Chapter 8
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

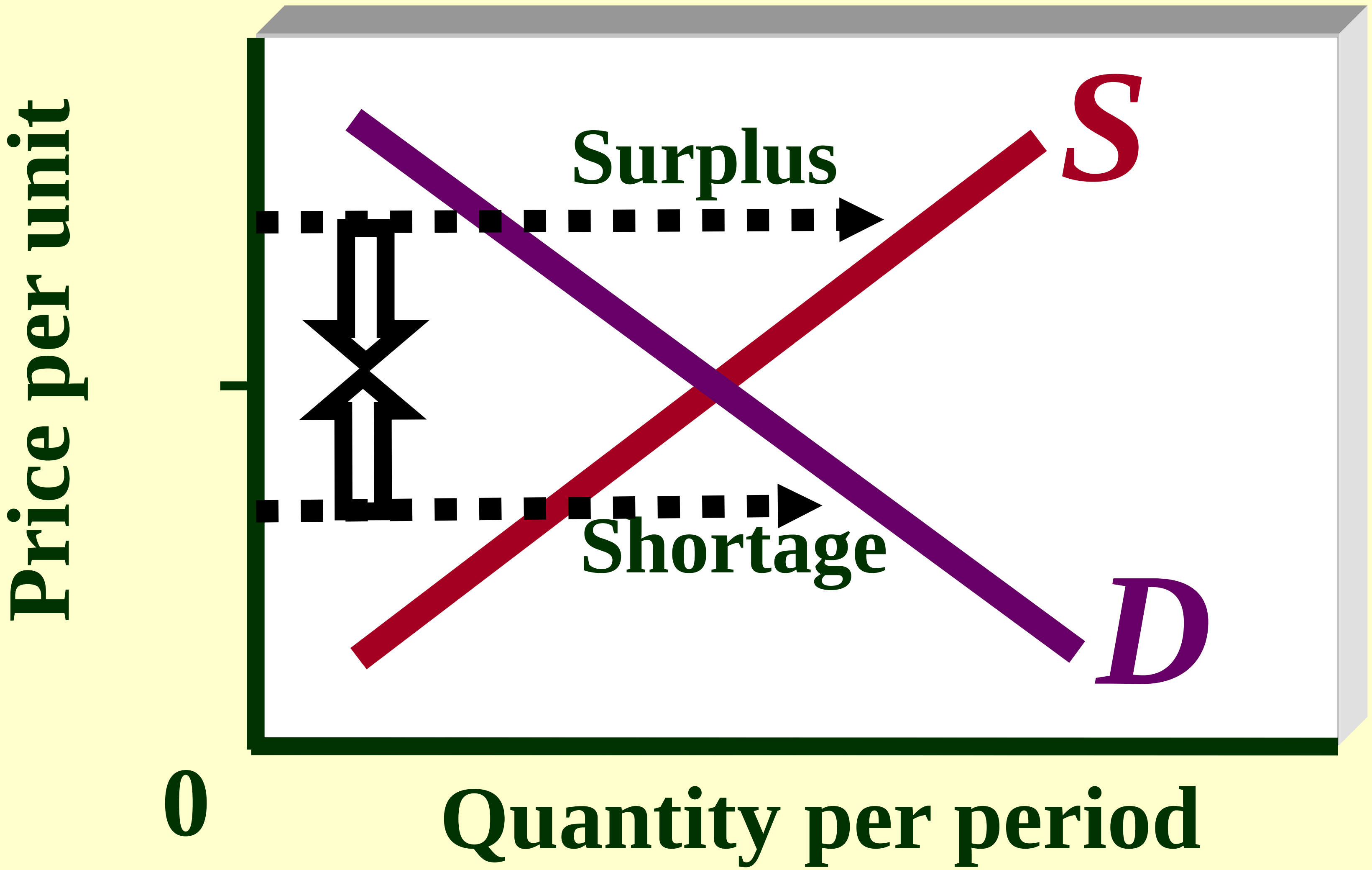
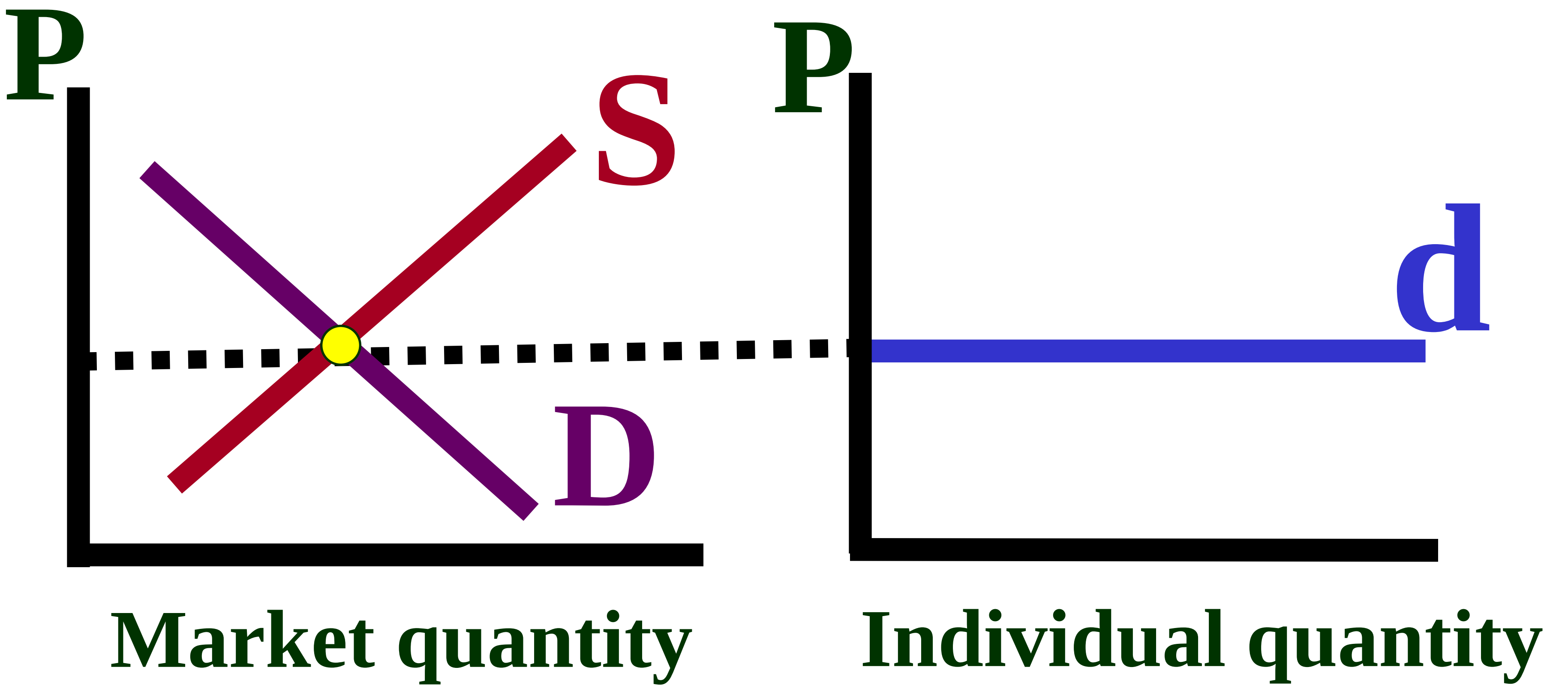


Exhibit 1a

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

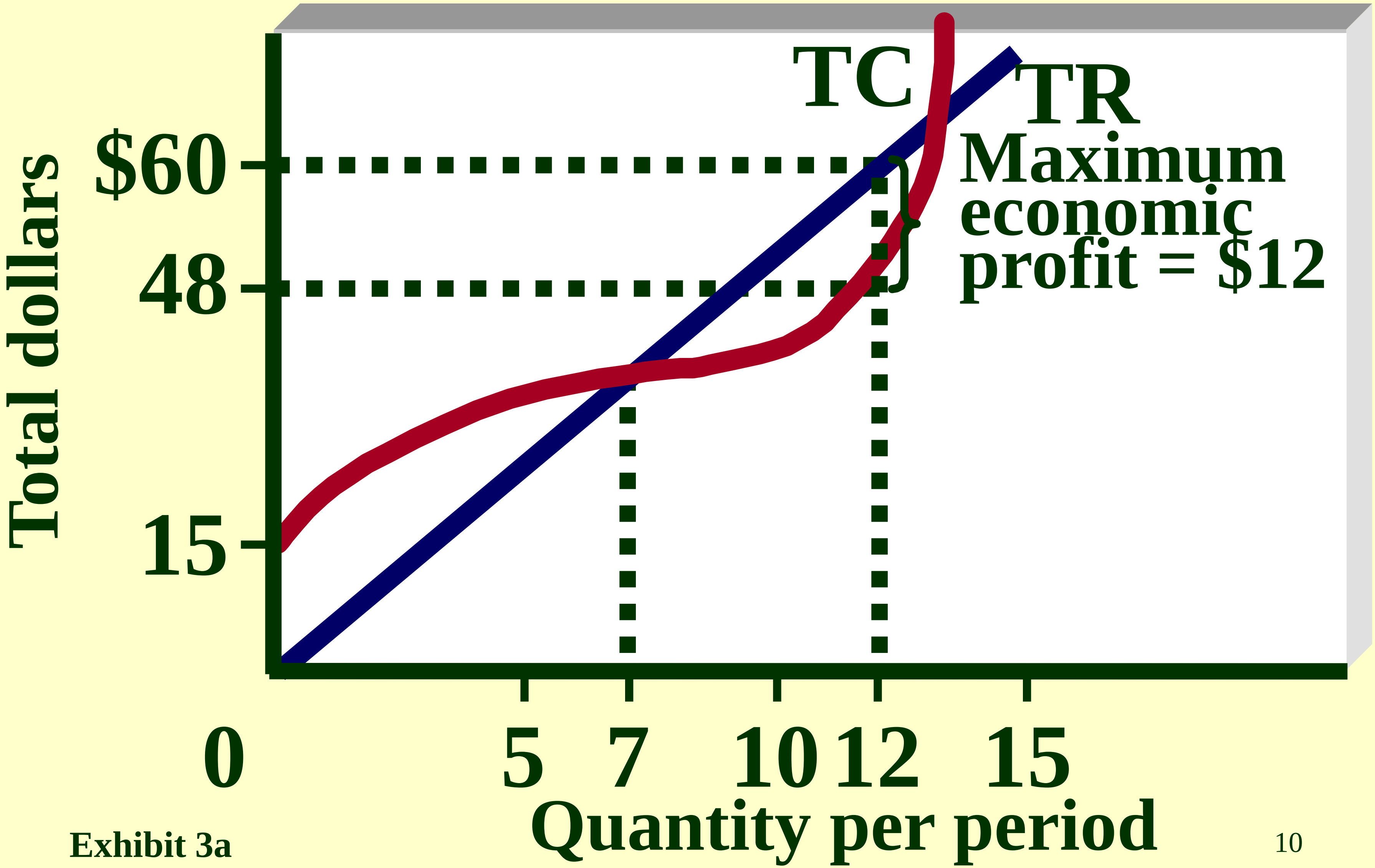


Exhibit 3a

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

Exhibit 2

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

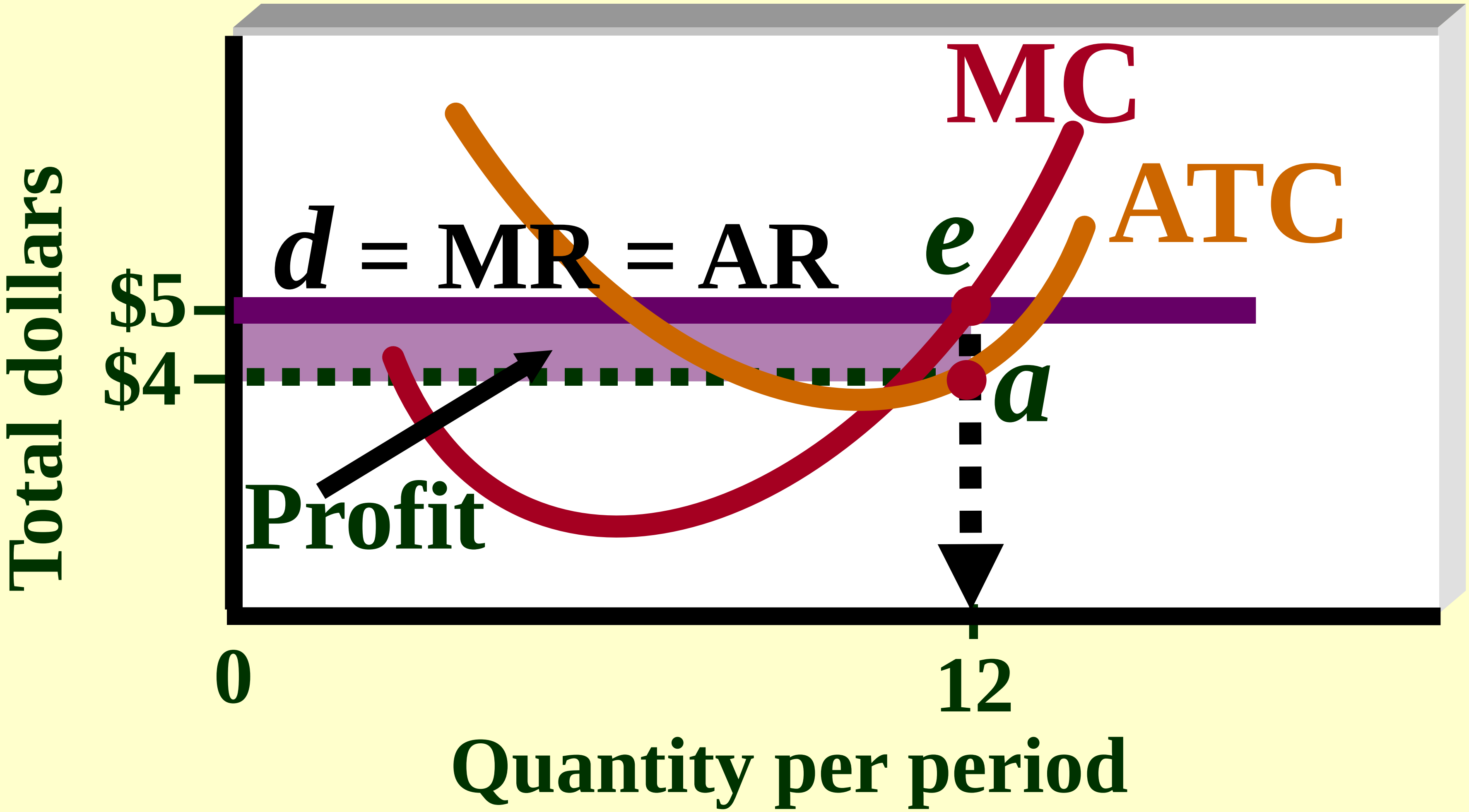


Exhibit 3b

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

Exhibit 4

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

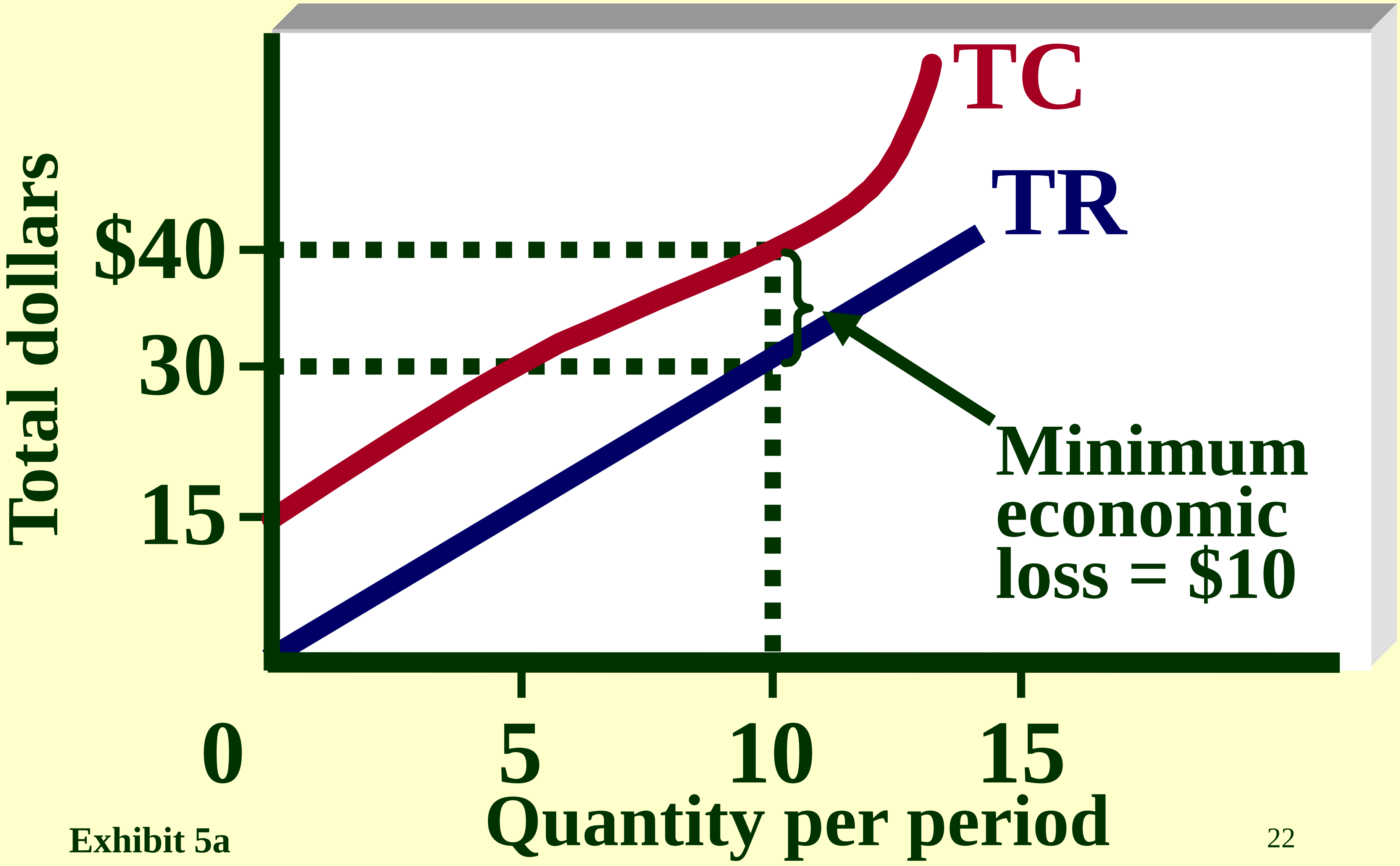


Exhibit 5a

Minimizing Short-Run Losses
Panel B: MC equals MR

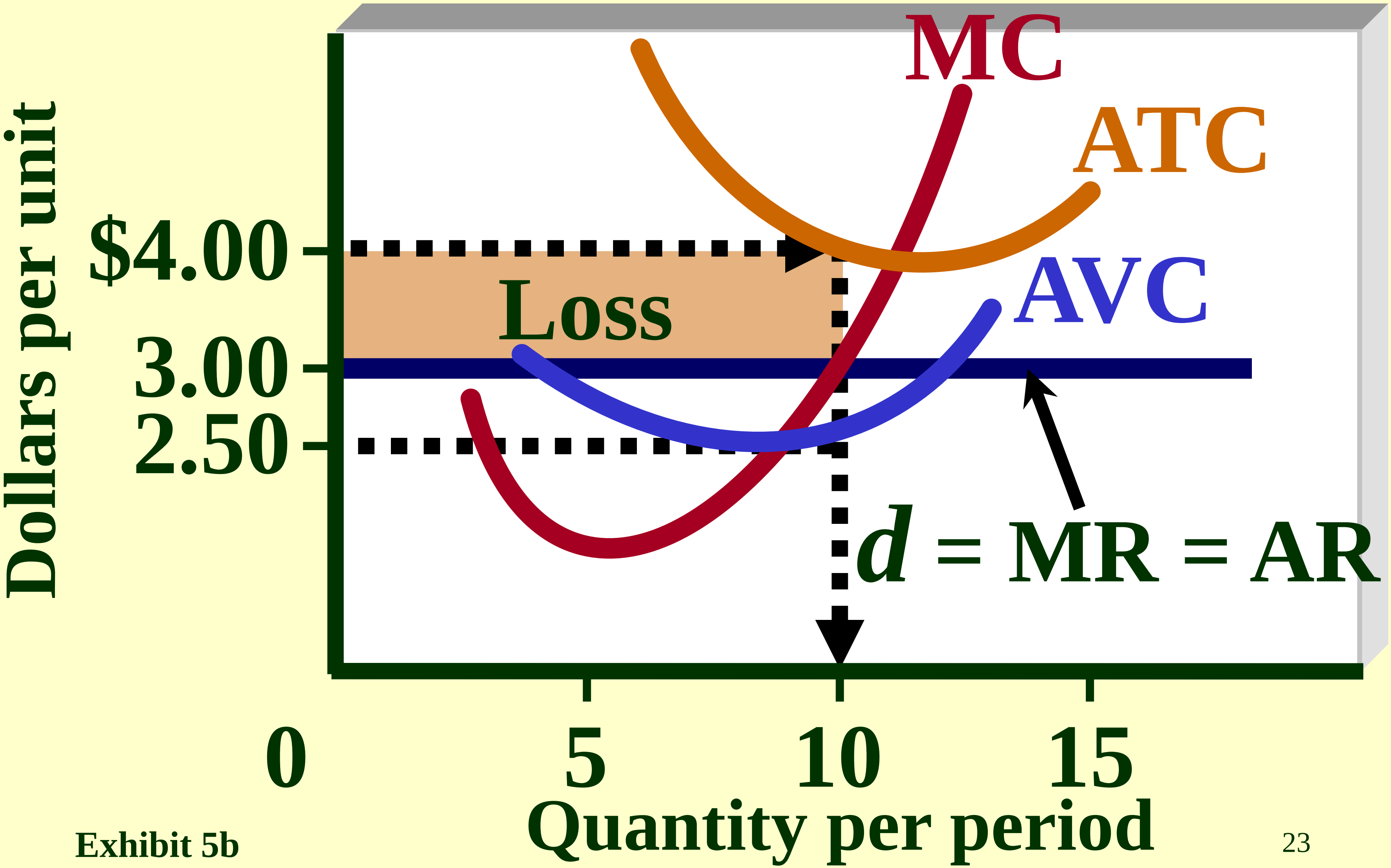


Exhibit 5b

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

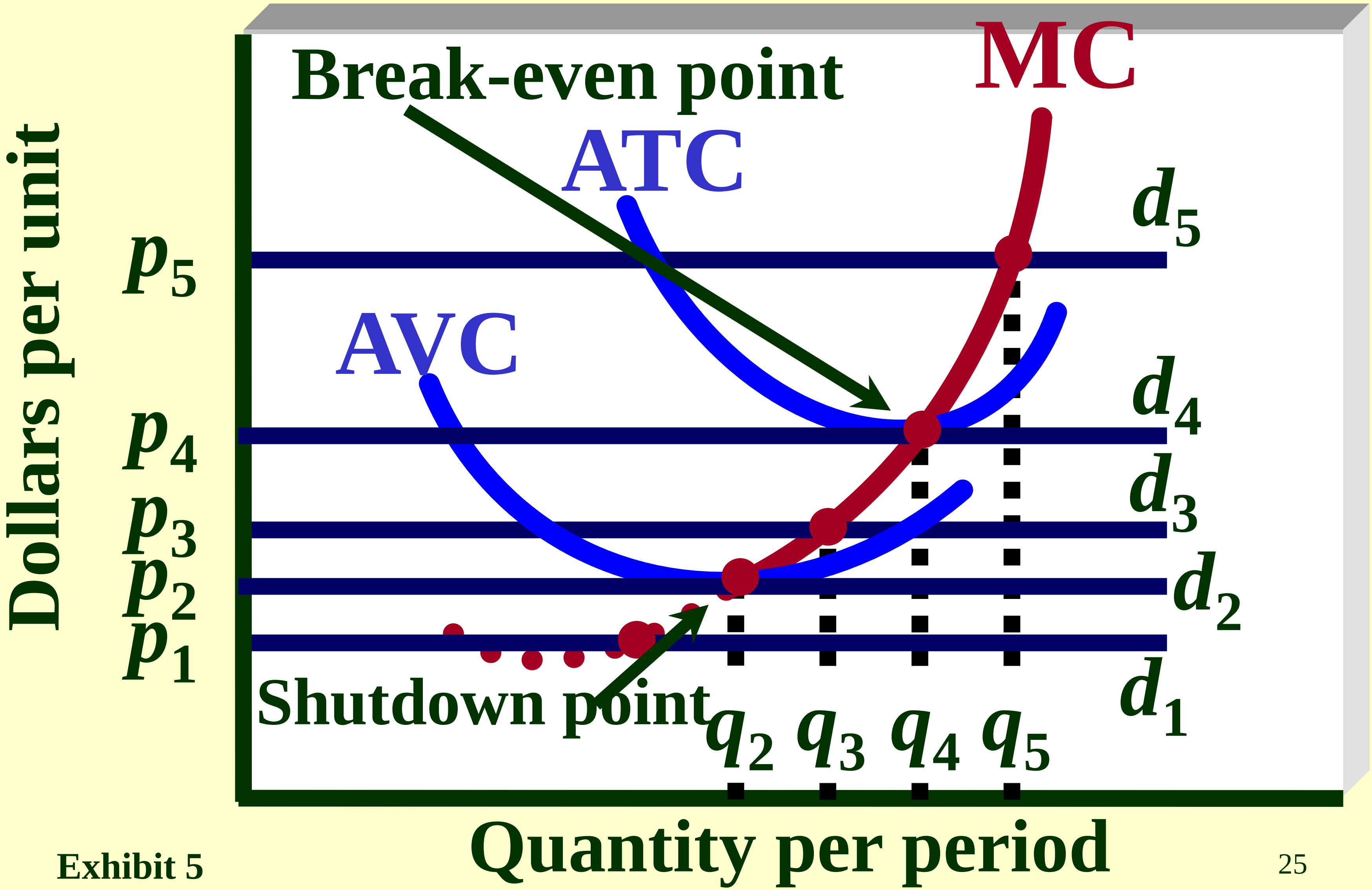


Exhibit 5

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

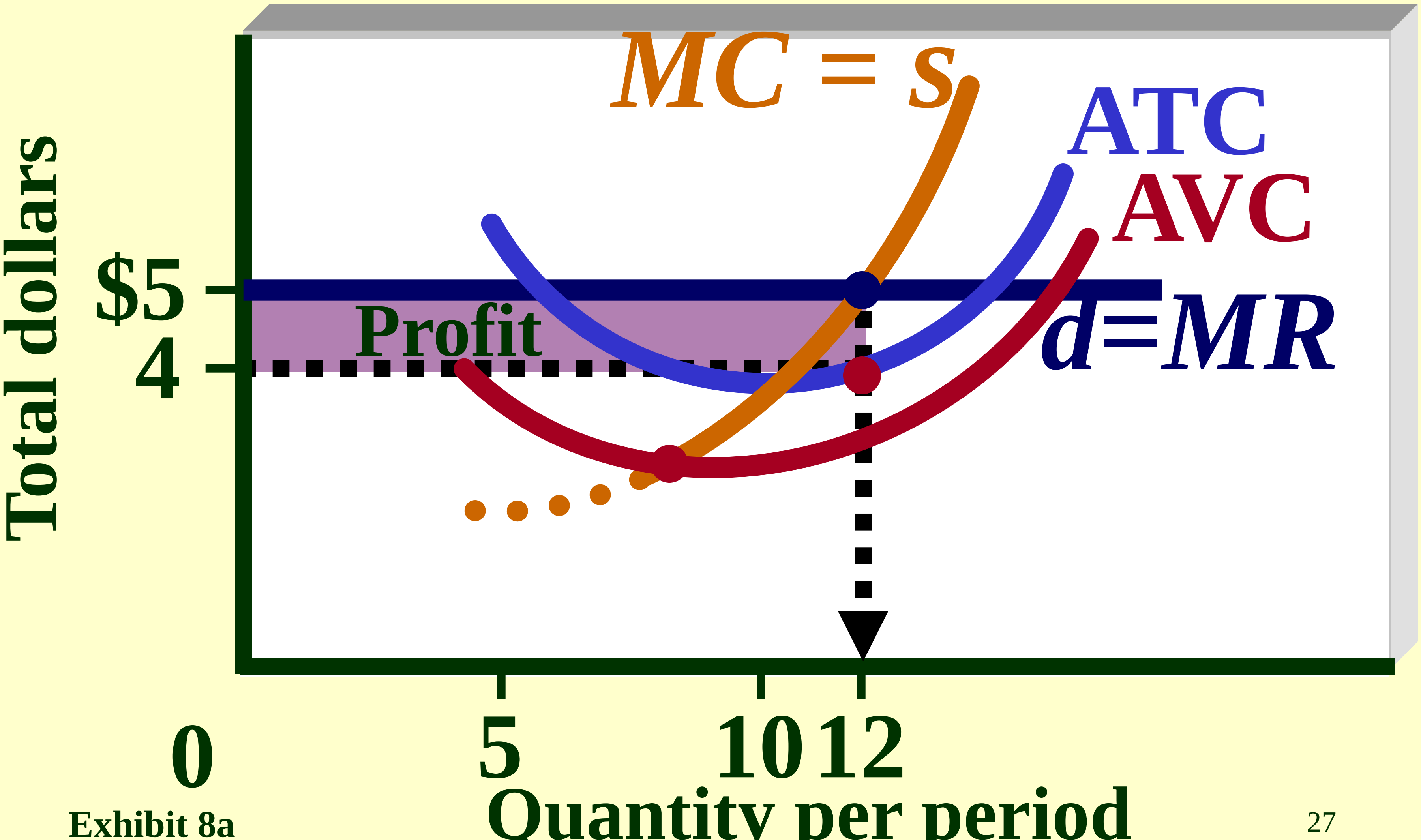


Exhibit 8a

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

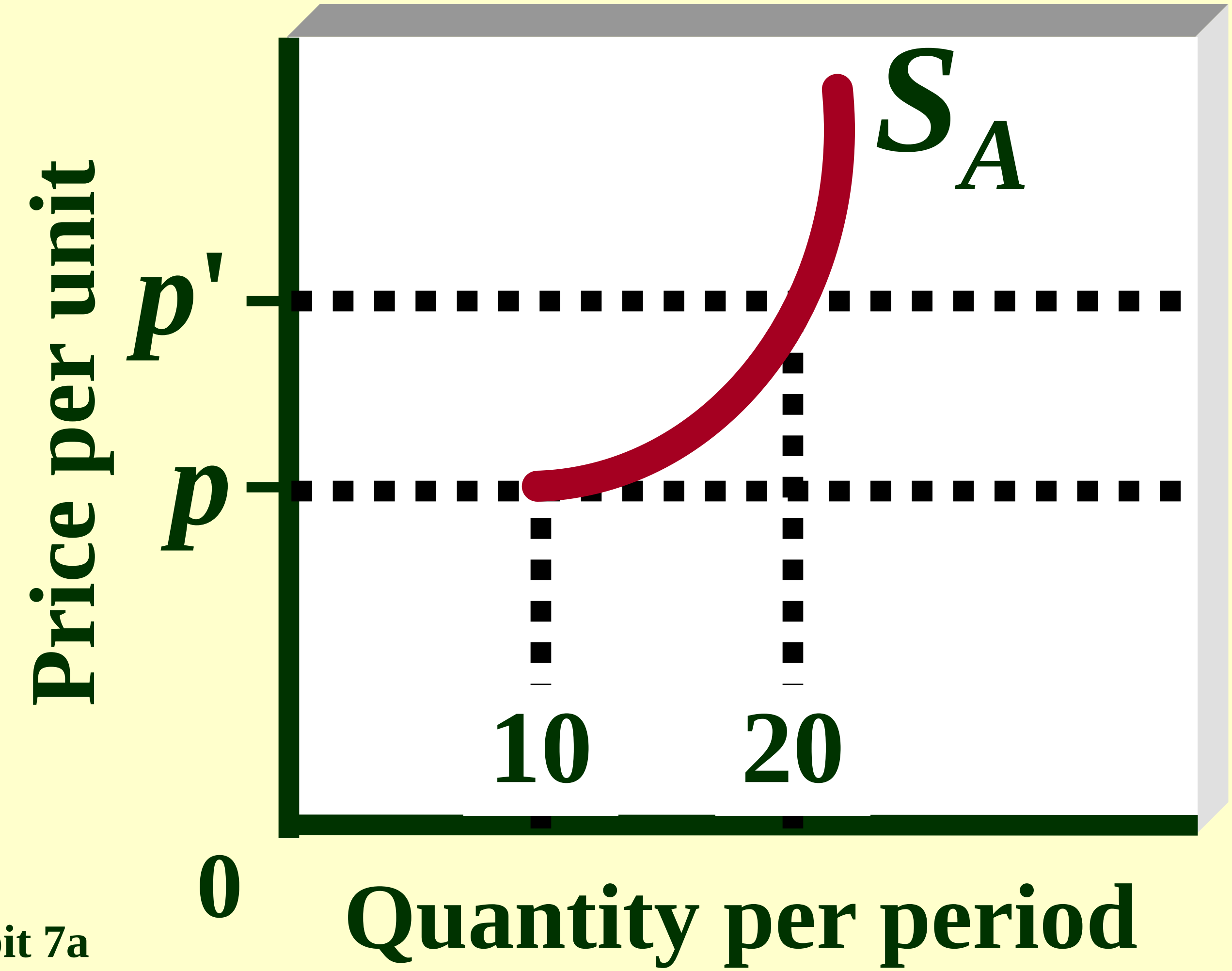


Exhibit 7a

Aggregating Individual Supply to Form Market Supply

Panel B: Firm B

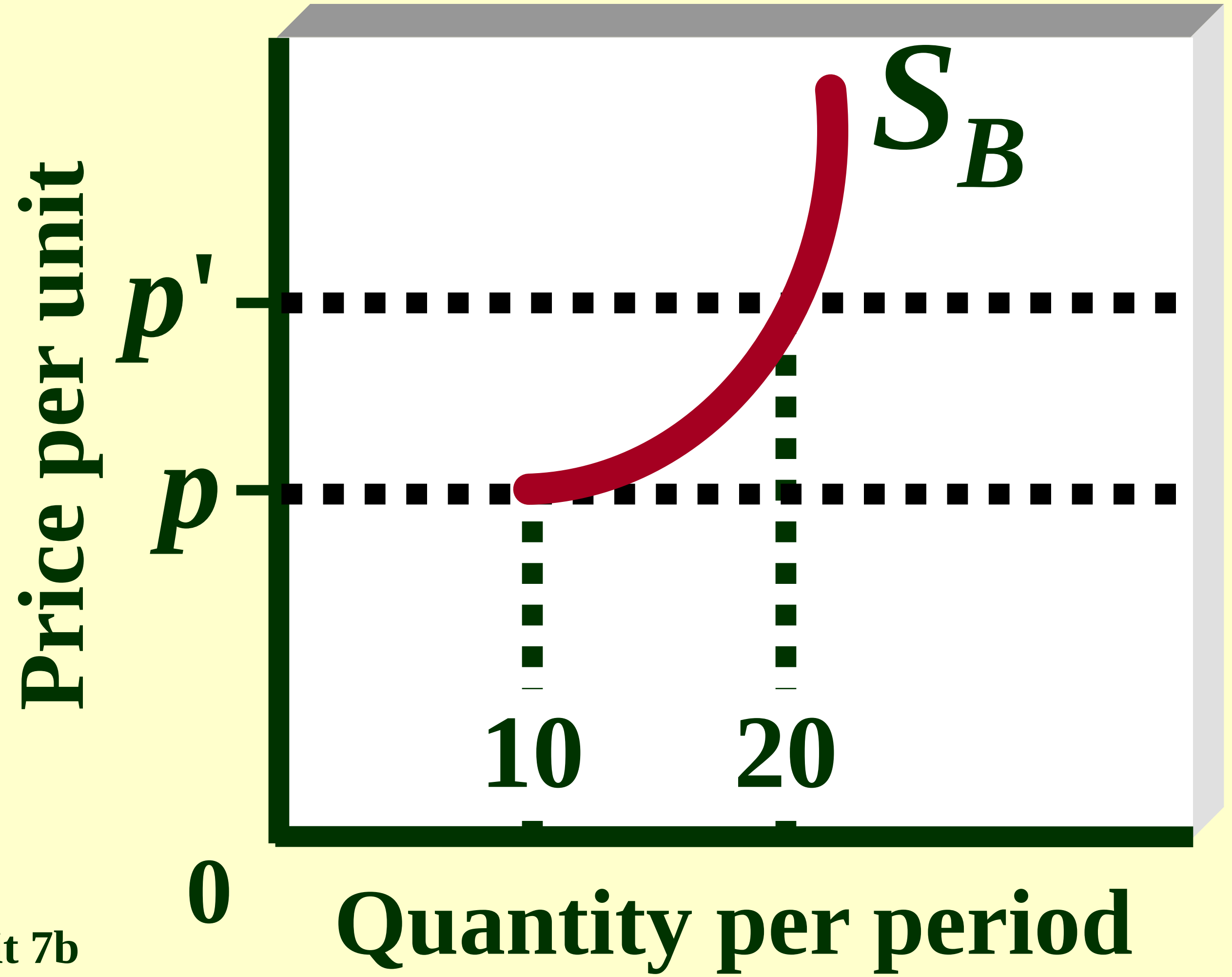


Exhibit 7b

Aggregating Individual Supply to Form Market Supply

Panel C: Firm C

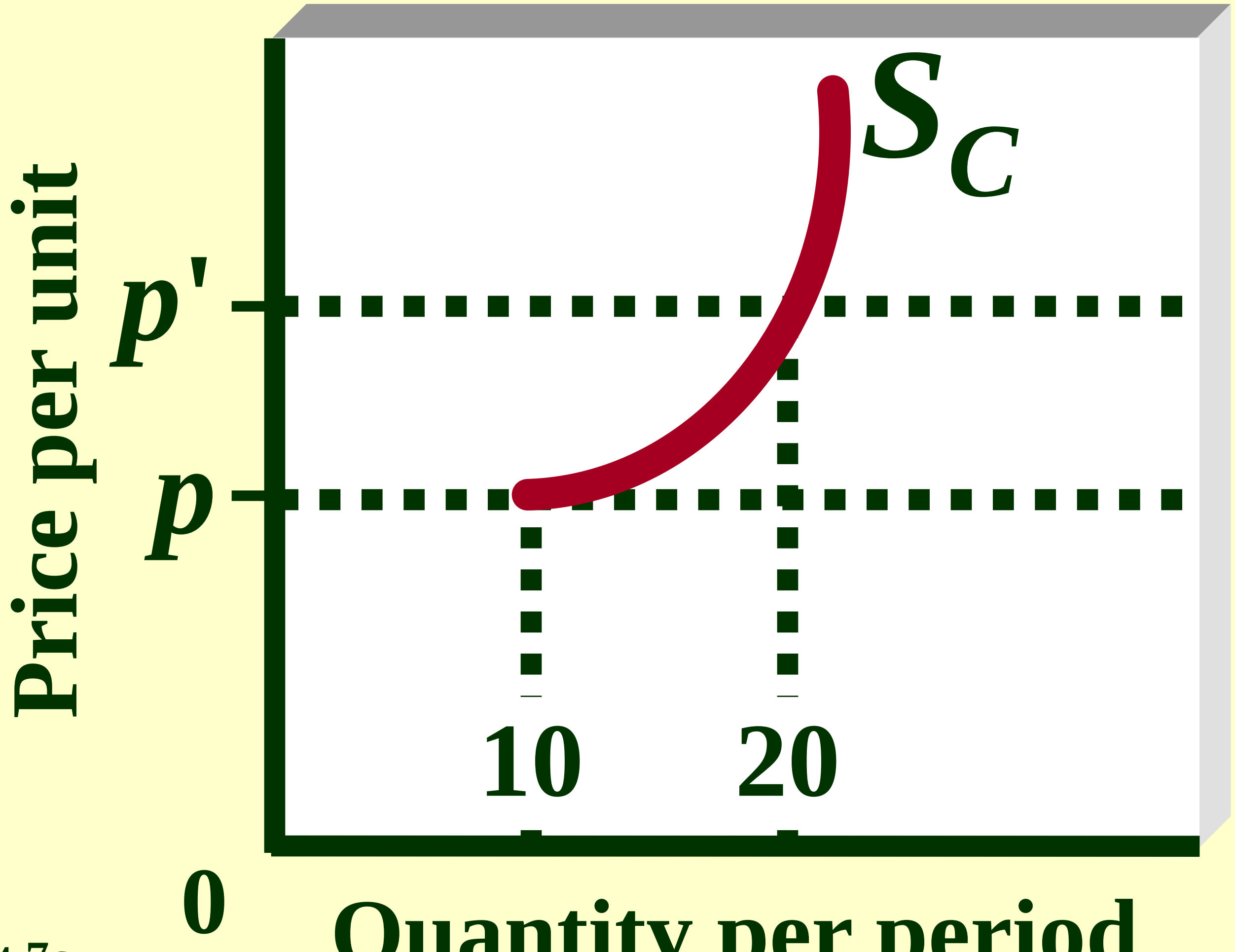


Exhibit 7c

Aggregating Individual Supply to Form Market Supply

Panel D: Industry, or market supply

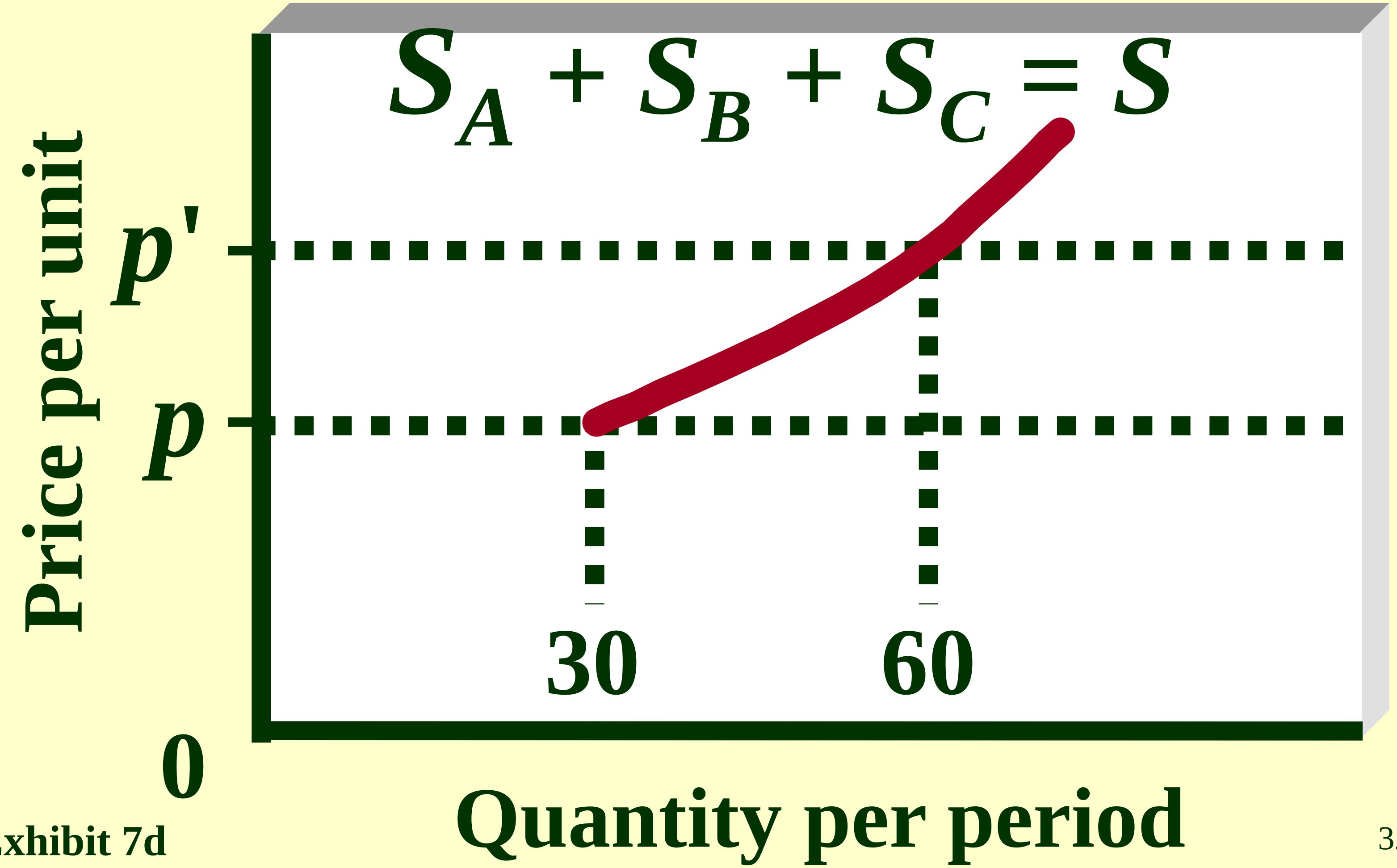


Exhibit 7d

Relationship between Short-Run Profit Maximization and Market Equilibrium

Panel B: Industry, or market

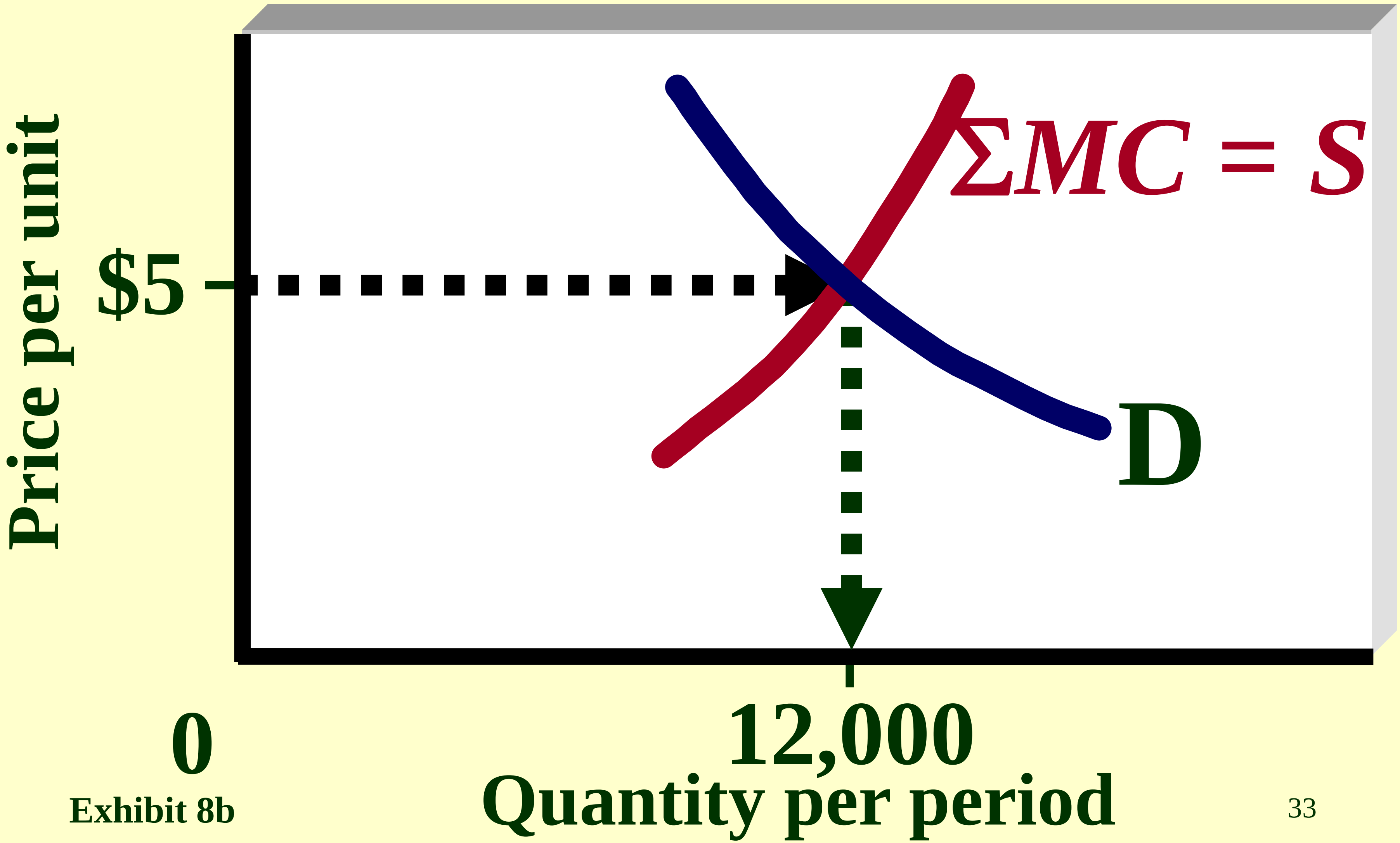
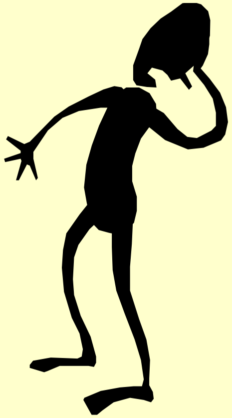


Exhibit 8b

What is economic profit in the long run?

Zero



Long-Run Equilibrium for the Firm

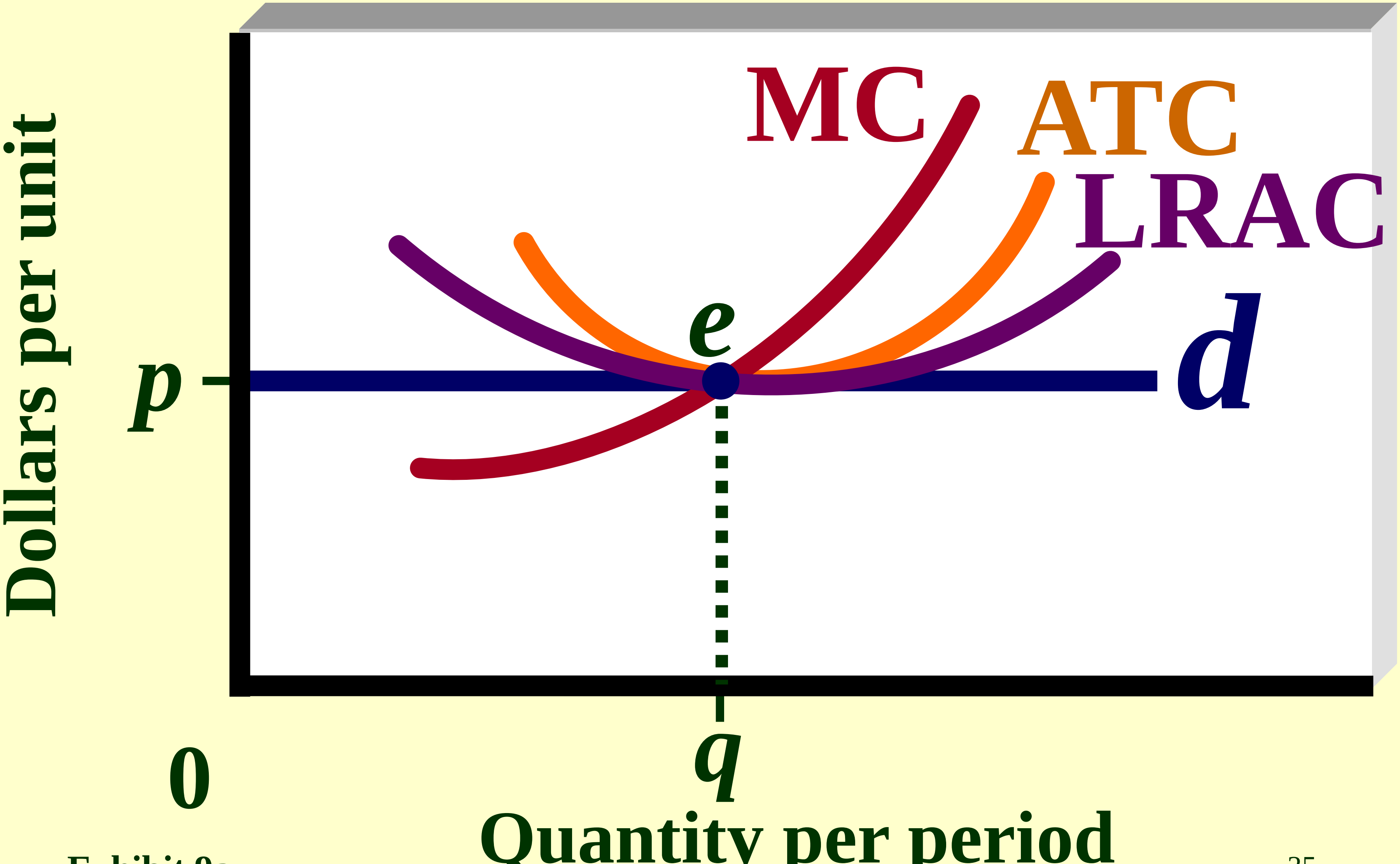


Exhibit 9a

Long-Run Equilibrium for the Industry

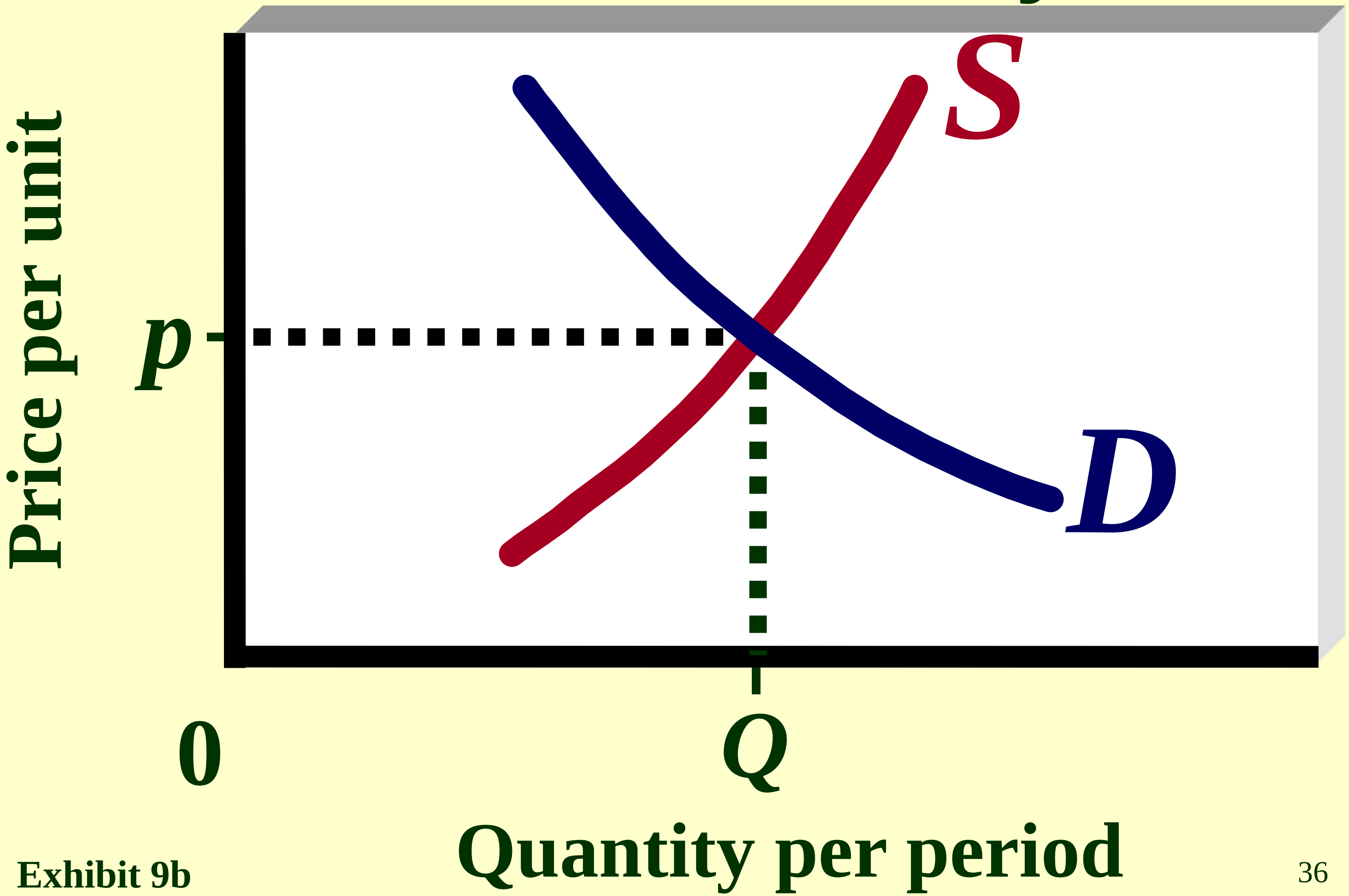


Exhibit 9b

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

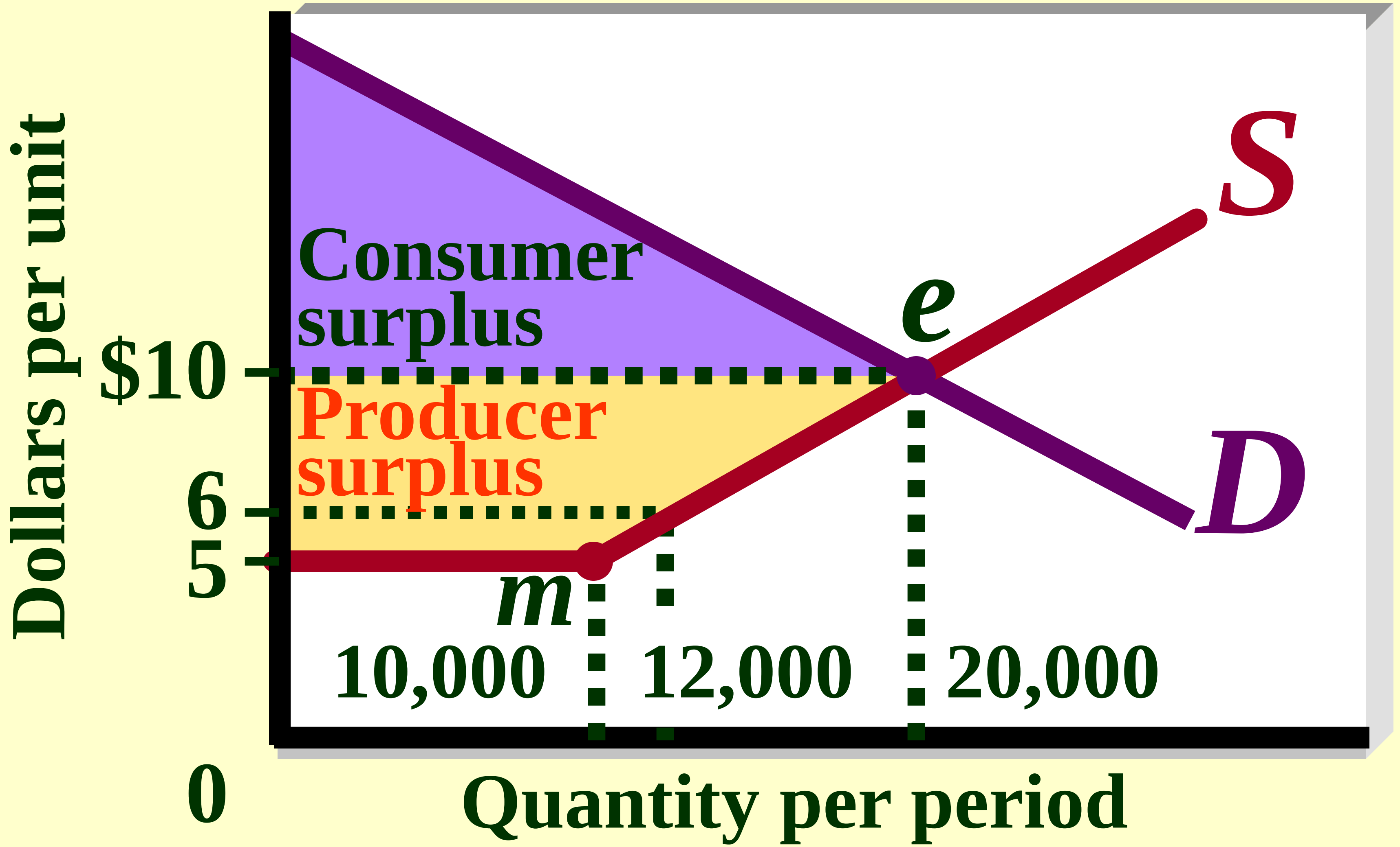


Exhibit 14

END

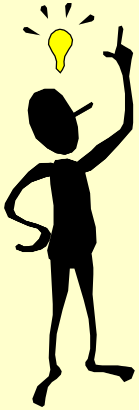
Appendix

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

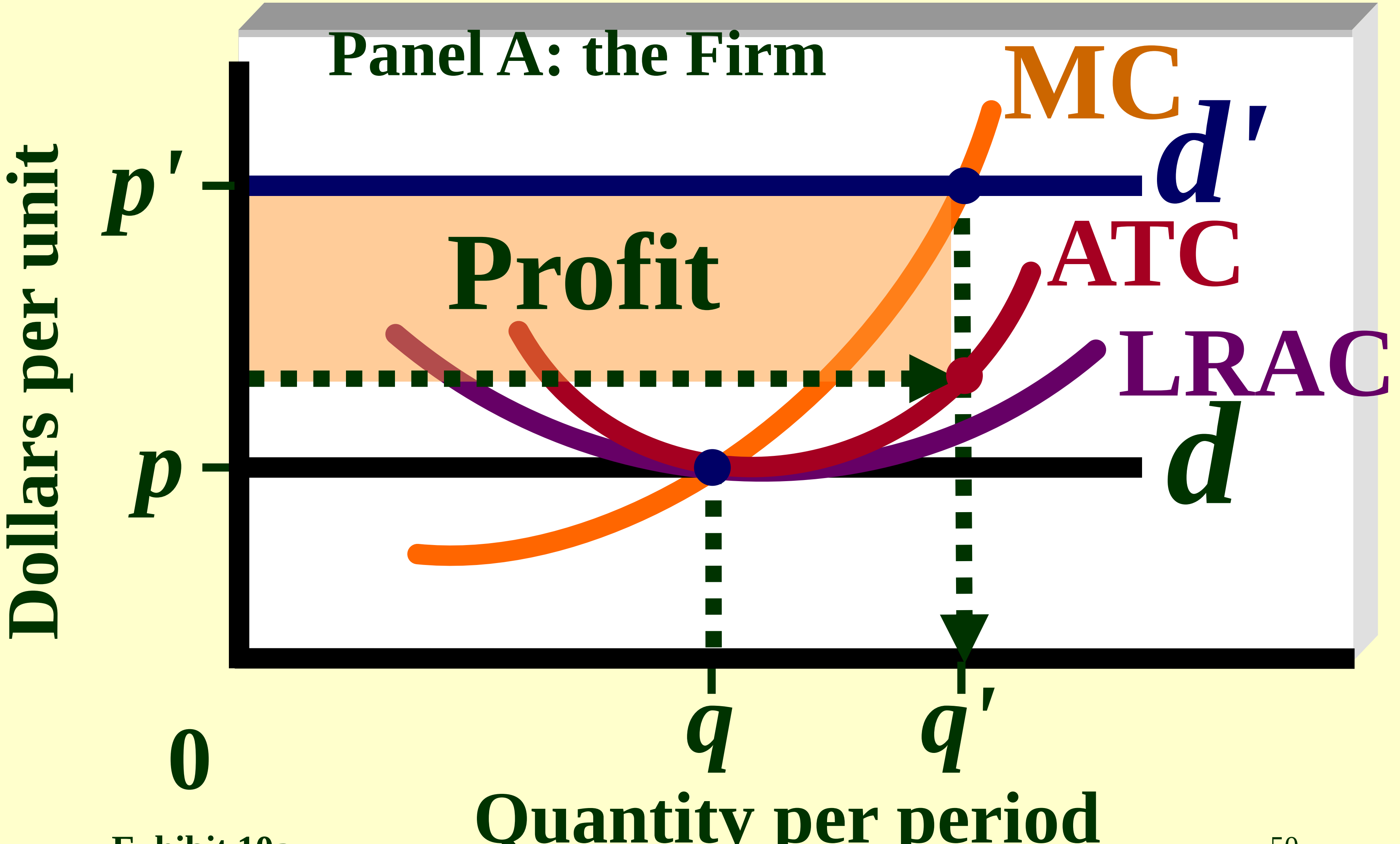


Exhibit 10a

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

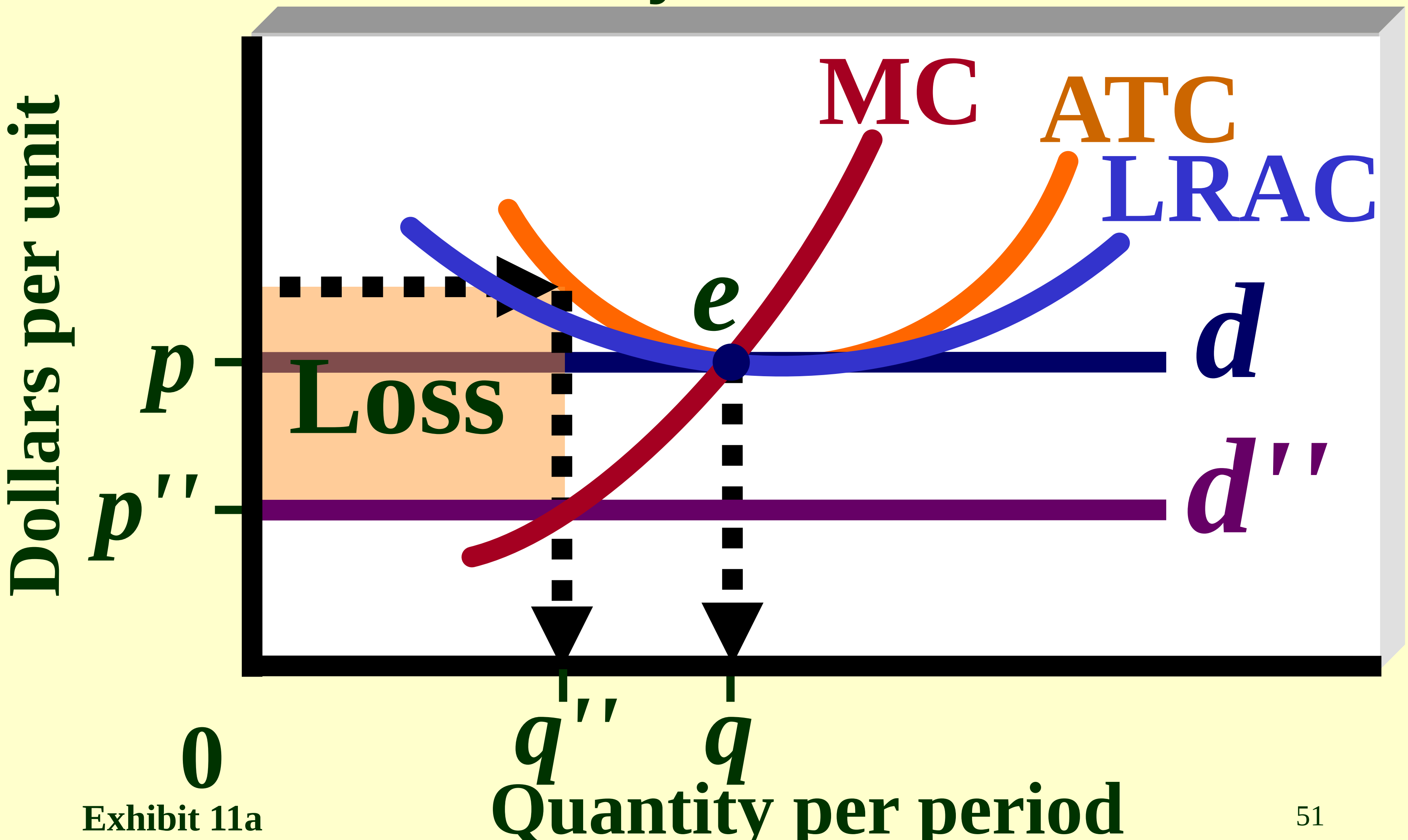


Exhibit 11a

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

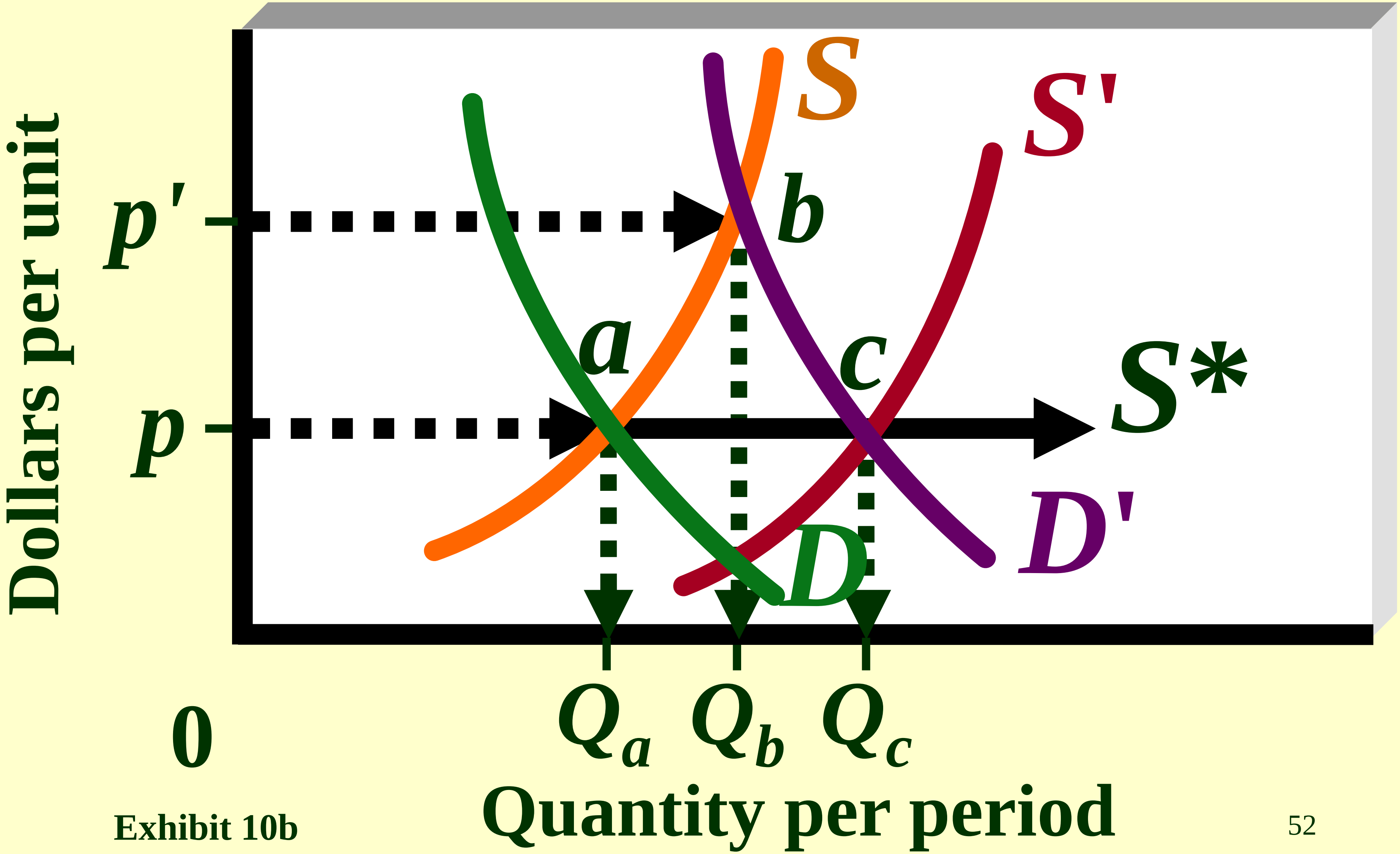


Exhibit 10b

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

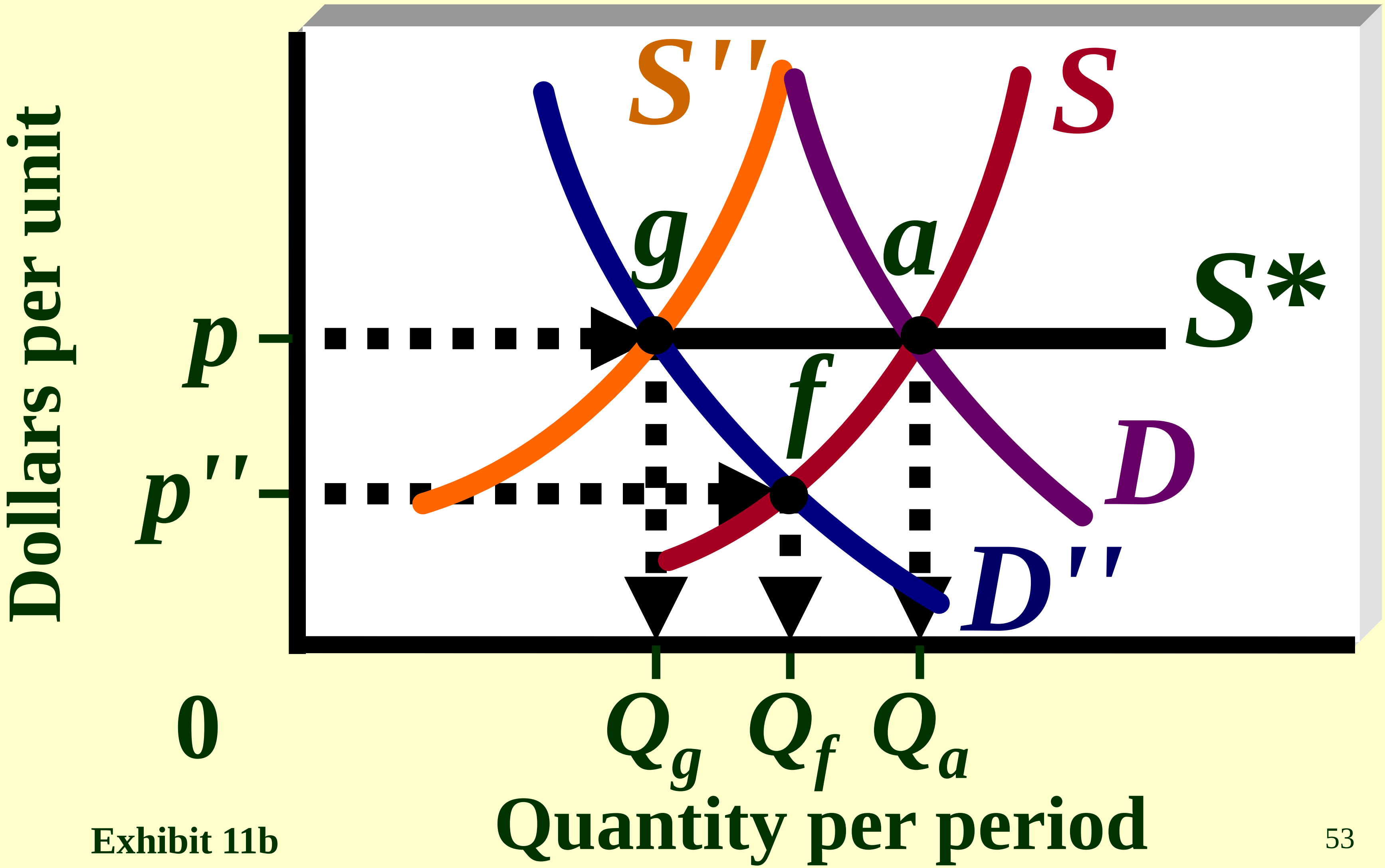


Exhibit 11b

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

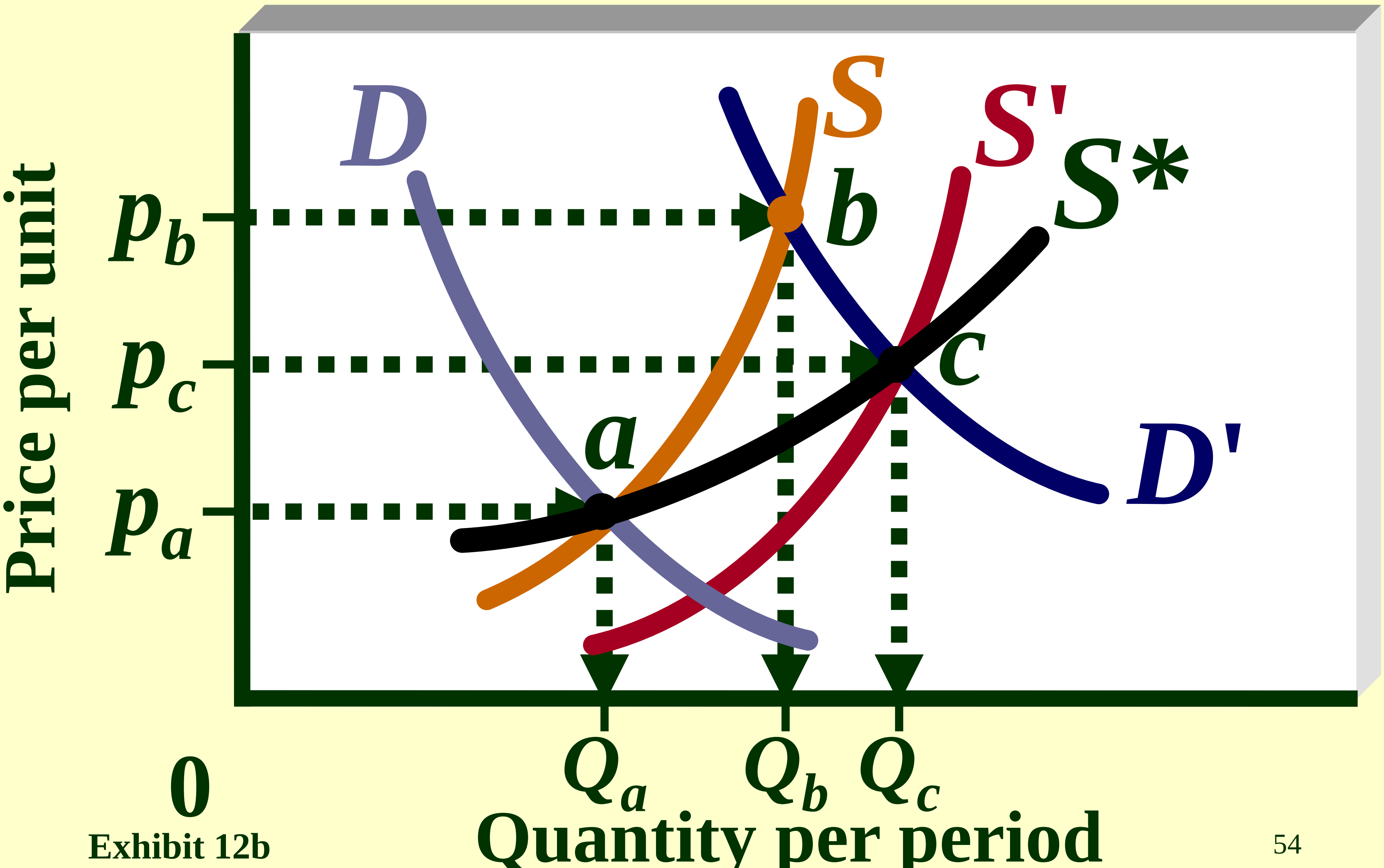


Exhibit 12b

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

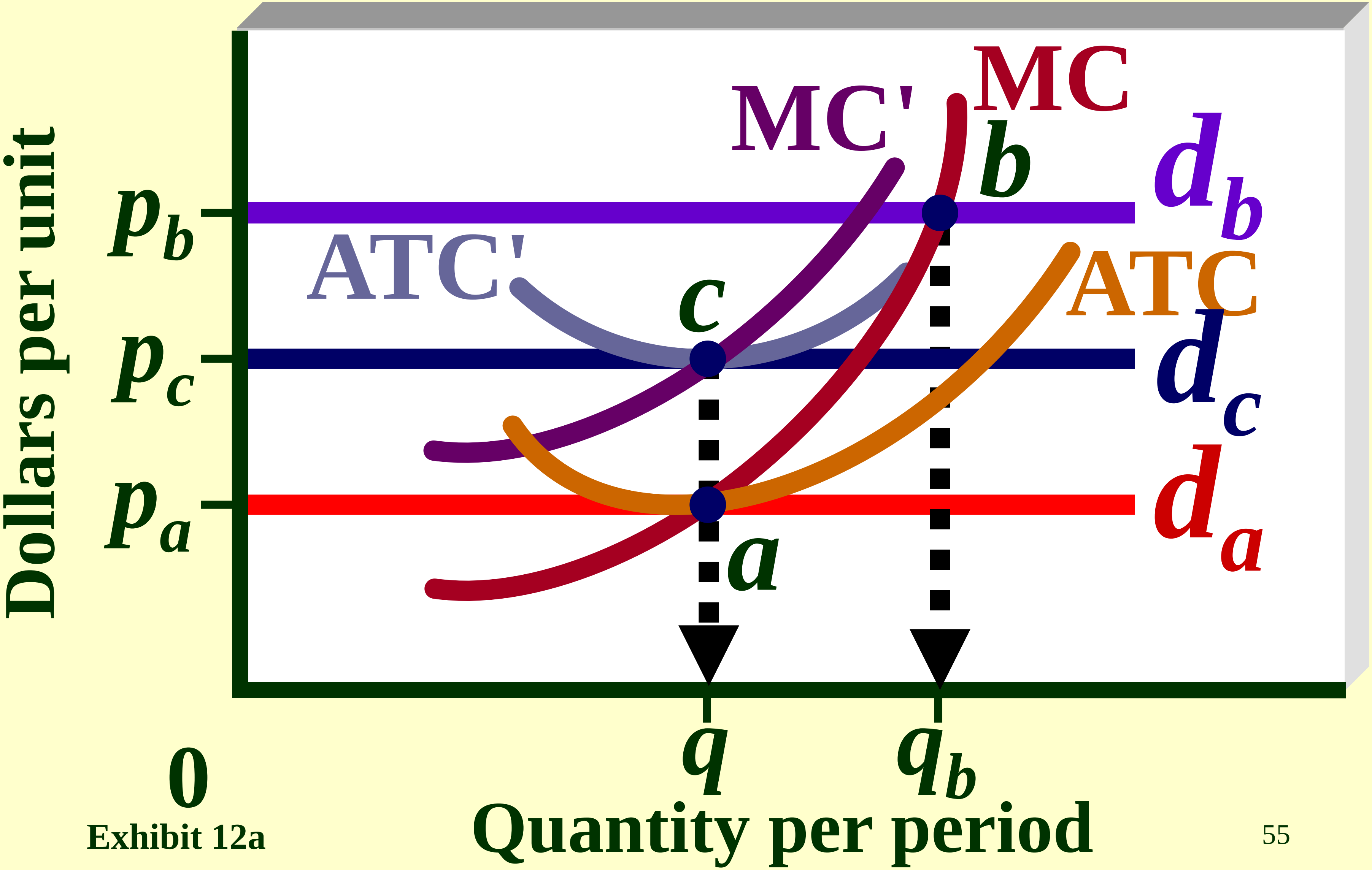


Exhibit 12a

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

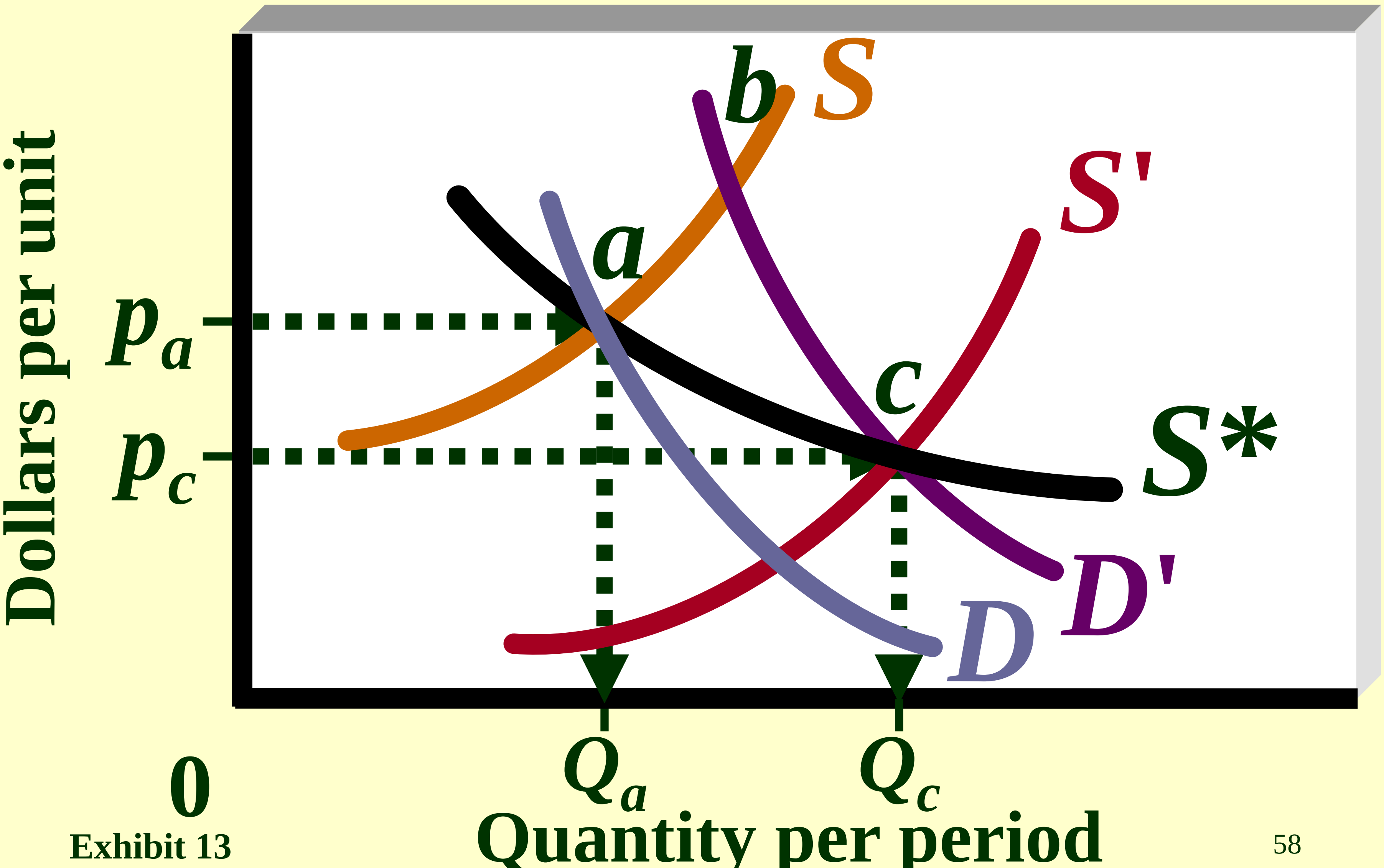


Exhibit 13