

# The Market Forces of Supply and Demand

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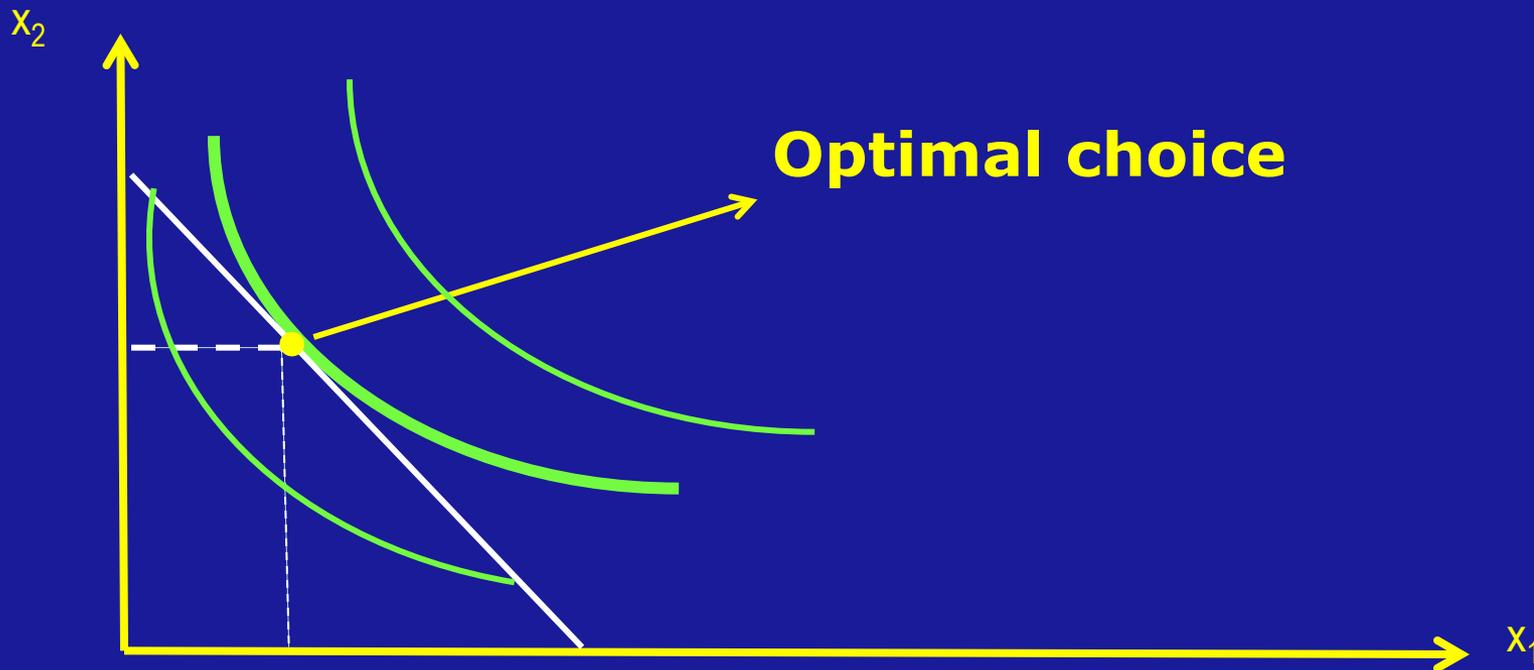
# Consumer Chooses

The consumer will seek to maximize utility subject to the constraint of a limited income.

The consumer gets the best basket choosing, on the budget constraint, what is on the highest possible indifference curve.

# Consumer Chooses

In this case, the optimal choice is in correspondence of point of tangency between the indifference curve and the straight line of the budget.



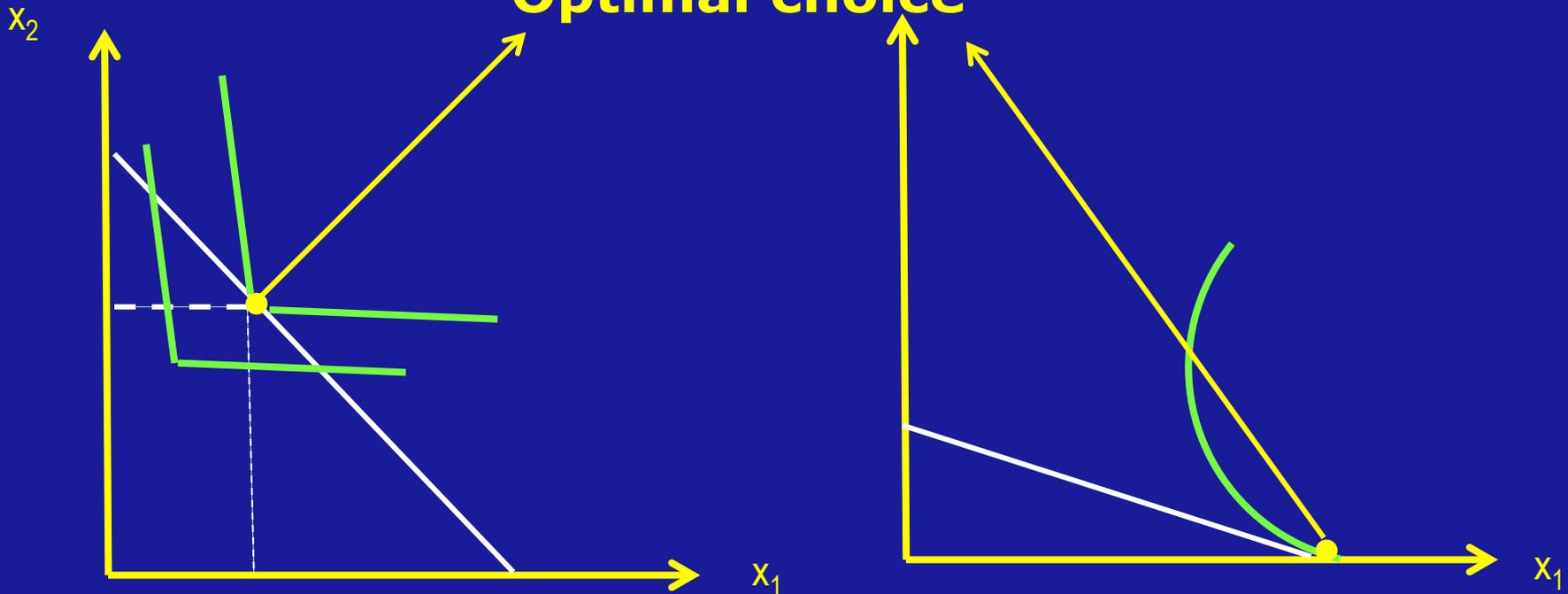
**But it may not always be so .....**



# Consumer Chooses

To identify the optimal choice, the condition of tangency between the indifference curve and the budget line is not needed if the indifference curves are angled or if there is an optimal border (is consumed only one good).

## Optimal choice



**To identify the optimal choice, the condition of tangency between the indifference curve and the budget line is necessary if the indifference curves have no angles, and if you had an interior good (both goods are consumed).**

**....of course!**

# Changes in income.

## Normal Good:

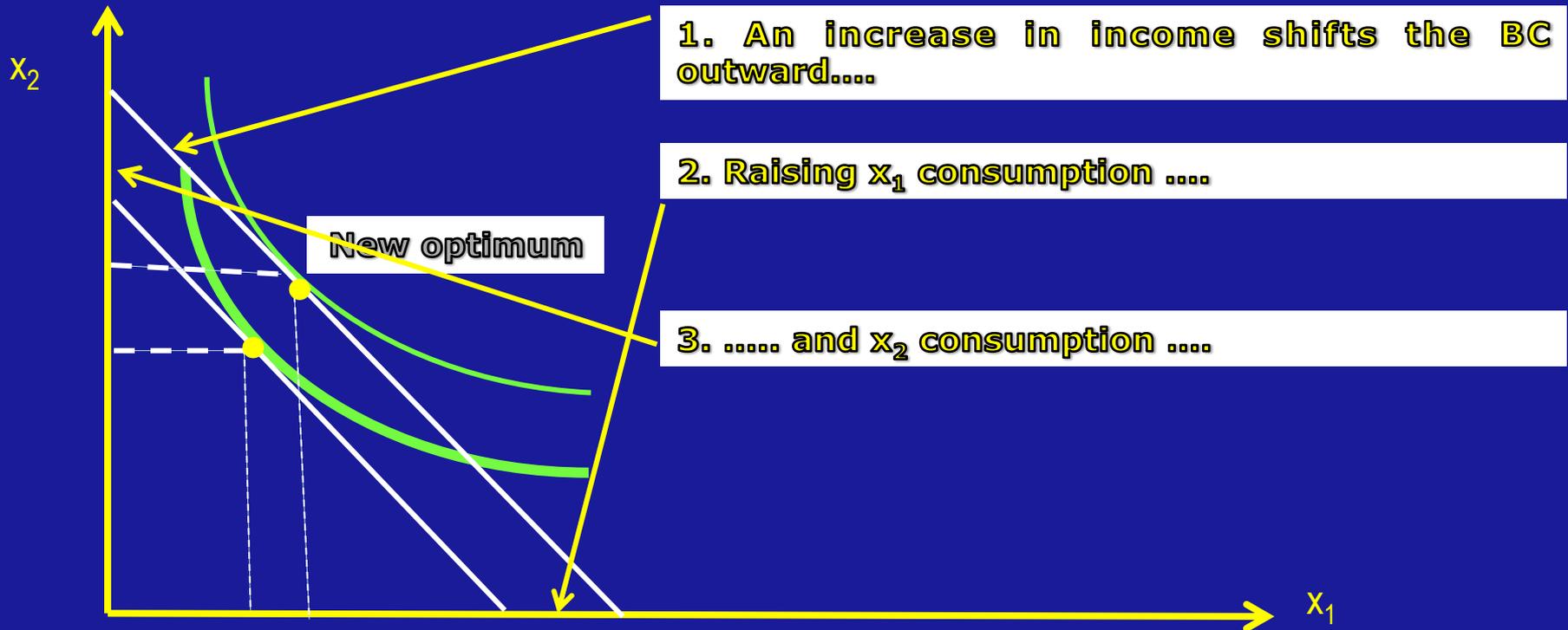
its demand increases with income and decreases to its decline.

## Inferior Good:

its demand decreases as income increases.

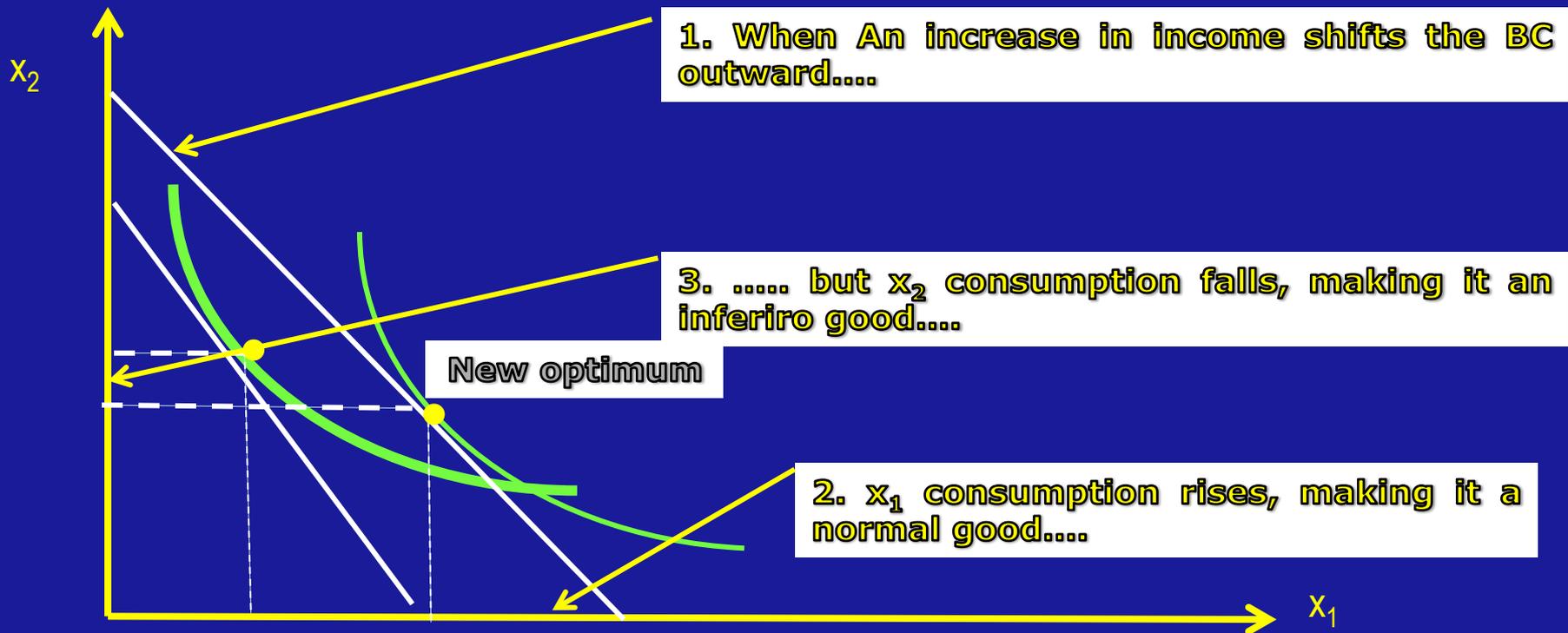
# Normal Goods

When the consumer's income rises, the budget constraint shifts out. If both goods are Normal Goods, the consumer responds to the increase in income by buying more of both of them.



# Inferior Goods

A good is an Inferior Good if the consumer buys less of it when his income rises. i.e: when the consumer's income increases and the BC shifts outward, the consumer buys more  $x_1$  but less  $x_2$ .



# Changes in income.

## Luxury Good:

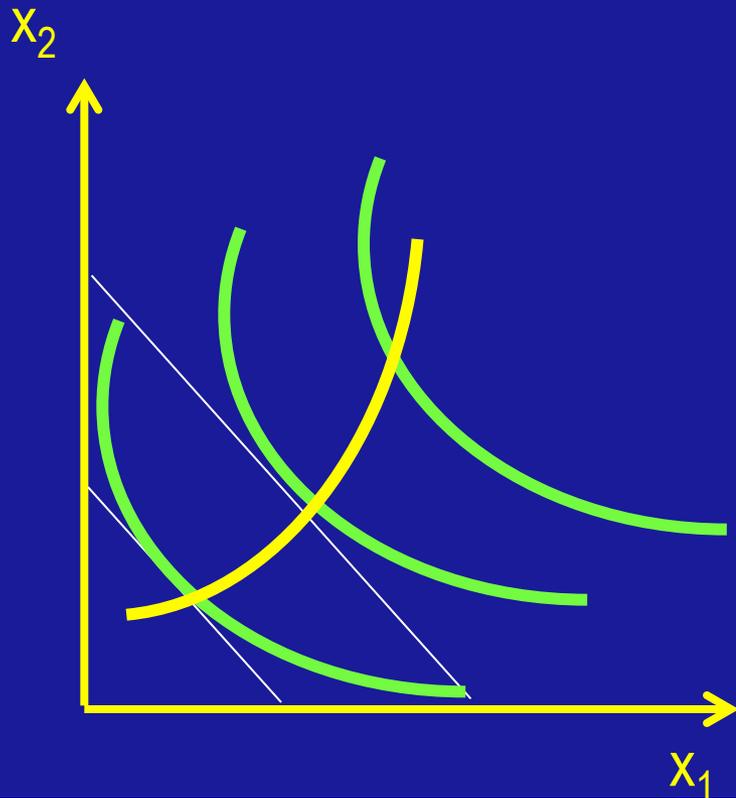
its demand increases  
more than  
proportionally with  
income.

## Necessary Good:

its demand increases  
less than  
proportionally with  
income.

# Changes in Income

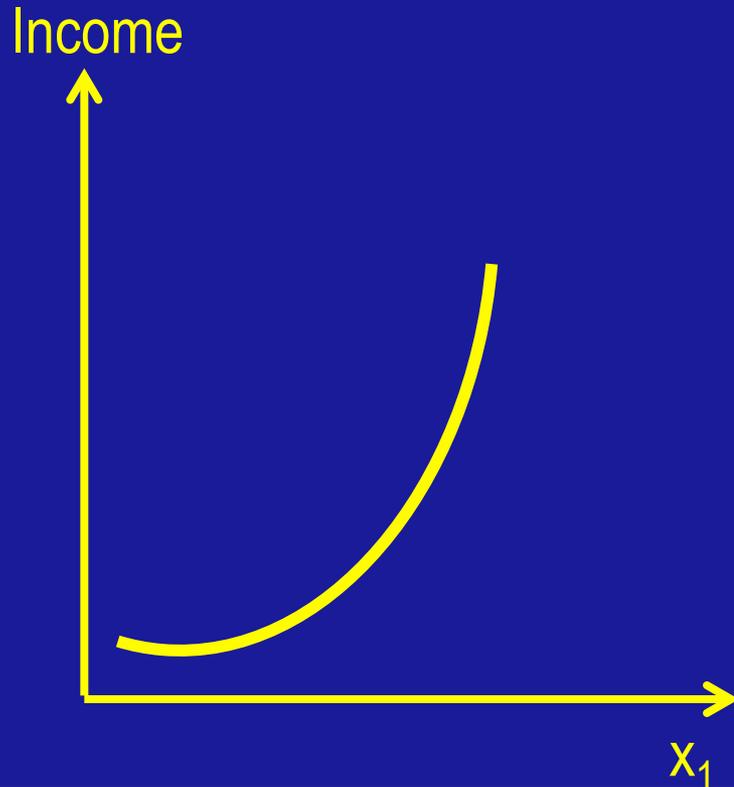
Income-consumption curve



Represents the set of optimal choices at different levels of income (if income is greater, the budget line moves parallel in the upper right).

# Changes in Income

Engel curve



Represents the demand of one of the two goods, depending on income.

# Changes in Price.

How it changes consumer demand at varying price of good 1, taking into the fixed price of good 2, preferences and income?

## Ordinary Good:

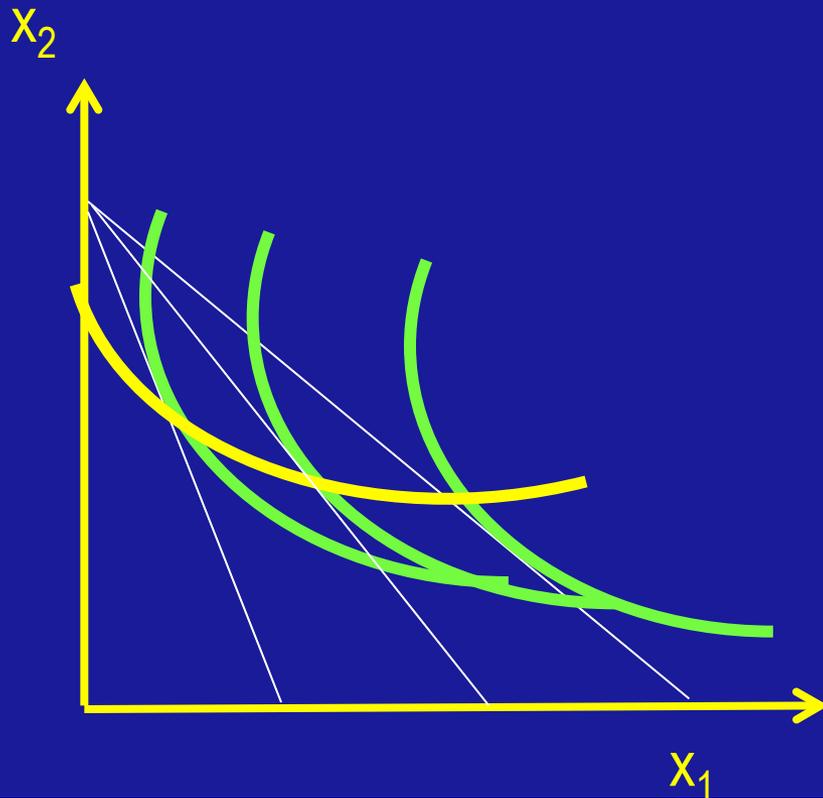
its demand increases with decreasing its price.

## Giffen Good:

A good for which an increase in the price raises the quantity demanded\*.

# Changes in Price

Price-consumption curve



Represents the set of optimal choices to vary the price of good 1 (if the price of good 1 decreases, the budget line becomes flatter).

# Income and Substitution Effects

## Income Effect:

when you change the purchasing power of the consumer.

## Substitution Effect:

when varying the relative prices (ie, the rate at which we can exchange one good for another). .

## Slutsky equation.

The overall change in demand is the sum of the effect of income and substitution effect .



*However, situations can change depending on the type of goods that we face.*

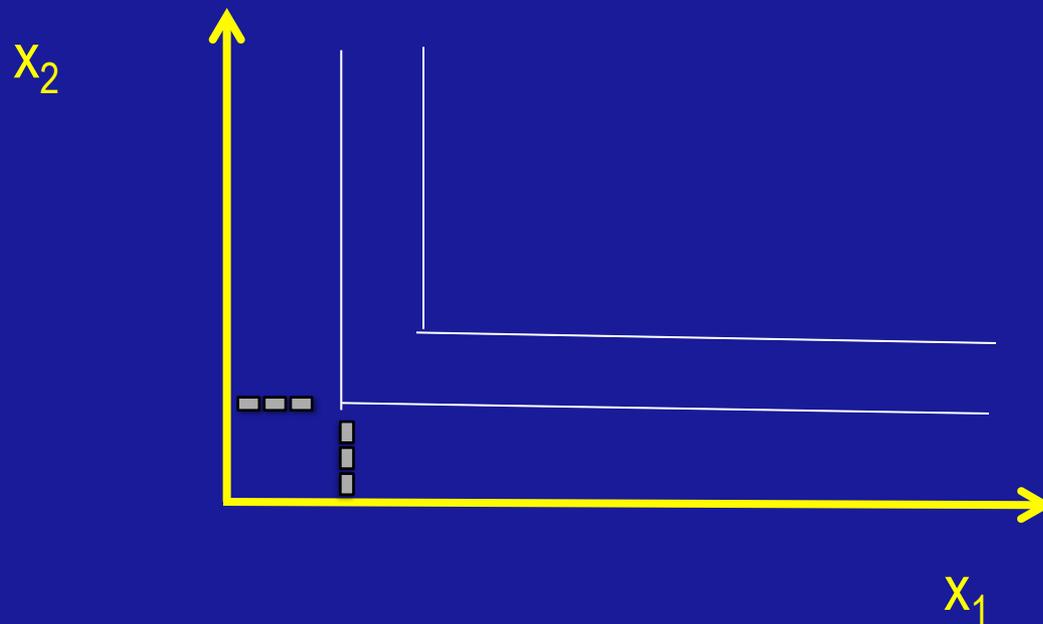
# Perfect Complements

Goods that are used jointly in a fixed proportion  
(not always in proportion 1 to 1).

*Example: right shoe ( $x_1$ ) and left shoe ( $x_2$ ). Increase the amount of only one of the two goods NOT increases the utility of the consumer.*

# Perfect Complements

Two Goods with straight line indifference curves



# Perfect Complements

The indifference curves are right angles.

*In this extreme case of right-angle indifference curves, we say that the two Goods are perfect complements.*

**The theory of consumer choice can be applied in many situations.**

***It can explain why demand curves can potentially slope upward, why higher wages could either increase the quantity of labour supplied, and why higher interest rate could either increase or decrease saving.***

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