



Part 2-1

Economic Concepts as Analytical Tools

Fundamental Balances

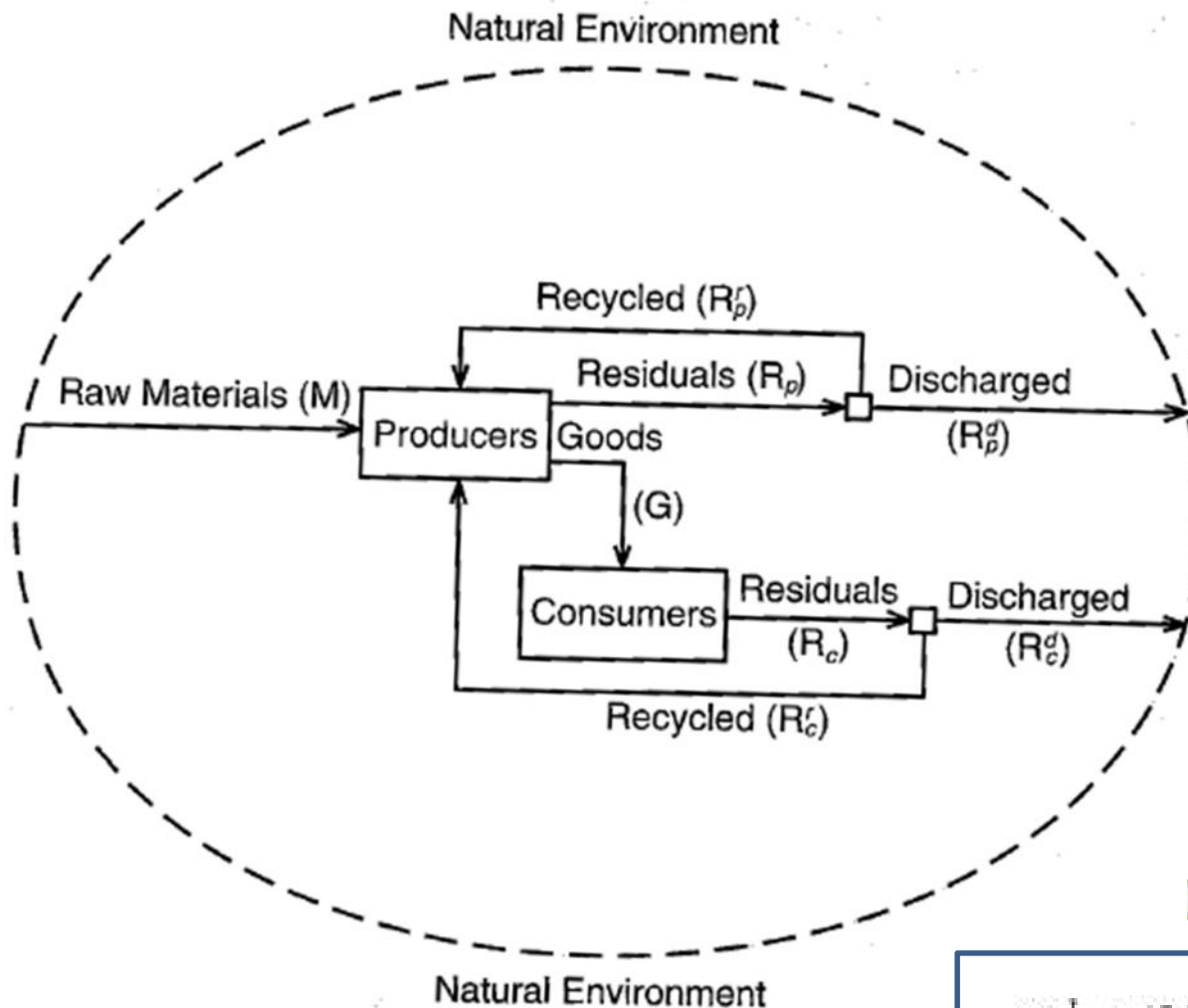
The first law of thermodynamics

$$M = R_p^d + R_c^d$$

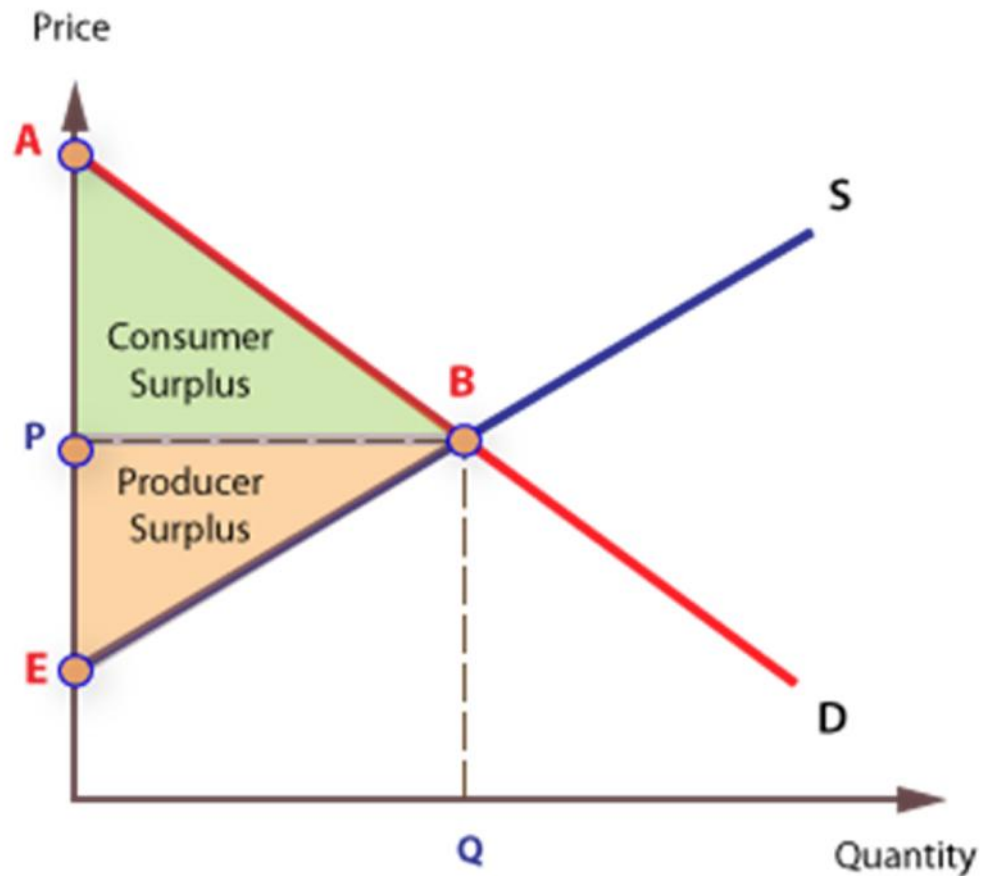
(in the long run)

Balance Equation

$$R_p^d + R_c^d = M = G + R_p - R_p^r - R_c^r$$



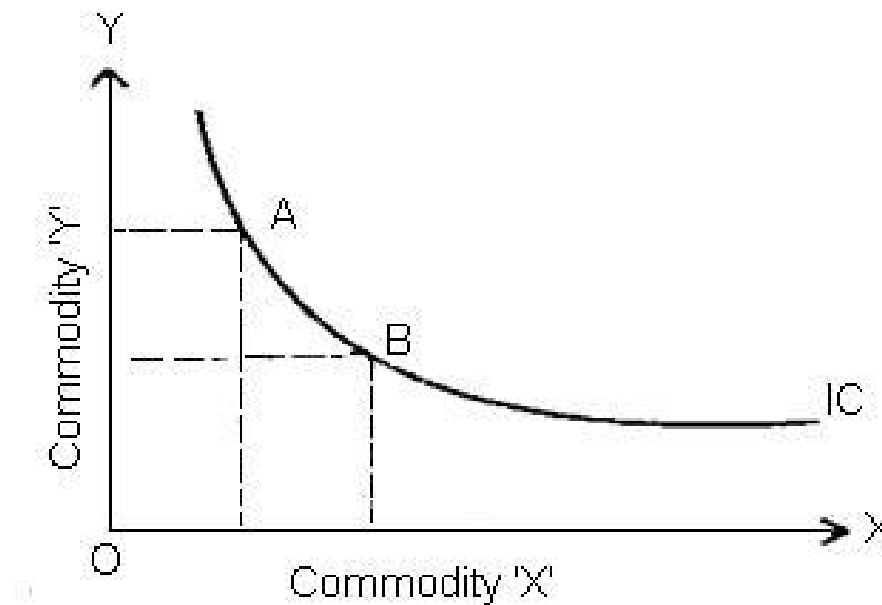
Roles of Market



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Goods & Bads

- If a commodity is '**goods**', then more of it is preferred to less of it. Indifference curves between two commodities which are "goods" slope downward and are convex to the origin.

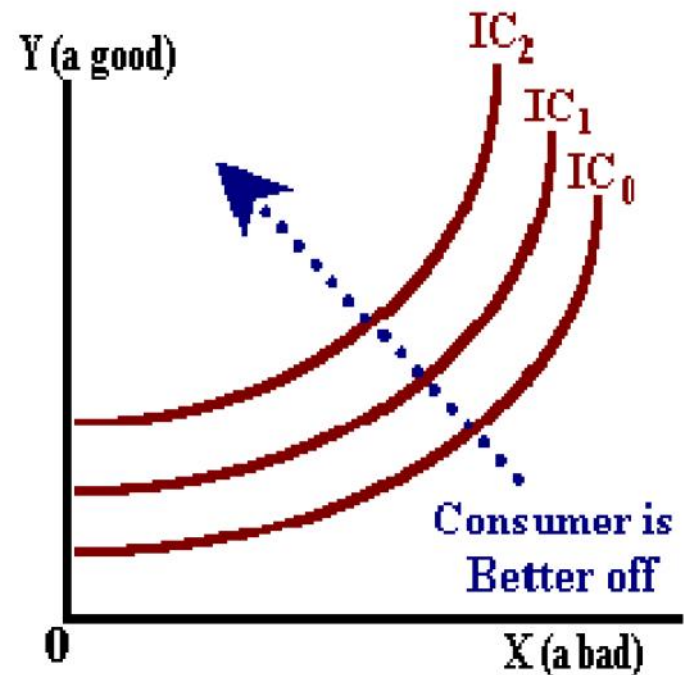


Goods & Bads

- If a commodity which is '**bads**' (Pollution, risk, tenacious work, and illness) less is preferable to more.
- Suppose a bad (for example, pollution) is represented on the X-axis and a commodity which is "good" is represented on the y-axis, then the indifference curve will be sloping upward

Goods & Bads

- A movement towards the right along an indifference curve implies more of pollution which will reduce consumer's satisfaction
- Therefore in order to keep his level of satisfaction constant, the quantity of a commodity which is good will have to be increased. The direction of preference in this case is upward and to the left.



Goods & Bads

Satiation and a Point of Bliss

- There is a combination or bundle of the commodities which contains the optimal or most preferred quantities of the commodities for a consumer
- A commodity can be good only up to a point called **the point of satiation** and becomes bad for a consumer if he is forced to increase his consumption beyond that point
- **Too much of everything is bad!** Any increase in the quantity of each of them beyond that best or optimal quantity will make the consumer worse off

Goods & Bads

- Commodity X becomes bad beyond the quantity X_1
- Commodity Y becomes bad beyond the quantity Y_1 .

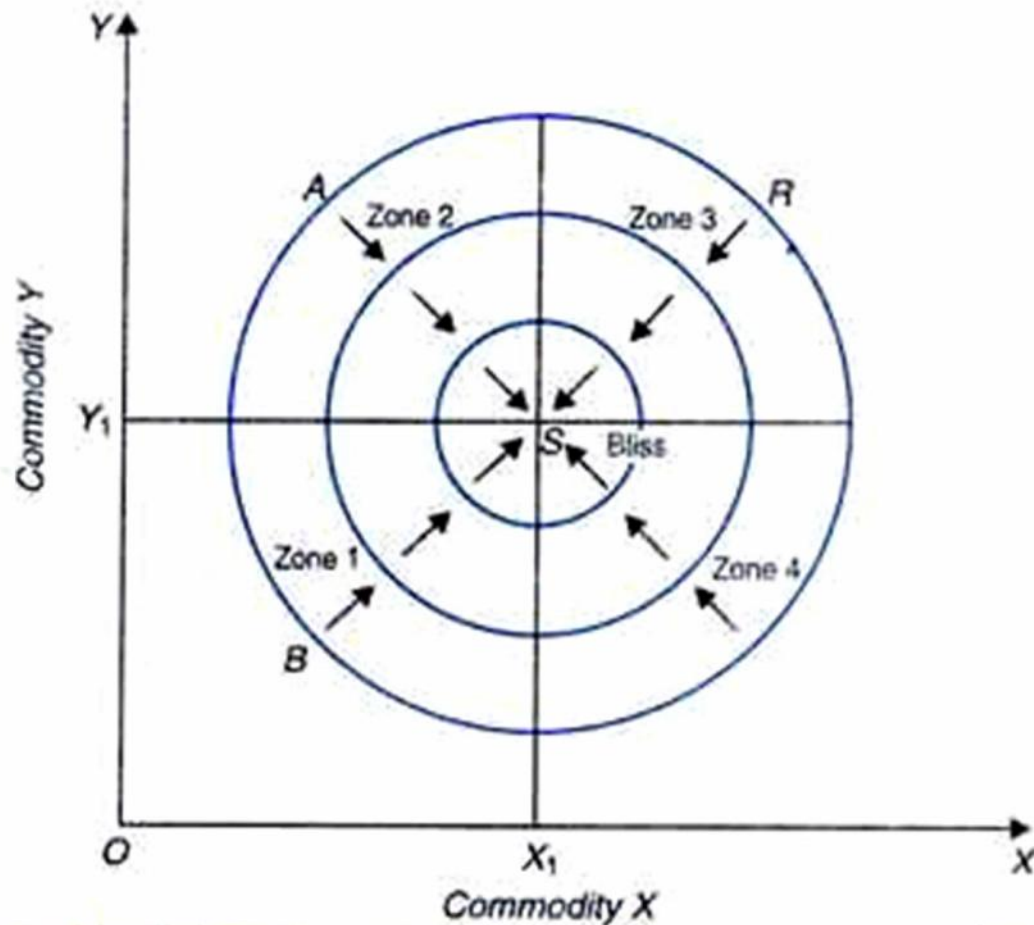


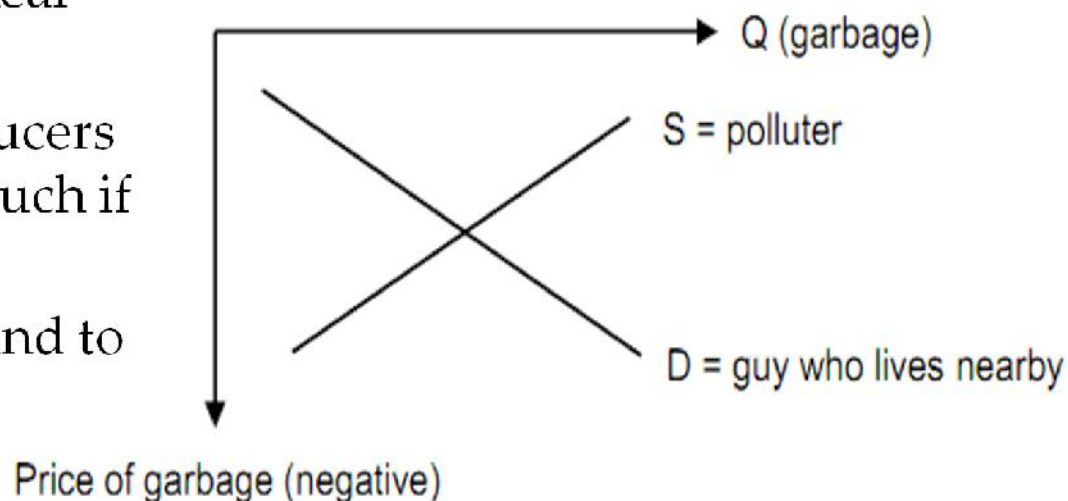
Fig. 8.13. *Different zones of Goodness and Badness and Point of Bliss*

Supply and Demand for bads:

- Can we alter our models to allow for bads?
- Viewing garbage as a commodity, it has a negative price
- To live near a wine plant that spews garbage, a person would require compensation in the form of a payment
- For the right to spew, a plant would have to pay $p_g < 0$.

Supply and Demand for Bads (contd.):

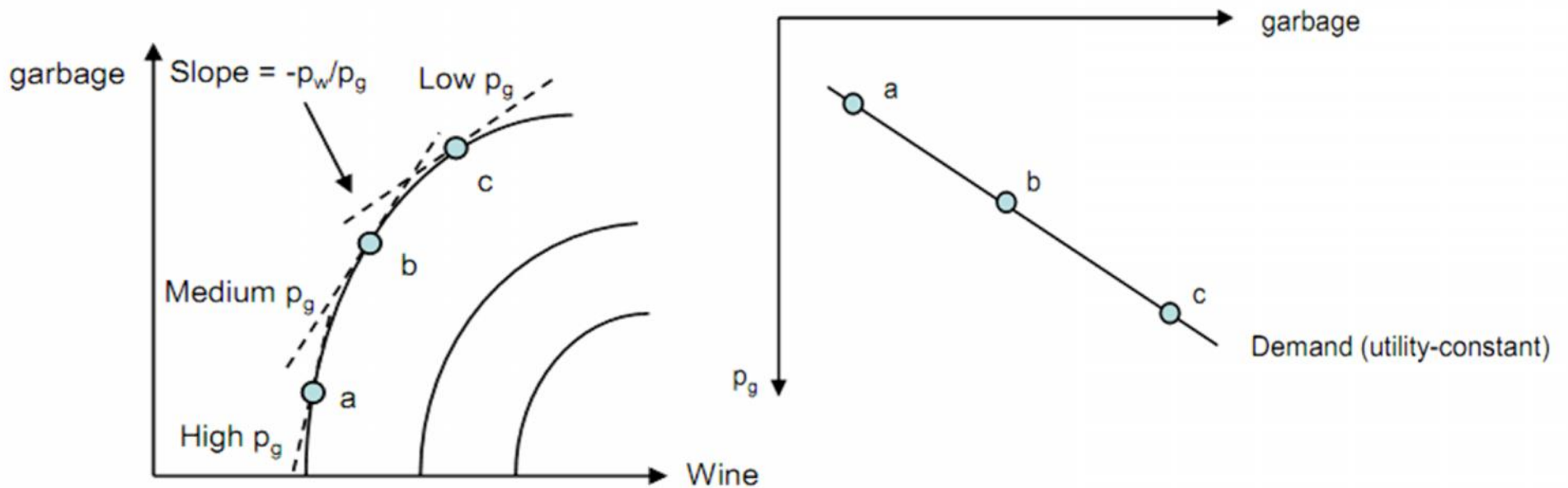
- D is downward sloping—one must be paid more to live near garbage.
- S is upward sloping—producers of garbage will not make much if price is high.
- But we can switch this around to have positive prices:



Call garbage producer a consumer of garbage disposal. Then supply and demand curves will look like those for normal goods

Where does S and D for bads come from?

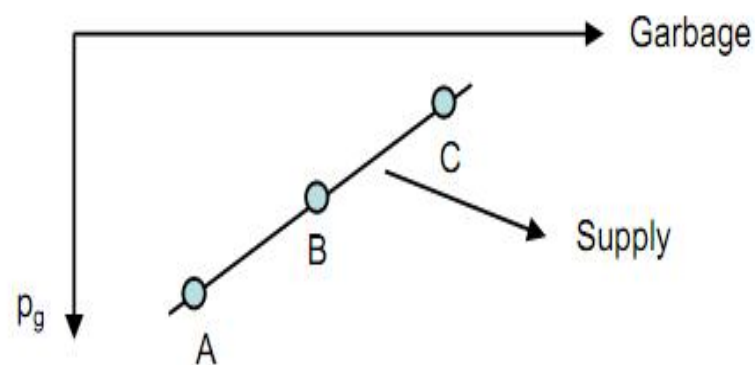
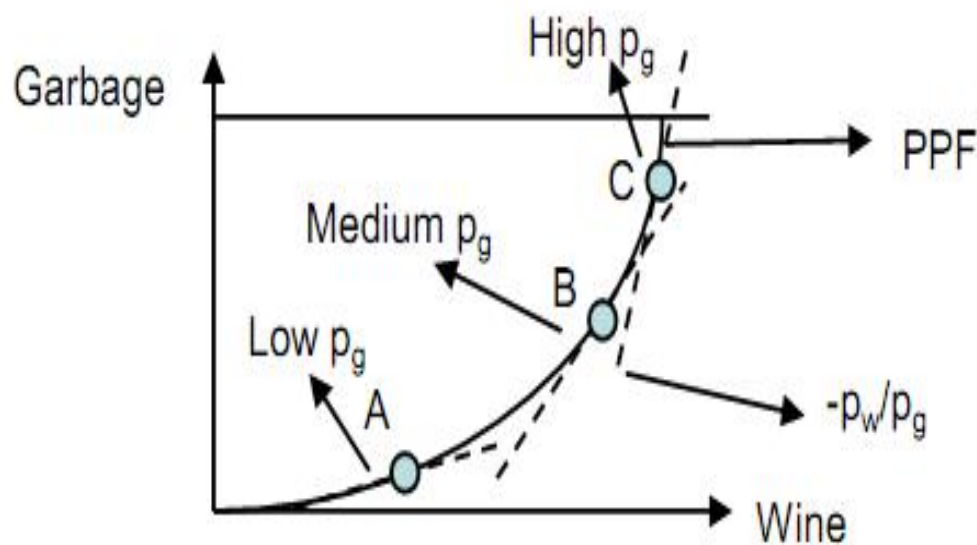
- **Demand:**
- At high garbage prices, garbage consumption is low—not paid enough to consume it.
- It is crucial to recognize that we are talking about individual, not aggregate, supply and demand curves here.



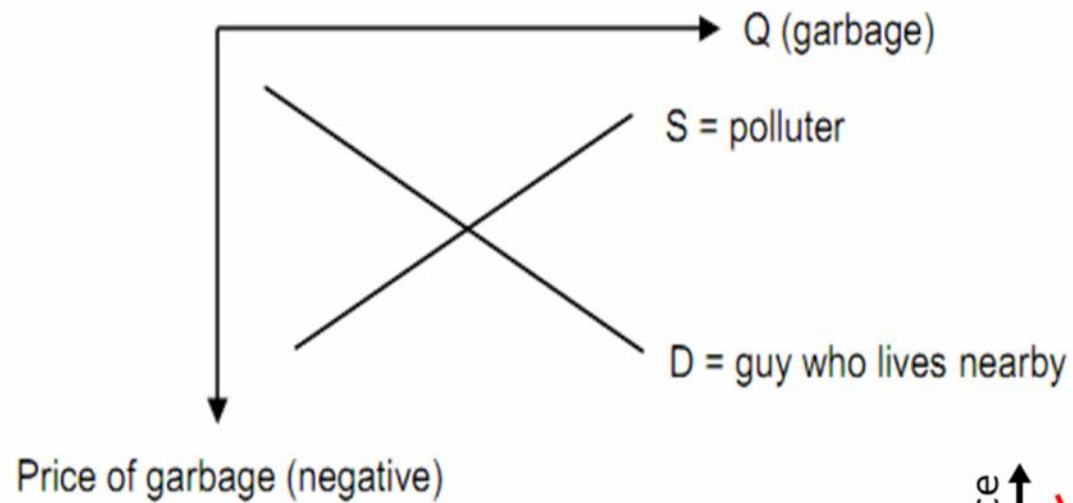
Where does S and D for bads come from?

Supply:

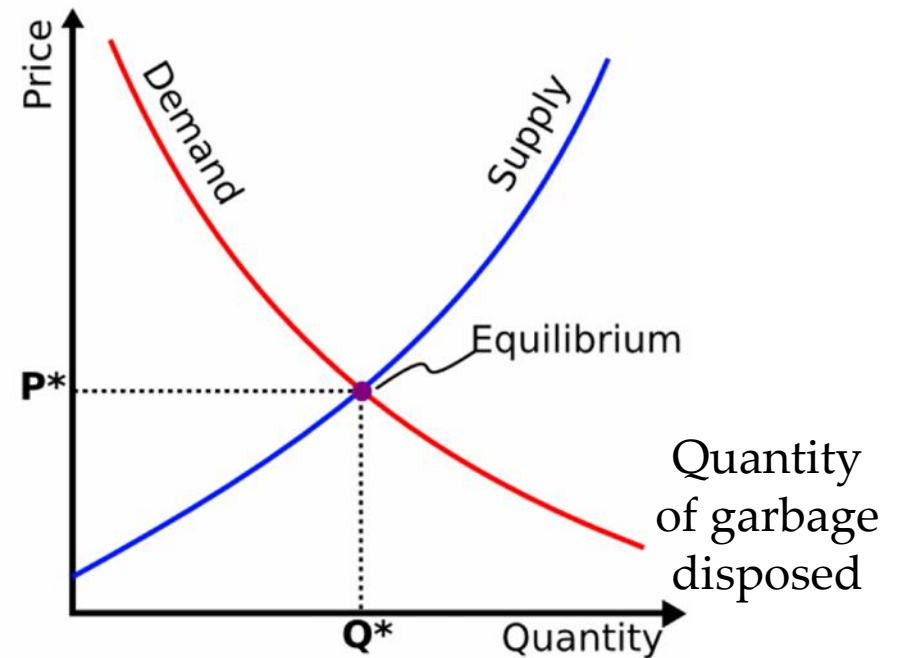
- As price of garbage approaches 0, the profit-maximization point on the PPF involves more garbage production (i.e. point C), and the slope increases.



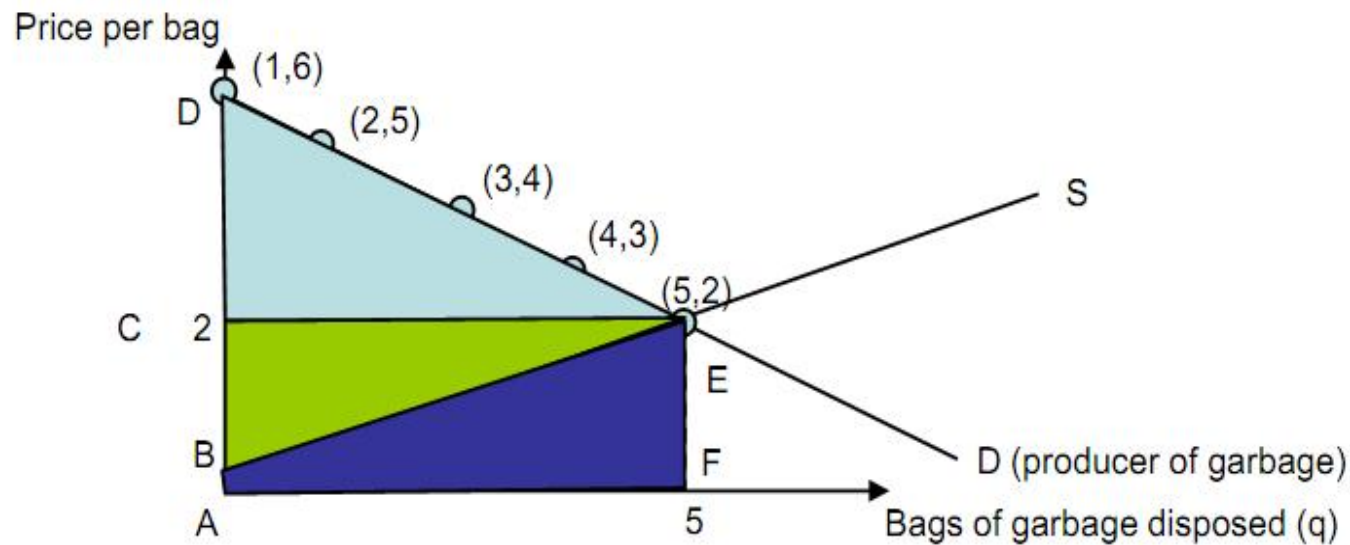
Surplus measures for bads



Price of
garbage
disposed



Surplus measures for bads



- CDE = consumer surplus
- BCE = producer surplus
- ABEF = cost of providing the services
- BCDE = total surplus

We can see increasing MC and declining MWTP.