Ch. 9. The Analysis of Costs

1. Introduction
   a. Cost is a complex subject, even more so when companies lie about their costs.
   b. To determine profit max. output, we need know our cost structure.

2. Opportunity Costs: the values of the inputs in their next best alternative use
   a. Opportunity Costs = Explicit Costs + Implicit Costs
   b. Explicit costs: out of pocket costs.
      i. E.g. wages, materials costs, energy costs, rents, etc.
   c. Implicit Costs: costs of resources owned and used by the firm’s owner.
      i. E.g. you bought a piece of land in Frisco, Texas for $5,000 per acre to build a golf driving range on. Right after you purchased the land, an real estate developer announces the Stonebriar Mall will be built next to your piece of property. This causes land to immediately start selling for $200,000 per acre. What is your implicit cost of operating the driving range?

3. Short Run Cost Functions
   a. Short run: def’n – time period in which firm cannot alter the quantity of some of its inputs
      i. E.g. Texas Stadium has a hole in its roof. Jerry Jones wants to hole covered and the place air conditioned.
      ii. Implies some costs and fixed and some are variable in the short run
      iii. Use the following example: $\text{TC} = 100 + 50Q -11Q^2 + Q^3$
         1. Total Cost = Total Fixed Cost + Total Variable Cost
         2. $\text{TC} = \text{TFC} + \text{TVC}$
4. Average and Marginal Costs
   a. Average Fixed Cost = AFC = TFC/Q
      
      i. Rectangular hyperbola, always declining

   b. Average Variable Cost = AVC = TVC/Q
      
      i. Relation to AP: AVC = TVC/Q = W*U/Q, where U is variable input
         
         1. AVC =

      2. Thus AVC and AP are inversely related
c. Average Total Cost = ATC = TC/Q = AFC + AVC

d. Relationship between TP and TVC

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<tr>
<th>TP</th>
<th>TVC</th>
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<tbody>
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e. Marginal Cost = MC = dTC/dQ
   i. Relation b/w MC and MP
      ii. MC = dTVC/dQ =

   iii. Thus MC and MP are inversely related
Table 9.2

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<th>AFC (0.00)</th>
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Cost Curves from $TC = 100+50Q-11Q^2+Q^3$

f. Relation b/w MC and AVC
   i. $\frac{d(TVC/Q)}{dQ} =$
5. Long Run Cost Functions

6. Economies of Scale in Nursing Homes
7. The Measurement of Short Run Cost Function: The Choice of a Mathematical Form
   a. Linear:
b. Quadratic:

c. Cubic:
8. Key Steps in the Estimation Process
   a. Def’n of Cost
   b. Correction for Price Level Changes
   c. Relating Cost to Output
   d. Matching Time Periods
   e. Controlling Product, Technology, and Plant
   f. Length of Period and Sample Size

9. Minimum Efficient Scale
   a. Def’n:
   
   b. Graph:
10. The Survivor Technique

11. Economies of Scope
   a. Def’n:

12. Break Even Analysis
13. Profit Contribution Analysis