

THE COSTS OF PRODUCTION

The Micro Economy Today, 11th Edition
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Chapter 6

I. Capacity Constraints

A. In order to produce any good or service, a business owner must:

B. How much final output can a business owner produce?

It depends on:

1. The _____ of resources used in production

AND

2. The _____ of resources used in production

C. The Production Function for a Business Owner

1. Definition:

2. Example from Table 6.1 on page 118 of your textbook

Suppose you are the owner of The Low-Rider Jeans Company. To keep things reasonably simple, let's assume that blue jeans can be produced using just TWO resources: capital equipment (in the form of sewing machines) and labor (in the form of seamstresses).

Capital per day (sewing machines)	Labor (seamstresses per day)								
	0	1	2	3	4	5	6	7	8
0	0 pairs	0 pairs	0 pairs	0 pairs	0 pairs	0 pairs	0 pairs	0 pairs	0 pairs
1	0 pairs	15 pairs	34 pairs	44 pairs	48 pairs	50 pairs	51 pairs	51 pairs	47 pairs
2	0 pairs	20 pairs	46 pairs	64 pairs	72 pairs	78 pairs	81 pairs	82 pairs	80 pairs
3	0 pairs	21 pairs	50 pairs	73 pairs	83 pairs	92 pairs	99 pairs	103 pairs	103 pairs

What things should you take away from this table?

- (a) It takes BOTH some capital and some labor to get ANY pairs of blue jeans produced.
- (b) There is a LIMIT to the quantity of blue jeans that can be physically produced in your factory.

3. Modification to the previous “complicated” example

Let’s pretend The Low-Rider Jeans Company is just starting out, so it occupies a relatively small factory (maybe a 30 foot x 30 foot square building), so you’ve chosen to lease only ONE SEWING MACHINE.

Production Table for The Low-Rider Jeans Company

# of workers per day	Total Product (# of pairs of jeans per day)	Marginal Physical Product (# of pairs of jeans per day)
0	0	
1	15	
2	34	
3	44	
4	48	
5	50	
6	51	
7	51	
8	47	

NOTE: This is just a transposition of row #2 of the big, complicated table on the previous page.

D. Marginal Physical Product (MPP)

1. Definition:

=>

2. Return to Table and compute the MPP of each worker

3. Why does the second worker APPEAR to be more productive than the first worker?

E. The Law of Diminishing Returns

1. Definition:

2. Why?

II. Short-Run Production Costs

A. What is the “Short-Run”?

1. Definition:

2. In the short run, a business owner typically CANNOT change:

a.

b.

B. Basic Costs

1. Total Cost

a. Definition:

b. Formula:

2. Fixed Cost

a. Definition:

b. General Examples

c. Implication:

3. Variable Cost

a. Definition:

b. General Examples

c. Implication:

4. Draw Basic Cost Curves Graph



C. Which Costs Really Matter for Making Real-World Business Decisions?

1. Average Total Cost (ATC) - Also referred to as “_____” cost

a. Formulas:

b. ATC tells the business owner how much it costs to produce

c. Practical use:

d. Graph



e. Minimum Average Total Cost

Producing this level of output means:

Who cares about this point?

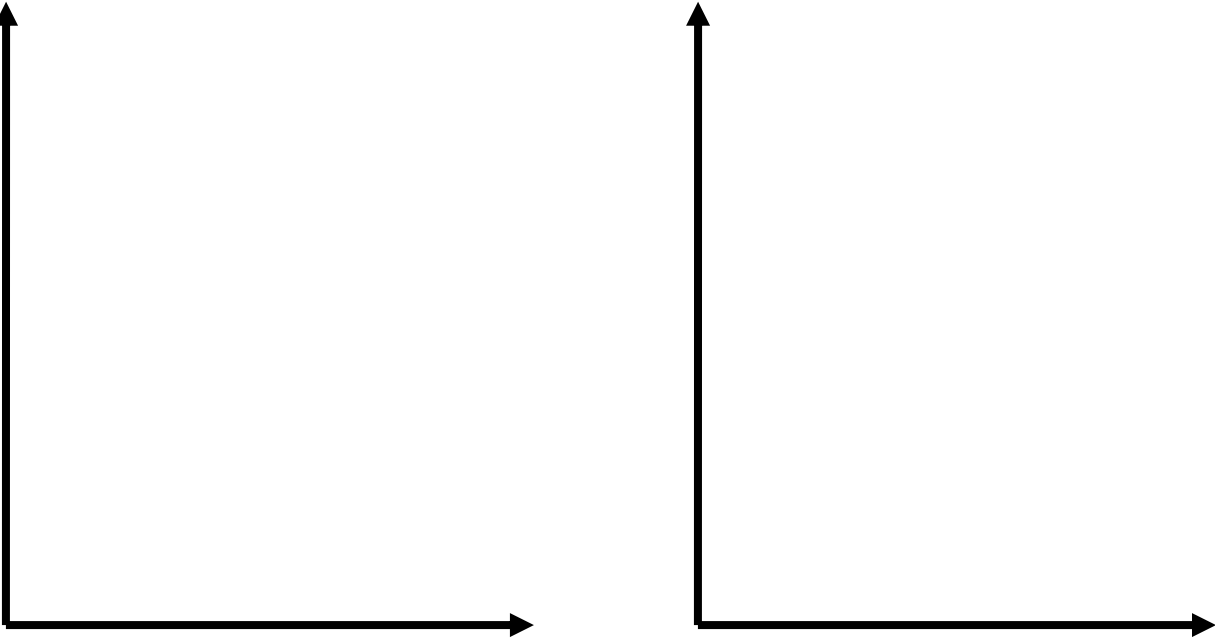
2. Marginal Cost

a. Definition:

b. If we decide to make one more pair of jeans today, how much additional cost will we incur?

c. Producing ONE MORE pair of jeans causes my Total Cost to increase because:

d. Graph



3. Average-Marginal Rule

a. Graph (there's an extra panel above on the right to use)

b. If _____, then ATC decreases with increased production.

c. If _____, then ATC increases with increased production.

III. Economic Versus Accounting Costs and Profits

A. Definitions

1. Accounting Costs are _____ .

a. Definition:

b. There will always be a “ _____ ” when this type of cost is incurred.

2. Economic Costs also include _____ .

a. Definition:

b. Results from:

B. Extremely Oversimplified Example – You own and operate a pizza restaurant.

1. After this first year of operation, your “Books” look like this:

Total Sales Revenue \$ _____

Cost of food product \$ _____

Cost of restaurant supplies \$ _____

Wages to employees \$ _____

Business license \$ _____

Utilities \$ _____

2. Compute Accounting Profit/Loss

3. Now, was opening your own restaurant a good idea?

In order to answer this question, we have to think about:

a.

b.

c.

4. Compute Economic Profit/Loss

5. Conclusion for THIS example

6. Overall Implication: An ECONOMIST will always tell you that something

_____ and is thus _____

_____, relative to what your accountant will tell you.

C. What does an economist mean by the term “normal profit”?

1. Definition:

a. You’ve generated enough sales revenue to cover your _____

_____, and just enough sales revenue to cover your _____

_____ - there’s nothing “extra” left over!

b. What a “normal profit” DOES NOT mean:

c. What a “normal profit” DOES mean:

You’re doing _____ in your current line of business as you could be doing in your next best alternative pursuit.

2. A _____

is what all business owners WANT to earn.

a. Definition:

b. It’s an _____ rate of return on your business investment.

c. This is _____ to earn!

d. This is what provides the INCENTIVE for entrepreneurs to:

3. Big Implication:

IV. Long-Run Production Costs

A. What is the long run?

1. Definition:

2. ALL COSTS are _____ in the long run!

B. What size factory should I build for my blue jeans business?

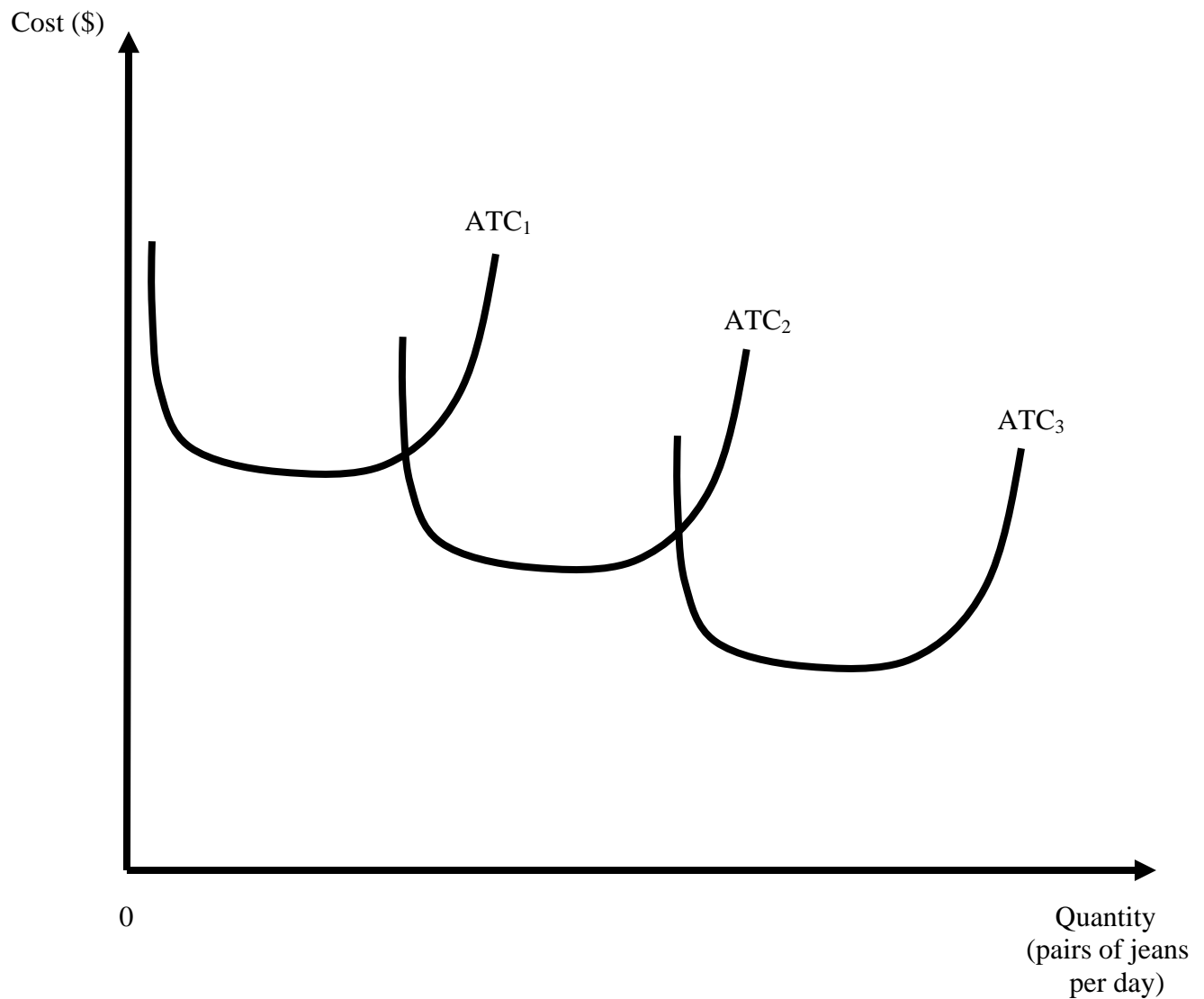
1. Simplifying Assumption:

2. You must consider two questions:

a.

b.

3. Graph



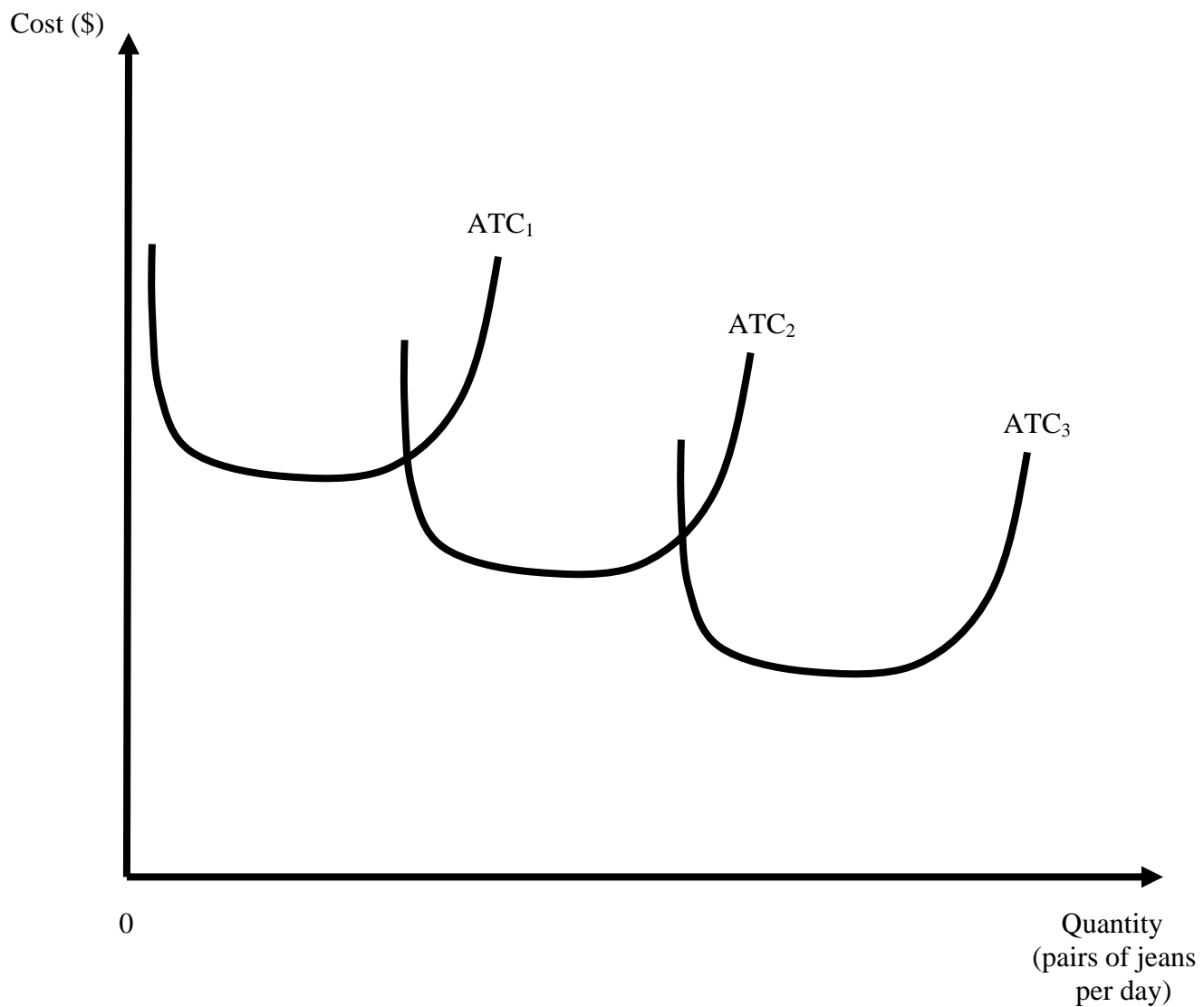
NOTE: ATC₁ represents a relatively small-sized factory; ATC₂ represents a medium-sized factory; ATC₃ represents a relatively large-sized factory.

4. Ultimately, you select the factory size with the:

C. The Long Run Average Total Cost Curve

1. It is designed to show the:

2. This is exactly the same graph – I just wanted you to have a “clean one” to use for highlighting the firm’s LRATC curve!



3. In the real world, business owners can usually choose:

=> Graph of Typical LRATC Curve



D. The BIG QUESTION: Does the size of a firm IMPACT the AVERAGE cost of producing output within it?

1. Economies of Scale

a. Definition:

b. Intuitive Explanation

2. Diseconomies of Scale

a. Definition:

b. Intuitive Explanation

As they increase in size, firms will eventually begin to experience:

3. Constant Returns to Scale:

4. Illustrate on a LRATC curve graph

