

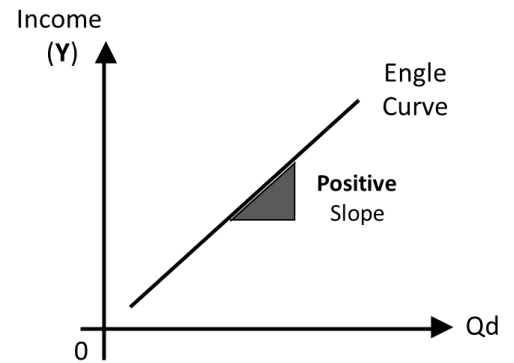
Product (A): **Normal Goods**

$\Delta Y (\Delta R_Y)$	ΔQ_{d_A}
↑	↑
↓	↓
Positive Relationship	

Definition:

A normal good is a good for which, during a given period of time, other factors affecting demand held constant, there is a positive or direct relationship between consumer income and demand.

Shows: link between **Income** (Y or R_Y) and **Demand**



Analysis Keys:

Law of Demand	Substitution Effect (SE)	Income Effect (IE)	Price Effect (PE)
Supporting /Upholding			
Against/ Opposing			

Types of Normal Goods:

- **Essential/Basic Goods** (Or Necessities)
- **Luxury/Superior Goods**

Price Effect for a Normal Good

(1) ΔP_A	(3) ΔR_P (of Own Good)	(4) ΔQ_{d_A}	(5) SE [Compare: (3) & (4)]
↓ ⁽²⁾	↓ Relatively Cheap	↑	
↑ ⁽²⁾	↑ Relatively Expensive	↓	

Substitution Effect (SE):

- Focus → **Relative Price (R_P)** change of Own Goods
- We compare $(\Delta R_P)^{(3)}$ and $(\Delta Q_{d_A})^{(4)}$ $\Delta \nabla$
- (SE) is '**Negative**', and **supports/upholds** Law of Demand

(1) ΔP_A	(3) ΔR_Y (of Own Buyers)	(4) ΔQ_{d_A}	(5) IE [Compare: (3) & (4)]
↓ ⁽²⁾	↑ Relatively Rich	↑	
↑ ⁽²⁾	↓ Relatively Poor	↓	

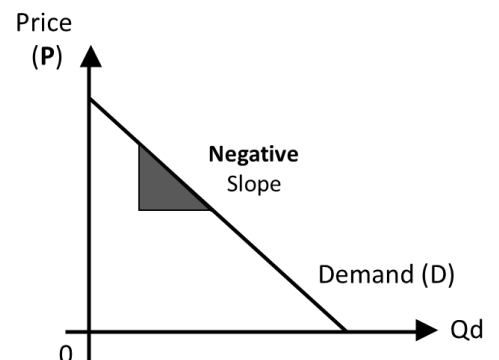
Income Effect (IE):

- Focus → **Real Income (R_Y)** change of Own Buyers
- We compare $(\Delta R_Y)^{(3)}$ and $(\Delta Q_{d_A})^{(4)}$ $\Delta \nabla$
- (IE) is '**Positive**', and **supports/upholds** Law of Demand

(2) Ceteris Paribus (CP): 'all other factors affecting (D)'

Price Effect (PE):

- We compare $(\Delta P_A)^{(1)}$ and $(\Delta Q_{d_A})^{(4)}$ $\Delta \nabla$
- (PE) is '**Negative**', and **supports/upholds** Law of Demand
- **Demand Curve** will be **downwards sloping** from left to right or **negatively sloping**



Elasticity of Demand & Normal Goods
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Types of Normal Goods	Income Elasticity of Demand (YED)		Price Elasticity of Demand (PED)	
	YED	Coefficient	PED	Coefficient
Normal Goods		YED > 1(Elastic) / YED < 1 (Inelastic)	Negative	PED > 1(Elastic) / PED < 1 (Inelastic)
Essential Good (Necessity)		YED < 1 (Inelastic)		PED < 1 (Inelastic)
Luxury/Superior Good		YED > 1 (Elastic)		PED > 1 (Elastic)

Product (B): **Inferior Goods**

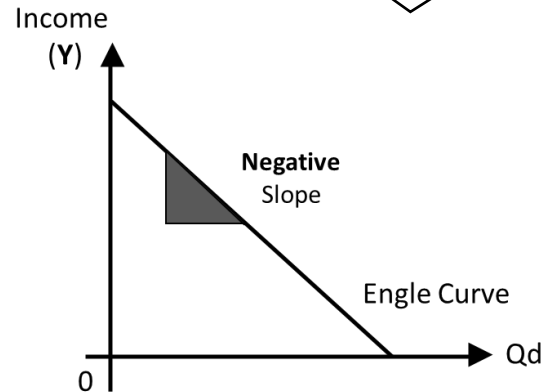
$\Delta Y (\Delta R_Y)$	ΔQ_{d_B}
↑	↓
↓	↑
Negative Relationship	

Definition:

An inferior good is a good for which, during a given period of time, other factors affecting demand held constant, there is a negative or indirect relationship between consumer income and demand.

Highly subjective, and a special type is known as Giffen Goods

Shows: link between **Income (Y or Ry)** and **Demand**



Price Effect for an Inferior Good

(1) ΔP_B	(3) ΔR_p (of Own Good)	(4) ΔQ_{d_B}	(5) SE [Compare: (3) & (4)]
↓ (2)	↓ Relatively Cheap	↑	
↑ (2)	↑ Relatively Expensive	↓	

Substitution Effect (SE):

- Focus → **Relative Price (Rp)** change of Own Goods
- We compare $(\Delta R_p)^{(3)}$ and $(\Delta Q_{d_B})^{(4)}$ $\Delta \nabla$
- (SE) is '**Negative**', and **supports/upholds** Law of Demand

(1) ΔP_B	(3) ΔR_Y (of Own Buyers)	(4) ΔQ_{d_B}	(5) IE [Compare: (3) & (4)]
↓ (2)	↑ Relatively Rich	↓	
↑ (2)	↓ Relatively Poor	↑	

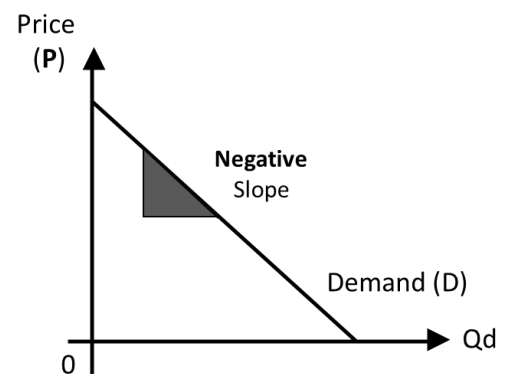
Income Effect (IE):

- Focus → **Real Income (Ry)** change of Own Buyers
- We compare $(\Delta R_Y)^{(3)}$ and $(\Delta Q_{d_B})^{(4)}$ $\Delta \nabla$
- (IE) is '**Negative**', and **against/oppose** Law of Demand

(2) Ceteris Paribus (CP): 'all other factors affecting (D)'

Price Effect (PE):

- We compare $(\Delta P_B)^{(1)}$ and $(\Delta Q_{d_B})^{(4)}$ $\Delta \nabla$
- (PE) is '**Negative**', since (SE) overpowers (IE), i.e. $(SE > IE)$, and **Law of Demand is supported/upheld**
- Demand Curve will be downwards sloping** from left to right or **negatively sloping**



- ✓ **Income Elasticity of Demand (YED)** is '**Negative**'
- ✓ **Price Elasticity of Demand (PED)** is '**Negative**'

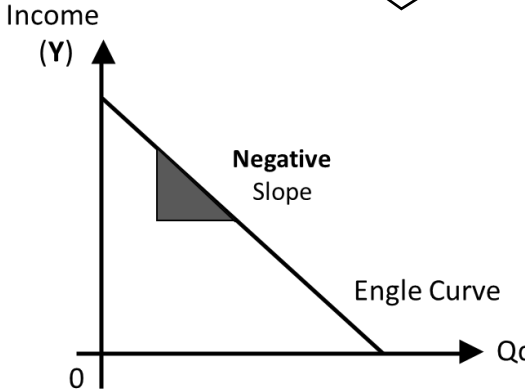
Elasticity of Demand & Inferior Good

Product (C): **Giffen Goods**

$\Delta Y (\Delta R_Y)$	ΔQ_{d_C}
↑	↓
↓	↑
Negative Relationship	

Definition:
 A giffen good is a special type of inferior good for which, during a given period of time, other factors affecting demand held constant, there is a positive or direct relationship between own price and quantity demanded.

Shows: link between **Income** (Y or R_Y) and **Demand**



Price Effect for a Giffen Good

(1) ΔP_C	(3) ΔR_P (of Own Good)	(4) ΔQ_{d_C}	(5) SE [Compare: (3) & (4)]
↓ (2)	↓ Relatively Cheap	↑	
↑ (2)	↑ Relatively Expensive	↓	

Substitution Effect (SE):

- Focus → **Relative Price (R_P)** change of Own Goods
- We compare $(\Delta R_P)^{(3)}$ and $(\Delta Q_{d_C})^{(4)}$ $\Delta \nabla$
- (SE) is '**Negative**', and **supports/upholds** Law of Demand

(1) ΔP_C	(3) ΔR_Y (of Own Buyers)	(4) ΔQ_{d_C}	(5) IE [Compare: (3) & (4)]
↓ (2)	↑ Relatively Rich	↓	
↑ (2)	↓ Relatively Poor	↑	

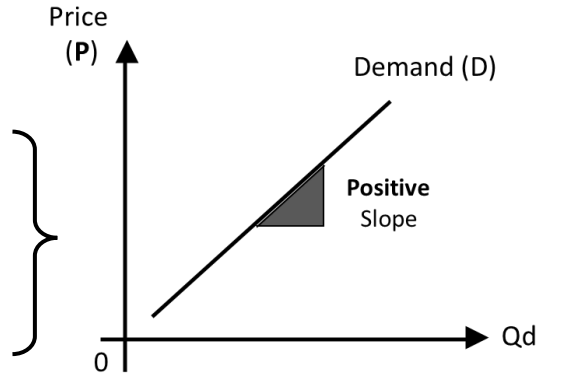
Income Effect (IE):

- Focus → **Real Income (R_Y)** change of Own Buyers
- We compare $(\Delta R_Y)^{(3)}$ and $(\Delta Q_{d_C})^{(4)}$ $\Delta \nabla$
- (IE) is '**Negative**', and **against/oppose** Law of Demand

(2) Ceteris Paribus (CP): 'all other factors affecting (D)'

Price Effect (PE):

- We compare $(\Delta P_C)^{(1)}$ and $(\Delta Q_{d_C})^{(4)}$ $\Delta \nabla$
- (PE) is '**Positive**', since (IE) overpowers (SE), i.e. (IE > SE), and goes **against/opposes** Law of Demand
- Demand Curve** will be **upwards sloping** from left to right or **positively sloped**



- ✓ **Income Elasticity of Demand (YED)** is '**Negative**'
- ✓ **Price Elasticity of Demand (PED)** is '**Positive**'

Elasticity of Demand & Giffen Good

Price Effect: Application [1]Analysis Keys: **Negative or Positive**

Law of Demand	Substitution Effect (SE)	Income Effect (IE)	Price Effect (PE)
Supporting /Upholding			
Against/ Opposing			

Price Effect: Application [2]

Type of good	Effect on [ΔQ_d] of a <u>rise</u> in price [$\Delta P \uparrow$]		
	Substitution Effect [SE]	Income Effect [IE]	Total Price Effect [PE]
Normal good	Fall [- Negative]	Fall [+ Positive]	Fall [SE = IE] [- Negative]
Inferior good			
Giffen good			

Type of good	Effect on [ΔQ_d] of a <u>fall</u> in price [$\Delta P \downarrow$]		
	Substitution Effect [SE]	Income Effect [IE]	Total Price Effect [PE]
Normal good	Rise [- Negative]	Rise [+ Positive]	Rise [SE = IE] [- Negative]
Inferior good			
Giffen good			

Price Effect: Application [3]

Good (1):

Change in Price	Substitution Effect (SE)	Income Effect (IE)	Price Effect (PE)
Decrease in Price ($\Delta P \downarrow$)	Negative ($\Delta Q_d \uparrow$)	Negative ($\Delta Q_d \downarrow$)	Positive ($\Delta Q_d \downarrow$)
Increase in Price ($\Delta P \uparrow$)	Negative ($\Delta Q_d \downarrow$)	Negative ($\Delta Q_d \uparrow$)	Positive ($\Delta Q_d \uparrow$)

Good (2):

Change in Price	Substitution Effect (SE)	Income Effect (IE)	Price Effect (PE)
Decrease in Price ($\Delta P \downarrow$)	Negative ($\Delta Q_d \uparrow$)	Negative ($\Delta Q_d \downarrow$)	Negative ($\Delta Q_d \uparrow$)
Increase in Price ($\Delta P \uparrow$)	Negative ($\Delta Q_d \downarrow$)	Negative ($\Delta Q_d \uparrow$)	Negative ($\Delta Q_d \downarrow$)

Good (3):

Change in Price	Substitution Effect (SE)	Income Effect (IE)	Price Effect (PE)
Decrease in Price ($\Delta P \downarrow$)	Negative ($\Delta Q_d \uparrow$)	Positive ($\Delta Q_d \uparrow$)	Negative ($\Delta Q_d \uparrow$)
Increase in Price ($\Delta P \uparrow$)	Negative ($\Delta Q_d \downarrow$)	Positive ($\Delta Q_d \downarrow$)	Negative ($\Delta Q_d \downarrow$)