

The experience curve is based on the premise that the more you do something, the easier and better you do it. In other words, the more “experience” you have making a product, the faster and cheaper it is to make.

Research has shown that as the cumulative number of units of a product rises (cumulative means the total number of units produced since the business was formed,) the cost of producing a unit drops at a predictable rate. For example, as shown in Figure 1, every time production doubles (from 1X to 2X and from 2X to 4X), the cost of making a unit drops by 40% (C1 to C2 and from C2 to C4).

To provide a numeric example, with a 40% experience curve, the cost per unit declines from \$20.00 per unit at 10,000 units of cumulative production to \$12.00 (\$20 x 40% = \$8, \$20 - \$8 = \$12) at a cumulative production of 20,000 units (2 x 10,000 units).

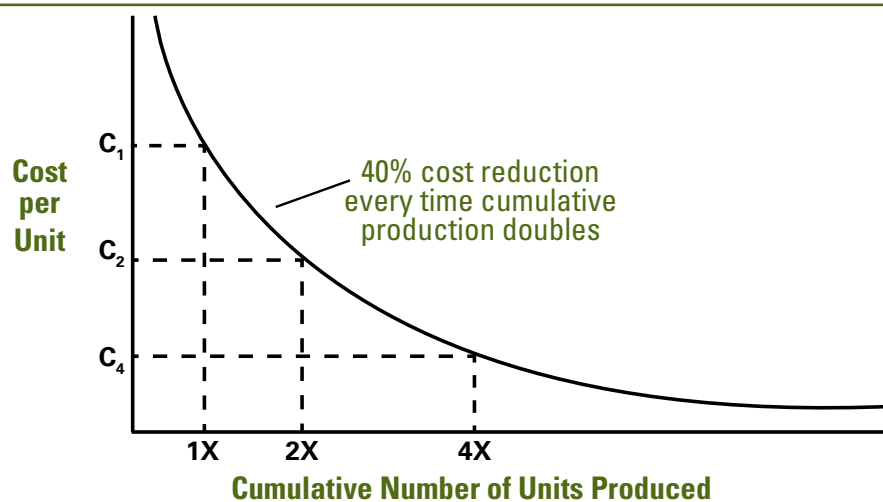
As can be observed, the experience curve concept is more applicable to some products than to others, and the rate of reduction varies greatly depending on the product and the business.

The experience curve concept is not the same as [economies of size](http://www.extension.iastate.edu/agdm/wholefarm/pdf/c5-206.pdf), www.extension.iastate.edu/agdm/wholefarm/pdf/c5-206.pdf. Economies of size involve spreading a fixed amount of cost (e.g. facility cost, administration cost, etc.) over an increasing number of units of production. Conversely, the experience curve involves improving skills expertise, and finding new ways of doing things. Also, the experience curve analysis is based on the number of units produced since the business was started. Economies of size is based on the number of units produced during a production period such as a calendar year.

Additional Information

Visit the [Ag Decision Maker website](http://www.extension.iastate.edu/agdm/vdanalysis.html#concepts) for additional resources on economic and business analysis concepts, www.extension.iastate.edu/agdm/vdanalysis.html#concepts.

Figure 1. Forty-percent experience curve



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