

# 7

## Consumer Behavior



Jessie Walker/Media bakery

# LEARNING OBJECTIVES

1. Distinguish between marginal utility and total utility
2. Discuss the significance of a budget constraint
3. Maximize utility with the optimal consumption rule
4. Explain the income effect and the substitution effect
5. Describe insights from the field of behavioral economics about what makes people happy

# UTILITY MAXIMIZATION

- Your ultimate goal as a consumer is to get as much utility (happiness and satisfaction) as possible out of the money you have to spend.
- Different consumers have different tastes and preferences, so they choose to spend the same amount of money differently.
- *Utils* are a subjective way of measuring happiness. Because they are subjective, they are only useful for comparing the values that an individual places on goods and services, not for comparing between individuals.



David Levene/eyevine/Redux

# MARGINAL UTILITY AND TOTAL UTILITY

- Recall that the additional utility received from one more unit of a good or service is called *marginal utility*.
- Marginal utility tends to diminish as more units are consumed since, for example, the fiftieth poster is significantly less valuable than the first.

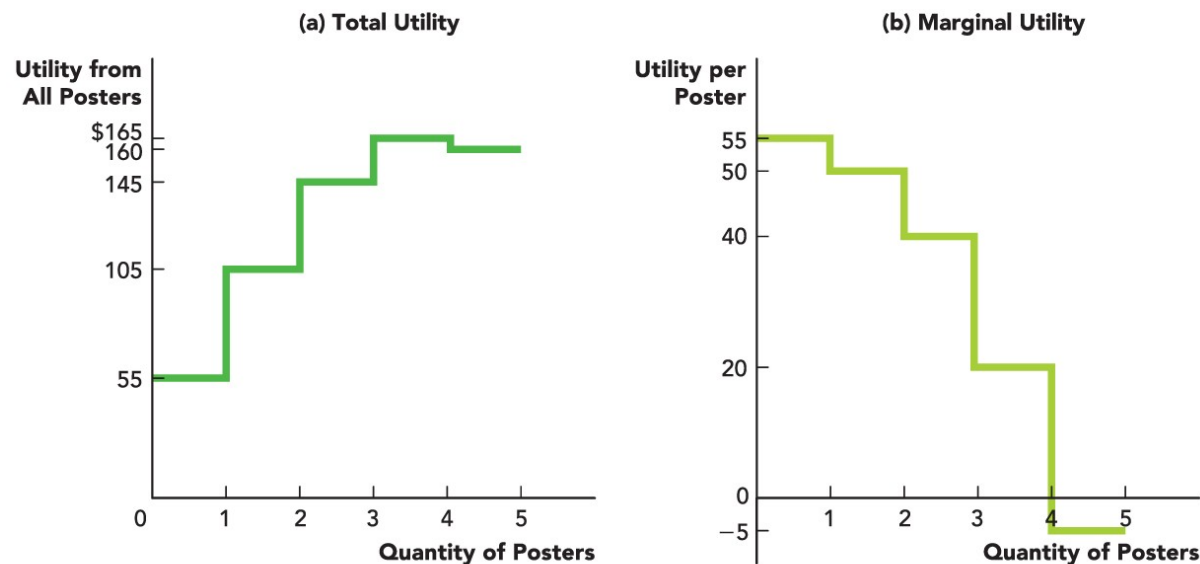
- Total utility** is the combined utility an individual receives from all units consumed.

Posters	Marginal Utility	Total Utility
1	55	55
2	50	105
3	40	145
4	20	165
5	-5	160

- As long as marginal utility is positive, total utility increases as more units are consumed.

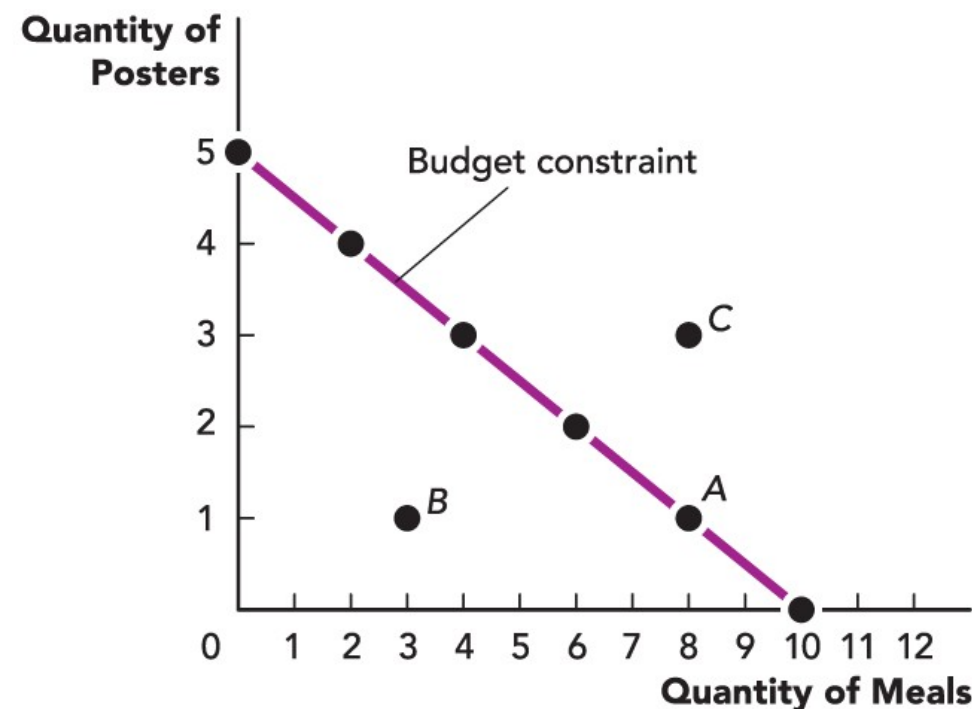
# UTILITY GRAPHS

- These graphs show total utility and marginal utility.
- The goal of consumers is to maximize *total* utility, not marginal utility.
- In this case, utility is maximized when four posters are purchased.
- Purchasing a fifth poster wouldn't make sense since it leaves you worse off than before you bought it.



# BUDGET CONSTRAINTS

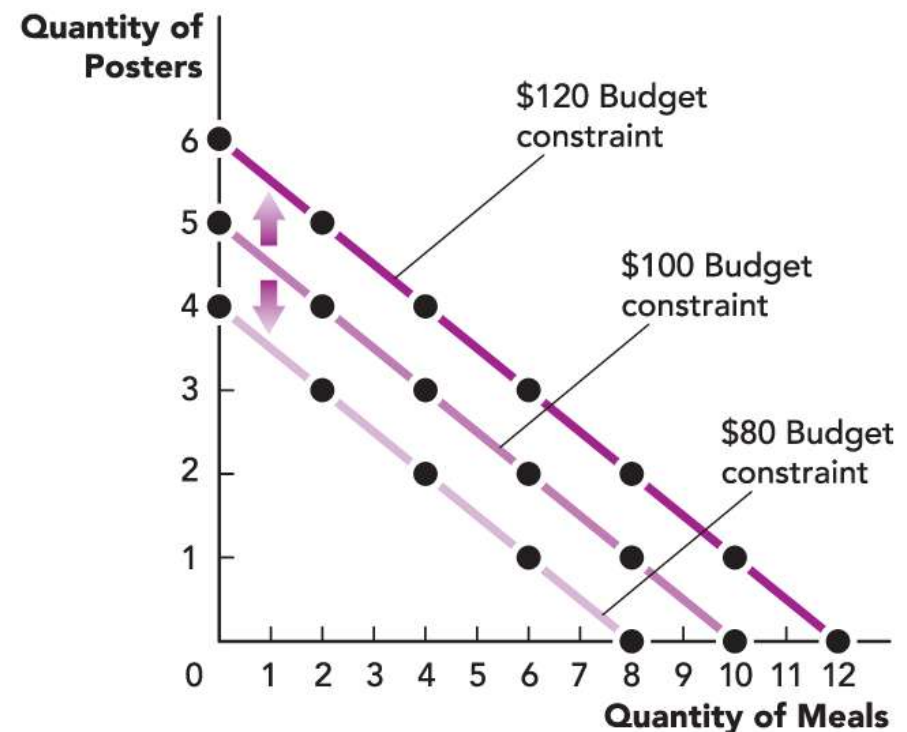
- You face constraints in your pursuit of happiness, such as limits on time and money.
- A **budget constraint** is a set of points that represents all the combinations of two goods that exhaust a consumer's budget.
- Each point on the line is a combination of goods that uses the entire budget.
- Point C is not possible given your current budget.





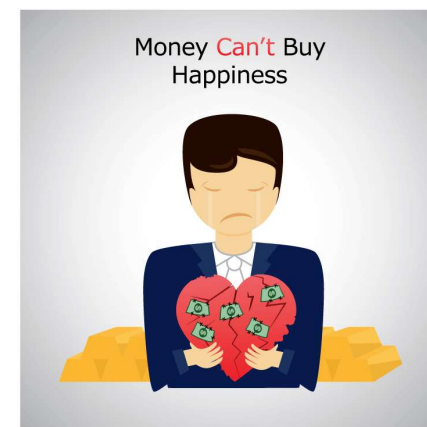
# CHANGES IN THE BUDGET CONSTRAINT

- An increase in your budget shifts the budget constraint outward, allowing you to consume more of either good or more of both goods.
- Similarly, a decrease in your budget shifts the budget constraint inward.
- Economists use models similar to this to study all sorts of constraints.



# THE OPTIMAL CONSUMPTION RULE PART I

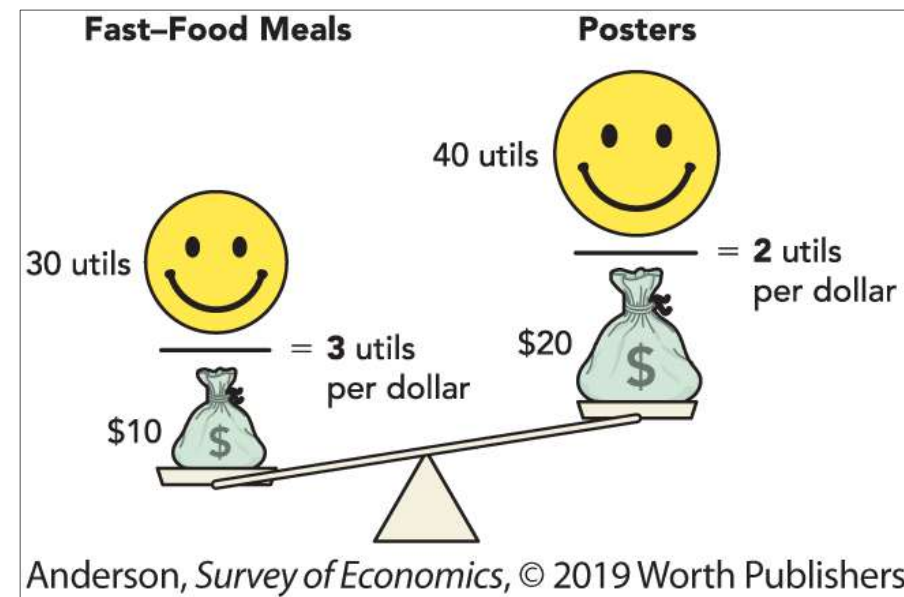
- Utility maximization is about getting as much satisfaction as possible from each dollar.
- If the marginal utility you receive per dollar spent is higher for some goods than for others, it makes sense to buy more of whatever gives you the most marginal utility per dollar and less of whatever gives you the least marginal utility per dollar.
- If buying another poster for \$20 would give 40 utility and buying two meals for \$10 each would give  $28 + 25 = 53$  total utility, then buying the meals maximizes utility.





# THE OPTIMAL CONSUMPTION RULE PART II

- The **optimal consumption rule** states that you should select purchases that equalize the marginal utility you receive per dollar you spend on each good.
  - Doing so maximizes total utility.
- In general, you should consume the combination of goods at the point on the budget constraint line where the equation below holds.



$$\frac{\text{marginal utility}_{\text{good A}}}{\text{price}_{\text{good A}}} = \frac{\text{marginal utility}_{\text{good B}}}{\text{price}_{\text{good B}}}$$

## LEARN BY DOING: PRACTICE QUESTION 1

Suppose that you have \$12 to spend on fruit. Each apple costs \$1, and each orange costs \$2. You are currently planning on purchasing 6 apples and 3 oranges. The sixth apple provides you with 7 utils, and the third orange provides you with 17 utils. How could you increase your utility?

- a) buy more apples and fewer oranges
- b) buy fewer apples and more oranges
- c) buy more apples and more oranges
- d) Utility is already maximized.

# LEARN BY DOING: PRACTICE QUESTION 1

## (Answer)

Suppose that you have \$12 to spend on fruit. Each apple costs \$1, and each orange costs \$2. You are currently planning on purchasing 6 apples and 3 oranges. The sixth apple provides you with 7 utils, and the third orange provides you with 17 utils. How could you increase your utility?

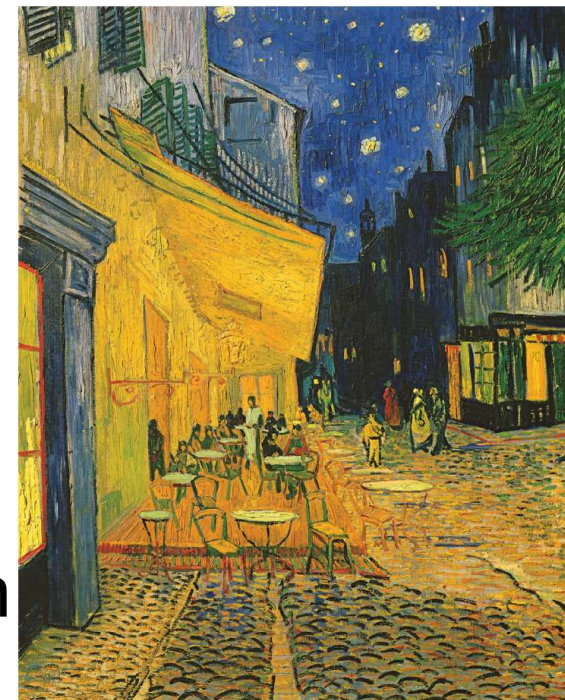
- a) buy more apples and fewer oranges
- b) buy fewer apples and more oranges (correct answer)**
- c) buy more apples and more oranges
- d) Utility is already maximized.

## THE SUBSTITUTION EFFECT

- A price change results in a change in consumption for two reasons: the substitution effect and the income effect.
- Suppose that the price of posters decreases from \$20 to \$10, while meals remain at \$10.
- This means that the opportunity cost of buying a poster decreases from 2 meals to 1 meal and that the opportunity cost of buying a meal increases from  $\frac{1}{2}$  poster to 1 poster.
- This will cause you to decrease meal consumption and increase poster consumption.
- The **substitution effect** is the change in consumption resulting from a change in the relative prices of two goods.

# THE INCOME EFFECT

- A reduction in the price of one good means that you can potentially buy more of both goods. This means that your purchasing power increases.
- The income effect is the change in consumption that results from the change in purchasing power of a consumer's income after a price change.
- For example, if you spend \$60 dollars on 3 posters and \$40 dollars on 4 meals before the price of posters goes down to \$10, then afterward you can purchase 4 posters and 6 meals for the same price.



Cafe Terrace, Place du Forum, Arles, 1888 (oil on canvas)  
/Gogh, Vincent van (1853–90)/BBC INFORMATION &  
ARCHIVES/Rijksmuseum Kroller-Muller, Otterlo,  
Netherlands/Bridgeman Images

# THE SUBSTITUTION EFFECT AND THE INCOME EFFECT

- For normal goods, the substitution and income effects reinforce each other, leading to more of a good being demanded when the price decreases.
- When the price of an inferior good decreases, the income effect drives people away from the inferior good, even as the substitution effect draws people toward it.
- In practice, the substitution effect tends to be larger than the income effect, so a price decrease still leads to an increase in the quantity demanded.



TinasDreamworld/Alamy stock photo



# LESSONS FROM BEHAVIORAL ECONOMICS

- Economists generally assume that people act in their own best interests, but people do not always seek to maximize their personal utility.
- Consumers may make mistakes in decision making.
- **Behavioral economics** is the study of how economic decision making is influenced by the limits of the human mind.
- Behavioral economists use data on consumers' choices to conduct research on the decision-making process.

# CONSUMERS WANT BALANCE

- After eating the same meal 50 times, it is likely that you will want a different meal.
- The appeal of balanced consumption follows from the law of diminishing marginal utility.
- This leads firms to add new menu items or to rotate menu items, as Baskin-Robbins does with its ice cream flavors.
- Firms changing what they offer allows them to keep customers for longer.



Anderson, *Survey of Economics*, © 2019 Worth Publishers

# CONSUMERS WANT SOME OPTIONS, BUT NOT TOO MANY

- Experiments have shown that consumers can be confused or overwhelmed when presented with too many options.
- One experiment showed that 30 percent of shoppers who were offered 6 jams purchased one, while only 3 percent of shoppers who were offered 24 jams purchased one.
- Because of this, it may be best for firms to limit the number of similar products that they offer.
- This is why the Burger King menu lists only a few of the 221,184 ways to customize a Whopper.



David Crausby/Alamy

# CONSUMERS WANT FAIRNESS PART I

- In the *ultimatum game*, a player divides an amount of money between oneself and a second player. The second player can either accept this or reject it.
- If the offer is rejected, neither player receives anything.
- If money were the only factor, the first player would offer only a penny, and the second player would accept since a penny is better than nothing.
- In reality, the first player usually offers 25 to 50 percent of the total out of a sense of fairness and out of concern of being rejected.

## CONSUMERS WANT FAIRNESS PART II

- In a similar game, the *dictator game*, the second player is not allowed to reject the offer, so the first player could safely keep all of the money. In practice, the average player gives the second player about 20 percent of the total, indicating that fairness is a factor in decision making.
- A real-life example is the purchase of *fair-trade* products, which have relatively high prices but provide higher wages to workers in developing nations.





# BOUNDED RATIONALITY PART I

- **Bounded rationality** refers to the limits on optimal decision making that result from limits on cognitive skills, information, and time.
- Some mistakes that result from this are *excessive optimism, inaccurate risk assessments, and susceptibility to framing*.
- *Excessive optimism* is seen in the fact that more than half of all new businesses fail within 5 years, indicating that entrepreneurs are excessively optimistic that they will succeed.



## BOUNDED RATIONALITY PART II

- *Inaccurate risk assessment* is seen in the fact that people tend to overestimate the risk of highly publicized incidents, such as airplane crashes, and underestimate the risk of unpublicized events, such as work-related accidents.
- Sellers often take advantage of consumers' *susceptibility to framing* by ending prices with "99." Buyers incorrectly think that \$19.99 is a significantly better price than \$20.00.

# BOUNDED WILLPOWER

- Optimal decision making is also hindered by **bounded willpower**, which refers to the limits on self-control that prevent us from achieving difficult and worthwhile goals, such as getting out of debt.
- Behavioral economics looks into issues such as these, which help to explain why consumers' decisions often differ from what economists might expect.

## LEARN BY DOING: PRACTICE QUESTION 2

Suppose that you have \$12 to spend on fruit. Each apple costs \$1, and each orange costs \$2. You are currently planning on purchasing 4 apples and 4 oranges. Suppose that the price of oranges is reduced to \$1. How would your consumption likely change?

- a) consume more apples and more oranges
- b) consume more apples and fewer oranges
- c) consume fewer apples and more oranges
- d) consume fewer apples and fewer oranges

# LEARN BY DOING: PRACTICE QUESTION 2

## (Answer)

Suppose that you have \$12 to spend on fruit. Each apple costs \$1, and each orange costs \$2. You are currently planning on purchasing 4 apples and 4 oranges. Suppose that the price of oranges is reduced to \$1. How would your consumption likely change?

- a) consume more apples and more oranges
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- c) consume fewer apples and more oranges (correct answer)**
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