Chapter 14 (Chapter 33)

MODERN PRINCIPLES OF ECONOMICS
Third Edition

Transmission and Amplifications Mechanisms

Tyler Cowen • Alex Tabarrok

Outline

- Intertemporal Substitution
- Uncertainty and Irreversible Investments
- Labor Adjustment Costs
- Time Bunching
- Collateral Damage

Introduction

- Economic forces can amplify shocks and transmit them across sectors and through time.
- A mild negative shock can be transformed into a serious reduction in output.
- A positive shock can be transformed into a boom.
- Real shocks and aggregate demand shocks can interact, with one leading to the other.

Introduction

- This chapter focuses on the following five transmission mechanisms:
  1. Intertemporal substitution
  2. Uncertainty and irreversible investments
  3. Labor adjustment costs
  4. Time bunching
  5. Shocks to collateral and net worth

Intertemporal Substitution

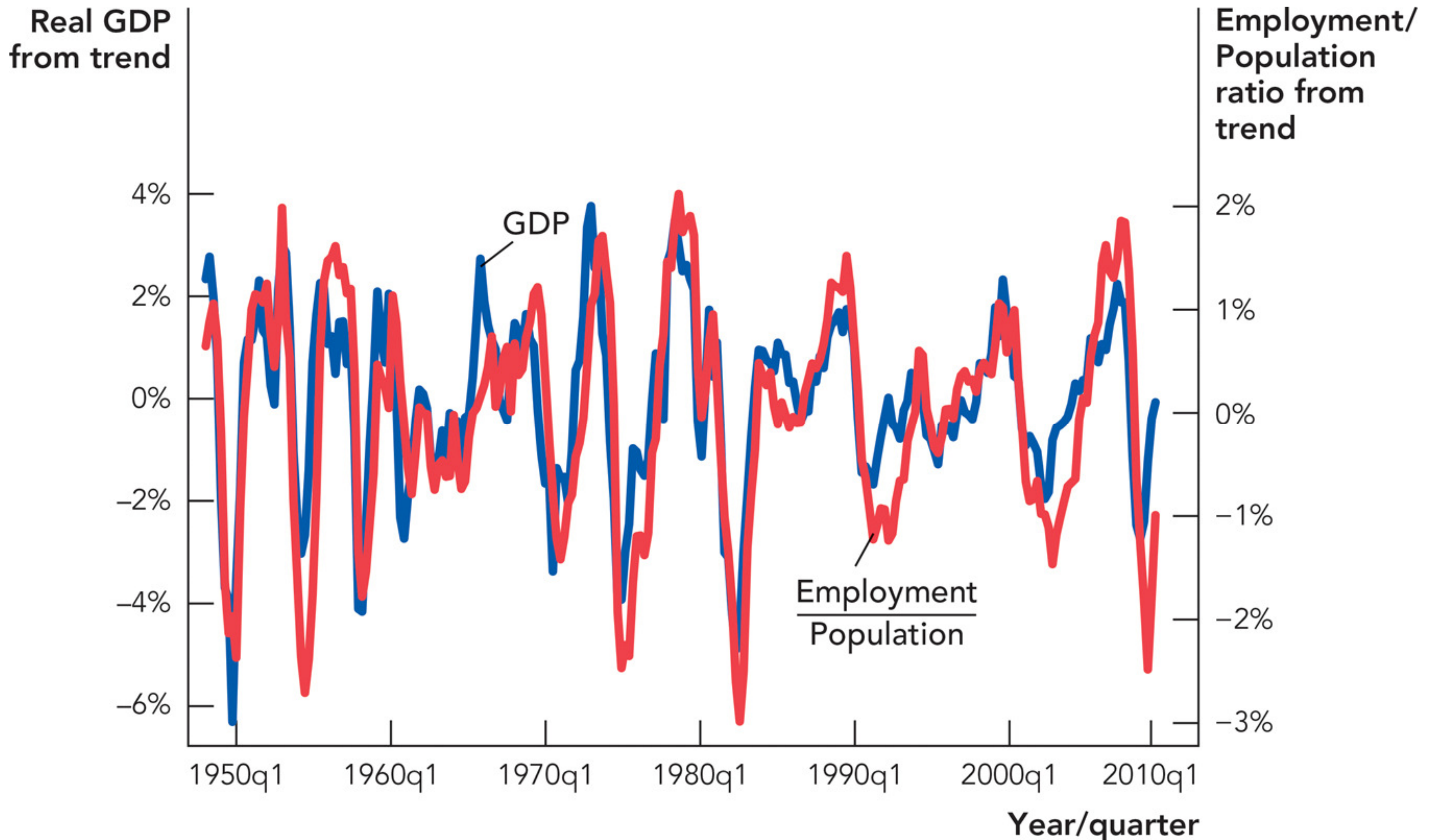
- People are most likely to work hard when hard work brings the greatest return.
- As a test approaches, you probably study harder and give up opportunities to have fun.
- Once the test is over, you study less and have more fun.
- During a boom, people are less likely to retire or take early retirement.
- Substituting effort across time is called ***intertemporal substitution***.

Definition

Intertemporal substitution:

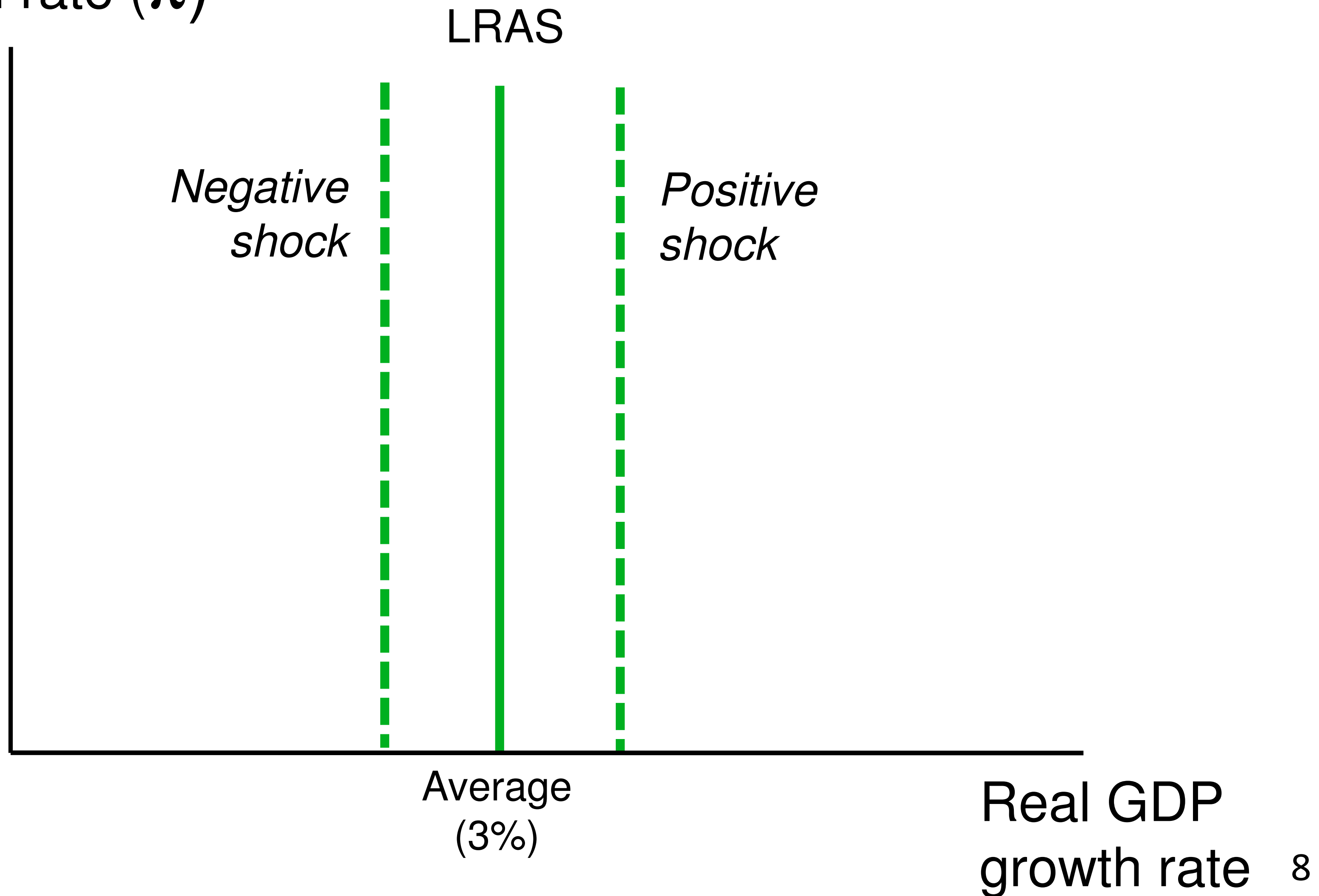
The allocation of consumption, work, and leisure across time to maximize well-being.

Intertemporal Substitution

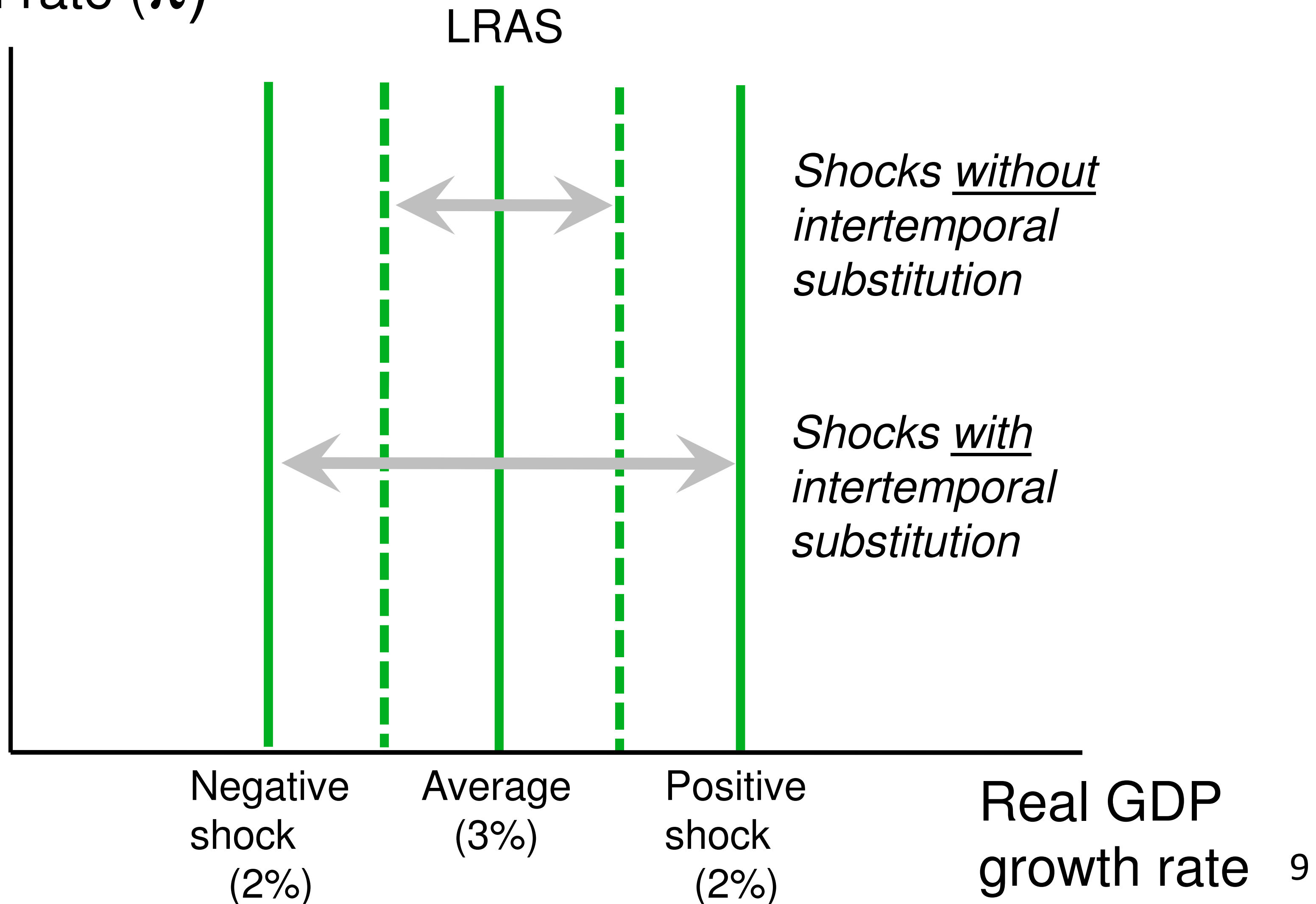


Intertemporal Substitution: Percentage Deviation from Trend in GDP and the Employment–Population Ratio, 1950–2010

Intertemporal Substitution



Intertemporal Substitution



Self-Check

Intertemporal substitution of effort:

a. Amplifies only positive shocks.
b. Amplifies positive and negative shocks.
c. Dampens the effect of shocks.

Answer: b – Intertemporal substitution amplifies both positive and negative shocks.

Definition

Irreversible investments:

Have high value only under specific conditions—they cannot be easily moved, adjusted, or reversed if conditions change.

Irreversible Investments

- Many investments involve sunk costs, that is, they are **irreversible investments**, or very costly to reverse.
- The more uncertain the world appears, the harder it is for investors to read signals about where to invest.
- Uncertainty usually slows investment and keeps resources in less productive uses.

Definition

Labor adjustment costs:

The costs of shifting workers from declining sectors of the economy to the growing sectors.

Labor Adjustment Costs

- Once a negative shock hits, workers must look for new jobs, move to new areas, and sometimes change their wage expectations.
- This induces more search and thus causes more search-related unemployment.
- The high cost of reversing job decisions can lead to unemployment.
- When faced with uncertainty, many workers will wait, increasing unemployment and magnifying the negative real shock.

Self-Check

Investments involving sunk costs are called:

a. Sunk investments.
b. Intertemporal investments.
c. Irreversible investments.

Answer: c – *irreversible investments.*

Definition

Time bunching:

The tendency for economic activities to be coordinated at common points in time.

Time Bunching

- Many economic activities cluster in time because it pays to coordinate your economic actions with those of others.
- We want to invest, produce, and sell at the same time as others.
- The clustering of economic activity in time makes buying and selling more efficient.
- It also causes shocks to spread through the economy and to spread through time.

Definition

Collateral:

A valuable asset that is pledged to a lender to secure a loan. If the borrower defaults, ownership of the collateral transfers to the lender.

Definition

Collateral shock:

A reduction in the value of collateral. Collateral shocks make borrowing and lending more difficult.

Collateral Damage

- Banks are more concerned about downside risk because if a customer does poorly, the bank could lose the entire value of its loan.
- If the firm does incredibly well the bank simply gets its loan back plus interest.
- Banks don’t often invest in startups or firms with debts that exceed assets.
- For the economy as a whole this behavior amplifies booms and busts.

Collateral Damage

- During a boom, asset prices are increasing and firms have cash flow.
- Banks are willing to approve more loans, making the boom even bigger.
- In a downturn, asset prices fall, cash flow is reduced, and firms have lower net worth.
- Lenders see loans as being riskier and they cut off or restrict credit.
- This drives more firms under, increasing joblessness and making the bust worse.

Collateral Damage

- Real shocks and aggregate demand shocks can reinforce and amplify one another.
- When the nominal owner of a property doesn't have much equity in the property, very often he or she doesn't do a good job taking care of the property.
- When the bank itself is "underwater" or nearly so, the bank managers don't do a very good job of taking care of the bank
- The net result is this: When asset prices fall, there is a lot of collateral damage.

Self-Check

A reduction in the value of an asset pledged to a lender is called:

a. A reversible investment.
b. Collateral shock.
c. Time bunching.

Answer: b – *a reduction in the value of collateral is called collateral shock.*

Takeaway

- At least five factors amplify economic shocks:
  - Labor supply and intertemporal substitution
  - Uncertainty and irreversible investment
  - Labor adjustment costs
  - Time bunching
  - Collateral shocks