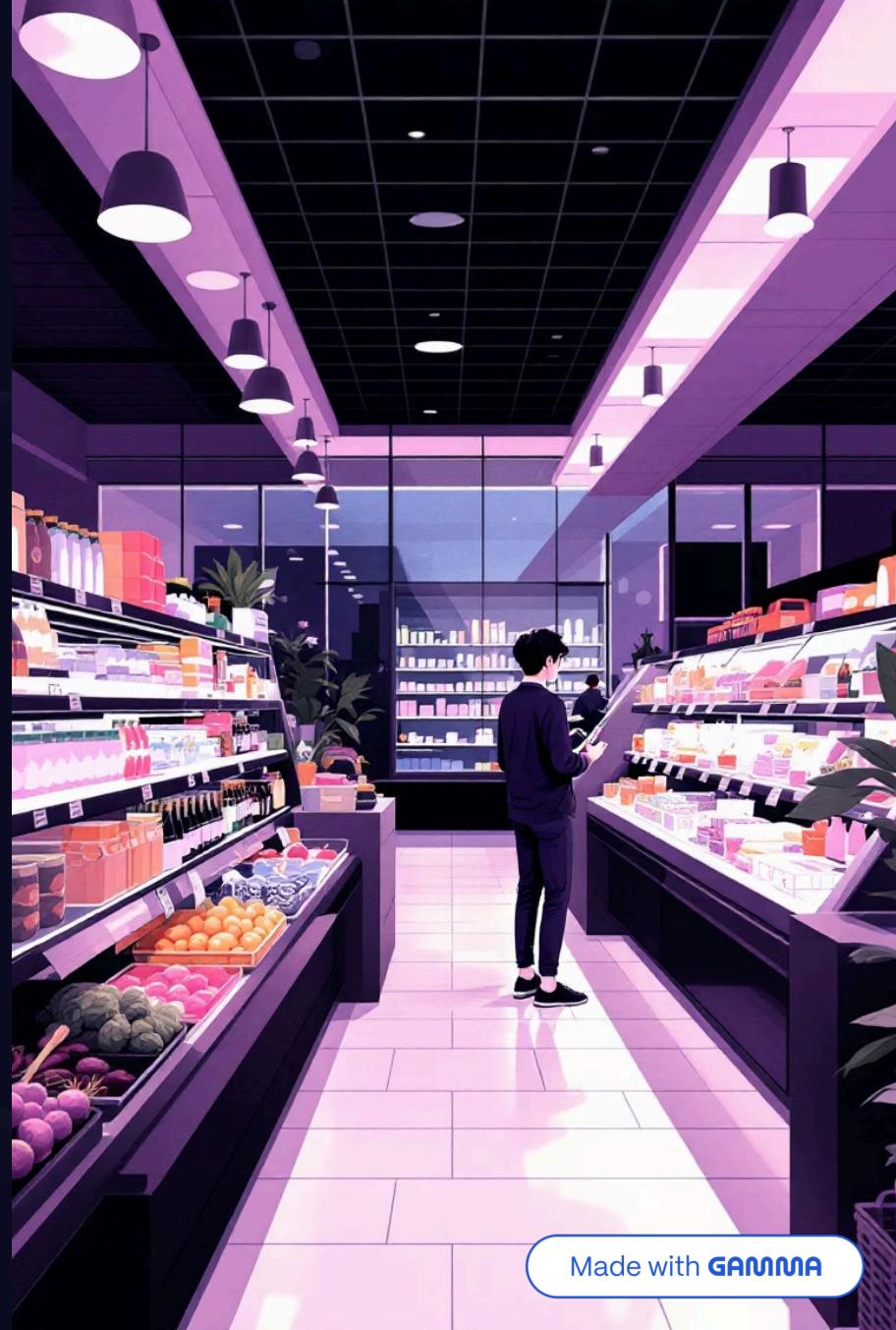


CHAOUAT ECONOMICS LAB — INTRO SERIES

Consumers and Choice

Understanding utility, budgets, and the trade-offs that shape economic decisions



Learning Goals



By the end of this session, you'll be able to:

01

Explain preferences and utility

Understand what these foundational concepts mean and how they represent consumer satisfaction

02

Apply budget constraints

Describe the set of feasible choices available to consumers given their income and market prices

03

Predict behavioral responses

Anticipate how consumers adjust to changes in income and prices

04

Distinguish substitution vs income effects

Build intuition for these two fundamental channels of choice adjustment

05

Apply models to policy

Analyze real-world scenarios like taxes, subsidies, and voucher programs

Choice Is About Trade-offs

Scarcity is fundamental

Resources are limited—you cannot have everything you want simultaneously

Opportunity cost matters

Every choice carries an opportunity cost: the value of the next-best alternative you give up

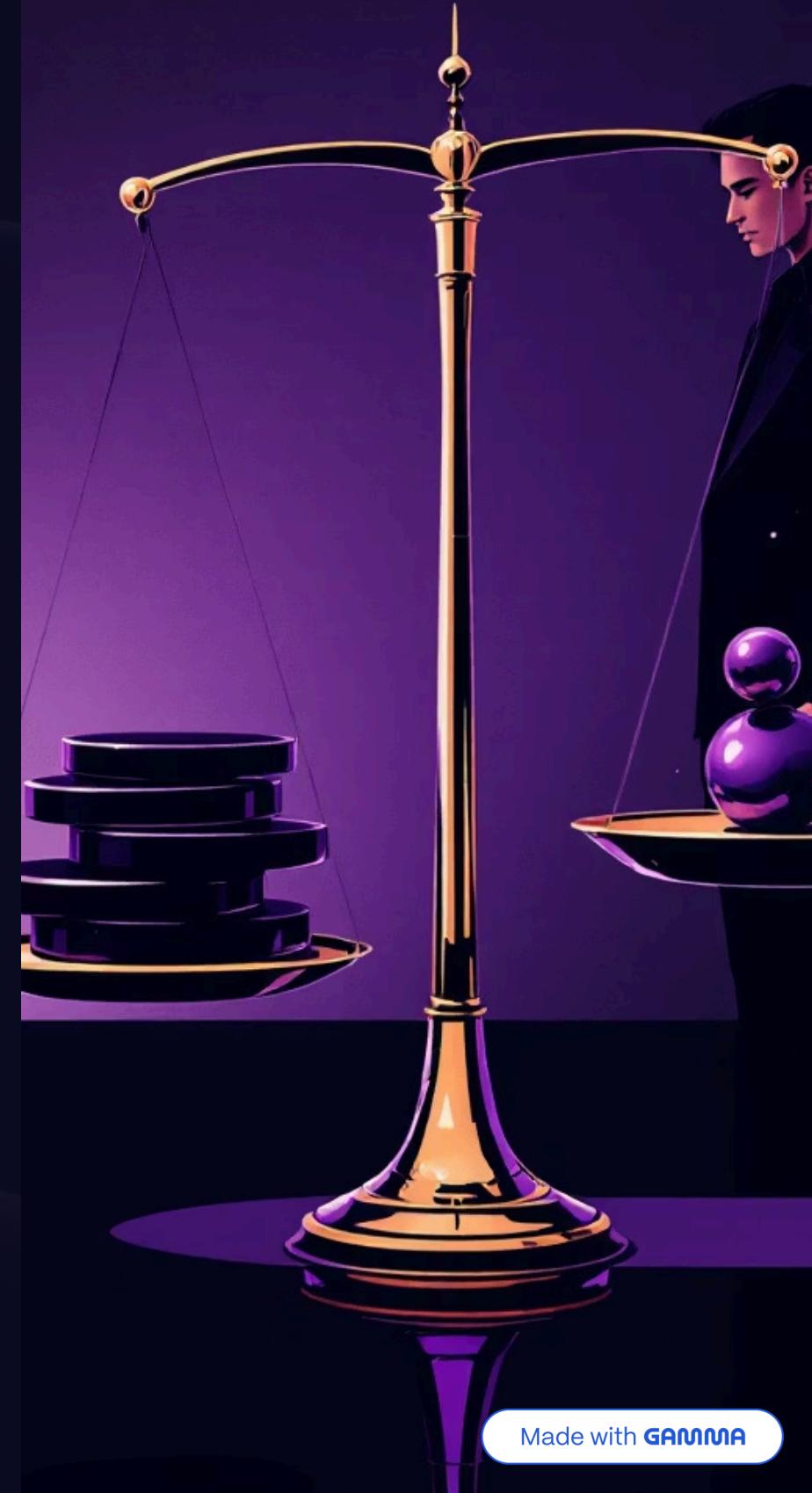
"Compared to what?"

Good economic analysis always asks this critical question when evaluating decisions

Consumer choice defined

Selecting a bundle of goods and services under the constraints imposed by budgets and prices

- Thinking at the margin:** Economics focuses on how choices change when conditions shift slightly—a small change in price, income, or time availability.



Preferences and Utility

CORE CONCEPTS

Preferences

A systematic way to rank alternatives, telling us whether bundle A is preferred to bundle B

Common assumptions for stable choices:

- **Complete:** You can compare any two bundles
- **Transitive:** If $A \succ B$ and $B \succ C$, then $A \succ C$
- **More is better:** Often assumed for standard goods

Utility

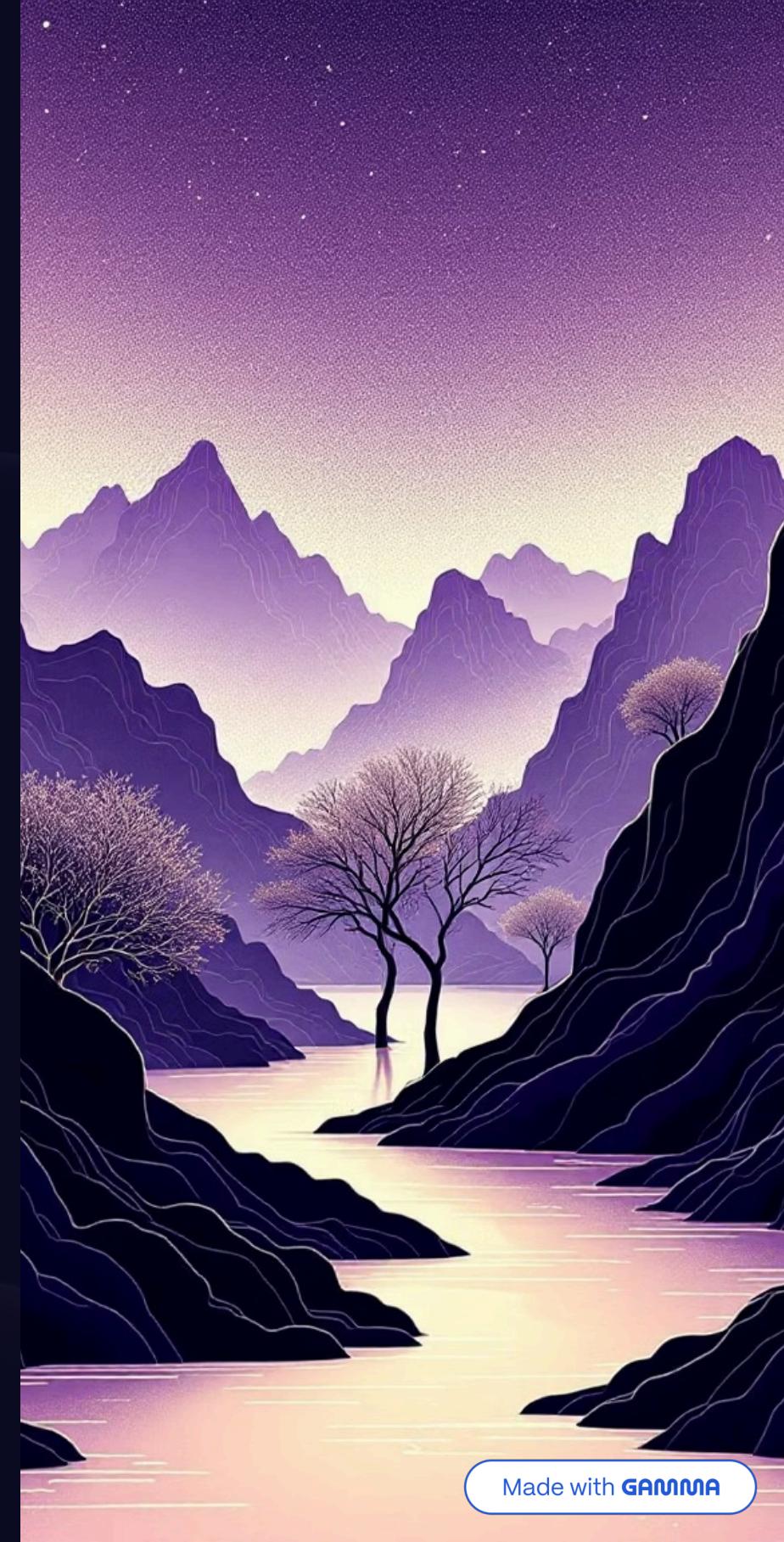
A numerical representation of preferences that allows mathematical modeling

Higher utility = more preferred

The bundle with greater utility is the one the consumer prefers

Utility is ordinal

Only rankings matter, not absolute numbers. A utility of 100 vs. 50 doesn't mean "twice as happy"



Indifference Curves and MRS

Indifference curve

A collection of bundles that all provide the **same level of utility** to the consumer

Typical shape

Downward sloping and convex to the origin, reflecting diminishing marginal rates of substitution

Marginal Rate of Substitution (MRS)

The amount of good Y you're willing to give up to get one more unit of good X while maintaining the same satisfaction level



- **Why convex?** People prefer balanced bundles. As you acquire more X, you're willing to sacrifice less Y for each additional unit of X.

The MRS represents the *slope* (in absolute value) of the indifference curve at any given point, capturing your willingness to trade between goods.

Budget Constraint

FEASIBLE CHOICES

Consider two goods, X and Y, with prices p_X and p_Y , and total income I available to spend.



Feasible set

$$p_X x + p_Y y \leq I$$

All bundles you can afford with your income



Budget line

$$p_X x + p_Y y = I$$

Bundles that spend your entire income



Slope

$$-p_X / p_Y$$

The market trade-off rate between the two goods



Intercepts

$$I/p_X \text{ and } I/p_Y$$

Maximum quantities if you buy only one good



The Optimum

BEST AFFORDABLE BUNDLE

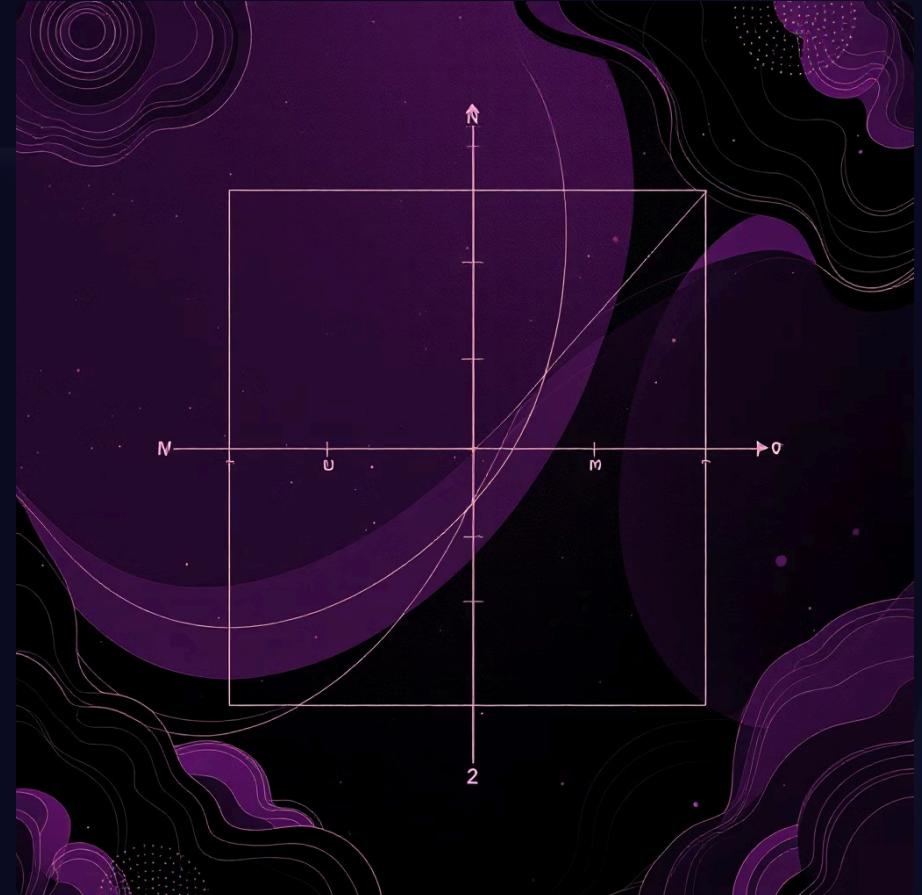
The consumer selects the bundle that:

→ **Maximizes utility**

Achieves the highest possible satisfaction level

→ **Subject to the budget constraint**

Remains affordable given income and prices



Graphical intuition

Find the highest indifference curve that just touches (is tangent to) the budget line



Tangency condition

$$MRS_{XY} = p_X / p_Y$$

Your willingness to trade equals the market trade-off rate



Equivalent rule

$$MU_X/p_X = MU_Y/p_Y$$

Marginal utility per dollar spent must be equal across all goods

Income Changes

PARALLEL SHIFTS

When income increases while prices remain fixed, the budget line shifts **outward in parallel**—same slope, new position.

1

Income rises

More bundles become affordable as purchasing power expands

2

Normal goods

Typical prediction: consumers purchase more of both goods as income increases

3

Inferior goods

Some goods may see decreased consumption as income rises (e.g., instant noodles)

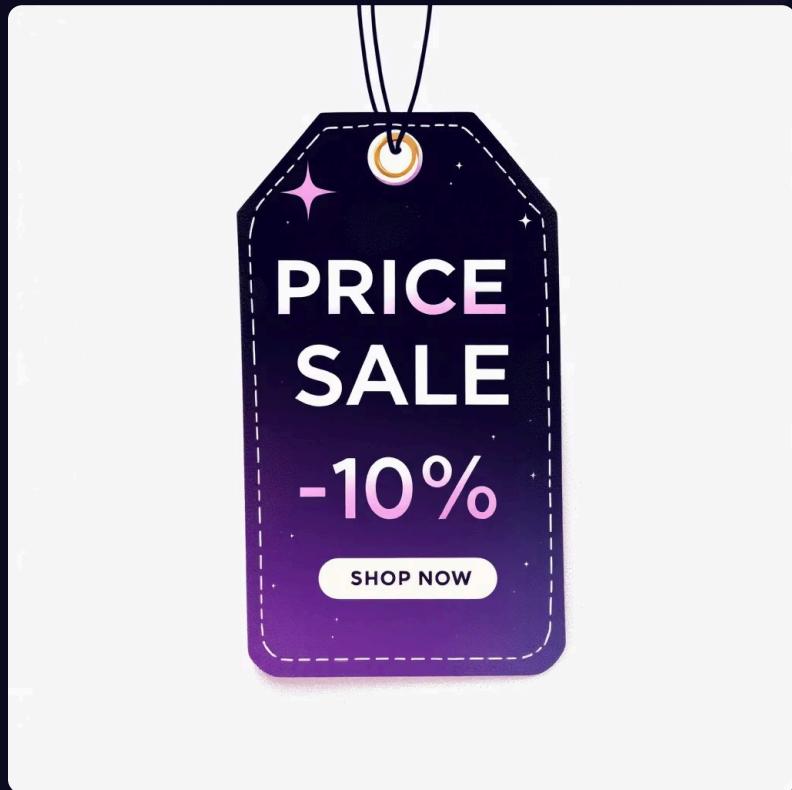


Why parallel? The slope stays unchanged because relative prices (pX/pY) haven't changed—only purchasing power has increased.



Price Changes

SUBSTITUTION + INCOME EFFECTS



When p_X falls:

The budget line **rotates outward** around the Y-intercept, expanding the affordable set



Substitution effect

Good X becomes cheaper relative to Y, so consumers substitute toward more X

Income effect

Purchasing power effectively rises—similar to receiving an income increase

Total change

Substitution effect + Income effect = Overall change in quantity demanded

For most normal goods, both effects work in the same direction, increasing consumption of X when its price falls.

- **Rare case:** A *Giffen good* (inferior good with very strong income effect) can see decreased consumption when price falls. This is theoretically possible but uncommon in practice.

Policy Applications + Lab Activity

How policy tools alter consumer constraints



Taxes

Raise the effective price → consumers substitute away from the taxed good and face lower real income

Subsidies

Lower the effective price → operates like a favorable price decrease, encouraging consumption

Cash transfer

Direct income increase → parallel outward shift of the budget line, expanding all choices equally

Voucher (restricted)

Expands choices only in one dimension → pushes consumption toward the targeted category

Lab Activity: Apply the Model

Scenario: Income $I = 60$; Food price $p_F = 6$; Transport price $p_T = 3$

1. Write the budget equation and calculate intercepts
2. If p_F falls to 4, explain how the budget line rotates
3. Describe the substitution effect versus the income effect in this scenario