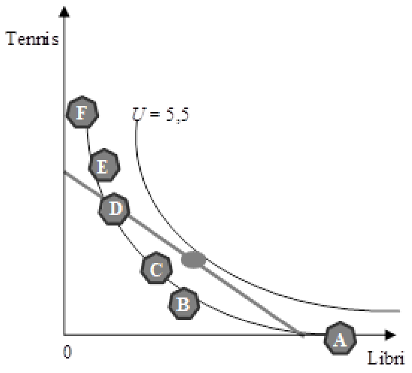
3 strange statements on the value of a good



$$I = (P_B B^*) + (P_T T^*)$$

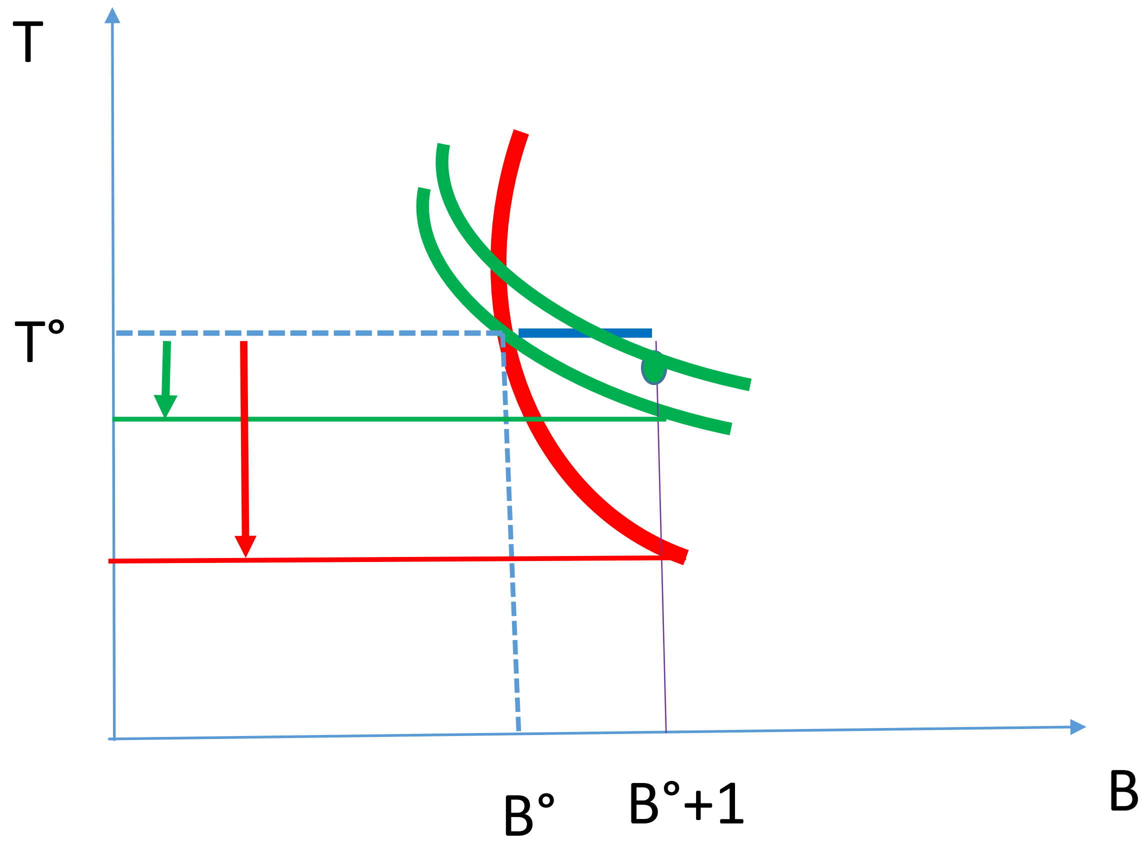
$$\boxed{\text{MRS}}\,(B^*, T^*) = \frac{P_B}{P_T}$$

The MRS is thus observable.

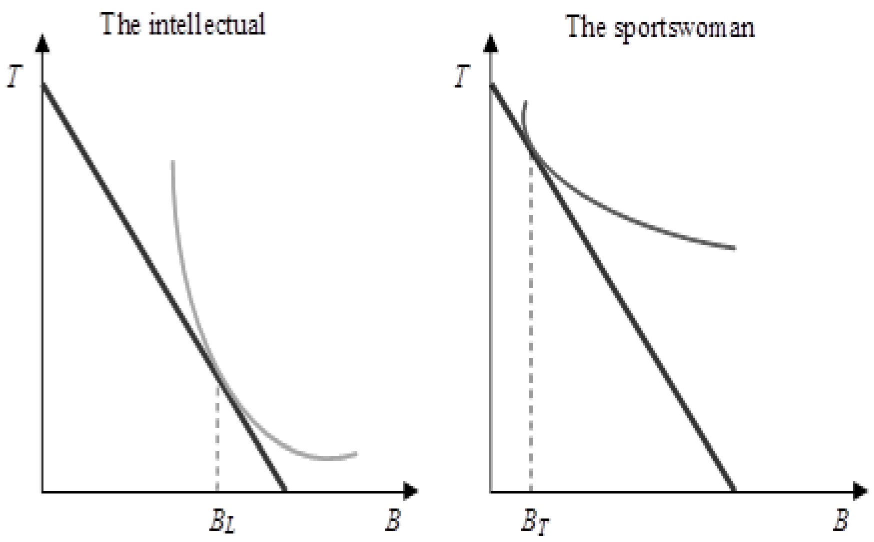
Exchange value of one additional unit of a good (appropriately defined) =
= Subjective value of one additional unit of a good (appropriately defined)

MRS in equilibrium must be the same across all consumers.

The sportswoman and the intellectual



The sportswoman and the intellectual



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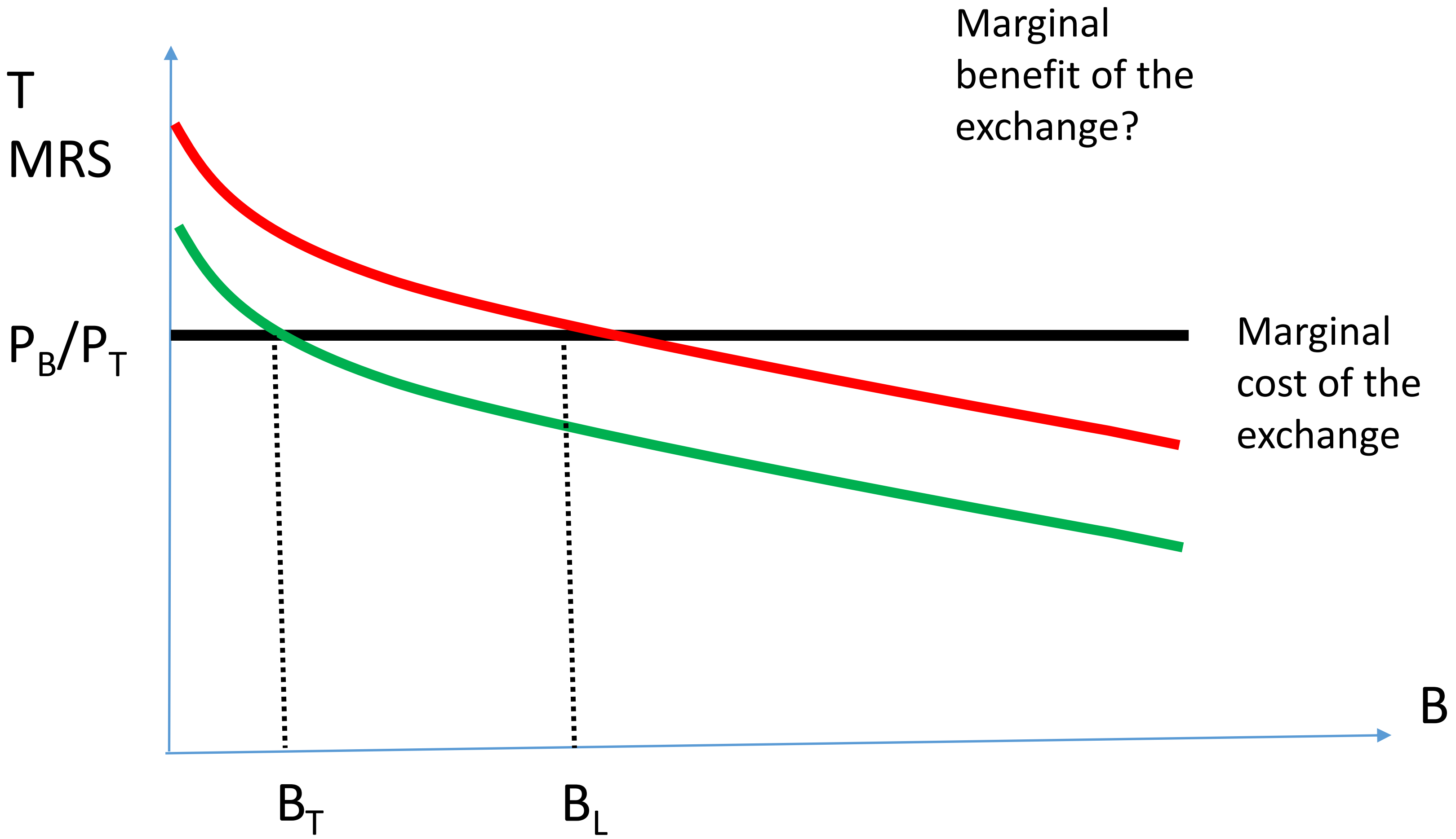
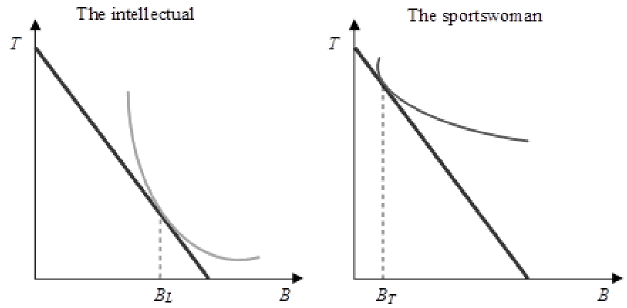
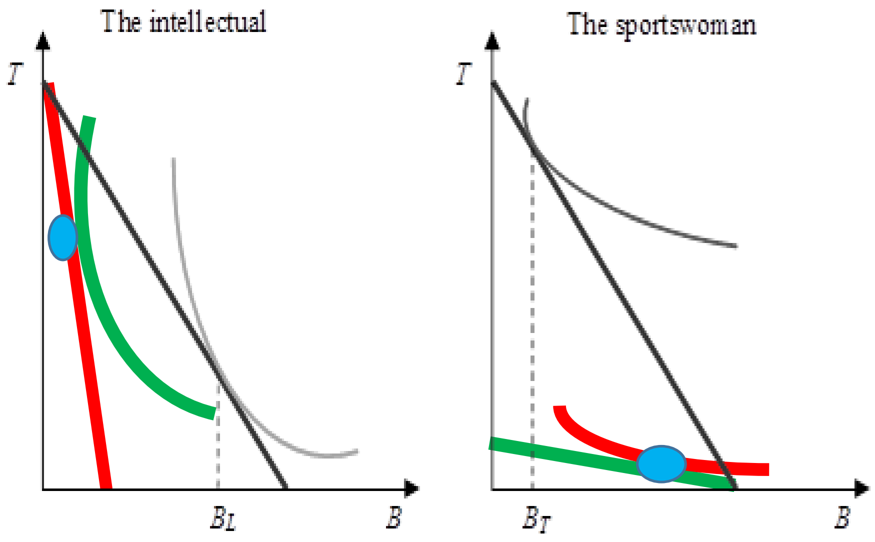
The sportswoman and the intellectual





Alcaraz, the intellectual; Sandel, the tennisplayer



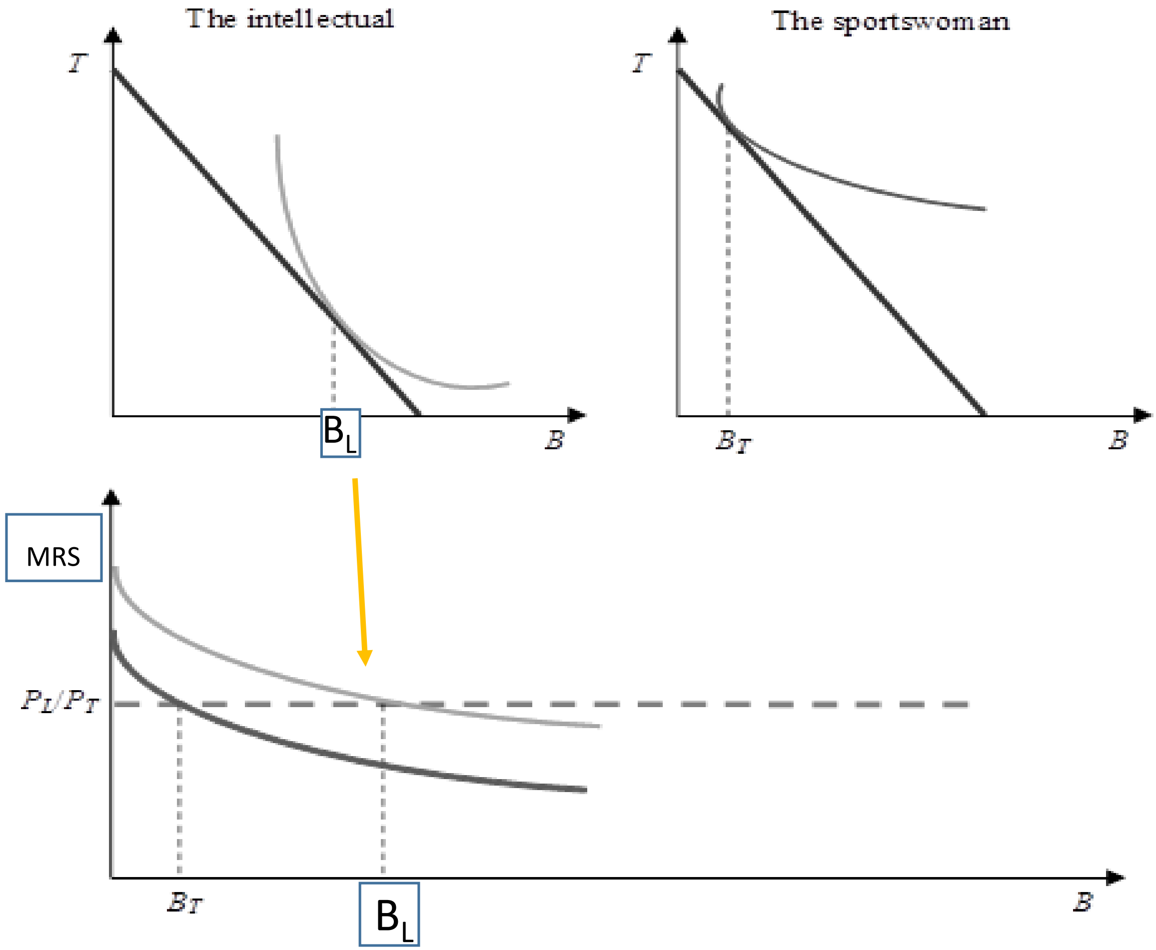
The sportswoman and the intellectual

$$I = (P_B B^*) + (P_T T^*)$$

$$\boxed{\text{MRS}}(B^*, T^*) = \frac{P_B}{P_T}$$

A sufficient condition.

Is it a necessary one?



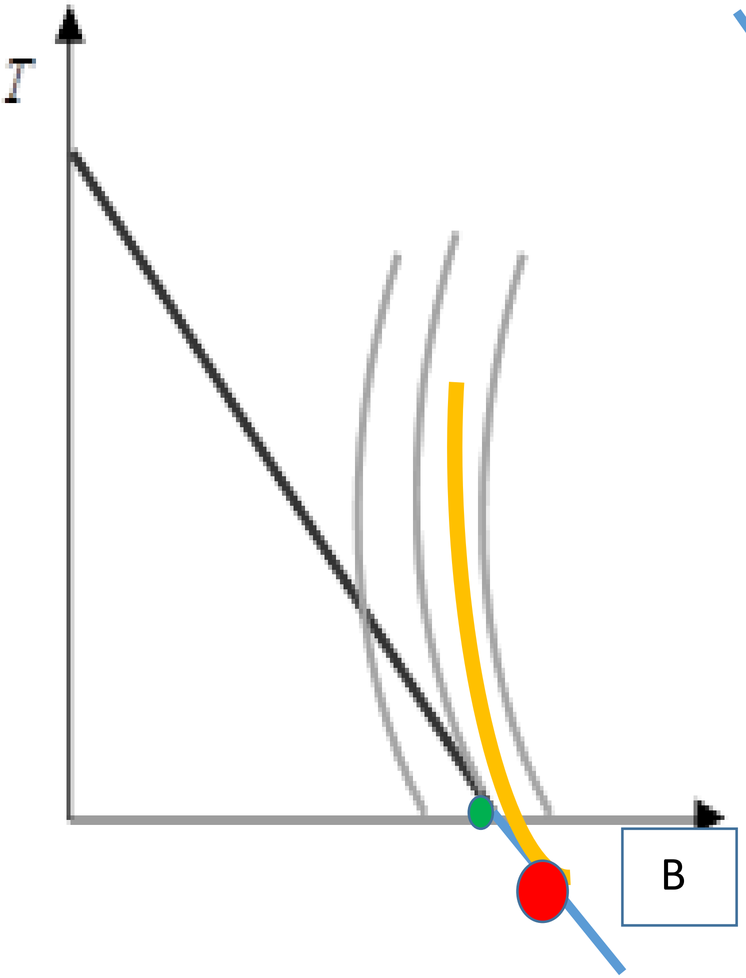
The consumer demands units of goods until her marginal benefit is greater than her marginal cost of the exchange.

What is the name of the marginal benefit of the exchange?

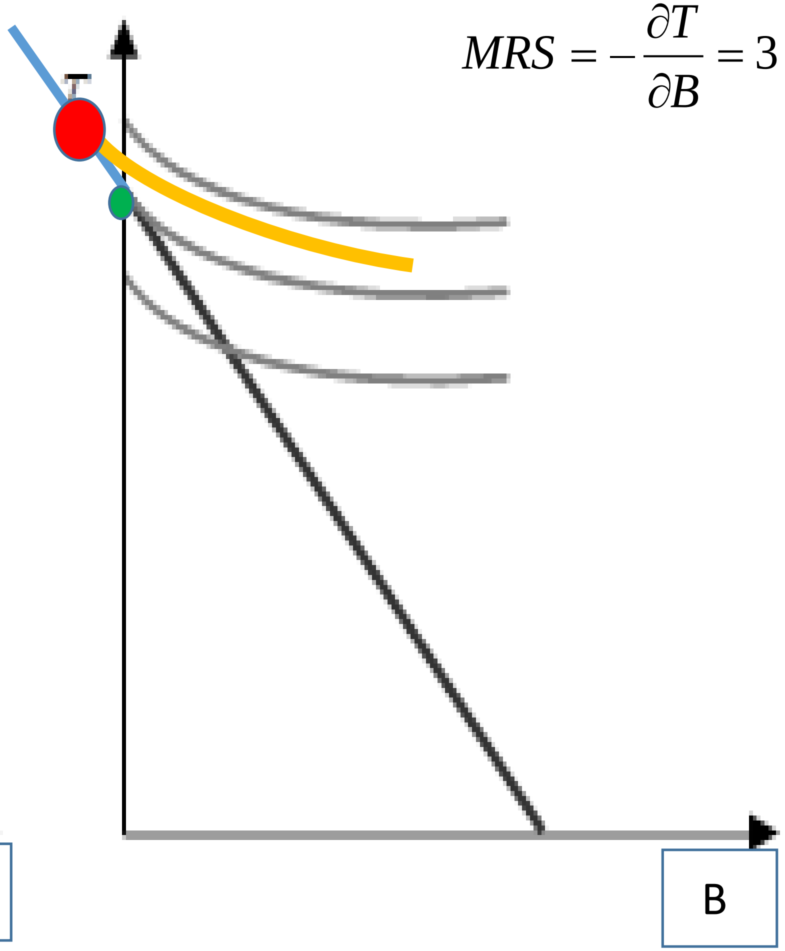
And of the marginal cost of the exchange?

Sufficient condition: but necessary?

$$MRS = -\frac{\partial T}{\partial B} = 3 > \left(\frac{P_B}{P_T}\right) = \frac{1}{2}$$

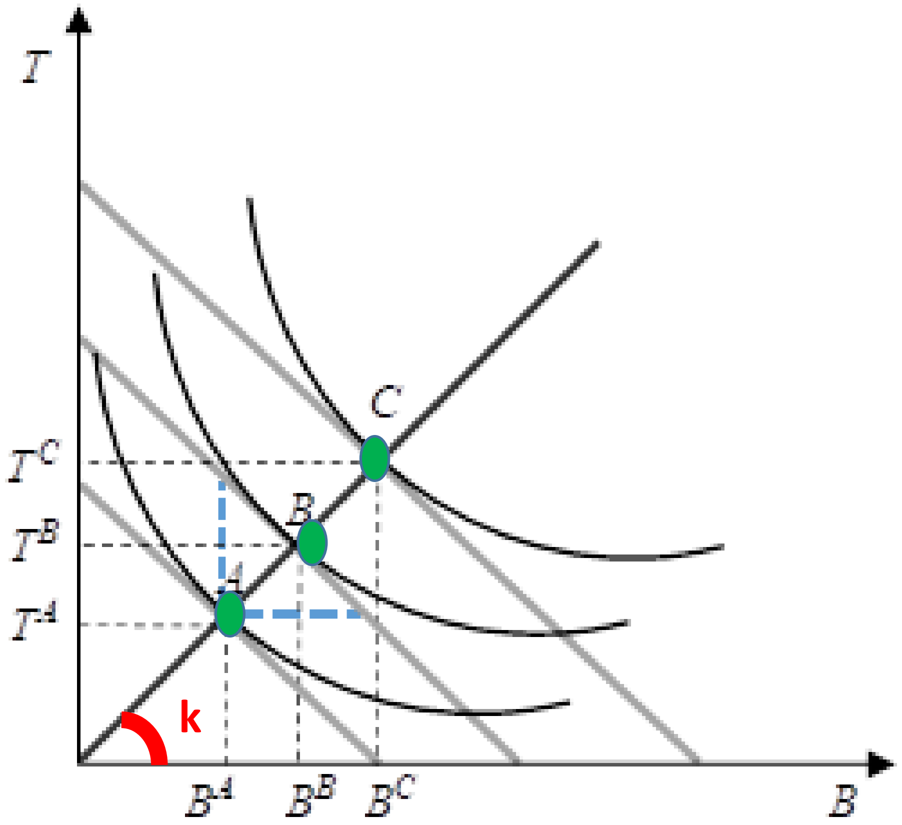


$$MRS = -\frac{\partial T}{\partial B} = 3 < \left(\frac{P_B}{P_T}\right) = \frac{1}{2}$$



CHAPTER 3

Changes in individual income and superior goods



$$T^* = kB^*$$

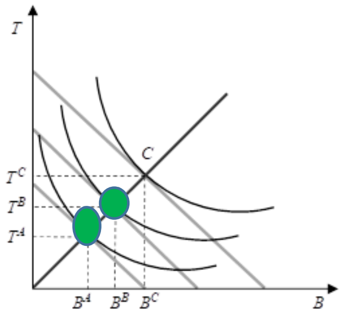
$$T^*/B^* = k$$

T and B are superior goods.

John's income elasticity for B and L?

Positive!

Homothetic Preferences



$$T^* = kB^*$$

$$I_a = P_B\, Ba + P_T\, \mathbf{Ta} = P_B\, Ba + P_T\, \mathbf{k\ Ba}$$

$$B_a = \frac{I_a}{(P_B + P_T k)}$$

$P_B\, B_a = (P_B\, I_a)/(P_B + P_T\, k)$
$(P_B\, B_a)/(I_a) =$ **$[P_B /(P_B + P_T\, k)]$**

If we now double income from I_a to 2 I_a ($=I_b$), with this type of preferences, the new preferred basket (Bb, Tb) will be such that:

$$I_b = 2\, I_a = P_B\, Bb + P_T\, \mathbf{Tb} = P_B\, Bb + P_T\, \mathbf{k\ Bb}$$

Homothetic Preferences

$2\,I_a = P_B\,Bb + P_T\,Tb = P_B\,Bb + P_T\,k\,Bb$

and since we know, from the previous budget constraint multiplied by 2, that

$I_a = P_B\,Ba + P_T\,\mathbf{Ta} = P_B\,Ba + P_T\,\mathbf{k\,Ba}$

$2\,I_a = 2\,(P_B\,Ba + P_T\,k\,Ba)$

It must be true that **Bb = 2 Ba**:

$P_B\,Bb + P_T\,k\,Bb = 2\,(P_B\,Ba + P_T\,k\,Ba)$

$Bb\,(P_B + P_T\,k) = 2\,Ba\,(P_B + P_T\,k)$

$Bb\,\cancel{(P_B + P_T\,k)} = 2\,Ba\,\cancel{(P_B + P_T\,k)}$

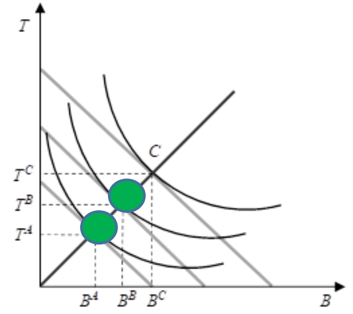
Bb = 2 Ba and thus that **Tb = 2 Ta**

since

$Ta/Ba = Tb/Bb = k$

$Tb/Ta = Bb/Ba$

The share of income spent on one good does not change when income changes.

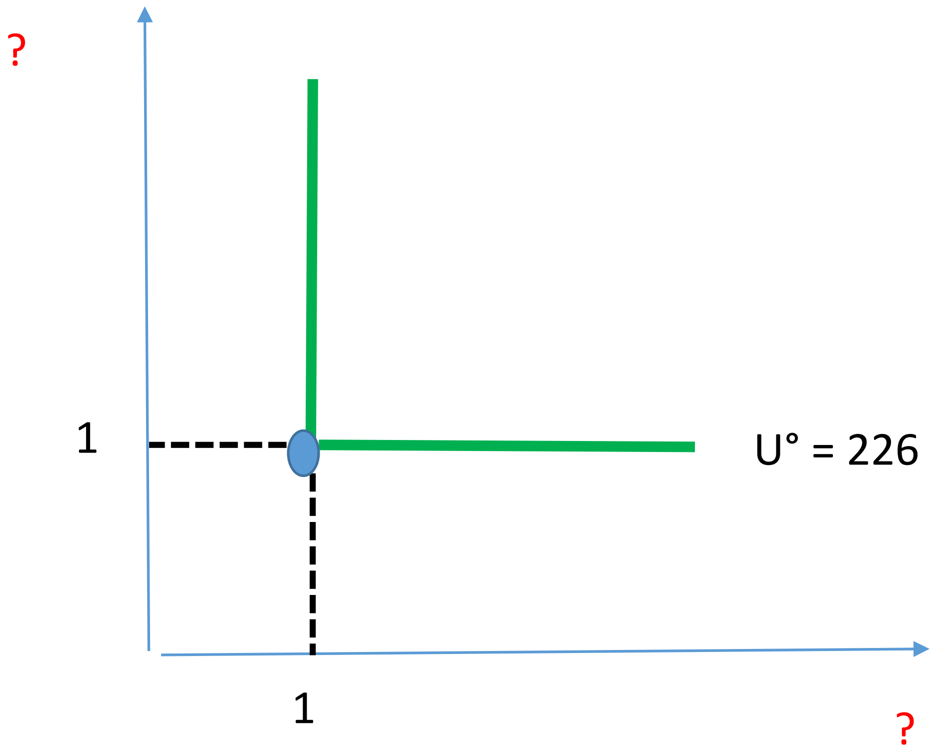


$(P_B\,B_a)/(I_a) = \mathbf{[P_B/(P_B + P_T\,k)]}$

$(P_B\,2\,B_a)/(2I_a) = \mathbf{[P_B/(P_B + P_T\,k)]}$

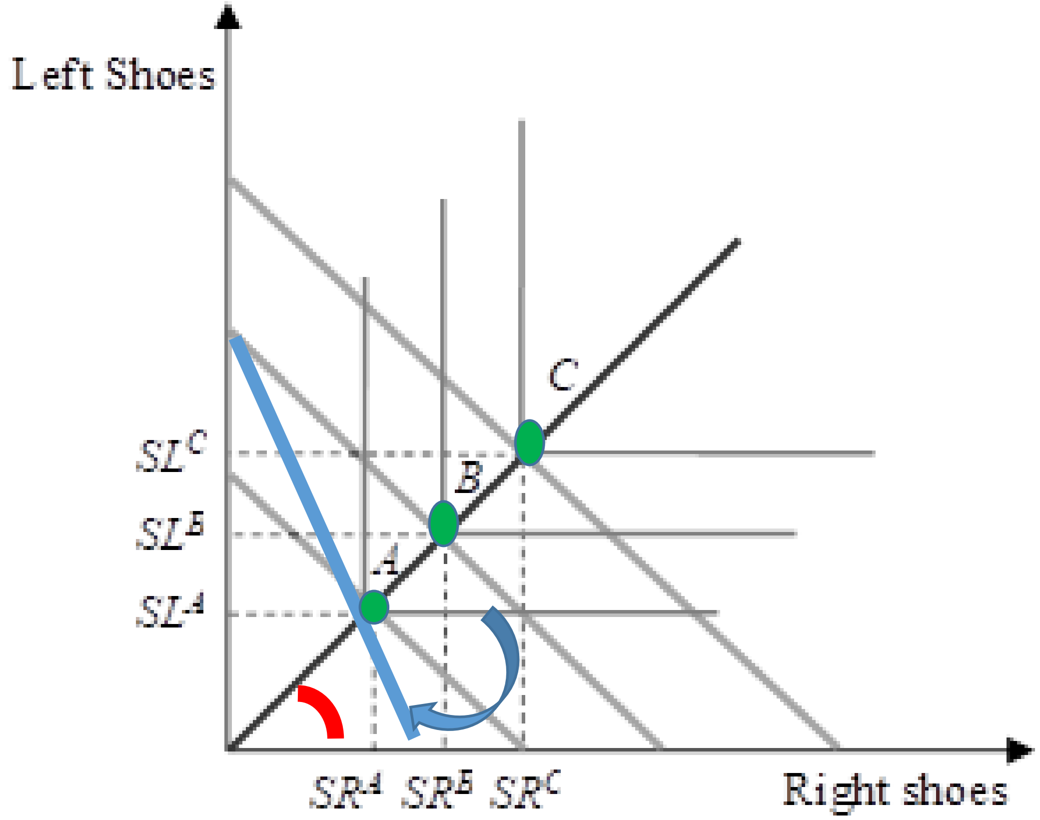
$(P_B\,B_b)/(I_b) = \mathbf{[P_B/(P_B + P_T\,k)]}$

Perfect complements



?

Perfect complements and homothetic preferences



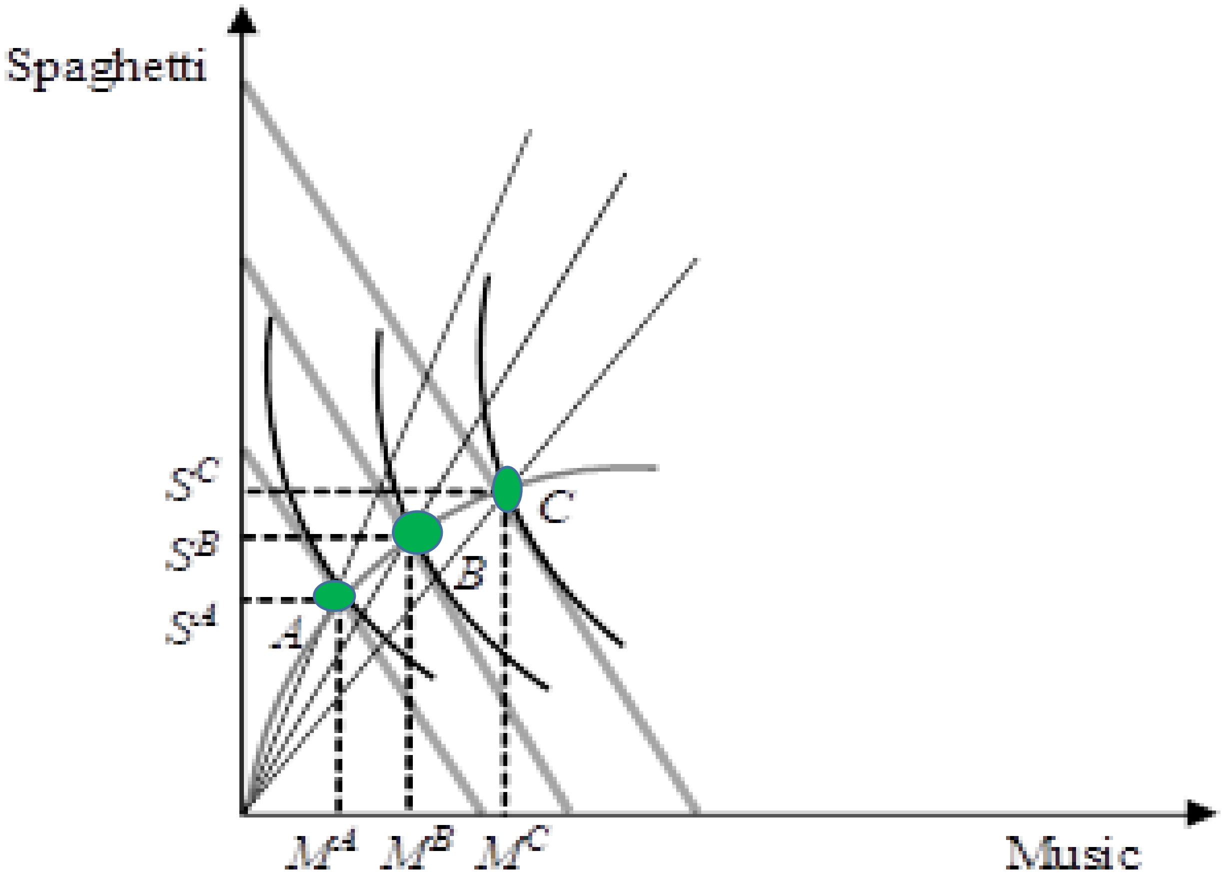
k=1

2 goods are called complements when the price of one changes and the quantity desired of the other changes in the same direction of the quantity whose price has changed.

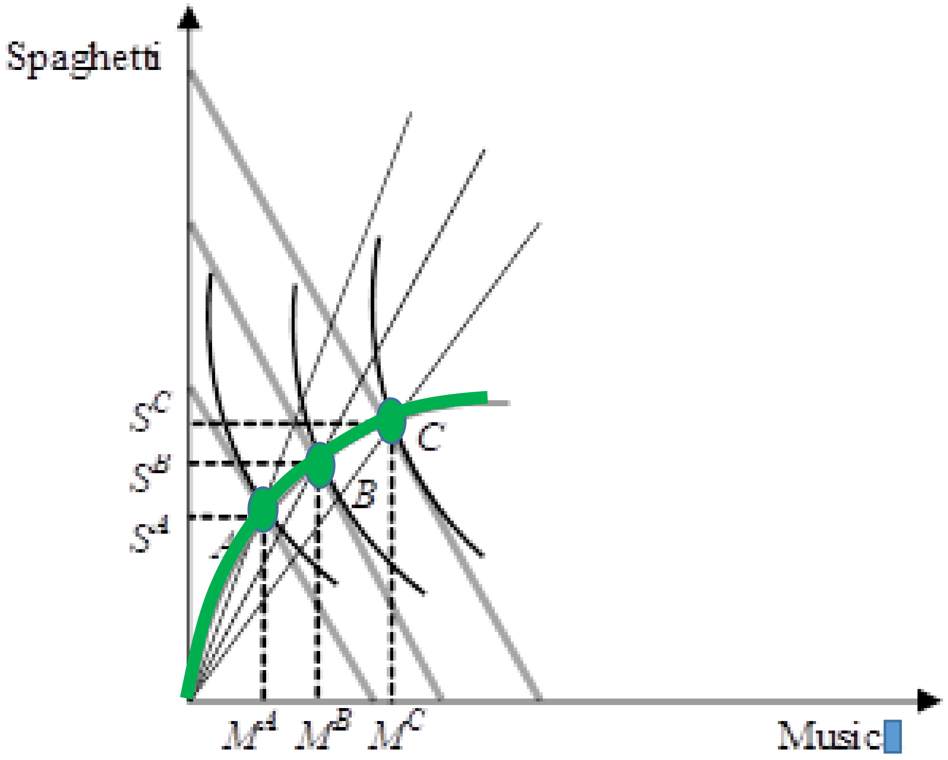
Necessary and luxury goods

Superior?

Superior!



Income Expansion Path



Shares of spending: stable or changing?

Homothetic:

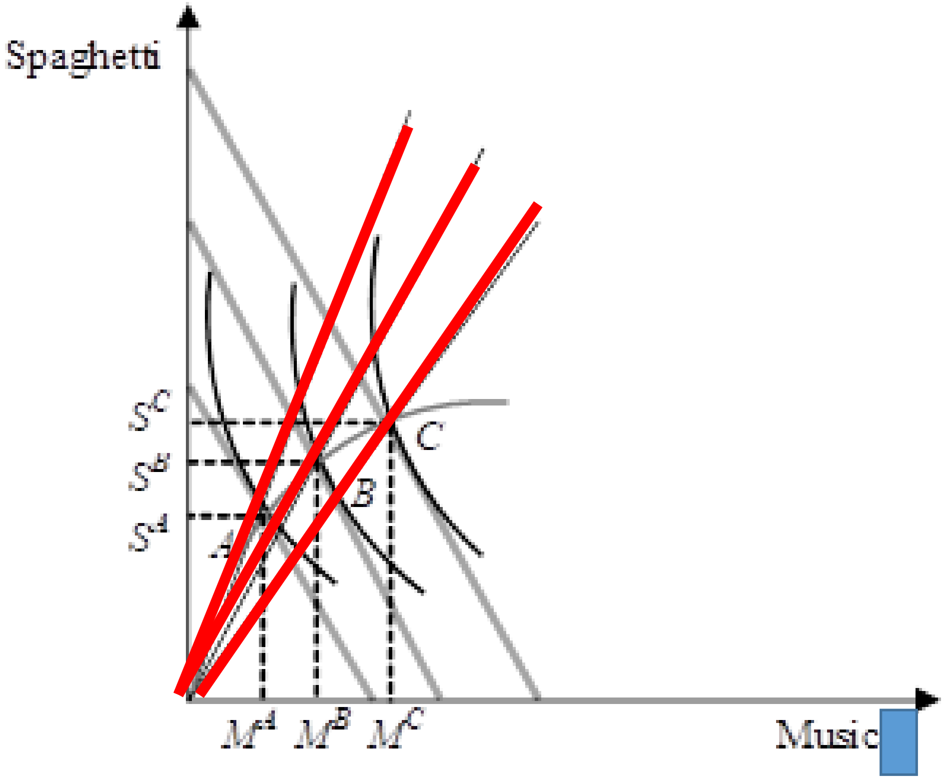
k = S*/M* ?

Or is

k = k (S*/M*) ?

So, what happens to the share of income dedicated to spending on a luxury good (M) as John grows richer?

What happens to the share of income dedicated to spending on a necessary good (S) as John grows poorer?



$(P_B B_a)/(I_a) = [P_B /(P_B + P_T\, k)]$

M is …

luxury good!

And S?

Necessary!

Necessary Goods and elasticity of demand to …

$$\delta\left(\frac{PQ}{I}\right)/\delta I < 0$$

What is missing?

Not Q, Q(I)!

U’ = δQ/δI
V’ = δI/δI = 1

(U/V)’ = (U’V-UV’)/V²

$$P\left[\left(\frac{\delta Q}{\delta I}\right)I - Q\right]\times\frac{1}{I^2} < 0$$

$$\left(\frac{\delta Q}{\delta I}\right)I - Q < 0$$

$$\left(\frac{\delta Q}{\delta I}\right)I < Q$$

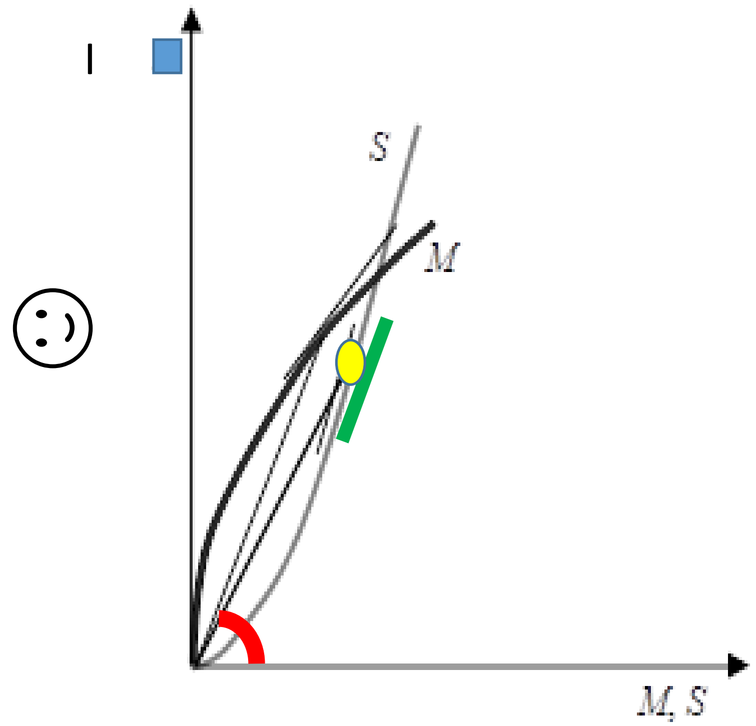
$$\left(\frac{\delta Q}{\delta I}\right) < \frac{Q}{I}$$

$$\frac{\left(\frac{\delta Q}{Q}\right)}{\left(\frac{\partial I}{I}\right)} < 1$$

Elasticity (to income) of M? Of S?

READY? YOUR FIRST DEMAND CURVE (WITH RESPECT TO INCOME)

Engel Curve



For necessary goods:

$$\left(\frac{\delta Q}{Q}\right)\times\left(\frac{I}{\partial I}\right)<1$$

$$\left(\frac{\delta Q}{\delta I}\right)<\frac{Q}{I}$$

For luxury goods?

$$\left(\frac{\delta I}{\delta Q}\right)>\frac{I}{Q}$$

For each level of income, the Engel curve, or inverse demand curve with respect to income, tells us how much John desires to consume.

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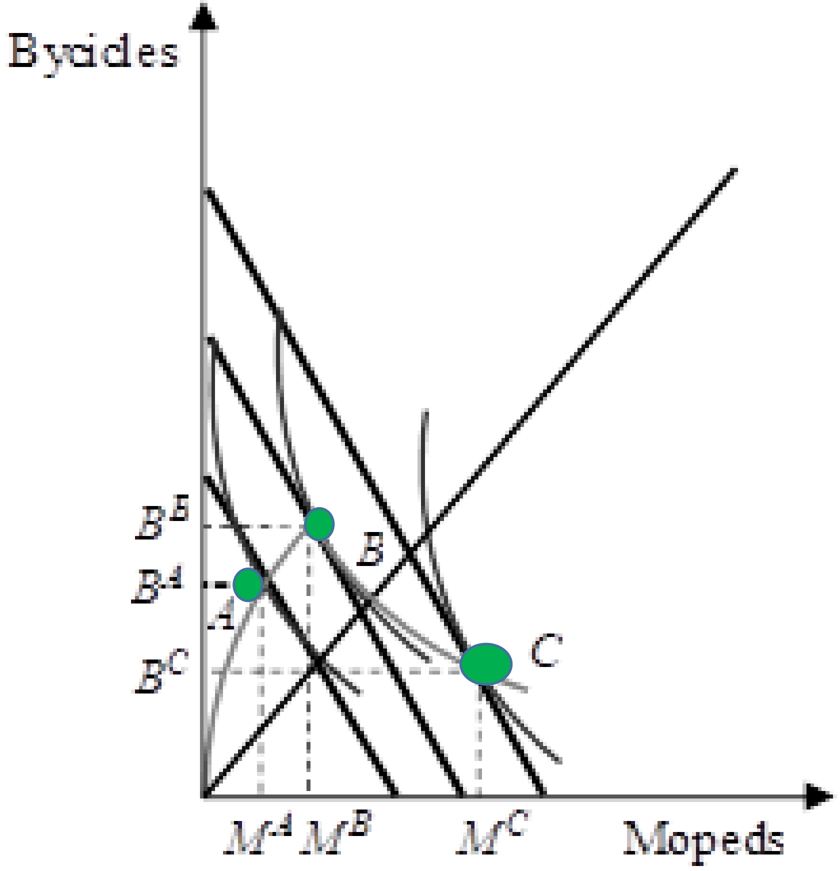
From superior to inferior goods



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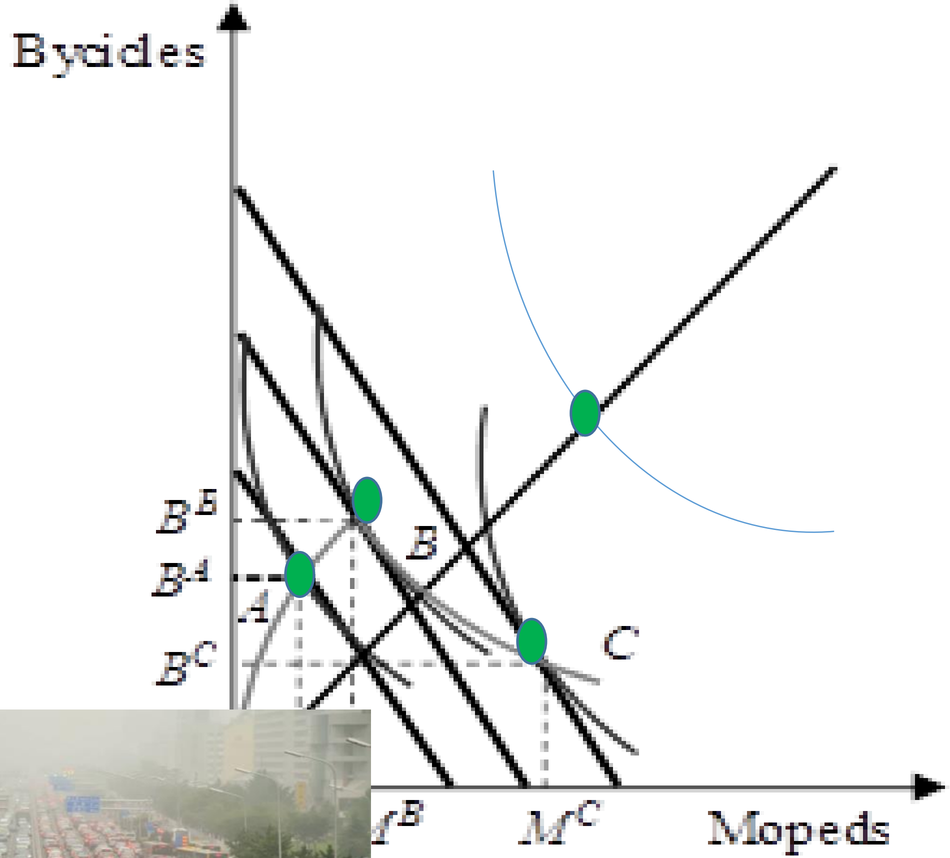
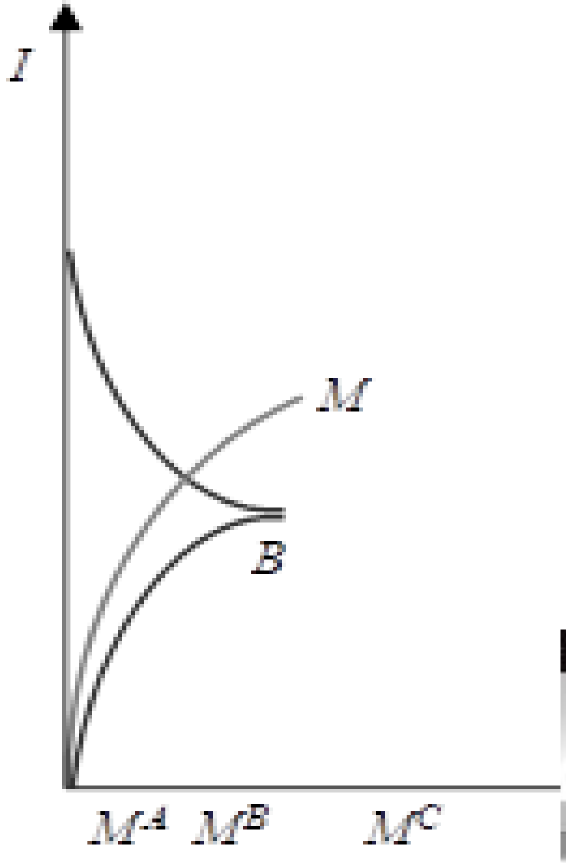
From superior to inferior goods to ....



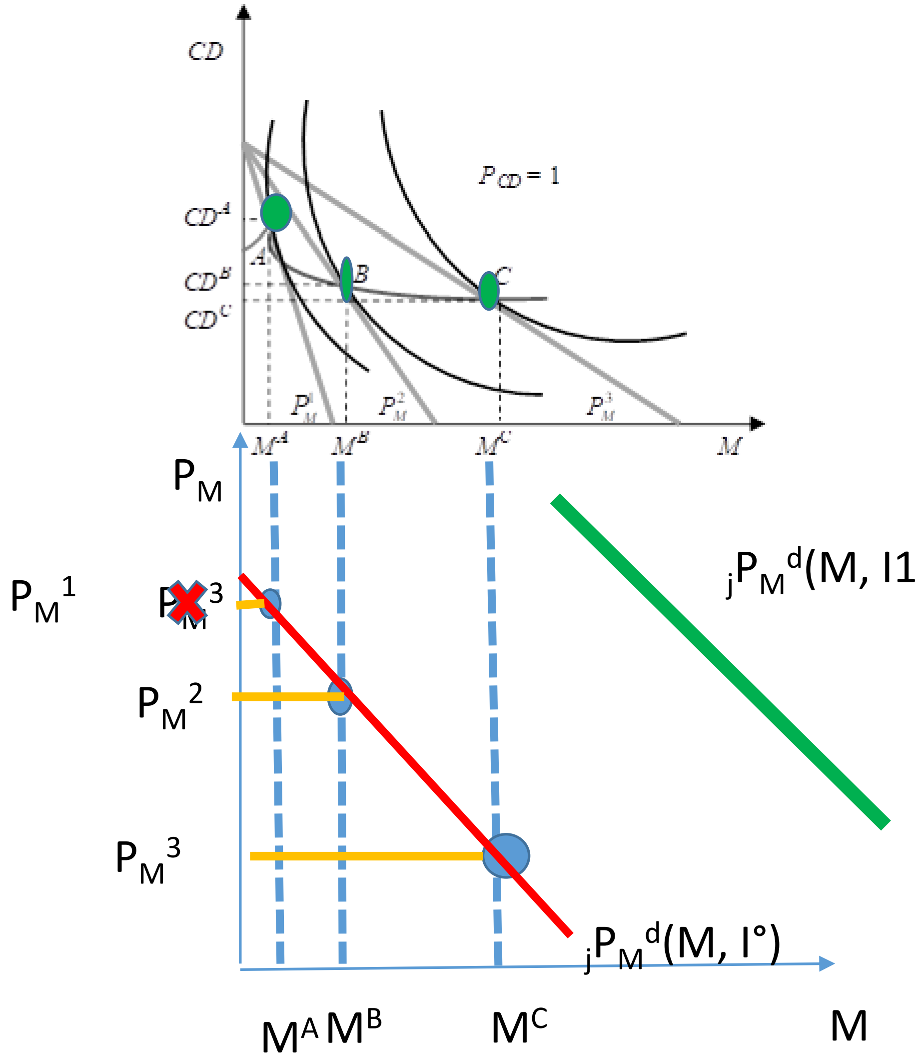


READY? YOUR SECOND DEMAND CURVE (WITH RESPECT TO PRICE)

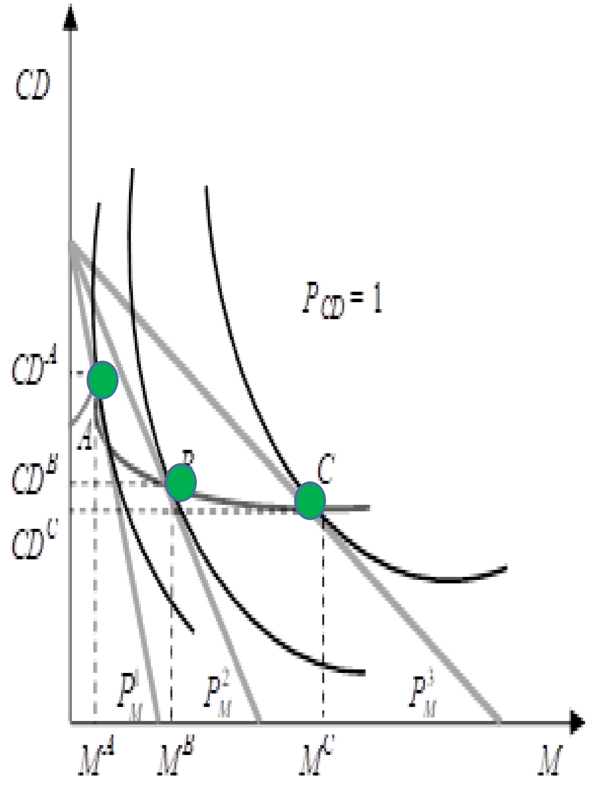
Your first price demand curve! Actually, of John…

**IMPORTAN SLIDE:
MISSING IN THE BOOK**

A «normal» good.



Normal Good (M) and goods (M and CD) …?

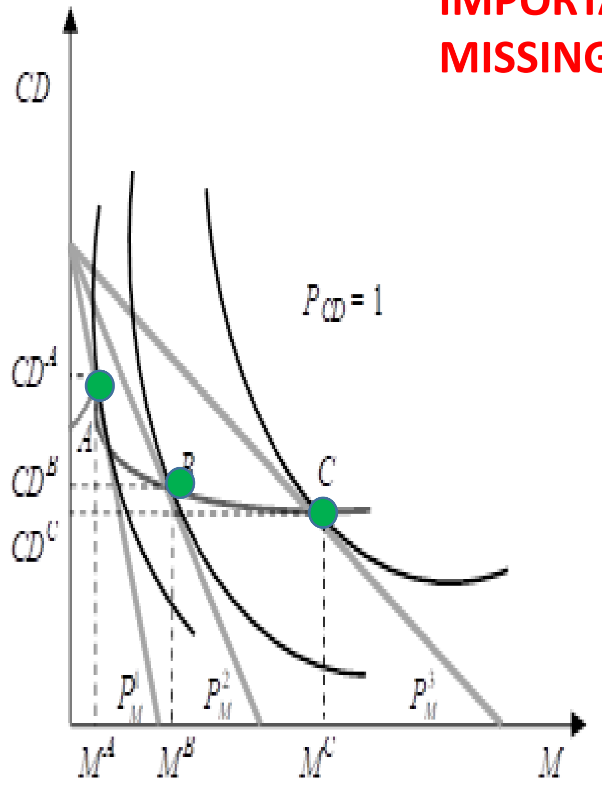


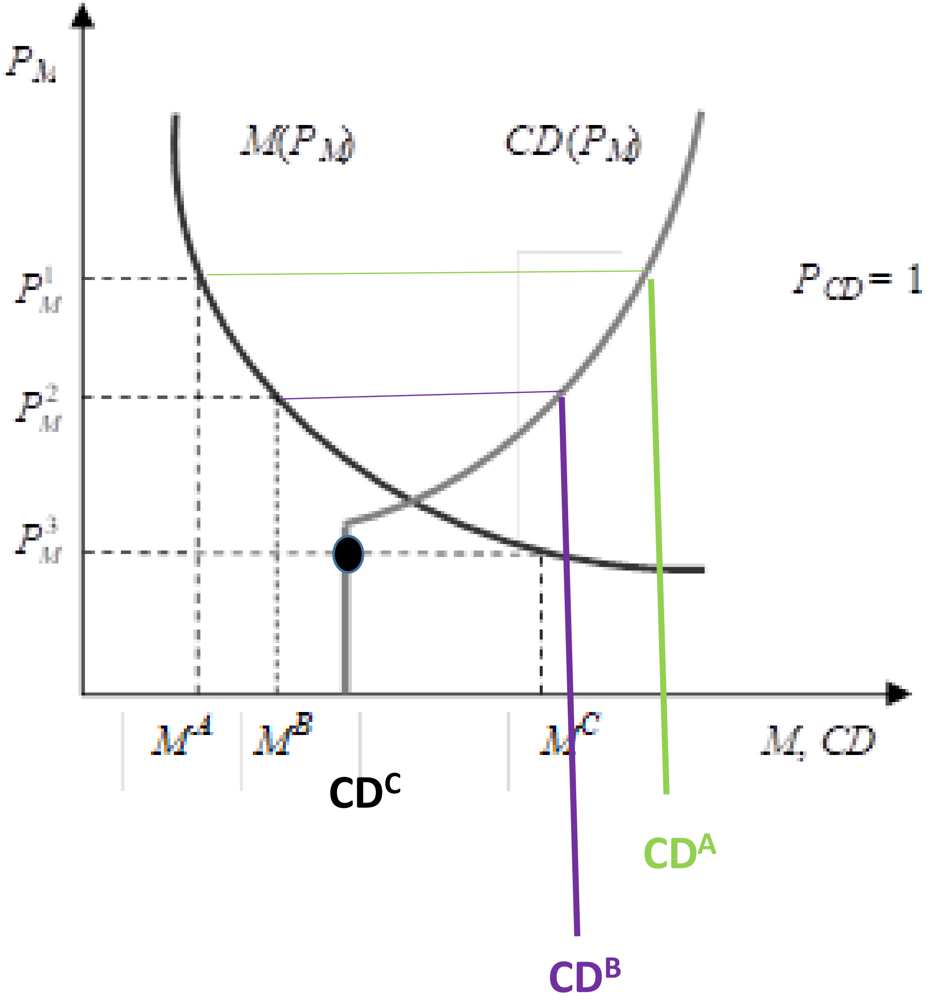
2 goods are called substitutes when the price of one changes and the quantity desired of the other changes in the **opposite** direction of the quantity desired of the good the price of which has changed.

From A to C: «Price consumption path»

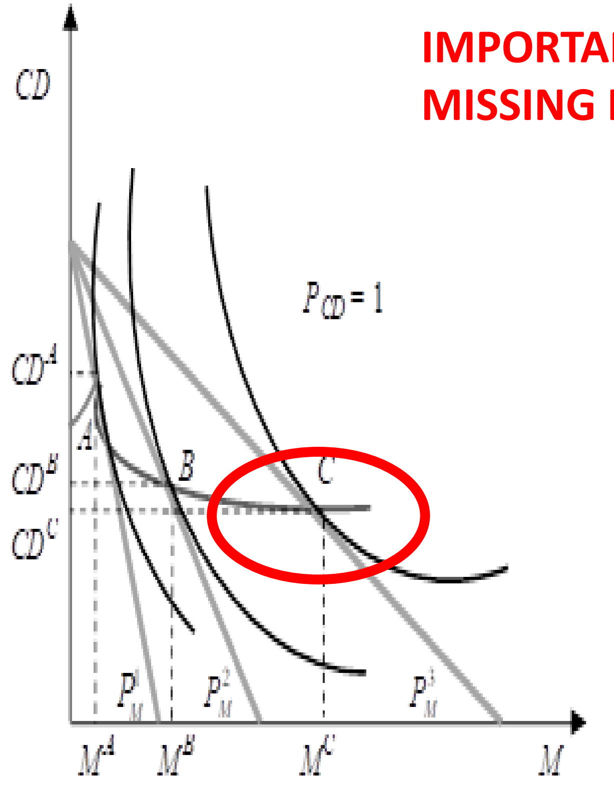
Normal Goods and 2 substitute goods

IMPORTAN SLIDE:
MISSING IN THE BOOK





The cross-price demand curve



IMPORTAN SLIDE:
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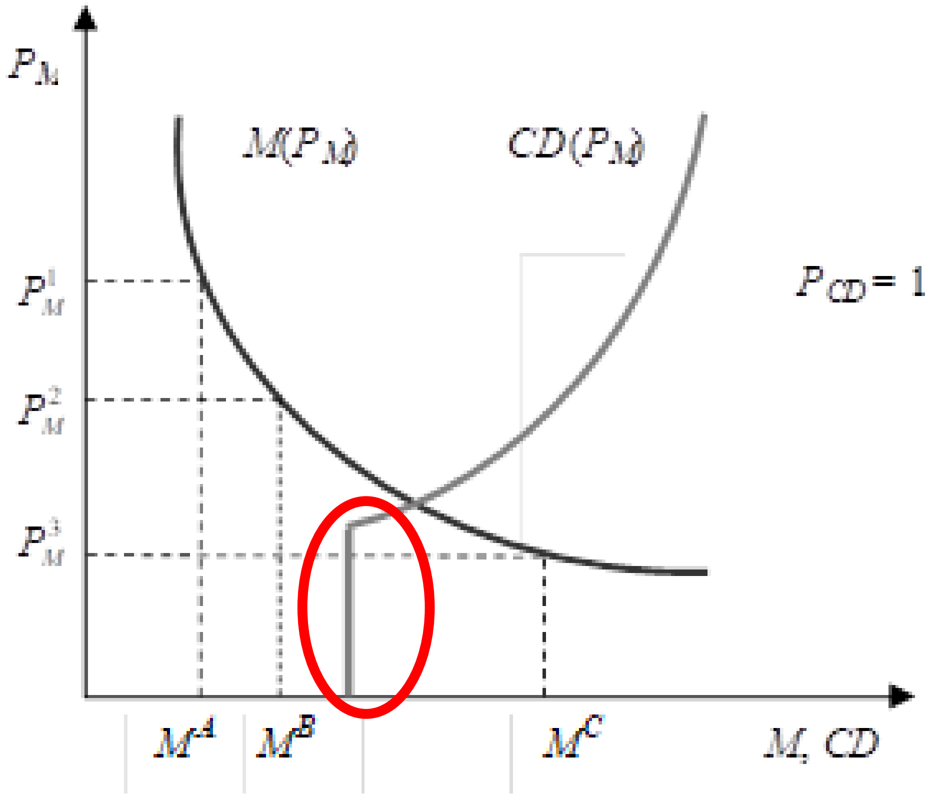
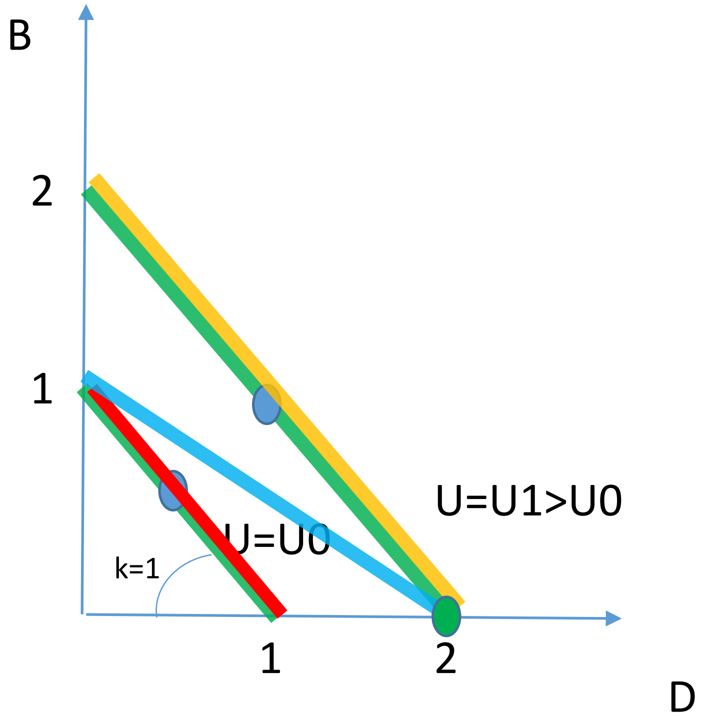
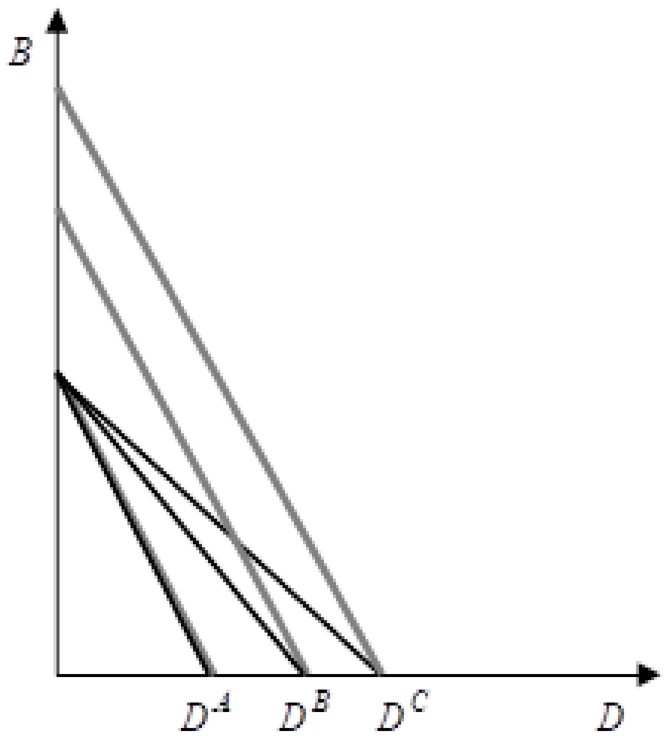


Perfect substitutes





2 goods are called substitutes when the price of one changes and the quantity desired of the other changes in the **opposite** direction of the quantity desired of the good the price of which has changed.

$P^D = P^B = 1$

I=1

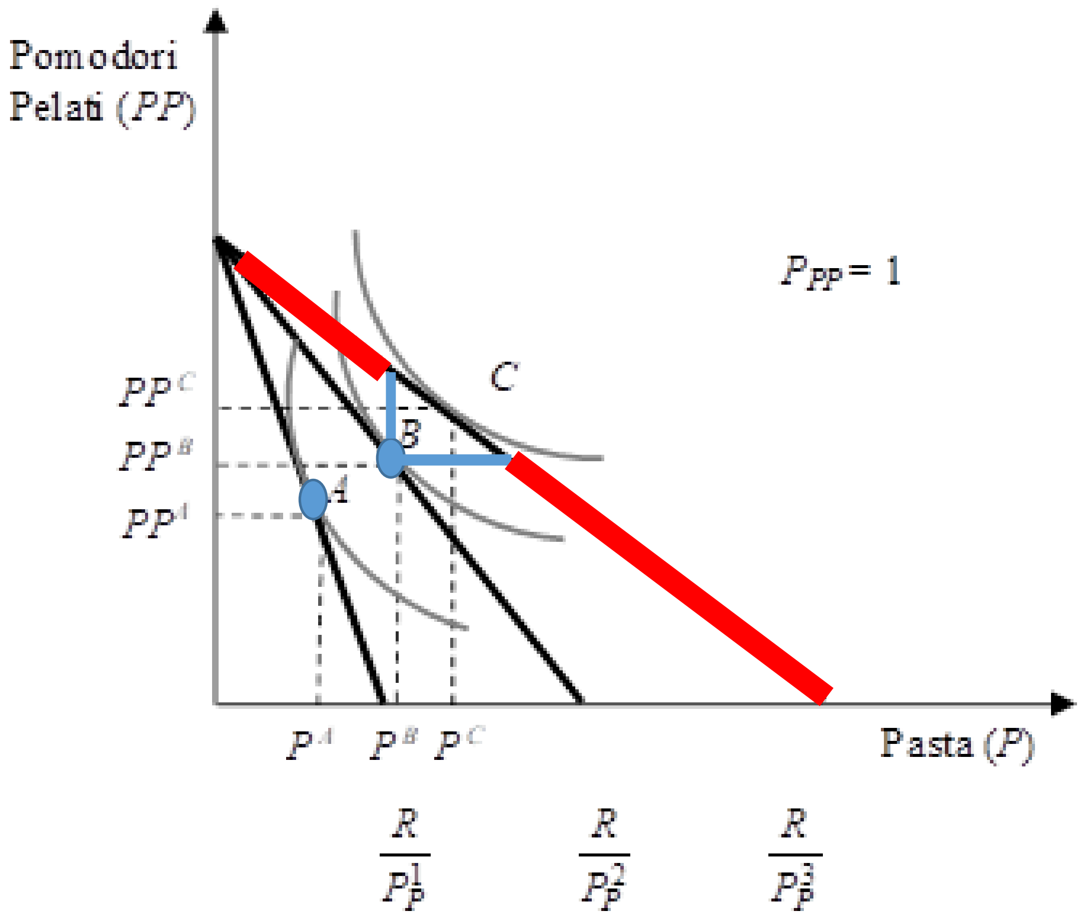
I=2

$P^D/P^B = (0,5)/1$ with I=1

Please draw choice with 2 complementary goods

Complementary Goods

«Please draw a consumer's choice that faces 2 complementary goods»



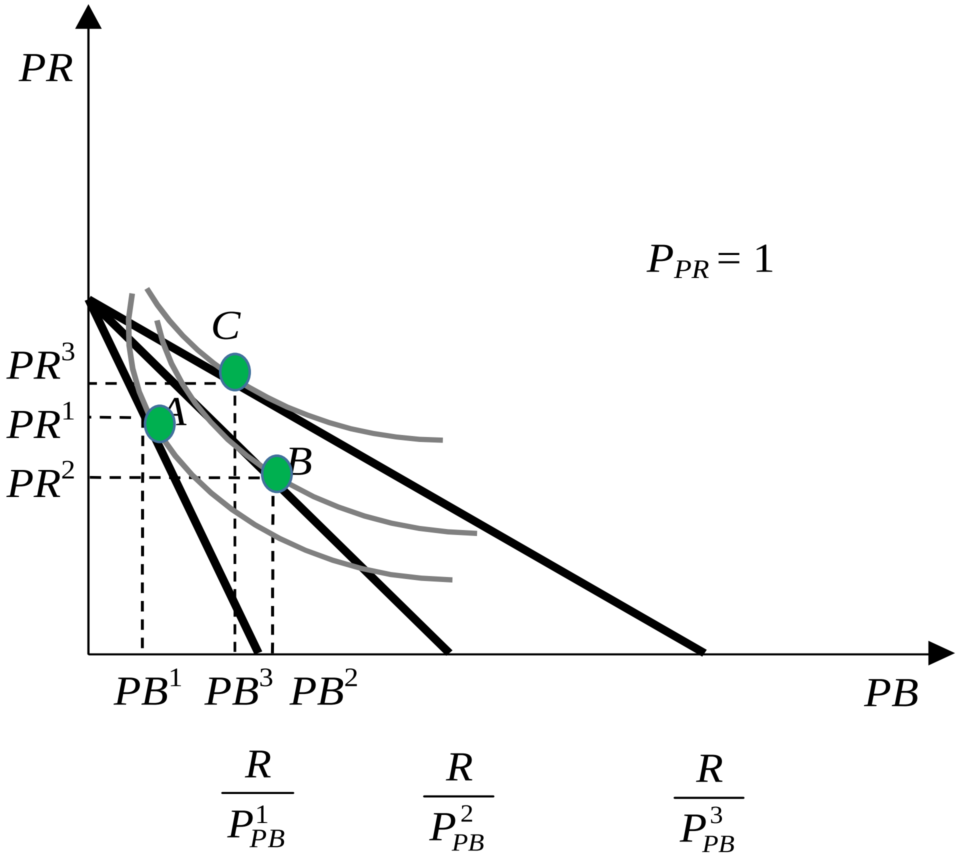
What Goods are those??

A family with 7 children has an income of 28 euro and must buy 14 diapers over a certain period, 2 diapers each, which it necessarily wants to be the same between children.

Low quality diapers PB cost 2 euro each, high quality ones PR 3 euro each. Not being able to afford to buy 14 high quality diapers, it would prefer 7 low and 7 high. Are they reachable? Check.

It therefore demands for 14 of low quality.

Now imagine that the price of the latter drops to 1 euro each. Check how if it is possible now that it only buys 7 low quality diapers (Giffen good!) and 7 high quality ones.



Giffen Goods

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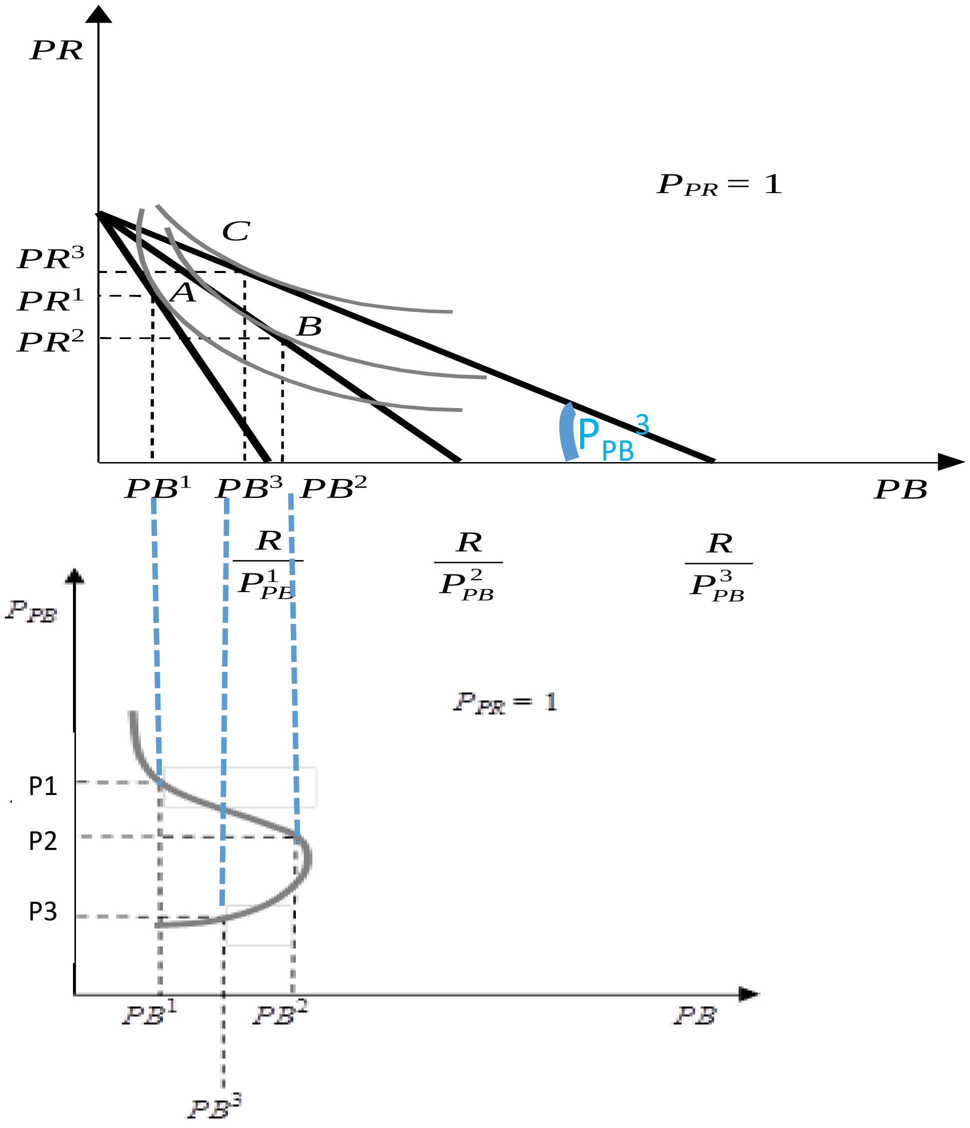
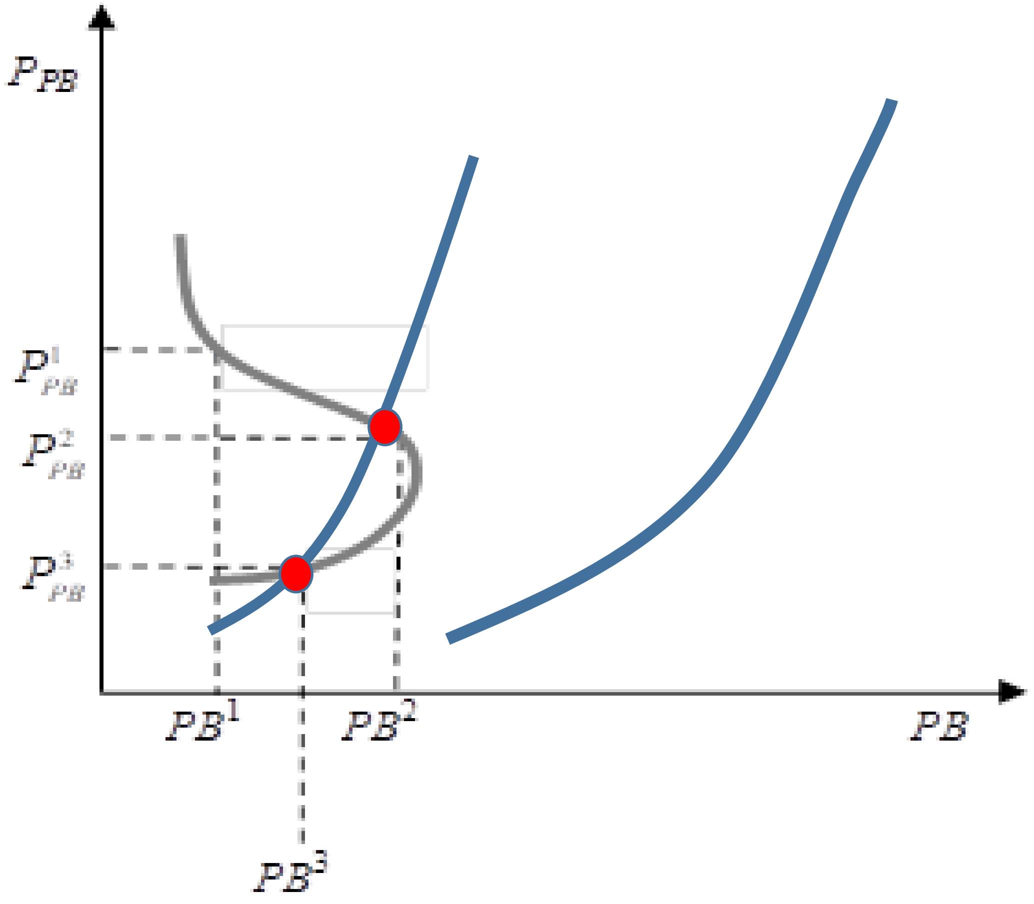
Giffen's goods



The income effect of a change in prices

PS: different from status symbol goods

We don’t like them too much!



The income effect of a change in prices.

All Giffen goods are (very) inferior goods; not all inferior goods are Giffen goods.

Recap on prices changes

$\delta Q/\delta P$ > or < 0?

$\delta Q/\delta P < 0$ as we substitute away toward cheaper similar goods (**substitution** effect)

But we also know **that**

$\delta Q/\delta I$ > or < 0
Depending on the type of good and consumer
$\delta Q/\delta I >> 0$ for superior luxury
$\delta Q/\delta I > 0$ for superior necessary
$\delta Q/\delta I < 0$ for inferior

And that δP make us richer (if <0) or poorer (if >0):
a lot ? little?
Income effect of price changes

So $\delta Q/\delta P$ > or < 0?
Imagine **$\delta P < 0$**

1) $\delta Q^S > 0$ as we substitute away from the more expensive similar good (substitution effect)

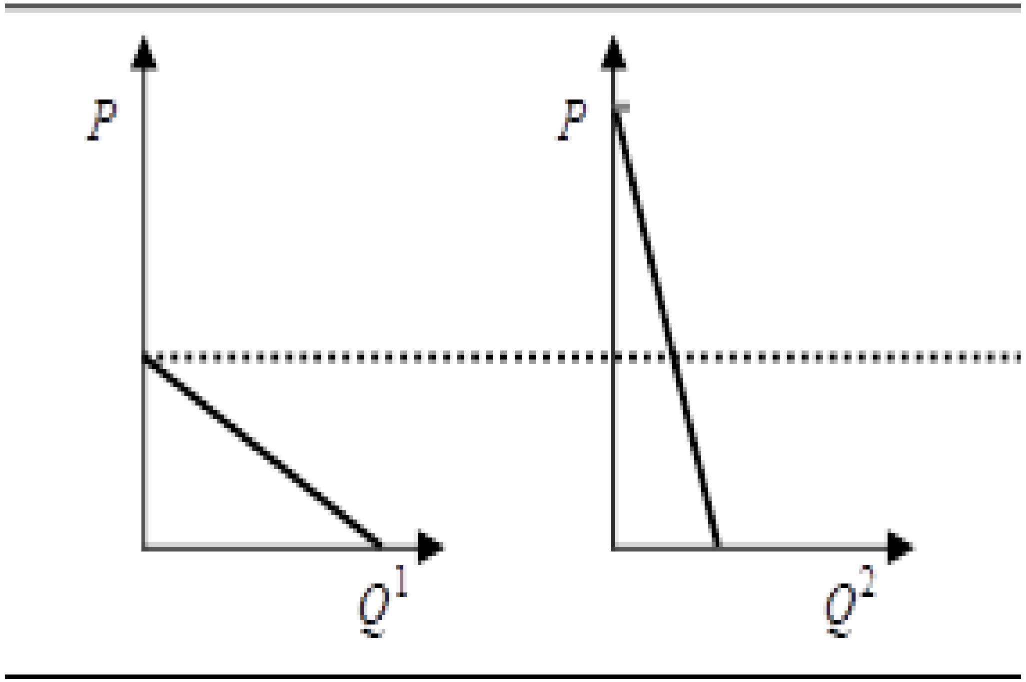
But **2)…**

If $\delta P < 0$, **I am richer**

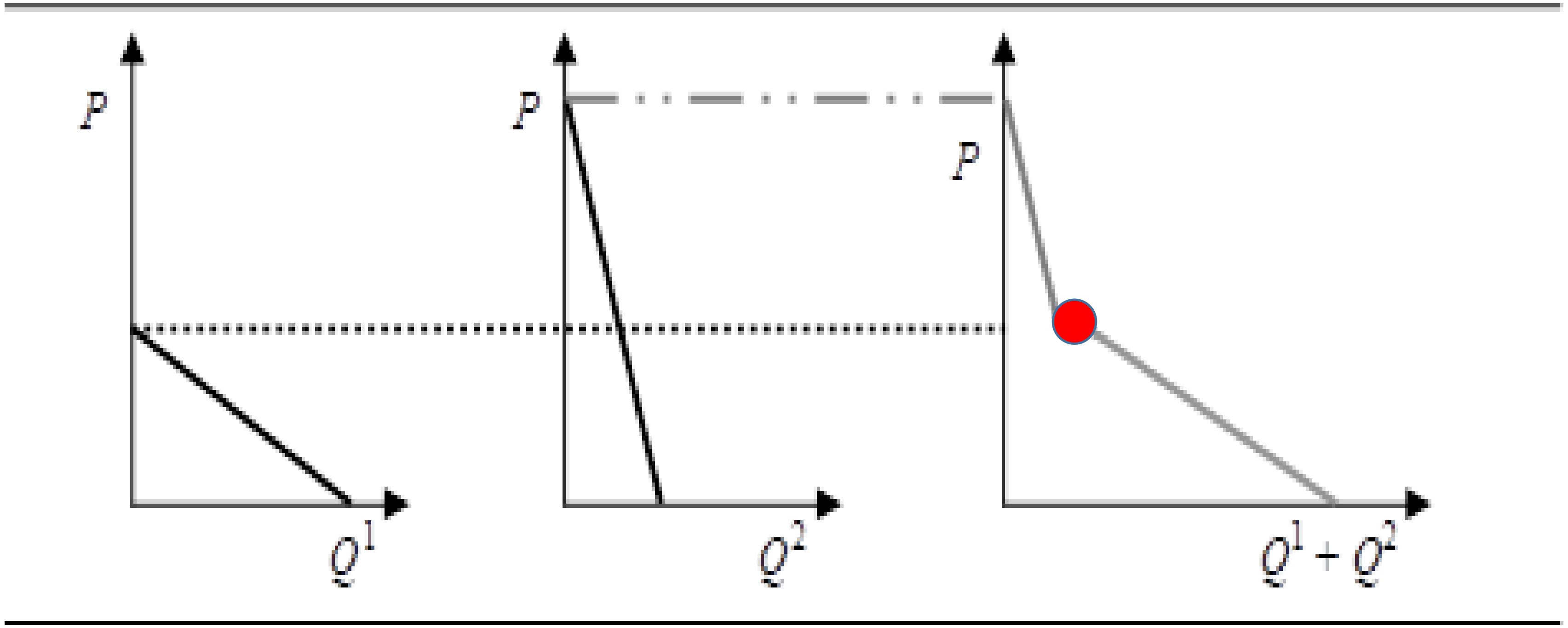
So:
If the good is superior, added **$\delta Q^I > 0$** (stronger if luxury)
1+2) $\delta Q >> 0$ (luxury) $\delta Q > 0$ (necessary)
In both cases: NORMAL GOOD **$\delta Q/\delta P < 0$**

If the good is inferior, counter **$\delta QI < 0$**
How much inferior?
1) little? δQ^S dominates, still NORMAL GOOD **$\delta Q/\delta P < 0$**
2) a lot? δQ^I dominates, GIFFEN GOOD **$\delta Q/\delta P > 0$**

The aggregate demand curve



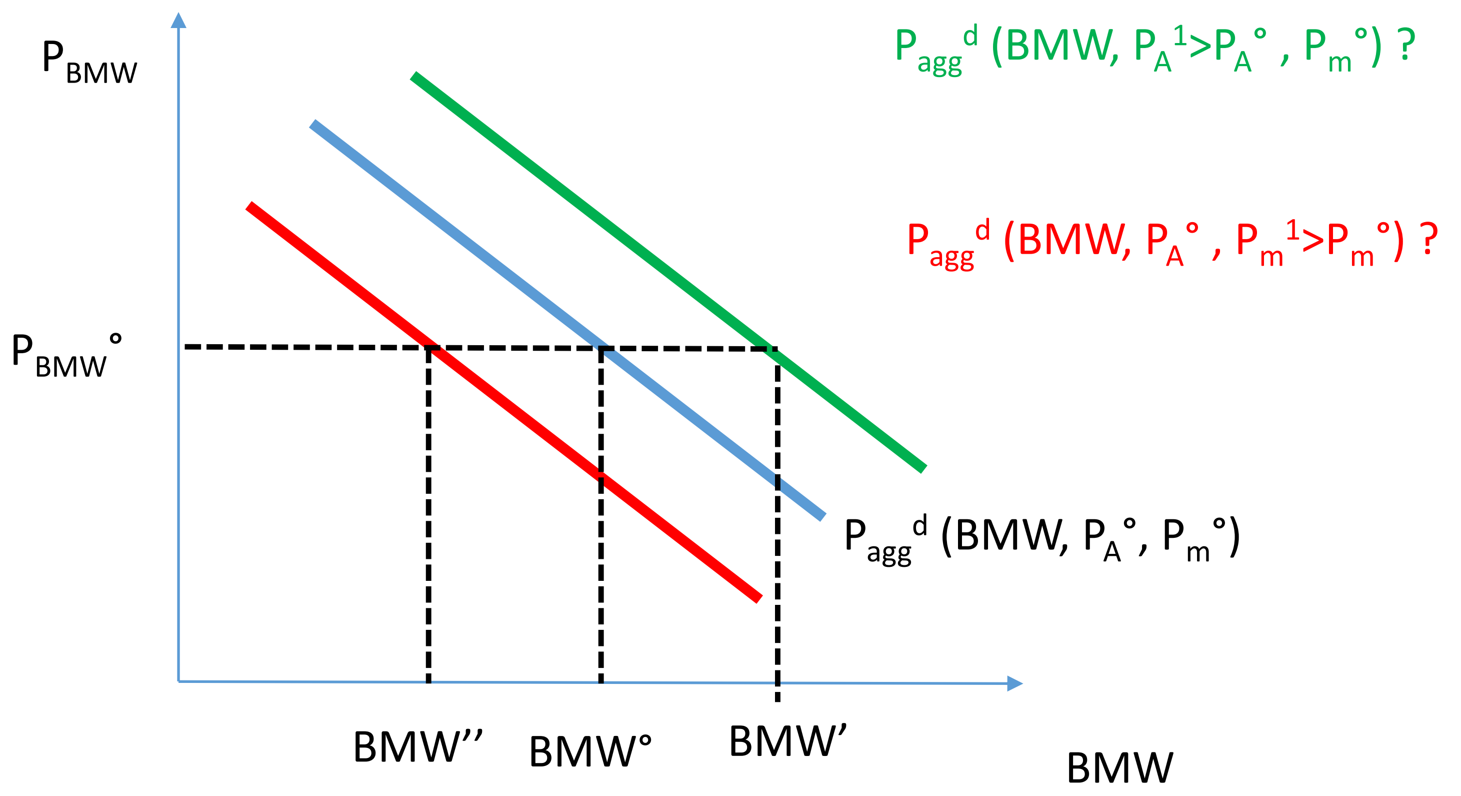
The aggregate demand curve



Shifts of the aggregate demand curve

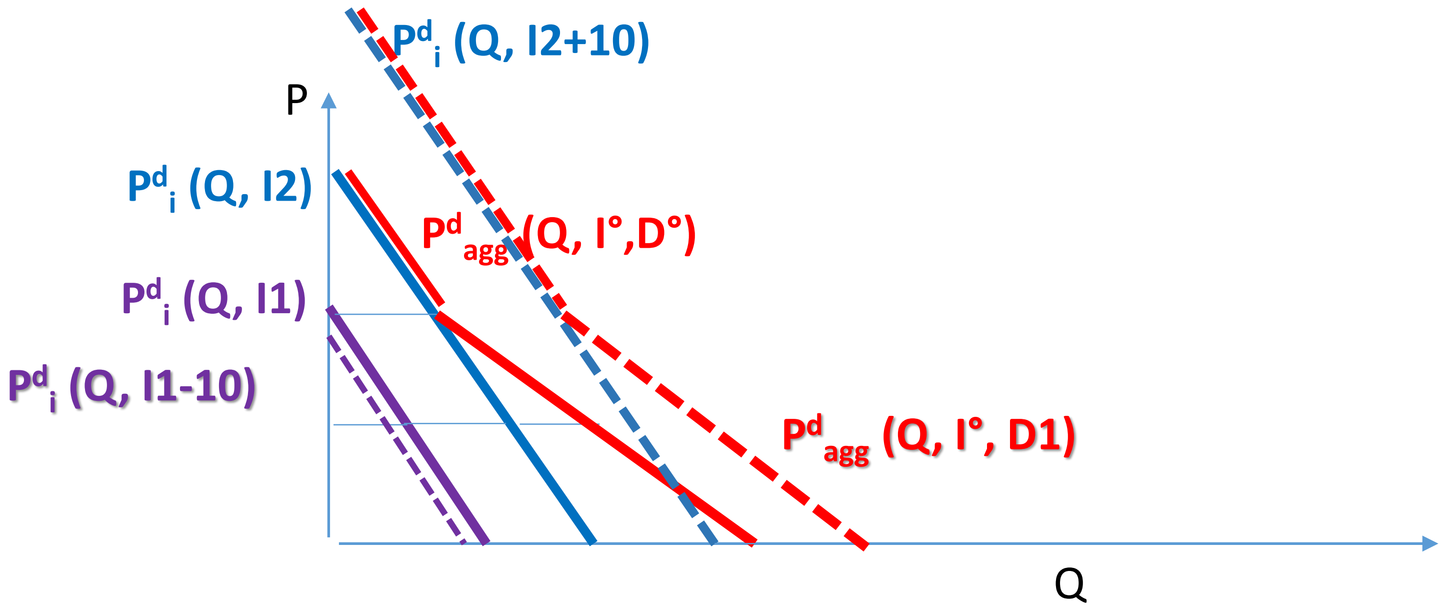
P_m = price of maintenance

P_A = price of Audi



Shifts of the aggregate demand curve

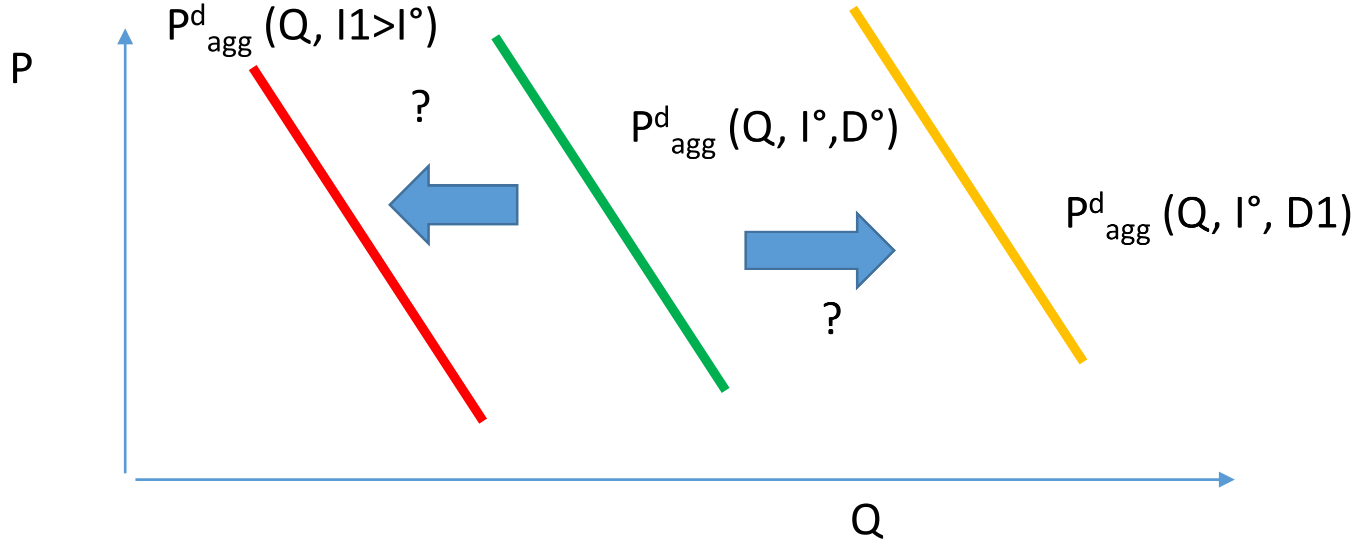
a) Country's income I° = I1+I2 is unchanged, but its distribution D changes.



Shifts of the aggregate demand curve

a) Country's income is unchanged, but the distribution of it changes.

b) Rise in total income from I° to I1, and for a good **superior for all** citizens.



Imagine a rise in the income of one citizen by 10 mn € and the decline by 1€ for 1 mn citizens. Richer citizen demands: + 1. Each poorer citizen demands: -0,5. Total: + 1-500.000 = -499.999