

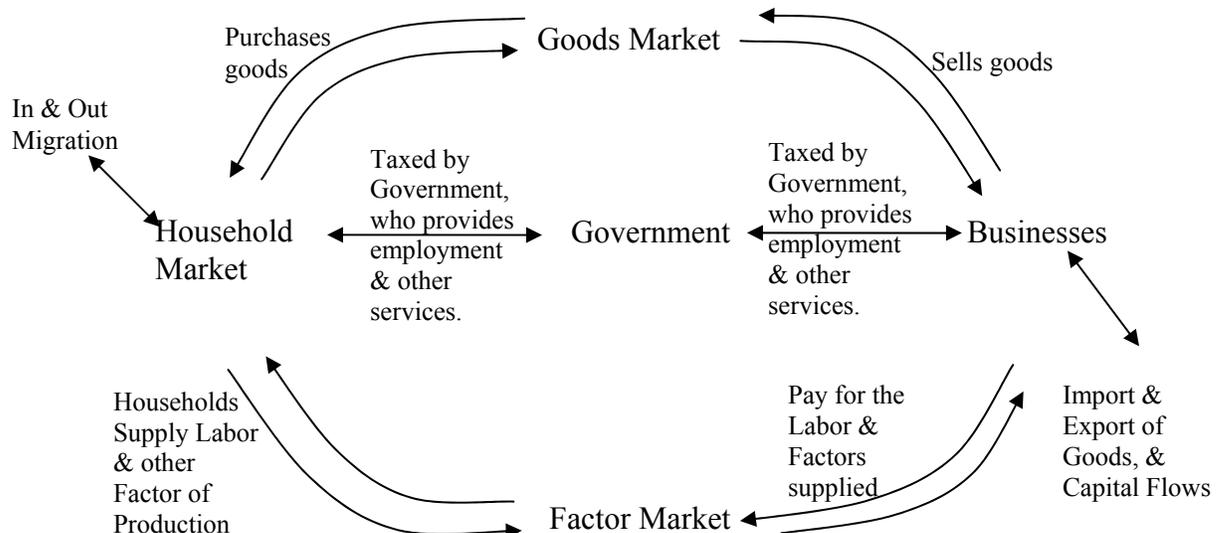
The Canadian Economy in a Global Setting

Objectives

- Who are the players in an Open Economy?
- How do each of the players make their decisions or choices?
- What is the law of Demand, and demand shifters?
- What is the law of Supply, and supply shifters?
- What is market equilibrium?
- What is consumer and producer surplus?
- Types of government intervention, and its possible impact of the market equilibrium.

1. Economic Organizations of a Society

- 3 essential players in the Canadian Economy, or for most economies in general
 1. Businesses
 2. Households
 3. Government
- A Diagrammatic Representation of the interactions between the players in an Open Economy:



- **Businesses maximize their profits**, subject to the demand for the products and services they produce.
- Households supplies their labor and individual expertise to businesses, and in turn purchase goods and service that would **maximize their welfare/utility**.
- Governments (Federal & Provincial) regulate business through labor laws, and other regulation (such as anti-trust laws), as well as provide public goods (such as roads, health services) which otherwise would have a short supply of. **Why should there be short supply of public goods? Can you prove it?**

- Most country has a comparative advantage in some products but not others, by virtue of their level of development, and access to vital resources. This would explain why we have international trade. Canada would import what products others have a comparative advantage in producing, while exporting others they have a comparative advantage in producing.
- If a nation shows high growth potential, it would see an inflow of capital into its businesses. What do you think would happen then in terms of interest rates, and cost of living in Canada should there be a massive inflow or outflow of capital?
- Similarly individuals whose talent may be in higher demand in one country then another, would choose to immigrate if it maximizes her welfare. But is the choice as simple as that?
- Unlike within nation migration, or domestic trade, international movement involves barriers.
- For goods/commercial products, this trade barriers come in the form of **quotas** (limitations on how much goods can be imported into a country), **tariffs** (taxes on imports), and **nontariff barriers** (Regulations that restrict movement of goods, and people.)
- There is also the concern that currency used in various countries are different. If the exchange rate between US and Canada falls (such that Canadian goods become cheaper) there would be greater exports from Canada to US.)

2. Demand and Supply

- **Law of Demand:** Quantity demanded rises as price falls, other things constant (*ceteris paribus*).

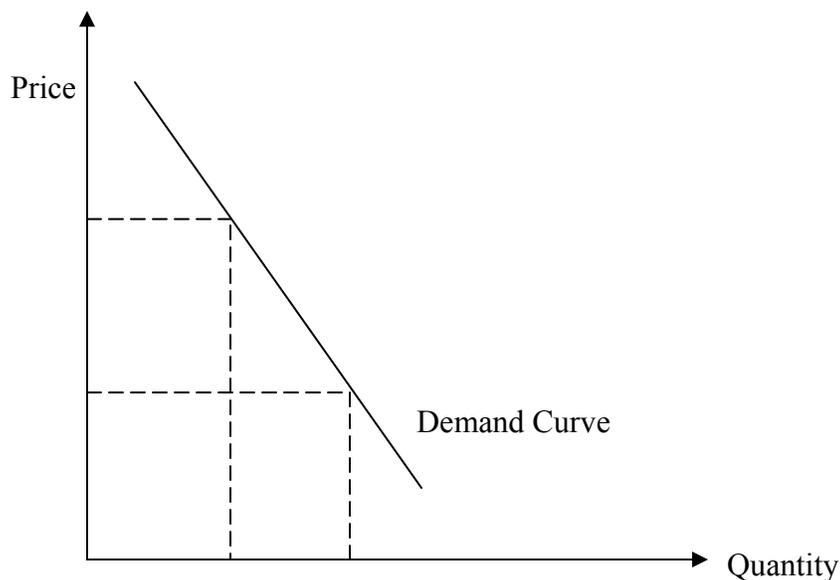


Figure 1: Demand Curve for an Individual

- The **demand function/curve** is a schedule of quantities of a good that will be bought per unit of time at various prices, *ceteris paribus*. That is it can and will change over time.
- **Quantity Demanded** is the specific amount that will be demanded per unit of time at a specific price, *ceteris paribus*. As the basket of goods that household/individuals find useful changes, the quantity demanded changes.
- A change in quantity demanded refers to the effect of quantity demanded as a result of a change in price. It refers to a movement along the demand function/curve.
- However, when other conditions that may affect a good changes, the demand curve will shift. **What are some demand shifters?**
 1. Society's income
 2. Price of other good, both complements and substitutes.
 3. Tastes
 4. Expectations
 5. Population

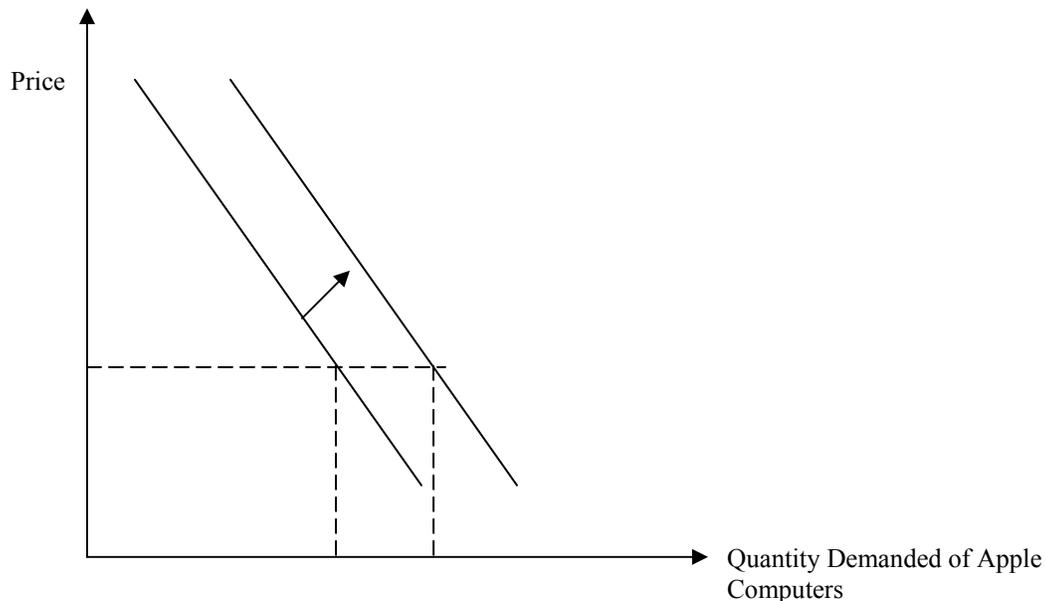


Figure 2: Demand Curve of an Individual for Apple Computers with increase in Income

- The **Market Demand curve** is the horizontal sum of individual demand curves for a particular good.
- The **Law of Supply** is that Quantity supplied rises as price rises, *ceteris paribus*. And the supply curve/function is the graphical representation of the relationship between price and quantity supplied.

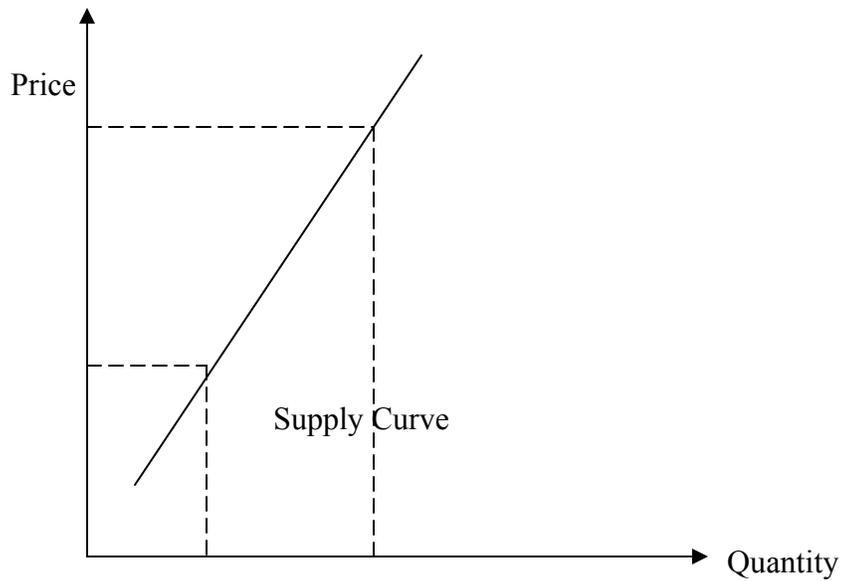


Figure 3: Supply Curve for Apple

- Supply curve/function refers to the schedule of quantities a seller is willing to sell per unit of time at various prices, *ceteris paribus*.
- Quantity supplied refers to a specific amount that will be supplied at a specific price.
- Shift factors of the supply curve:
 1. Price of Inputs such as Labor cost
 2. Technology
 3. Expectations
 4. Taxes and Subsidies

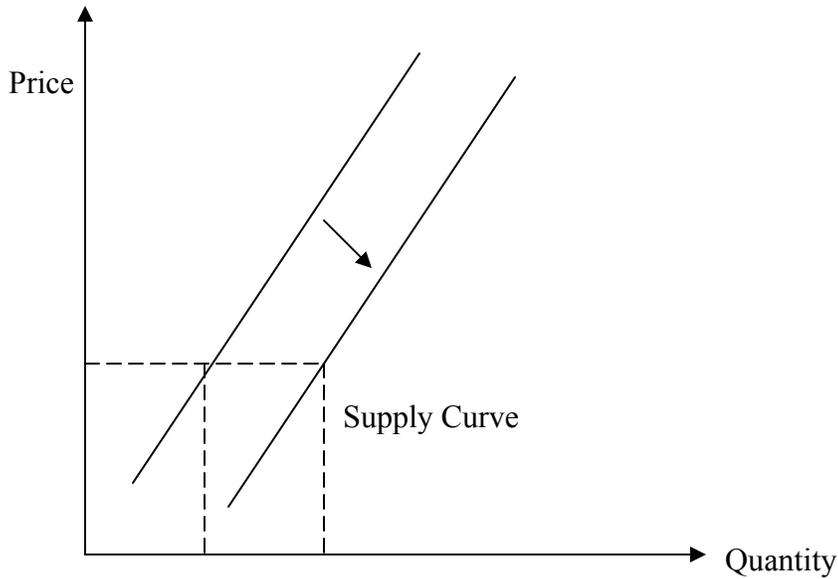


Figure 4: Supply Curve for Apple Computers with a more efficient production line

- **Market Supply Curve** is the horizontal sum of all supply curves for a particular good.
- **Excess Demand and Supply, and Market Equilibrium**

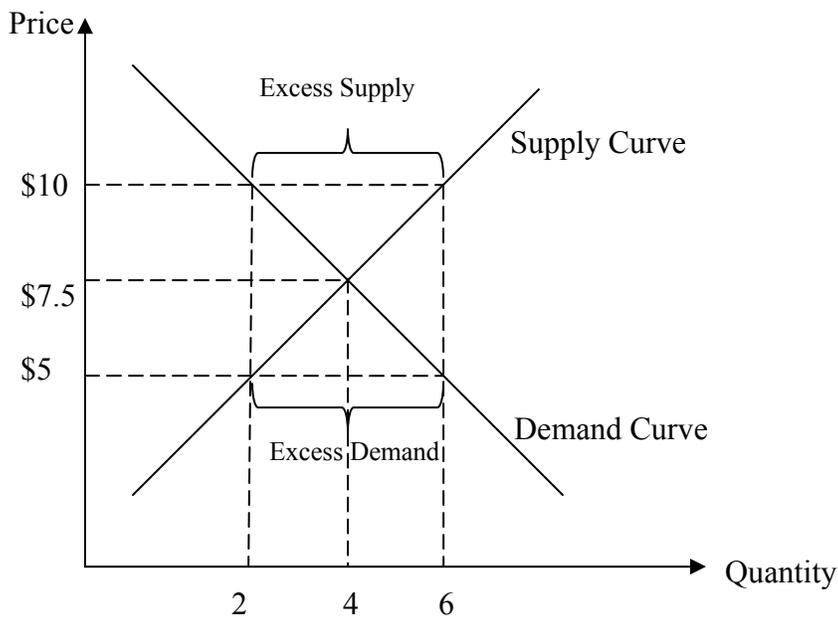


Figure 5: Excess Demand and Supply, and Equilibrium for Individual choice for number of pairs of jeans

- For the above example, if the firm sells their jeans at \$10/each, they would manufacture 6 pairs of jeans, while the individual here would purchase 2 pairs. This means there would be an excess supply of 4 pairs of jeans, if this jeans market consists of only this individual and this jeans company. If they sell the jeans at \$5 a pair, they would make 2 pairs, while the individual would want to 6 pairs. Equilibrium is attained when the firm offers their jeans at \$7.5, since the firm would sell 4 pairs and the individual would buy all of them.
- Specifically, **excess demand** occurs when quantity supplied is less than quantity demanded. While **excess supply** occurs when quantity supplied exceeds quantity demanded.
- If it is costly to keep excess stock/inventory, firms would want to ensure they manufacture and sell the right quantity at the right price such that they do not incur excessive cost of maintaining an inventory that may never be purchased, since taste may change. So when quantity demanded exceeds quantity supplied, there is upward pressure on prices, and prices tend to rise. Similarly when there is excess supply, there is downward pressure on price, and price tends to fall.
- Equilibrium is attained when the dynamic forces changing price, and quantity cancel each other out. Equilibrium price is the price toward which the invisible hand pushes the market to. At this price, quantity demanded and supplied equates, and we refer to this quantity as the equilibrium quantity.
- Why is equilibrium desirable? If we are in equilibrium, both consumers and producers share some benefits or gains. For the consumer, the benefit she derives from buying a product above the price she paid for is known as consumer surplus. While the producer gains from the benefit she derives from selling a good at a price that is higher than what she would have been willing to sell the product for, and it is known as the Producer surplus. Diagrammatically, it is as follows,

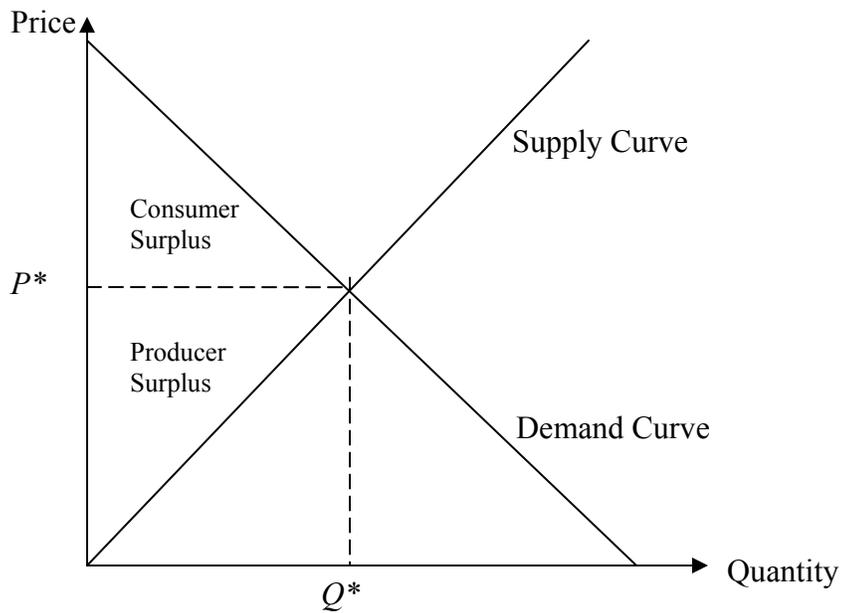


Figure 6: Consumer and Producer surplus.

- If instead the prices are lower than this equilibrium price of P^* , there is a portion of obtainable gains that will be lost. Since no party would be able to obtain those benefits because that quantity is neither purchased or sold. Diagrammatically,

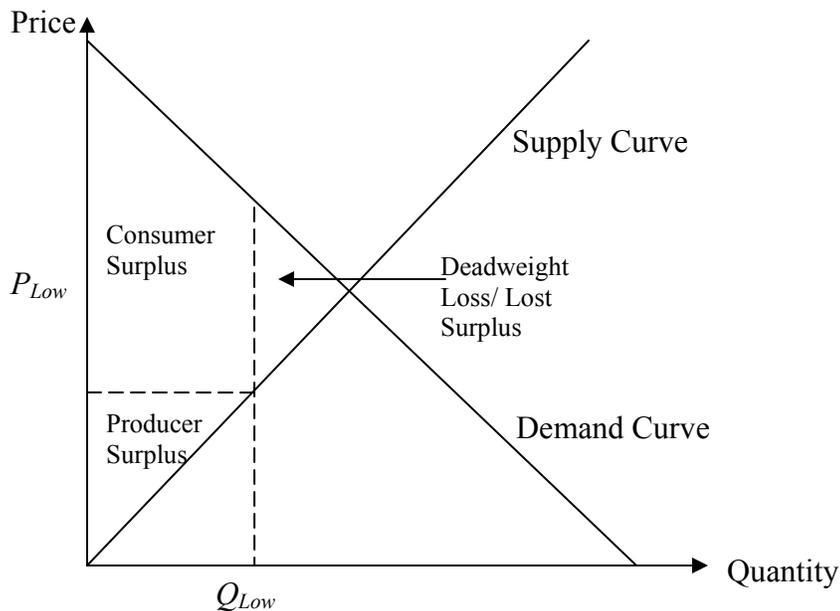


Figure 7: Deadweight Loss

- Then equilibrium ensures that consumer's and producer's surplus are at their largest.
- Exercises you should work through¹:
 1. Let the demand function for jeans be $P = 10Y - 2Q$, where P is price of jeans, and Q is quantity demanded of jeans. Y is Bruce's income, and let it be \$10 currently. The supply function for the sole jeans manufacturer in Canada is $P = \frac{3}{2}Q$. Canada is a closed economy. What is the equilibrium price and quantity of jeans traded in this economy? What if Y rises by \$10 to \$20? Let there be a second supplier who arrives in this economy with a supply function of $P = Q$. What is the new market supply function for jeans? What is the new equilibrium price and quantities?
 2. Most of good outdoor furniture is manufacture using teak wood, and the major exporter of teak wood is Indonesia. The Asian Tsunami wiped out 1/8 of the teak forest in Indonesia. Draw a diagram to show how equilibrium prices and quantity of teak furniture would change.
 3. The discovery mad cow disease among the cattle herd in Alberta prevented the export of Canadian beef/cattle across the border into U.S. What would happen to the domestic price and quantity demanded of beef products?

¹ There is good summary of effects of shifts in demand and supply on price and quantity on page 110, table 5-1 in your text. Do not memorize it, but make sure you play around with the different shifts and understand the mechanics and intuition for the table's result.

- Market determined prices does not always go down well for the general populace, especially when a product is deemed a necessity, or when the product manufactured is deemed of national importance. These reasons have usually been justification for Government Interventions. Some tools available to the government to directly affect prices are
- Price Ceilings: Imposed price limit by the government on how high a price can a firm or industry charge for its product or service.
- Price Floors: Imposed price limit by the government on how low a price can a firm or industry charge for its product or service.
- Should a price ceiling be above equilibrium price or below it?
- Suppose the city council of Halifax imposes a price ceiling on rental rates. What would happen to the quantity of rental apartment?

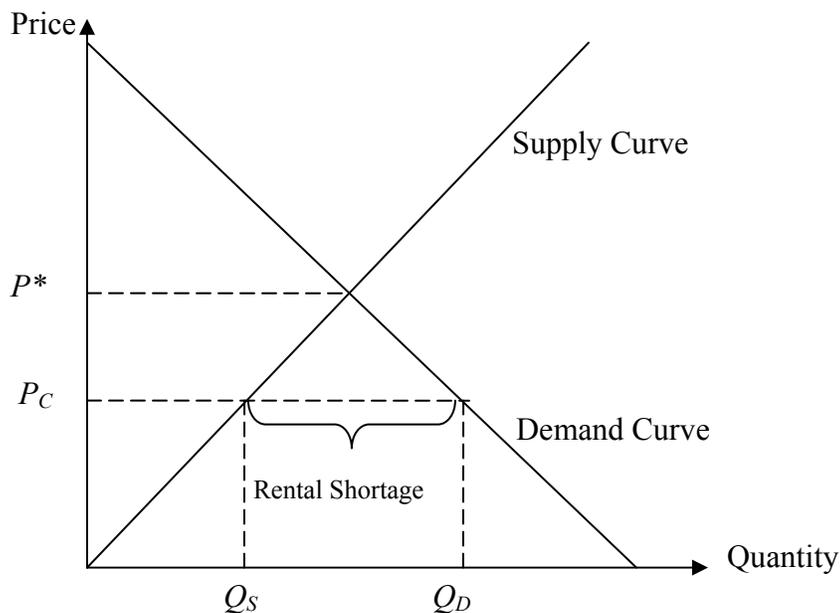


Figure 8: Price Ceiling on Rental apartment in Halifax

- Is there a difference between short run and long run analysis? Is the above diagram for short or long run? Does this mean that rent controls will never work?
- A common manifestation of price floors is the minimum wage scheme. Minimum wage laws typically stipulates how low a firm can legally pay their employees.

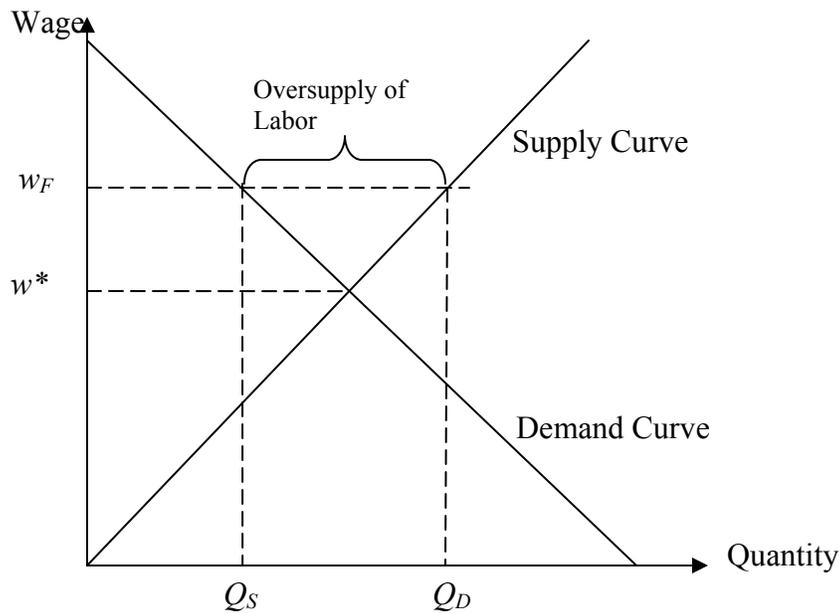


Figure 9: Minimum Wage Legislation

- Although minimum wage is helpful to agents who are able to find work, this policy however raises the number of unemployed, raises cost of production of the firm, and consequently raises the price paid for the final good produced by the firm. Do you think it's a useful tool?
- Available to the government as tools to change demand or supply functions are taxes, tariffs, and quotas.
 - Taxes
 - Excise Tax is a tax that is levied on a specific good.
 - Tariff is an excise tax on an imported good.
 - Quota is a quantitative restriction on the amount that one country can export to another.
- Let the government impose an excise tax on computer producers, such that it raises the price each producer charges us as shown figure 10 by \$x for each unit it can sell. This shifts the supply curve as shown below.

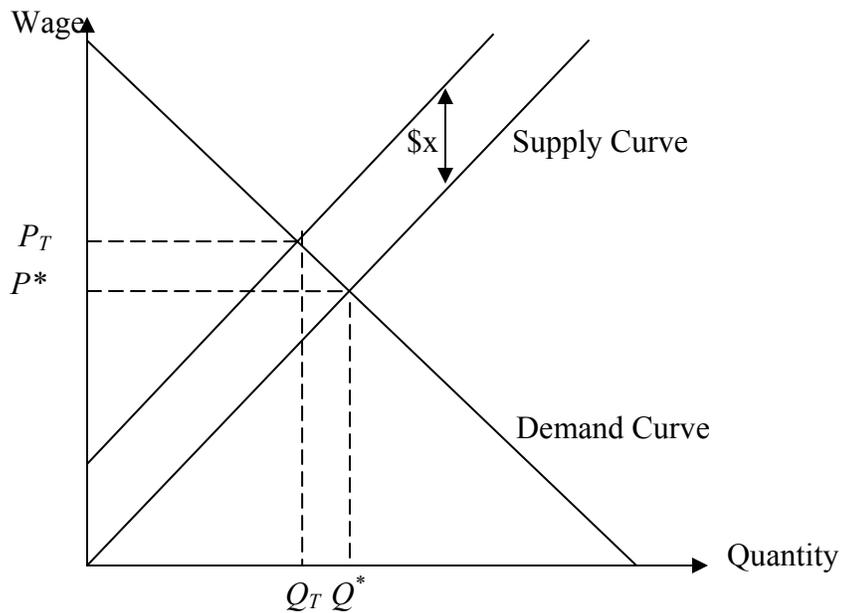


Figure 9: Excise Tax on Computers

- Note that the increase in price of computers is not for the full tax amount, but is shared between the consumers, and producers.
- One of the reasons Japanese car makers started arriving into North America and starting manufacturing plants was to circumvent the quotas, and tariffs imposed on their cars. What is the impact of these quotas on say Toyota.

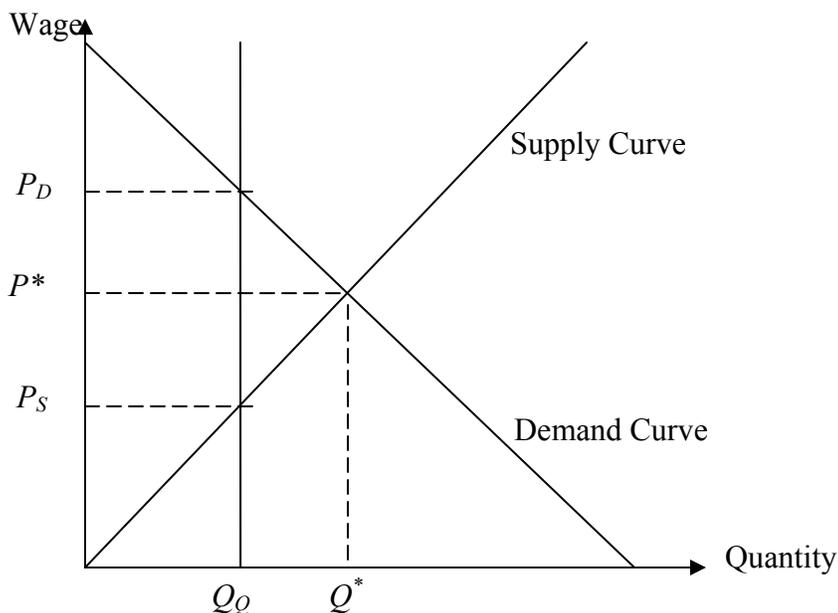


Figure 10: Quota on Toyota Cars from Japan

- By the government imposing an import quota, Toyota can charge a premium of P_D on their cars, even though they have been willing to sell them for P_S . What is the producer surplus? Is it larger than when Toyota could sell their cars at the equilibrium price of P^* ?
- The government can prevent the rise in producer surplus from going to Toyota by simply imposing a tariff sufficient to raise the price sold by Toyota. See page 117, figure 5-8b of your text. The government now gains the increase in producer surplus.
- So is there a role for the government in the market?
- Some examples of government's role is as follows;
 - Providing a stable set of institutions and rules: Such as rules to guide and bind a contract to the parties involved.
 - Promoting effective and workable competition: Such as Anti-Trust laws that prevent large firms from unfair, anti-competitive practices.
 - Correcting for externalities: Industries that generate pollution must be forced to include the cost it imposes on the general populace, failing which they will not account for the detrimental effects their poor processes have on the environment, immediate or otherwise.
 - Ensuring economic stability and growth: The "Federal Reserve Bank" in the US and the Bank of Canada uses monetary policy to prevent large fluctuations in the level of economic activity. The Americans has done a great job since the Clinton years. How has the Canada fared?
 - Providing public goods: A public good is a good that the consumption by one, cannot deny the enjoyment by another agent. This is different from a

private good since the consumption of a private by one, denies its enjoyment by another. Some examples are National Parks, the Army etc.

- Adjusting for undesired market results: It is a generally held belief that governments should ensure “fair” distribution of income among the general populace. To ensure there is equal opportunity for everyone to achieve success. Another example would be demand for demerit goods or activities, such as illegal drugs. There is obviously demand for it, and a market equilibrium quantity demanded. It is the duty of the government to suppress this sector. There are also merit goods such as charitable nonprofit organizations which the government support through subsidies.