• Tax Incidence: who actually bears the burden of a tax.
  o The statutory incidence does not show who really pays the tax. The economic incidence measures the burden actually borne by each party.
    ▪ Statutory incidence: who sends the check to the government.
      • Alachua County imposes a 7c per gallon LOGT that is paid by retailers. Thus the retail gas stations bear the statutory incidence of the tax.
    ▪ Economic incidence: who actually bears the burden of the tax.
      • If gas stations respond by raising prices by 7c per gallon then the full burden of the tax has been passed through to consumers. Thus they would bear the economic incidence.
  ▪ We measure the tax burden as the difference in resources as a result of the tax.
    • Consumer tax burden: (post price – pre price) + tax payment
    • Producer burden: (pre price – post price) + tax payment
  ▪ Show slide 1 (example of tax on production)
    • Consumer tax burden: ($1.80 - $1.50) + $0 = $ .30
    • Producer tax burden: ($1.50 - $1.80) + $.50 = $.20
    • Therefore the tax burden on the consumer is $.30 and the burden on the producer is $.20
    • The consumer bears more of the tax burden even though the producer technically pays the tax.
    • The tax wedge, the difference between what consumers pay and producers receive, is $.50 in this case.
  o The tax incidence does not change as a result of who is actually charged for the tax.
    ▪ Show slide 2 (example of tax on consumption). Note that tax burdens are unchanged.
      • Consumers still have the same overall willingness to pay, but their willingness to pay producers has decreased by $.50 because for each gallon they buy they have to pay the government $.50.
  o The incidence of the tax is determined by the elasticities of the parties involved.
    ▪ Show slide 3 (perfectly inelastic demand) and represent mathematically the tax burdens.
      • In this case the producer is legally responsible for the tax, but the tax burden has fully shifted to the consumer. There is 100% pass through of the tax.
      • This situation fits with what we know about retail gasoline taxes, at least in the short run. Several years ago Dr. Denslow did a study in which he found that gasoline taxes in Florida were fully shifted to consumers.
    ▪ Show slide 4 (perfectly elastic demand) and represent mathematically the tax burdens.
      • Those with inelastic supply or demand bear taxes and those with elastic supply or demand avoid them.
If there are many substitutes for a good (elastic demand), producers cannot raise prices very high because people will buy the substitutes instead – therefore the producers bear most of the burden.

If there are few substitutes and people need the good (inelastic demand), producers can pass along any tax increases to consumers and they have no choice but to pay.

The same is true for suppliers; if their supply is inelastic they will be less likely to pass tax increases on to consumers, while if it is elastic, they will be more likely.

As we looked graphically at what happened when the tax was applied we saw that not only did prices change, but quantities changed as well.

- When we talk about tax incidence – who bears the tax – we ignore the changes in quantity.
- Later, when we talk about efficiency implications and deadweight loss, the change in quantity will be important.

It is important to realize that tax incidence applies not just to retail markets, but at each level where transactions take place.

- If we tax computer chips, both Intel and Dell are likely to bear part of the burden. Again, it does not matter whether we tax Intel or Dell, the tax burdens are determined by the elasticities of supply and demand.
- If we tax labor (payroll tax), the burden is split between workers and employers, and is determined by the elasticities of supply and demand.
  - Does it matter on who we impose the tax?
  - What if there is a minimum wage?

Suppose there is no minimum wage, but that the equilibrium wage in the labor market is $6.67 per hour.

- Suppose if we impose a 50 cent tax on workers, the equilibrium wage rises to $6.92 per hour.
  - Consumer (firm) tax burden: ($6.92 - $6.67) + $0 = $.25
  - Producer (labor) tax burden: ($6.67 - $6.92) + $.50 = $.25
- Suppose instead, we impose the same 50 cent tax on firms. Now the equilibrium wage falls to $6.42 per hour.
  - Consumer (firm) tax burden: ($6.42 - $6.67) + $.50 = $.25
  - Producer (labor) tax burden: ($6.67 - $6.42) + $0 = $.25

Now suppose the minimum wage in the market is $6.67, as it is in Florida. What happens if we impose the tax on firms?

- The wage cannot fall below $6.67, so there is no change in the wage rate.
  - Consumer (firm) tax burden: ($6.67 - $6.67) + $.50 = $.50
Producer (labor) tax burden: $(6.67 - 6.67) + 0 = \$0.25$

Now the firm bears the entire tax burden.

- The takeaway is that even though the statutory incidence usually doesn’t matter, it can matter if there are price floors or ceilings.
- Other impediments to price adjustments can have the same effect.
  - We usually believe wages are somewhat sticky – it’s hard to lower someone’s wage rate.
  - Union rules can also prevent wages from adjusting downward.

- What happens when we move away from perfectly competitive markets?
  Suppose we have a monopoly producer – the only supplier of the good (show slide)

  - Just like a firm in a perfectly competitive market, the monopoly producer will choose to produce where MR = MC.
    - However, for a monopolist, MR is not the price.
    - The monopolist can lower his price to sell one more unit, but if he does he loses revenue on all the other units he would have sold at the higher price.
    - As a result, the monopolist’s marginal revenue curve is downward sloping.
  - To find the quantity produced we find where MR = MC. To find the price at which the transaction will take place we find where the demand curve intersects this quantity.
  - Now suppose we tax consumption of the monopolistically supplied good.
    - The tax on consumption shifts the demand curve downward, moving the marginal revenue curve with it.
    - The equilibrium quantity, where MR = MC falls, as does price.
    - Since the price falls, the monopolist bears some of the tax burden. Thus, unless supply is perfectly elastic or demand perfectly inelastic, some of the incidence of the tax will fall on them.
  - Thus, even in monopoly markets the relative elasticities of supply and demand determine who bears the burden of the tax.

- Throughout this course we have generally been content with partial equilibrium results. This means that we have examined how changes affect a certain market, but not how they affect other markets. In reality, we have to worry about how taxes in one market change behavior in all other markets. This is called general equilibrium analysis.

  - Suppose, for example that a tax was levied on fast food restaurants; is it likely to be borne by the restaurants or the customers?
    - Presumably the demand for fast food is relatively elastic (there are lots of substitutes). Thus most of the burden is borne by the restaurant.
    - Can a restaurant bear taxes? A restaurant is made up of labor and capital.
- Between labor and capital we can assume that in the short-run the supply of labor is significantly more elastic.
  - Fast-food workers are relatively mobile; capital is invested in buildings and equipment. It’s hard for capital to cash out in the short-run.
  - Therefore, of the burden that falls on the restaurant, most of it is borne by capital in the form of lower returns.
- In the long run, however, capital is mobile as well. If the returns to investing in fast food restaurants are lower than what capital could obtain elsewhere capital won’t be put into the restaurant, but will be invested elsewhere.
  - As a result, in the long run the burden of the tax will fall primarily on the other input the restaurant needs – land. The supply of land tends to be inelastic in the long run.
- Thus the tax burden falls on many different parties; how it is split depends on their elasticities.
  - General equilibrium analysis follows the effect of the tax through multiple markets.
    - It is important to realize that many people are affected by the tax beyond just those directly involved in the fast food transaction.
    - In addition, a tax on a good affects the market for its substitutes and its complements.
      - In the case of fast food, a tax might affect the demand for meals at places like Chili’s and TGI Fridays. This in turn affects labor and inputs in these markets.
  - It is easy to see why economists find partial equilibrium analysis useful – it’s much easier. However, it is also important to think about government intervention in a much broader context.