

**Demand: The Benefit Side of The Market**

CHAPTER  
**5**

### The Law of Demand

- People do less of what they want to do as the cost of doing it rises.
- The benefit of an activity equals the highest price willing to pay to pursue it (i.e., the reservation price).
- As the cost of an activity rises and exceeds the reservation price, less of the activity will be pursued.

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### The Law of Demand

- The Origins of Demand
  - What determines “tastes” or “preferences”?
    - ◆ Biology
    - ◆ Culture
    - ◆ Peer Influences
- How should we allocate our incomes among available goods and services?

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### Translating Wants into Demand

- Utility
  - The satisfaction people derive from their consumption activities.
- Assume people allocate their income to maximize their satisfaction or total utility.

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### Sarah’s Total Utility from Ice Cream Consumption

Cone quantity (cones/hour)	Total utility (utils/hour)
0	0
1	50
2	90
3	120
4	140
5	150
6	140

How much ice cream should Sarah consume if the ice cream is “free”?

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### Sarah’s Total Utility from Ice Cream Consumption

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### Translating Wants Into Demand

- What should Sarah do when she gets to the front of the line?
- Is the time spent in the line relevant to how many cones to order?

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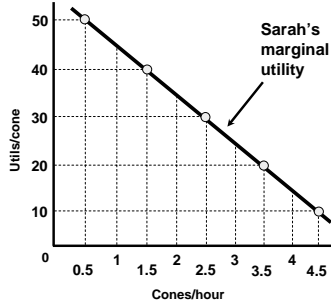
### Sarah's Total Utility and Marginal Utility from Ice Cream Consumption

Cone quantity (cones/hour)	Total utility (utils/hour)	Marginal utility (utils/cone)
0	0	—
1	50	50
2	90	40
3	120	30
4	140	20
5	150	10
6	140	-10

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### Diminishing Marginal Utility



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### Translating Wants into Demand

- The Law of Diminishing Marginal Utility
  - The tendency for the additional utility gained from consuming an additional unit of a good to diminish as consumption increases beyond some point.

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### Translating Wants into Demand

- Allocating A Fixed Income Between Two Goods
  - Assume
    - ◆ Two goods: Chocolate and vanilla ice cream
    - ◆ Price of chocolate equals \$2/pint
    - ◆ Price of vanilla equals \$1/pint
    - ◆ Sarah's ice cream budget = \$400/yr
    - ◆ Currently Sarah is consuming 200 pints of vanilla and 100 pints of chocolate

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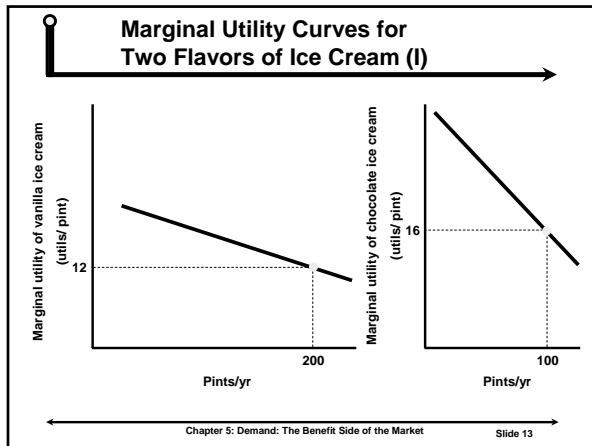
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### Translating Wants into Demand

- Is Sarah maximizing her total utility?
- If not, should she buy more chocolate and less vanilla or more vanilla and less chocolate?

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### Translating Wants into Demand

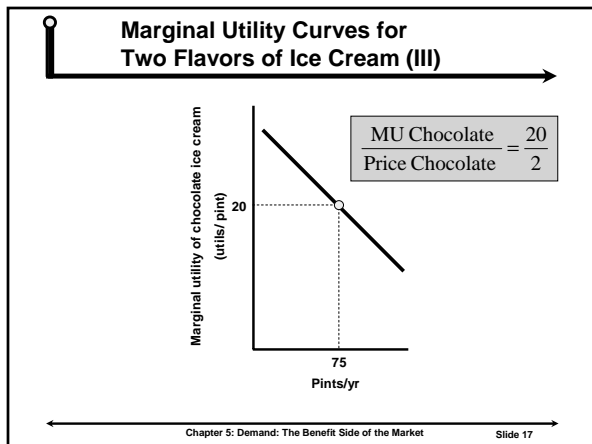
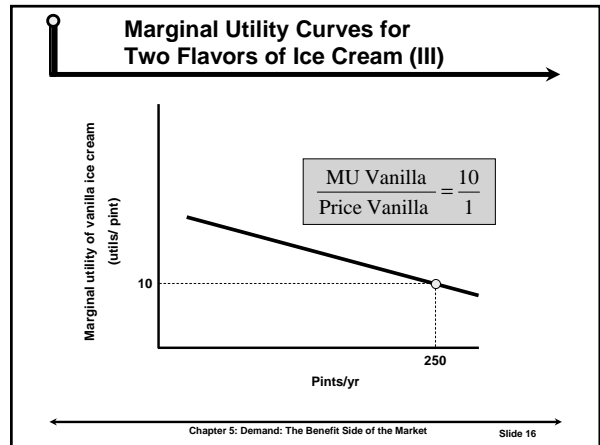
- Marginal utility vanilla/P
  - $\$12/1 = 12$  utils/\$
- Marginal utility chocolate/P
  - $16/2 = 8$  utils/\$

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### Translating Wants into Demand

- If Sarah spends \$2 less on chocolate, utils will decline by 16.
- If Sarah spends \$2 more on vanilla, utils will increase by 24
- So Sarah should buy more vanilla
- How much more?

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### Translating Wants into Demand

- The Rational Spending Rule
  - Spending should be allocated across goods so that the marginal utility per dollar is the same for each good.

$$\frac{MU_C}{P_C} = \frac{MU_V}{P_V}$$

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### Translating Wants into Demand

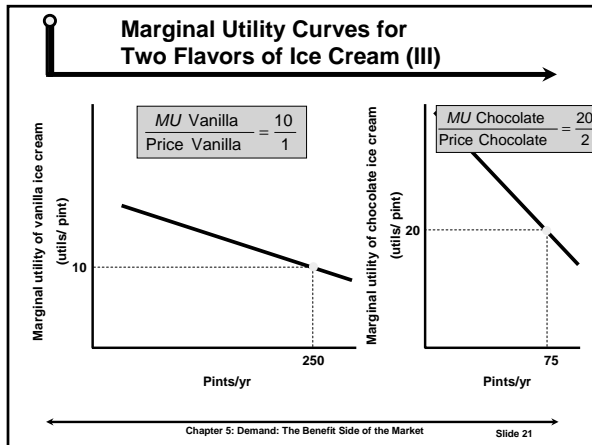
- How is the rational spending rule related to the cost-benefit principle?

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### Translating Wants into Demand

- Income and Substitution Effects Revisited
  - How should Sarah respond to a reduction in the price of chocolate ice cream?

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### Translating Wants into Demand

- Assume
  - Budget = \$400
  - $P_C = \$2$  &  $P_V = \$1$
  - $Q_C = 75$  &  $Q_V = 250$

$$\frac{MU_C}{P_C} = \frac{20}{2} = \frac{MU_V}{P_V} = \frac{10}{1}$$

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### Translating Wants into Demand

- Assume price of chocolate falls to \$1

$$\frac{MU_C}{P_C} = \frac{20}{1} > \frac{MU_V}{P_V} = \frac{10}{1}$$

- Sarah should buy more chocolate and less vanilla.

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### Applying the Rational Spending Rule

- Economic Naturalist
  - Why did people turn to four-cylinder cars in the 1970s only to shift back to six- and eight-cylinder cars in the 1990s?

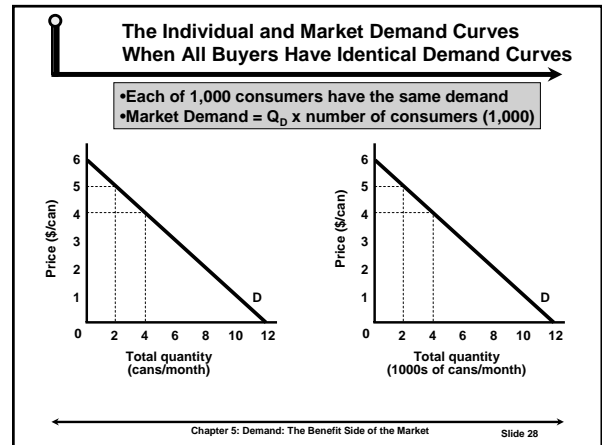
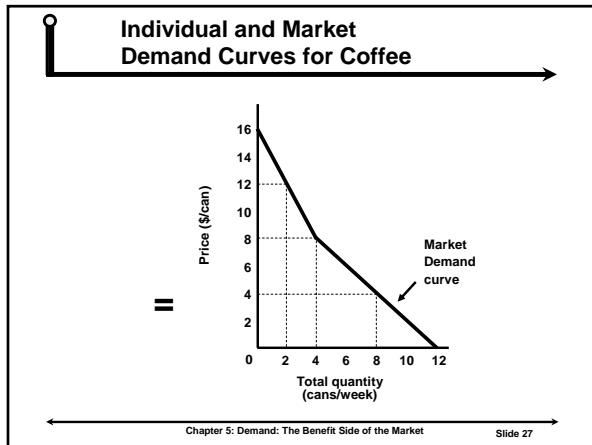
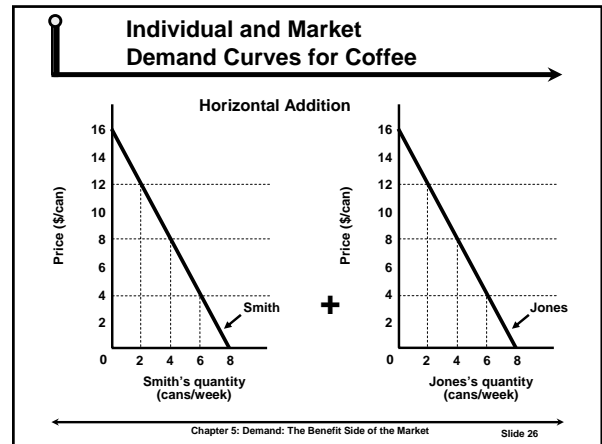
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## Applying the Rational Spending Rule

**Economic Naturalist**

- Why are automobile engines smaller in England than in the United States?

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## Demand and Consumer Surplus

- Consumer Surplus**
  - The difference between a buyer's reservation price for a product and the price actually paid.

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## Demand and Consumer Surplus

- How much do buyers benefit from their participation in the market for milk?

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