

Income Elasticity Explained Simply



Assume income elasticity $\notin 0, 1$ (in other words, income elasticity is not equal to 0 or 1). Which of the following statements are necessarily true?
(Select each correct answer.)

- ☐ As income rises, the amount spent on each kind of inferior good increases.
- ☐ As income rises, the proportion spent on each kind of inferior good increases.
- ☒ As income rises, the amount spent on each kind of normal good increases.
- ☐ As income rises, the proportion spent on each kind of normal good increases.
- ☒ As income rises, the amount spent on each kind of necessity good increases.
- ☐ As income rises, the proportion spent on each kind of necessity good increases.
- ☒ As income rises, the amount spent on each kind of luxury good increases.
- ☐ As income rises, the proportion spent on each kind of luxury good increases.

Explanation

The true statements are definitionally true, and most of the other statements are definitionally false.

- * An inferior good is a good that decreases in demand when consumer income rises.
- * A normal good is a good that increases in demand when consumer income rises.
- * A necessity good is a good that increases less than proportionately in demand when consumer income rises.
- * A luxury good is a good that increases more than proportionately in demand when consumer income rises.

The exception is the statement "As income rises, the proportion spent on each kind of normal good increases", which is false for necessities and true for luxuries. Since both necessities and luxuries are both normal goods, the statement is not always true.

You are an expert in microeconomics.

I have a problem with the solution as shown in the picture.

However, I am still unfamiliar with some concepts, terms, and math notation mentioned.

Among the available options, it's very challenging to distinguish between them.

Please help to re-explain the problem and the solution with a beginner-friendly style.

Include some humor in your explanation.



Alright, let's break this down into a beginner-friendly explanation, and I'll sprinkle in some humor to keep things light. Let's tackle the concepts, the terms, and the math in a way that's easier to digest.

The Problem

Imagine you're shopping with a fatter wallet because you just got a raise—yay, more money! The question asks, **how does your spending change on different types of goods when your income increases?** These goods are split into three categories:

- Inferior goods:** Cheap things you buy when you're broke (think instant noodles). As you get richer, you usually stop buying these because you upgrade to fancier stuff (like fresh pasta!).
- Necessity goods:** Stuff you need, no matter how much money you make (like bread, toothpaste, or socks). You'll spend a bit more as your income rises, but not a crazy amount.
- Luxury goods:** Fancy things you buy when you're living the high life (like diamond-studded collars for your cat). These are the things you splurge on big-time when you have more money.

The math term here, **income elasticity of demand**, measures how your spending on a good changes when your income changes. Think of it like this:

- For **inferior goods**, elasticity is negative (you buy less as you earn more).
- For **necessities**, elasticity is between 0 and 1 (you buy more, but not dramatically more).
- For **luxuries**, elasticity is greater than 1 (you really go all in on these items when you're earning big bucks).

The Question

The options want you to figure out what happens to **how much you spend** and **what proportion of your income goes toward these goods** as your income rises. You're told income elasticity isn't 0 or 1 (so no weird exceptions), and you must pick what's **always true**.

The Solution (with fun examples)

Let's go step by step:

1. **"As income rises, the amount spent on each kind of inferior good increases."** FALSE. Inferior goods are like your emergency ramen stash—when you're richer, you eat less ramen, not more.
2. **"As income rises, the proportion spent on each kind of inferior good increases."** FALSE. Not only do you buy less ramen, but the percentage of your budget spent on ramen drops too. More fancy pasta = less ramen.
3. **"As income rises, the amount spent on each kind of normal good increases."** TRUE. Normal goods (both necessities and luxuries) are your go-to when your income goes up. You'll spend more on them overall.
4. **"As income rises, the proportion spent on each kind of normal good increases."** FALSE. This one is tricky! Necessities like bread don't scale with your income. You don't suddenly buy 10 loaves of bread every day because you're richer. So while you spend more overall, the proportion of your income spent on necessities might drop.
5. **"As income rises, the amount spent on each kind of necessity good increases."** TRUE. Sure, you'll buy slightly better necessities (organic bread, perhaps?), so the amount you spend goes up, but only a little.
6. **"As income rises, the proportion spent on each kind of necessity good increases."** FALSE. Necessities don't keep up with your income growth. As you buy fancier stuff (luxuries), necessities take up a smaller slice of your budget pie.
7. **"As income rises, the amount spent on each kind of luxury good increases."** TRUE. You're buying more luxury goods because you're rolling in dough—hello, diamond collars for Fluffy.
8. **"As income rises, the proportion spent on each kind of luxury good increases."** TRUE. Luxuries grab a bigger slice of your budget pie because they're your new obsession.

The Humor: Pie Chart Analogy

Think of your income as a pie. When you're broke, your pie is small, and a big chunk of it goes to necessities (and maybe a bit to inferior goods). As your pie grows:

- Inferior goods shrink to a tiny crumb because you've moved on.
- Necessities stay at the same slice size, but they look smaller compared to your bigger pie.
- Luxuries take over like they're the VIP guests at your pie party.

Summary of What's True

- You spend more on **normal goods, necessities**, and **luxuries** as your income rises.
- The proportion spent on **luxuries** increases, while the proportion spent on **necessities** doesn't.

Hope that clears things up! Let me know if Fluffy has any follow-up questions. 🐾



It seems there are two different terms: "amount" and "proportion".
can you explain the difference?



Ah, great observation! Let's break down the difference between **amount** and **proportion** with a clear explanation (and some fun analogies):

1. Amount (Absolute Spending)

This is the total money you spend on a particular good. Think of it as the **actual dollar value** you pull out of your wallet for ramen, bread, or diamond collars.

- Example: If your income rises from \$1,000 to \$2,000 a month, you might go from spending **\$50 on ramen** to **\$20 on ramen**. That's the **amount** spent.

2. Proportion (Relative Spending)

This refers to the **percentage of your total income** spent on a particular good. It's the **slice of the pie** that goes to that specific item compared to your overall spending.

- Example: If you spend **\$20 on ramen** and your income is \$2,000, the **proportion** spent on ramen is $\frac{20}{2000} = 1\%$. Even if the amount spent on ramen drops, the proportion could change depending on how your total income grows.

Key Difference

- **Amount** is about the raw dollar value you spend.
- **Proportion** is about how much of your total income (as a percentage) goes toward that item.

Fun Analogy: Ramen vs. Sushi

Imagine your income is a pie, and you divide it between your expenses (ramen, sushi, and whatever else). Here's what happens:

1. When you're broke:

- You spend **\$50 on ramen**, and your income is \$500.
The **amount** is \$50, and the **proportion** is $\frac{50}{500} = 10\%$.

2. When you're ballin':

- Now you're rich, earning \$2,000. You upgrade to sushi and only spend **\$20 on ramen**. The **amount** drops to \$20, but the **proportion** is even smaller: $\frac{20}{2000} = 1\%$.

Why This Matters in the Question

The trick in the problem lies in how **amount** and **proportion** change for different goods:

1. Inferior goods (like ramen):

- **Amount:** Drops as income rises (you buy less ramen).
- **Proportion:** Drops even faster because your total spending grows while ramen spending shrinks.

2. Normal goods (like bread or basic clothes):

- **Amount:** Increases as income rises (you buy slightly better or more).
- **Proportion:** Can stay the same or even shrink for necessities (e.g., bread), while it grows for luxuries.

3. Luxury goods (like sushi):

- **Amount:** Increases a lot because you splurge.
- **Proportion:** Grows because luxuries take up more of your budget.

Wrap-Up

Think of **amount** as "how much you spend in dollars" and **proportion** as "how big the slice of the pie is for this expense." Together, they help explain how spending changes when your income grows.

If this still feels tricky, let me know—I'm happy to throw in more food metaphors! 🍕🍷