

Public Affairs 856
Trade, Competition, and
Governance in a Global Economy
Lecture 24
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Offshoring of Goods and Services

Outline

1. A Model of Offshoring
2. The Gains from Offshoring
3. The Politics and Future of Offshoring

Introduction

- The provision of a service or the production of various parts of a good in different countries that are then used or assembled into a final good in another location is called **foreign outsourcing** or, more simply, **offshoring**.
- Offshoring is trade in *intermediate inputs*.
- Offshoring is similar to immigration in that U.S. firms are able to employ foreign workers, even though those workers do not have to leave their home countries.

SIDE BAR

“Foreign Outsourcing” Versus “Offshoring”

- The term “offshoring” is sometimes used to refer to a company moving some of its operations overseas but retaining ownership of those operations.
- The examples of Intel, Mattel, and Dell suggest there is a gray spectrum to this definition.
- In this chapter, we will not worry about the distinction between “offshoring” and “foreign outsourcing” and will use the term “offshoring” whenever the components of a good or service are produced in several countries, regardless of who owns the plants that provide the components or services.

Introduction

- In this chapter, we examine in detail the phenomenon of offshoring.
- First, we develop a model of offshoring to see how offshoring alters the activities of the firm.
 - We analyze the impact of offshoring on the demand and relative wage of workers at home and abroad.
 - We also examine the gains from offshoring, how it affects relative prices and the terms of trade, and ultimately how it affects both firms and workers.
- Finally, we examine the response to offshoring in the United States, and end with a note about the politics and future of offshoring.

1 A Model of Offshoring

Value Chain of Activities

FIGURE 7-1 (1 of 2) The Value Chain of a Product

(a) Activities Ranked by Order in Production



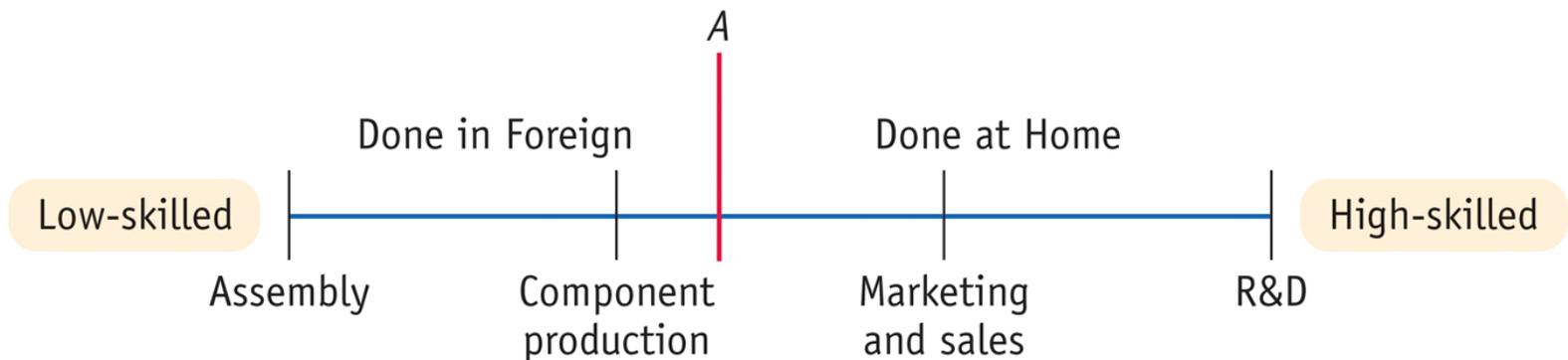
Any product has many different activities involved in its manufacture. Panel (a) lists some of these activities for a given product in the order in which they occur.

1 A Model of Offshoring

Value Chain of Activities

FIGURE 7-1 (2 of 2) The Value Chain of a Product (continued)

(b) Activities Ranked by High-skilled/Low-skilled Labor



The value chain in (b) lists these same activities in order of the amount of high-skilled/low-skilled labor used in each. In panel (b), the assembly activity, on the left, uses the least skilled labor, and R&D, on the right, uses the most skilled labor.

Because we assume that the relative wage of skilled labor is higher at Home and that trade and capital costs are uniform across activities, there is a point on the **value chain**, shown by line A, below which all activities are offshored to Foreign and above which all activities are performed at Home.

1 A Model of Offshoring

Value Chain of Activities

Relative Wage of Skilled Workers

Our first assumption is that Foreign wages are less than those at Home, so

$$W^*_L < W_L \text{ and } W^*_H < W_H.$$

Also, that the *relative wage* of low-skilled labor is lower in Foreign than at Home, so

$$W^*_L/W^*_H < W_L/W_H.$$

1 A Model of Offshoring

Value Chain of Activities

Costs of Capital and Trade

- Although labor costs are lower in Foreign, the firm must also take into account extra costs of doing business there.
 - higher prices to build a factory or costs of production
 - the extra costs of communication or transportation
- In making the decision to outsource, a firm will balance the savings from lower wages against the extra costs of capital and trade.
- We assume these extra costs apply *uniformly* across all the activities in the value chain—a somewhat unrealistic assumption.

1 A Model of Offshoring

Value Chain of Activities

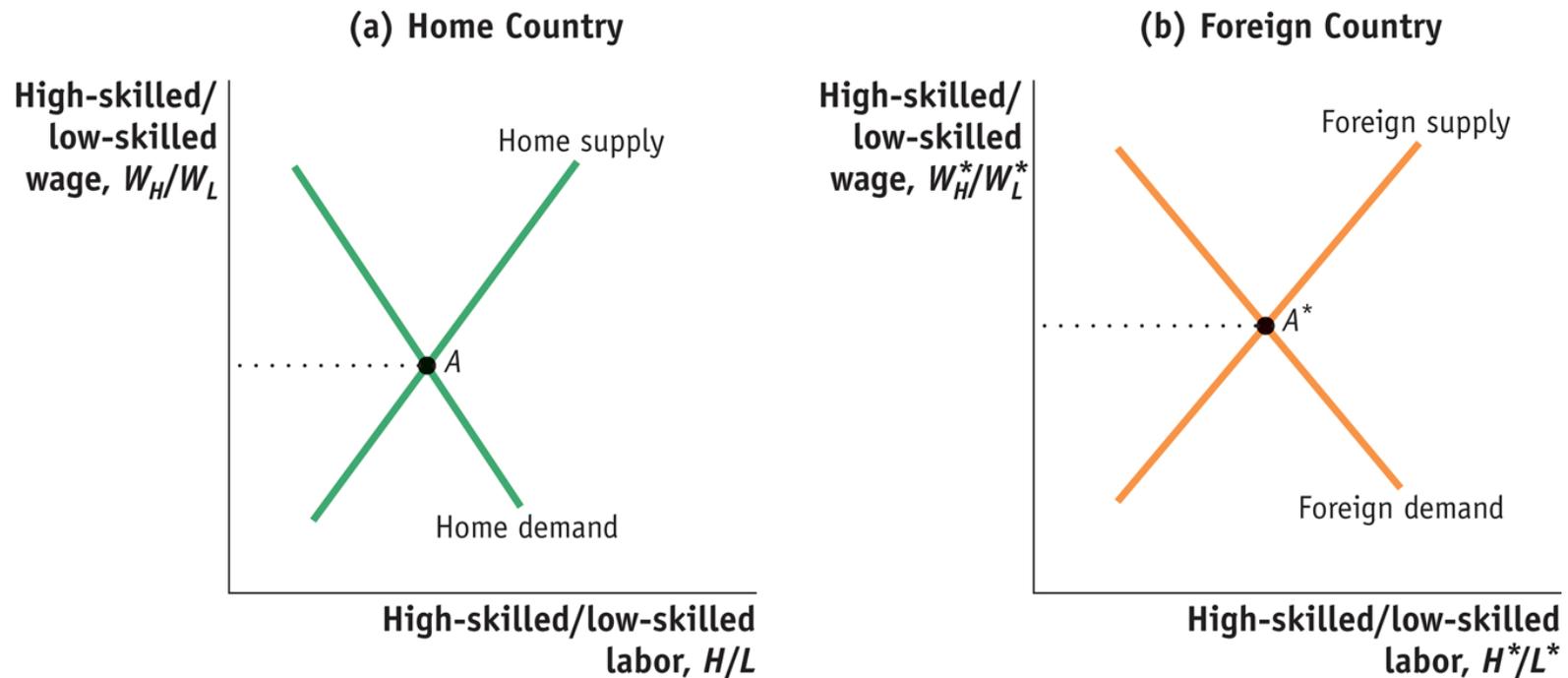
Slicing the Value Chain

- The cost savings on wages are important in determining which activities to transfer and which to keep at Home.
- This is referred to as *slicing the value chain*.

1 A Model of Offshoring

Relative Demand for Skilled Labor

FIGURE 7-2



Relative Demand and Supply for High-Skilled/Low-Skilled Labor

In panel (a), we show the relative demand and supply for skilled labor at Home, H/L , depending on the relative wage, W_H/W_L . The equilibrium relative wage at Home is determined at A .

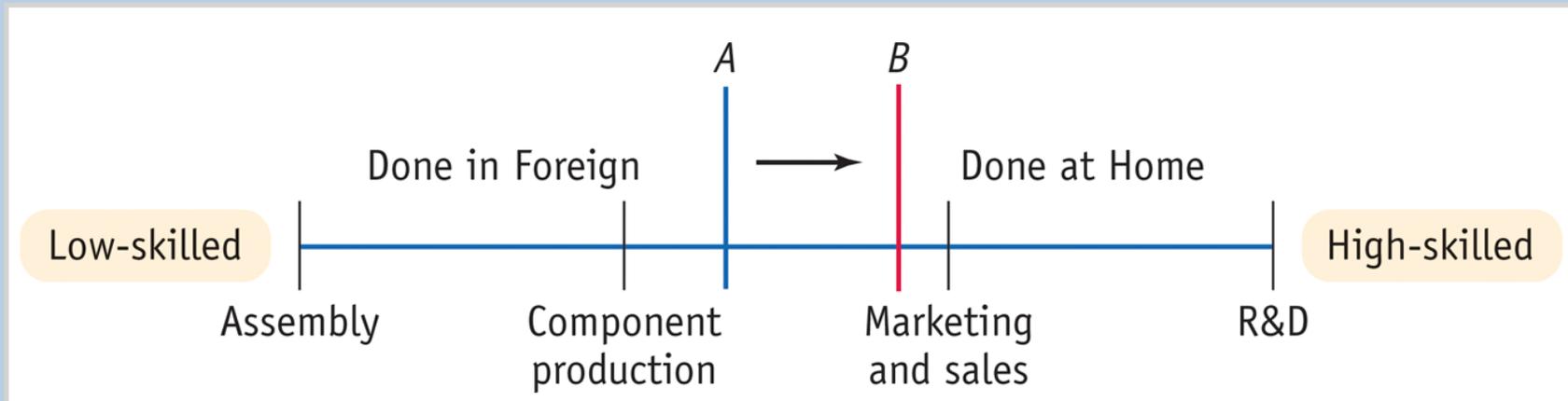
In panel (b), we show the relative demand and supply for skilled labor in Foreign, H^*/L^* , depending on the relative wage, W_H^*/W_L^* . The Foreign equilibrium is at point A^* .

1 A Model of Offshoring

Changing the Costs of Trade

Change in Home Labor Demand and Relative Wage

FIGURE 7-3



Offshoring on the Value Chain As the costs of capital or trade fall in the Foreign country, a Home firm will find it profitable to offshore more activities.

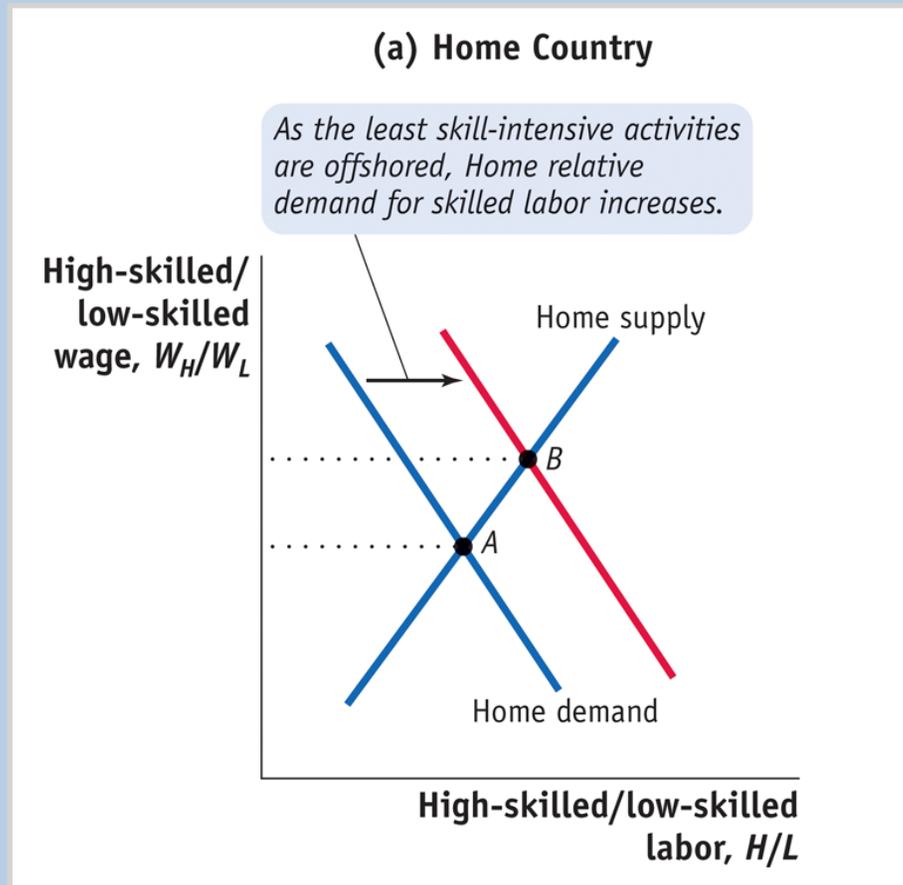
Offshoring shifts the dividing line between Home and Foreign production from *A* to *B*. The activities between *A* and *B*, which formerly were done at Home, are now done in Foreign.

These activities are more skill-intensive than the activities formerly done in Foreign (to the left of *A*) but less skill-intensive than the activities now done at Home (right of *B*).

1 A Model of Offshoring

Change in Foreign Labor Demand and Relative Wage

FIGURE 7-4 (1 of 2) Change in the Relative Demand for High-Skilled/Low-Skilled Labor



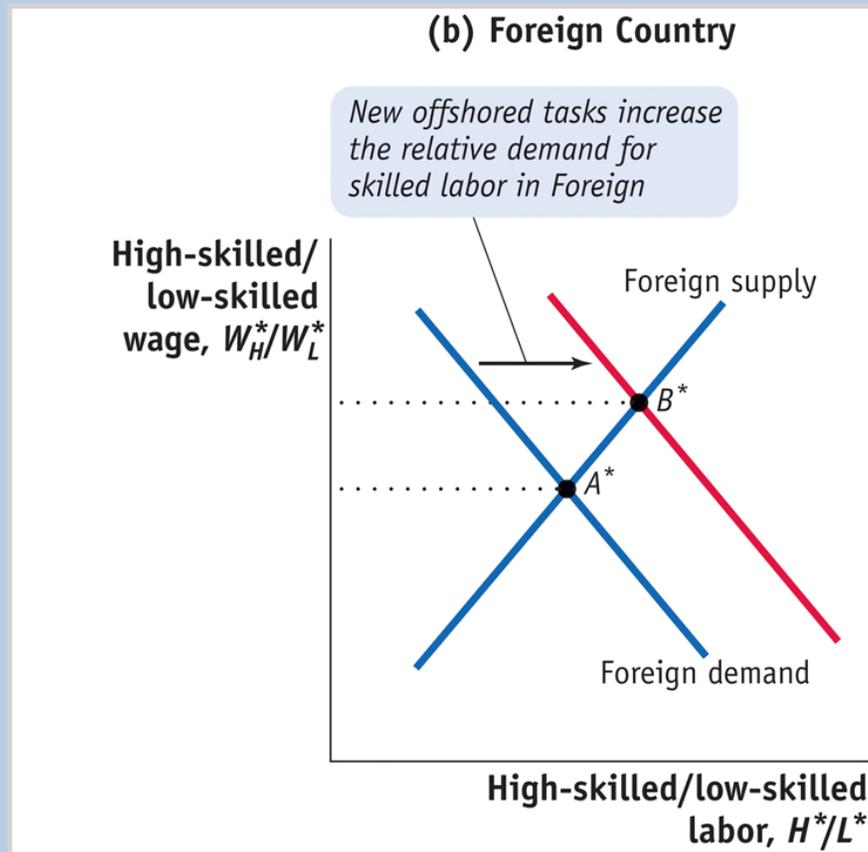
With greater offshoring from Home to Foreign, some of the activities requiring less skill that were formerly done at Home are now done abroad.

It follows that the relative demand for skilled labor at Home increases, and the relative wage rises from point *A* to point *B*.

1 A Model of Offshoring

Change in Foreign Labor Demand and Relative Wage

FIGURE 7-4 (2 of 2) Change in the Relative Demand for High-Skilled/Low-Skilled Labor (continued)



The relative demand for skilled labor in Foreign also increases because the activities shifted to Foreign are more skill intensive than those formerly done there.

It follows that the relative wage for skilled labor in Foreign also rises, from point A^* to point B^* .

1 A Model of Offshoring

Change in Foreign Labor Demand and Relative Wage

Both countries experience *an increase* in the relative wage of skilled labor due to increased outsourcing.

- As activities in the middle of the value chain are shifted from Home to Foreign, they raise the relative demand for skilled labor in both countries.
- These activities are the least skill-intensive of those formerly done at Home but the most skill-intensive of those done in Foreign.
- So the relative demand for skilled labor rises in both countries along with the relative wage.

APPLICATION

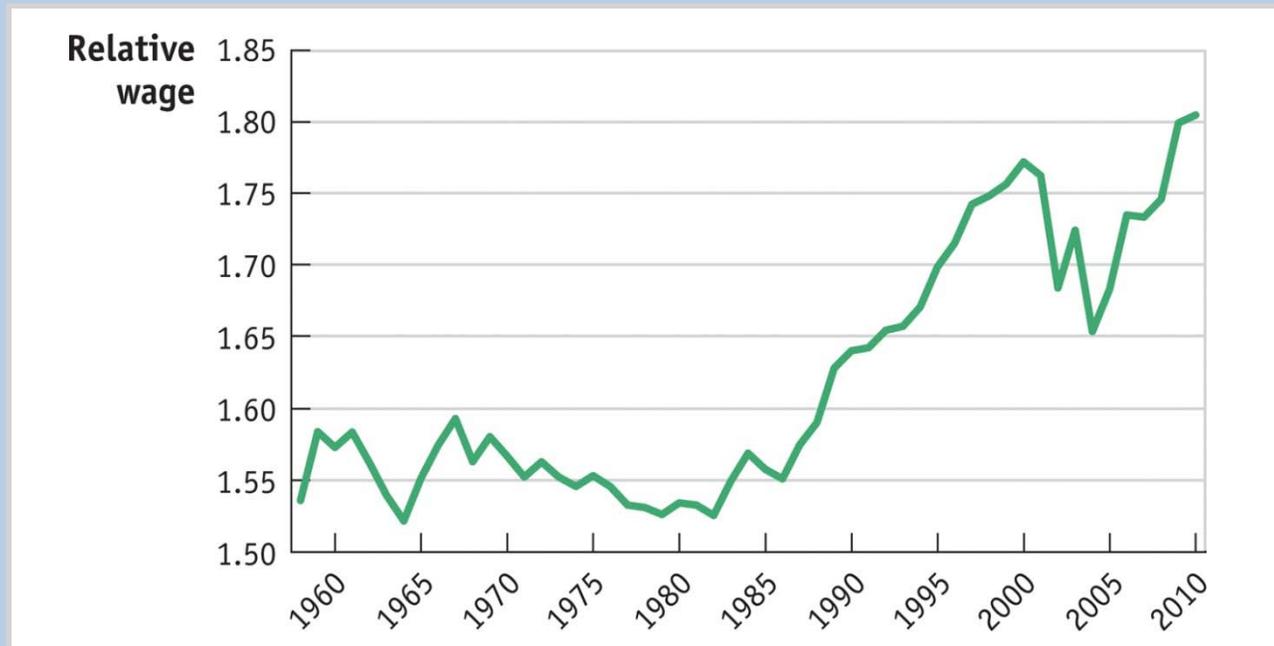
Change in Relative Wages Across Countries

- Our offshoring model predicts that the relative wage of skilled workers will rise in *both* the country doing the offshoring and the country receiving the new activities.
- Indeed, since the early 1980s, the wages of skilled workers have risen relative to those of unskilled workers in the U.S. as well as other countries.
- We can use data from the manufacturing sector on “production” (unskilled) and “non-production” (skilled) workers.

APPLICATION

Change in Relative Wages in the United States Relative Wage of Nonproduction Workers

FIGURE 7-5 Relative Wage of Nonproduction/Production Workers, U.S. Manufacturing

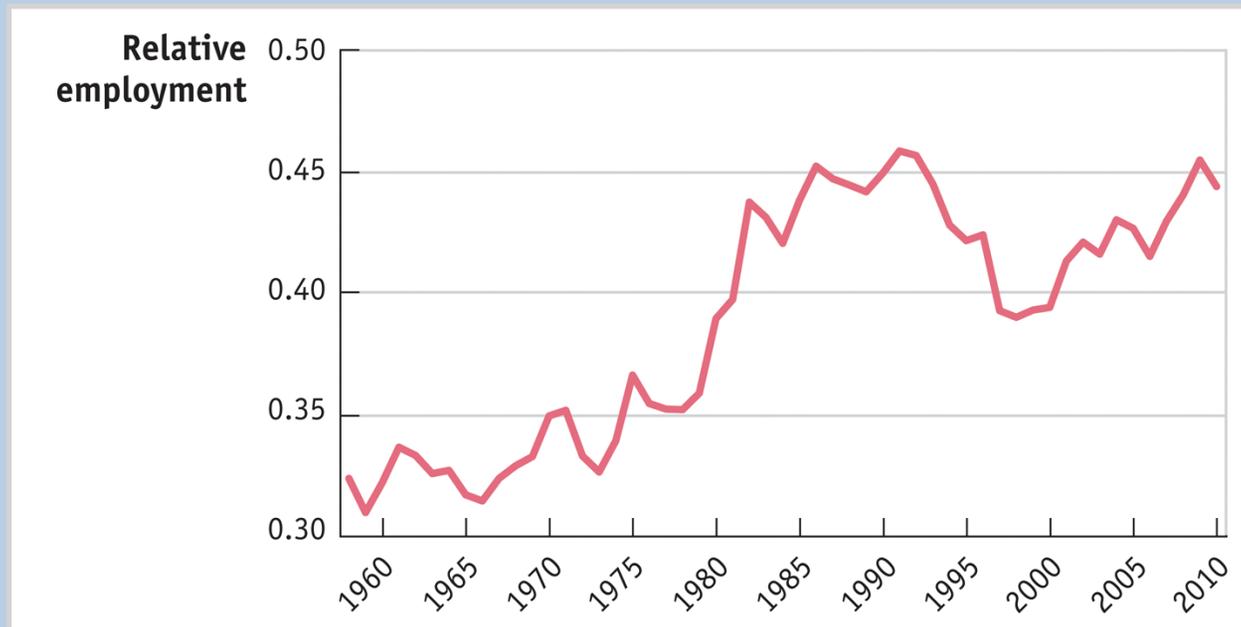


This diagram shows the average wage of nonproduction workers divided by the average wage of production workers in U.S. manufacturing. This ratio displayed a downward trend during the 1960s and 1970s before reversing itself during the 1980s, when the relative wage of nonproduction workers increased until 2000. In more recent years, the relative wage has become quite volatile, falling erratically until 2004, then rising to 2010.

APPLICATION

Change in Relative Wages in the United States Relative Employment of Nonproduction Workers

FIGURE 7-6 Relative Employment of Nonproduction/Production Workers, U.S. Manufacturing

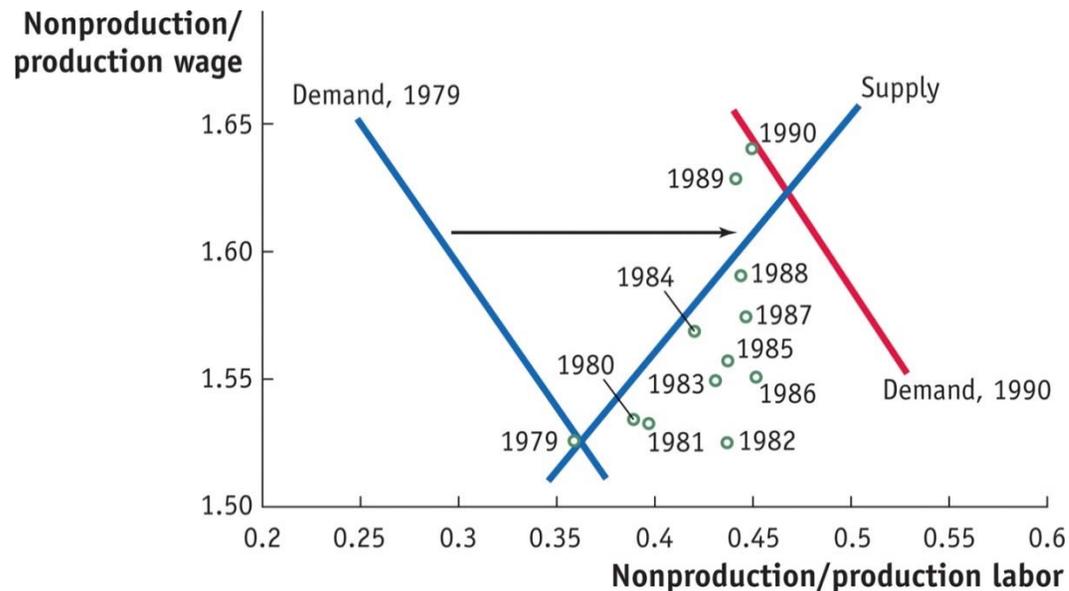


This diagram shows the employment of nonproduction workers in U.S. manufacturing divided by the employment of production workers. There was a steady increase in the ratio of nonproduction to production workers employed in U.S. manufacturing until the early 1990s. During the 1990s there was a fall in the ratio of nonproduction to production workers until 1998, and then a rise again thereafter.

APPLICATION

Change in Relative Wages in the United States Relative Employment of Nonproduction Workers

FIGURE 7-7 Supply and Demand for Nonproduction/Production Workers in the 1980s



This diagram shows the average wage of nonproduction workers divided by the average wage of production workers on the vertical axis, and on the horizontal axis employment of nonproduction workers divided by employment of production workers. Both the relative wage and the relative employment of nonproduction, or skilled, workers rose during the 1980s, indicating that the relative demand curve must have shifted to the right.

APPLICATION

Change in Relative Wages in the United States

Explanations

The shift in relative demand toward skilled workers because of the use of computers and other high-tech equipment is called **skill-biased technological change**.

To explain the shift in relative demand, we can:

- Observe the increase in the share of **total wage payments** going to non-production labor in U.S. manufacturing industries. This captures both the rising relative wage and the rising relative employment of skilled workers.
- Analyze the increase in relative wages of non-production labor.

APPLICATION

Change in Relative Wages in the United States

Explanations

- Outsourcing is measured as the intermediate inputs imported by each industry.
- High-technology equipment can be measured in two ways:
 - As a fraction of the total capital equipment installed in each industry.
 - As a fraction of new investment in capital that is devoted to computers and other high-tech devices.
- Table 7.1 reports the results from both of these measures.

APPLICATION

Change in Relative Wages in the United States Explanations

TABLE 7-1

Increase in the Relative Wage of Nonproduction Labor in U.S. Manufacturing, 1979-1990 This table shows the estimated effects of offshoring and the use of high-technology equipment on the wages earned by nonproduction (or skilled) workers. Part A focuses on how these variables affect the share of wage payments going to nonproduction workers. Part B shows how these two variables affect the relative wage of nonproduction workers.

	PERCENT OF TOTAL INCREASE EXPLAINED BY EACH FACTOR	
	Offshoring	High-Technology Equipment
Part A: Share of Wage Payments Going to Nonproduction Workers		
<i>Measurement of high-tech equipment:</i>		
As a share of the capital stock	20–23	8–12
As a share of capital flow (i.e., new investment)	13	37
Part B: Relative Wage of Nonproduction/Production Workers		
<i>Measurement of high-tech equipment:</i>		
As a share of the capital stock	21–27	29–32
As a share of capital flow (i.e., new investment)	12	99

APPLICATION

Change in Relative Wages in the United States

Explanations

- Summing up, we conclude that both offshoring and high-tech equipment are important explanations for the increase in the relative wage of nonproduction/production labor in U.S. manufacturing.
- However, it is difficult to judge which is more important because the results depend on how we measure the high-tech equipment.

APPLICATION

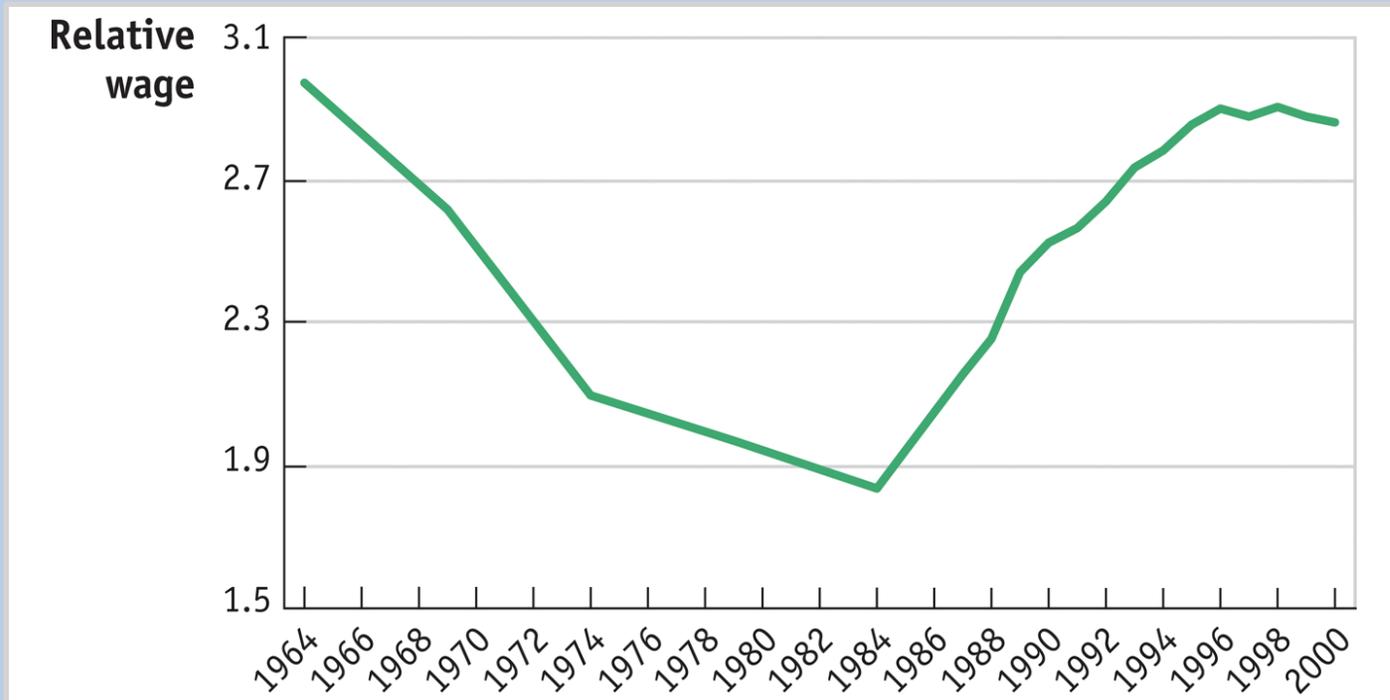
Change in Relative Wages in Mexico

- Did wages in Mexico workers rise, as the model correctly anticipated for the U.S.?
 - The data seem to follow the same trends that we saw in the U.S. relative wages do move in the same direction in both countries.
 - However, after the onset of NAFTA in 1994, relative wages move in opposite directions in the maquiladora and non-maquiladora plants in Mexico.

APPLICATION

Change in Relative Wages in Mexico

FIGURE 7-8 Relative Wage of Nonproduction/Production Workers, Mexico Manufacturing



This diagram shows the wage of nonproduction workers in the manufacturing sector of Mexico divided by the wage of production workers. After declining during the 1960s and 1970s, this relative wage began to move upward in the mid-1980s, at the same time that the relative wage of nonproduction workers was increasing in the United States. The relative wage in Mexico continued to rise until 1994, when NAFTA began.

2 The Gains from Offshoring

We have shown that outsourcing can shift the relative demand for labor, and raise the wage for skilled workers.

- Since the wage for unskilled workers is the reciprocal of that for skilled workers, outsourcing will decrease the relative wage for unskilled workers.
- However, outsourcing reduces production costs which, in a competitive market, reduces prices.
- We conclude then that outsourcing can have benefits for both producers and their workers, and consumers.

2 The Gains from Offshoring

- In this section, we try to balance the potential losses faced by some groups (unskilled labor) with the gains enjoyed by others (skilled labor and consumers).
- In the previous chapters, the Ricardian and Heckscher-Ohlin models generate more gains than losses. Is this true for outsourcing?

2 The Gains from Offshoring

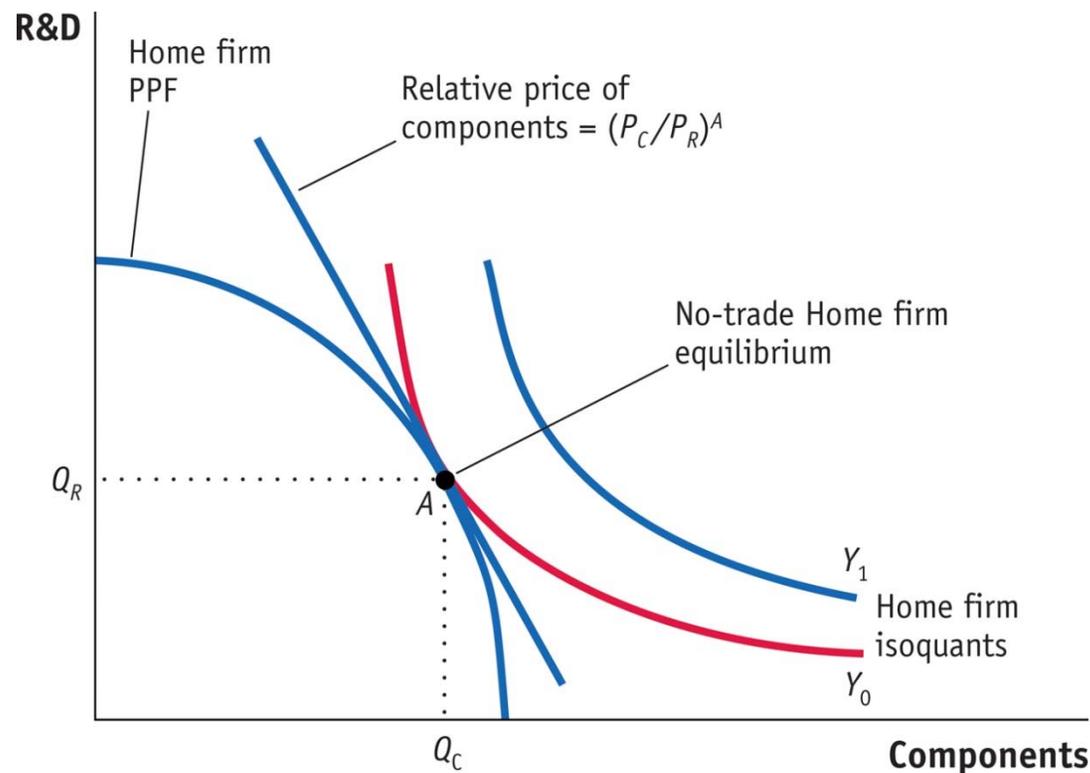
Simplified Offshoring Model

- Suppose there are only two activities:
 1. components production
 2. and research and development (R&D)
- Each activity uses skilled and unskilled labor, but components uses unskilled labor intensively and R&D uses skilled labor intensively.
- The costs of capital are equal in both activities.
- We want to compare the no-trade situation to an equilibrium with trade through outsourcing, to determine if there are overall gains from trade.

2 The Gains from Offshoring

Simplified Offshoring Model

FIGURE 7-9 No-Trade Equilibrium for the Home Firm



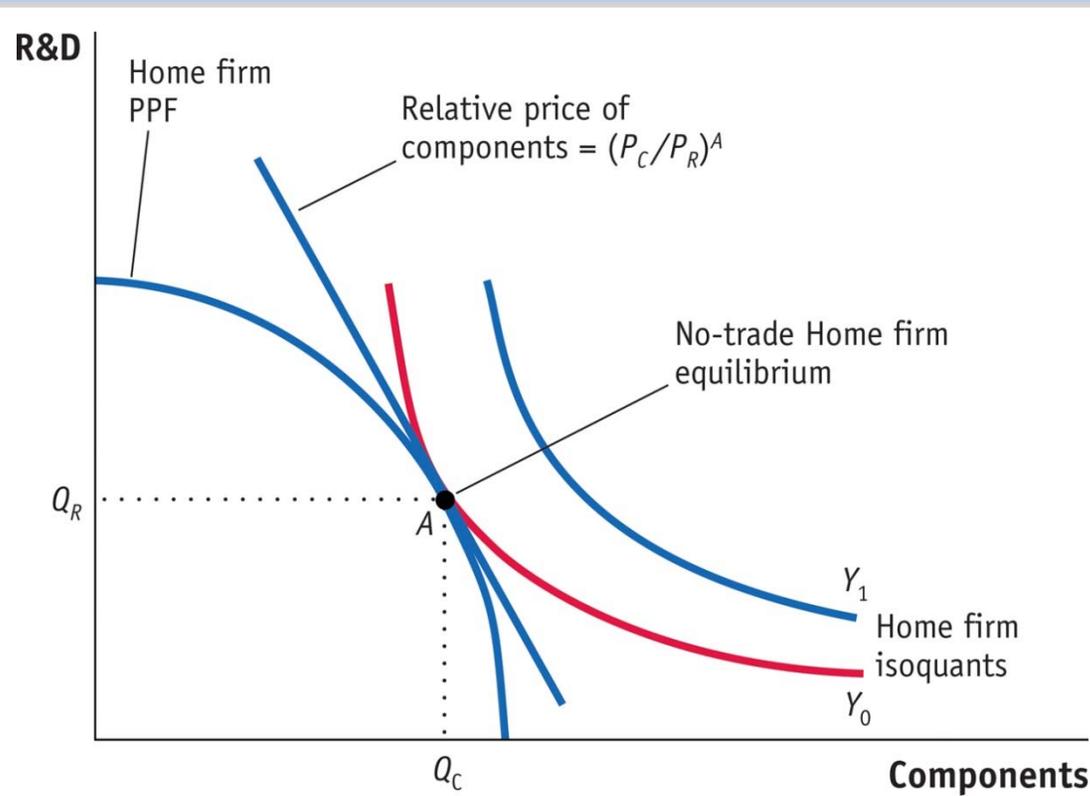
The PPF shows the combinations of components and R&D that can be undertaken by a firm with a given amount of labor and capital.

In the absence of offshoring, the firm produces at A , using quantities Q_C of components and Q_R of R&D to produce amount Y_0 of the final good.

2 The Gains from Offshoring

Simplified Offshoring Model

FIGURE 7-9 No-Trade Equilibrium for the Home Firm (continued)



The line tangent to the **isoquant** through point A measures the value that the firm puts on components relative to R&D, or their relative price, $(P_C/P_R)^A$.

Amount Y_1 of the final good cannot be produced in the absence of offshoring because it lies outside the PPF for the firm.

2 The Gains from Offshoring

Equilibrium with Outsourcing

- Suppose the firm can import and export its production activities through outsourcing.
- The quantity of the final good is no longer constrained by the Home PPF.
- A higher level of production (isoquant) is possible by trading intermediate activities.
- We will refer to the relative price of the two activities that the Home firm has available through outsourcing as their world relative price, $(P_C/P_R)^{W1}$.
- Assume the world relative price of components is cheaper than Home's no-trade relative price.

2 The Gains from Offshoring

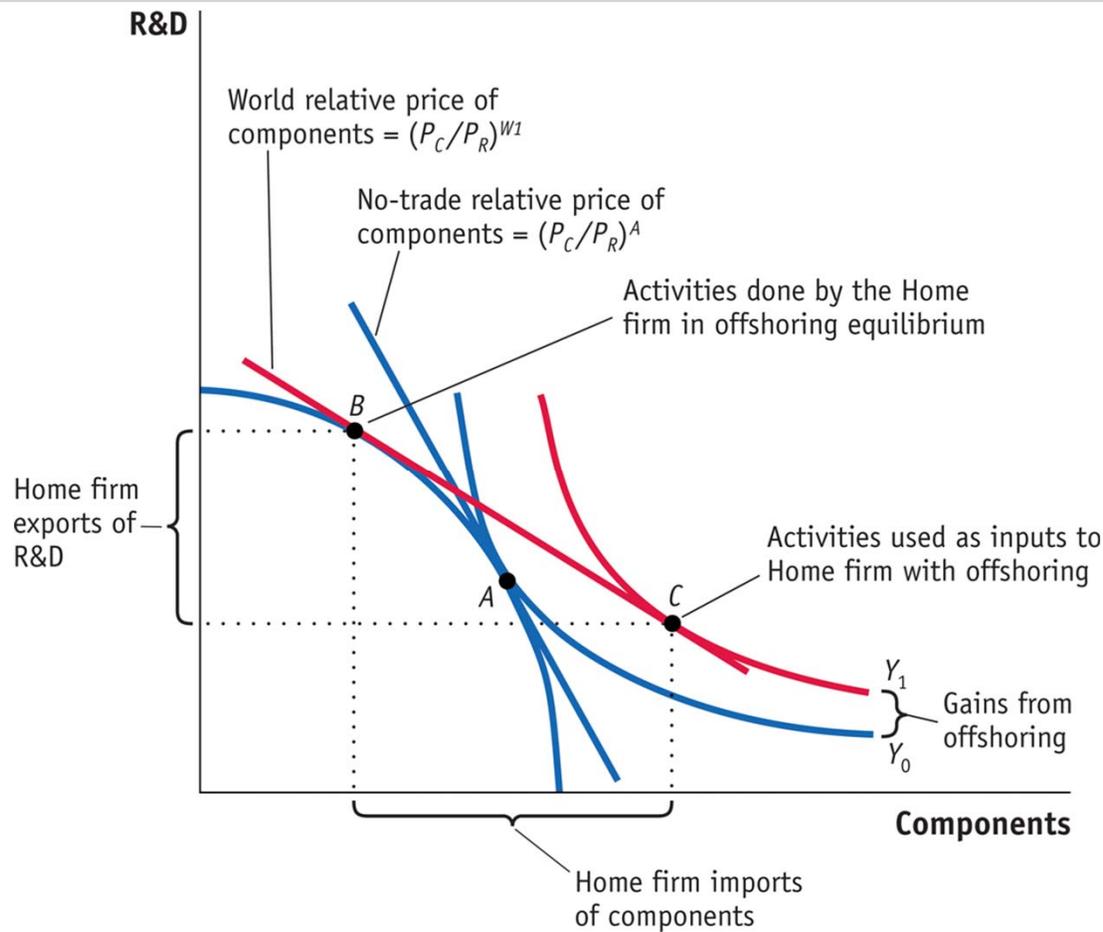
Equilibrium with Outsourcing

- With a lower relative wage of unskilled labor in Foreign, the components assembly will also be cheaper in Foreign.
- It follows that Home will want to outsource components, which are cheaper abroad, while Home firms will be exporting R&D, which is cheaper at Home.

2 The Gains from Offshoring

Equilibrium with Outsourcing

FIGURE 7-10 Offshoring Equilibrium for the Home Firm

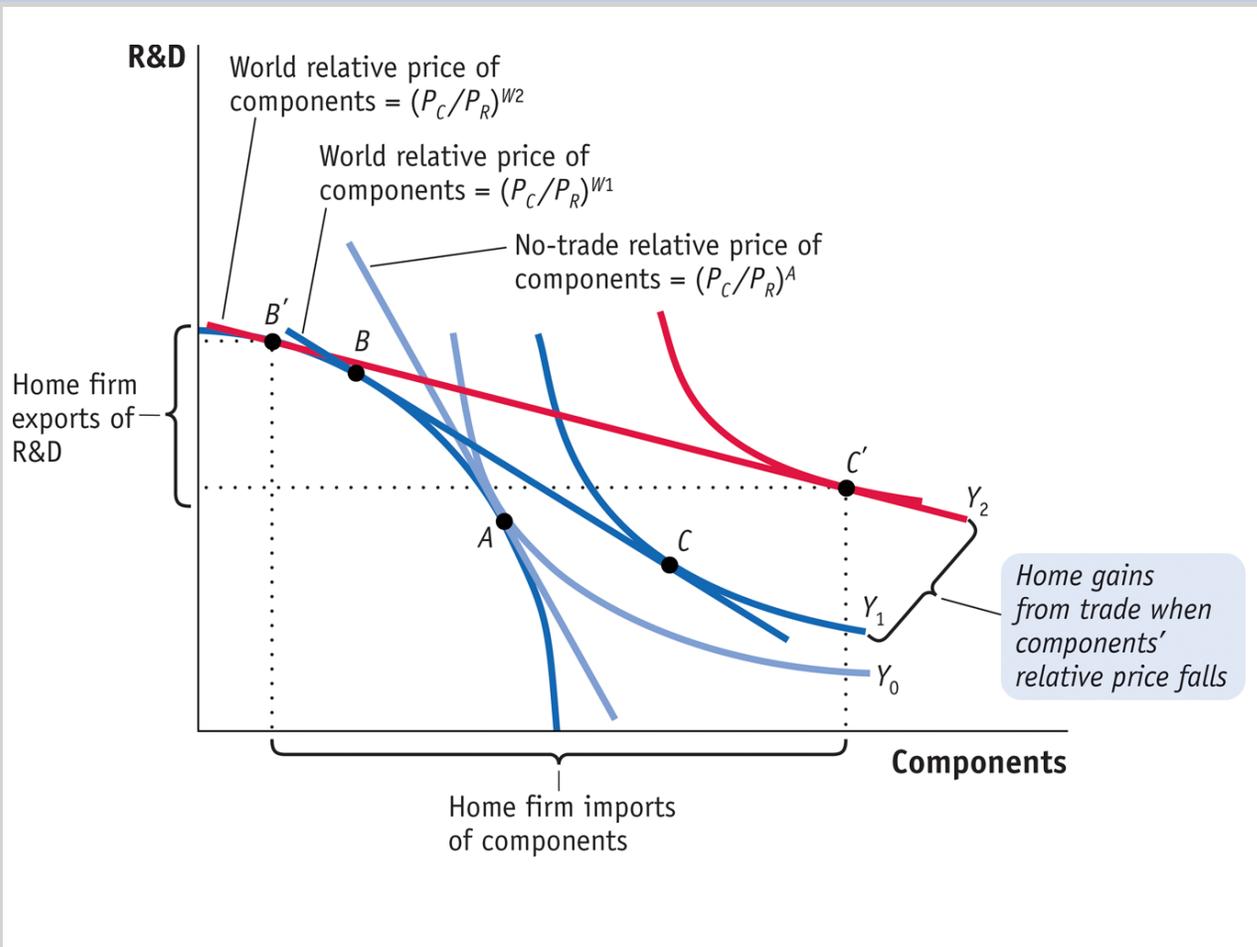


In the presence of offshoring, the Home firm will do more R&D and less component production, at point B. The Home firm then exports R&D activities and imports components at the world relative price of components, which allows it to produce the amount Y_1 of the final good. The difference between Y_0 and Y_1 represents the gains to the Home firm from offshoring.

2 The Gains from Offshoring

Fall in the Price of Components

FIGURE 7-11 Fall in the Price of Component



If the relative price of components falls from $(P_C/P_R)^{W1}$ to $(P_C/P_R)^{W2}$, then the Home firm will do even more R&D and less components production, at point B' rather than B .

The increase in the terms of trade allows the Home firm to produce output Y_2 at point C' , and the gains from trade are higher than in the initial offshoring equilibrium (points B and C).

2 The Gains from Offshoring

Gains from Offshoring within the Firm

- The increase of final goods produced ($Y_0 - Y_1$) is a measure of the gains from trade to the Home firm from outsourcing.
- Because more of the final good is produced with the same overall amount of skilled and unskilled labor available in Home, the Home company is more productive. Both its costs of production, and the price of the final product falls.
- The gains for this company are also spread to consumers.
- Therefore: *When comparing a no-trade situation to the equilibrium with offshoring, and assuming that the world relative price differs from that at Home, there are always gains from offshoring.*

2 The Gains from Offshoring

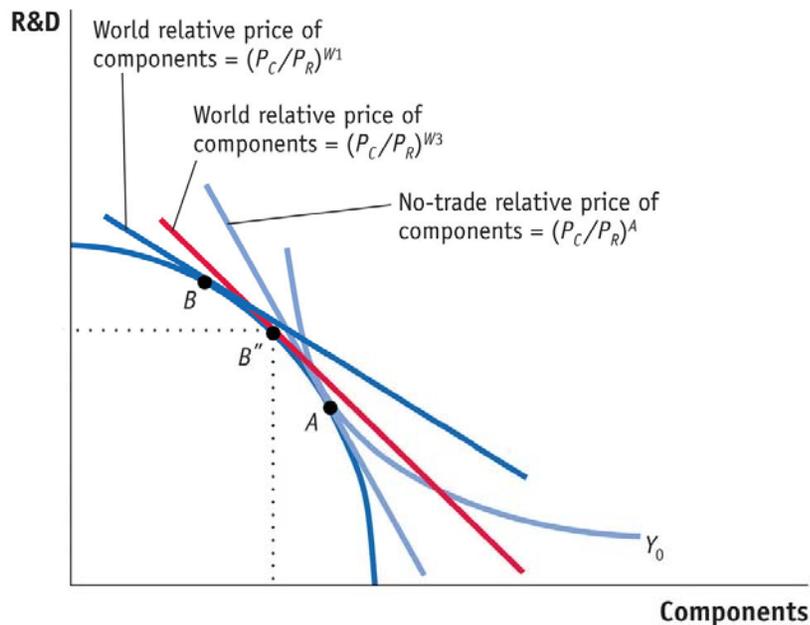
Terms of Trade

- A country's terms of trade equal the price of the country's exports divided by the price of its imports. The home terms of trade are $(P_R/P_C)^{W1}$.
- Home is exporting R&D and importing components.
- A rise in the terms of trade indicates that a country is getting a higher price for its exports, or paying a lower price for its imports—both benefit the country.
- Conversely, a fall in the terms of trade harms a country, because it is paying more for its imports and getting less for its exports.

2 The Gains from Offshoring

Fall in the Price of R&D

FIGURE 7-12 (1 of 3) A Fall in the Price of R&D



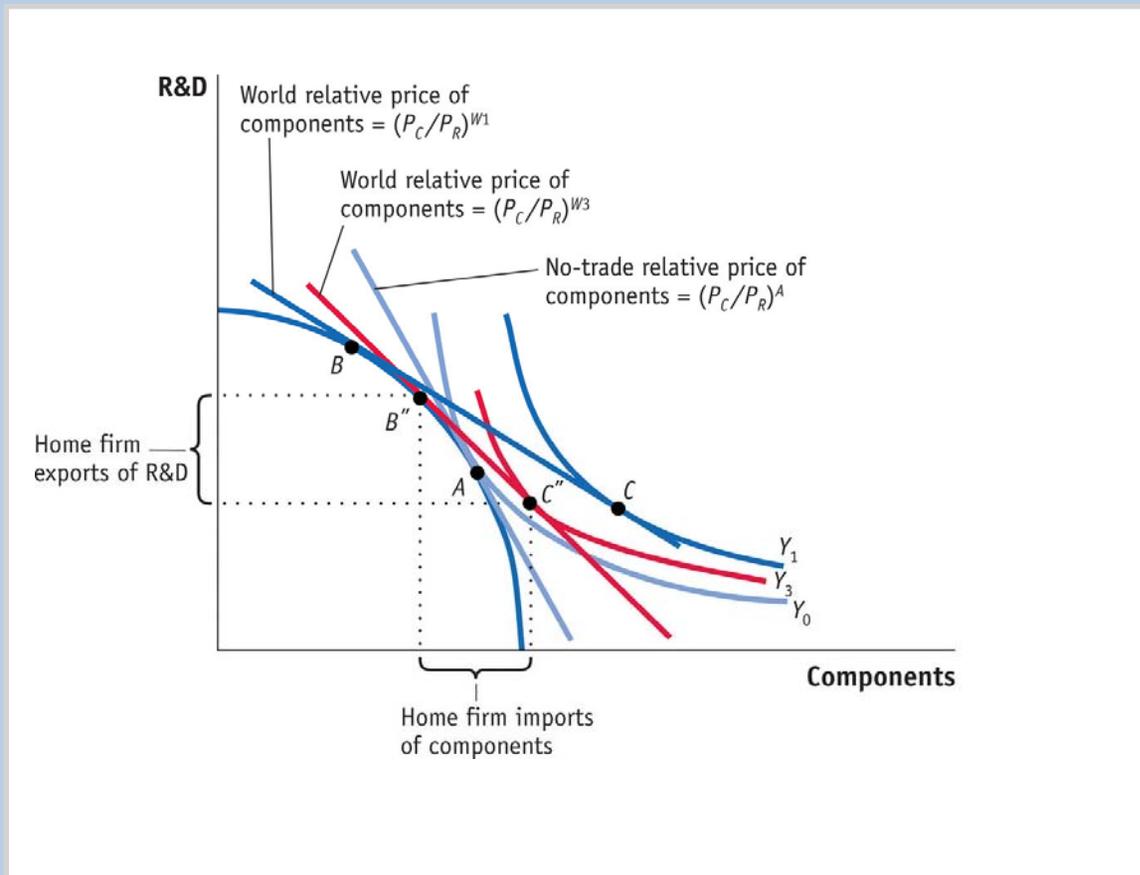
A fall in the relative price of R&D makes the world price line steeper, $(P_C/P_R)^{W3}$.

As a result, the Home firm reduces its R&D activities and increases its components activities, moving from B to B'' along the PPF.

2 The Gains from Offshoring

Fall in the Price of R&D

FIGURE 7-12 (2 of 3) A Fall in the Price of R&D (continued)

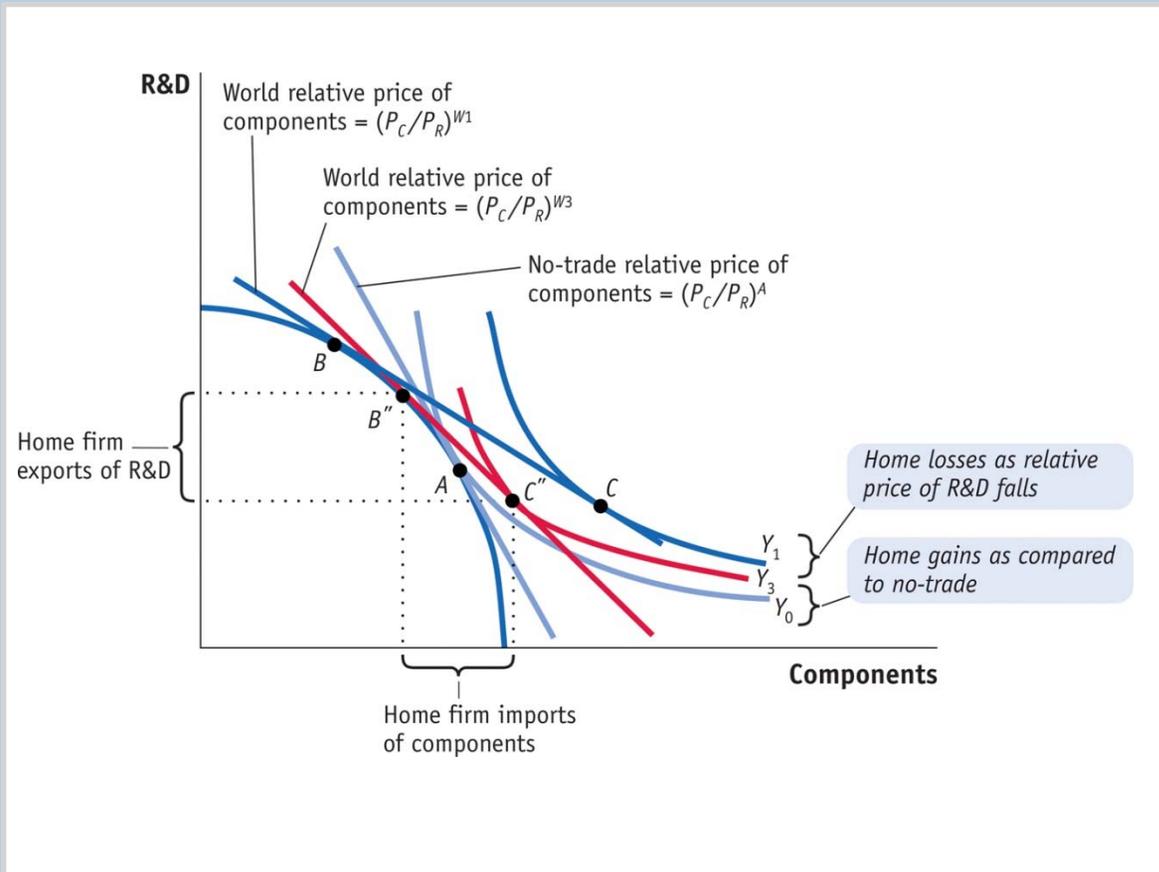


At the new world relative price, the Home firm faces a terms-of-trade loss and can no longer export each unit of R&D for as many components as it could in the initial offshoring equilibrium. The final good output is reduced from Y_1 to Y_3 at point C'' . Notice that the final good output Y_3 is still higher than output without trade, Y_0 .

2 The Gains from Offshoring

Fall in the Price of R&D

FIGURE 7-12 (3 of 3) A Fall in the Price of R&D (continued)



After the fall in the relative price of R&D, there are still gains from trade relative to no-trade (point A)

but losses relative to the initial offshoring equilibrium (points B and C).

Offshoring in Intermediate Inputs

Harrison, McMillan and Phillips (2014)

- individual wages within manufacturing and show that ... there is no significant impact of international competition.
- The wage impacts of occupational exposure to global competition are significantly higher for workers engaged in routine tasks. The point estimates indicate that a 10 percent increase in import competition would lead an individual's wages to decline by 3 percent, while a 10 percent increase in exports would lead their wages to increase by nearly 7 percent.

Table 2 OLS Estimates of Wage Determinants Using Occupational Versus Industry Exposure to Offshoring and Trade, 1984-2002; Dependent Variable: Log Wage

Variable	Offshoring and Trade Measured by Industry Specific Exposure, Manufacturing only			
	All Occupations	Most Routine	Intermediate Routine	Least Routine
Lagged Log of Low-Income-Affiliate Employment	0.001 (0.002)	0.002 (0.002)	0.000 (0.003)	0.002 (0.003)
Lagged Log of High Income Affiliate Employment	0.0143*** (0.005)	0.00793* (0.005)	0.011 (0.007)	0.0239*** (0.008)
Lagged Export Share	0.022 (0.043)	-0.021 (0.058)	0.002 (0.048)	0.047 (0.045)
Lagged Import Penetration	0.077 (0.050)	0.090 (0.061)	0.042 (0.057)	-0.050 (0.074)
Number of Observations	551,528	316,048	150,319	85,161
R ²	0.46	0.39	0.41	0.38

* Significant at the 10 percent level

** Significant at the 5 percent level

*** Significant at the 1 percent level

<https://www.kansascityfed.org/~media/files/publicat/sympos/2017/2017harrison.pdf?la=en>

Table 2 OLS Estimates of Wage Determinants Using Occupational Versus Industry Exposure to Offshoring and Trade, 1984-2002; Dependent Variable: Log Wage

Variable	Offshoring and Trade Measured by Occupation-Specific Exposure, All Sectors			
	All Occupations	Most Routine	Intermediate Routine	Least Routine
Lagged Log of Low-Income-Affiliate Employment	-0.0401** (0.016)	-0.0702*** (0.0163)	0.018 (0.029)	0.072 (0.056)
Lagged Log of High Income Affiliate Employment	0.0339** (0.015)	0.0508*** (0.014)	-0.003 (0.026)	-0.045 (0.048)
Lagged Export Share	0.255** (0.121)	0.667*** (0.157)	0.232 (0.184)	-0.815* (0.420)
Lagged Import Penetration	-0.290*** (0.091)	-0.296*** (0.099)	-0.761 (0.466)	1.083 (0.750)
Number of Observations	3,068,095	1,109,835	1,156,208	802,052
R ²	0.50	0.42	0.54	0.40

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Number of Observations	3,068,095	1,109,835	1,156,208	802,052
R ²	0.50	0.42	0.54	0.40

Harrison & McMillan (2011) conclusion:

Determinants of labor demand for U.S. multinationals in Table 3. The numbers suggest that firms moving factories offshore can account for about 10 percent of the manufacturing employment decline. Most of it—12 out of the 17 percentage point decline in labor demand between 1982 and 1999—is because cheaper capital equipment is replacing people.

Table 3
Calculating the Impact of Different Aspects of Globalization
of Parent Labor Demand

	Impact of 1% increase in Factor	Actual Increase in Sample	Percentage Change in Labor Demand	Keeping Only Significant Coefficients
Factors Affecting U.S. Labor Demand	(1)	(2)	(3)	(4)
Log U.S. Industrial Wages	-0.351	0.116	-4.072	-4.072
Log Industrial Wages in High-Income Countries	-0.048	0.229	-1.099	
Log Industrial Wages in Low-Income Countries	0.104	-0.229	-2.382	-2.382
Log of U.S. Price of Capital	0.439	-0.276	-12.116	-12.116
Log of Foreign Price of Capital	0.162	-0.099	-1.604	-1.604
Import Penetration	-0.192	0.121	-2.323	-2.323
Import Penetration from Low-Wage Countries	0.181	0.059	1.068	

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Import Penetration	-0.192	0.121	-2.323	-2.323
Import Penetration from Low-Wage Countries	0.181	0.059	1.068	

R&D Spending (% sales)	0.737	0.011	0.811	0.811
R&D Spending in High-Income Countries (% Sales)	1.449	0.004	0.580	0.580
R&D Spending in Low-Income Countries (% Sales)	4.949	0.0001	0.049	0.049
Log of Industry Sales	0.142	0.109	1.548	1.548
Log of Affiliate Sales by Industry	-0.033	0.314	-1.036	
Log Industrial Wages in Low-Income Countries x Exports for further processing	-3.127	-0.008	2.502	2.502
Log Industrial Wages in High-Income Countries x Exports for further processing	1.741	0.005	0.871	0.871
Net Impact of All Above Variables			-17.204	-16.137

Notes: Coefficients in column 1 are taken from column (3b) of table 4. Numbers in column 2 are taken from means table 4. Numbers in column 3 are calculated by multiplying 100 x column 1 x column 2. Column 4 is calculated the same way as column 3, but only the coefficients that were significant in table 4 are reported. The final row net impact sums up all the previous effects.

Source: "Offshoring Jobs? Multinationals and U.S. Manufacturing Employment," Ann Harrison and Margaret McMillan, *The Review of Economics and Statistics*, August 2011.

<https://www.kansascityfed.org/~media/files/publicat/sympos/2017/2017harrison.pdf?la=en>

Gains from Offshoring in Services

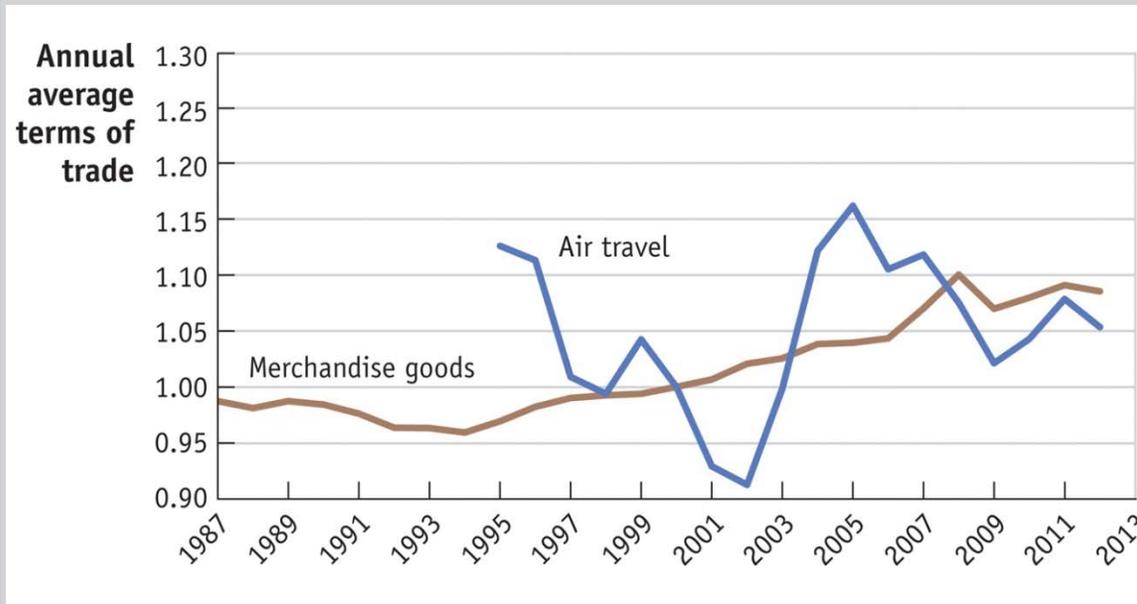
Today, the focus is frequently on of the newer forms of offshoring, the offshoring of **business services** to foreign countries.

Business services are activities such as accounting, auditing, human resources, order processing, telemarketing, and after-sales service, like getting help with your computer.

APPLICATION

U.S. Terms of Trade and Service Exports

FIGURE 7-13 (1 of 2) Terms of Trade for the United States 1990-2012



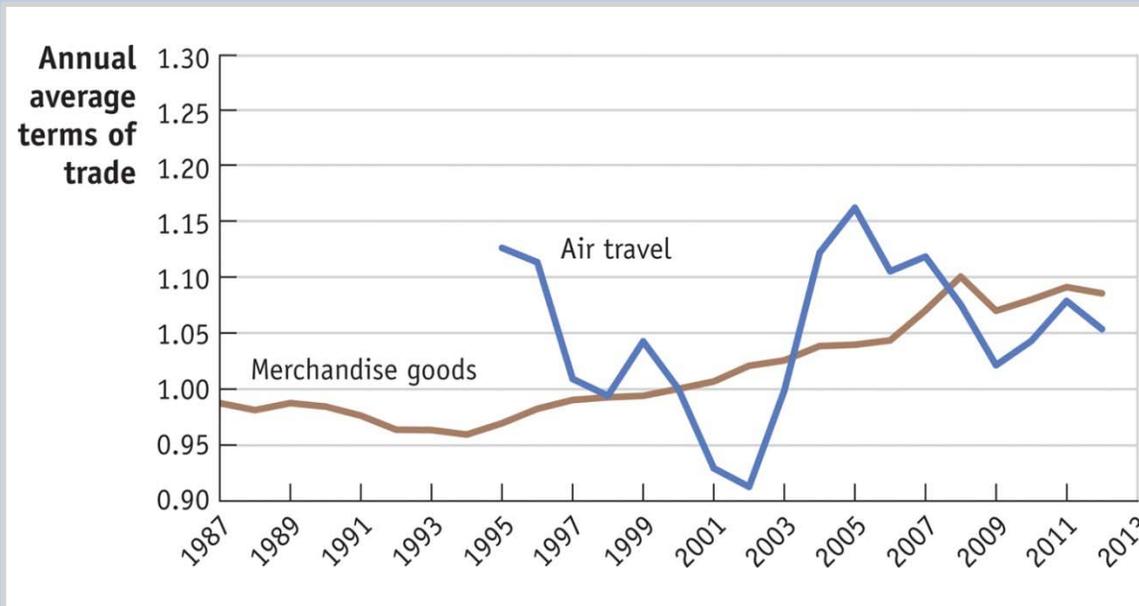
Shown here are the U.S. terms of trade for merchandise goods (excluding petroleum) and for air travel services. The terms of trade for merchandise goods fell from 1990 to 1994 and then rose to 2008, with a slight dip in 2009 and rising slightly thereafter.

- A rise in the terms of trade reflects gains from exports of merchandise goods.
- The improvement in the terms of trade shows that we are able to import intermediates (and final goods) at lower prices over time.

APPLICATION

U.S. Terms of Trade and Service Exports

FIGURE 7-13 (2 of 2) Terms of Trade for the United States 1990-2012 (continued)



The terms of trade for air travel services is more volatile, falling from 1995 to 2002, rising until 2005 and falling erratically until 2009. In sum, we do not see a pattern of declining terms of trade in either of these sectors.

Service Prices It is very difficult to measure service prices in international trade. We do not have an overall measure of the terms of trade in services. There is one service for which it is relatively easy to collect international prices: air travel.

APPLICATION

U.S. Terms of Trade and Service Exports

Service Trade Although standard prices are not available, data on the amount of service exports and imports for the United States are collected annually.

The fact that exports exceed imports in many categories means that the United States has a comparative advantage in traded services.

TABLE 7-2

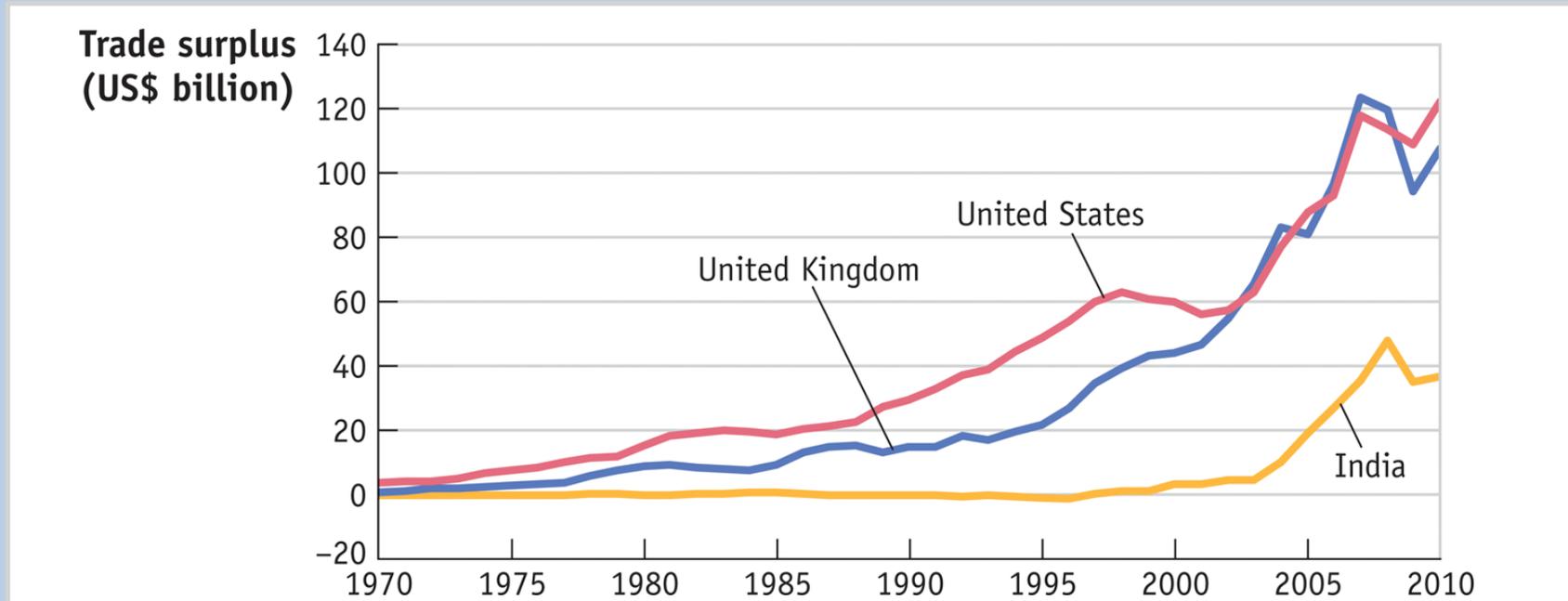
U.S. Trade in Services, 2011 (\$ millions) This table shows U.S. exports and imports in the major categories of services trade for 2011.

	Exports	Imports
Computer and information services	15,501	24,538
Management and consulting services	32,169	24,823
R&D and testing services	23,364	22,360
Operational leasing	7,142	1,922
Other business, professional, and technical services	56,240	31,130
Total business, professional, and technical services	\$134,416	\$104,773
Education	22,726	5,888
Financial services	74,055	16,207
Insurance services	15,477	56,619
Telecommunications	12,650	7,690
Total other private services	\$270,193	\$191,973
Travel	116,115	78,651
Passenger fares	36,631	31,109
Other transportation	43,064	54,711
Royalties and license fees	120,836	36,620
Other services	62,633	11,917
Total private services	\$586,839	\$393,065

APPLICATION

U.S. Terms of Trade and Service Exports

FIGURE 7-14



Trade Surplus in Business Services This figure shows the combined trade surplus in computer and information services, other business services, and financial services for the United States, the United Kingdom, and India from 1970 to 2010.

Amiti and Wei (World Economy, 2009)

“The practice of sourcing service inputs from overseas suppliers has been growing in response to new technologies that have made it possible to trade in some business and computing services that were previously considered non-tradable. This paper estimates the effects of offshoring on productivity in US manufacturing industries between 1992 and 2000. It finds that service offshoring has a significant positive effect on productivity in the United States, accounting for around 10 per cent of labour productivity growth during this period. Offshoring material inputs also have a positive effect on productivity, but the magnitude is smaller accounting for approximately 5 per cent of productivity growth.”

<https://onlinelibrary.wiley.com/toc/14679701/2009/32/2>

3 The Politics and Future of Offshoring

- Offshoring is controversial and is often the topic of political debate.
- President Trump and Congress implemented a tax reform that would bring investment back home (Tax Cuts and Jobs Act)
- That change in policy does not seem to have much impact

The Pandemic and the Politics of Offshoring

To Mr. Navarro, the current predicament [with respect to medical equipment and personal protective equipment] is a vivid illustration of that phenomenon: Decades of offshoring have eroded American manufacturing, leaving the country unable to produce an array of goods and putting it at the mercy of foreign governments in times of crisis.

<https://www.nytimes.com/2020/04/06/business/economy/peter-navarro-coronavirus-defense-production-act.html>

The Pandemic and the Politics of Offshoring

Mr. Navarro has spent the past few months working on an executive order that would try to bolster domestic manufacturing of pharmaceuticals by toughening “Buy American” rules for the federal government.

Momentum for that order appears to have stalled after opposition from the pharmaceutical industry, Republican lawmakers and some in the White House, who argued that the measure could result in higher prices or even shortages.

<https://www.nytimes.com/2020/04/06/business/economy/peter-navarro-coronavirus-defense-production-act.html>