How responsive are you?

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Edward Morey: draft October 9, 2018

Start with an inclass exercise on the freshman 15 pounds. (Research show that individauls gain weight when they go to college. One estimate is 15 lbs, on average.)

1. Write down the number of units that you gain. E.g. write down "15"

2. Write down the number that you gain in ounce-units rather than pound units (that is multiple by 16) "240"

3. Write down the number that you gain in terms of kilos. Approx 7, $15/2.205 = 6.8027$

Did you gain a lot or a little? 240 sounds like a lot more than 7

Can we express your weight gain in a way that both indicates whether its a lot or a little for you, and in way where

it does not matter what units we start with?

Yes. Divide 15 by your body weight, designated in the same units.

E.g. If I weigh 170 pounds,

$15/170 = \frac{3}{34} = .088$ This is proportionally how much I gained, or expressed as a percentage, it is a

8.8% gain.

Now do the same calculation with everything expressed in terms of kilos.

If I weigh 170 lbs, I weigh $170/2.205 = 77.098$ kilos

And $6.807/77.098 = 0.088$ which is the same answer.

There is a slight issue with the above calculation of the percentage. Assume, for example, your weight goes

from 100 pounds to 115 pounds.

How much did your weight increase? 15%

If you lose the weight (go from 115 to 100) how much weight do you lose in percentage terms.

$15/115 = 0.13043$ so you only lose 13%

The answers are different.

If you want the answer be the same for up or down, divide by $(100+115)/2 = 107.5$, the average of the two numbers.

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The more one reacts to an outside influence (change in the level of an exogenous variable), the more *responsive* you are to that influence.

For example, if, in the last presidental election the addition of Mike Pence to the Republication presidential ticket caused you to switch from being a diehard Democrat to a stanch Republican, you were responsive to that exogenous influence.

If you go from wanting nothing to do with Wanda but then marry her when one day she wears a blue dress, you are very responsive to blue dresses, particularly on Wanda.

Or, if an increase of 1% in the catch rates for bass at your favorite fishing hole causes you to increase your trips there by 10%, then you are responsive to that change in catch rates.

Besides blue dresses and bass, many people are affected by price changes: when the price changes some respond by buying more or less of the product; those who continue to buy the same amount are unresponsive to the price change.

Most of us do **not** respond to most price changes. (For example, most of us would not change our behavior if the rental rates for commercial property in Paris increases by 1%, or if the price of first-class plane tickets to Syria dropped 10%)

How much the quantity purchased changes when it price changes depends on: (1) how much the price changes, (2) from what level the price changes, (3) one's preferences, (4) one's income, and lot of other things.

1 How response are you to a change in the price of gasoline?

With recent increases and decreases in the price of gasoline, the answer is important. For example, how much will a run-up (or fall) in the price of gas decrease (increase) how many miles we drive, and/or what we drive.

If a gasoline price increase reduces demand for gasoline a lot, much less gas will be burned and we won't pollute as much or have to import as much oil from countries that do not necessarily like us. But these effects will be small if the price increase has little effect on demand.

Ten or so years ago, before what's his name, the foreigner, got elected President, Hillary Clinton and John McCann, both running for their party's nomination, both proposed a summer vacation from the Federal gas tax due to the high price of gasoline? What would that have done to the demand for gasoline? How much?

What factors influence the amount of gas an individual buys in a week[1]

if they own a car

where they live

where they work

type of car

number of kids and where they go to school

how much they enjoy driving

the availability of alternative forms of transportation (buses, trains, bikes, feet, etc.) and what they cost. Alternative forms of transportation are substitutes.

level of physical fitness?

how they shop (number of trips, whether you buy on or off-line). (I know people who buy most everything from Amazon.)

where their friends live

where their significant other lives. I know a number of couples who live thousands of miles from one another.

how much they like to ski, fish, party in Vegas

their income

Are their compliments to driving? Name one or two? (more drive-though coffee shops, more ski areas, driving gloves?)How would they influence how much gas you buy?

etc.

[1] Alternatively, we could discuss the factors that determine how much gasoline or oil a firm buys.

A change in any of the things on the above list will likely influence their demand for gas. A change in any of these would cause a shift in their demand function (if the graph is quantity as a function of price).

How could you reduce the amount of gas you consume?

List at least five things in your notes

1. quit your job and stay home

2. dump the girlfriend in Kansas or boyfriend in Wiggins CO.

3. take the bus

4. buy a bike, and use it for trips that were previously made by car

5. shop online

6. lose weight so you can walk to work without having a heart attack

7. tune up the car

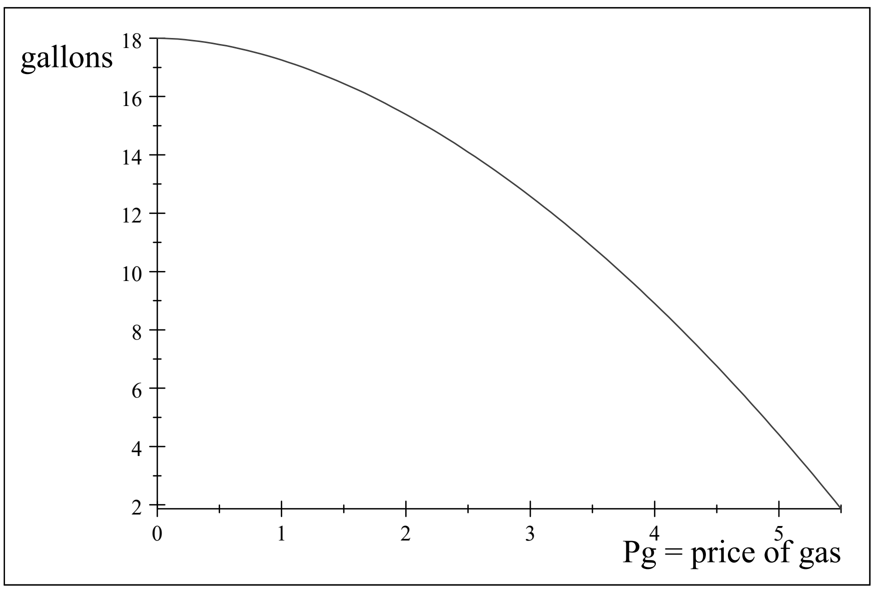
8. move closer to work

9. get a job closer to where you live

2 Consider Wilbur's per-week demand function for gasoline as a function of its price/gal. He commutes 25 miles a day and likes to go to the mountains on weekends, a 100-mile round-trip. Assume his current car get 25 m.p.g.

His demand function **might** look as follows:

$G_D^W = 18 - .75p_G^{1.8}$ - at a zero price Wilbur would buy 18 gallons a week (about one tank), and the quantity he buys decreases, at an increasing rate, at the price increases.[2]



Wilbur's weekly demand for gas as a function of the price

Why did I pick (makeup) a mathematical function with a graph like this? Note that gallons are on the vertical axis.

[2] Economists spend a lot of effort estimating demand functions for gasoline, but I just made this one up, a simple one, so simple math, but nonlinear.

I wanted it to reflect reasonable behavior given Wilbur's commuting constraints, Wilbur's preference for trips to the mountains, and the current price of gas.

With gas at \$4 a gallon, Wilbur would buy only $18 - .75(4)^{1.8} = 8.9057$, enough to get him to work and one trip to the mountains, but not enough to run out-of-way errands or to drive to fun places.

What will happen if the price rises to \$5 gallon? Wilbur would buy only $18 - .75(5)^{1.8} = 4.4104$, enough only to drive to work four days a week (will need to take the bus the other day) and no trips to the mountains.

Alternatively, if we drill for oil everywhere and the price drops to \$1 gallon, unlikely, Wilbur goes wild and buys $18 - .75(1)^{1.8} = 17.25$ gallons a week, enough to drive wherever he wants to go.

I chose a mathematical function that got steeper and as the price of gasoline rises.

Note that my chosen demand function implies that Wilbur will be taking the bus or walking to work when the price is around $\$6/gallon$.

2.1 So, given his demand function for gasoline, how *responsive* is Wilbur to an increase in the price of gasoline?

It depends on the current price and on how one measures responsiveness.

We might be interested in how much Wilbur's demand for gasoline will change if the price increases by, for example, \$1.

2.1.1 The slope/steepness of his demand function:

One possible measure of responsiveness is $\frac{\triangle G_D^W}{\triangle p_G}$: the change in Wilbur's quantity demand divided by the change in price, $\triangle$ is a symbol for change.

Steepness as a measure of responsiveness.

Would you expect this measure of responsiveness to be positive or negative?

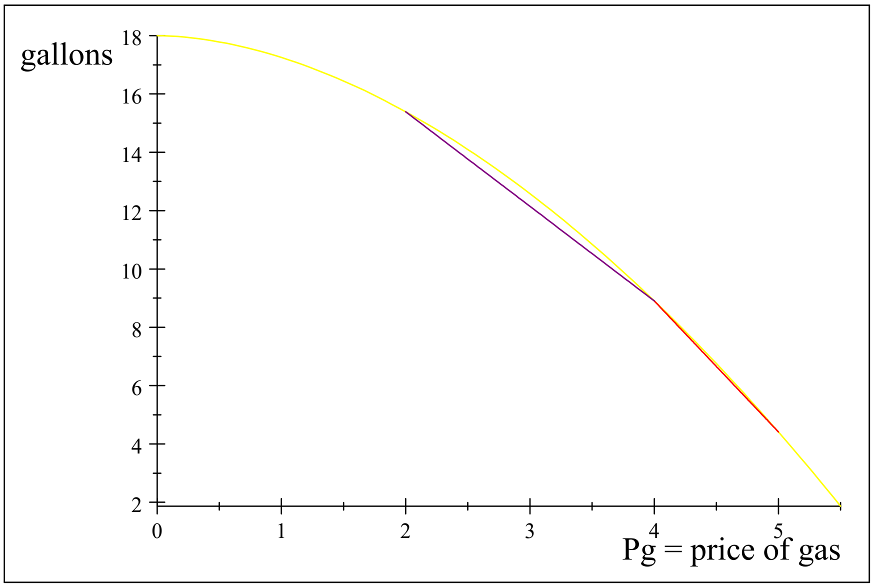
For example if the price increases from \$4 to \$5, Wilbur's demand for gasoline drops from 8.905 7 gallons to 4.410 4, a drop of 4.495 3 gallons.

In this case, $\frac{\triangle G_D^W}{\triangle p_G} = \frac{4.4104-8.9057}{5-4} = -4.4953$ gallons, which is the slope of his demand curve between \$5 and \$4

Alternatively, if the price rises from \$2 to \$4 demand would decrease from 15.388 gallons to 8.905 7 gallons.

In this case, $\frac{\triangle G_D^W}{\triangle p_G} = \frac{8.9057-15.388}{4-2} = -3.2412$ gallons, the slope between these two prices.

Note that $\frac{\triangle G_D^W}{\triangle p_G}$ is the slope of the Wilbur's demand function between the lower and higher price, it is a negative number because the demand curve slopes down.



Wilbur's wkly demand for gas as a function of the price

The steepness of the red line indicates the slope of Wilbur's demand function between \$4 and \$5, and the purple line between \$2 and \$4.

Note that the slope is getting steeper as the price increases: it becomes a larger negative number.

2.1.2 But maybe $\frac{\triangle G_D^W}{\triangle p_G}$ is not the best measure of price responsiveness

If we measured gas in quarts rather than gallons and expressed the price in terms of quarts, what would be the slope corresponding to the price increase from \$4 to \$5 (price expressed per gallon)?

\$4 a gallon corresponds to \$1 a quart, and \$5 a gallon corresponds to \$1.25 a quart. 8. 905 7 gallons what he bought at \$4 a gallon) corresponds to 35. 623 quarts, and 4. 410 4 gallons (what he bought at \$5 a gallon) corresponds to 17. 642 quarts.

What is the slope if quantity is specified in terms of quarts and price in terms of the price per quart?

$$\frac{17.642 - 35.623}{1.25 - 1} = -71.924$$

We get a completely different slope by simply expressing gasoline in quarts rather than gallons.

An ideal measure of responsiveness would not do this.

Another more complicated example:

Consider Italy and assume gasoline is priced in Euros and sold by the liter, so the price is Euros per liter.

Consider our earlier example where the price per gallon increases from \$4 to \$5, Wilbur's demand for gasoline drops from 8. 905 7 gallons to 4. 410 4, a drop of 4. 495 3 of gallons. In this case, $\frac{\triangle G_D^W}{\triangle p_G}$ was $\frac{4.4104 - 8.9057}{5-4} = -4.4953$ gallons.

What does one get if one expresses the exact same change in Euros and liters. For simplicity assume 4 liters per gallon and \$1.50 per Euro. The change in quantity is now $-4.4953(4) = -17.981$ liters, and the price change is $\frac{5}{1.5} - \frac{4}{1.5} = 0.66667$ Euro.

In which case, for the exact same change $\frac{\triangle G_D^W}{\triangle p_G} = \frac{-17.981}{0.66667} = -26.971$, which is a different number than when things were measured in \$ and gallons.

n my first example, I only changed the units in which quantity was designated. In my second example I changed the units in which quantity is measured, and, in addition, changed the units in which money is measured (\$ to Euro)

What is going on?

$\frac{\triangle G_D^W}{\triangle p_G}$ changes every time one changes the units in which quantity or price are measured. This is not a good thing: we can make the slope whatever number we want by changing the units.

2.2 Units will not matter if we measure responsiveness in terms of $\frac{\%\triangle G_D^W}{\%\triangle p_G}$: the percentage change in quantity demand divided by the percentage change in price.

Typically we ask how much quantity demanded will change in percentage terms when price increases by one percent.

Let's see if we can figure this out for Wilbur?

A price change from \$4 to \$5 is, in percentage terms, is $\frac{5-4}{(5+4)/2}(100) = 22.22\%$: the price change in dollars divided by the average of the two prices, multiplied by 100.

In general terms, the percentage change in the price is

$$\frac{p_G^1 - p_G^0}{(p_G^1 + p_G^0)/2}(100)$$

where p_G^1 is new price and p_G^0 the initial price

A quantity change from 8.9057 gallons to 4.4104 gallons is, in percentage terms, is $\frac{4.4104-8.9057}{(4.4104+8.9057)/2}(100) = -67.517\%$

In general terms, the percentage change in the quantity is

$$\frac{G_D^W(p_G^1) - G_D^W(p_G^0)}{(G_D^W(p_G^1) + G_D^W(p_G^0))/2}(100)$$

where $G_D^W(p_G^1)$ is Wilbur's demand for gasoline at the new price and $G_D^W(p_G^0)$ is his demand at the initial price.

2.2.1 So, putting the two together

If a price rise from \$4 to \$5 causes Wilbur's demand for gasoline to drop from

8.9057 gallons to 4.4104 gallons

$$\frac{\% \triangle G_D^W}{\% \triangle p_G} = \frac{-67.517}{22.222} = -3.0383$$

This can be read as a one percent increase in the price of gasoline, from its current level, causes Wilbur's demand for gasoline to decrease 3.03%.

We would have gotten the same answer if things were expressed in Euros and liters, or dollars and quarts. Do the calculation, and see.

2.2.2 The general formula is

$$\frac{\% \triangle G_D^W}{\% \triangle p_G} = \frac{\frac{G_D^W(p_G^1) - G_D^W(p_G^0)}{(G_D^W(p_G^1) + G_D^W(p_G^0))/2}}{\frac{p_G^1 - p_G^0}{(p_G^1 + p_G^0)/2}}$$

This measure of responsiveness is call an *elasticity*; in particular *an own-price elasticity of demand*: how responsive your demand for a product is to a change in its own price.

The word after the words "*elasticity of*" (in this e.g., the *demand*) is what is changing in response to the word before *elasticity* (in this case own-*price*).[3]

I am not sure why the word *elasticity*. Looking up the word elasticity, the dictionary says, "The condition or property of being elastic; flexibility." Looking up elastic one gets, "capable of being easily stretched or expanded and resuming former shape : flexible <an elastic bandage>, and capable of ready change or easy expansion or contraction : not rigid or constricted <an elastic concept>

[3] "Price elasticity of quantity demand" is, for example, different from "quantity-demand elasticity of price." The later is the percentage change in the price divided by the percentage change in the quantity demanded.

2.2.3 Let's use the general formula for price elasticity of demand to calculate Wilbur's price elasticity of demand for an increase in the price of gasoline from $0 to $1

$$
\begin{aligned}
\frac{\% \triangle G_D^W}{\% \triangle p_G} &= \frac{\frac{G_D^W(p_G^1)-G_D^W(p_G^0)}{(G_D^W(p_G^1)+G_D^W(p_G^0))/2}}{\frac{p_G^1-p_G^0}{(p_G^1+p_G^0)/2}} \\
&= \frac{\frac{G_D^W(1)-G_D^W(0)}{(G_D^W(1)+G_D^W(0))/2}}{\frac{1-0}{(1+0)/2}} \\
&= \frac{\frac{G_D^W(1)--G_D^W(0)}{(G_D^W(1)+G_D^W(0))/2}}{2}
\end{aligned}
$$

But Wilbur's demand for gas when the price is zero is
$G_D^W(0) = 18 - .75(0)^{1.8} = 18.0$ gallons

And his demand when the price is $1 is
$G_D^W(1) = 18 - .75(1)^{1.8} = 17.25$ gallons

So the price elasticity in this area Wilbur's demand function (a price increase from zero to $1) is

$$
\begin{aligned}
\frac{\% \triangle G_D^W}{\% \triangle p_G} &= \frac{\frac{G_D^W(1)-G_D^W(0)}{(G_D^W(1)+G_D^W(0))/2}}{2} \\
& \frac{\frac{17.25-18}{(17.25+18)/2}}{2} \\
&= -.02
\end{aligned}
$$

In this area of the demand function, a price increase of one percents leads to only a .02% decrease in the amount of gas Wilbur buys, not much of a decrease.

If you calculate the elasticity at higher prices, you will see that Wilbur's price elasticity of demand for gas increases in absolute value as the price of gas increases.

2.2.4 Price elasticities of demand less that one, in absolute terms, (between 0 and -1%) are considered low, unresponsive, and are referred to as *inelastic.*

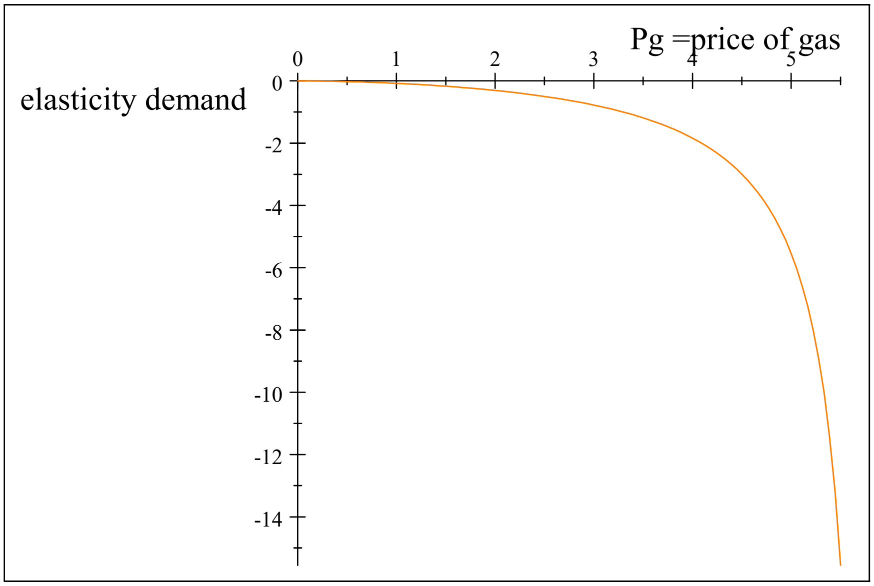
So, Wilbur demand for gasoline is very unresponsive to the price when the price is very low: for low prices his demand is inelastic.

Price elasticities of demand above 1%, in absolute terms, (less than -1%) are considered responsive, and referred to as *elastic.*

And, Wilbur's demand for gasoline is very responsive to the price when the price is currently \$4 gallon: his demand is elastic. -3.03% is very elastic.

A price elasticity of -1% is called *unitary elastic.*

I am going to try and graph the Wilbur's price elasticity of demand for gasoline as a function of the price of gasoline



Wilbur's price elasticity of demand for gasoline

These numbers somewhat describe what we saw and are seeing in the gasoline market.

When the of price of gas is low, we do not respond much to a 1% increase in its price, but with much higher prices, we are more responsive to further price hikes.

My curve predicts, maybe incorrectly, drastic drops in Wilbur's demand if gas goes up in price.

3 Would you expect the price elasticity of demand for gasoline to increase or decrease as the customer has more time to react?

The more time you give Wilbur to respond to an increase in the price of gas, the more he can respond.

Or said another way, when the price initially rises, his demand function for gas is fairly static, but in the longrun he will take actions in response to the price increase that will cause his longrun demand function to be steeper (quantity on the vertical axis) (should have a question about this)

One would expect the the longrun demand function for a product (quantity on the horizontal axis, quantity demanded on the vertical axis) to be steeper than the shortrun demand function. True.[4]

In explaination: Wilbur, woke up this morning and gas is a buck higher than yesterday. He and the kids need to be to work and school in a hour. What can he do? Not much. No time to move, switch schools or change jobs. No time to buy bikes and force the kids to bike to school. Wilbur and the family are committed to a trip to Vail in two days with the in-laws, and there is no time to bail.

However, the more time you give him to adjust the more he will adjust to the new price (higher or lower). Such adjustments will tend to steepen his demand function (make him more responsive, at every price, to a price change).

The elasticity of demand for a product typically depends on how much time consumers have to react. Wilbur's demand function for gas per week will likely change as time passes because he will adjust other things that determine his demand.

That is, the price elasticity of demand for gasoline for a year, will be larger, in absolute terms, than the price elasticity of demand for gasoline for a week or a month.

[4] If price is on vertical axis, quantity on the horizonal, the longrun demand function is flatter than the shortrun demand function.

4 We started our discussion of responsiveness by assuming Wilbur's demand for gasoline depended only on the price of gasoline.

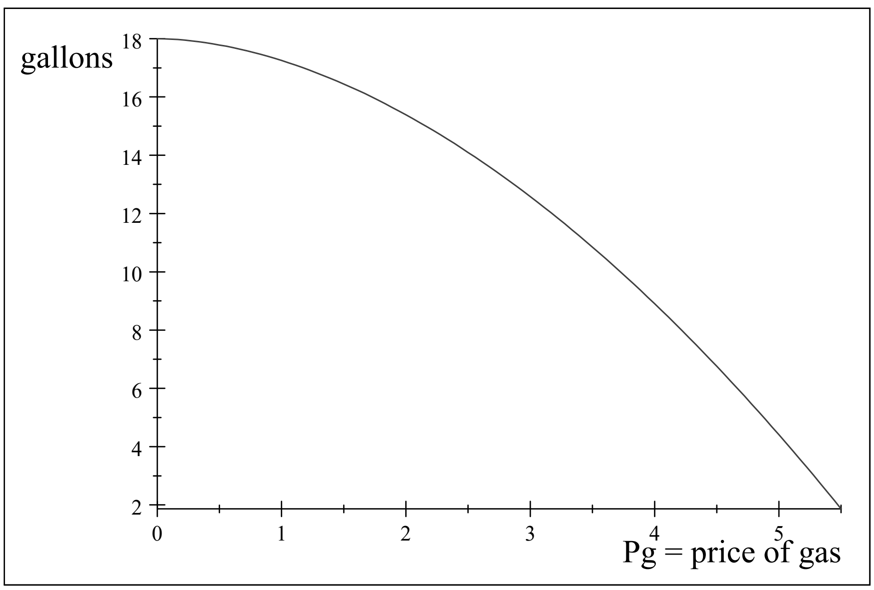
In terms of an equation

$$G_D^w = g(p_G)$$

Read this as how much gas Wilbur will buy per week is a function of (determined by) the price of gasoline. (make sure you understand functional notation.)[5]

We further assume that $\frac{\triangle G_D^W}{\triangle p_G} < 0$, his demand function is downward sloping

The following is a graph of the specific function I assumed.



Wilbur's weekly demand function for gas as a function of the price

[5]It says that the demand for gas is a function of the price of gas, where, here the name of the function is "g". The notation does **not** say multiply g by the p_G.

4.1 But is price of gas the only thing that determines how much gas Wilbur buys?

4.2

NOT

It depends on a lot of things: his income, bus fare, how far he lives from work (as I suggested above) , etc.

Let' take the first one into account and make Wilbur's demand for gasoline a function of both the price of gas and Wilbur's income, y_W.

His demand function is then $G_D^w = g(y_W, p_G)$

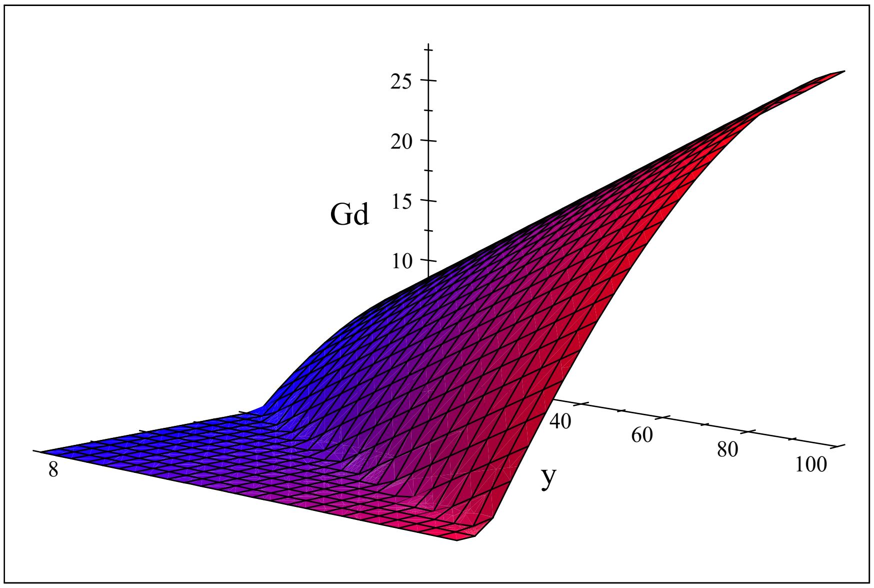
What would you surmise about the relationship between Wilbur's income and his gas consumption?

I don't know for sure but I am going to assume that $\frac{\triangle G_D^W}{\triangle y} > 0$, his demand function is upward sloping wrt to income.

4.3 I am going to try and produce a graph where Wilbur's demand for gas is decreasing in p_G and increasing in y_W.

Specifically, I will assume $G_D^w = g(y_W, p_G) = (8 + .2y_W) - .75p_G^{1.8}$.[6]

where y_W is Wilbur's income, measured in thousands
Look at this function and discuss its properties.



Wilbur's demand as a function of his income and the price

His demand for gas is on the vertical axis. As one moves left on the graph (price higher and income lower) demand declines. As one moves right on the graph (price lower and income higher) demand rises.

Note how, for a given income, demand falls as price increases, but as income increases, holding price constant, demand increases

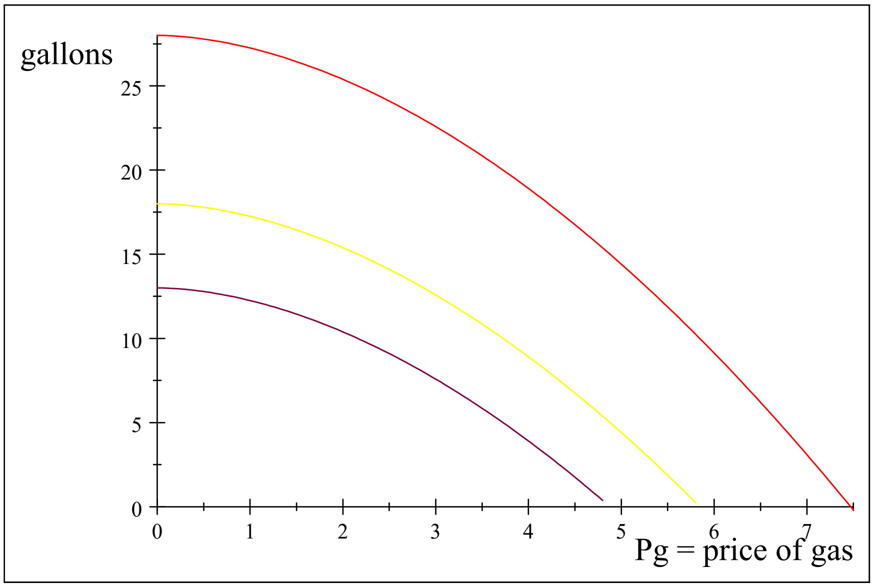
Holding the price of gas constant, every time Wilbur's income goes up by $\$10K$ his consumption of gas increases by two gallons.

[6] One problem with this function is that it says Wilbur will buy gas, even if he has no income. And that is probably not realistic, at least in the longrun. Maybe I should pick a new function?

Represent the function in the room.

My earlier demand function for Wilbur (price only) was $18 - .75p^{1.8}$, which is $(8 + .2y_W) - .75p_G^{1.8}$ assuming Wilbur's income was $\$50K$.

In explanation, $(8 + .2(50)) - .75p_G^{1.8} = 18.0 - 0.75p_G^{1.8}$

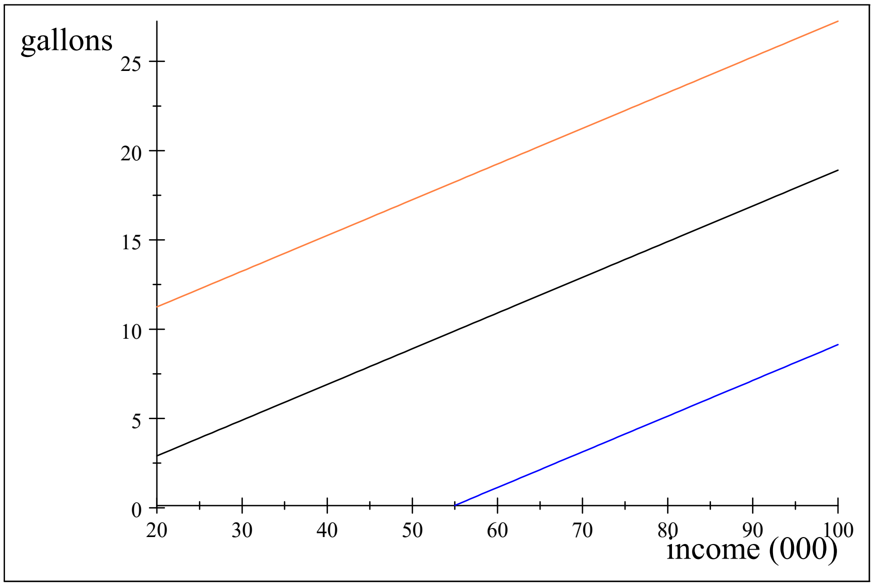


Wilbur's weekly demand function for gas

Yellow is when his income is $\$50K$, purple is when his income is $\$25K$ and red is when his income is $\$100K$.

Represent these functions in the room as slices: price on one of the horizontal axis, income on the other, and demand for gas on the vertical axis.

Now let's graph Wilbur's demand for gas as a function of his income holding the price of gas constant



Wilbur's weekly demand function for gas

Black is for $p_G = \$4$, orange is for $p_G = \$1$ and blue is for $p_G = \$6$

Note that if $p_G = \$6$ Wilbur would not buy any gas if his income was less than $\$55K$ a year.

4.4 A question for you

Assume the $p_G = \$4$

What is Wilbur's **income** elasticity of demand for gasoline?
Define it in words, and in terms of an equation

Figure out, and interpret, the specific number if his income increases from $\$50K$ to $\$55K$.
Get the person next to you to help you, and a T.A.

When $p_G = \$4$ and Wilbur's income is $\$50K$, he buys

$G_D^w = g(50, 4) = (8 + .2(50)) - .75(4)^{1.8} = 8.9057$ gallons

When $p_G = \$4$ and Wilbur's income is $\$55K$, he buys
$G_D^w = g(55, 4) = (8 + .2(55)) - .75(4)^{1.8} = 9.9057$ gallons.

So, increasing his income from $\$50K$ to $\$55K$ cause him to increase his gasoline consumption by $9.9057 - 8.9057 = 1.0$ gallon when $p_G = \$4$

4.5 How would you define the income elasticity of demand for gasoline?

I would define it as the percentage change in the demand for gasoline divided by the percentage change in income, holding the price of gas constant.

$$\frac{\% \triangle G_D^W}{\% \triangle y_W} = \frac{\frac{G_D^W(y_W^1,p_g^0)-G_D^W(y_W^0,p_g^0)}{(G_D^W(y_W^1,p_g^0)+G_D^W(y_W^0,p_g^0))/2}}{\frac{y_W^1-y_W^0}{(y_W^1+y_W^0)/2}}$$

For $p_G = \$4$ and an increase in Wilbur's income for $\$50K$ to $\$55K$ it is

$$\begin{aligned}\frac{\% \triangle G_D^W}{\% \triangle y_W} &= \frac{\frac{G_D^W(y_W^1)-G_D^W(y_W^0)}{(G_D^W(y_W^1)+G_D^W(y_W^0))/2}}{\frac{y_W^1-y_W^0}{(y_W^1+y_W^0)/2}} \\ &= \frac{\frac{9.9057-8.9057}{(9.9057+8.9057)/2}}{\frac{55-50}{(55+50)/2}} \\ &= \frac{.1063}{.09528} \\ &= 1.11\%\end{aligned}$$

In words, if $p_G = \$4$ a 1% increase in income causes Wilbur to increase his consumption of gas by 1.11%: elastic, but not very elastic.

Would his income elasticity of demand by the same if the price was, instead, 1$?

No, it would not. Figure it out what it would be.

Can you imagine other types of elasticities?

How about the
your weight elasticity of demand for Big Macs
$\frac{\%\triangle BM_D}{\%\triangle Weight}$
This is the how much your demand for Big Mac will change in percentage terms if your weight increases by 1 percent.

or the Big Mac elasticity of weight

$\frac{\%\triangle Weight}{\%\triangle BM_D}$
This is how much your weight will change in percentage terms if you consumption of Big Mac increases by 1 percent.

Make you you understand the difference. You might ask which way the causality runs; that is, is the weight gain caused by eating more Big Macs, or do people who weight more go to McDonalds more to eat a Big Mac?

Some additional thoughts based on questions from students:

Calculating the price elasticity of demand using the midpoint method vs. calculating the percentages based on only the initial price and quantity:

- The charm of the midpoint method is that it produces the same elasticity estimate for a price increase from p^0 to p^1 as for a price decrease from p^1 to p^0. The book says that it would be a "nuisance if that was not the case, and "we'd like a measure that doesn't depend on which way you measure it." I have some sympathy with this goal, but am not completely sympathic.

- The difference between the midpoint method and calculating the percentages off the starting values will be small as long as the price change is small relative the initial price, and demand in this range is not wildly elastic. (the KW example that presents the midpoint method is for a very large price change.)

- Note that the above example calculations of the price elasticity of demand for gas were for large percentage changes in the price. But, do not assume from that the estimated elasticty would be the same number if the price change were smaller.

- Many economists work on estimating the price elasticity of demand for gasoline. Or said another way, many economists work on estimating the demand function for gasoline. If one has an estimate of the demand function, one can calcuate the estimated price elasticity of demand for any price change.

- Estimating the price elasticity of demand for gas is of critical environmental importance?

- To estimate the demand for gasoline one needs, for the population, to observe consumption at a lot of different price points. (think back to estimating the demand function for apples by Phil).

- The impacts of tax policies that increase the price of a commodity (e.g. gasoline, cigarettes, booze, soda) depend on their own-price elasticities of demand. (consider whether a increase in the cigarette tax will reduce smoking)

- One has to be very careful about saying a certain good has an elastic demand or a inelastic demand, typically it depends on the price range considered.
- For example, It is correct to say that "the demand for table salt is inelastic in the price range in which table salt typically sells," but it would be strictly incorrect to say that " table salt is price inelastic." Remember in some past society's salt was a unit of exchange because it was very scare.
- People often assert that the demand for drugs is price inelastic but that depends a lot on the price. E.g. for many people their demand for cocaine is highly responsive to the price, so I would be hesitant to simply say "demand for cocaine is price inelastic." I might say demand is inelastic for very rich cocaine addicts, but most people are not very rich, and many people who have consumed cocaine are not addicted to it.
- Be wary of multiple-choice questions of the sort: The demand for salt (or whatever) is price inelastic. True or false?"