

Econ 100A: Intermediate
Microeconomic Analysis
Lecture 5

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Plan of today's lecture

- At Optimal Consumer Point:
 - $MC = MB$ (Marginal cost is equal to Marginal benefit)
- More about consumer choices:
 - Corner solutions (an example)
 - Budget sets and preferences -- examples
- Marginal Utility and Maximal Consumer Satisfaction

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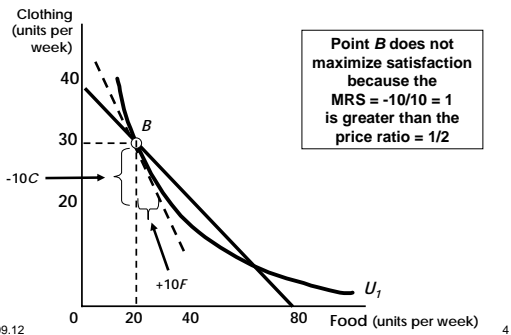
In optimum: $MB = MC$

- At optimal consumption point: marginal benefits equal marginal costs
- $MB = MRS$ = benefit associated with consumption of 1 more unit of food
- $MC =$ cost of additional unit of food P_F/P_C
- But: This statement is correct only if the optimum is interior

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Consumer Choice



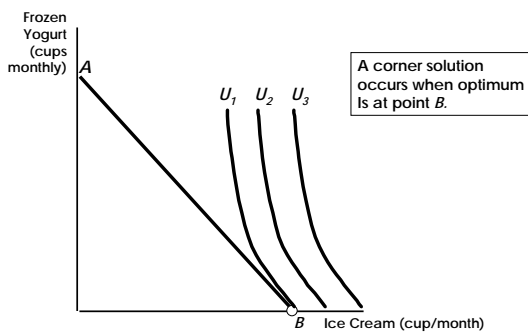
Consumer Choice: Corner Solution

- A **corner solution** exists if a consumer buys in extremes (he buys only one good and none of another)
- Then, MRS is **not** necessarily equal to P_A/P_B

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A Corner Solution: Graphically



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Marginal Utility

- **Marginal utility** measures the additional satisfaction from consuming one additional unit of a good
 - How much happier is the individual from consuming one more unit of food?

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Diminishing Marginal Utility

- The principle of *diminishing marginal utility* states:
 - as more of a good is consumed, the additional utility gain decreases
 - Total utility continues to increase (since consumer makes choices that make him happier, i.e. an increase in consumption leads to an increase in his utility)

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Market Baskets Along an Indifference Curve

- Along any indifference curve, utility is constant
- For market baskets along an indifference curve:
 - Additional utility from an increase in the consumption of food (F), must balance the loss of utility from a decrease in the consumption in of clothing (C)

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Along an Indifference Curve

Along an indifference curve, utility is constant. Formally:

$$0 = MU_F(\Delta F) + MU_C(\Delta C)$$

We rearrange:

$$-(\Delta C / \Delta F) = MU_F / MU_C$$

Since

$$-(\Delta C / \Delta F) = MRS \text{ of F for C}$$

We can say

$$MRS = MU_F / MU_C$$

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Maximal Consumer Satisfaction: Equation for Utility Maximization

Consumers maximize their satisfaction:

$$MRS = P_F / P_C$$

Also, MRS is equal to the ratio of the marginal utility of consuming F and C

$$MU_F / MU_C = P_F / P_C$$

Rearrange to get the equation for utility maximization:

$$MU_F / P_F = MU_C / P_C$$

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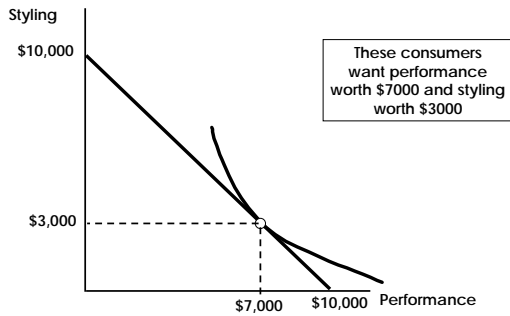
The Maximized Utility

- Total utility is maximized when the budget is allocated so that the marginal utility per dollar of expenditure is the same for each good.
- This statement is referred to as **the equal marginal principle**

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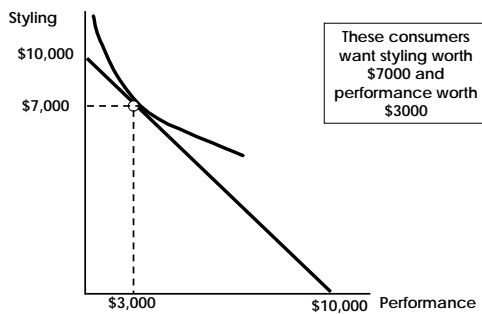
Consumer Choice: An Application Revisited



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Consumer Choice: An Application Revisited



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Consumer Choice: An Application Revisited

- Once a company knows preferences, it can design a production and marketing plan
- Company can then make a sensible strategic business decision on how to allocate performance and styling on new cars

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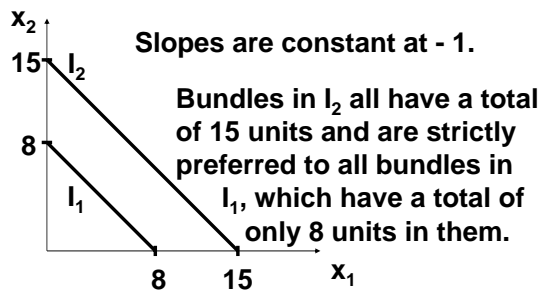
Summary of Today & plan for the next lecture

- Ch. 3 Finding the point of maximal consumer satisfaction
- Concepts:
 - Marginal utility
 - The principle of diminishing marginal utility
 - The equal marginal principle
 - At the point of maximal utility, marginal utility per dollar of expenditure is equal for both goods
- Your preparation: read Ch. 3 and Ch. 4
- Next lecture we will start Ch. 4:
 - Individual Demand (quantity of good consumed at each price)
 - Engel Curve (quantity of good consumed at each income)
 - Normal goods & Inferior Goods
 - Complements, Substitutes and Independent Goods
 - Income and Substitution Effects
- Have a Nice Day

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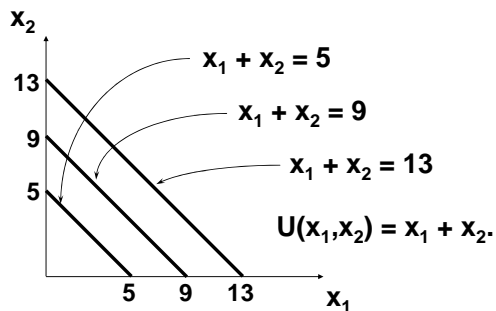
Examples: Indifference Curves for Perfect Substitutes



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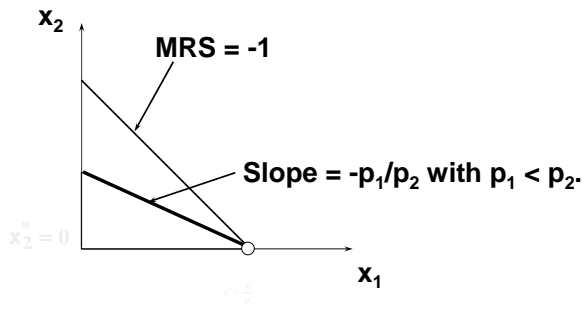
Perfect Substitutes: Indifference Curves



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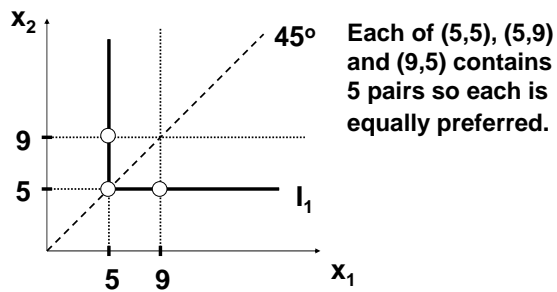
Examples of Corner Solutions - - the Perfect Substitutes Case



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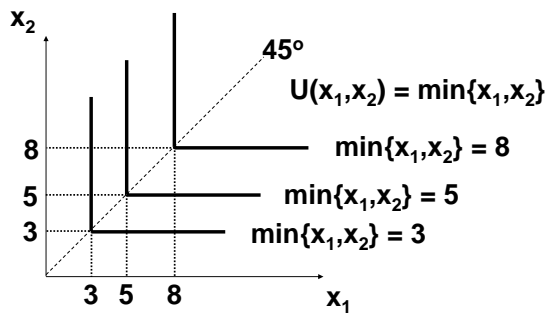
Examples: Indifference Curves for Perfect Complements



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Perfect Complements: Indifference Curves

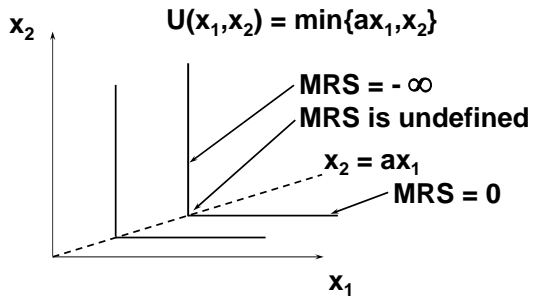


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All are right-angled with vertices on a ray from the origin.

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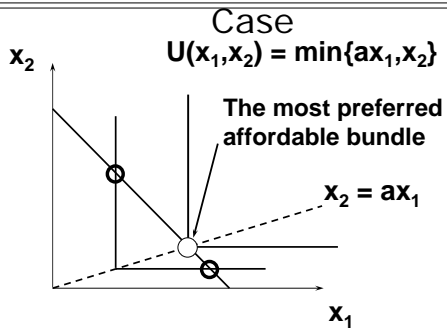
Examples:
Perfect Complements Case



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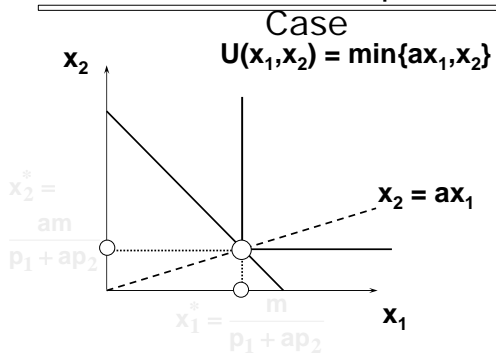
Examples of 'Kinky' Solutions -
- the Perfect Complements



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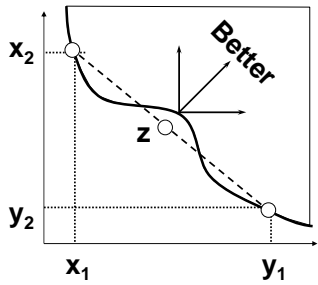
Examples of 'Kinky' Solutions -
- the Perfect Complements



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Examples 1: Non-Convex Preferences

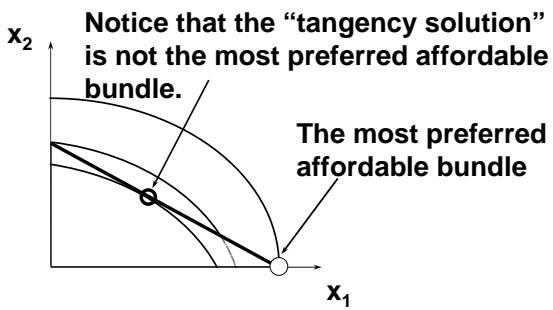


The mixture z is less preferred than x or y .

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Examples -- the Non-Convex Preferences Case



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