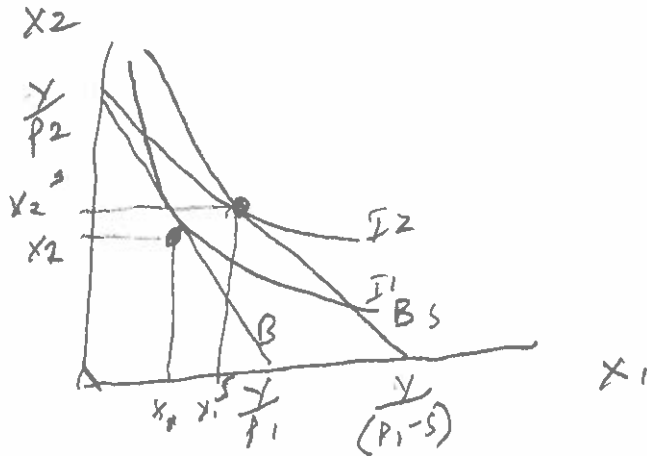


1. Provide an example of each in the real world (from table 10.2). That is, if I put Distributional Issue, transfer of scarcity rent under supply side output tax, a real world example would be government taxing private sector oil producers for the right to drill in the government's territory.

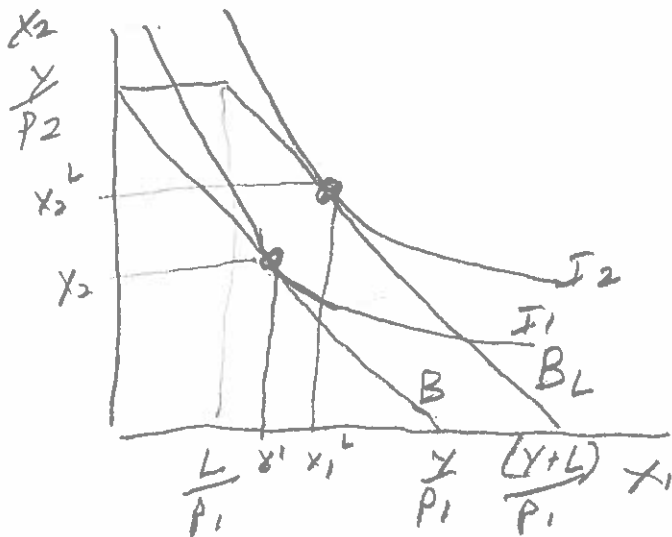
| Generic Policy             | Perceived Problem  | Real World Example  |
|----------------------------|--|---|
| <b>Supply Side Tax</b>     |  |   |
| Output Tax                 | Market failure:<br>negative externality                              | Environmental damage from burning coal to generate electricity leads to a per KWH tax on electricity production |
| Tariff                     | Limit to competitive framework:<br>market power of foreign exporters | Subsidy to producers in another country leads to a tax on imports from that country for that good               |
| <b>Supply Side Subsidy</b> |  |   |
| Matching Grant             | Market failure:<br>public goods                                      | Federal funds provided as a match to state funding for reducing class size in public schools                    |
| Tax expenditure            | Market failure:<br>positive externalities                            | Money spent on research and development is exempt from corporate income tax.                                    |
| <b>Demand Side Tax</b>     |  |   |
| Commodity Tax / User fee   | Market failure:<br>negative externalities                            | Tax on fuels that emit greenhouse gas when burned.  |
| <b>Demand Side Subsidy</b> |  |   |
| In kind subsidy            | Distributional issues:<br>floor on consumption                       | Free breakfast and lunch programs in public schools   |
| Voucher                    | Government failure:<br>bureaucratic supply failure                   | A paper provided to allow parents to enroll children in the school of their choice                              |
| Tax Expenditure            | Market failure:<br>positive externalities                            | Interest rates on a mortgage are exempt from personal income tax.   |

2). Transfers to consumers, income is  $Y$ , goods are  $X_1$  and  $X_2$ , prices are  $P_1$  and  $P_2$ .

a. Using indifference curves and a budget line, draw the impact of a matching grant of size  $S$  per unit of  $X_1$  purchased by the consumer.



b. Using indifference curves and a budget line, draw the impact of a lump sum constrained transfer of size  $L$  to a consumer that can only be used to buy good  $X_1$ .

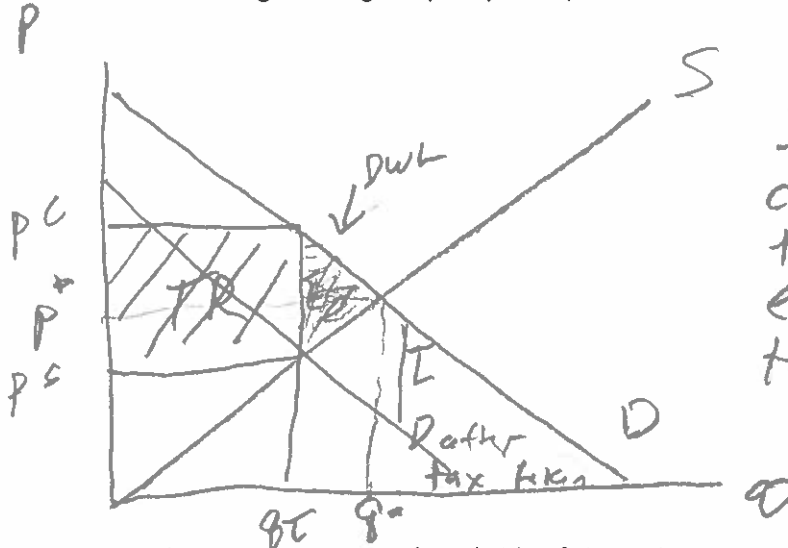


c. Discuss what happened to consumption of  $X_2$  and why it happened in your graphs for (a) and (b).

In both cases, consumption of  $X_2$  increased after the subsidy was given. That is because money that was spent on  $X_1$  consumption before the subsidy was given has been freed up to be spent on both more  $X_1$  and  $X_2$  consumption.

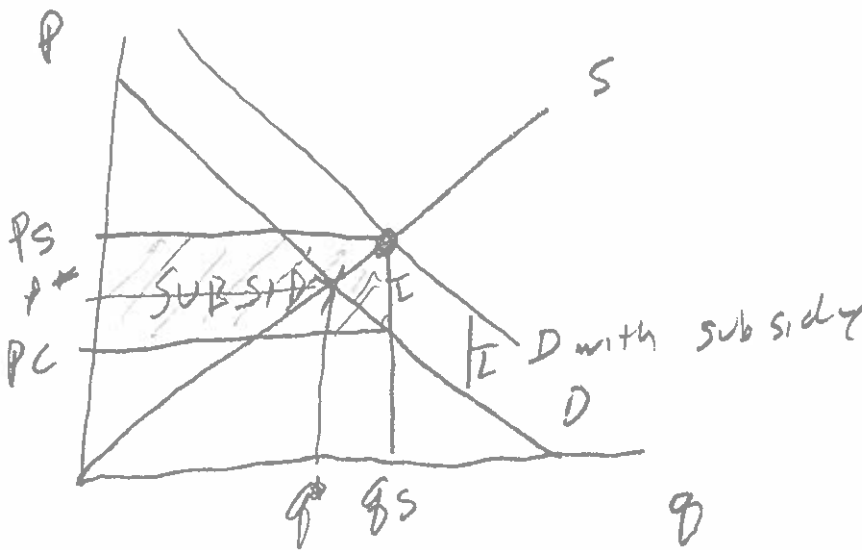
3) Subsidy and Tax.

a) Draw the impact of a specific tax of size  $\tau$  placed on consumers and provide a real world case where this might be a good policy to implement.



If  $MC^E(QE) = \tau$  this could be a Pigouvian tax to internalize an externality (in which case the area labeled DWL is not DWL)

a) Draw the impact of a subsidy of size  $\tau$  given to consumers and provide a real world case where this might be a good policy to implement.



The commodity is insulation and the subsidy leads to the socially optimal level of purchase as it reduces the need to use fuels that emit harmful emissions.

4. Provide an example of each in the real world (from table 10.4). That is, if I put Market Failure, Natural Monopoly under government corporation, you could put airports in the NYC metropolitan area being run by the Port Authority.

| Generic Policy                    | Perceived Problem                               | Real World Example   |
|-----------------------------------|---|--|
| <b>Direct Supply</b>              |   |  |
| Bureaus                           | Market failure:<br>Public good                  | Bureau of land management oversees use of public lands by private firms      |
| <b>Independent Agencies</b>       |   |  |
| Government Corporations           | Market failure:<br>positive externalities       | Port authority of NY and NJ coordinates transport in the New York City area. |
| Special Districts                 | Market Failure: Local Public Goods              | Watershed management zone  |
| <b>Contracting Out</b>            |   |  |
| Direct Contracting                | Market Failure: Local public good               | Private firm is contracted to collect trash in a municipal area.             |
| Indirect Contracting / nonprofits | Government Failure: Bureaucratic Supply Failure | Nonprofit health clinic provides vaccines for children.                      |