

Government and Fiscal Policy

The Government and Fiscal Policy

- In macroeconomics, the policy instruments are fiscal policy and monetary policy.
- **fiscal policy** The government's spending and taxing policies.
- **monetary policy** The behavior of the Federal Reserve concerning the nation's money supply.

Government in the Economy

- Taxes and government spending often go up or down in response to changes in the economy.
- **discretionary fiscal policy** Changes in taxes or spending that are the result of deliberate changes in government policy.

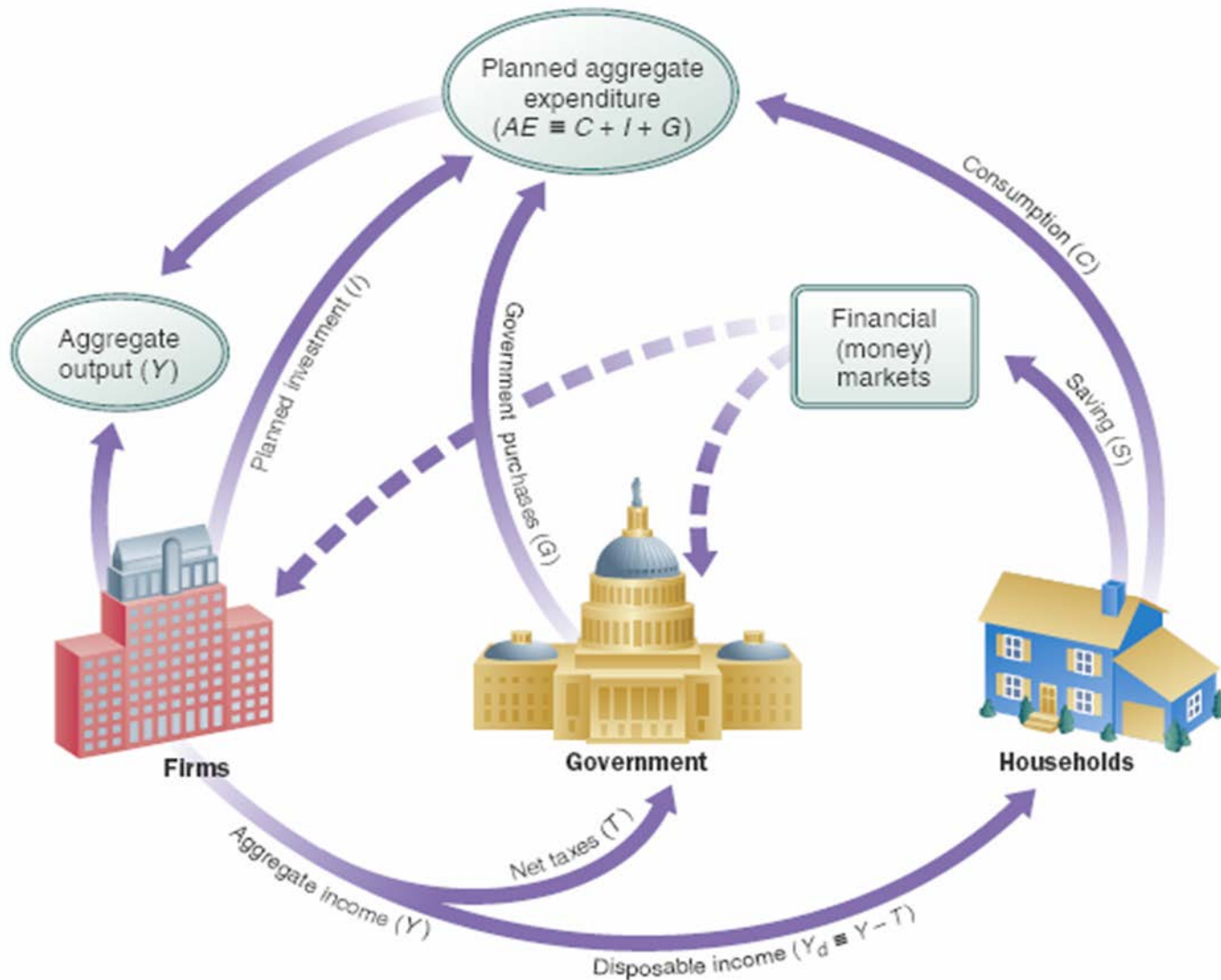
Government Purchases (G), Net Taxes (T), and Disposable Income (Y_d) *(1 of 5)*

- **net taxes (T)** Taxes paid by firms and households to the government minus transfer payments made to households by the government.
- **disposable, or after-tax, income (Y_d)** Total income minus net taxes: $Y - T$.

disposable income $\equiv$ total income – net taxes

$$Y_d \equiv Y - T$$

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



Government Purchases (G), Net Taxes (T), and Disposable Income (Y_d) (2 of 5)

$$Y_d \equiv C + S$$

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

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

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

Government Purchases (G), Net Taxes (T), and Disposable Income (Y_d) *(3 of 5)*

- **budget deficit** The difference between what a government spends and what it collects in taxes in a given period: $G - T$.

$$\text{budget deficit} \equiv G - T$$

Government Purchases (G), Net Taxes (T), and Disposable Income (Y_d) (4 of 5)

Adding Taxes to the Consumption Function

- To modify our aggregate consumption function to incorporate disposable income:

$$C = a + bY_d$$

Or:

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

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

Government Purchases (G), Net Taxes (T), and Disposable Income (Y_d) *(5 of 5)*

Planned Investment

- The government can affect investment behavior through its tax treatment of depreciation and other tax policies.
- Planned investment depends on the interest rate.

The Determination of Equilibrium Output (Income) *(1 of 2)*

$$Y = AE$$

and:

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

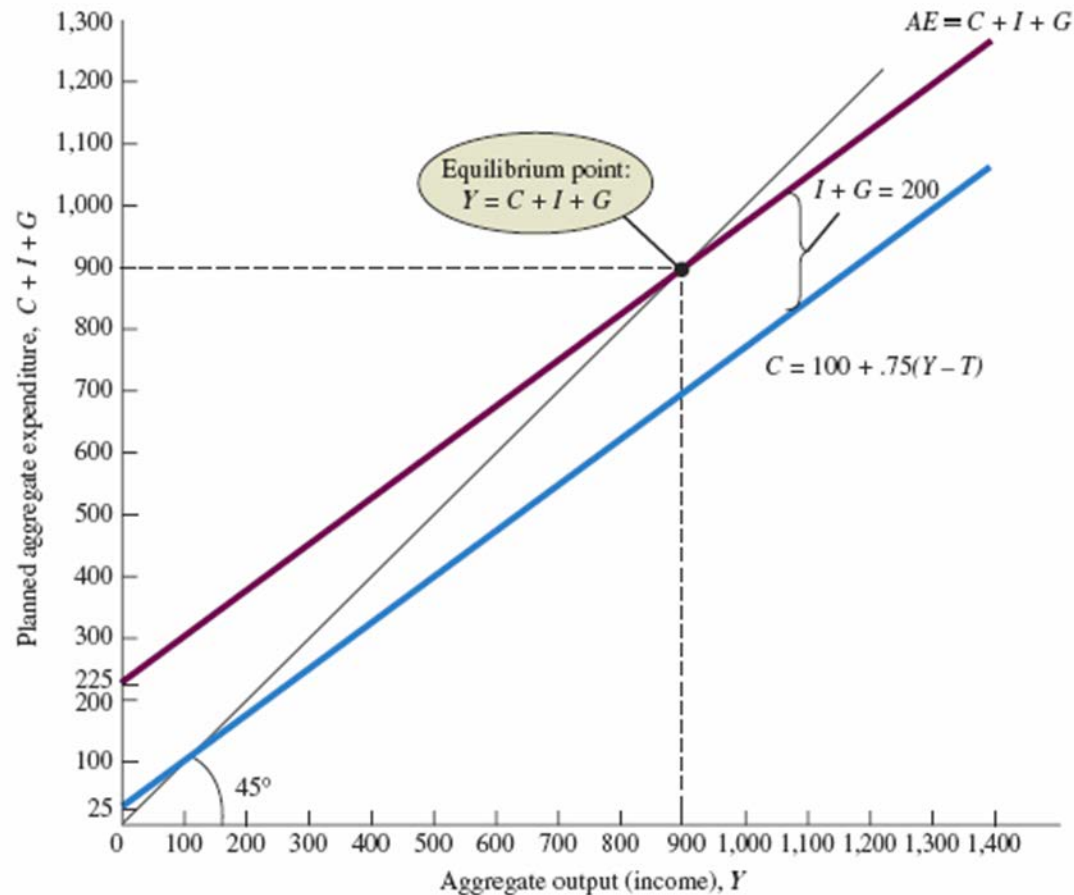
So, equilibrium is:

$$Y = C + I + G$$

TABLE 9.1 Finding Equilibrium for $I = 100$, $G = 100$, and $T = 100$

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	
Output (Income) Y	Net Taxes T	Disposabl e Income $Y_d \equiv Y - T$	Consump tion Spending $C = 100 + .75 Y_d$	Saving S $Y_d - C$	Planned Investmen t Spending I	Govern ment Purchas es G	Planned Aggregat e Expendit ure $C + I + G$	Unplanned Inventory Change $Y - (C + I + G)$	Adjustment to Dis- equilibrium	
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	

FIGURE 9.2 Finding Equilibrium Output/Income Graphically



Because G and I are both fixed at 100, the aggregate expenditure function is the new consumption function displaced upward by $I + G = 200$.

Equilibrium occurs at $Y = C + I + G = 900$.

The Determination of Equilibrium Output (Income) *(2 of 2)*

The Saving/Investment Approach to Equilibrium

$$S + T = I + G$$

In equilibrium, $Y = AE$.

$$AE \equiv C + I + G \text{ and } Y \equiv C + S + T$$

So, at equilibrium:

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

$$S + T = I + G$$

Fiscal Policy at Work: Multiplier Effects

- At this point, we are assuming that the government controls G and T .
- We now review three multipliers:
 - Government spending multiplier
 - Tax multiplier
 - Balanced-budget multiplier

The Government Spending Multiplier

$$\text{government spending Multiplier} \equiv \frac{1}{MPS} \equiv \frac{1}{1 - MPC}$$

- **government spending multiplier** The ratio of the change in the equilibrium level of output to a change in government spending.

TABLE 9.2 Finding Equilibrium after a Government Spending Increase of 50*

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Output (Income) Y	Net Taxes T	Disposabl e Income $Y_d \equiv Y - T$	Consump tion Spending $C = 100 + .75 Y_d$	Saving S $Y_d - C$	Planned Investmen t Spending I	Govern ment Purchas es G	Planned Aggregat e Expendit ure $C + I + G$	Unplanned Inventory Change $Y - (C + I + G)$	Adjustment to Dis- equilibrium
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 ↑

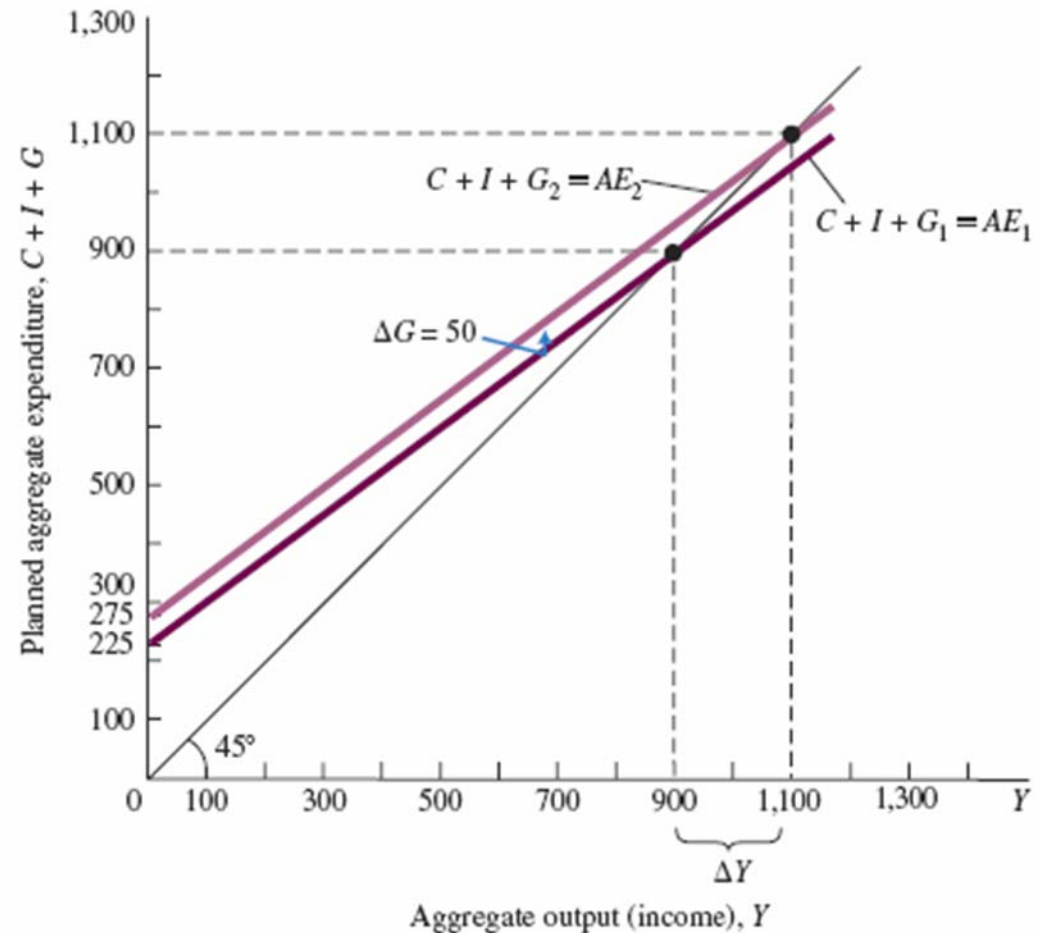
* G has increased from 100 in Table 24.1 to 150 here.

FIGURE 9.3 The Government Spending Multiplier

Increasing government spending by 50 shifts the AE function up by 50.

As Y rises in response, additional consumption is generated.

Overall, the equilibrium level of Y increases by 200, from 900 to 1,100.



The Tax Multiplier

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

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

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

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