPLIER EFFECTS

TABLE 9.4 Summary of Fiscal Policy Multipliers

	POLICY STIMULUS	MULTIPLIER	FINAL IMPACT ON EQUILIBRIUM *Y*
Government-spending multiplier	Increase or decrease in the level of government purchases: ×	×	×
Tax multiplier	Increase or decrease in the level of net taxes: ×	×	×
Balanced-budget multiplier	Simultaneous balanced-budget increase or decrease in the level of government purchases and net taxes: ×	1	×

THE FEDERAL BUDGET

federal budget The budget of the federal government.

THE FEDERAL BUDGET

THE BUDGET

TABLE 9.5 Federal Government Receipts and Expenditures, 2004 (Billions of Dollars)

	AMOUNT	PERCENTAGE OF TOTAL
Receipts		
Personal income taxes	801.8	40.6
Excise taxes and custom duties	94.0	4.8
Corporate income taxes	217.4	11.0
Taxes from the rest of the world	9.2	0.5
Contributions for social insurance	802.5	40.6
Interest receipts and rents and royalties	21.9	1.1
Current transfer receipts from business and persons	28.6	1.4
Current surplus of government enterprises	− 0.5	0.0
Total	1,974.8	100.0
Current Expenditures		
Consumption expenditures	725.7	30.5
Transfer payments to persons	1,014.0	42.6
Transfer payments to the rest of the world	28.9	1.2
Grants-in-aid to state and local governments	348.3	14.6
Interest payments	221.5	9.3
Subsidies	43.0	1.8
Total	2,381.3	100.0
Net federal government saving—surplus (+) or deficit (−)		
(total current receipts − total current expenditures)	− 406.5	

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

THE FEDERAL BUDGET

THE SURPLUS OR DEFICIT

federal surplus (+) or deficit (−) Federal government receipts minus expenditures.

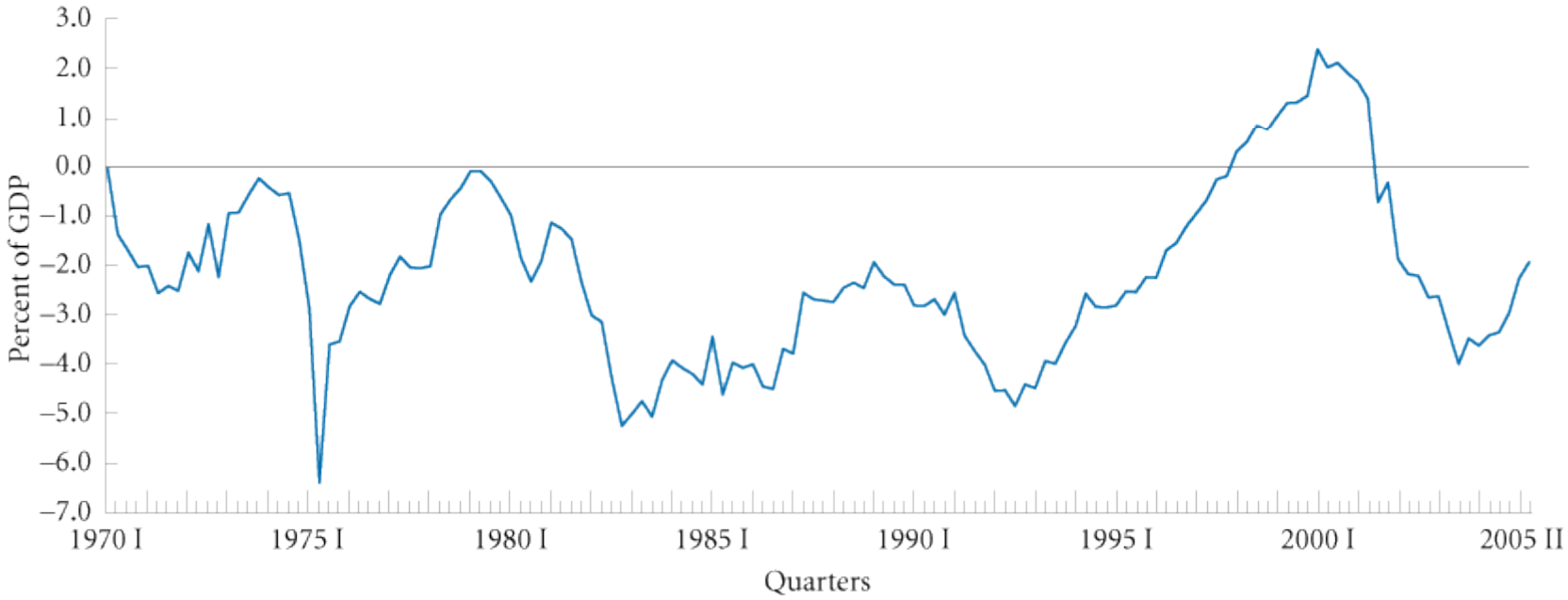


FIGURE 9.4 The Federal Government Surplus (+) or Deficit (−) as a Percentage of GDP, 1970 I–2005 II

THE FEDERAL BUDGET

THE DEBT

federal debt The total amount owed by the federal government.

privately held federal debt The privately held (nongovernment-owned) debt of the U.S. government.

THE FEDERAL BUDGET

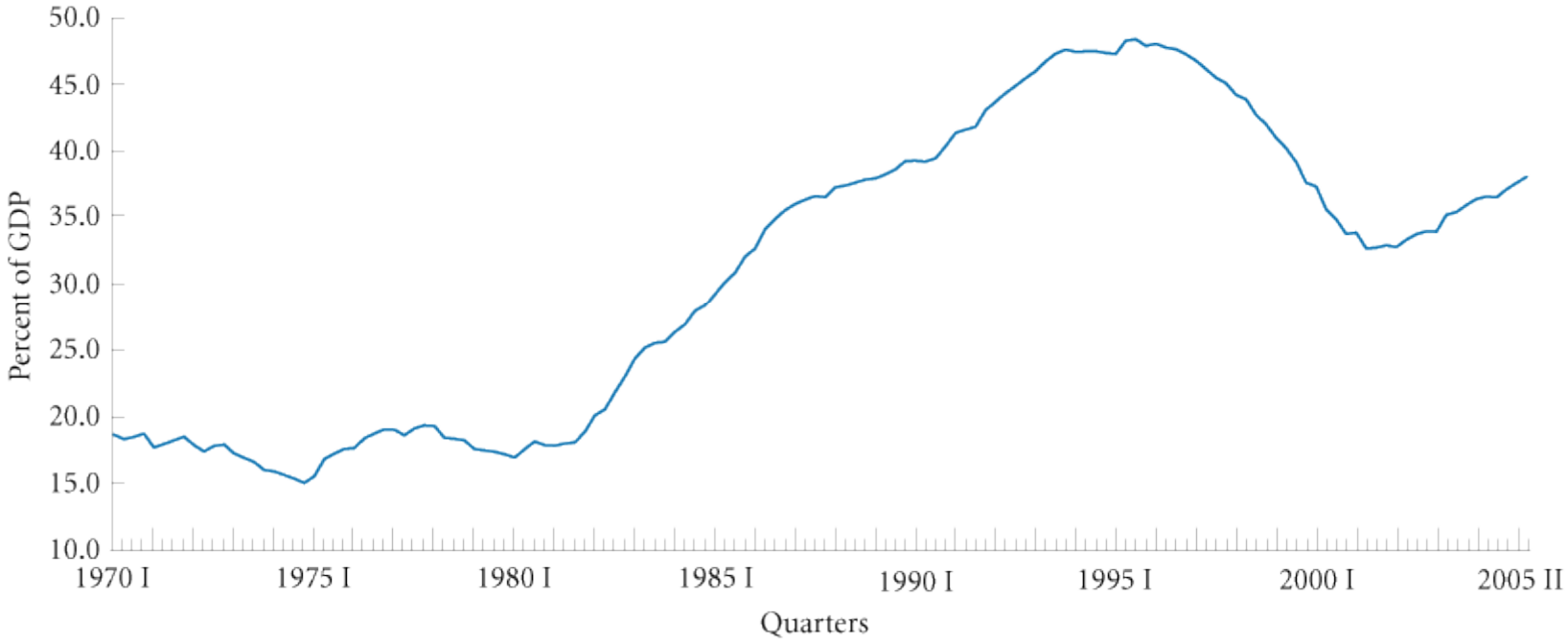


FIGURE 9.5 The Federal Government Debt as a Percentage of GDP, 1970 I–2005 II

THE ECONOMY'S INFLUENCE ON THE GOVERNMENT BUDGET

TAX REVENUES DEPEND ON THE STATE OF THE ECONOMY

Tax revenue depends on taxable income, and income depends on the state of the economy, which the government does *not* control.

THE ECONOMY'S INFLUENCE ON THE GOVERNMENT BUDGET

SOME GOVERNMENT EXPENDITURES DEPEND ON THE STATE OF THE ECONOMY

Transfer payments tend to go down automatically during an expansion.

Inflation often picks up when the economy is expanding. This can lead the government to spend more than it had planned to spend.

Any change in the interest rate changes government interest payments.

THE ECONOMY'S INFLUENCE ON THE GOVERNMENT BUDGET

AUTOMATIC STABILIZERS

automatic stabilizers Revenue and expenditure items in the federal budget that automatically change with the state of the economy in such a way as to stabilize GDP.

THE ECONOMY'S INFLUENCE ON THE GOVERNMENT BUDGET

FISCAL DRAG

fiscal drag The negative effect on the economy that occurs when average tax rates increase because taxpayers have moved into higher income brackets during an expansion.

THE ECONOMY'S INFLUENCE ON THE GOVERNMENT BUDGET

FULL-EMPLOYMENT BUDGET

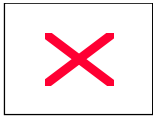
full-employment budget What the federal budget would be if the economy were producing at a full-employment level of output.

structural deficit The deficit that remains at full employment.

cyclical deficit The deficit that occurs because of a downturn in the business cycle.

REVIEW TERMS AND CONCEPTS

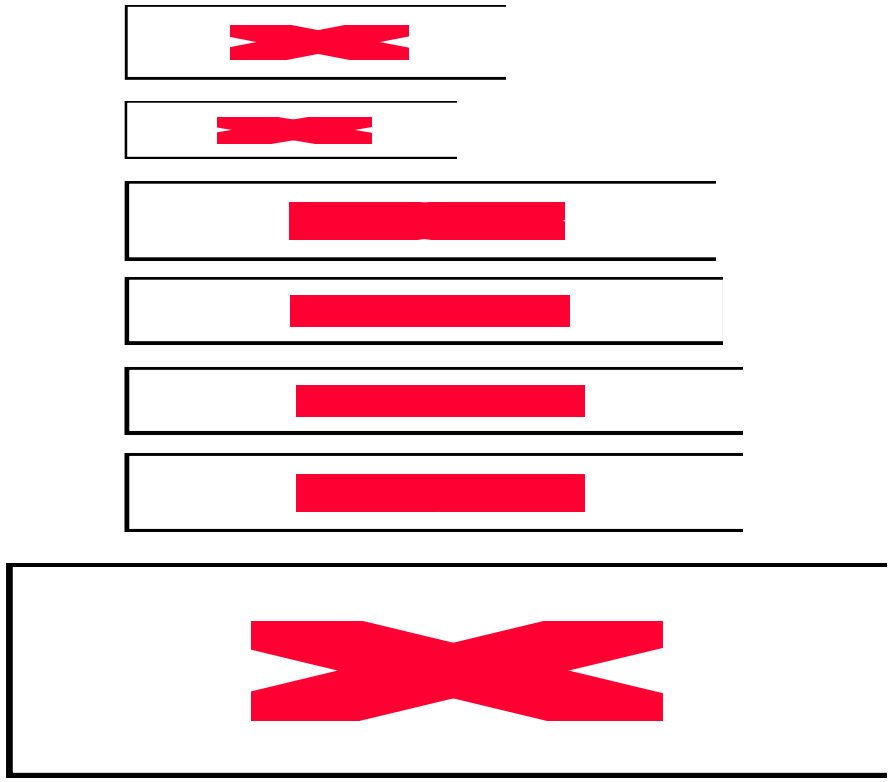
automatic stabilizers
balanced-budget multiplier
budget deficit
cyclical deficit
discretionary fiscal policy
disposable, or after-tax, income (Y_d)
federal budget
federal debt
federal surplus (+) or deficit (−)
fiscal drag
fiscal policy
full-employment budget
government spending multiplier
monetary policy
net taxes (T)
privately held federal debt
structural deficit
tax multiplier

1. Disposable income $Yd \equiv Y - T$
2. $AE \equiv C + I + G$
3. Government budget deficit $\equiv G - T$
4. Equilibrium in an economy with government: $Y = C + I + G$
5. Leakages/injections approach to equilibrium in an economy with government: $S + T = I + G$
6. Government spending multiplier $\equiv$ 
7. Tax multiplier $\equiv$ 
8. Balanced-budget multiplier $\equiv 1$

Appendix A

DERIVING THE FISCAL POLICY MULTIPLIERS

THE GOVERNMENT SPENDING AND TAX MULTIPLIERS

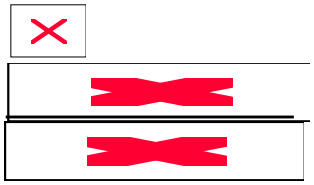


Appendix A

THE BALANCED-BUDGET MULTIPLIER

The balanced-budget multiplier is found by combining the effects of government spending and taxes:

increase in spending:
- decrease in spending:
= net increase in spending



In a balanced-budget increase, $\Delta G = \Delta T$, so we can substitute:

net initial increase in spending:

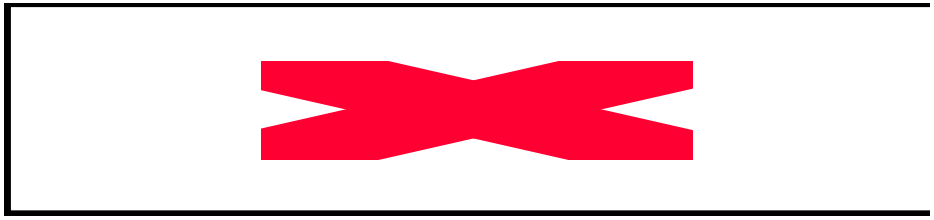
$$\Delta G - \Delta G\,(MPC) = \Delta G\,(1 - MPC)$$

Appendix A

Because *MPS* = (1 − *MPC*), the net initial increase in spending is:

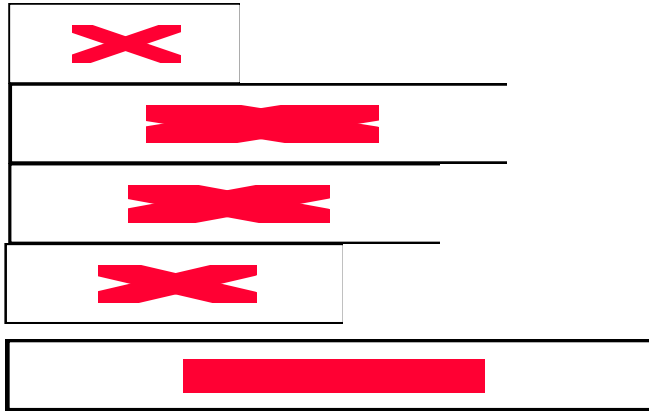
$$\Delta G\ (MPS)$$

We can now apply the expenditure multiplier to this net initial increase in spending:



Appendix B

THE CASE IN WHICH TAX REVENUES DEPEND ON INCOME



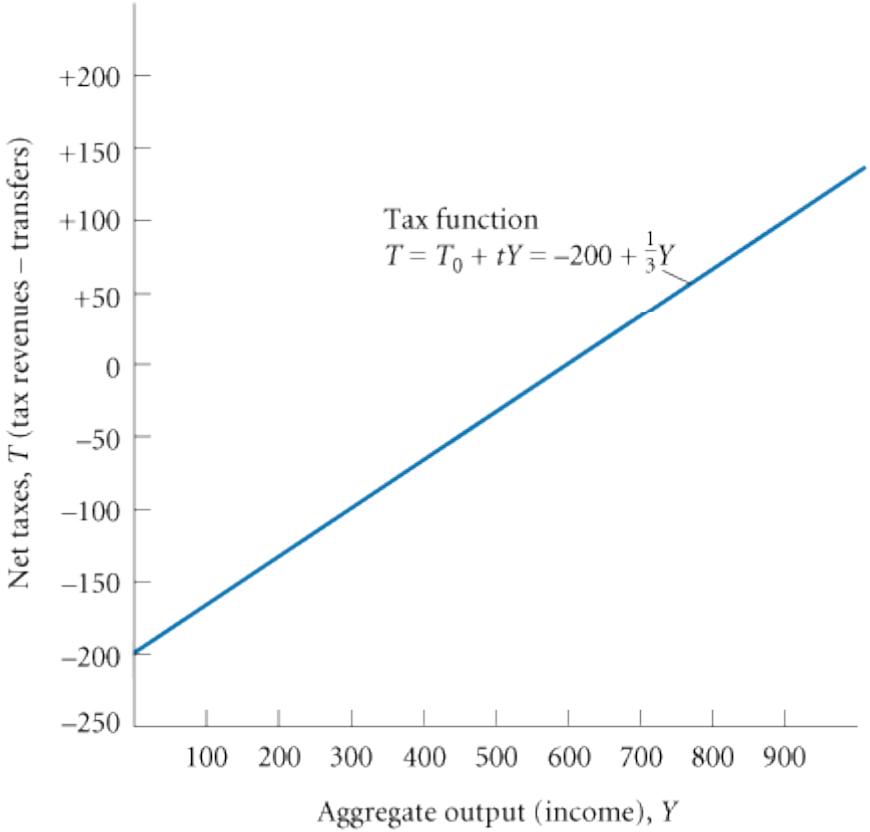
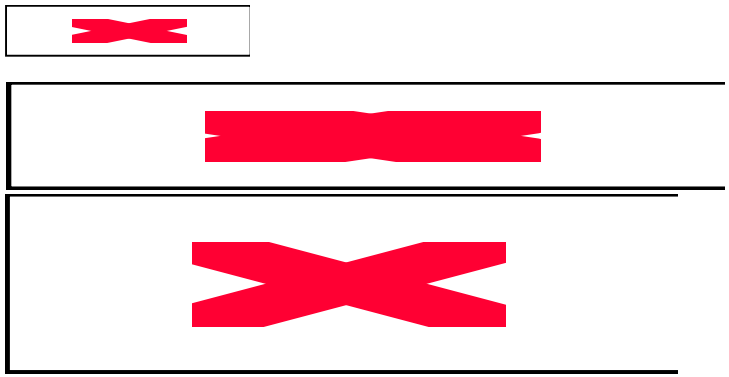


FIGURE 9B.1 The Tax Function

Appendix B



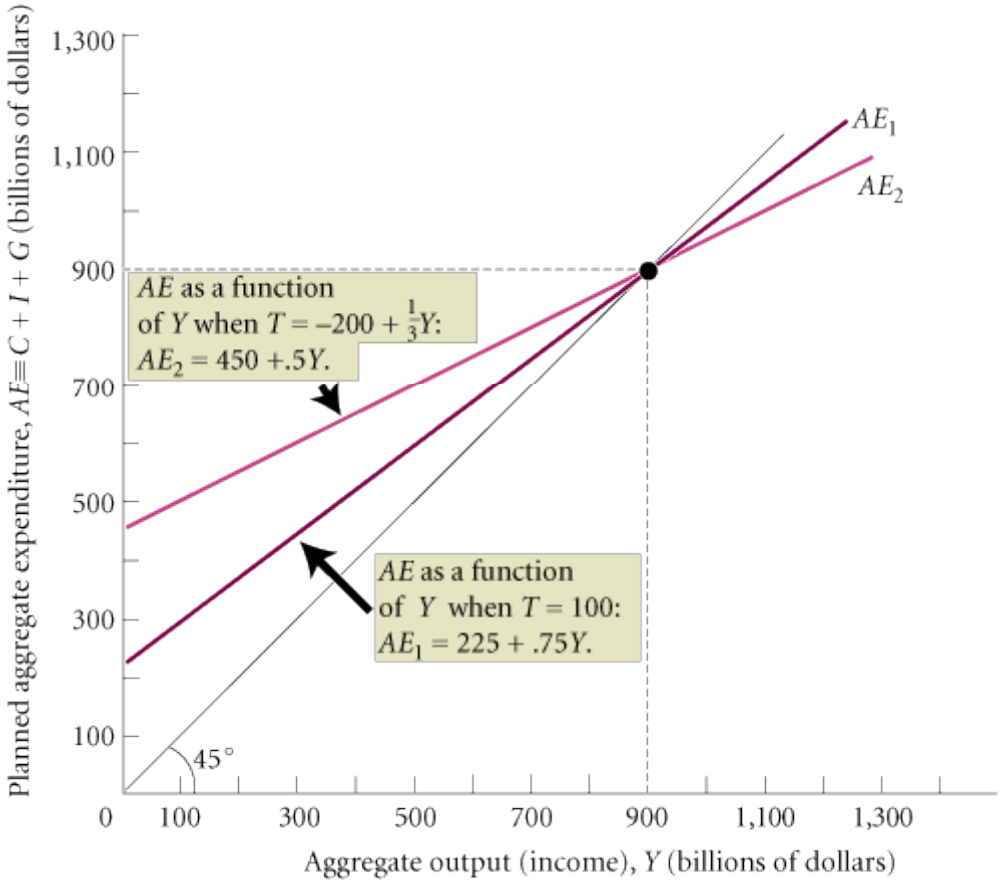


FIGURE 9B.2 Different Tax Systems

Appendix B

THE GOVERNMENT SPENDING AND TAX MULTIPLIERS ALGEBRAICALLY