

Auctioning off a Dollar: An Exercise on Sunk Costs

By Dr. Christoffersen

The **supply** of any good or service to the market **depends on the costs** faced by the firm supplying that good or service. In order to analyze these costs, it is helpful to categorize these costs as being either fixed or variable costs (thus $TC = FC + VC$).

Variable Costs are determined by the underlying marginal productivity of the inputs, such as capital, land and labor. The Law of Eventually Diminishing Returns dictates that there will be (eventually) increasing marginal costs.

Fixed costs do not depend on the level of output; *they are fixed*. That is, the mortgage and taxes for our textile mill will be the same whether we produce one hundred sweaters a day or two hundred sweaters a day. Over time, one may be able to adjust the level of fixed costs, thus there are fixed costs only in the short run. That is, we define the long run as being the time frame within which we could adjust our fixed costs; consider selling our current mill to buy a larger one, for example. If fixed costs can not be recovered, they are referred to as sunk costs. An example of a sunk cost would be the renovations needed for our mill that would not be useful for any other owner of the property.

The following auction demonstrates the importance of Marginal Costs and Fixed Costs in the decision making of the firm. Your participation is appreciated.

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In order to stress the importance of NOT basing decisions on sunk costs, dollar bills are auctioned off. Students can bid three cents and win if there is no higher bid. Luckily, there is always a higher bid.

Because the bids are committed bids, they are sunk costs; the student does not get his three cents back and will only make money if his/her bid is the highest and he/she wins the dollar.

The winning bid is generally over \$1.00 which is a rational outcome. Students may laugh when a peer bids \$1.05 for \$1.00 but the “over-bidding” student has grasped the concept of the irrelevance of fixed costs. The lesson is worth the nickel!

Rationale: If a student has made a committed bid of \$.90, and the next student bids \$.95, then the higher bid will get the dollar and a profit of \$.05. However the previous student will lose \$.90. It is better for the first student to raise the bid to \$1.05 and win the dollar, netting a loss of only \$.05. The question the student is asking is “Should I raise my bid by \$.15 to get the dollar?” *It is the marginal cost that drives the decision.* The \$.90 that was bid and lost is *a sunk cost and is thus irrelevant* to the decision.

What is the main point of this lesson?

What relevance to your life might this have?

What is your overall evaluation of the “auction” lesson?