FISCAL POLICY

WHAT YOU WILL LEARN IN THIS CHAPTER

- AD-AS Model: to analyze and predict changes in the Economy
- expansionary fiscal policy and contractionary fiscal policy
- multiplier effect (MPC) and fiscal policy
- public debt ~ a cause for concern

Fiscal:

Govt Budget = Tax Revenue – Govt Spending – Govt Transfer

= T - G - TR

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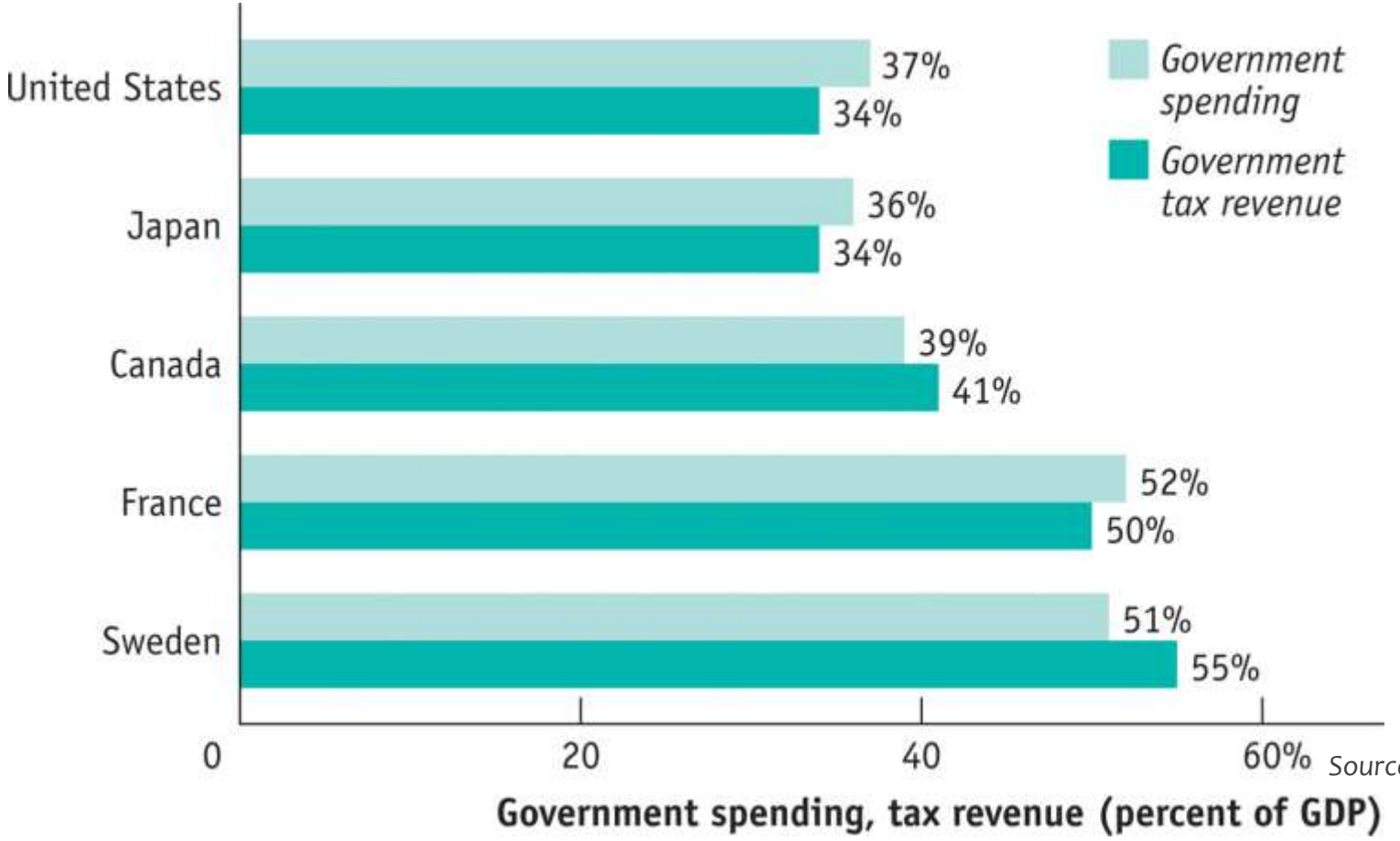
Fiscal Policy: The Basics

Government spending and tax revenue for some high-income countries in 2007 ***(before the Great Recession, which is a more representative set of data)***



Source: OECD.

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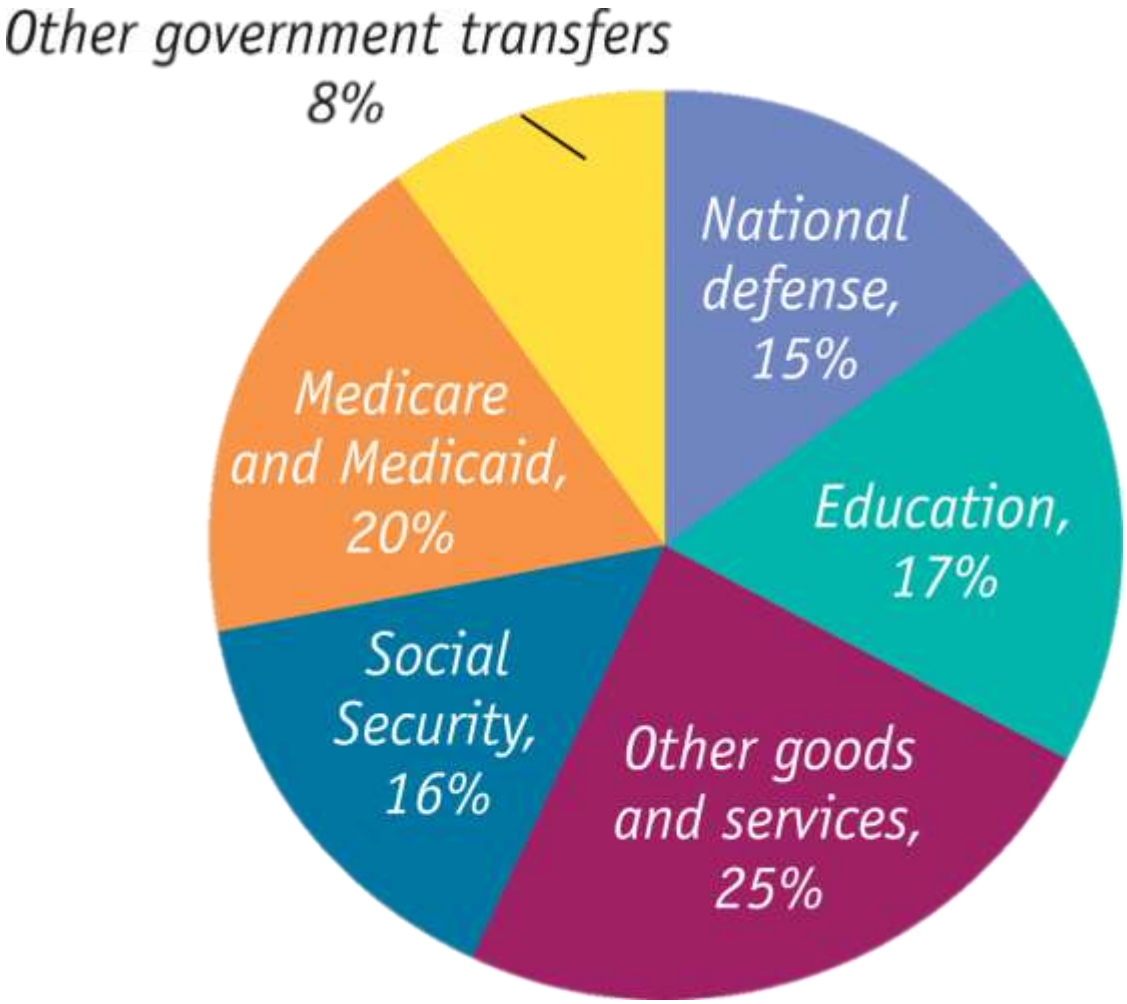
Government Spending in the U.S.



Government purchases(G):

National defense and education are the biggest categories.

Government transfers(TR):

Social Security, Medicare and Medicaid are the biggest programs.

Source: Bureau of Economic Analysis

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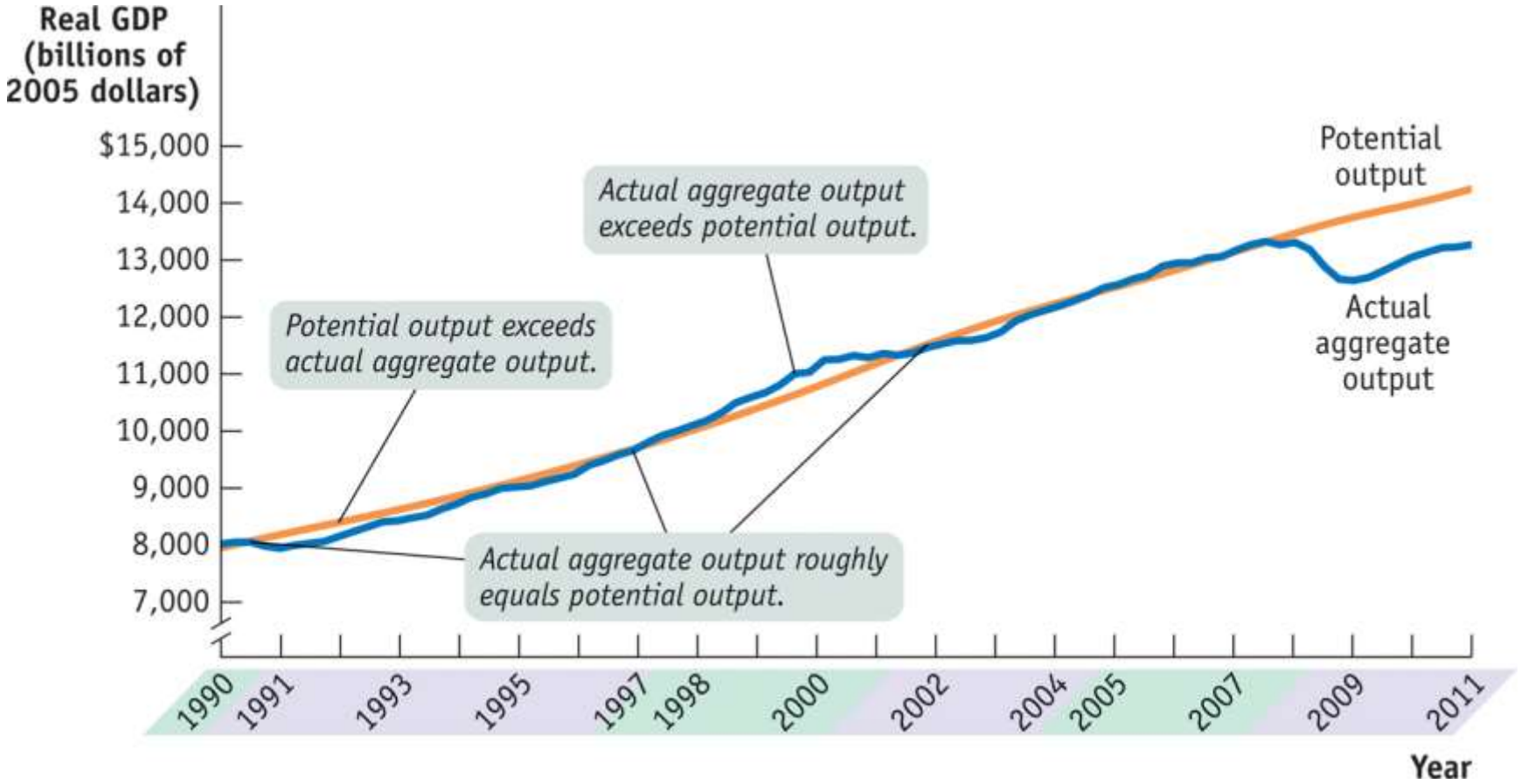
Actual and Potential Output, 1989–2013

The level of real GDP is almost always either above or below potential output (Yp) because of short-run fluctuations.



Sources: Congressional Budget Office; Bureau of Economic Analysis.

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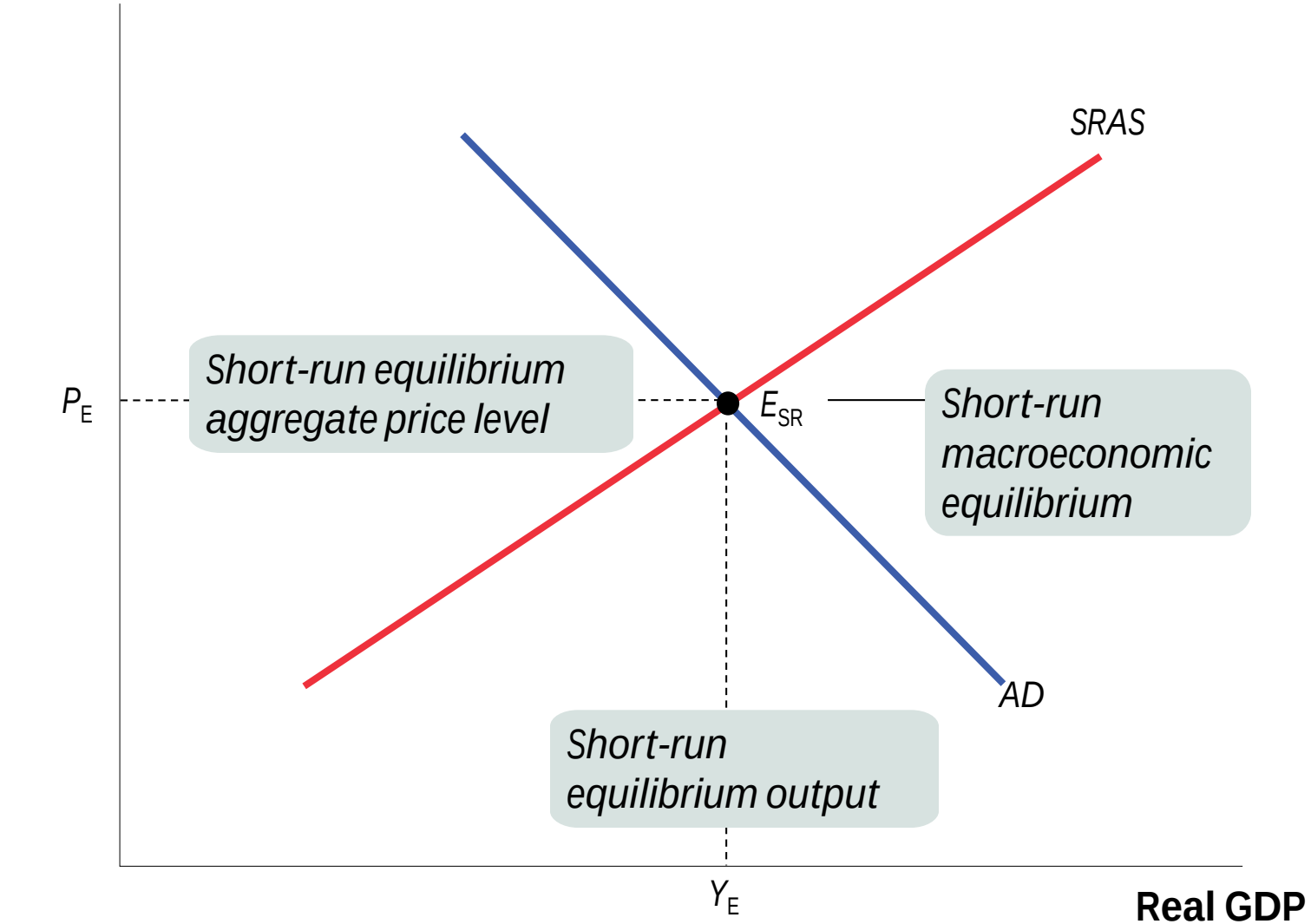
The *AD–AS* Model



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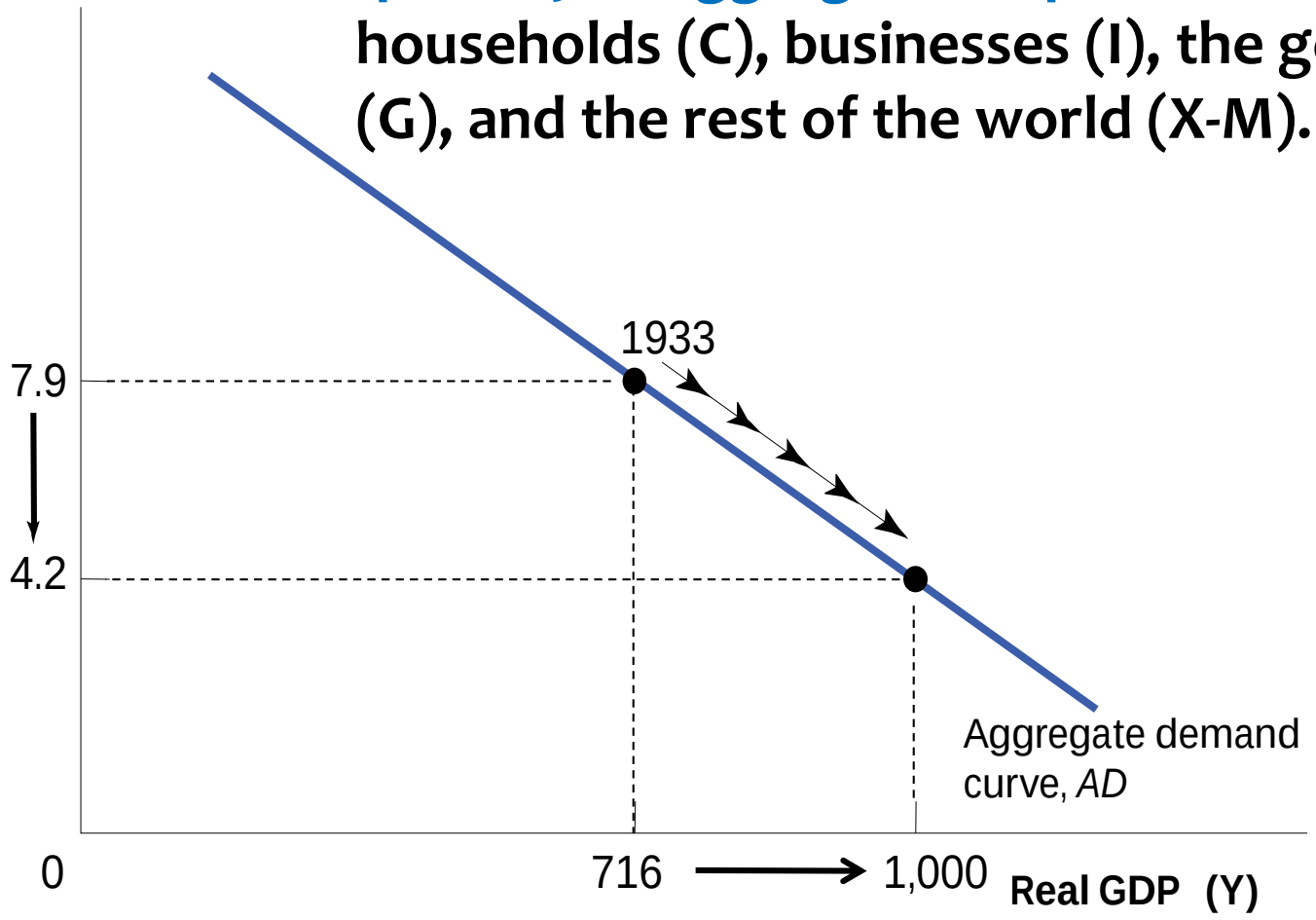
The Aggregate Demand Curve

Aggregate demand curve: **the relationship between the aggregate price level and the quantity of aggregate output demanded by households (C), businesses (I), the government (G), and the rest of the world (X-M).**



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The Shape of the Aggregate Demand Curve

Recall: GDP = *C* + *I* + *G* + *X* – *IM*

A rise in the aggregate price level *reduces*

***C*, *I*, and (*X* – *IM*).**

AD is downward sloping for two reasons:

1. ***The wealth effect:*** **A higher aggregate price level reduces the purchasing power of households' wealth and reduces consumer spending.**
2. ***The interest rate effect:*** **A higher aggregate price level makes households hold more money (to buy the same amount of goods) and leads to a rise in interest rates (and a fall in investment spending).**

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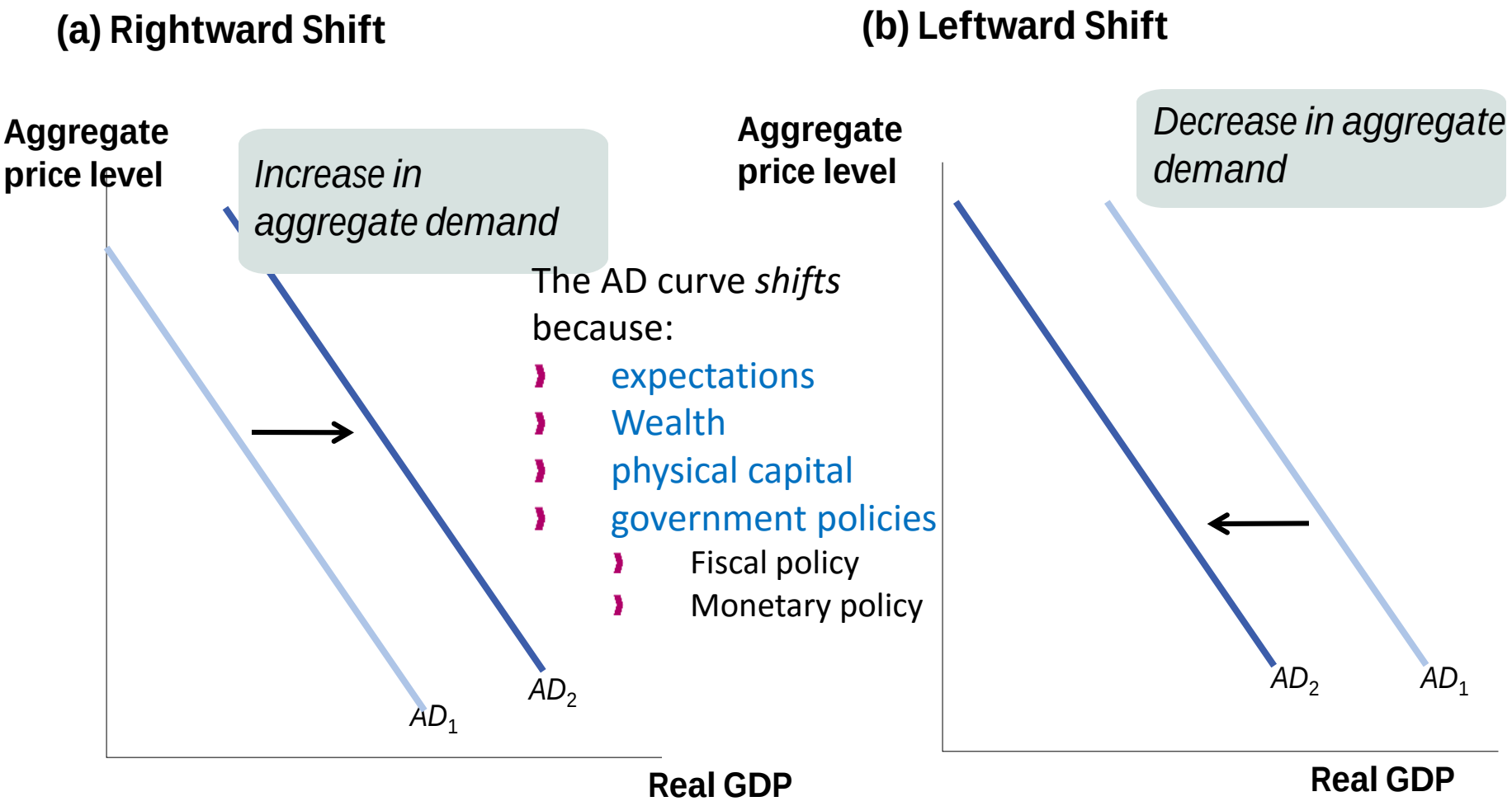
Shifts of the Aggregate Demand Curve



The AD curve *shifts* because:

- expectations
- Wealth
- physical capital
- government policies
  - Fiscal policy
  - Monetary policy

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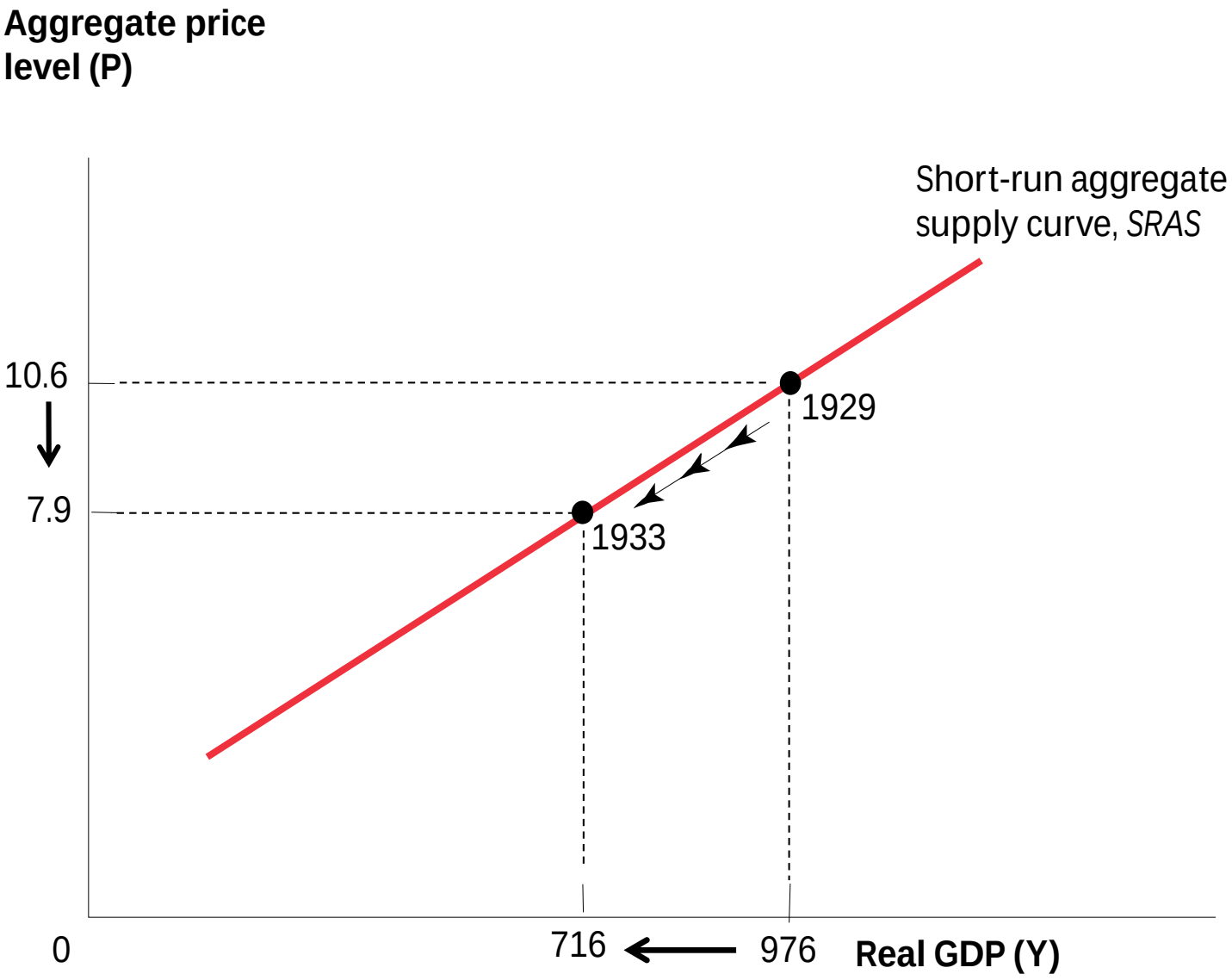
The Short-Run Aggregate Supply, SRAS Curve



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The SRAS Curve

Why does the *SRAS* curve slope upward?

Because nominal wages are "sticky" in the short run

Nominal wage: **the dollar amount of the wage paid.**

Sticky wages: **nominal wages that are slow to fall even in the face of high unemployment and slow to rise even in the face of labor shortages.**

Nominal wages are often determined by contracts that were signed some time ago.

Even when there are no formal contracts, there are often informal agreements between management and workers.

A higher aggregate price level leads to higher profits and increased aggregate output in the short run.

PROFIT = price – production cost

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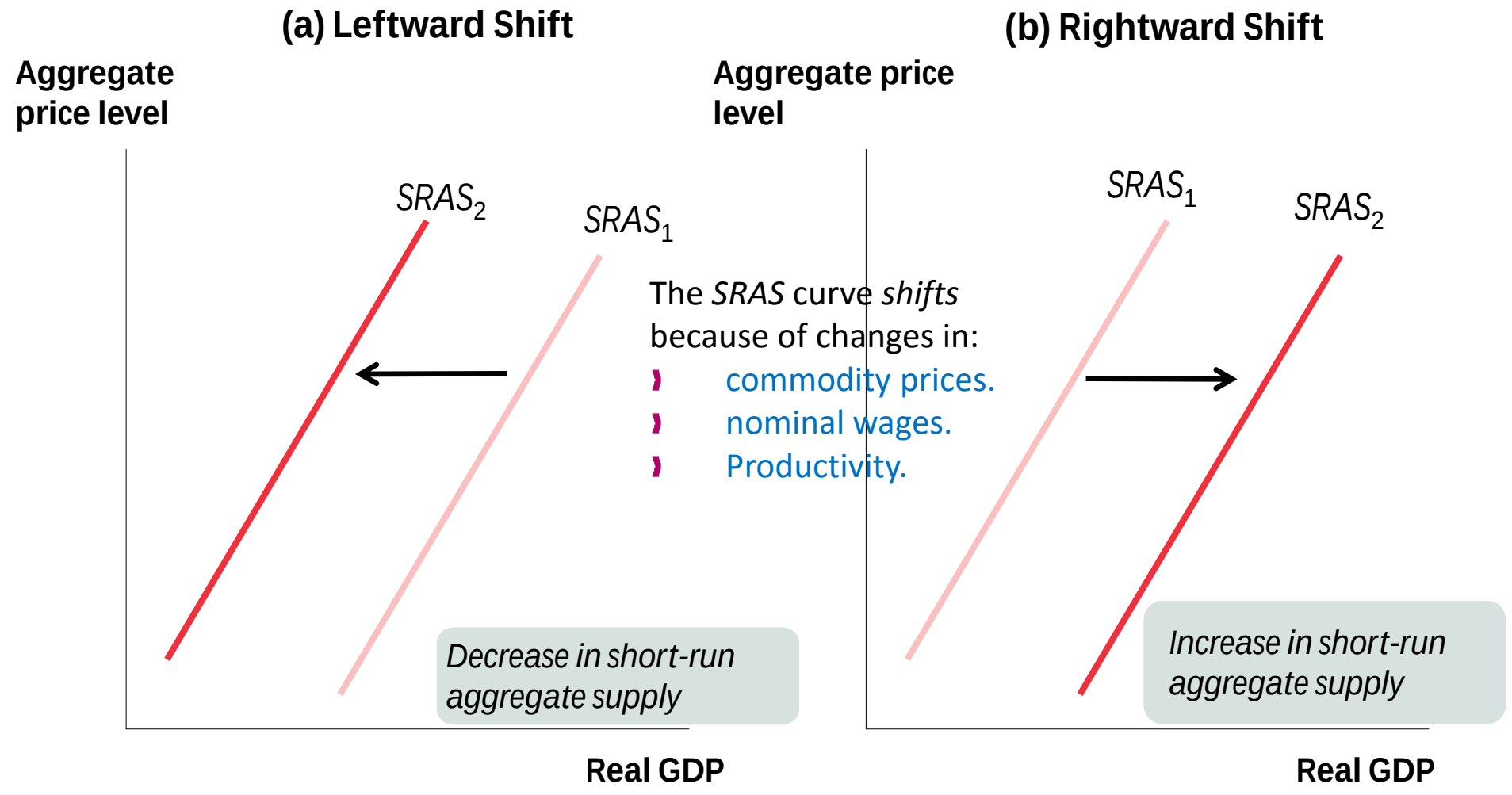
Shifts of the Short-Run Aggregate Supply Curve



The *SRAS* curve *shifts* because of changes in:

- commodity prices.
- nominal wages.
- Productivity.

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Practice What You Know

If the economy is in equilibrium and the real estate market collapses, what will likely happen?

a) The *AD* curve will shift rightward.

b) The *AD* curve will shift leftward.

c) The *SRAS* curve will shift rightward.

d) The *SRAS* curve will shift leftward.

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Practice What You Know

The short-run aggregate supply, SRAS curve will shift to the right when:

a) when input costs rise.

b) when taxes rise.

c) when interest rates rise.

d) when productivity rises.

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What Happens When There Is a Shock?

If a demand or supply shock, negative or positive, hits the economy,

***AD* or *SRAS* shifts and moves the economy to a new short-run equilibrium.**

-Negative Demand Shock

-Positive Demand Shock

-Negative Supply Shock

-Positive Supply Shock

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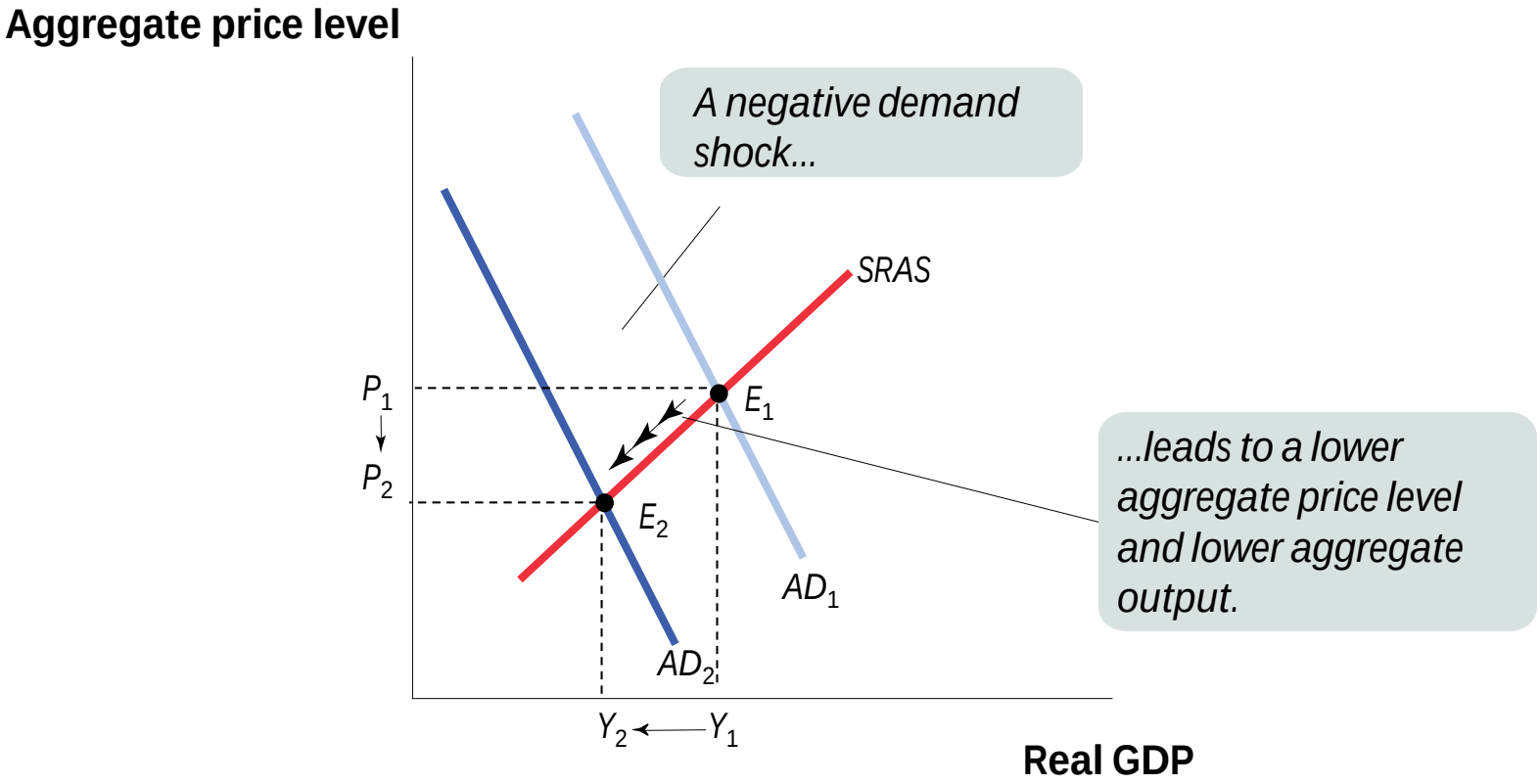
Shifts of AD: Short-Run Effects

A negative demand shock
example: Total spending falls.



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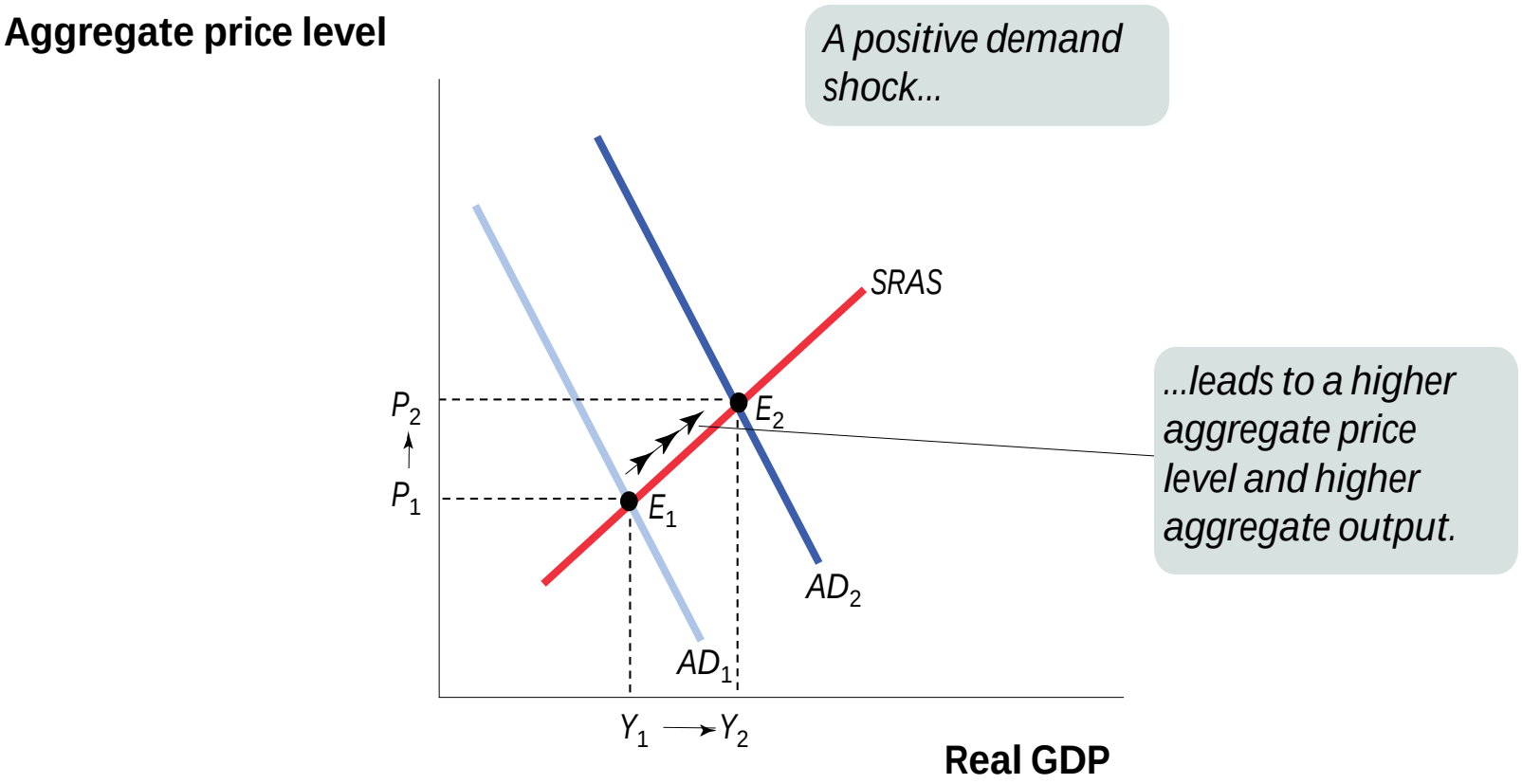
Shifts of Aggregate Demand: Short-Run Effects

A positive demand shock: eg. total spending rises.



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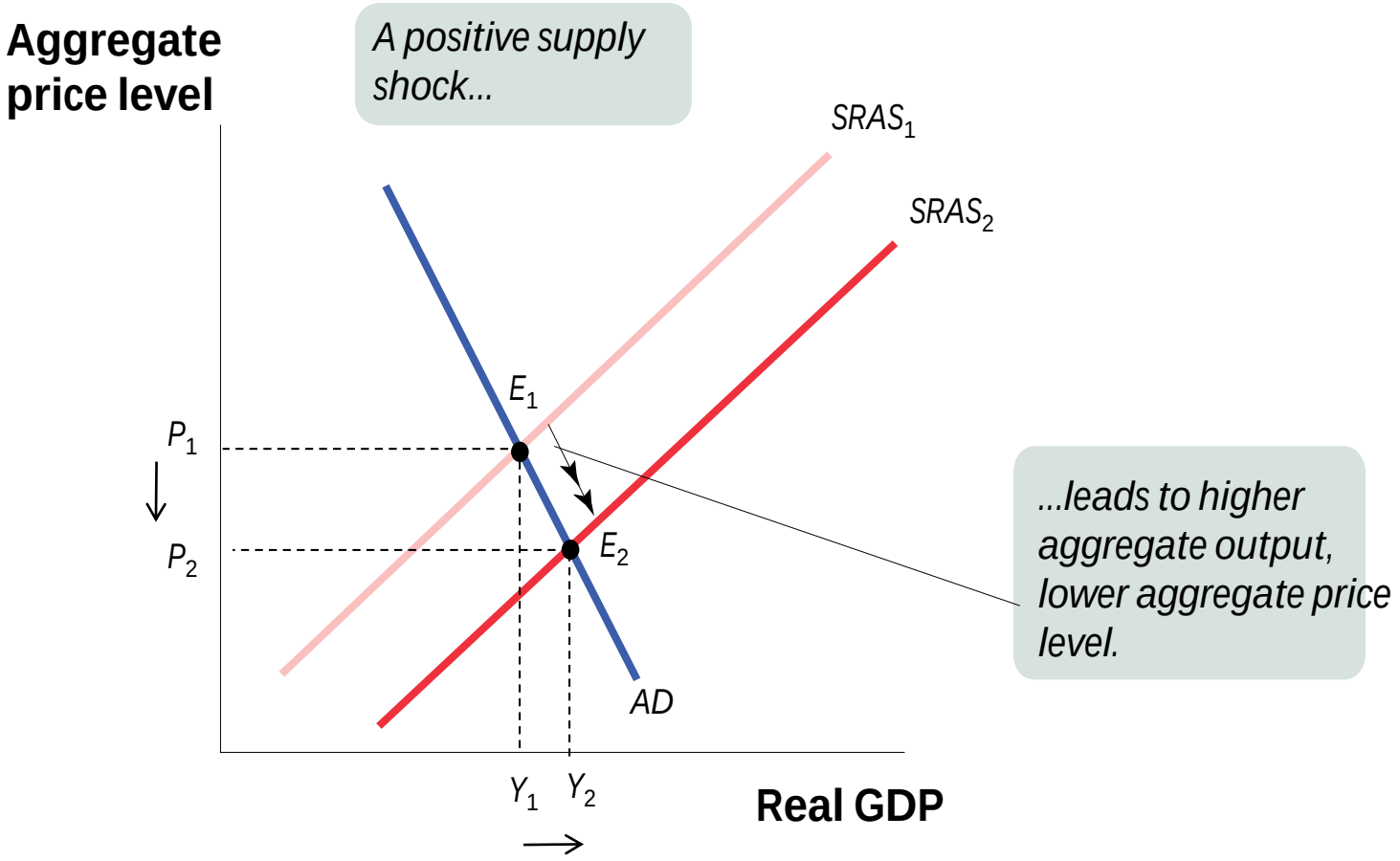
Shifts of the *SRAS* Curve

***A positive supply shock*: a decrease in oil price, or increase in productivity due to technology**



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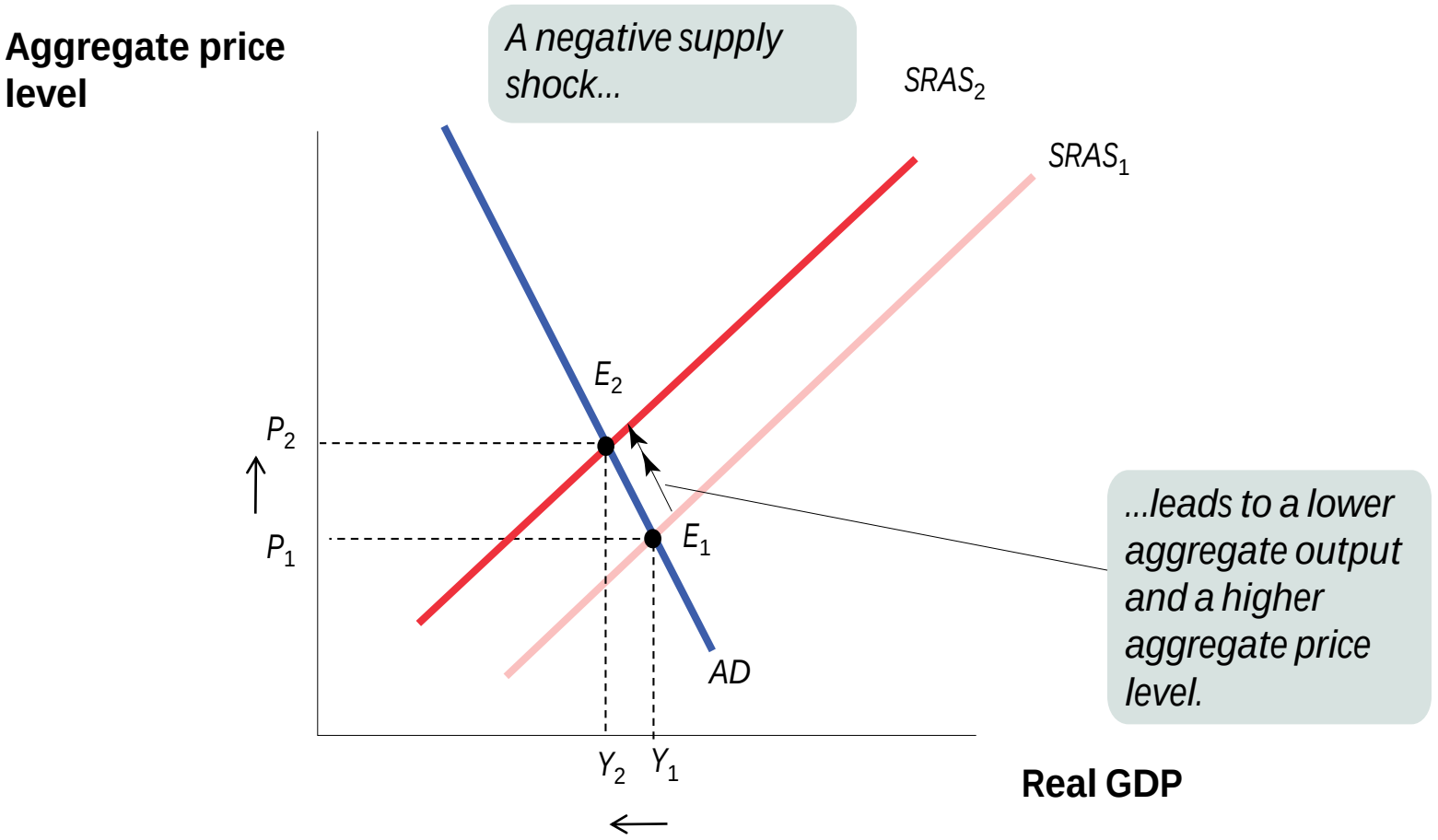
Shifts of the SRAS Curve

A negative supply shock: oil crisis: Total production falls at every price level. This has "double" negative impacts.



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1973 Oil Shock: Negative Supply Shock - Stagflation

Especially nasty for society is *stagflation:* the combination of inflation and falling aggregate output that comes with a negative supply shock.

The 1973 oil shock: Because oil is a basic input (commodity) in so many goods and services we enjoy, skyrocketing oil prices affected all parts of the economy.

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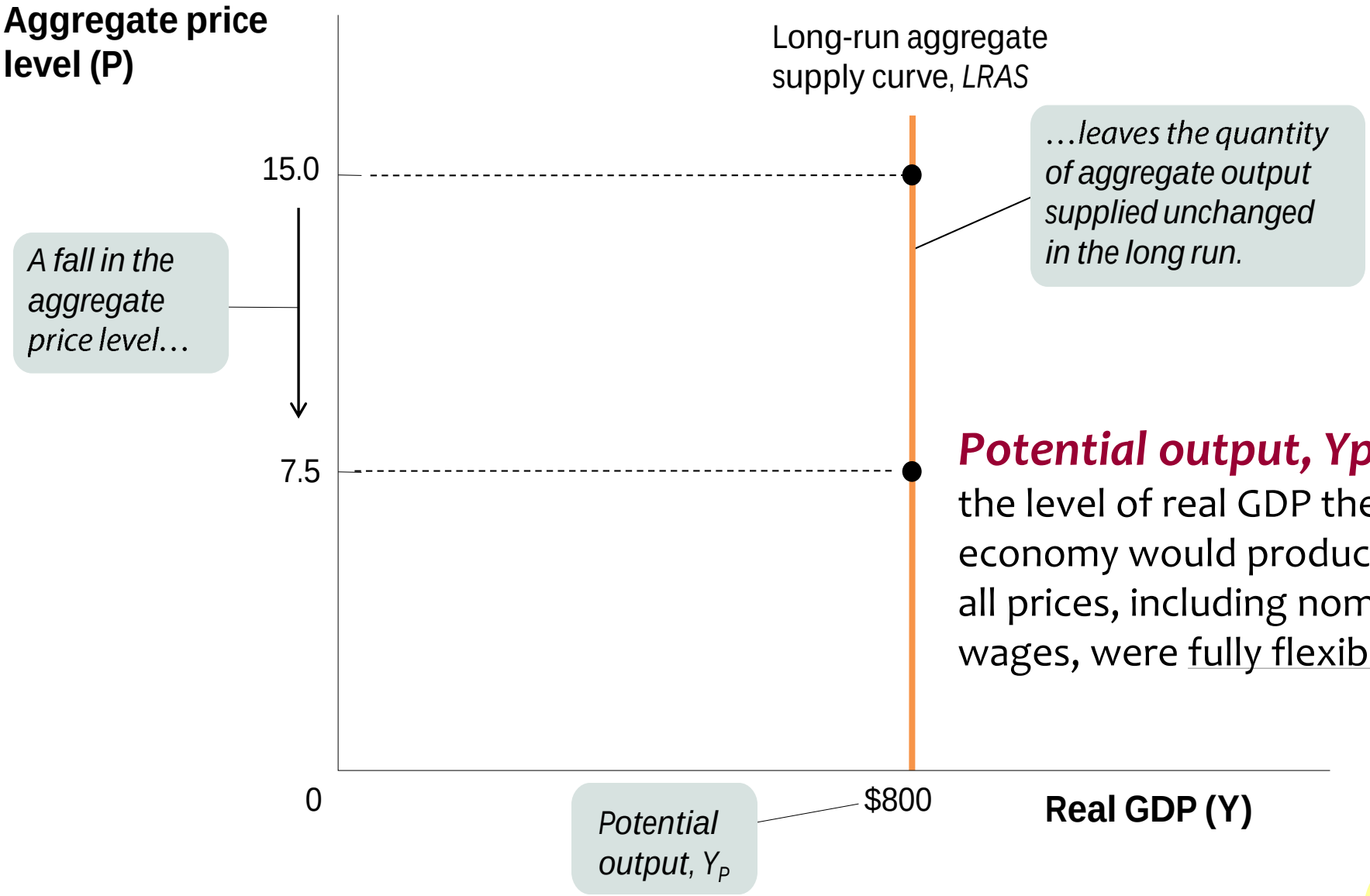
Long-Run Aggregate Supply Curve



Potential output, Yp, is the level of real GDP the economy would produce if all prices, including nominal wages, were fully flexible.

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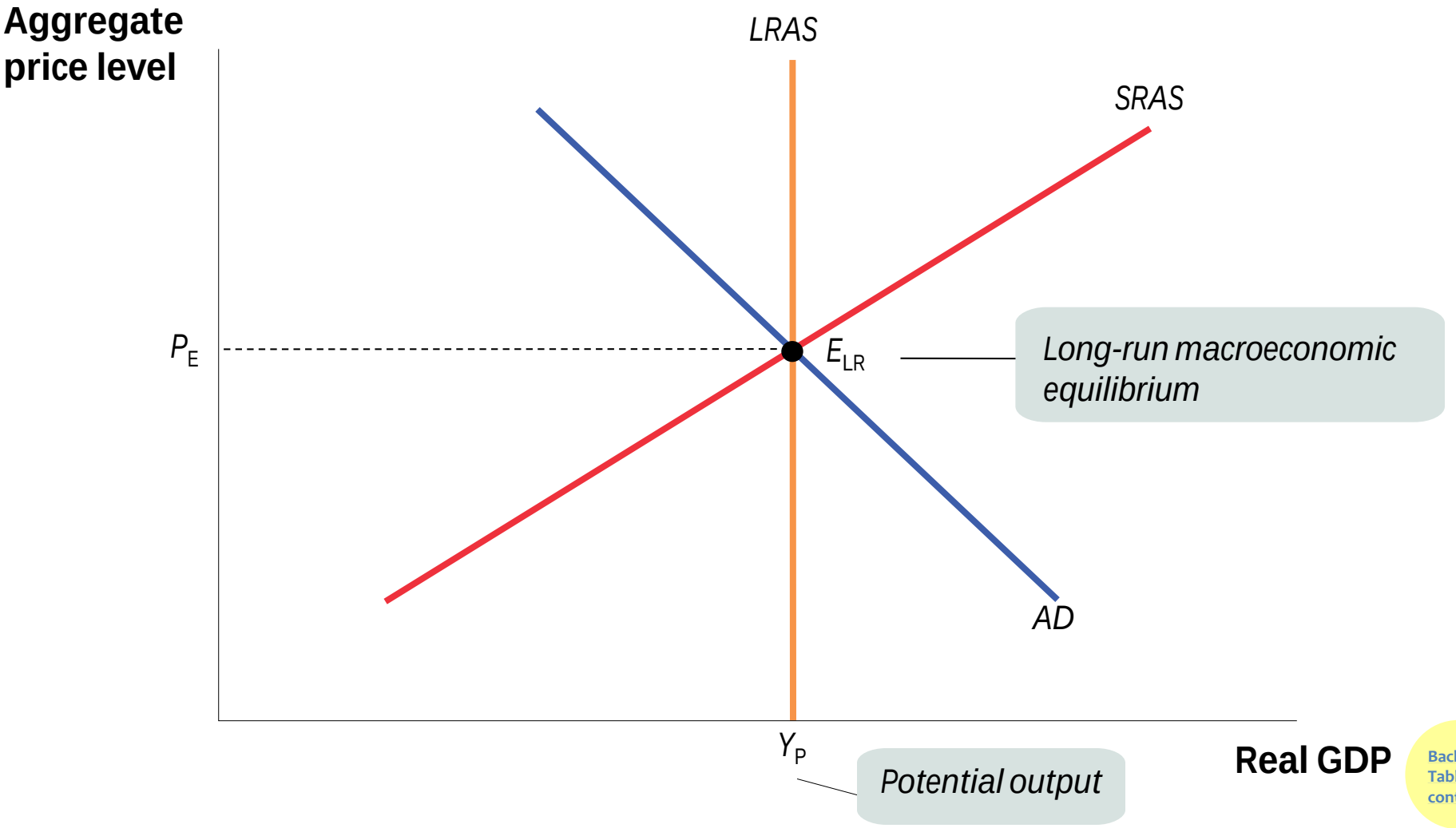
Long-Run Macroeconomic Equilibrium

The economy is in *long-run macroeconomic equilibrium* when the point of short-run macroeconomic equilibrium is on the LRAS curve → no output gap

This economy is in short run AND long-run macroeconomic equilibrium.



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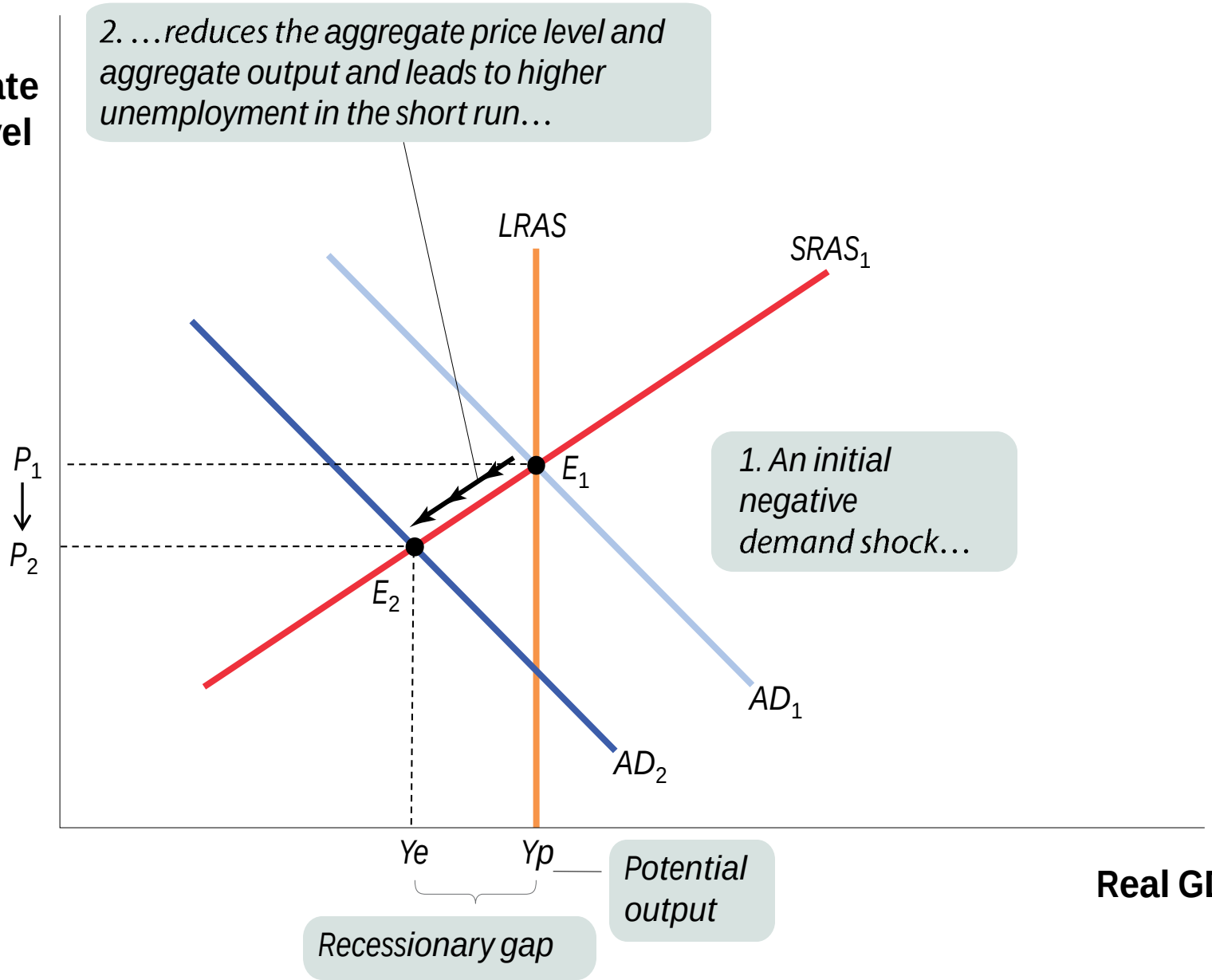
Recessionary Gap: Example: due to Negative Demand Shock



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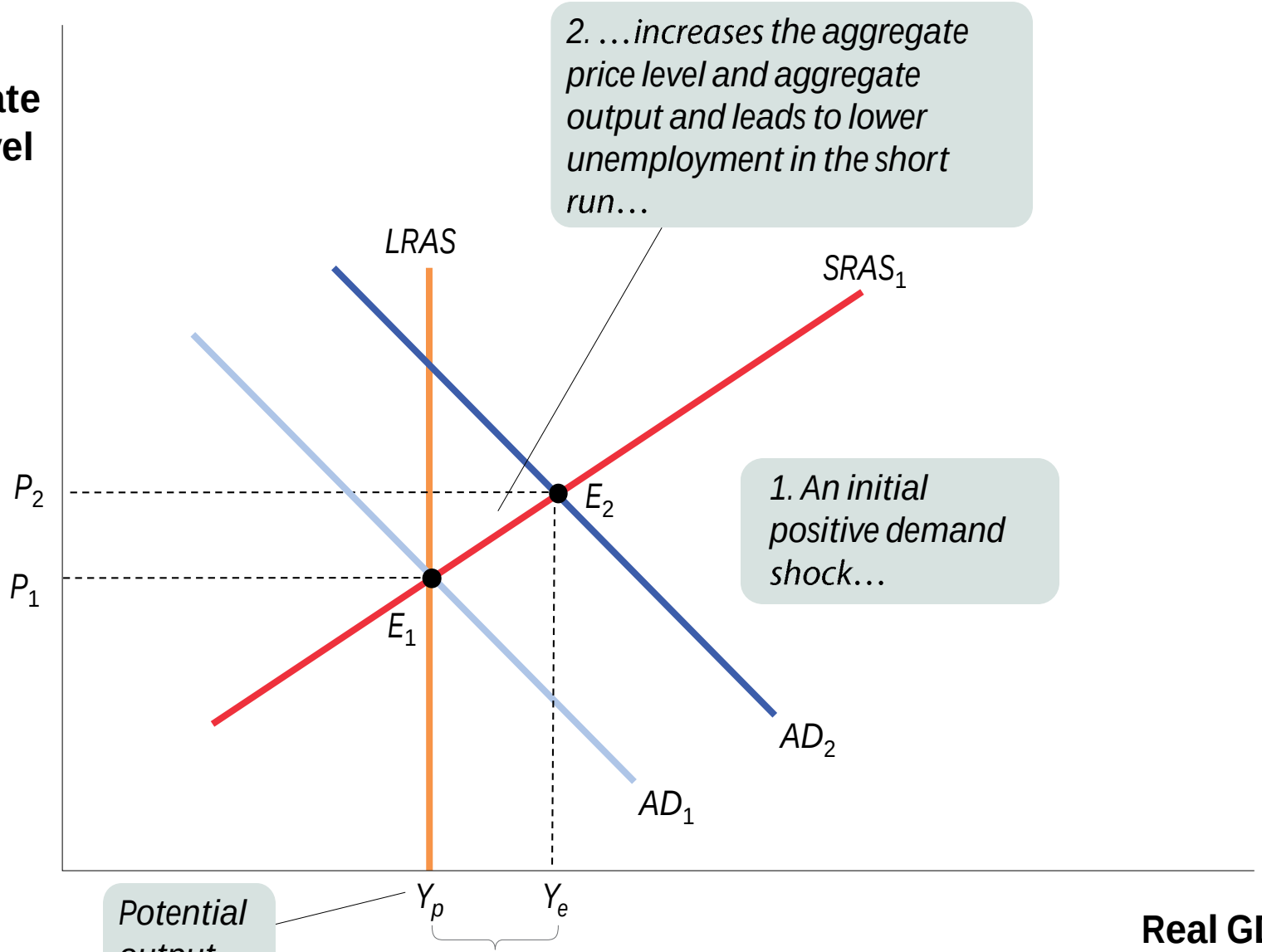
Inflationary Gap: Example: due to a Positive Demand Shock



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Fiscal Policy: Expansionary or Contractionary

Fiscal policy: the use of taxes, government transfers, or government purchases of goods and services to shift the aggregate demand curve.

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Fiscal Policy

$$GDP = C + I + G + X - IM$$

The government directly controls *G* and indirectly affects *C* and *I*.

C= Consumers Expenditures/Spending

I = Business Investments (Firms, Corporations)

How?

C: Household incomes are affected by taxes and transfers (C = Y-T+TR), and

I: business investment is affected by taxes and regulations (I = f (t, i, reg)).

So the government can shift the *AD* curve by doing Fiscal Policy.

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Expansionary Fiscal Policy

Expansionary fiscal policy:

fiscal policy that increases AD (aggregate demand), via:

- *an increase in government purchases , G*
- *a cut in taxes, T (*including TAX REBATE)*
- *an increase in government transfers, TR*

Expansionary fiscal policy:
extra "fuel" for the economy

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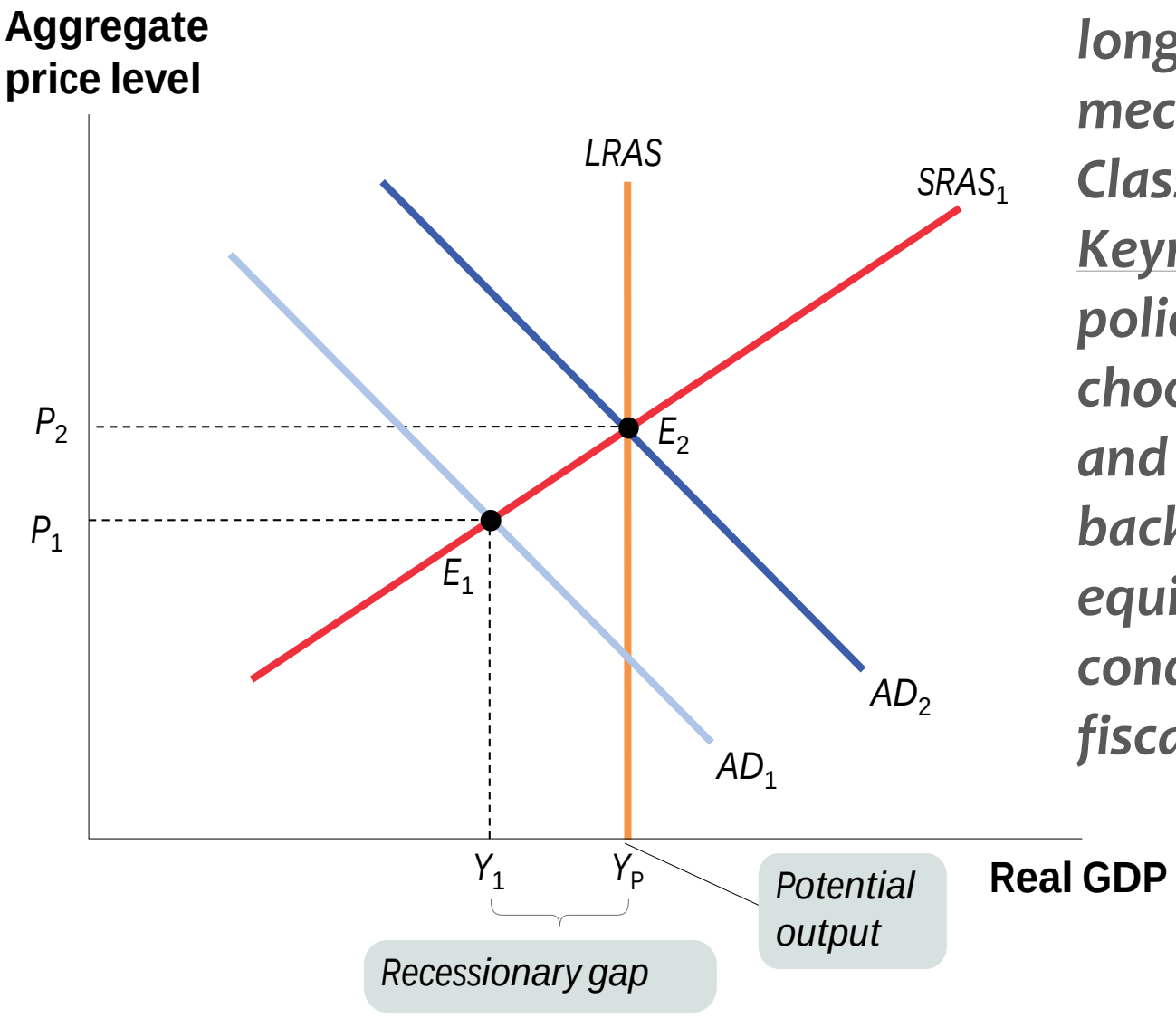
Expansionary Fiscal Policy Can Close a Recessionary Gap



Instead of waiting for the long-run correction mechanism (as in the Classical view), Keynesian suggests that policy makers could choose to stimulate AD and move the economy back toward long-run equilibrium by conducting expansionary fiscal policy.

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Contractionary Fiscal Policy

Contractionary fiscal policy:

fiscal policy that decreases AD (aggregate demand):

- *a reduction in government purchases, G*
- *an increase in taxes, T*
- *a reduction in government transfers, TR*

Contractionary fiscal policy: "brakes" for the economy

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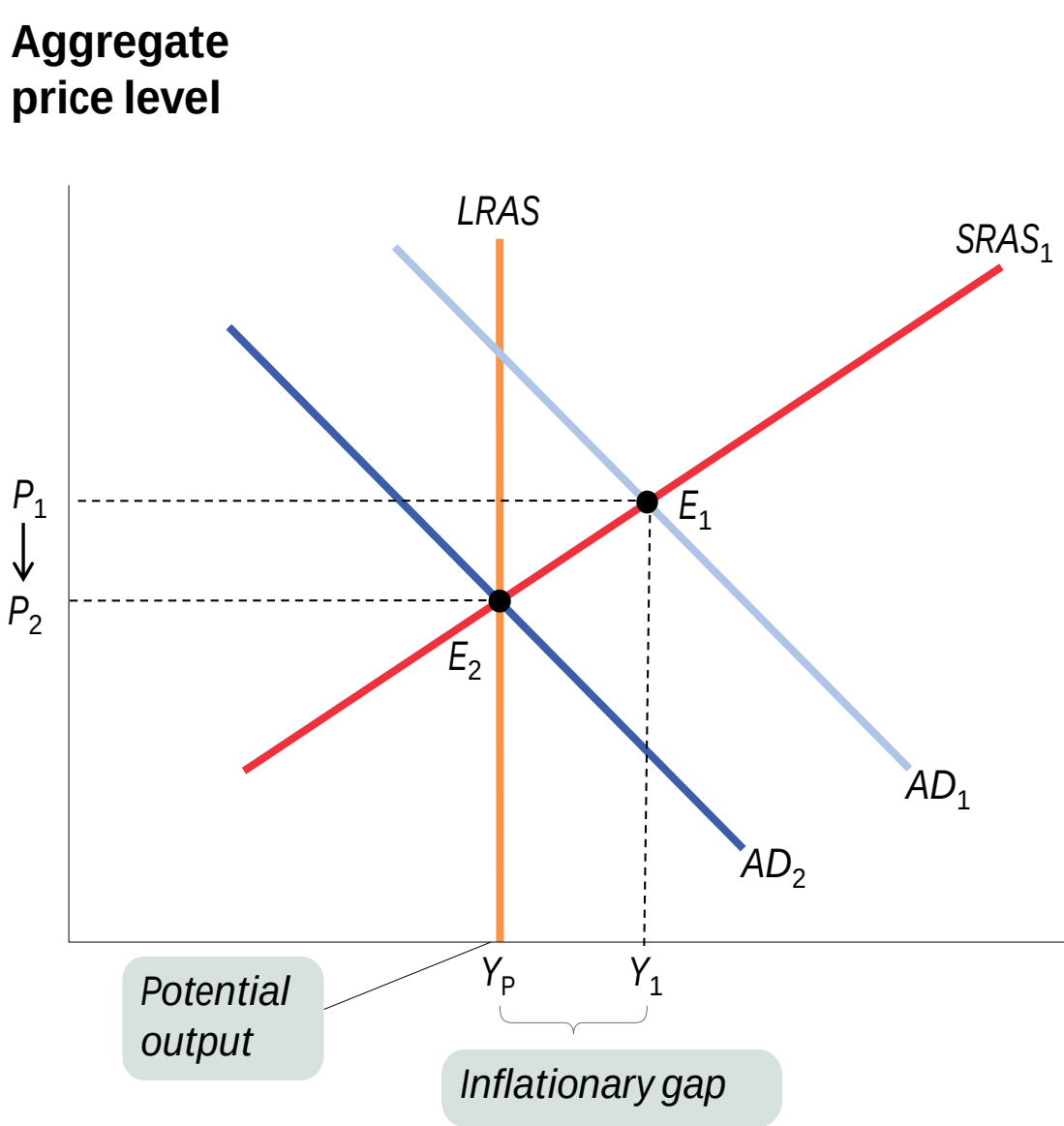
Contractionary Fiscal Policy Can Close an Inflationary Gap



Instead of waiting for the long-run correction mechanism, Keynesian suggests that policy makers could choose to contract AD (contractionary policy) and move the economy back toward the long-run equilibrium.

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Active Learning: Practice

Contractionary fiscal policy:

a) is most helpful for restoring an economy to the potential output level of production when there is a recessionary gap.

b) shifts the *AD* curve to the right, restoring the equilibrium level of output to the potential output level for the economy.

c) often causes inflation or an increase in the aggregate price level.

d) if effective, shifts *AD* to the left, resulting in a reduction in the aggregate output and the aggregate price level for a given short-run aggregate supply curve (*SRAS*).

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Active Learning: Practice

Which of the following statements is true? Holding everything else constant:

a) an economy can eliminate an inflationary gap by increasing government spending.

b) expansionary fiscal policy refers to an increase in taxes.

c) when potential output is greater than actual aggregate output, the economy faces an recessionary gap.

d) when *SRAS* intersects *AD* to the right of the long-run aggregate supply (*LRAS*) curve, the economy faces a recessionary gap.

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MPC and Multiplier

Example:

Income = $1,200

-Pay Tax = $200

After-Tax (Disposable) Income = Yd = $1,000

Consumption spending: $750 → MPC = 0.75

Saving : $250 → MPS = 0.25

Expenditures MULTIPLIER: 1/ (1-mpc)

MPC = 0.75 → multiplier: 4

MPC = 0. 60 → multiplier: 2.5

MPC = 0.50 → multiplier: 2

If Government conduct an expansionary Fiscal Policy that costs **$100 billion**:
building roads, dams, schools, etc.

With Multiplier = **2** (if MPC=0.5), after the money flows around the economy, it would add to GDP by **$200 billion**.

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Fiscal Policy and the Multiplier

Will a $50 billion tax cut (or increase in transfers = TR) have the same effect as a $50 billion increase in government purchases (=G)?

The size of the multiplier depends on the type of fiscal policy (G or T/TR):

- **G= Govt Expenditures: Infrastructures or purchasing goods/services.**
- **T and TR : subject to MPC (both part of "income" for the recipients**

  T = Tax Rebates

- ***Changes in G, have a more powerful effect on the economy than equal-sized changes in taxes or transfers.:***

TABLE 28-1 Hypothetical Effects of a Fiscal Policy with Multiplier of 2

Effect on real GDP Y	$50 billion rise in government purchases of goods and services	$50 billion rise in government transfer payments TR
First round	$50 billion	$25 billion
Second round	$25 billion	$12.5 billion
Third round	$12.5 billion	$6.25 billion
• • •	• • •	• • •
Eventual effect	$100 billion	$50 billion

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Multipliers

The first multiplier:

1/(1-MPC) applies to the change in **G**

The second multiplier:

MPC/ (1-MPC) is the multiplier that applies to the change in **T or TR**

==========

In Real world, people pay **Tax,** a percentage that depends on the income (t = from 10% through 39.6%), the multiplier changes to:

The third multiplier:

1/ { 1 – (MPC x (1-t)) } -- applies to changes in **G.**

The fourth multiplier:

MPC/ { 1 – (MPC x (1-t)) } --- applies to changes in **T or TR.**

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Examples on Multipliers

Let's say the MPC is 0.5 (which is close to 2009 data, at 0.52), applies this MPC=05, into the multipliers, and see how it changes. Let's say the average tax rate is 20% (= 0.20). Use these multipliers:

1/ { 1 – (MPC x (1-t)) } -- applies to changes in **G.**

MPC/ { 1 – (MPC x (1-t)) } --- applies to changes in **T or TR.**

Suppose there is a $200billion output gap due to recessionary gap, and we aim at closing this gap by conducting Expansionary Fiscal Policy. How much to spend for each of the following programs:

a) Government Expenditures on Infrastructures (G)

b) Tax Rebates (T)

c) Government Transfer Program on Families in Need (TR)

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Multipliers and the Obama Stimulus

The Obama stimulus was the largest example of discretionary fiscal expansion in U.S. history.

The total stimulus was $787 billion. Did it work?

Two of Obama's top economists calculated multipliers of 1.57 (spending) and 0.99 (tax cuts).

Imagine, what would Keynes say about this?

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The Budget Balance Measures Fiscal Policy

$$S_{Government} = T - G - TR$$

A *budget surplus* is a positive budget balance, and a *budget deficit* is a negative budget balance.

Other things equal, expansionary fiscal policies reduce the budget balance for that year.

Other things equal, contractionary fiscal policies increase the budget balance for that year.

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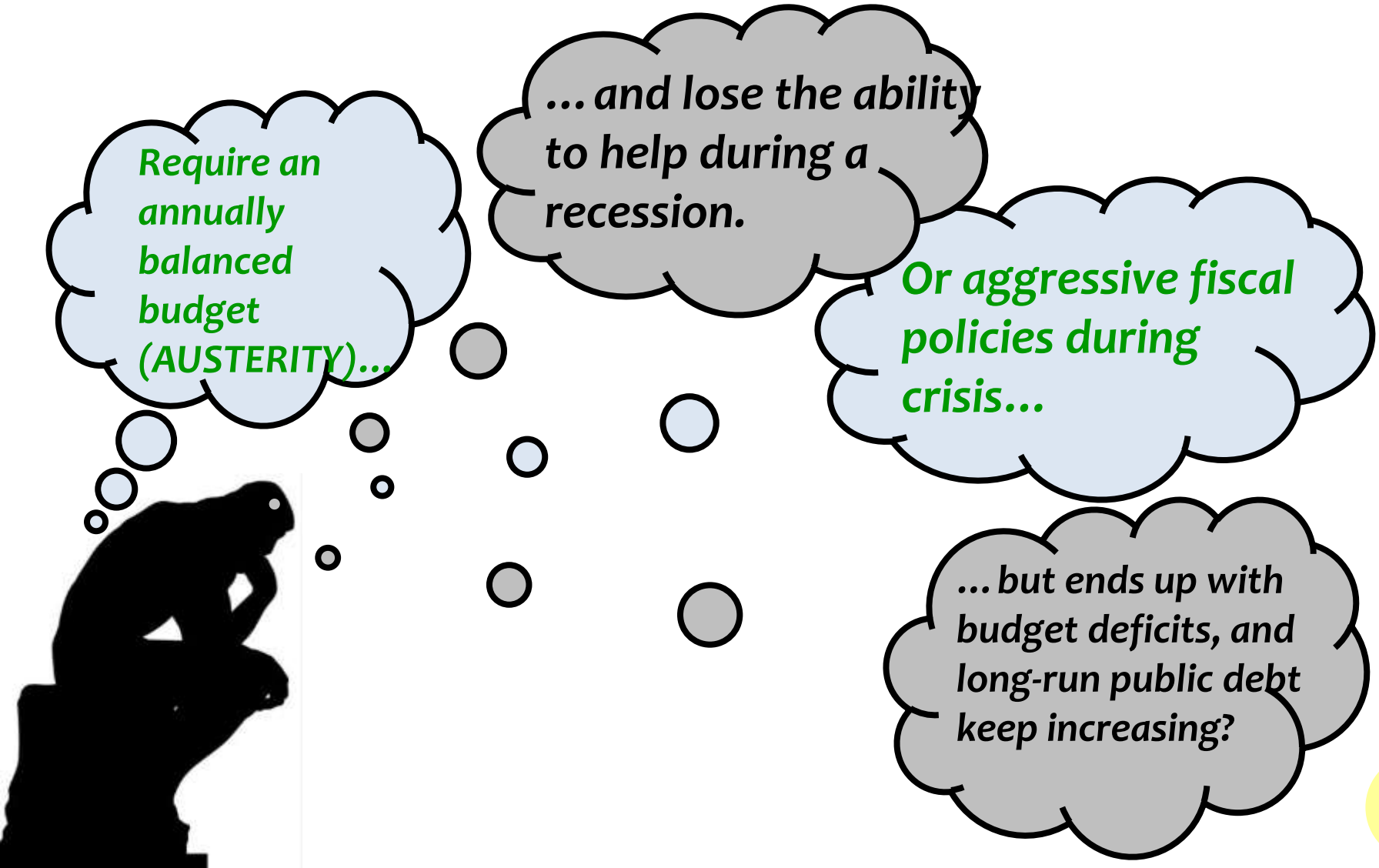
Philosophies on Balancing the Budget



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Budget Policy in the United States

During 2008 crisis, EU economies opted for Austerity program; but ends up into deeper crisis.

The United States has its own version of stability pact: ***The constitutions require states a balanced budget every year.***

When recession struck in 2008, most states were forced to slash spending and raise taxes in the face of a recession, exactly the wrong thing from a macroeconomic point of view.

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The Social Cost of Debt

Greece (the Govt) imposed severe spending cuts to qualify for loans. Greeks (the People) angered by their government's harsh austerity measures took to the streets in protest.

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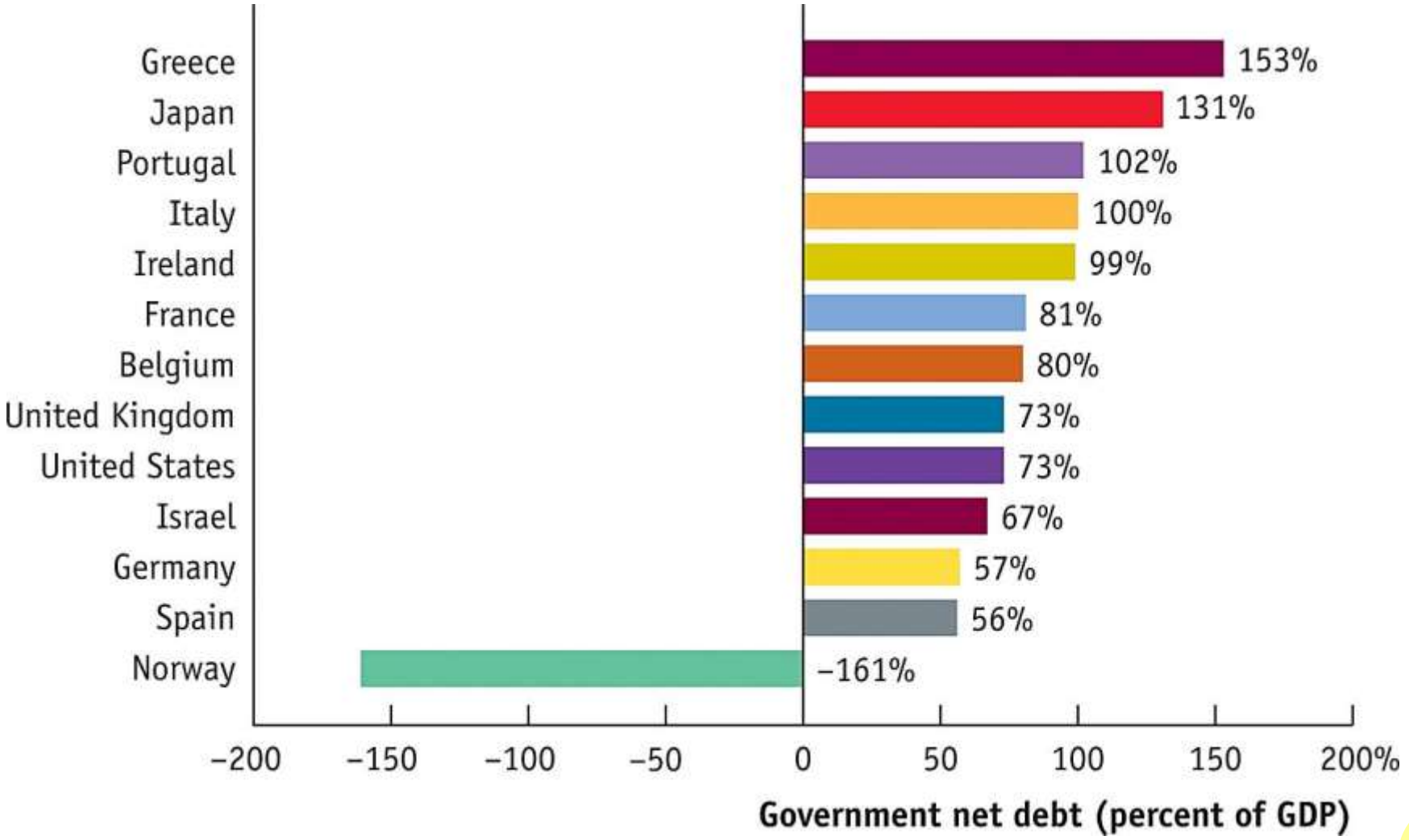
The Comparison of National Debt, 2015



Source: International Monetary Fund

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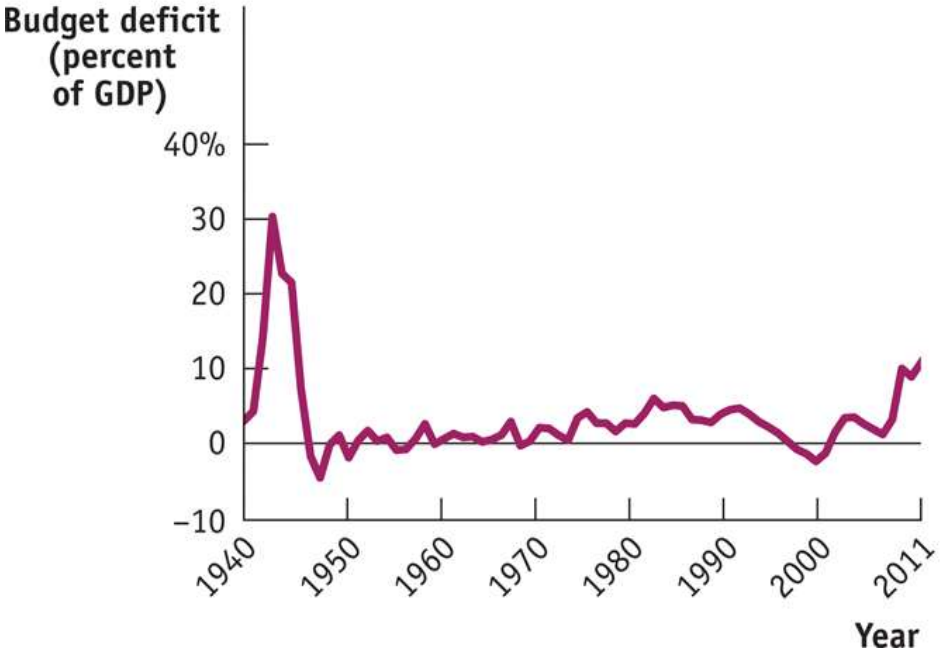
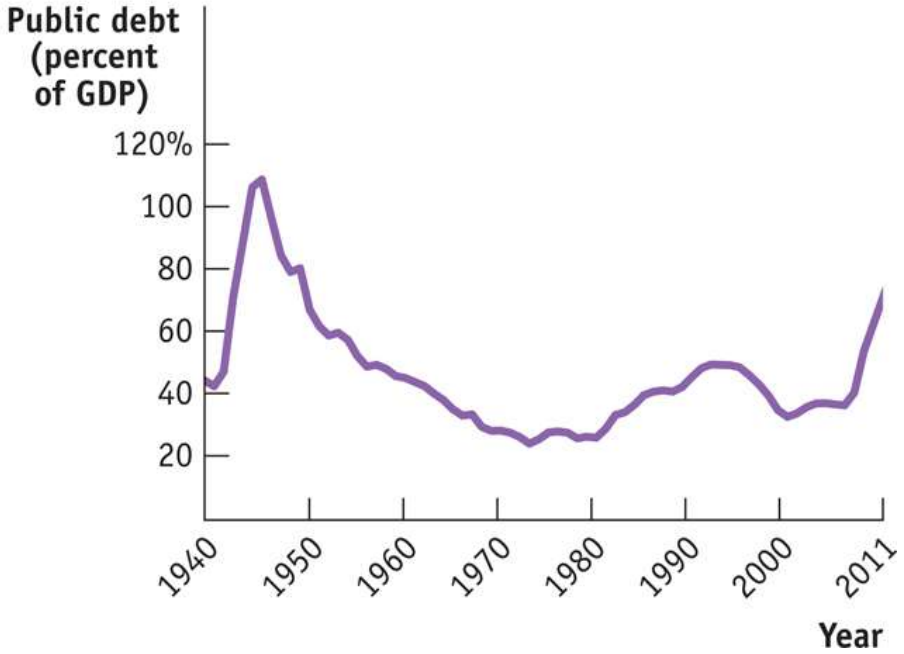
Deficits and Debt in the US

A widely used measure of fiscal health is the Debt–GDP ratio.

(a) The U.S. Federal Budget Deficit Since 1940



(b) The U.S. Public Debt–GDP Ratio Since 1940



Source: Office of Management and Budget.

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