## Module 54 The Production Function

Discussion: What are the costs of owning a car? Assume the car is a fixed input while it is in the garage and a variable input when you drive it. Think about the fixed costs of owning a car (as it sits in the garage) and the variable costs of owning a car ( as you drive the car).

Discussion: Brainstorm all the inputs on a college campus which are used to "produce" successful college students. In the short-run, which are fixed and which are variable?

Discussion: Brainstorm the fixed and variable inputs at a fast-food restaurant.
Numerical Example: Example of a fast-food restaurant to illustrate the concept of a production function. The size of the store is a fixed input and the number of workers is a variable input.

| Quantity of labor <br> (workers) | Total production of hamburgers per <br> hour | Marginal Product of <br> labor |
| ---: | :--- | :--- |
| 0 | 0 |  |
| 1 | 55 | 55 |
| 2 | 120 | 65 |
| 3 | 190 | 70 |
| 4 | 230 | 40 |
| 5 | 240 | 10 |
| 6 | 245 | 5 |

-Diminishing returns set in at 4 workers.
-Total production of hamburgers per hour increase but at decreasing rate.
Thomas Malthus-Was He Right? "Misery is the normal condition of humankind." Does this explain the concept of diminishing returns?

