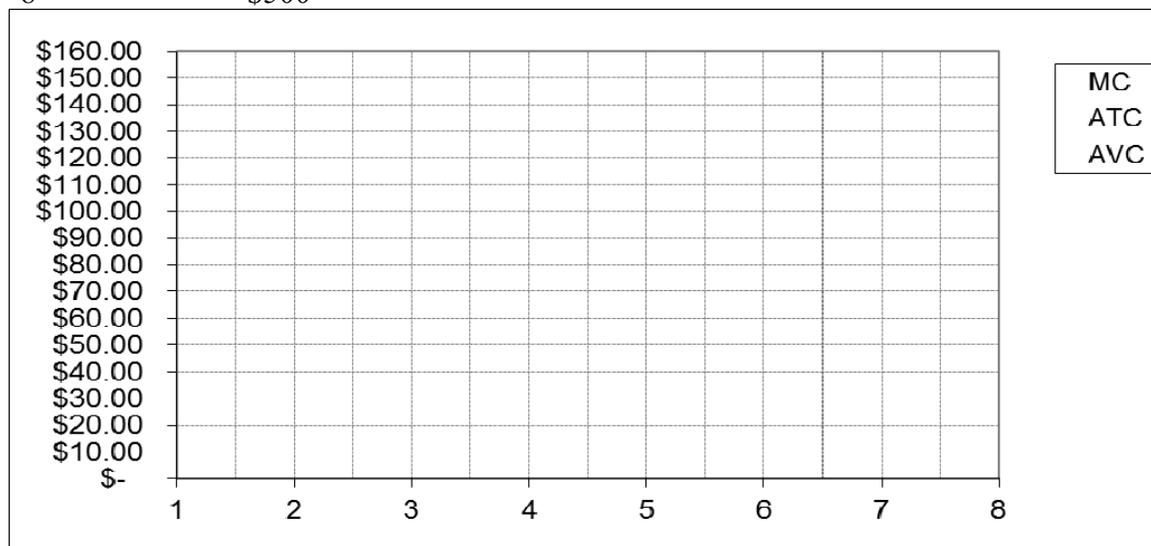


Businesses and the Cost of Production: Exploring ideas and putting them to work!

I have a business in a rented workshop, where I carve wooden animals out of logs using a chainsaw. I have a helper named Jake, who I have to pay per hour to help cut logs, etc. The cost of rent, and **normal profit** and implicit costs (money tied up in tools, what I could earn from owning a different business) is \$50 per day *whether or not I produce anything*. When I carve animals, I pay for wood, heat, electricity, Jake, and also take time away from relaxing or teaching. My costs (including everything) to produce animals are the following:

<u># produced</u>	<u>Total Cost</u>	<u>Fixed Cost</u>	<u>Variable Cost</u>	<u>Marginal Cost</u>	<u>Avg. Total Cost</u>	<u>Avg. VC</u>
0	\$50			-----	----	----
1	\$150					
2	\$160					
3	\$180					
4	\$210					
5	\$260					
6	\$320					
7	\$400					
8	\$500					



What we want to find out is, how many animals should I produce? Of course this will depend on the price I think I can get for my animals, i.e., the market price.

A. Suppose I can sell as many as I want for \$71 each.

How many should I make? _____

How much Profit do I earn? _____

How much would I make if I stayed in bed? _____

B. Now suppose that due to foreign competition, now I can sell as many as I want for \$51 each.

How many should I make? _____

How much Profit do I earn? _____

How much would I make if I stayed in bed? _____

C. Now suppose that the tourists in North Carolina go home, and I can only sell them for \$33.

How many should I make? _____

How much Profit do I earn? _____

How much would I make if I stayed in bed? _____

Should I work, or stay in bed? _____

What is the general rule for how much to produce?

What is the general rule for *whether or not to produce*?

What is my supply curve for Wooden Carvings? (How do price and Quantity Supplied relate?)

Business and Costs Vocabulary: Make sure you write down explanations of all of these ideas

A. *Short Run* (Can't change fixed costs) vs. *Long Run* (Can change anything) Decisions

B. Total Fixed costs + Total Variable Costs = Total Costs

C. Average costs:

Average Total Cost (ATC):

Average Variable Cost (AVC):

Average Fixed Cost (AFC):

What does it mean if our price is higher than ATC?

D. Explicit Costs + Implicit Costs = Total Costs

E. Economic Depreciation (vs. *Accounting Depreciation*)

F. Marginal Cost

G. Total Revenue: Price * Quantity

H.p.182 Accounting Profit

Economic Profit

Normal Profit

A positive accounting profit means?

A positive economic profit means?

I. Marginal Revenue (Sometimes price, sometimes not!): Additional revenue brought in for selling one more unit. Will not be the same as "price" if you have to lower your price and sell more units)

Production Functions: $Q = f(\text{Land, Labor, Capital, Entrepreneurship})$

J. Total Product

K. Marginal Product

{of labor, of fertilizer, etc.}

(As marginal product ↑, marginal cost ↓)

L. Average Product (*productivity*):

M. Increasing **Marginal Returns**

Diminishing **Marginal Returns**

Law of **diminishing returns**

Why? We can't feed the whole world out of a flower pot!

N. Economies of **Scale** (Or Increasing *Returns to Scale*)

Diseconomies of **Scale** (or Decreasing *Returns to Scale*)

Constant *Returns to Scale*

O. Long Run ATC Curves