

Matt's Dead Cat Factory

(The Law of Diminishing Marginal Returns)

Objectives:

1. Define “marginal” from the perspective of an economist.
2. Use data to graph economic concepts, and use the graph to interpret the data
3. Identify and give a real-world example of the following economic concepts

1. Fixed resources
2. Variable resources
3. Increasing marginal returns
4. Diminishing marginal returns
5. Negative marginal returns
6. The Law of Diminishing Marginal Returns



Demonstration: The Law of Diminishing Marginal Returns

Volunteers: 1 person that loves cats, 2 people that hate them.

Person that loves cats will begin on the factory floor. 2 cat haters will be the quality inspectors/timekeeper/data recorder

Dead Cat features. Each dead cat will have:

1. A circular head about the size of a grapefruit, made out of newspaper
2. Two pointy ears made out of white paper from the recycle bin. These ears must be triangular in shape, and taped to the cat head so that the cat looks relatively normal and nobody will make fun of him/her when they get to cat hell (there is no heaven for cats).
3. Cats must have X's for eyes, a mouth, and a tongue hanging out, drawn with a sharpie.

Demo and Rules:

1. 90 seconds each round.
2. Floor manager will go alone first, then deputize one person per round to aid them
3. Cat-haters will time each round, perform quality control, and note cats completed/round on their production table.
4. We will do as many rounds as it takes to see clearly the Law of DMR, maybe Negative MR.
5. Spectators: Take notes in your production tables.

Debrief:

- When the trend is on the way up, we'll pause for a minute to ask how “increasing marginal returns” such as specialization (skill at a specific task) of labor and division of labor affect total output.
- Increasing marginal returns: A marginal worker adds more to total output *per worker* than the prior worker.
- 3rd Column = Marginal output of an additional worker. Why does marginal output eventually decrease? Does/will total output ever decrease?¹
- We have observed law of Diminishing Marginal Returns, which occurs with production processes when at least one resource is fixed.
 - What are the variable resources?
 - What are the fixed resources?
 - How does this apply to real-world situations?
 - If you were a firm making dead cats (god bless you!), how would you interpret the data? How many employees would you have? What are the first few things you would buy to make your business more productive?

Worksheet: Each student has been given the “Marginal Analysis Production Table”

1. Using the data we collected from the dead cat experiment, fill out the production table.
2. Now, graph the data on the data sheet provided..
3. If you're feeling pretty good about the concepts we've discussed, shade the increasing, diminishing, and negative (if we have one) marginal returns portion of the graph.
4. Now flip over the sheet. Read the definition on the top of the page.
5. Ponder the graph, and see how your understanding of today's vocabulary jive with the definitions to the left of the graph.
6. Finally, copy down the Law of Diminishing Marginal Returns into your notes.

Exit ticket: Go through the following objectives (partner up?). If you can explain each one to your partner, put a check next to it. When you have checked them all, move on!

_____ Define “marginal” from the perspective of an economist.

_____ Use data to graph economic concepts, and use the graph to interpret the data

_____ Define and give an example of Fixed resources

_____ Define and give an example of variable resources

_____ Define and give an example of Increasing marginal returns

_____ Define and give an example of diminishing marginal returns

_____ Define and give an example of negative marginal returns

_____ Explain the Law of Diminishing Marginal Returns

¹ If we skew results, use data from last year: Total product = 0, 2, 5, 9, 12, 13, 13. Marginal product = 2, 3, 4, 3, 1, 0