General Economics

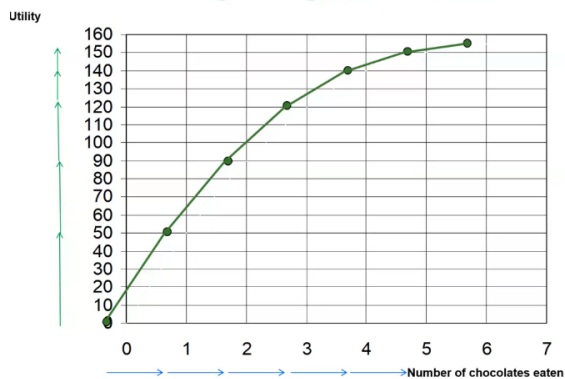- Economics is based on a simple problem:
  - Resources are scarce
  - Human wants are infinite
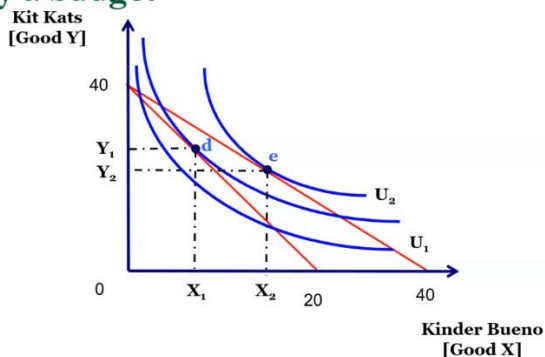- Trade off!
- Opportunity cost
  - "The cost of the next best opportunity foregone."
  - Not literally a cost in terms of money

Wee need to know basics of:

Economic Goods - scarce relative to our wants
Derived Demand
Utility
Diminishing marginal returns

Diminishing Marginal Returns

Indifference curves

Marginal Rate of Substitution... Basically if you were going to reduce the amount of nurses, how many more doctors would you need to maintain the same amount of utility

Maximising utility when constrained by a budget

Utility Maximisation

- $MU_n/P_n = MU_{gp}/P_{gp}$ (...wtf)
- MU/P means PRICE per unit of SATISFACTION
- Marginal utility means the utility you get from consuming one more of the product
- If the MU/P for KitKats was cheaper than MU/P for Kinder Bueno, you would buy more Kitkats because you could get more satisfaction (utility)
- However, the more you have of something, the less added satisfaction you get by having one more
- Marginal utility goes down...it becomes more expensive to get one more unit of utility by having more Kitkat
- Eventually it will become the same price for a unit of utility...this is utility maximisation
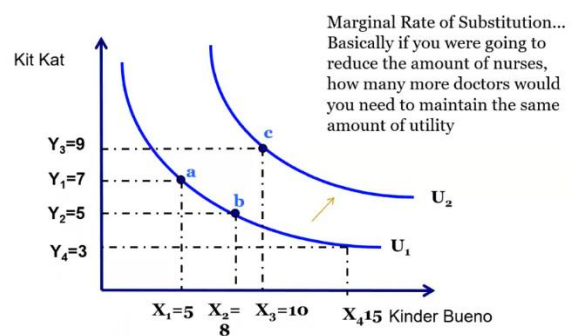- $MU_n/MU_{gp} = P_n/P_{gp}$ ...Makes sense when you look at that graph again

GOOD X=4

GOOD Y=5

I=80

Y= X.PX+Y.PY

Demand

Demand :How much of a good a consumer is ready to buy at a certain price, holding other things constant.

Factors affecting demand of a good:

- Good's own price
- Income of the consumer
- Price of related goods
- Tastes/preferences
- Various sociological factors
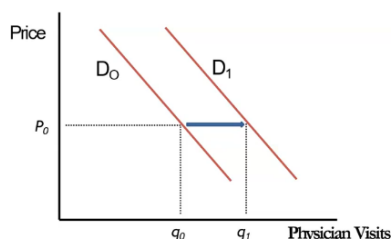- Factors outside human control, such as the weather

Deriving a Demand Curve

Demand Curve shows the relationship between the price of a good and quantity demanded of the good
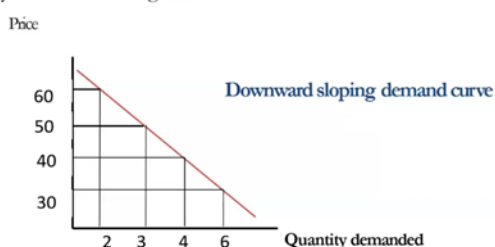
Other Economic Factors Affecting Demand

If **income** increases, then at any given price, consumer is willing and able to purchase more q

Other Economic Factors Affecting Demand

Complements -
- Two goods are complementary if using more of good A requires use of more good B.
- When two goods are consumed together
  - e.g. left shoe and right shoe
  - DVD players and DVDs
  - Tea and Sugar
  - Car and Petrol

Law of demand

The law of demand states that; the higher the price of a good the lower the quantity demanded

If Price increases decrease ⬇️   ⬆️ then Quantity demanded

Demand Schedule	
Price	Quantity demanded
30 TK/KG	6 KG
40 TK/KG	4 KG
50 TK/KG	3 KG
60 TK/KG	2 KG

Movement Vs Shift of Demand Curve

We move along the demand curve only when the **price of the good** changes

Demand curve shifts because of:
- Change in income
- Change in price of a substitute
- Change in price of a complement
- Change in tastes and preference

Other Economic Factors Affecting Demand

Substitutes - Goods which satisfy the same needs of the consumer and therefore can replace each other in use

- e.g. Coke and Pepsi
- e.g. Butter and Jam
- e.g. CNG gas and Petrol

Supply

Supply:
- **The amount of a good, a producer/seller is ready to sell at a given price, holding other things constant.**
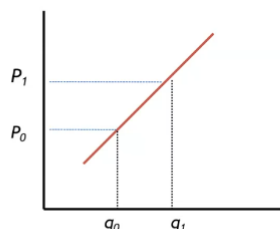
Factors affecting supply of a good:

- **The price of the good**
- **Technology**
- **Price of input**
- **Gov't policies and regulations**

Deriving a Supply Curve

Supply curve shows the relationship between price and quantity supplied of a good; ceteris paribus
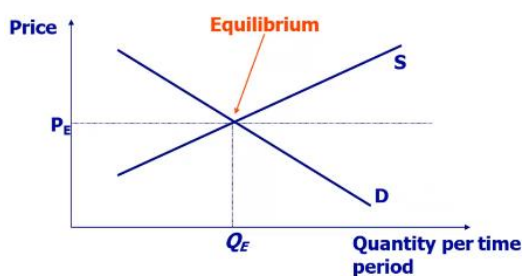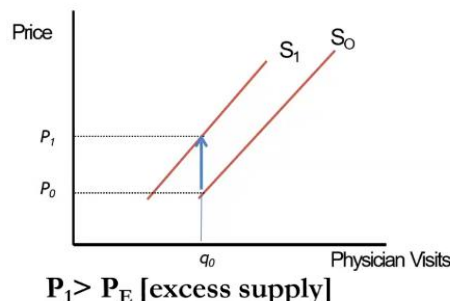
Price

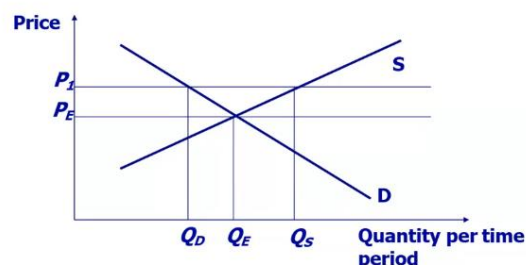Supply curve is upward sloping

The market

$P_1 < P_E$ [Excess demand]

If there is ED in the market then there will be an upward pressure in price and price will increase until it reaches the equilibrium

Other Economic Factors Affecting Supply
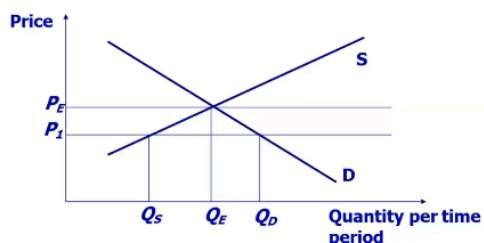
1. **Cost of production**

- If price of factors of production (land, labor, capital) increases i.e. cost of production increases, then at any given quantity, producer charge more prices.

$P_1 > P_E$ [excess supply]

If there is Excess Supply in the market then there will be an downward pressure in price and price will decrease until it reaches the equilibrium
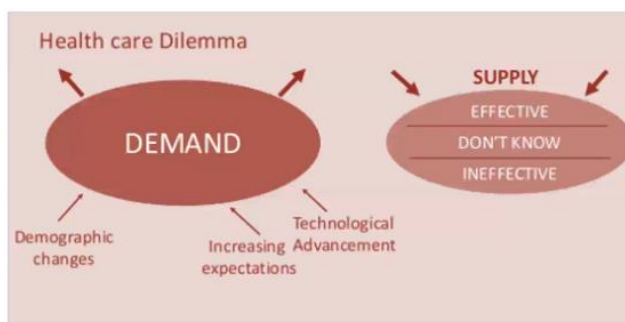
The concept of Elasticity

O If price rises by 10% - what happens to demand?

O We know demand will fall HOW MUCH?

3 Possibilities-

1. By more than 10%?

2. By less than 10%

3. Not more or not less than 10%

That means in the first cases the responsiveness is more. And........

O **Elasticity measures the _extent_ to which demand will change**

A model of demand for health care

- Consumer purchase goods and services for the utility

- If the commodity demanded by consumers is good health, then health can be produced by goods and services purchased in the market as well as by the time devoted to preventive measures
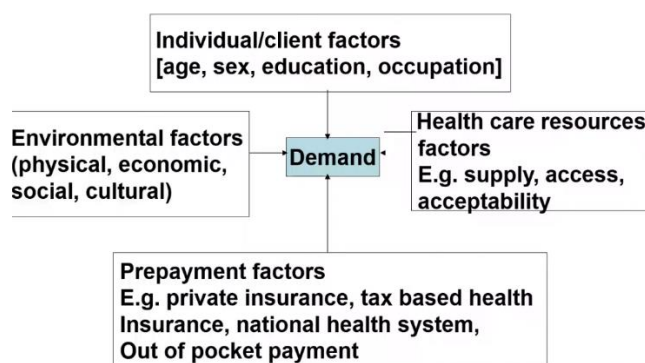
- Demand for medical care is derived from the more basic **demand for health**

- According to Michel Grossman, consumers have a demand for health for two reasons:

  – Health is a **consumption** commodity—it makes the consumer **feel better**

  – Health is an **investment** commodity—a state of health will determine the amount of **time available** to the consumer for productivity

Grossman's demand model

```
┌─────────────────────────────────────┐
│ Individual/client factors            │
│ [age, sex, education, occupation]     │
└─────────────────────────────────────┘
┌──────────────────────┐   ┌─────────────────────────┐
│ Environmental factors │   │ Health care resources    │
│ (physical, economic,  │─[Demand]─│ factors         │
│ social, cultural)     │   │ E.g. supply, access,     │
└──────────────────────┘   │ acceptability            │
                            └─────────────────────────┘
┌──────────────────────────────────────┐
│ Prepayment factors                     │
│ E.g. private insurance, tax based health│
│ Insurance, national health system,    │
│ Out of pocket payment                  │
└──────────────────────────────────────┘
```

➢ According to this model every one inherits a **stock of health** when born

- Health **depreciated** overtime, however an investment is required to sustain health

- As peoples' age advances there is an **increase** in rate of illness and in the **utilization** of health services.

- The stock of health can be sustained by **investment** to maintain health., such as use of health services and health promoting activities

- A view of medical care demand being derived from the **demand for health** implies the following:
  – increase in **age** result in an increase in the rate at which the person's **stock of health depreciates**

  – Over the life cycle people will attempt to offset part of the increased rate of depreciation in their stock of health by **increasing** their **expenditure** on health

– the demand for medical care will increase with increases in **person's income**

– **education** may have a **negative** effect on the demand for health care, because more highly educated people are presumed to be more efficient in producing health

Distinctive characteristics of health sector

– Consumer **ignorance**

– **Non-profit** motive

– Large components of **personal** service

– **Restrictions** on competition

– The uneven and unpredictable **incidence** of illness

– External effects e.g. Herd immunity

– **Mixture** of consumption and investment elements

Elasticity of demand in heath care

- Demand may be affected by factors determined by the **consumer**, the **provider**, the **supply** or **location** of services

- Elasticity of demand relates quantity demanded to the price of the goods or services

- Cost to the consumer is a factor in choosing to purchase goods or services

Elasticity

- In economics elasticity refers to the **ratio** of the relative change in a dependent variable to the **relative change** in an independent variable.

- A change in any of the demand factors will cause a change in **quantity** purchased of a good per time period.

- E_D is expected to be negative. Thus, price elasticities of demand are often quoted in terms of absolute value

- The demand curve is *inelastic* if
  - $0 < |E_D| < 1$

- The demand curve is *elastic if*
  $1 < |E_D| < \infty$

Price Elasticity of Demand:

Price elasticity of demand =

$$\frac{\text{Proportionate change in quantity demanded}}{\text{Proportionate change in price}} = \frac{\frac{\Delta Q}{Q} \times 100\%}{\frac{\Delta P}{P} \times 100\%} = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}}$$

- Example: If the elasticity of demand for physician visits is -.6, a 10% increase in price leads to a 6% decrease in the number of visits demanded

- **Income elasticity of demand:**

$$E_Y = \frac{\%\Delta Q_D}{\%\Delta Y} = \frac{\%\,change\,in\,quantity\,demanded}{\%\,change\,in\,income}$$

- Example: If the elasticity of demand for physician visits is .1, a 10% increase in income leads to a 1% increase in the number of visits demanded

- For most types of medical care, E_Y should be positive

Insurance

The above demand analysis assumed that the patient pays for care out-of-pocket

How does insurance affect the demand for care?

1. Coinsurance - Patient pays only a fixed % of the cost of each visit (often C = .20)

e.g. If the visit costs $100 :
patient pays $20, insurance pays $80