# Understanding Economics

2nd edition

by Mark Lovewell and Khoa Nguyen

## Chapter 12
## **Fiscal Policy**

# Chapter Focus

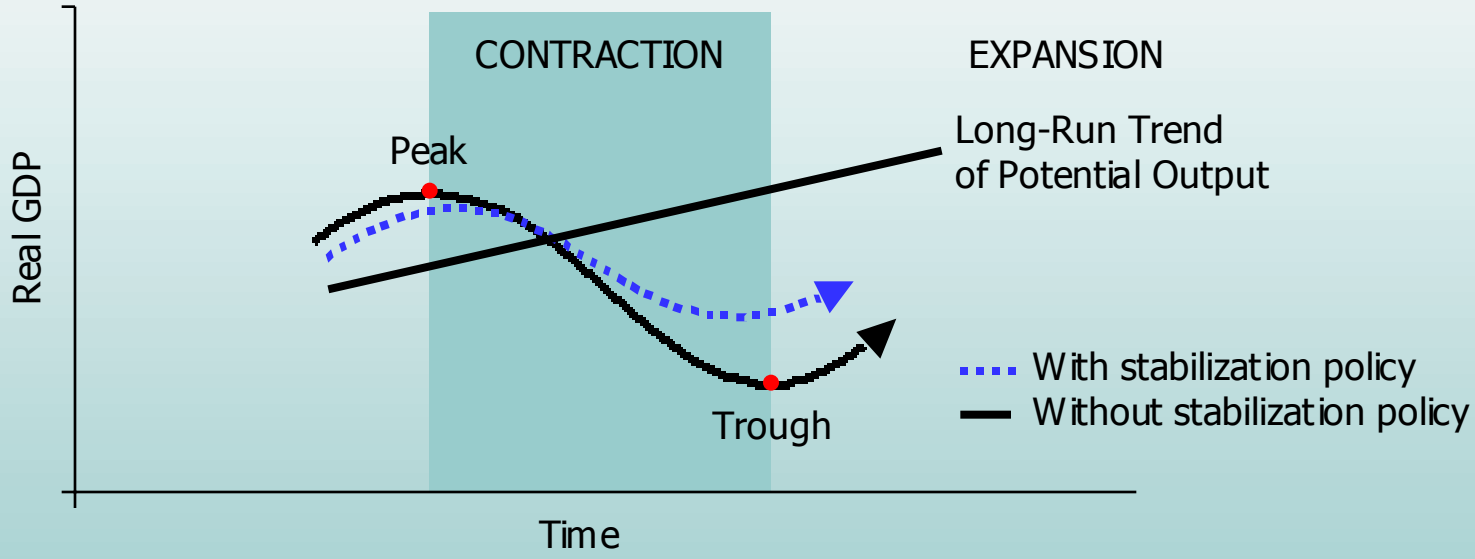
In this chapter, you will:

- learn about expansionary and contractionary fiscal policies, which are used by governments seeking economic stability
- analyze the multiplier effect of fiscal policy, as determined by the marginal propensities to consumer and withdraw
- consider budget surpluses and deficits and their impact on public debt and public debt charges

# Stabilization Policies (a)

- Stabilization policy is government policy designed to lessen the effects of the business cycle
  - can be either expansionary or contractionary
  - expansionary policy attempts to reduce unemployment and stimulate output
  - contractionary policy attempts to stabilize prices and reduce output

# Stabilization Policy and the Business Cycle Figure 12.1, Page 289

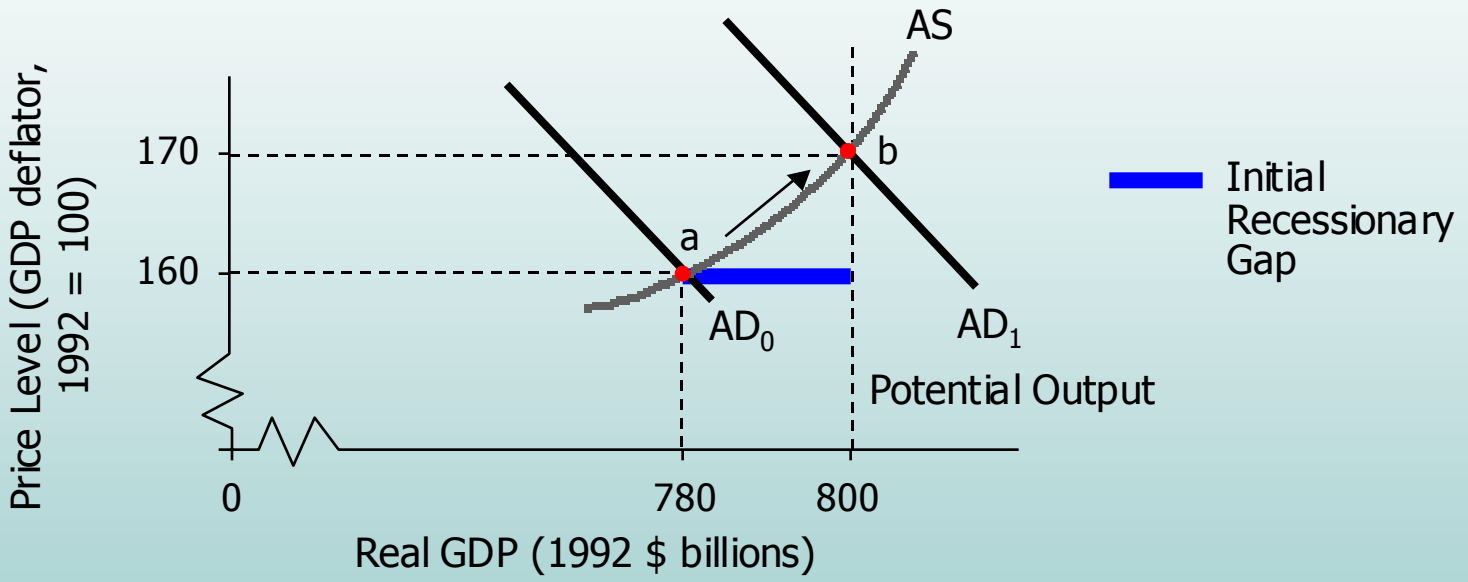


# Stabilization Policies (b)

- Stabilization policy can take the form of either fiscal policy or monetary policy
  - fiscal policy uses taxes and government purchases
    - expansionary fiscal policy involves more government purchases and/or lower taxes to shift AD rightward
    - contractionary fiscal policy involves fewer government purchases and/or increased taxes to shift AD leftward
  - monetary policy uses interest rates and the money supply

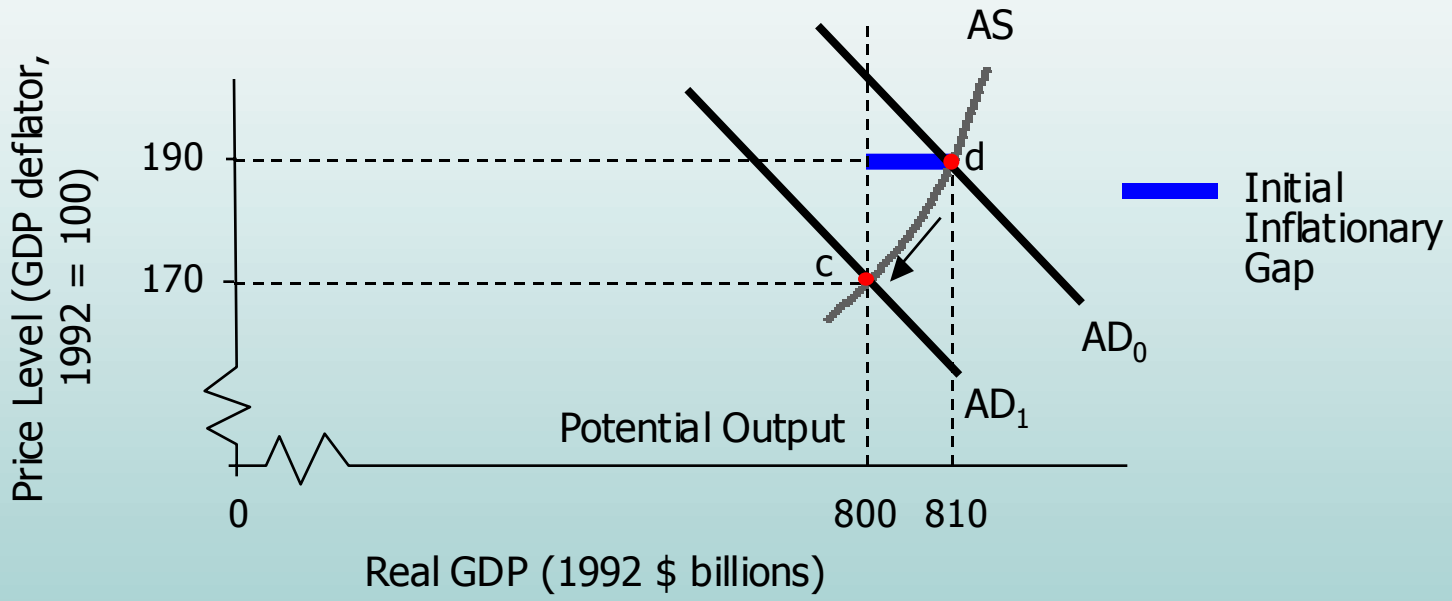
# Expansionary Fiscal Policy

Figure 12.2, page 290



# Contractionary Fiscal Policy

## Figure 12.3, Page 291



# Discretionary Policies Versus Automatic Stabilizers

- Discretionary policy is intentional government intervention in the economy
- Automatic stabilizers are built-in measures such as taxes and transfer payments to lessen the effects of the business cycle
  - a contracting economy decreases net tax revenues which increases spending and incomes
  - an expanding economy increases net tax revenues which decreases spending and incomes

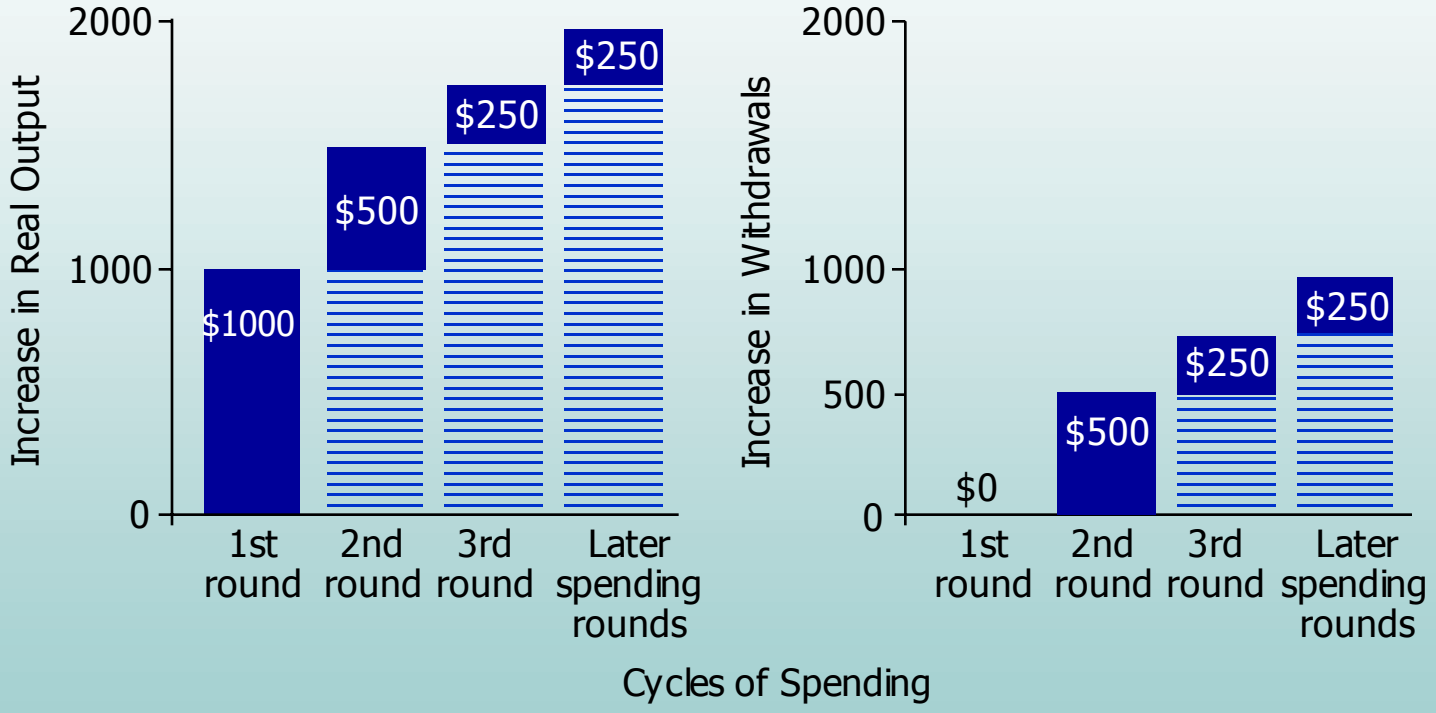
# The Multiplier Effect (a)

- The multiplier effect is the magnified impact of a spending change on AD
  - an initial spending change produces income and part of this new income becomes new spending
  - this process is repeated with each spending round smaller than the last

# The Multiplier Effect (b)

- each new spending round is determined by the marginal propensity to consume (MPC) which measures the effect of an income change on domestic consumption
- each new spending round is also determined by the marginal propensity to withdraw (MPW) which measures the effect of an income change on withdrawals (with MPC and MPW always summing to one)

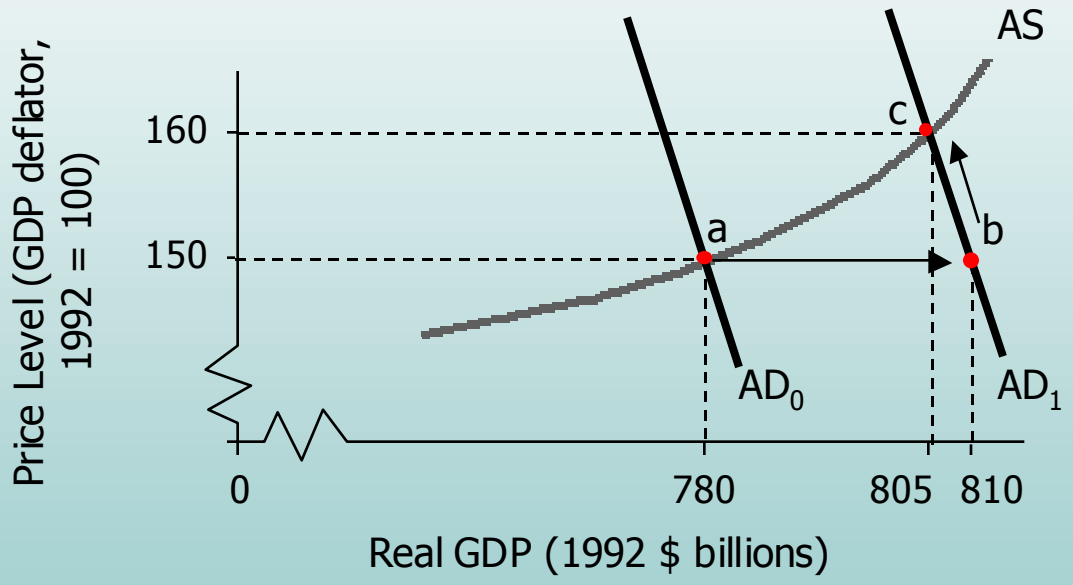
# The Effect of a Rise in Government Purchases Figure 12.4, Page 294



# The Spending Multiplier

- The spending multiplier
  - is the value by which an initial spending change is multiplied to give the total shift in the AD curve
  - equals (1/MPW)
- The actual change in equilibrium output is less than the change in AD found using the spending multiplier because of price changes

# The Multiplier Effect and Price Changes Figure 12.5, Page 297



# Changes in Government Purchases Versus Tax Changes

- A change in government purchases causes an initial spending change of the same amount (and in the same direction)
- A tax change has a smaller initial impact on spending (and in the opposite direction)
  - the initial spending change is found by multiplying the tax change by the marginal propensity to consume (and then reversing the sign of this change)

# The Benefits and Drawbacks of Fiscal Policy

- Fiscal policy has two main benefits
  - it can be focused on particular regions
  - it has a relatively direct impact on spending
- Fiscal policy has three main drawbacks
  - it is subject to delays (recognition lag, decision lag, impact lag)
  - it is closely related to public debt which is the total amount owed by the federal government as a result of past borrowing

# The Impact of Fiscal Policy (a)

- A government is running a
  - balanced budget when its expenditures and revenues are equal
  - budget surplus when its revenues exceed its expenditures
  - budget deficit when its expenditures exceed its revenues

# The Impact of Fiscal Policy (b)

- When a government has a
  - budget deficit its debt increases by the same amount
  - budget surplus its debt decreases by the same amount
- In the past the federal government tended to run budget deficits
- Because of past borrowing the federal government pays large public debt charges

# Fiscal Policy Guidelines

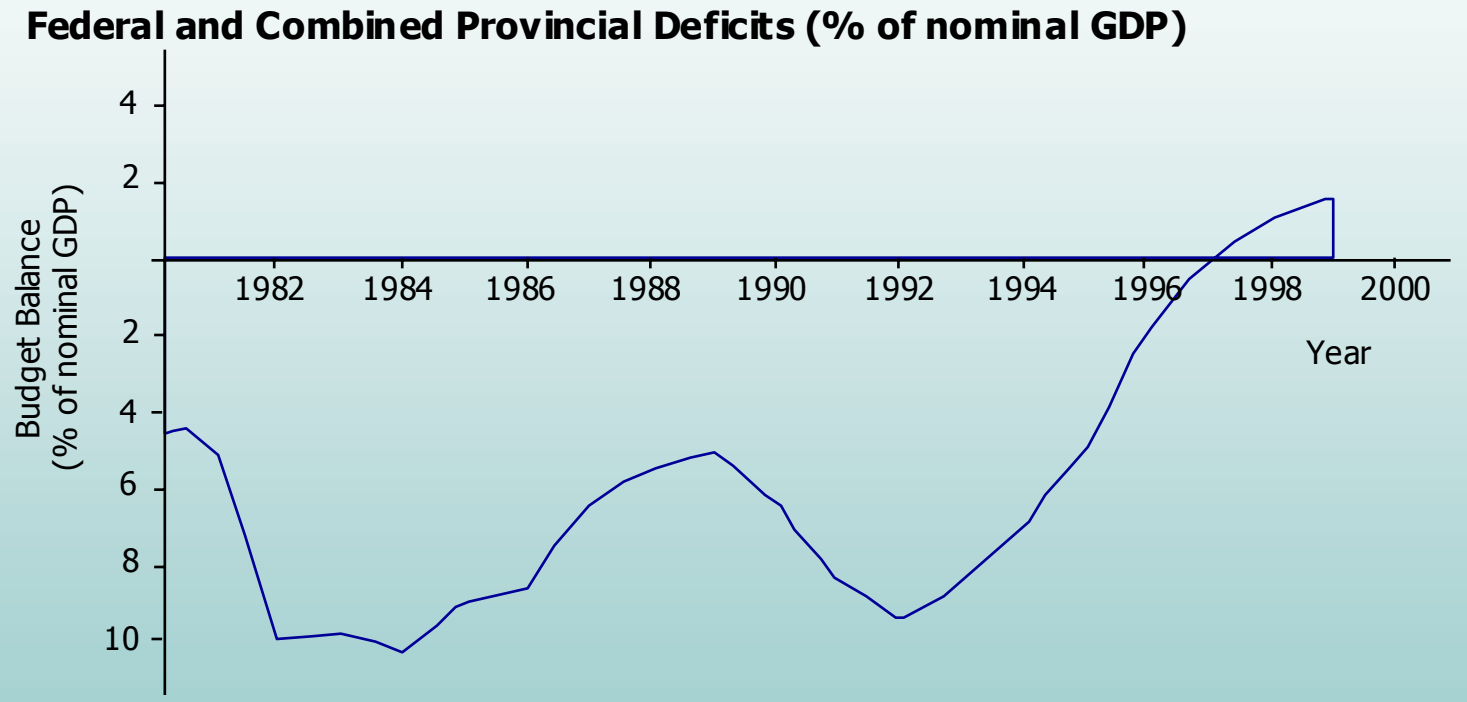
- There are three principles that can guide government fiscal policy
  - annually balanced budgets
  - cyclically balanced budgets
  - functional finance

# Recent Fiscal Policy in Canada

- There has been a move from functional finance toward cyclically balanced budgets
- Total government deficits were highest during the early 1980s and 1990s
  - the 1980s deficits were largely discretionary, while the 1990s deficits were related to automatic stabilizers
  - the late 1990s budget surpluses were due to automatic stabilizers, lower interest rates, and government spending cuts

# Budget Balances Relative to GDP

Figure 12.6, Page 303



# The Aggregate Expenditures Model

- The aggregate demand and aggregate supply approach highlights the impact of price changes on spending and output.
- In contrast, the aggregate expenditures model focuses on individual spending components while assuming that the price level is constant.

# Consumption and Saving (a)

- Households divide their disposable income (DI) between consumption (C) and saving (S).
- We assume the only component of C to change with DI is purchases of domestically produced goods.
  - Then the effect of a change in DI on consumption is shown by MPC and the effect on saving is shown by MPS.

# Consumption and Saving (b)

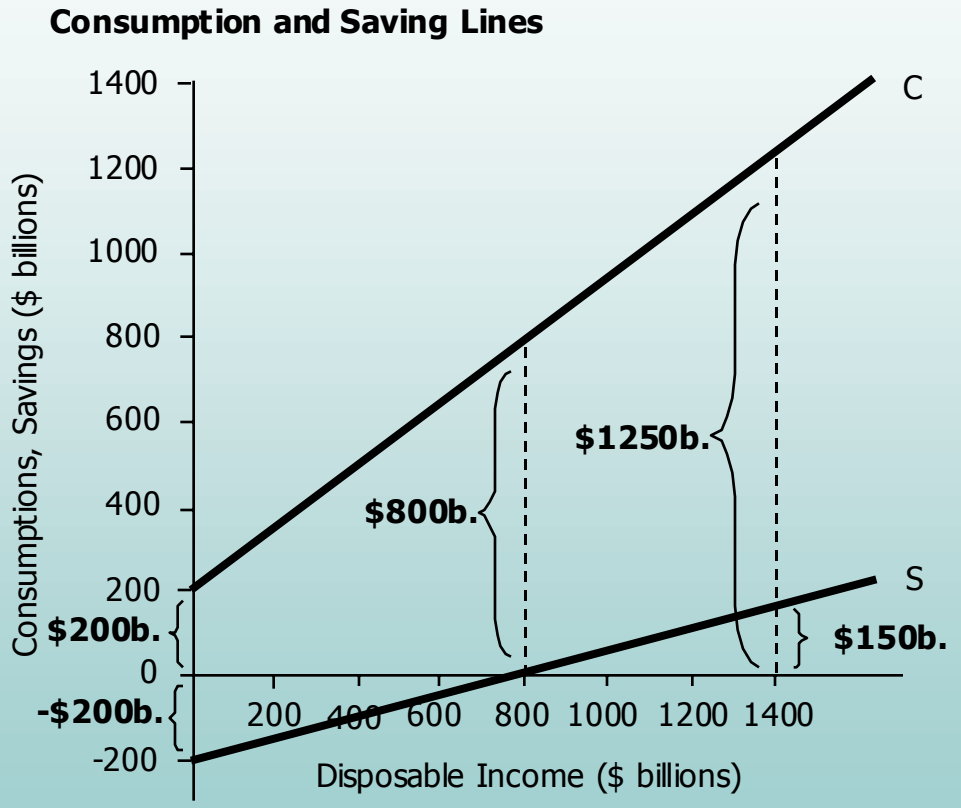
- When defined relative to disposable income, both MPC and MPS must sum to one.
  - For example, if a $200 billion increase in DI raises C by $150 billion, then MPC is 0.75 (or $150 b. divided by $200 b.). Meanwhile, the remaining $50 is saved, which means that MPS is 0.25 (or $50 b. divided by $200 b.).

# Consumption and Saving

## Figure A, page 308

**Consumption and Saving Schedules**

| DI | C ($ billions) | S |
|---|---|---|
| 0 | 200 | -200 |
| 200 | 350 | -150 |
| 400 | 500 | -100 |
| 600 | 650 | -50 |
| 800 | 800 | 0 |
| 1000 | 950 | 50 |
| 1200 | 1100 | 100 |
| 1400 | 1250 | 150 |



# The Spending-Output Approach (a)

- In a private economy with no government purchases or taxes, DI and GDP are equal.
- Using the spending-output approach, equilibrium occurs where the aggregate expenditures (AE) line meets the 45-degree line passing through the origin.

# The Spending-Output Approach (b)

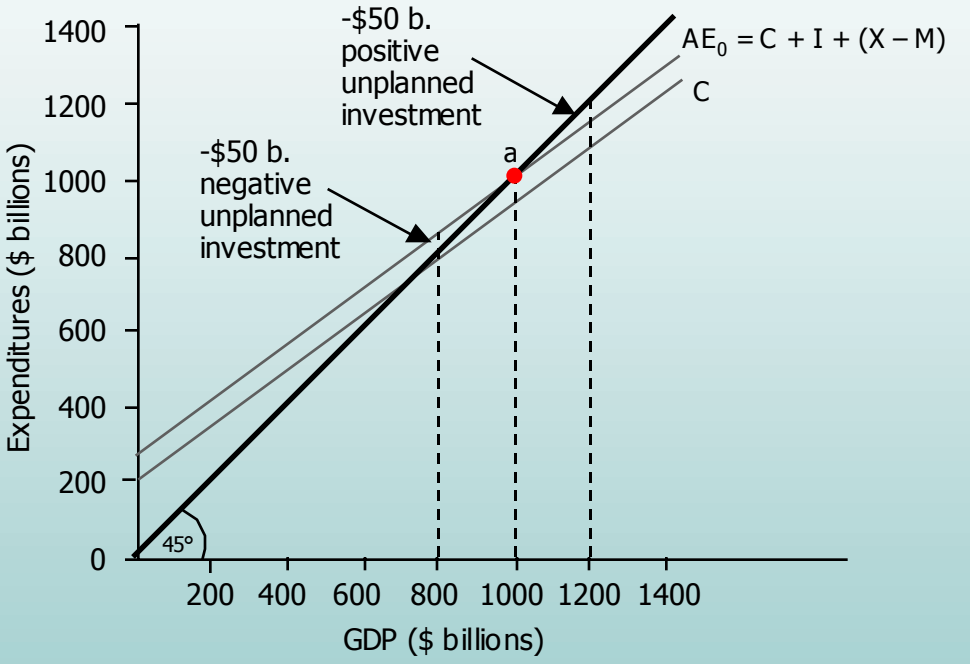
- Along the 45-degree line, all output produced is purchases.
  - At GDP levels below the equilibrium level, there is negative unplanned investment, since AE exceeds the 45-degree line. GDP expands until equilibrium is attained.
  - At GDP levels above the equilibrium level, there is positive unplanned investment, since AE is below the 45-degree line. GDP contracts until equilibrium is attained.

# Equilibrium with No Government (a)

Figure B, page 309

**Spending-Output Approach**

| GDP | C | I ($ billions) | X-M | AE |
|---|---|---|---|---|
| 0 | 200 | 25 | 25 | 250 |
| 200 | 350 | 25 | 25 | 400 |
| 400 | 500 | 25 | 25 | 550 |
| 600 | 650 | 25 | 25 | 700 |
| 800 | 800 | 25 | 25 | 820 |
| 1000 | 950 | 25 | 25 | 1000 |
| 1200 | 1100 | 25 | 25 | 1150 |
| 1400 | 1250 | 25 | 25 | 1300 |



# The Injections-Withdrawals Approach (a)

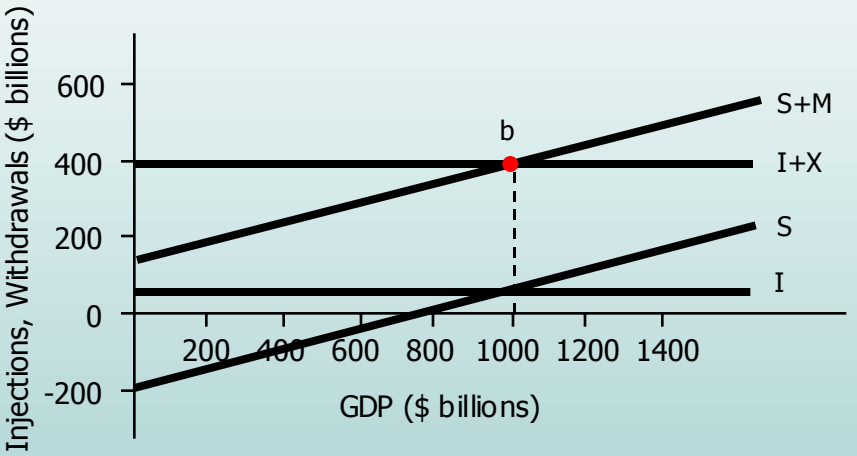
- Using the injections-withdrawals approach, equilibrium is found where total injections (I+X) equal total withdrawals (S+M).
- This approach gives the same equilibrium GDP as does the spending-output approach.

# Equilibrium with No Government (b)

Figure B, page 309

**Injections-Withdrawals Approach**

| GDP | S | M | S+M | I | X | I+X |
|---|---|---|---|---|---|---|
| | | ($ billions) | | | | |
| 0 | -200 | 350 | 150 | 25 | 375 | 400 |
| 200 | -150 | 350 | 200 | 25 | 375 | 400 |
| 400 | -100 | 350 | 250 | 25 | 375 | 400 |
| 600 | -50 | 350 | 300 | 25 | 375 | 400 |
| 800 | 0 | 350 | 350 | 25 | 375 | 400 |
| 1000 | 50 | 350 | 400 | 25 | 375 | 400 |
| 1200 | 100 | 350 | 450 | 25 | 375 | 400 |
| 1400 | 150 | 350 | 500 | 25 | 375 | 400 |



# The Impact of Government (a)

- When government is incorporated in the aggregate expenditures model, we will assume that both T is a lump-sum amount of $200 billion at every GDP level. Likewise G is $200 billion.
- While G is added directly to the AE line, the effect of taxes is indirect. With an MPC of .75, a $200 billion rise is taxes will cause C to fall by $150 billion at every GDP level.

# The Impact of Government (b)

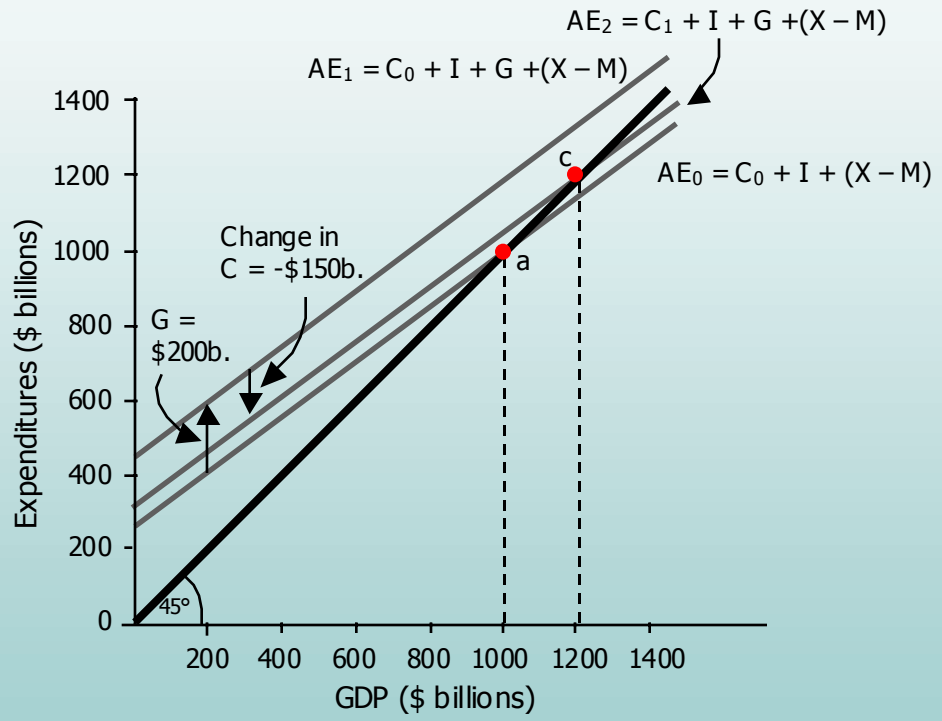
- Since AE rises by $200 billion due to G and falls by $150 billion due to T, the overall rise in the AE line is $50 billion.
- As a result, equilibrium GDP expands by $200 billion.

# The Impact of Government (c)

## Figure C, Page 311

**Spending-Output Approach**

| GDP | C | I | G | X-M | AE |
|---|---|---|---|---|---|
| | | ($ billions) | | | |
| 0 | 50 | 25 | 200 | 25 | 300 |
| 200 | 200 | 25 | 200 | 25 | 450 |
| 400 | 350 | 25 | 200 | 25 | 600 |
| 600 | 500 | 25 | 200 | 25 | 750 |
| 800 | 650 | 25 | 200 | 25 | 900 |
| 1000 | 800 | 25 | 200 | 25 | 1050 |
| 1200 | 950 | 25 | 200 | 25 | 1200 |
| 1400 | 1100 | 25 | 200 | 25 | 1350 |



# The Impact of Government (d)

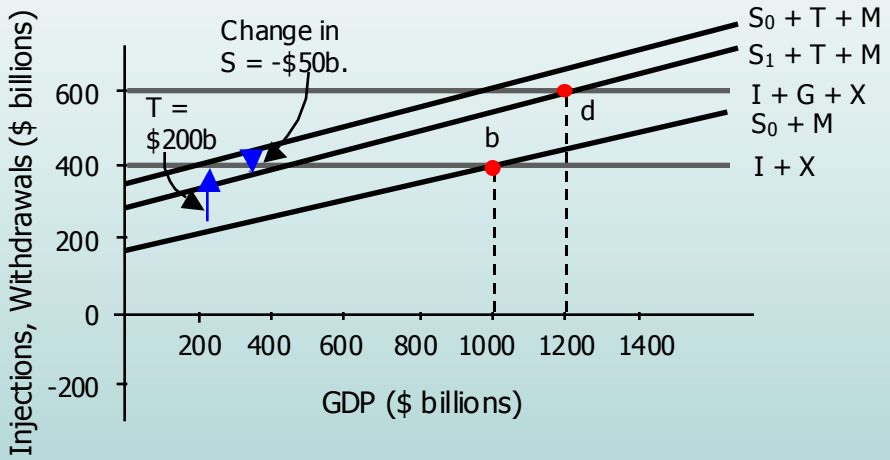
- When government is incorporated in the injections-withdrawals approach, injections rise by $200 billion.
- There are two effects on withdrawals.
  - Total withdrawals rise by $200 billion due to the addition of T.
  - Total withdrawals fall because of a drop in saving. With an MPS of .25, a $200 billion rise in taxes causes S to fall by $50 billion.
  - Overall, total withdrawals rise by $150 billion, while equilibrium output expands.

# The Impact of Government (e)

## Figure C, Page 311

**Injections-Withdrawals Approach**

| GDP | S | T | M | S+T+M | I | G | X | I+G+X |
|---|---|---|---|---|---|---|---|---|
| | | | | ($ billions) | | | | |
| 0 | -250 | 200 | 350 | 300 | 25 | 200 | 375 | 600 |
| 200 | -200 | 200 | 350 | 350 | 25 | 200 | 375 | 600 |
| 400 | -150 | 200 | 350 | 400 | 25 | 200 | 375 | 600 |
| 600 | -100 | 200 | 350 | 450 | 25 | 200 | 375 | 600 |
| 800 | -50 | 200 | 350 | 500 | 25 | 200 | 375 | 600 |
| 1000 | 0 | 200 | 350 | 550 | 25 | 200 | 375 | 600 |
| 1200 | 50 | 200 | 350 | 600 | 25 | 200 | 375 | 600 |
| 1400 | 100 | 200 | 350 | 650 | 25 | 200 | 375 | 600 |



# The Balanced Budget Multiplier

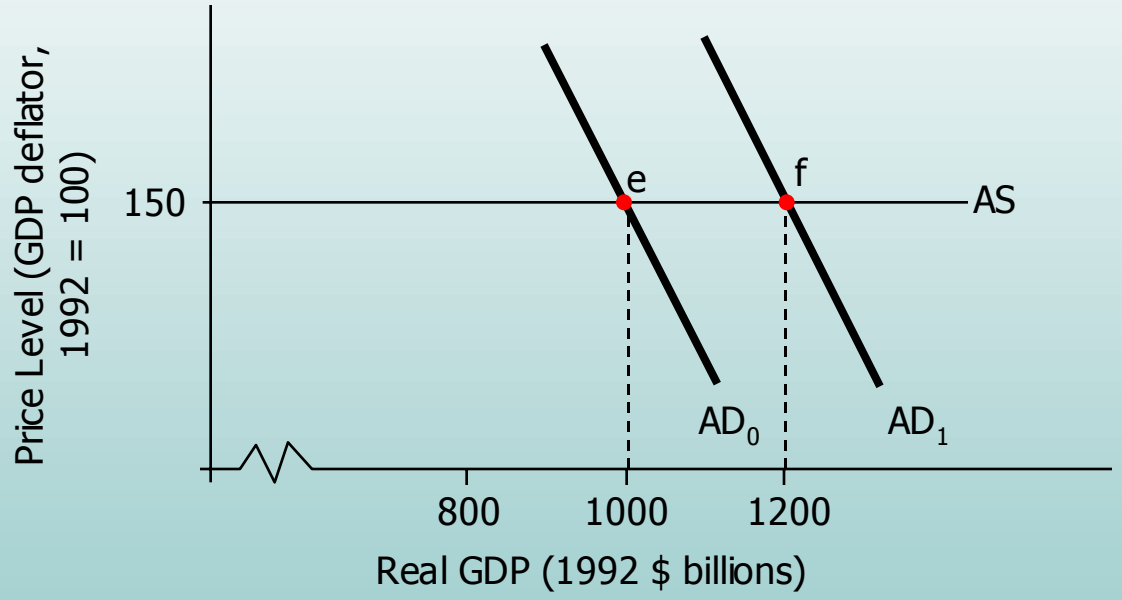
- The impact of incorporating government on equilibrium GDP can be shown using the balanced budget multiplier.
  - The change in output due to a change in both G and T by the same dollar amount (ie. $200 billion) is shown by the following formula:

change in output = 1 x (change in G or T)

# Aggregate Demand and Aggregate Supply (a)

- The aggregate expenditures model can be interpreted using aggregate demand and aggregate supply if we remember that in this model the price level is assumed to be constant, so that AS is horizontal.

# Aggregate Demand and Aggregate Supply (b) Figure D, page 313



# Economist Extraordinaire (a)

- John Maynard Keynes
  - created a theory to support governments combating the Great Depression
  - emphasized the role of aggregate demand in determining output in the economy
  - opposed the neoclassical view that involuntary unemployment is self-eradicating by presuming that workers exhibit money illusion and so they stop decreases in nominal wages

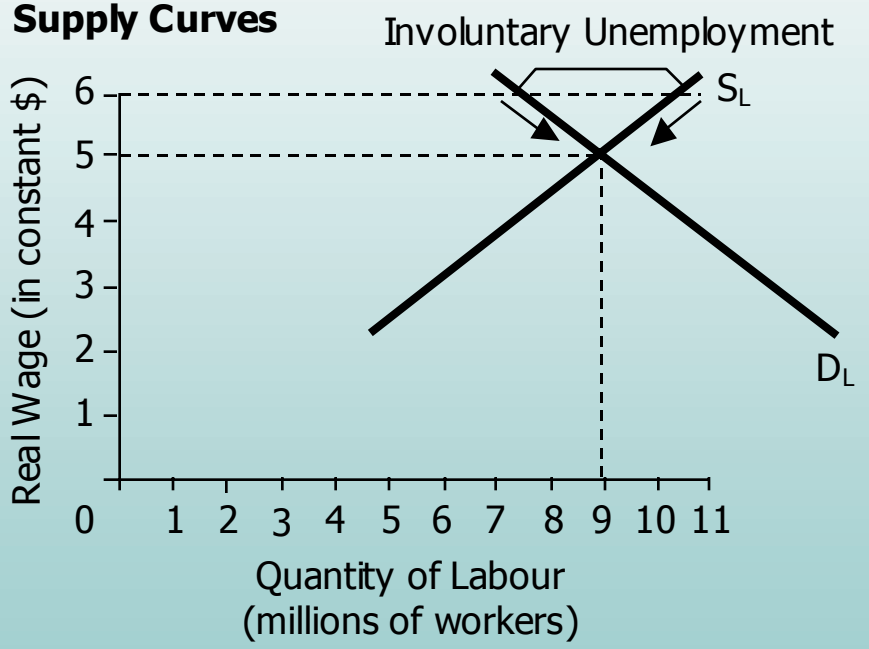
# A Flexible Labour Market

Figure A, Page 316

**Labour Demand and Supply Schedules**

| Real Wage (in constant $) | Involuntary Unemployment (surplus(+)) (millions of workers) |
|---|---|
| 6 | (11 – 7) = +4 |
| 5 | (9 – 9) = 0 |

**Labour Demand and Supply Curves**

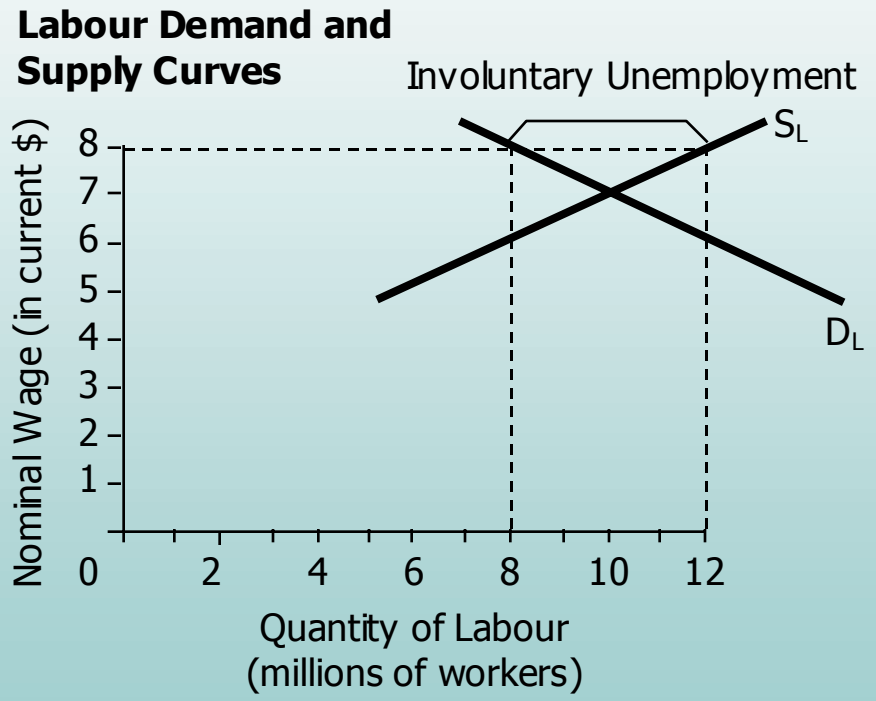


# An Inflexible Labour Market

Figure B, page 317

**Labour Demand and Supply Schedules**

| Nominal Wage (in current $) | Involuntary Unemployment (surplus(+)) (millions of workers) |
|---|---|
| 8 | (12 – 8) = +4 |
| 7 | (10 – 10) = 0 |



# Economist Extraordinaire (b)

- Keynes opposed Say's Law (which states that supply creates its own demand) by arguing that income levels rather than interest rates adjust to bring a balance between total injections and total withdrawals

# The Debate Over Public Debt (a)

- Those support using public debt say
  - public debt provides benefits by reducing the costs of unemployment
  - about 60 percent of government debt is held by Canadians, or owed to ourselves
  - when debt is used to create productive assets, it is not necessarily a problem
  - there have been times in the past when public debt as a percent of GDP was higher

# The Debate Over Public Debt (b)

- Those against using public debt say
  - public debt charges rose until recently
  - provincial and territorial debts need to be taken into account as well
  - there are limits to how much taxes can be raised to pay public debt charges
  - there are potential future burdens associated with the crowding-out effect and the amount of Canada's government debt held by foreigners

# Public Debt and GDP

Figure A, page 320

| Year | Public Debt (billions of current-year $) | Public Debt (% of nominal GDP) | Public Debt Charges (% of nominal GDP) |
|---|---|---|---|
| 1926-1927 | 2.3 | 46 | 2.5 |
| 1936-1937 | 3.1 | 67 | 3.0 |
| 1946-1947 | 12.7 | 107 | 3.9 |
| 1956-1957 | 11.4 | 35 | 1.5 |
| 1966-1967 | 17.2 | 27 | 1.8 |
| 1976-1977 | 39.9 | 20 | 2.4 |
| 1986-1987 | 271.7 | 54 | 5.3 |
| 1996-1997 | 593.3 | 74 | 5.7 |
| 1999-2000 | 564.5 | 59 | 4.3 |

# Understanding Economics

2nd edition
by Mark Lovewell

## Chapter 12
## **The End**