The Production Function

A production function describes the relation between inputs and outputs.

The Production Function for a Cake

- Inputs
  - Cake mix, one egg, cup of water
  - Use of mixing bowl, spoon, two cake tins, an oven
  - About an hour of time

- Outputs
  - One cake

Production Functions

- We get technical
  - MRTS
  - Diminishing Returns to Proportion
  - Returns to Scale

Production Functions

- We get technical
  - Specify Inputs
Production Functions
• We get technical
• Specify Inputs
• Specify Product

Another View
• Inputs
  – One trip to the bakery

Another View
• Inputs
  – One trip to the bakery
• Outputs
  – One Cake

The Inputs
• As this example suggests, there is more than one way to bake a cake.
• What is the best (cheapest) way?
• We sometimes improperly specify inputs, and that leads us to miscalculate cost.
• Time costs matter here.

A Mini Case
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• A new cost accountant has concluded that it can make the paint for 75¢.
• Should it make or buy?

A Mini Case

• Buy
• JSWW has no advantage in making paint. If the numbers show it can make the paint for less, then the numbers are probably wrong.

A Mini Case

• Buy
• JSWW has no advantage in making paint. If the numbers show it can make the paint for less, then the numbers are probably wrong.
• There are some exceptions.
  – Keep paint formula secret
  – Large costs in packaging the paint for shipping to JSWW

What is the product?

• IBM and the Computer Market
  – IBM initially dominated the market because it had the right level of service.
  – When the PC revolution hit, IBM’s service was out of date.

What is the product?

• IBM and the Computer Market
• Automobiles
  – Firms don’t sell gas
  – Let independent dealers actually sell and service the cars.
End