SULEYMAN DEMIREL UNIVERSITY

Consumer Behavior

3th chapter

How consumer with a limited income decide which G&S to buy?

-Consumer Preferences (dream)

-Budget Constraints (prices)

- Consumer choices (price & preference)

Consumer Preferences

Market Basket – units of specific commodities (bundle)

Food versus Clothing

Market basket	Units of Food	Units of Clothing
A	20	30
B	10	50
D	40	20
E	30	40
G	10	20
H	10	40

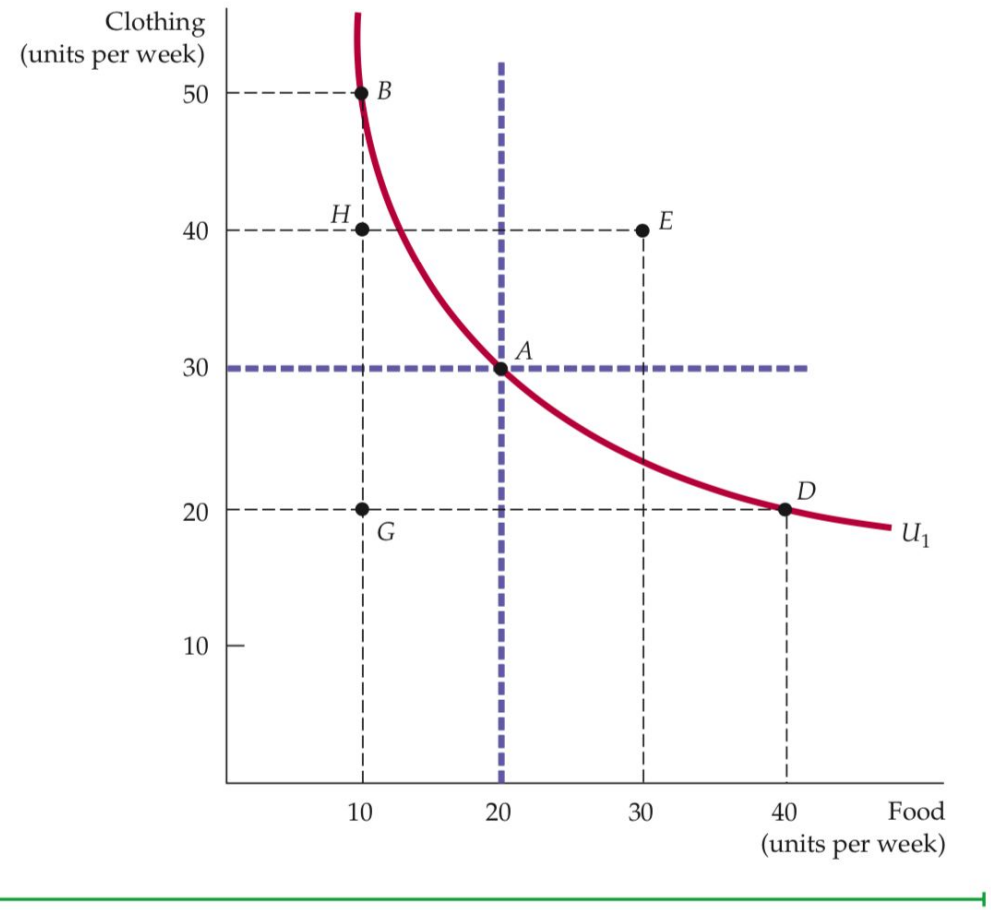
3 assumptions of Consumer Preferences

1) Completeness (equally prefer A to B or B to A)
2) Transitivity (Prefer A to B, B to C)
3) More is better than less

Indifference Curve

FIGURE 3.2
AN INDIFFERENCE CURVE

The indifference curve U_1 that passes through market basket A shows all baskets that give the consumer the same level of satisfaction as does market basket A; these include baskets B and D. Our consumer prefers basket E, which lies above U_1, to A, but prefers A to H or G, which lie below U_1.



Indifference Maps

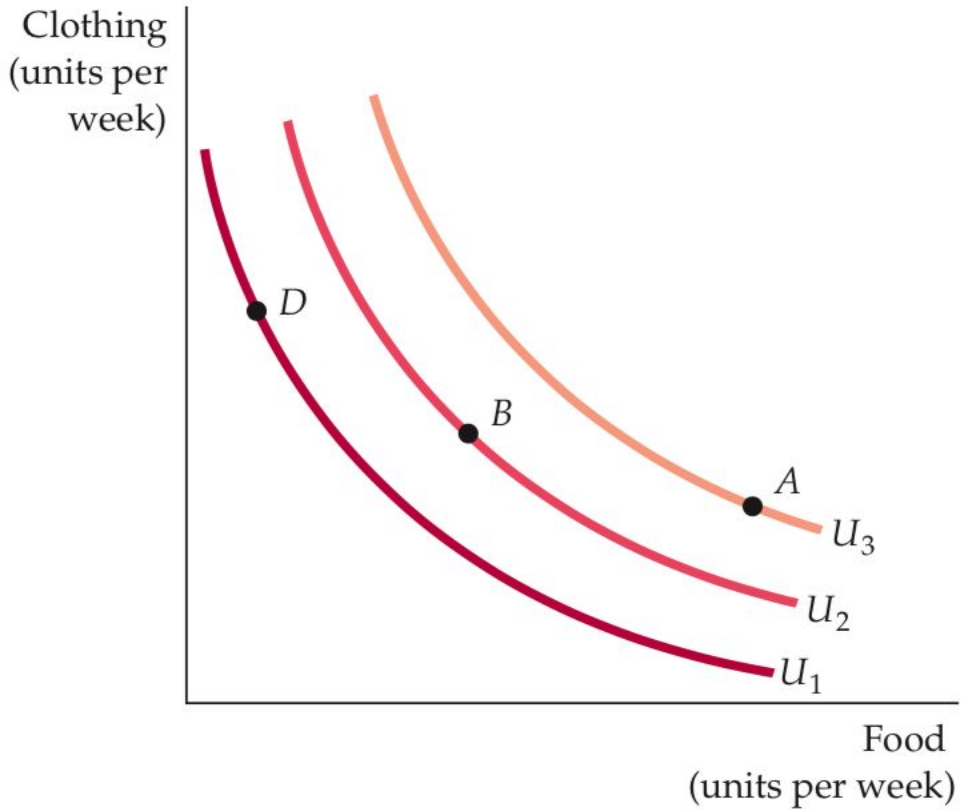


FIGURE 3.3
AN INDIFFERENCE MAP

An indifference map is a set of indifference curves that describes a person's preferences. Any market basket on indifference curve U_3, such as basket *A*, is preferred to any basket on curve U_2 (e.g., basket *B*), which in turn is preferred to any basket on U_1, such as *D*.

Indifference Curves cannot intersect

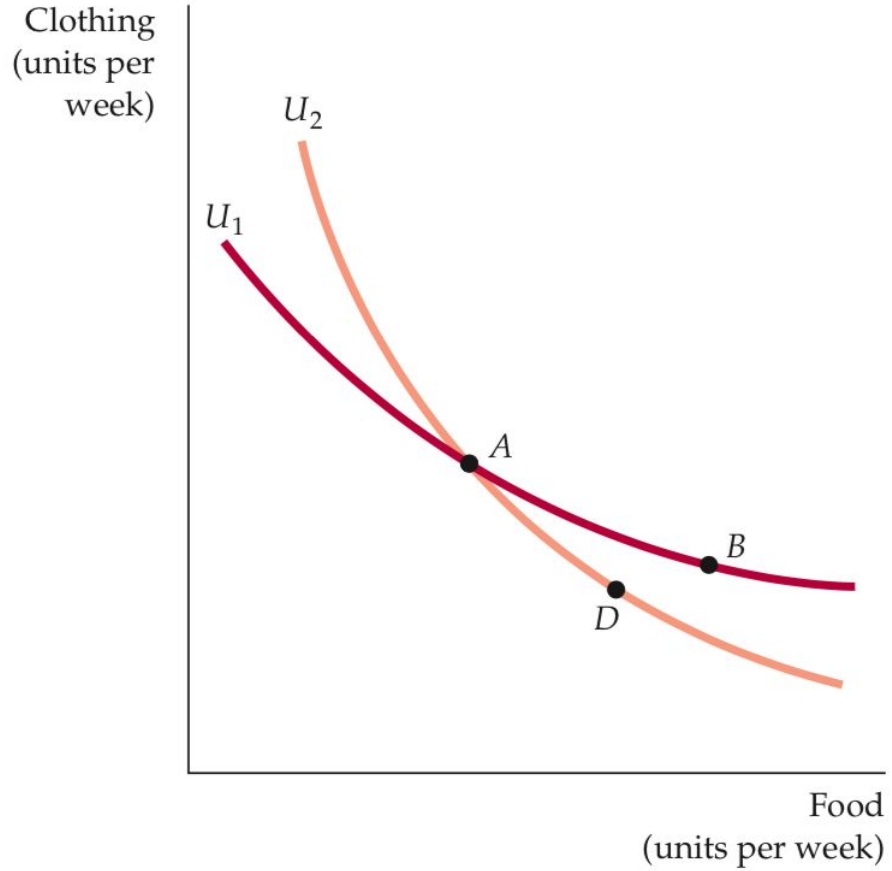


FIGURE 3.4
INDIFFERENCE CURVES CANNOT INTERSECT

If indifference curves U_1 and U_2 intersect, one of the assumptions of consumer theory is violated. According to this diagram, the consumer should be indifferent among market baskets *A*, *B*, and *D*. Yet *B* should be preferred to *D* because *B* has more of both goods.

The Shape of Indifference Curve

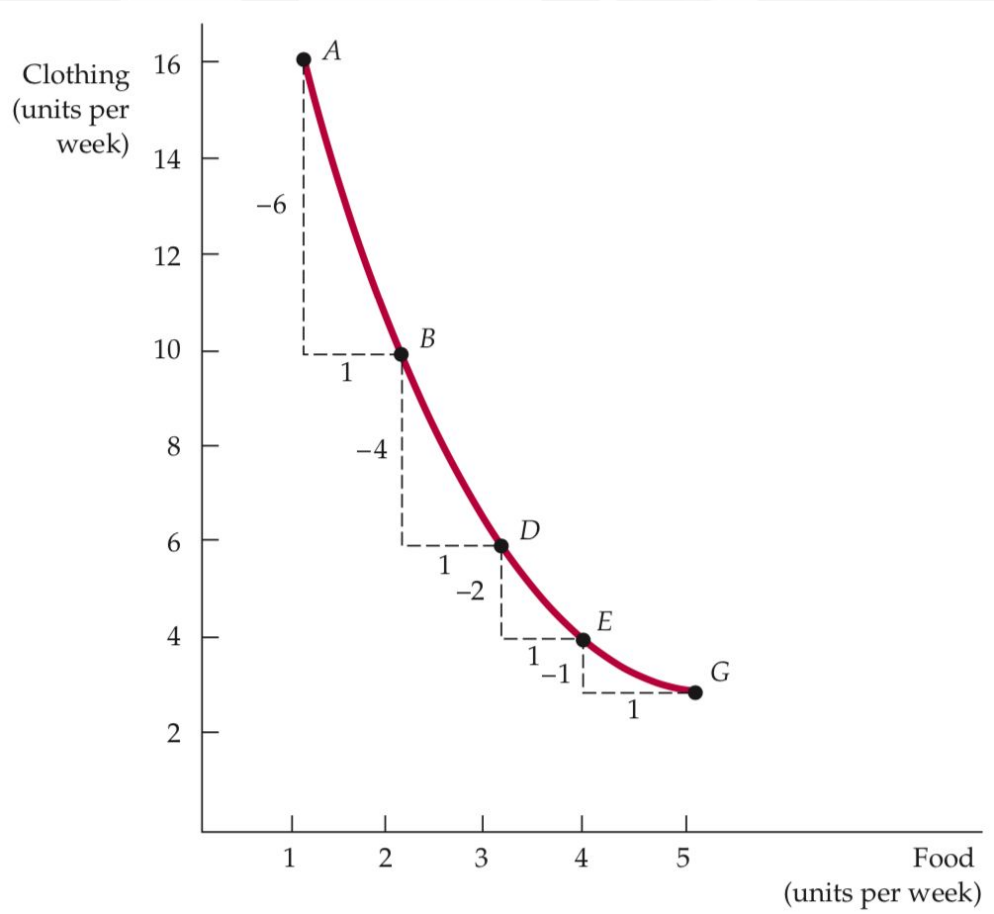


FIGURE 3.5
THE MARGINAL RATE OF SUBSTITUTION

The magnitude of the slope of an indifference curve measures the consumer's marginal rate of substitution (MRS) between two goods. In this figure, the MRS between clothing (*C*) and food (*F*) falls from 6 (between *A* and *B*) to 4 (between *B* and *D*) to 2 (between *D* and *E*) to 1 (between *E* and *G*). When the MRS diminishes along an indifference curve, the curve is convex.

Marginal Rate of Substitution

MRS is amount of a good that consumer is willing to give up in order to obtain one additional unit of another good

MRS = 3 (means he will give up 3 units of clothes to obtain 1 food)

MRS = "-" delta C/ delta F (MRS IS ALWAYS POSITIVE)

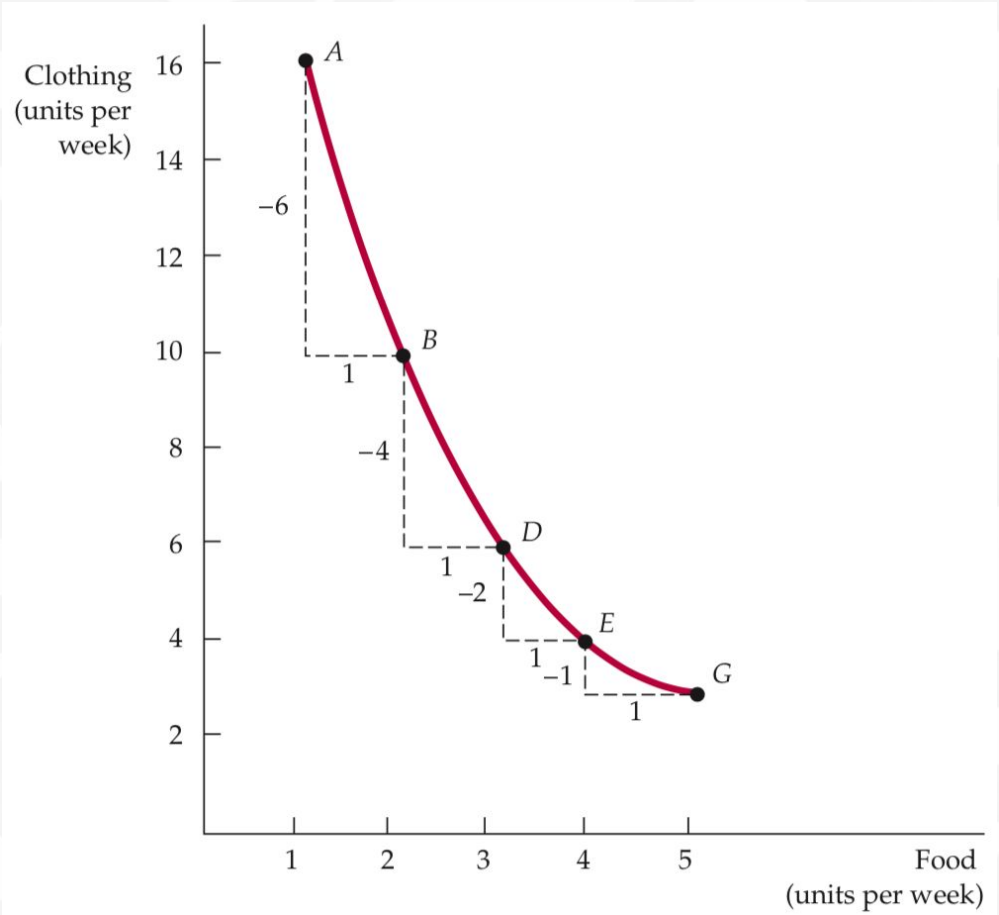
4th assumption of Consumer Preferences

Diminishing marginal rate of substitution

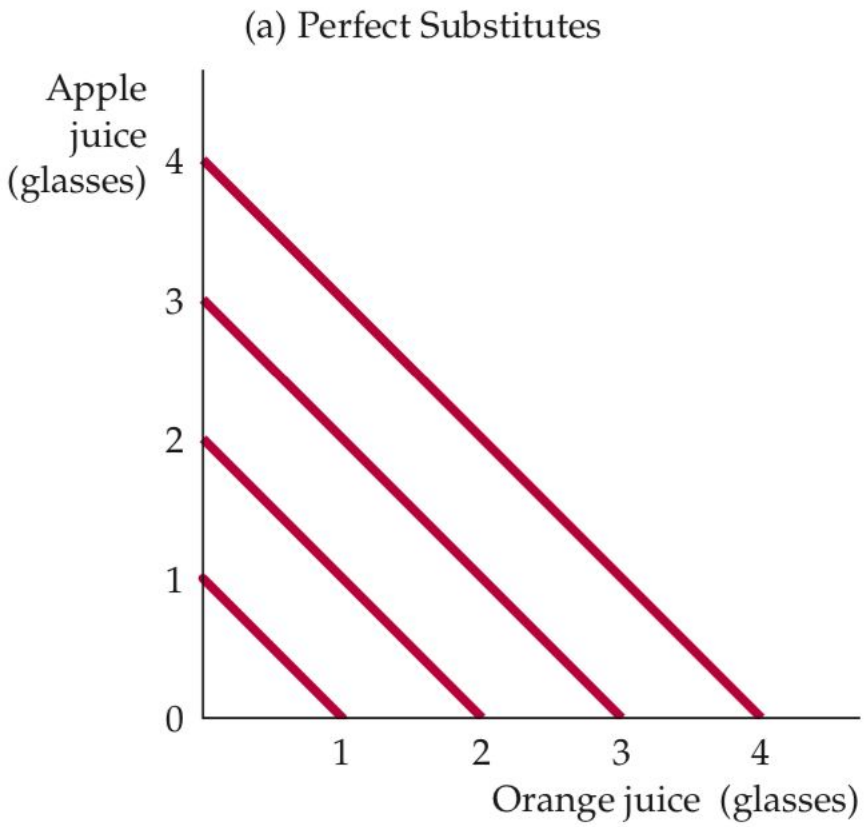
Indifference curves are convex

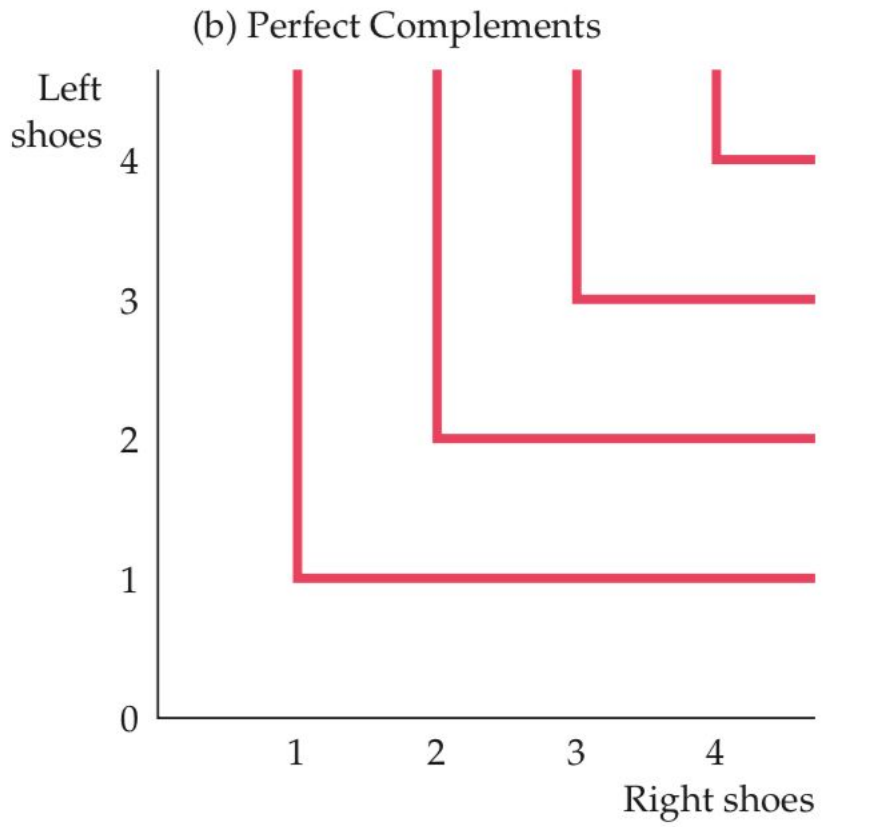
As Food consumption increases,

Additional satisfaction from consumption of Food will decrease



Perfect Substitutes & Perfect Complements





Generally, more is preferred to less. But in some cases, things like air pollution preferred less to more.

Utility

1) Numerical Score representing the satisfaction that a consumer gets from a given market basket.
2) Utility Function is the formula that assigns level of satisfaction of the consumer to each market basket.

U (F, C) = F+2C U(F,C)= F*C=2,5*10=25;(D)

If basket A consists of 8F & 3C => U(F,C)=8+2*(3)=14

If basket B consists of 4F & 4C => U(F,C)=4+2*(4)=12

If basket D consists of 4C & 4F => U(F,C)=4+2*(4)=12

He would prefer A than D and B, cause more is better than less

Utility Functions & Indifference Curves

U(F,C)= F*C=5*5=25;(A)

=2,5*10=25(D)

2,5=25(B)

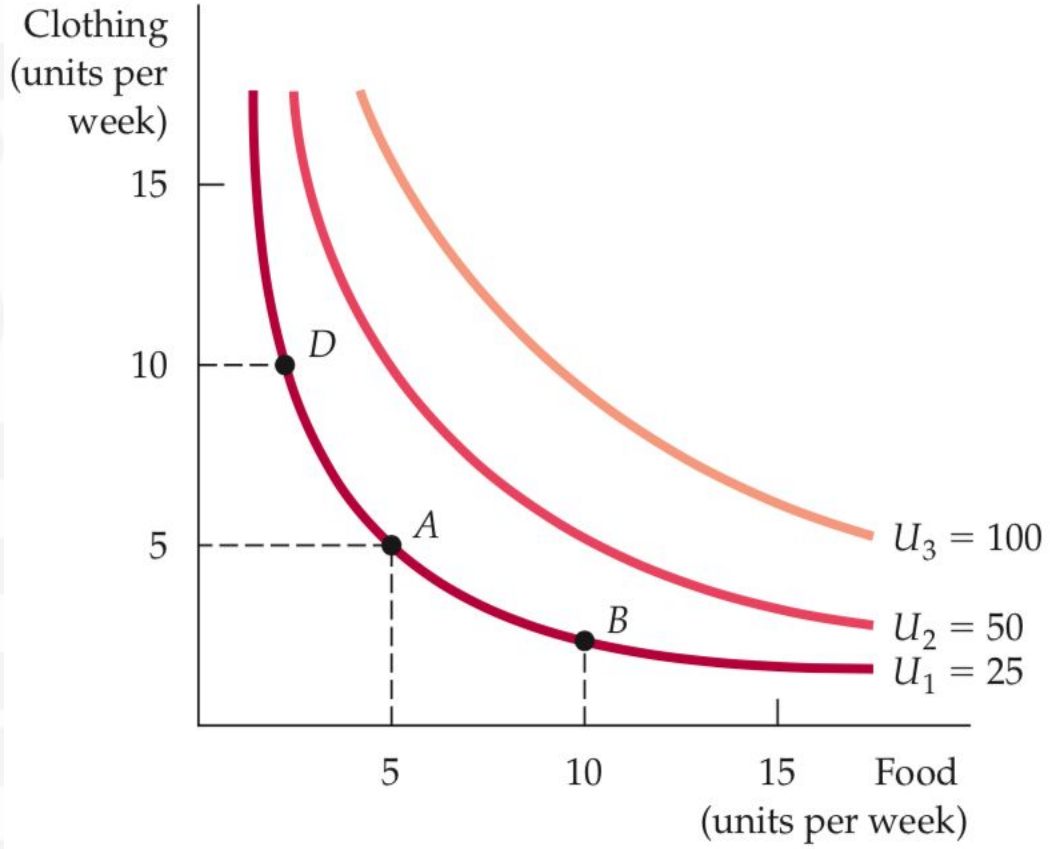


FIGURE 3.8

UTILITY FUNCTIONS AND INDIFFERENCE CURVES

A utility function can be represented by a set of indifference curves, each with a numerical indicator. This figure shows three indifference curves (with utility levels of 25, 50, and 100, respectively) associated with the utility function *FC*.

Ordinal & Cardinal Utility

- Ordinal Utility is a function that generates a ranking of market baskets in order of most to least preferred.
- Cardinal Utility is a function describing by how much one market basket is preferred to another.

Budget Constraints & Budget Line

- Constraints that consumers face as a result of limited incomes.
- Ex: Women fixed income (I), that could be spent on Food (F) & Clothes (C), Price of C (Pc) & Price of F (Pf).
- Budget Line indicates all combinations of F & C for which the total amount of money spent is equal to income.

Market Basket & Budget Line

TABLE 3.2	MARKET BASKETS AND THE BUDGET LINE		
MARKET BASKET	FOOD (*F*)	CLOTHING (*C*)	TOTAL SPENDING
A	0	40	$80
B	20	30	$80
D	40	20	$80
E	60	10	$80
G	80	0	$80

Market Basket & Budget Line

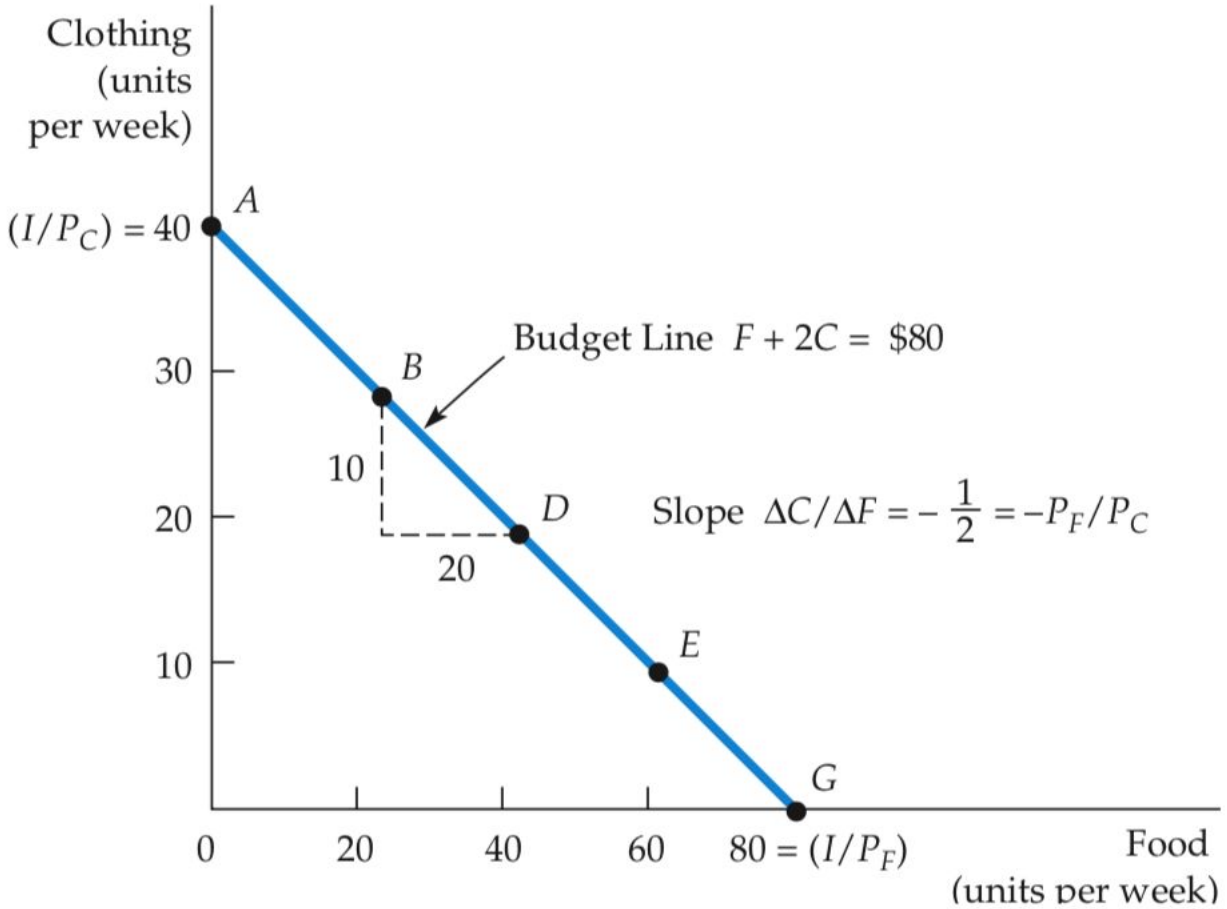


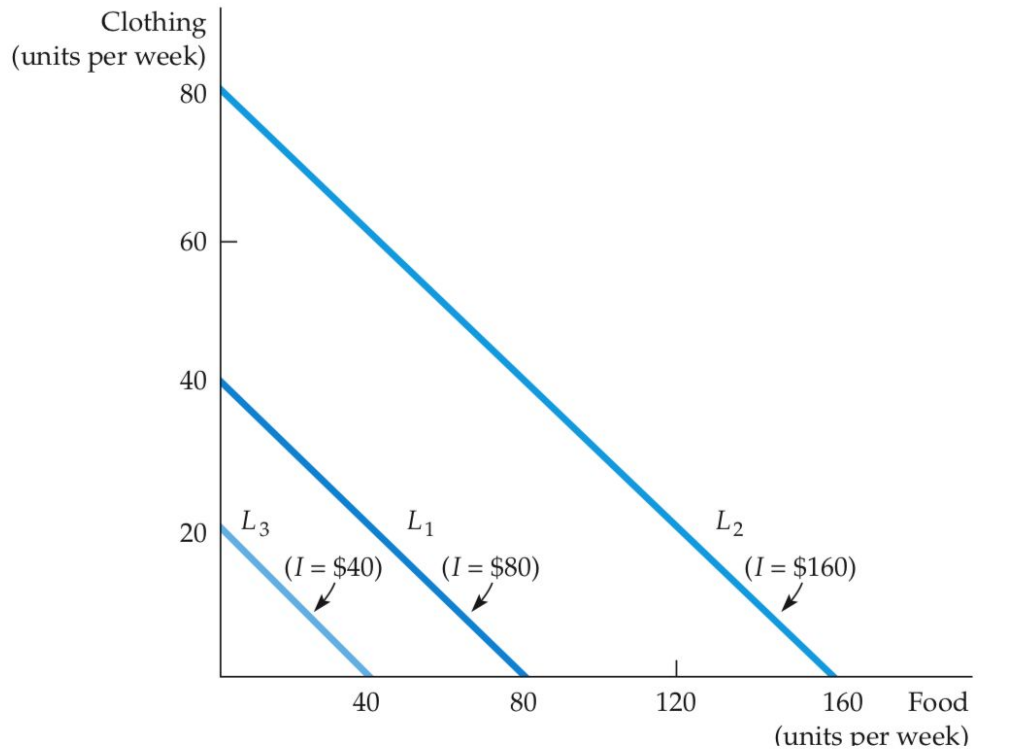
FIGURE 3.10
A BUDGET LINE

A budget line describes the combinations of goods that can be purchased given the consumer's income and the prices of the goods. Line *AG* (which passes through points *B*, *D*, and *E*) shows the budget associated with an income of \$80, a price of food of P_F = \$1 per unit, and a price of clothing of P_C = \$2 per unit. The slope of the budget line (measured between points *B* and *D*) is $-P_F/P_C = -10/20 = -1/2$.

The Effects of Changes in Income

FIGURE 3.11
EFFECTS OF A CHANGE IN INCOME ON THE BUDGET LINE

A change in income (with prices unchanged) causes the budget line to shift parallel to the original line (L_1). When the income of \$80 (on L_1) is increased to \$160, the budget line shifts outward to L_2. If the income falls to \$40, the line shifts inward to L_3.



The Effects of Changes in Prices

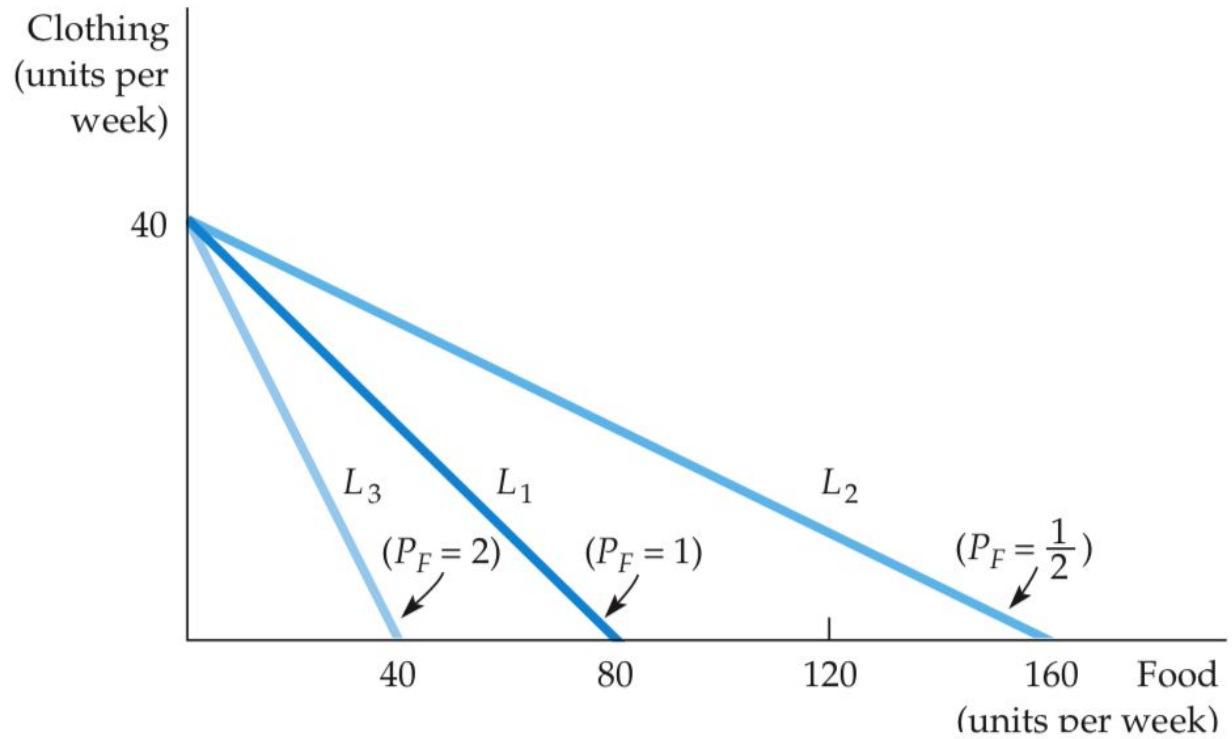


FIGURE 3.12
EFFECTS OF A CHANGE IN PRICE ON THE BUDGET LINE

A change in the price of one good (with income unchanged) causes the budget line to rotate about one intercept. When the price of food falls from \$1.00 to \$0.50, the budget line rotates outward from L_1 to L_2. However, when the price increases from \$1.00 to \$2.00, the line rotates inward from L_1 to L_3.

Conclusion for budget line

- When the income of consumer changes budget line shifts and slope of the budget line doesn’t change.
- When the price of one good changes, budget line rotates inward or outward, and slope of the budget line changes.

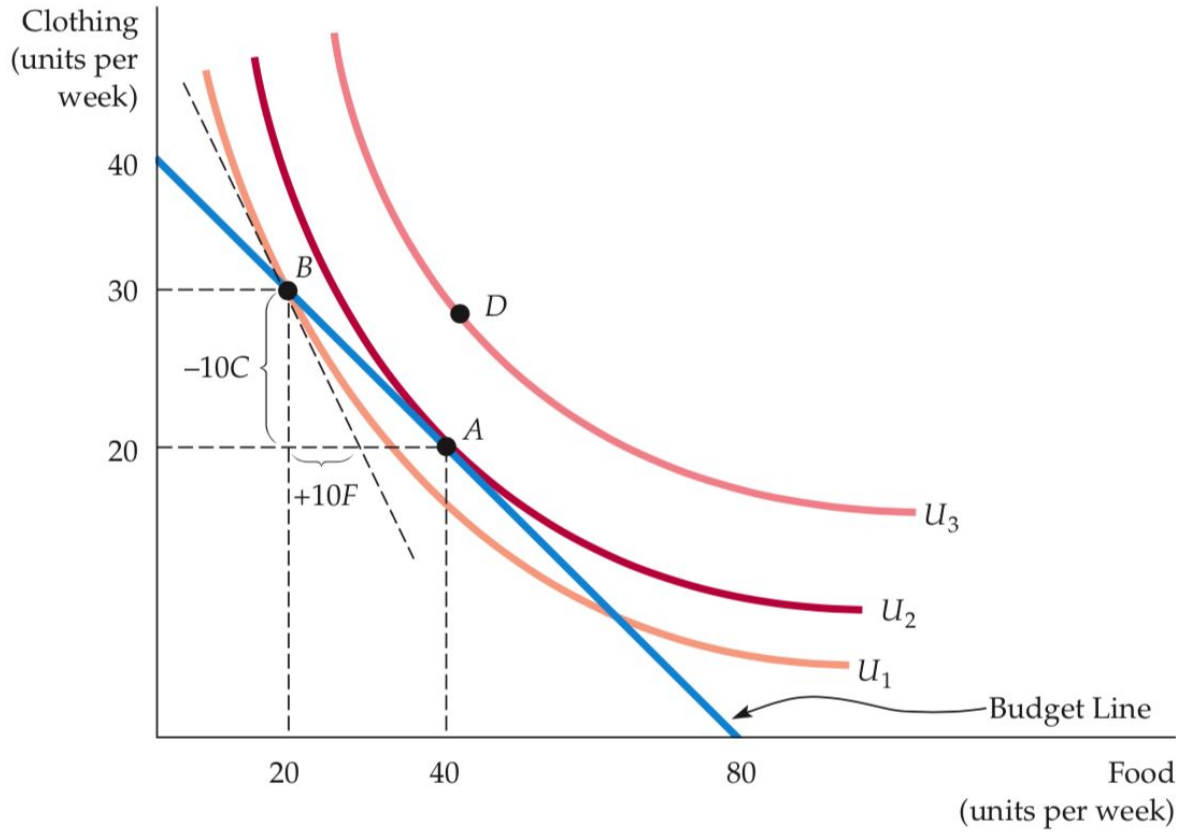
Consumer Choice

- We assume that
- Consumers choose good in rational way & ”to maximize the satisfaction they can achieve, given the limited budget available".
- #1 condition: Utility must be located on the budget line
- #2 condition: It must give the consumer the most preferred combination of G&S.

Maximizing Consumer Satisfaction

FIGURE 3.13
MAXIMIZING CONSUMER SATISFACTION

A consumer maximizes satisfaction by choosing market basket *A*. At this point, the budget line and indifference curve U_2 are tangent, and no higher level of satisfaction (e.g., market basket *D*) can be attained. At *A*, the point of maximization, the MRS between the two goods equals the price ratio. At *B*, however, because the MRS [−(−10/10) = 1] is greater than the price ratio (1/2), satisfaction is not maximized.



Maximizing Consumer Satisfaction

$$MRS = Pf/Pc$$

Satisfaction is maximized when *the marginal rate of substitution* (of *F* for *C*) *is equal to the ratio of the prices* (of *F* to *C*).

marginal benefit Benefit from the consumption of one additional unit of a good. (MRS, Slope of indifference curve)

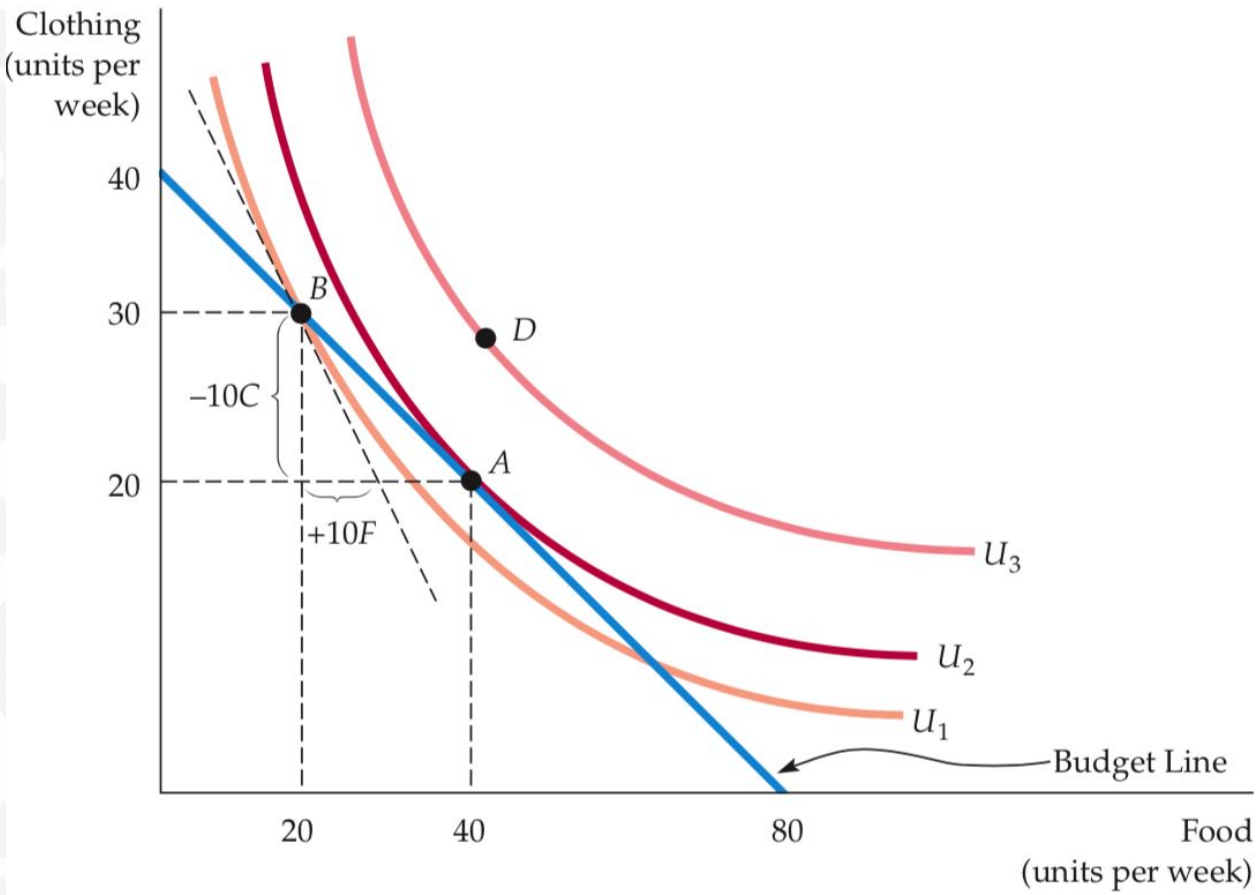
marginal cost Cost of one additional unit of a good. (slope of budget line, ratio of prices)

Maximizing Consumer Satisfaction

Marginal Benefit = MRS = ½ at point A (slope of indifference curve)

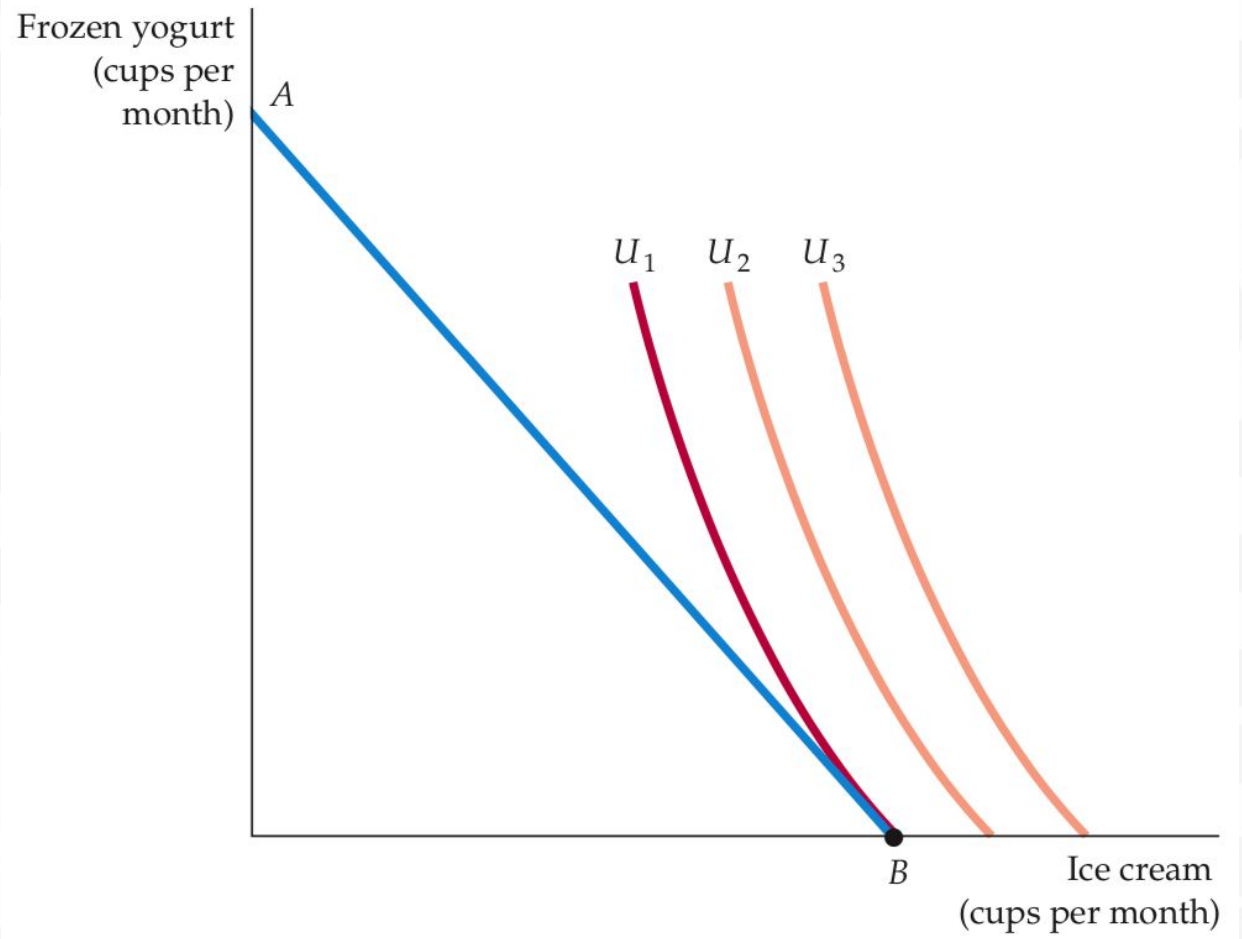
Marginal Cost =Pf/Pc=1/2 at point A (Slope of budget line)

Marginal Cost=Marginal Benefit= Max.Satisfaction



Corner Solution

- Situation in which the marginal rate of substitution of one good for another in a chosen market basket is not equal to the slope of the budget line.



Marginal Utility & Consumer Choice

M.U. measures the additional utility obtained from consuming one additional unit of a good.

As consumption increases => Marginal utility will decrease

0=MUf(△F)+MUc(△C)

-(△C/△F)=MUf/MUc

⇩

MRS = MUf/Muc

MRS = Pf/Pc, so => MUf/Pf=MUc/Pc

Ideal Cost of Living Indexes

Cost of attaining a given level of utility at current prices relative to the cost of attaining the same utility at base-year prices.

TABLE 3.3 IDEAL COST-OF-LIVING INDEX

	2000 (*SARAH*)	2010 (*RACHEL*)
Price of books	$20/book	$100/book
Number of books	15	6
Price of food	$2.00/lb.	$2.20/lb.
Pounds of food	100	300
Expenditure	$500	$1260

- Ideal Cost of living adjustment=$1260-$500=$760
- Ideal cost of living index=$1260/$500=2,52*100%=252%
- 2000 100%
- 2010 252%
- 252%-100%=152%

Ideal Cost of Living Indexes

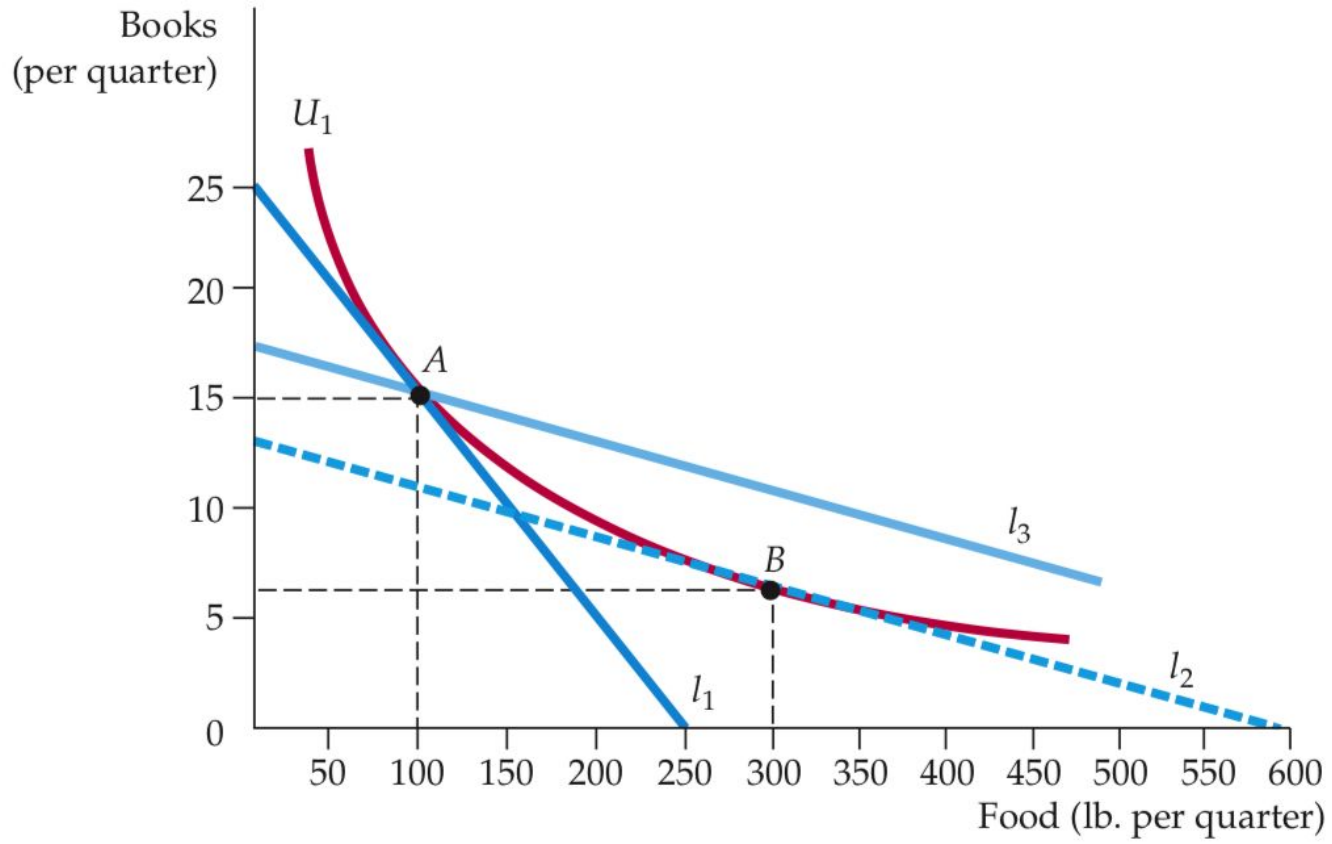


FIGURE 3.24
COST-OF-LIVING INDEXES

A price index, which represents the cost of buying bundle *A* at current prices relative to the cost of bundle *A* at base-year prices, overstates the ideal cost-of-living index.

Laspeyres Index & Paasche Index

Laspeyres price index

Amount of money at current year prices that an individual requires to purchase a bundle of goods and services chosen in a base year divided by the cost of purchasing the same bundle at base-year prices.

$$\mathrm{LI} = \frac{P_{Ft}F_b + P_{Ct}C_b}{P_{Fb}F_b + P_{Cb}C_b}$$

Paasche index

money at current-year prices that an individual requires to purchase a current bundle of goods and services divided by the cost of purchasing the same bundle in a base year.

$$\mathrm{PI} = \frac{P_{Ft}F_t + P_{Ct}C_t}{P_{Fb}F_t + P_{Cb}C_t}$$

Laspeyres Index

- $20*15+$2,00*100=$500(2000year)Sarah
- $100*15+$2,20*100=1500+220=$1720(2010 years)Rachel
- Laspeyres adjustment= $1720-$500=$1220
- Laspeyres index= 1720/500=3,44
- 3,44*100=344%-100%=244%
- Consumption is 2000’s consumption
- Chain-Weighted Index
- Paasche index

Thanks for attention

1/1 Abylaikhan str., Kaskelen
040900 Almaty, Kazakhstan
+7 727 307 95 65