

Utility- Degree of satisfaction someone derives from a product or service

Demand Curve- a measure showing the relationship between the price of a product which is set by outside forces and the number of units a consumer is willing to purchase based on that price.

Law of Demand as Price rises, a Consumers willingness to purchase a product declines

Marginal Utility- The additional satisfaction that a consumer derives by consuming an additional unit of a good or service.

Law of Diminishing Marginal Utility- The additional satisfaction one derives from a product declines with every additional unit of a good consumed

MU of Unit 1 > MU of Unit 2 > MU of Unit 3

As a result of the Law of Diminishing Marginal Utility, the Total Utility one derives from additional product rises at a decreasing rate, until such time as it peaks

Total Utility of Good 1 = 20, Total Utility of Good 1 and 2 = 36 an increase of 16, Total Utility of Good 1, 2 and 3 = 48, an increase of 12

The degree of utility one derives from a product is independent of the price, however, because goods and services tend to have different prices, consumers will not simply select the product that provides the most marginal utility but will select the product that provides the most marginal utility per dollar value.

The algebraic equation for the above is MU_a/P_a , as a result despite the fact that a Porsche may provide much more marginal utility than a Dodge Neon, most people do not select the Porsche, but rather select the Dodge Neon.

Thus if the MU for a Porsche is 100,000 and the price is 100,000 then the MU/P_a is equal to $100,000/100,000$ or 1

In contrast the Dodge Neon may have a marginal utility of only 20,000, however the price is only 10,000, therefore the MU/P is $20,000/10,000$ or 2

A rational consumer, and all consumers are rational will select the MU/P with the highest value which in this case is a Dodge Neon (value of 2 vs value of 1)

Because savings itself has a marginal utility, in the above example, an individual who is poorer may also want to save a certain amount of money. The first dollar saved has a higher marginal utility than the 2nd because of the law of diminished marginal utility. A wealthy person may have a much lower marginal utility for \$1.00 than a poorer person, however, some wealthy people are wealthy because they are miserly, in which case despite the fact that they have lots of money they still get a high marginal utility from each additional dollar saved.

The amount of marginal utility one derives from a product is based on the same ceteris parabus assumptions as the Demand Curve for an individual

The following are held constant
Income

Price of other goods including complements and substitutes

Taste

Time

Any change in any of the above will cause the degree of satisfaction that one derives from a product to change.

When we prepare a Utility table with multiple goods we are given the Marginal Utility an individual derives for a given good as well as the price of the good. We are also provided with a budget which places a constraint on the total number of goods that can be purchased.

Based on the Formula MU_a/P_a and the rule that a consumer selects products based on MU_a/P_a if MU_a/P_a has a higher value than MU_b/P_b we can derive a combination of goods that a consumer will buy.

Chocolate donuts

Glazed donuts

Jelly donuts

A consumer will elect to pick Jelly donuts over Chocolate donuts despite the fact that they like Chocolate donuts better if the price of the Chocolate donuts is sufficiently higher than the Jelly to cause $MU_{jelly}/P_{jelly} > MU_{choc}/P_{choc}$,

Based on the table we may get a result that shows that at a price of \$1.00 per chocolate donut and a set income, Bob will buy 3 donuts.

P	Qd
1	3

By altering the price of the chocolate donut to .50 we find that Bob purchases 5 donuts

P	Qd
1	3
.5	5

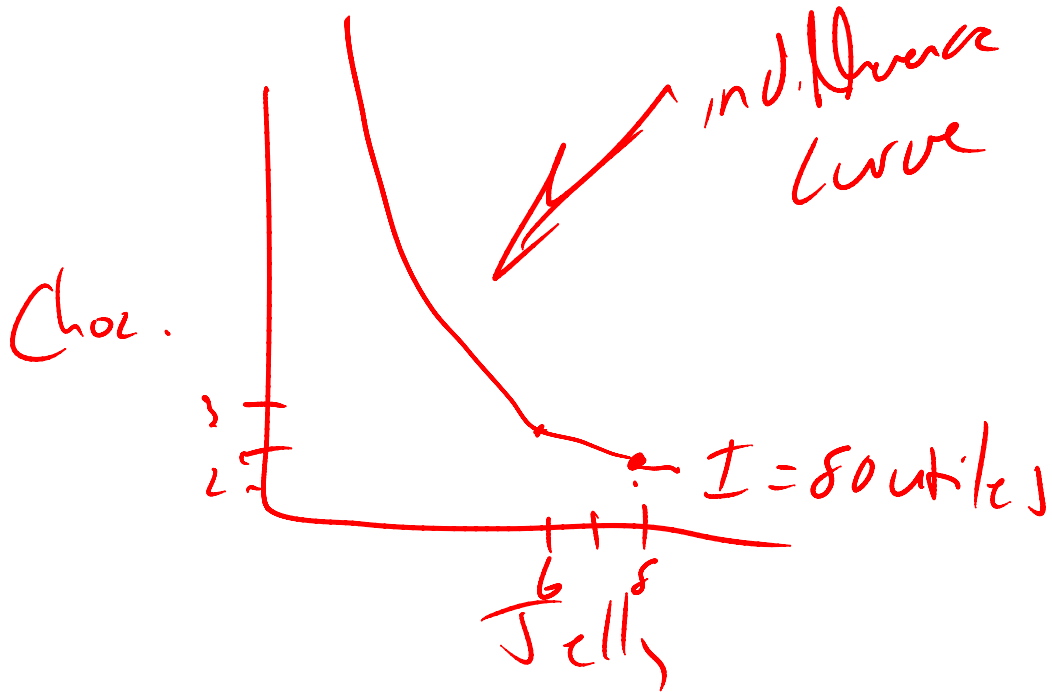
By once again altering the price of the choc. Don. To .25 we find Bob buys 7 donuts

P	Qd
1	3
.5	5
.25	7

When we alter the price of the choc donut we leave Bob's income unchanged, as well as the price of the other goods, in this case Jelly and Glazed. We assume Bob is making this decision during a relatively short time period and lastly, we assume that no one has tried to influence Bob's taste's for donuts either negatively or positively through things such as advertising

From the above we derive a demand curve.

When we look at Bob's choice of goods, there may be several that provide Bob with the same degree of satisfaction, perhaps 2 chocolate and 8 jelly (combination A) or 3 chocolate and 6 jelly (combination B). In this case we can say that Bob is indifferent about combination A or combination B. If we assume that the total utility Bob derives is 80 we can probably come up a curve that shows Bob's various combinations of choc. And jelly donuts that each provide him w/80 total utiles



A graph of the above is shown below, Product A (chocolate donuts is on the y axis or run and jelly donuts on the x axis or the run). An indifference curve measures the various combinations of two goods from which a person derives a set amount of total utility.

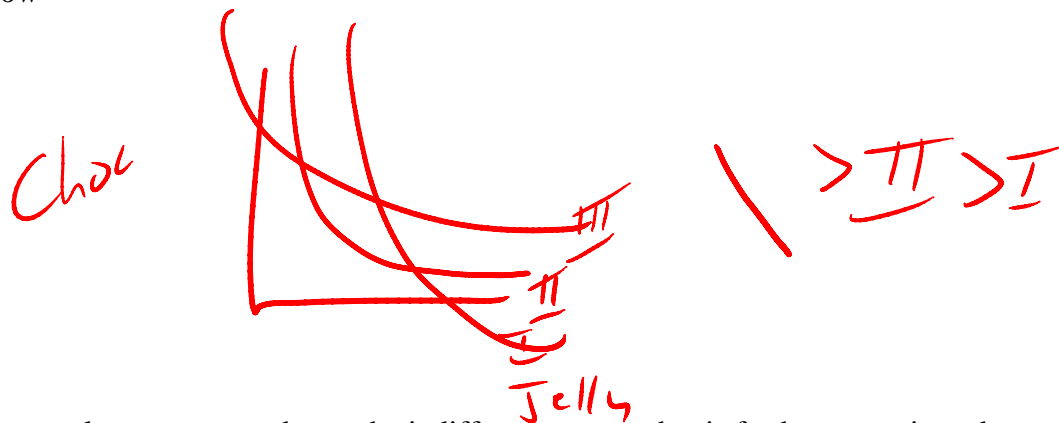
The graph bows out because as Bob has more and more of one good he derives less additional satisfaction from that next successive unit. Meanwhile since he is giving up more and more of another good we know that the amount of marginal utility he derives from each lesser good is more than the good before.

The curve is called an indifference curve

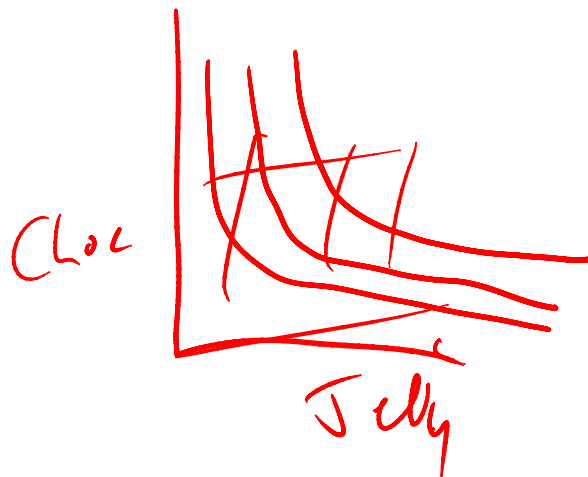
Indifference curves can not intersect and can only run parallel.

That is because if they intersected then at the point of intersection a person received two different total utility values despite having the same combination.

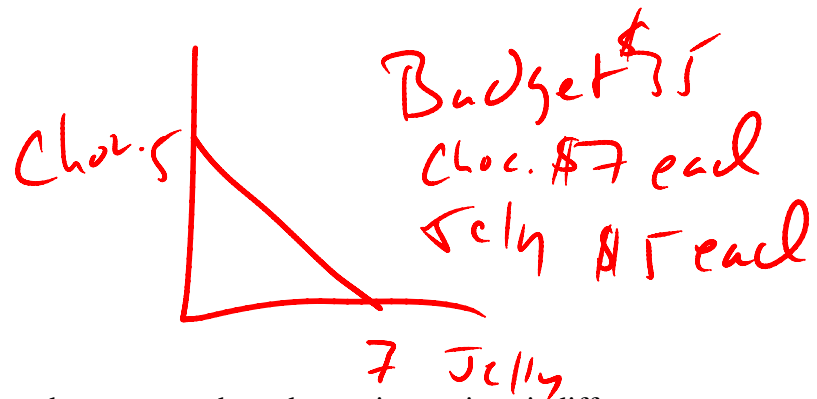
See below



A consumer always wants to be on the indifference curve that is furthest out, since the indifference curve that is furthest out from the origin has the highest total utility value.

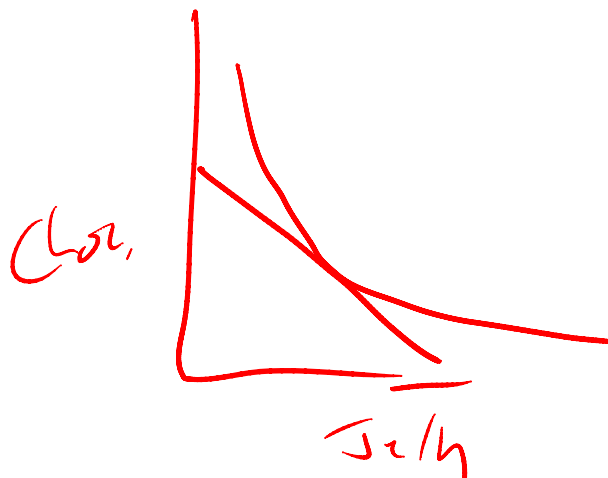


A budget line can be drawn on the same graph, since like the indifference curve it measures the quantities of 2 goods. However, it measures what a consumer can buy not what they want to buy.



By placing the budget line on the same graph, and mapping various indifference curve, we can find the combination of goods a consumer will purchase.

The point of purchase is the point where the indifference curve lies just tangent to the Budget line
See below



At that point the consumer is purchasing the combination with the most utility that the consumer can afford.