

# Perfect Competition

**These slides supplement the textbook, but should not replace reading the textbook**

# What is market structure?

Important features of a market, such as the number of firms, product uniformity, ease of entry, and forms of competition

# What are the four types of Markets?

- Perfect Competition
- Monopolistic Competition
- Oligopoly
- Monopoly

# What is a perfectly competitive market?

- homogeneous product
- many buyers and sellers
- no one has much market power
- easy entry & easy exit
- can sell all bring to market

# What is a price taker?

A firm that faces a given market price and whose actions have no effect on that market price

# **Why is a firm that is part of a perfectly competitive market a price taker?**

Because if the firm charges higher than the market price it will not sell even one unit

# Market Equilibrium in Perfect Competition

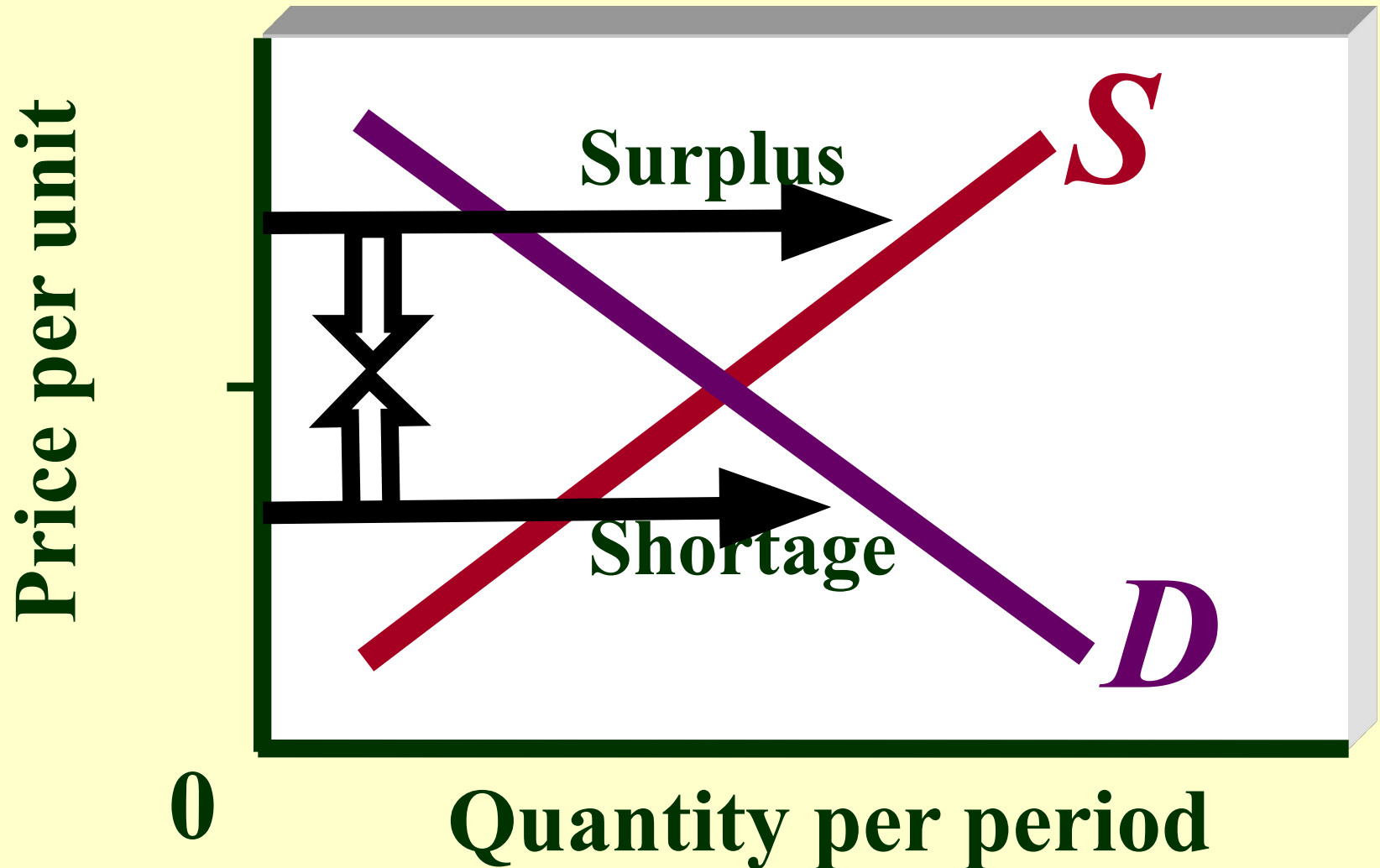
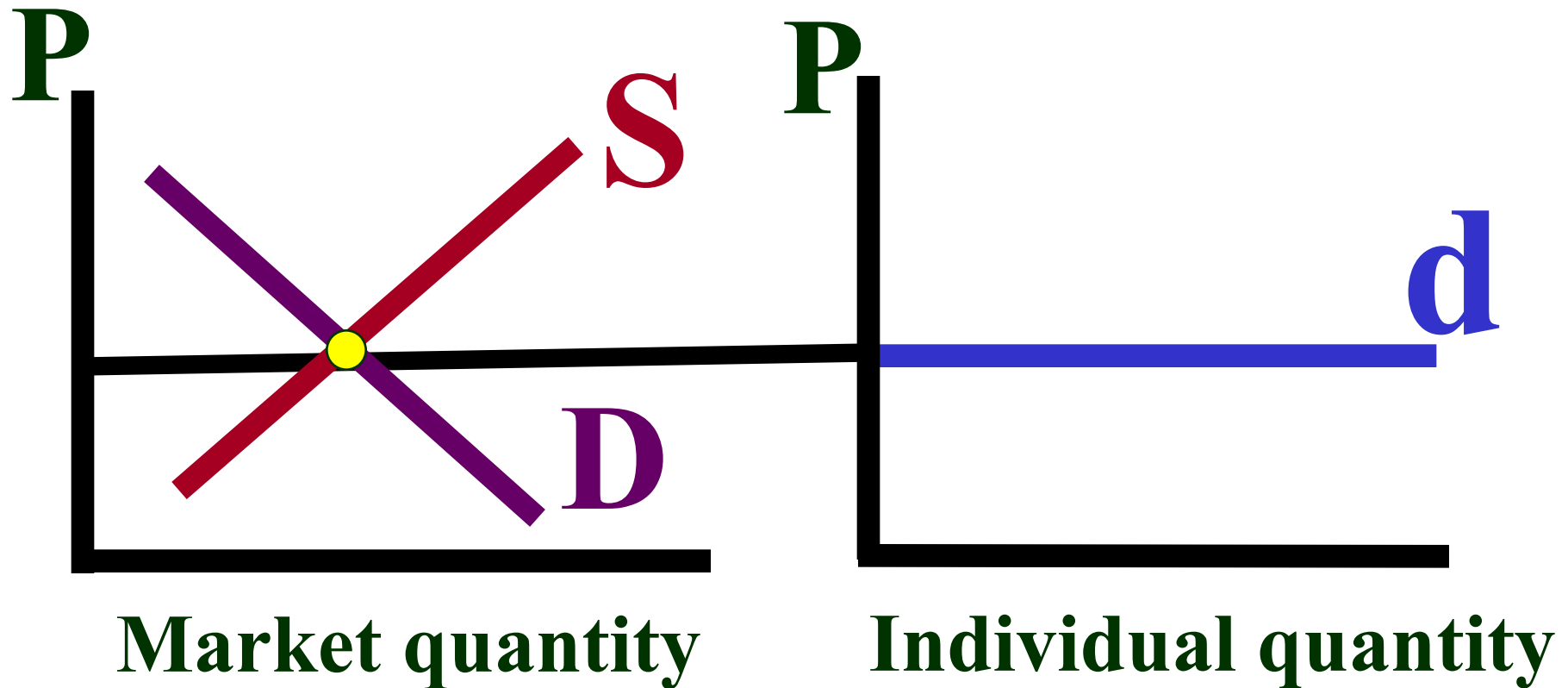


Exhibit 1a

# The Firm's Demand Curve in Perfect Competition



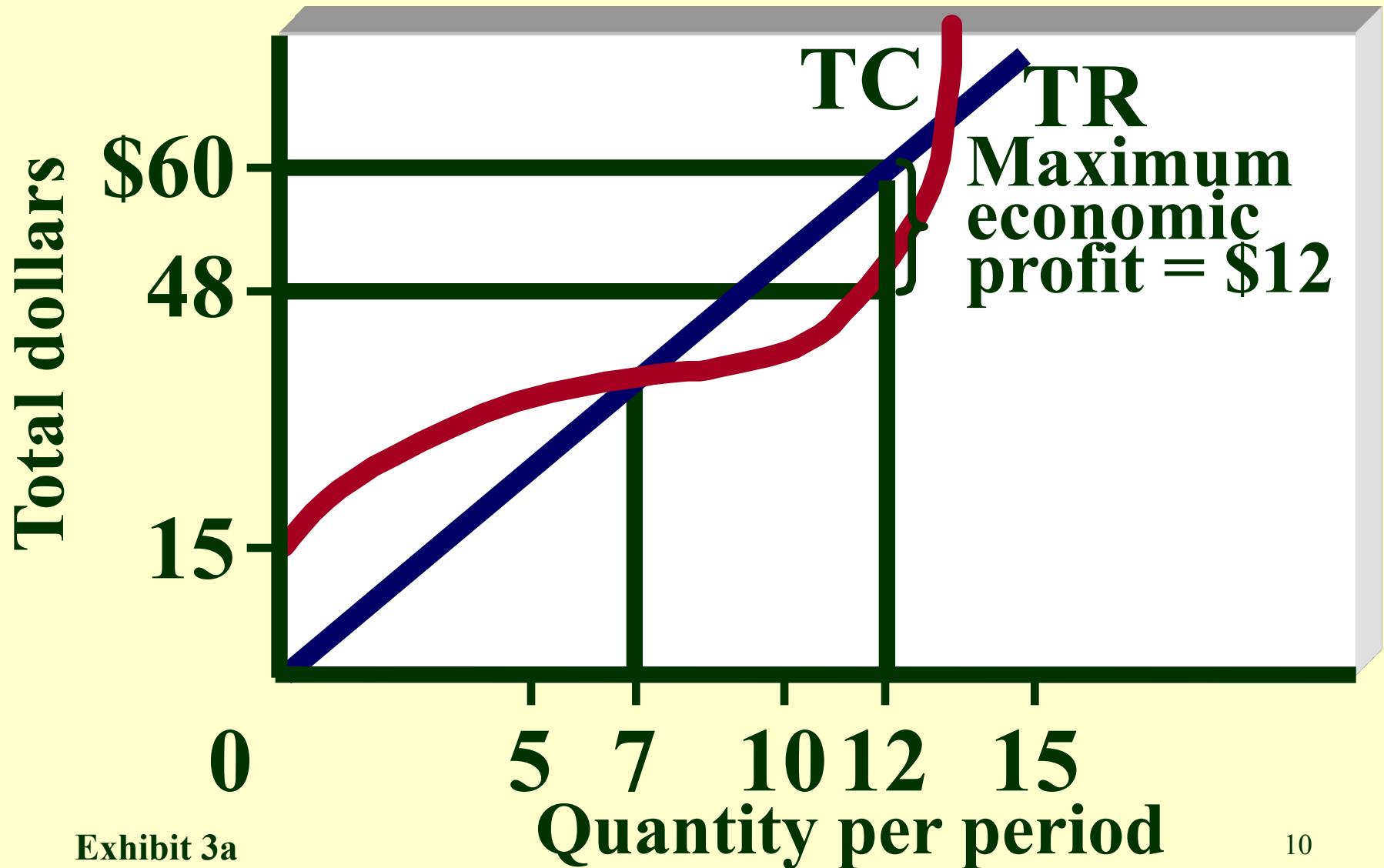


# How does the firm maximize profit?

By finding the rate of output that makes total revenue minus total cost as large as possible

# Short-Run Profit Maximization

## Panel A: TR minus TC



# What is marginal revenue?

The change in total  
revenue resulting from a  
one-unit change in sales

# What is marginal cost?

The change in total cost  
resulting from a one-unit  
change in sales

# At what point are profits maximized?

At the level of output  
where **MR = MC**, or the  
last unit of output  
where **MR > MC**

# Maximizing Profits in the Short-Run

Q	MR	TR	TC	MC	ATC	Profit
10	5	50	40.00	2.75	4.00	10.00
11	5	55	43.25	3.25	3.93	11.75
12	5	60	48.00	4.75	4.00	12.00
13	5	65	54.50	6.50	4.19	10.50
14	5	70	64.00	9.50	4.57	6.00

# Why does $MR = P$ in Perfect Competition?

Because no matter how many units are brought to market, the firm can sell all of them at the market price

# What is average revenue?

Total revenue  
divided by output

$$TR / Q$$

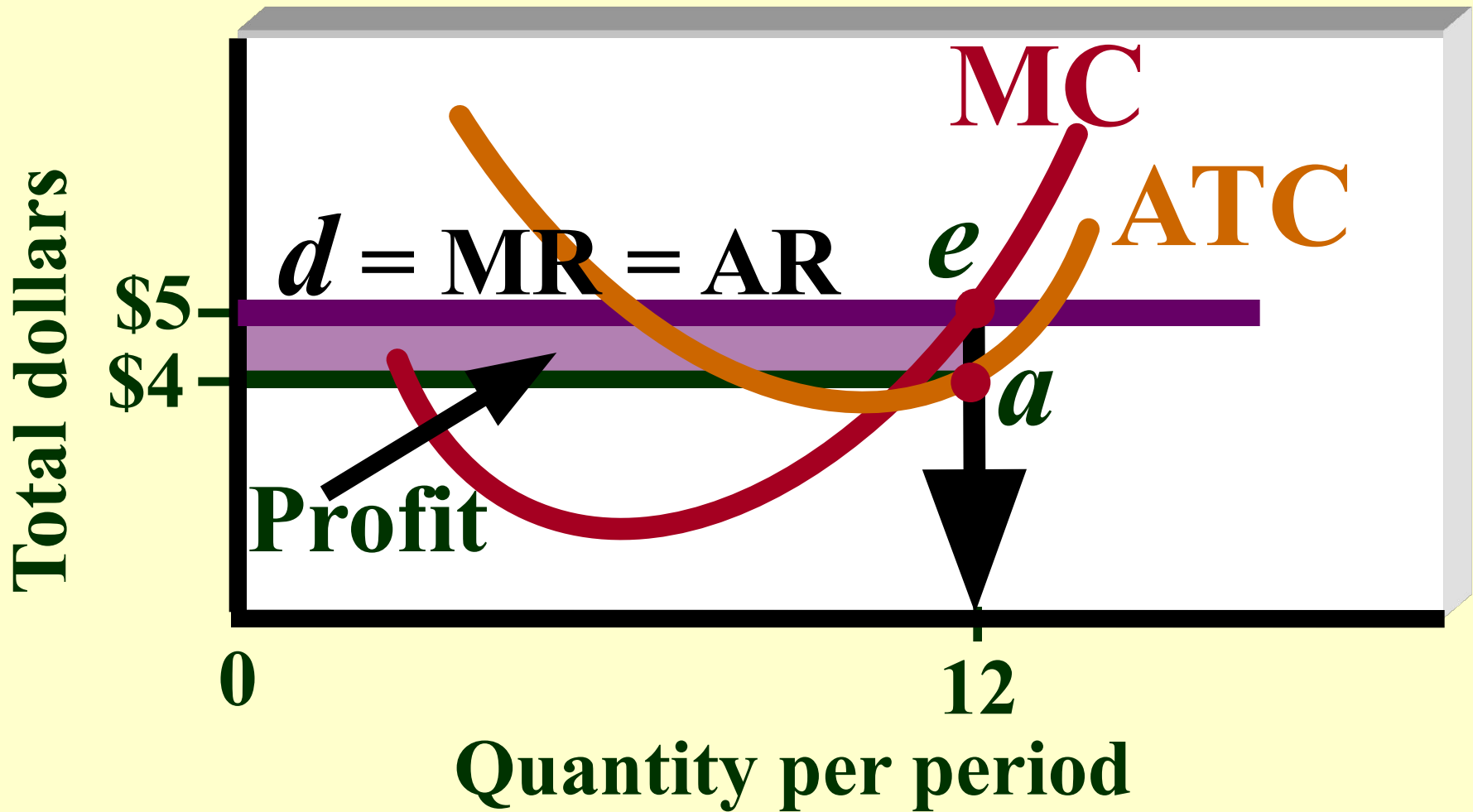


# Why does $AR=P$ in all markets?

Because each unit is  
sold for the same price  
at one point in time

# Short-Run Profit Maximization

## Panel B: MR equals MC



# At what point are losses minimized?

At the level of output  
where **MR = MC**, or the  
last unit of output  
where **MR > MC**

# Minimizing Losses in the Short-Run

Q	MR	TR	TC	MC	ATC	Loss
8	3	24	35.25	1.50	4.41	-11.25
9	3	27	37.25	2.00	4.14	-10.25
10	3	30	40.00	2.75	4.00	-10.00
11	3	33	43.25	3.25	3.93	-10.25
12	3	36	48.00	4.75	4.00	-12.00

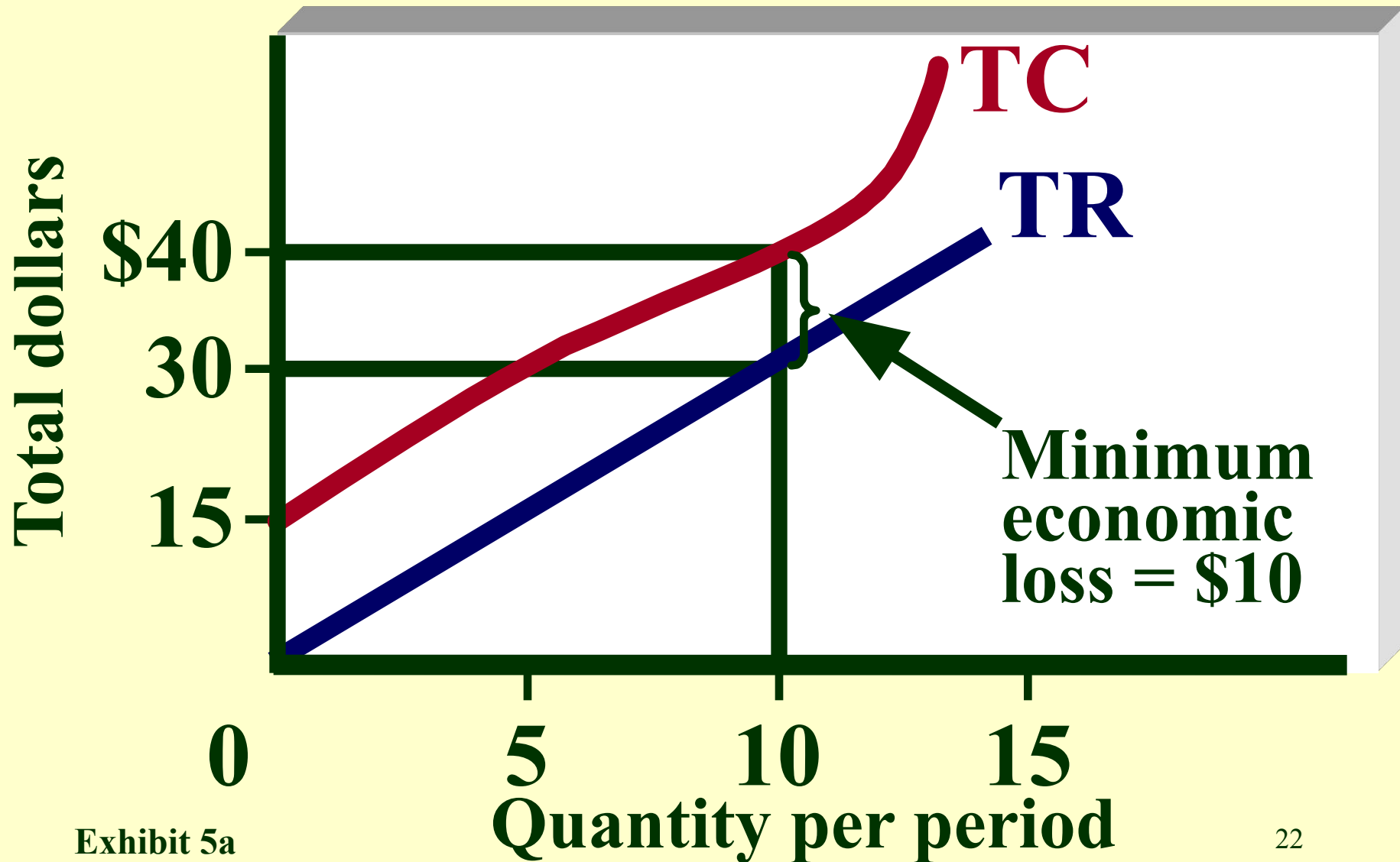
**What will a firm do if  
average variable cost  
exceeds price at every  
level of production?**

**Shut down**



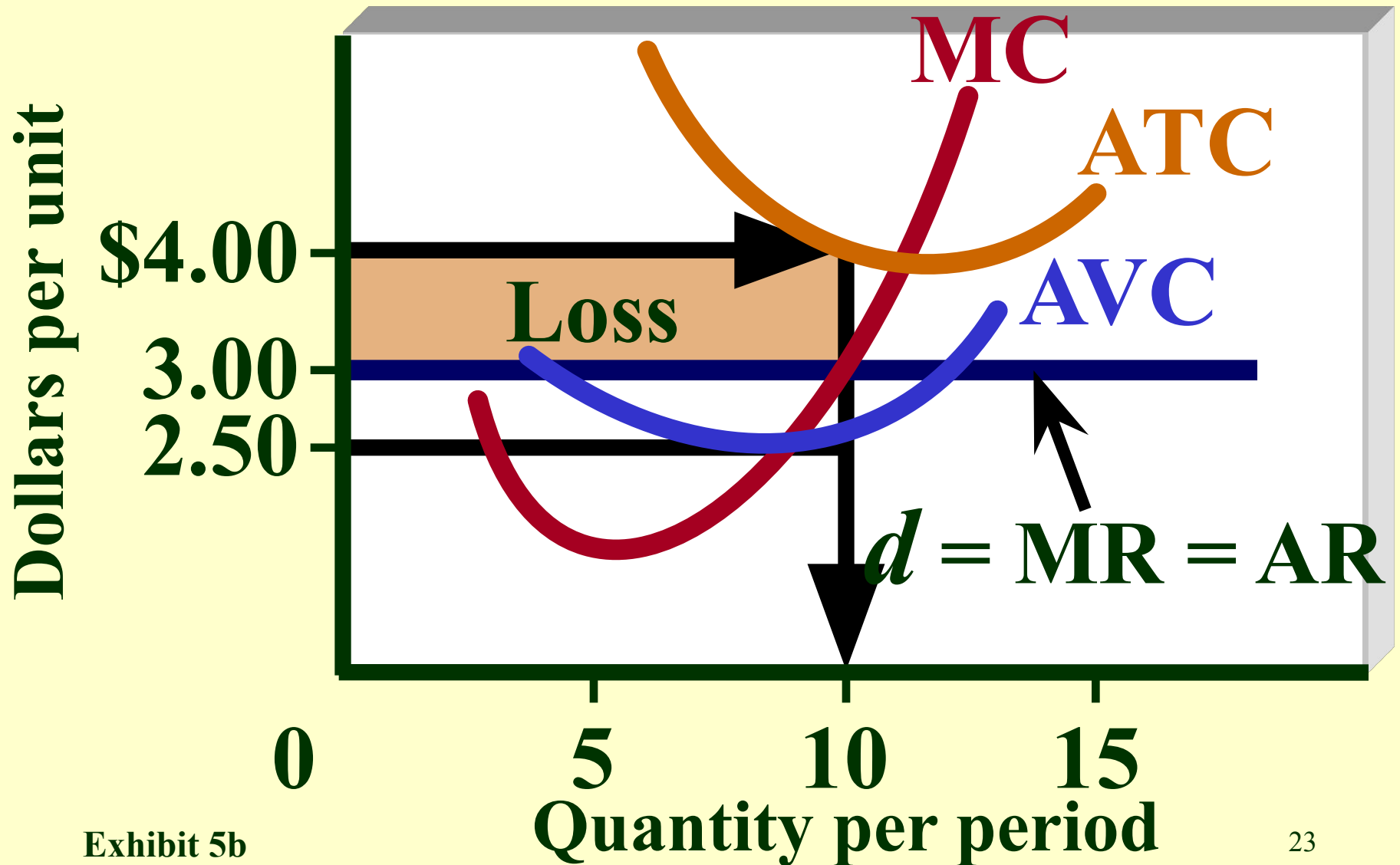
# Minimizing Short-Run Losses

## Panel A: TC and TR



# Minimizing Short-Run Losses

## Panel B: MC equals MR



# What is the firm's short-run supply curve?

A curve that indicates the quantity a firm supplies at each price in the short run



# Summary of Short-Run Output Decisions

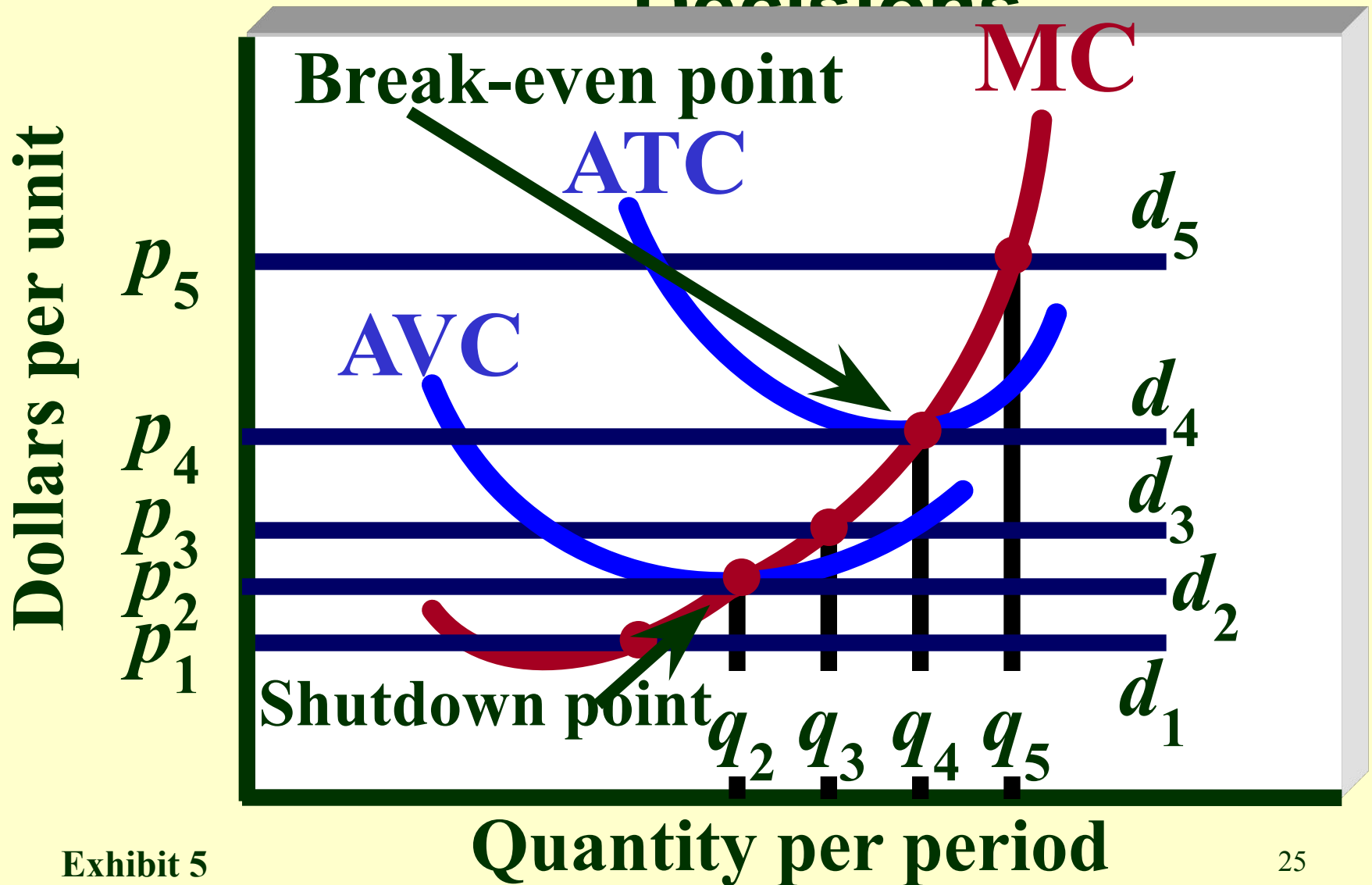


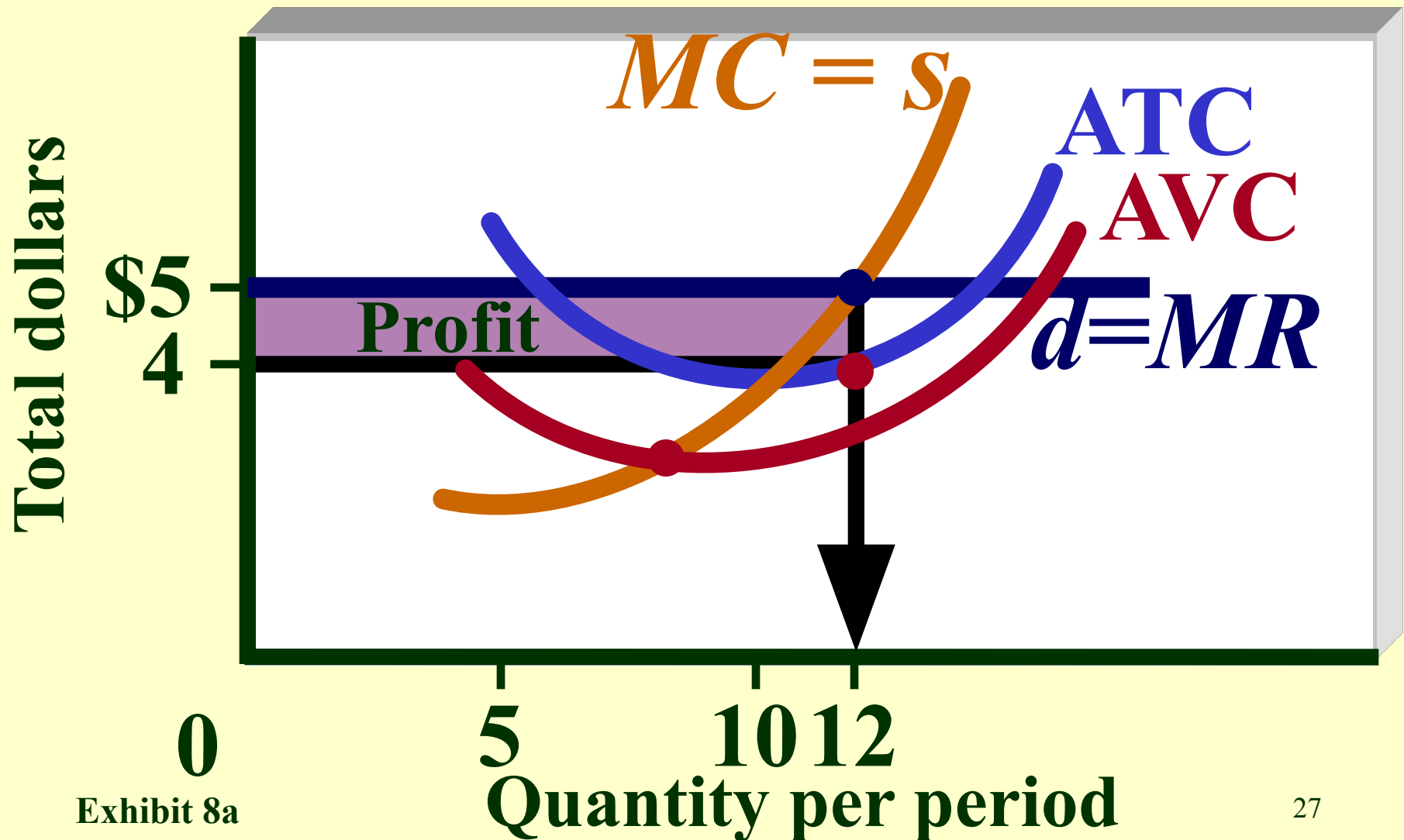
Exhibit 5

# What is the firm's short run supply curve?

That portion of its MC curve which lies above its AVC curve

# Relationship between Short-Run Profit Maximization and Market Equilibrium

## Panel A: Firm

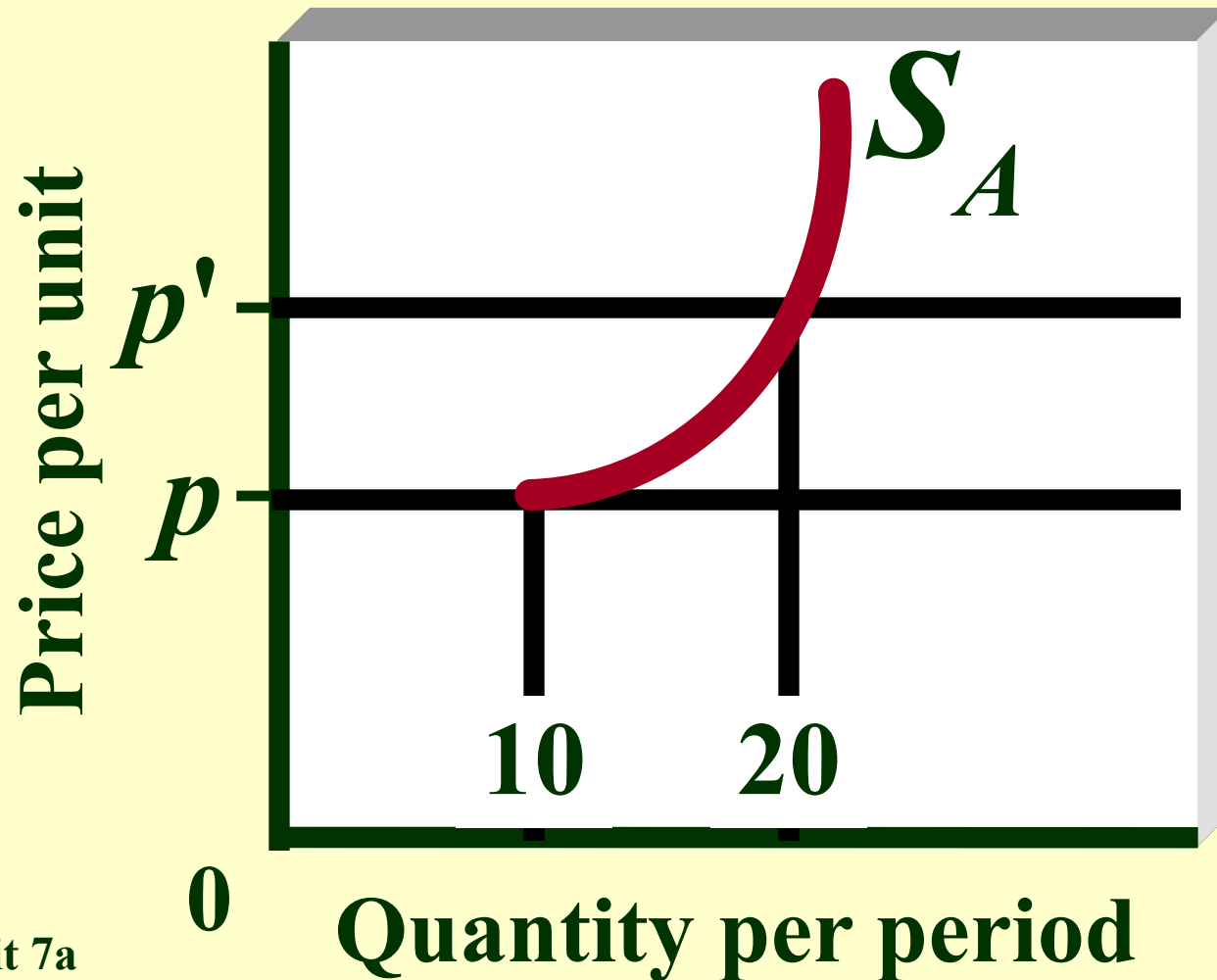


# What is the industry's short-run supply curve?

A curve that indicates the quantity all firms in an industry supply at each price in the short run

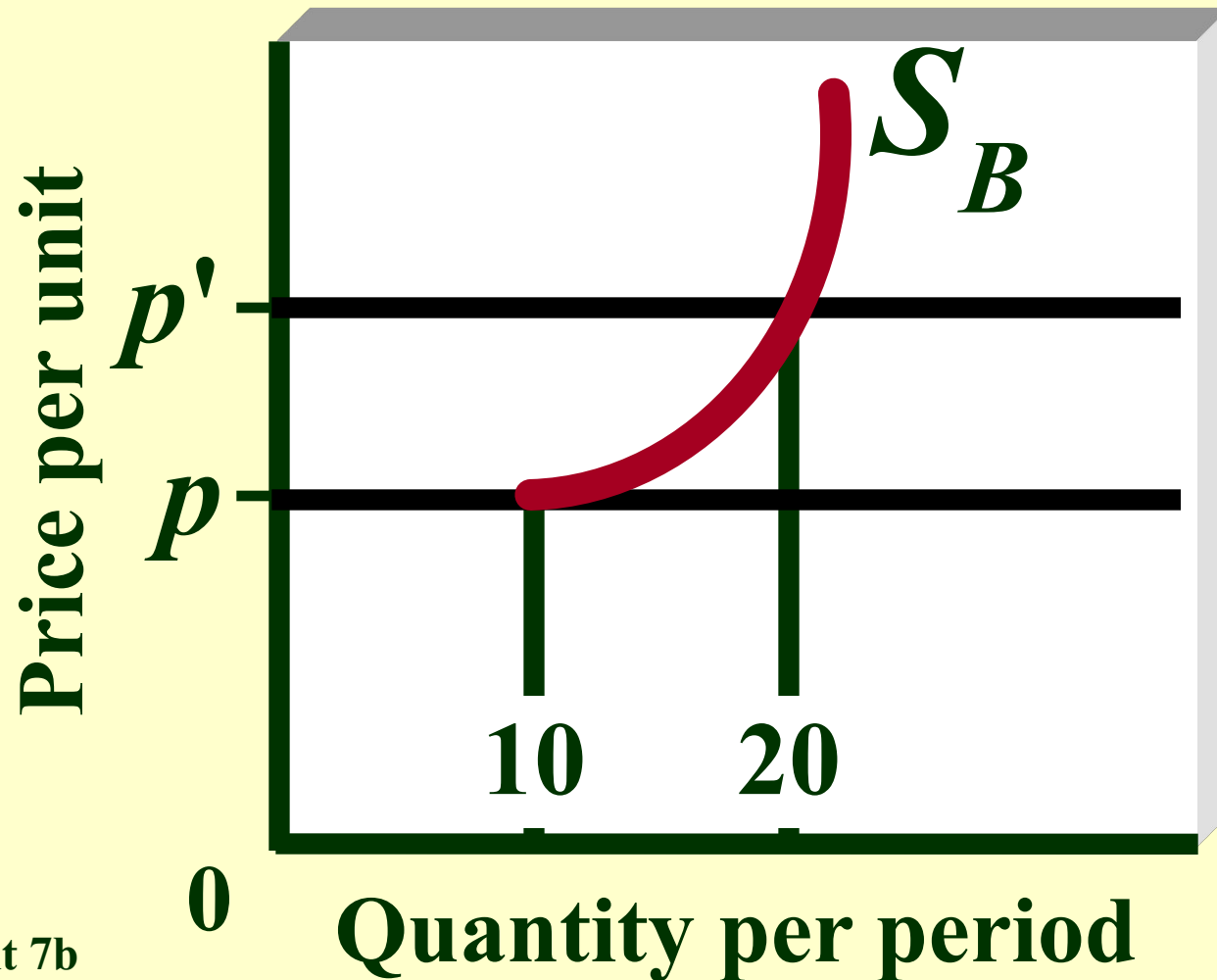
# Aggregating Individual Supply to Form Market Supply

## Panel A: Firm A



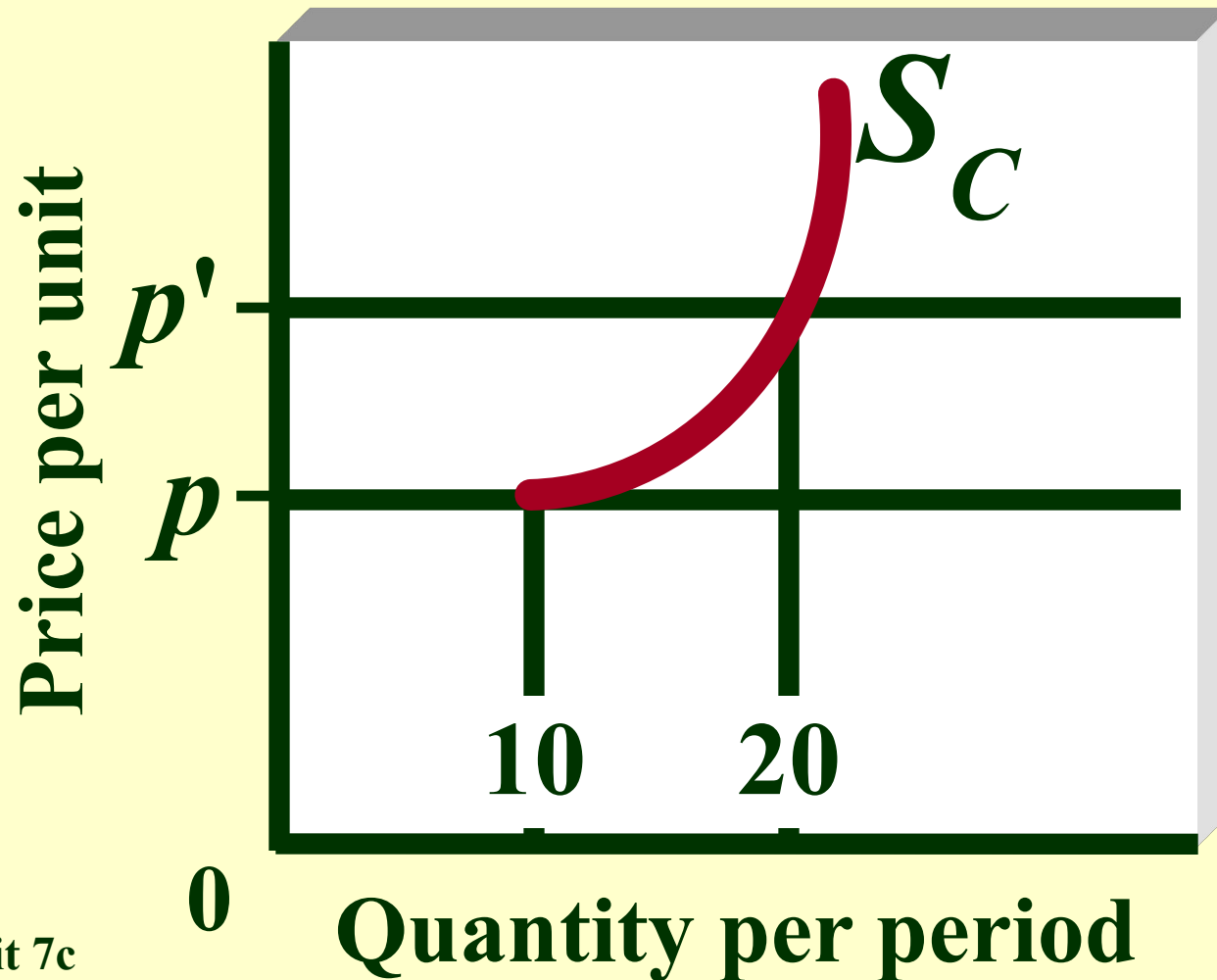
# Aggregating Individual Supply to Form Market Supply

## Panel B: Firm B



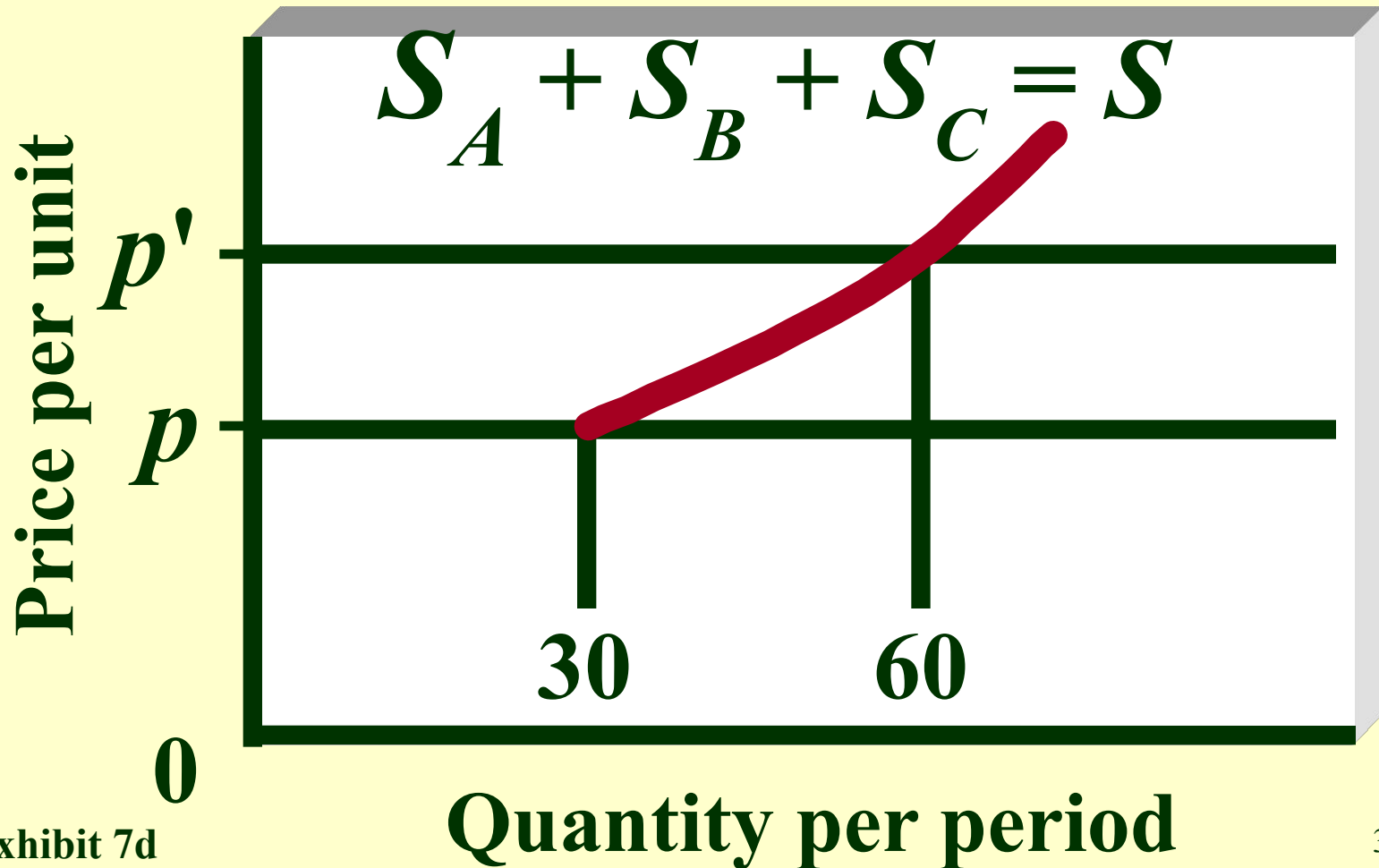
# Aggregating Individual Supply to Form Market Supply

## Panel C: Firm C



# Aggregating Individual Supply to Form Market Supply

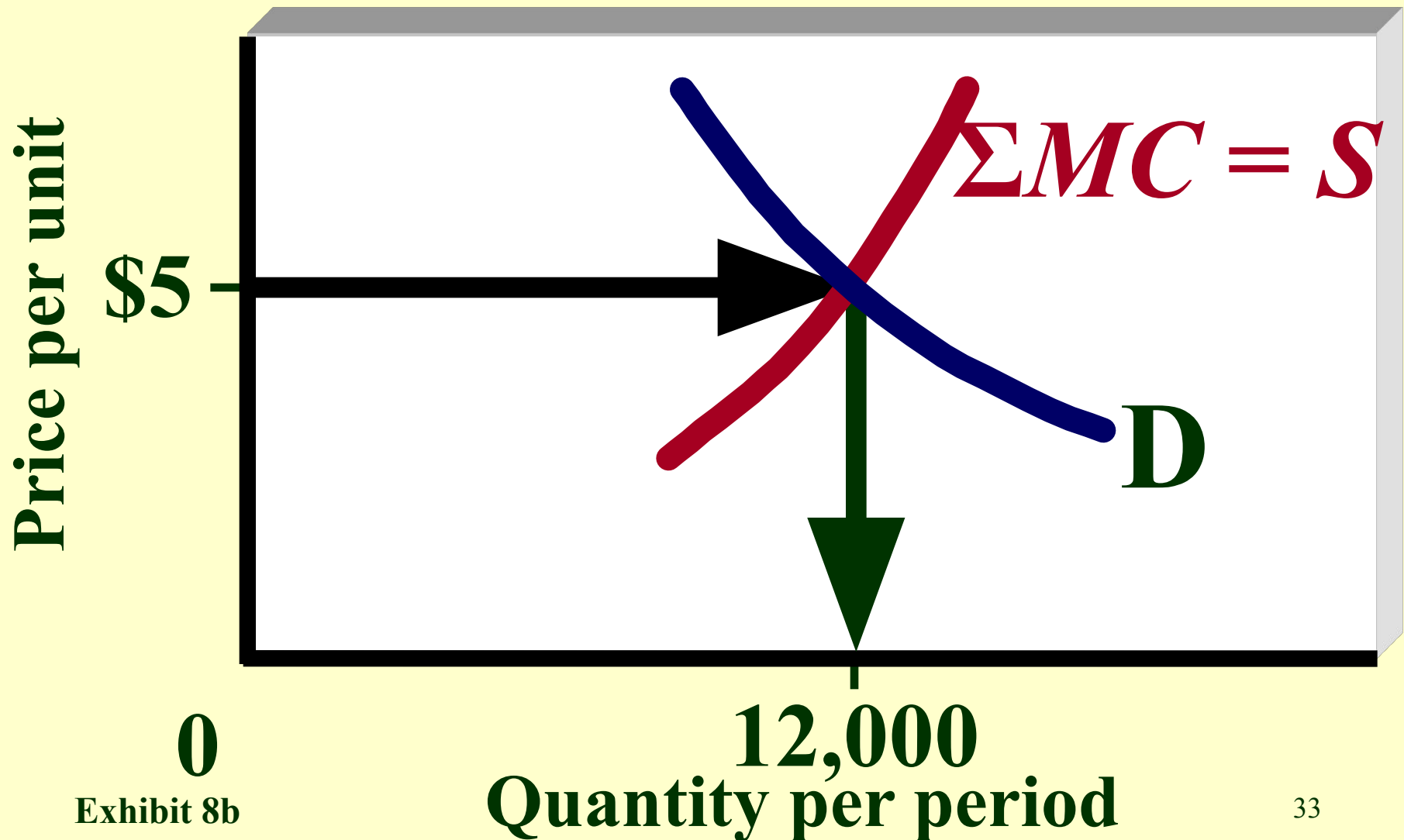
Panel D: Industry, or market supply





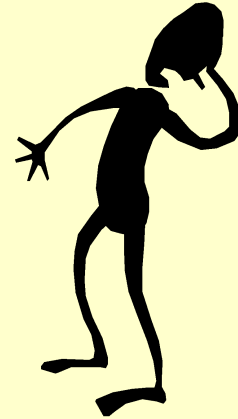
# Relationship between Short-Run Profit Maximization and Market Equilibrium

## Panel B: Industry, or market

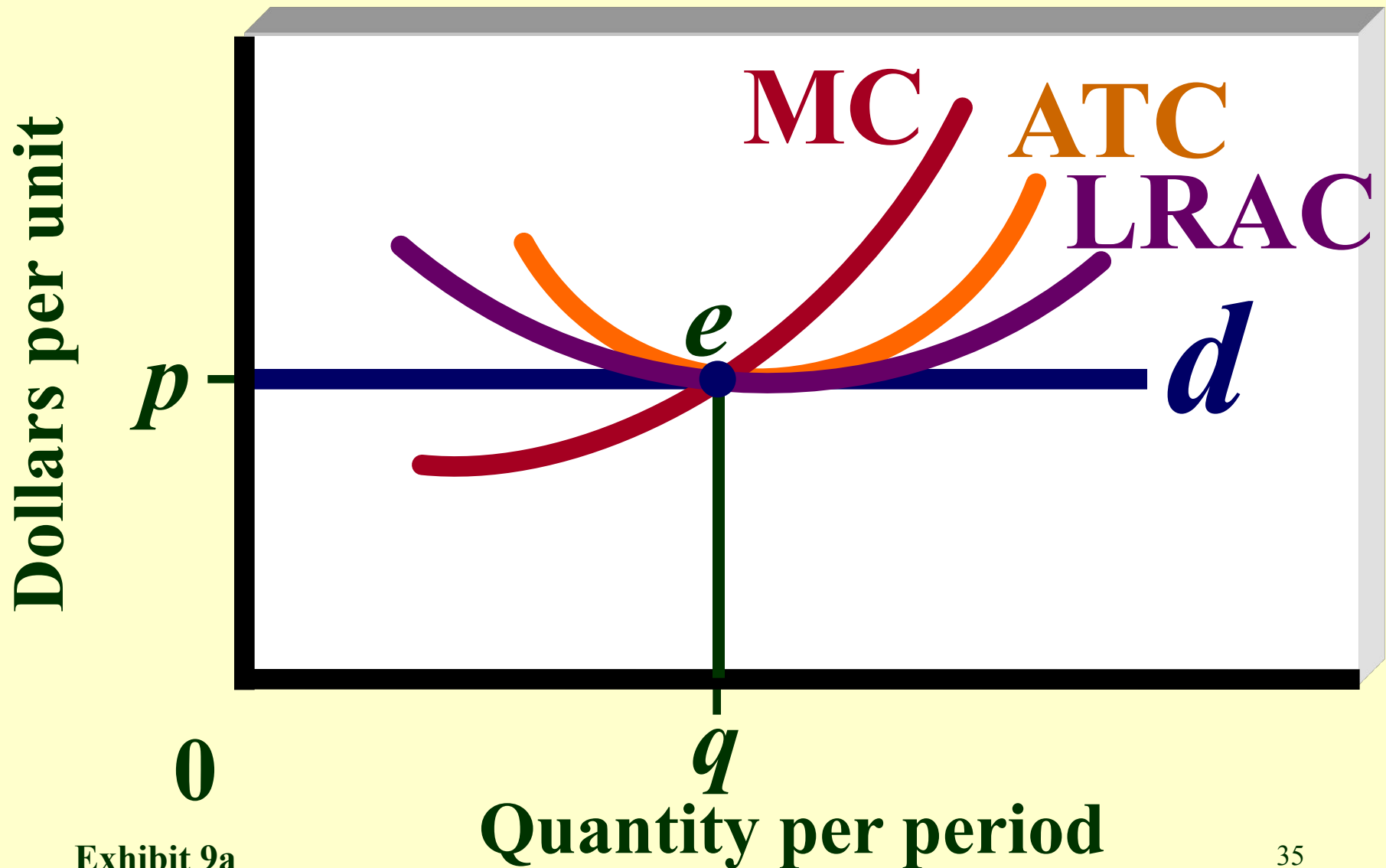


**What is economic  
profit in the long run?**

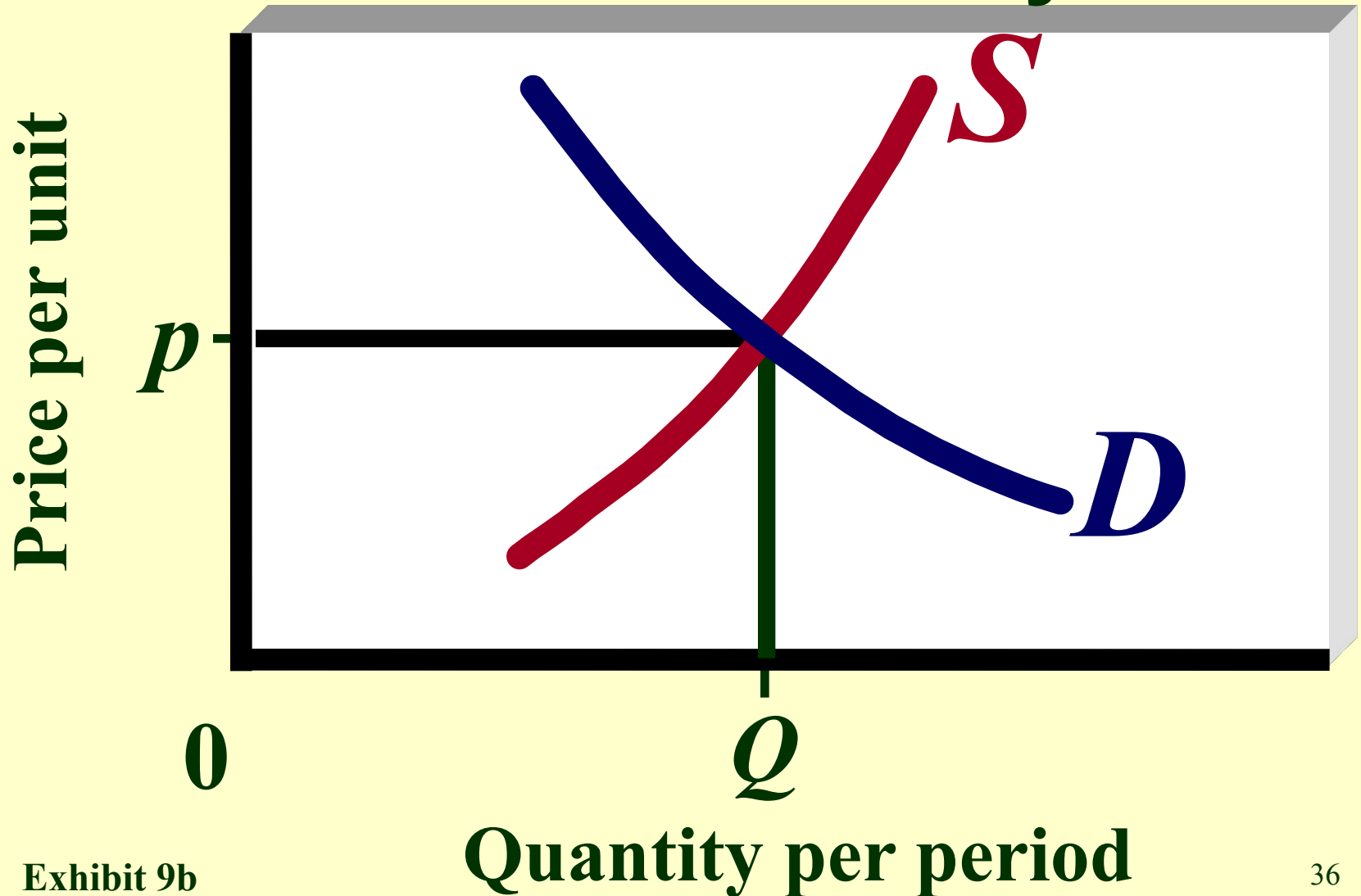
**Zero**



# Long-Run Equilibrium for the Firm



# Long-Run Equilibrium for the Industry



# What is the *long-run* industry supply curve?

A curve that shows the relationship between price and quantity supplied once firms fully adjust to any change in market demand

# What is an increasing-cost industry?

An industry that faces  
higher per-unit  
production costs as  
industry output  
expands in the long run

**What is the shape of the long-run industry supply curve in an increasing cost industry?**

Upward sloping

# What is production efficiency?

The condition that exists when output is produced with the least-cost combination of inputs, given the state of technology



# What is allocative efficiency?

The condition that exists  
when firms produce the  
output that is most  
preferred by consumers

**What is the the  
marginal cost of each  
good equal to?**

The marginal benefit  
consumers derive  
from that good

# What is consumer surplus?

The difference between the maximum amount that a consumer is willing to pay for a given quantity of a good and what the consumer actually pays

# What is producer surplus?

The amount by which  
total revenue from  
production exceeds  
total variable cost

# Consumer Surplus and Producer Surplus for a Competitive Market in the Short Run

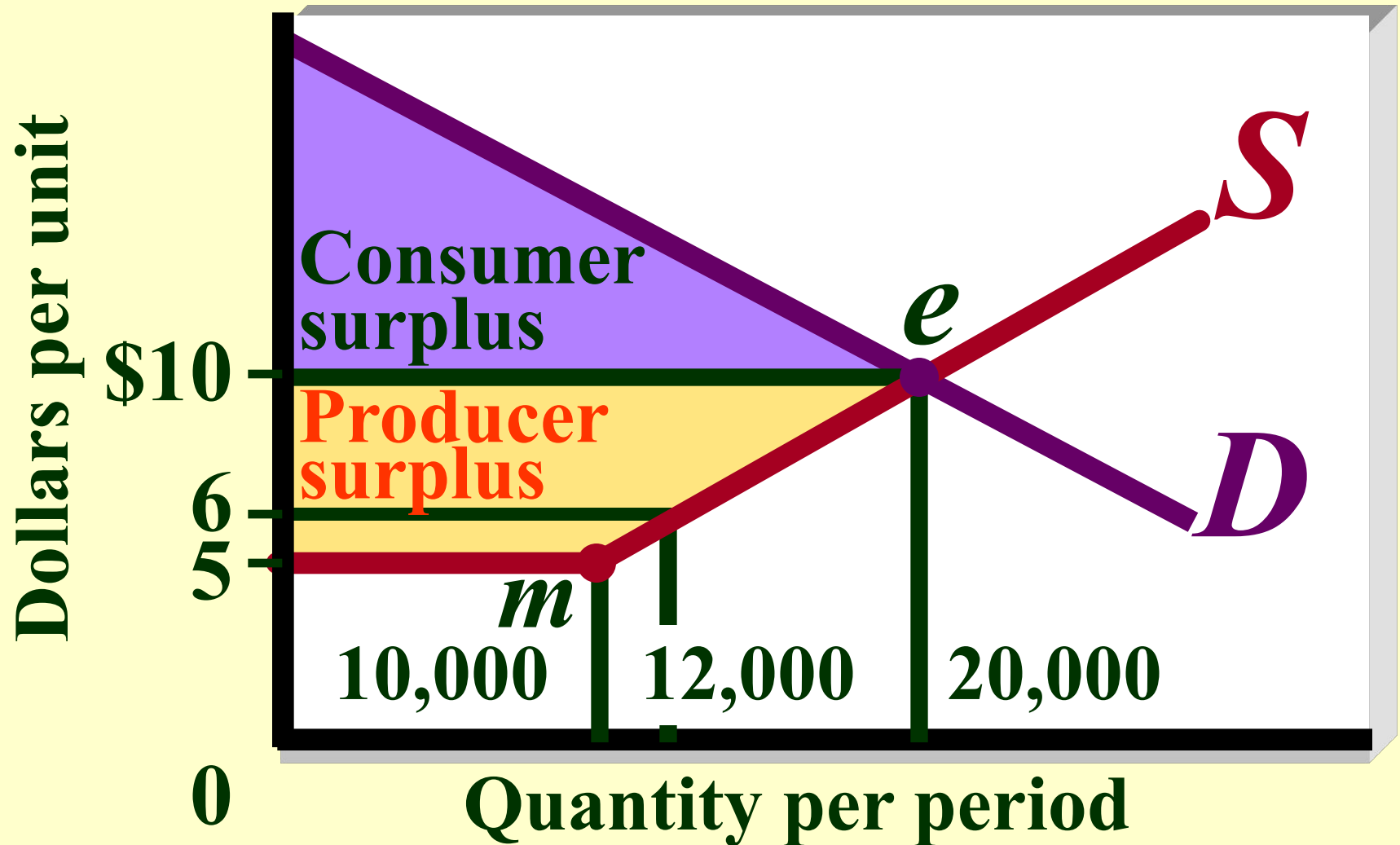


Exhibit 14

**END**

# Appendix

# What is a constant-cost industry?

An industry that can expand or contract without affecting the long-run per-unit cost of production

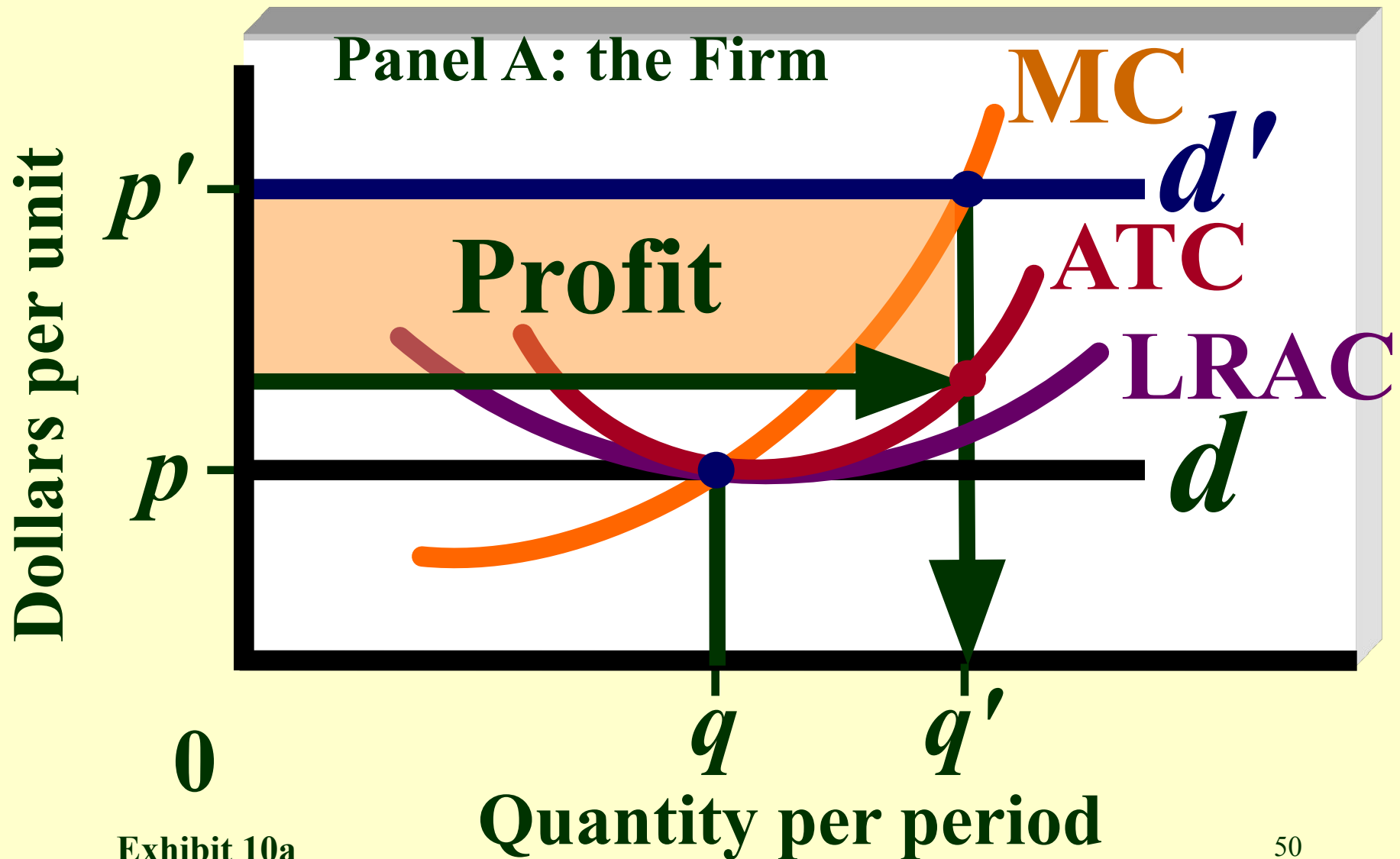


What is the shape of  
the *long-run industry*  
supply curve?

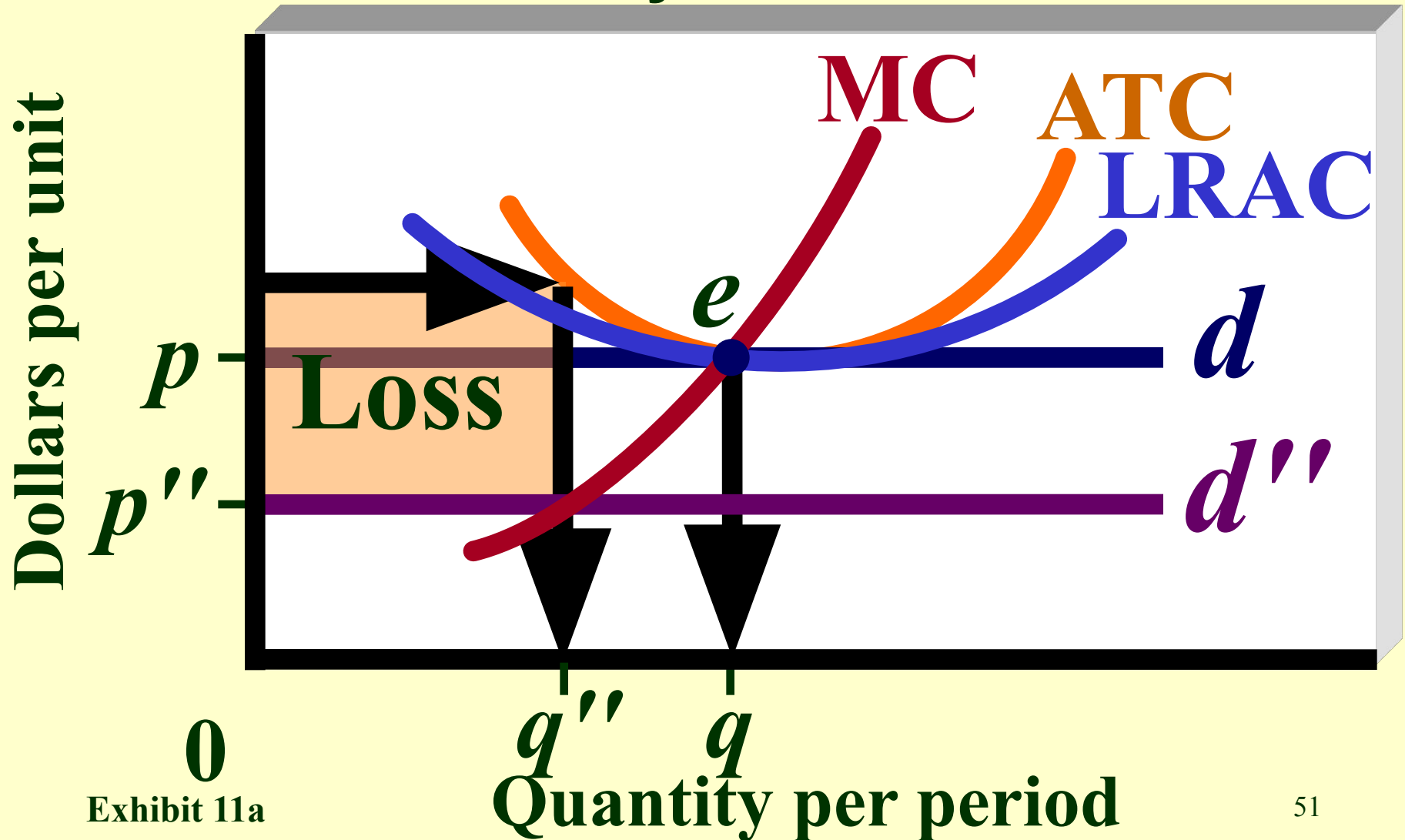
horizontal



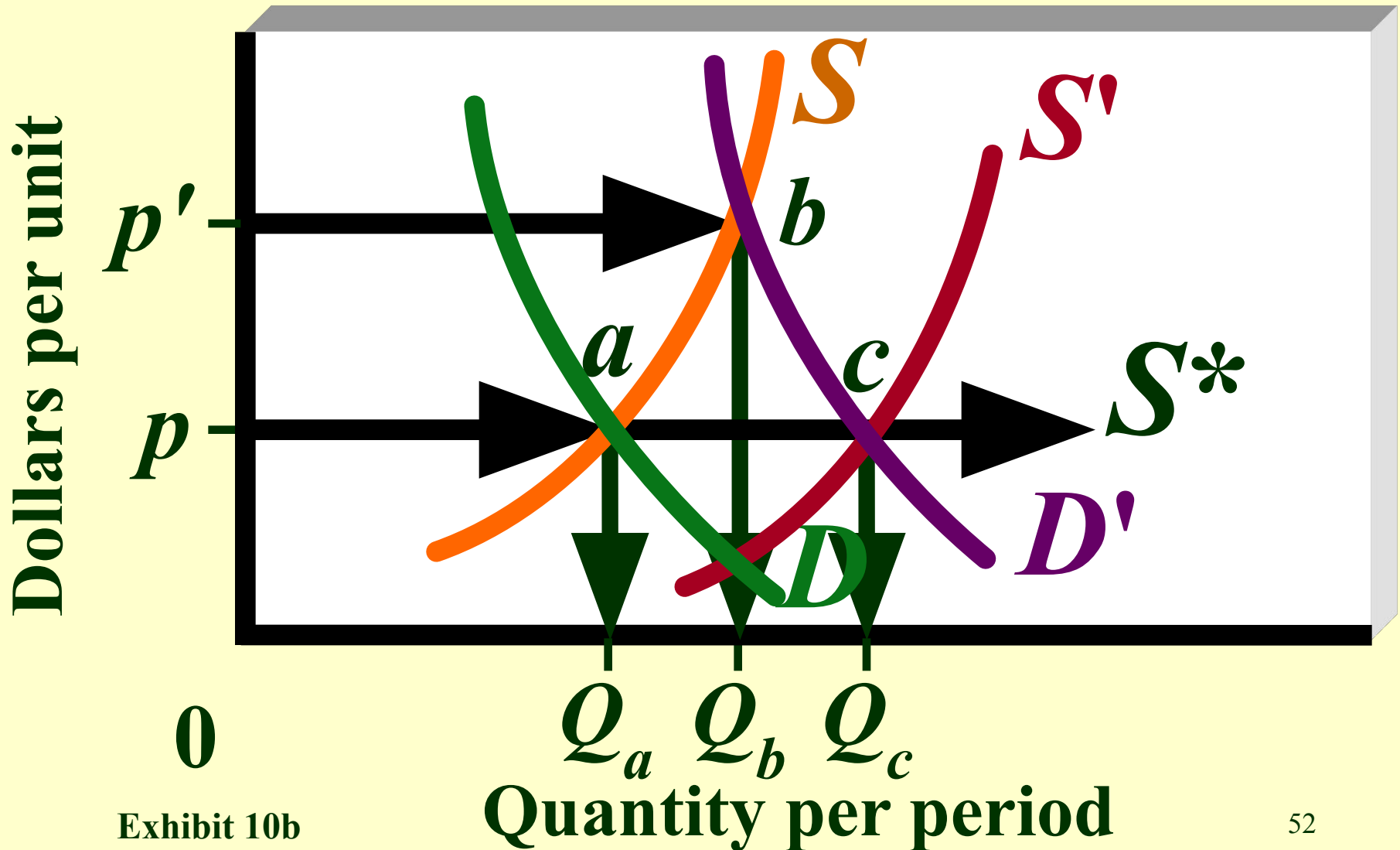
# Long-Run Adjustment to an Increase in Demand in a Constant Cost Industry



# Long-Run Adjustment to a Decrease in Demand in a Constant Cost Industry for the Firm



# Long-Run Adjustment to an Increase in Demand in a Constant Cost Industry



# Long-Run Adjustment to a Decrease in Demand in a Constant Cost Industry

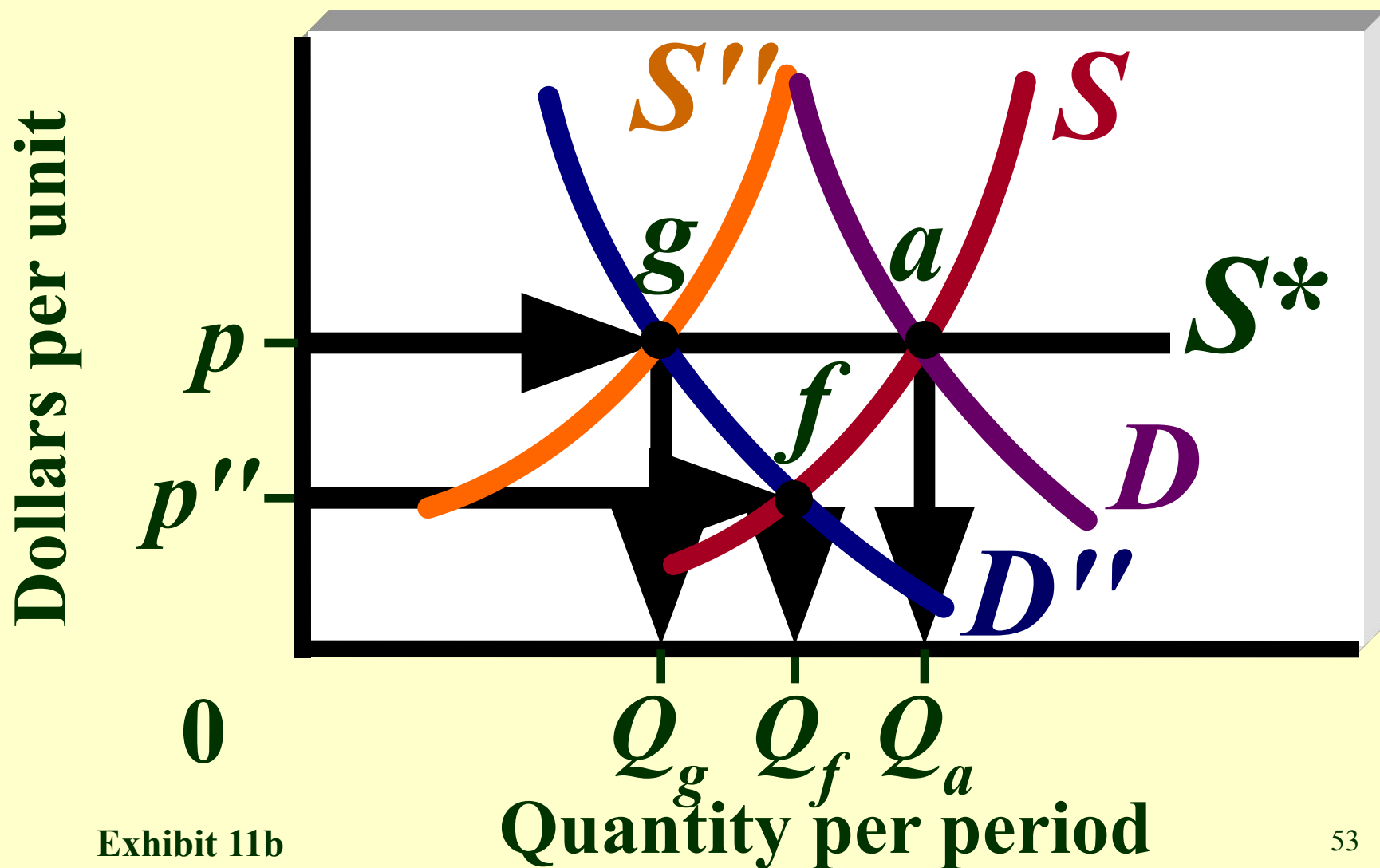


Exhibit 11b

# Long-Run Adjustment to a Increase in Demand in an Increasing Cost Industry

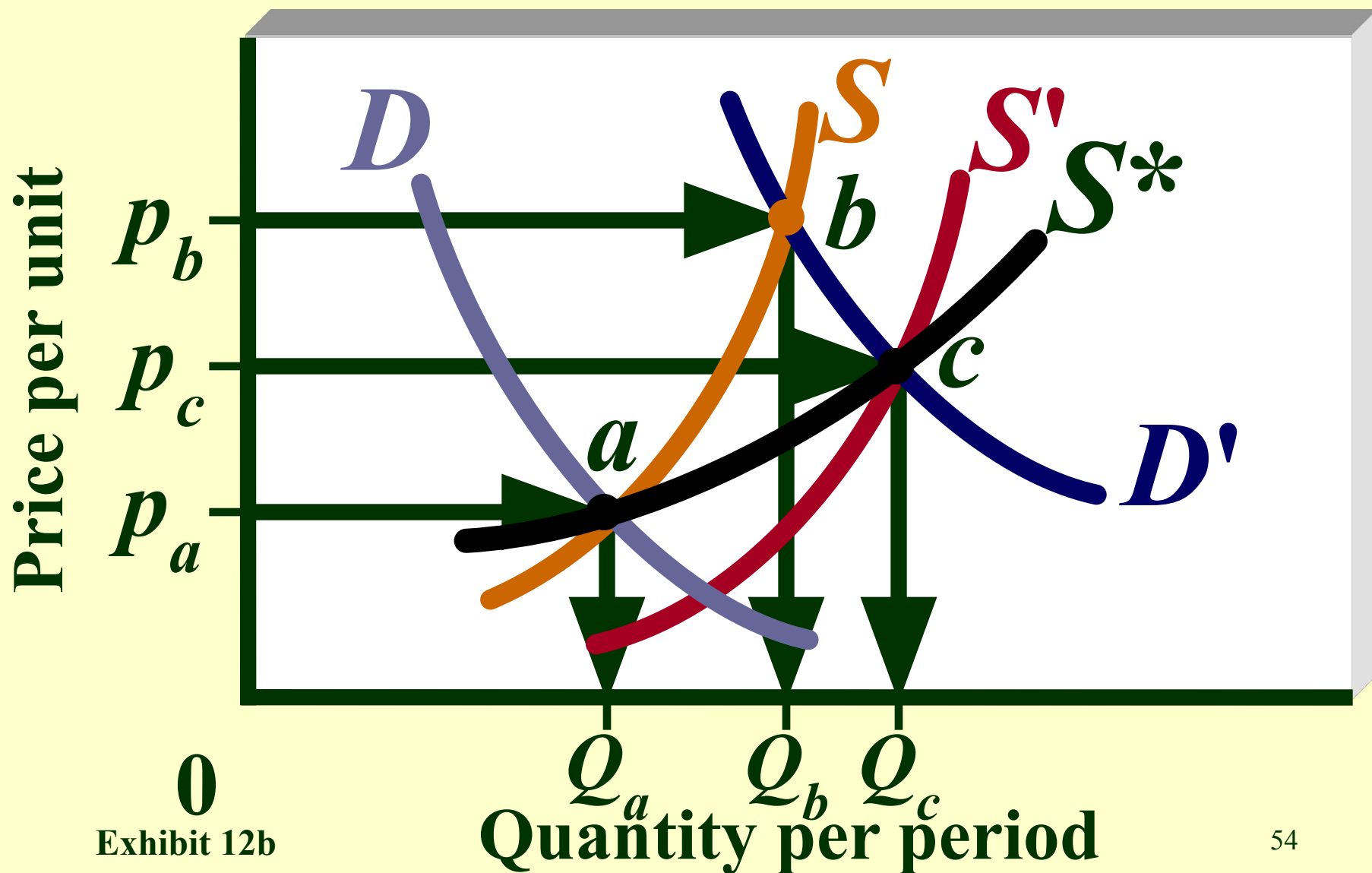
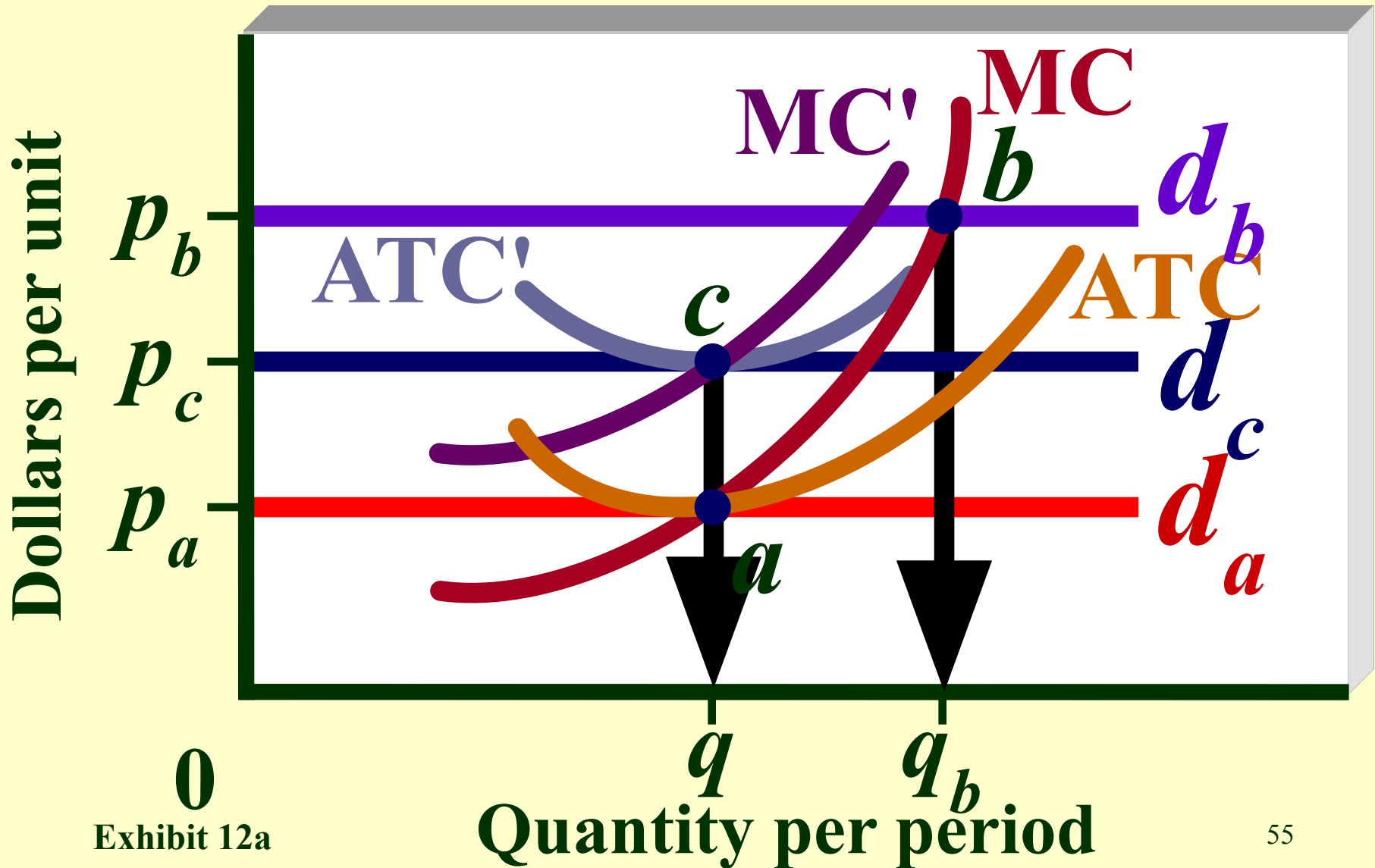


Exhibit 12b

# Long-Run Adjustment for the firm to an Increase in Demand in an Increasing Cost Industry



# What is a decreasing-cost industry?

The rare case in which an industry faces lower per-unit production costs as industry output expands in the long run



**What is the shape of the long-run industry supply curve in a decreasing cost industry?**

Downward sloping

# A Decreasing-Cost Industry Adjusts to an Increase in Demand

