

LECTURE XIII

17 April 2012

TOPIC 14

Large Country Trade Model

BIG PICTURE

- Large countries are distinguished by their ability to affect world supply and demand (and hence prices)
- How do we find trade equilibria in this case?
- Based on the value of imports and exports how do we describe a country's trade position?
- What are factors that have contributed to the US's trade deficit?

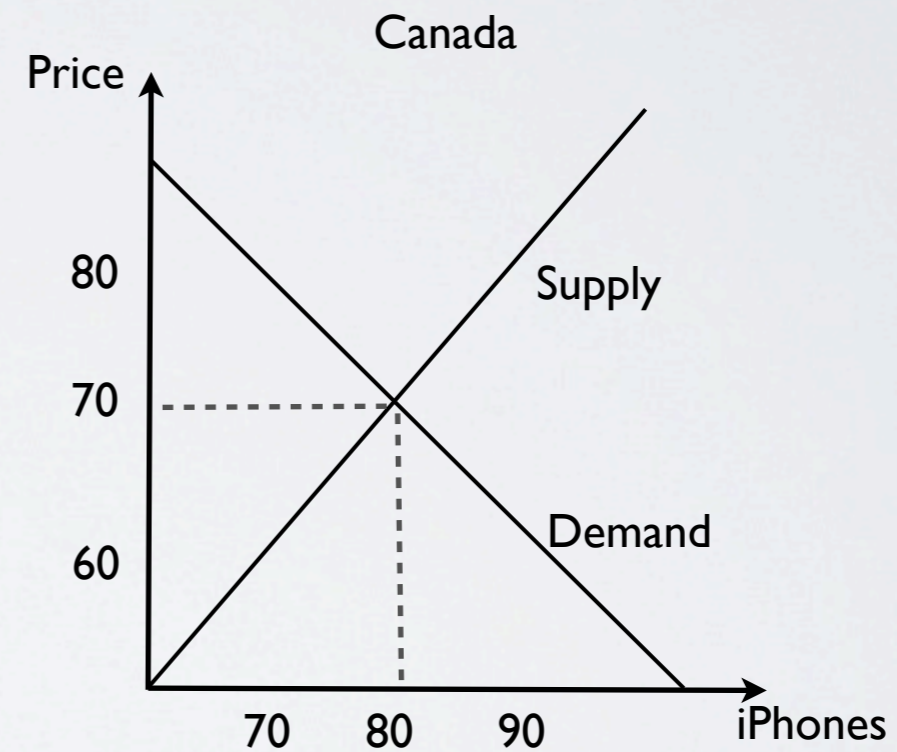
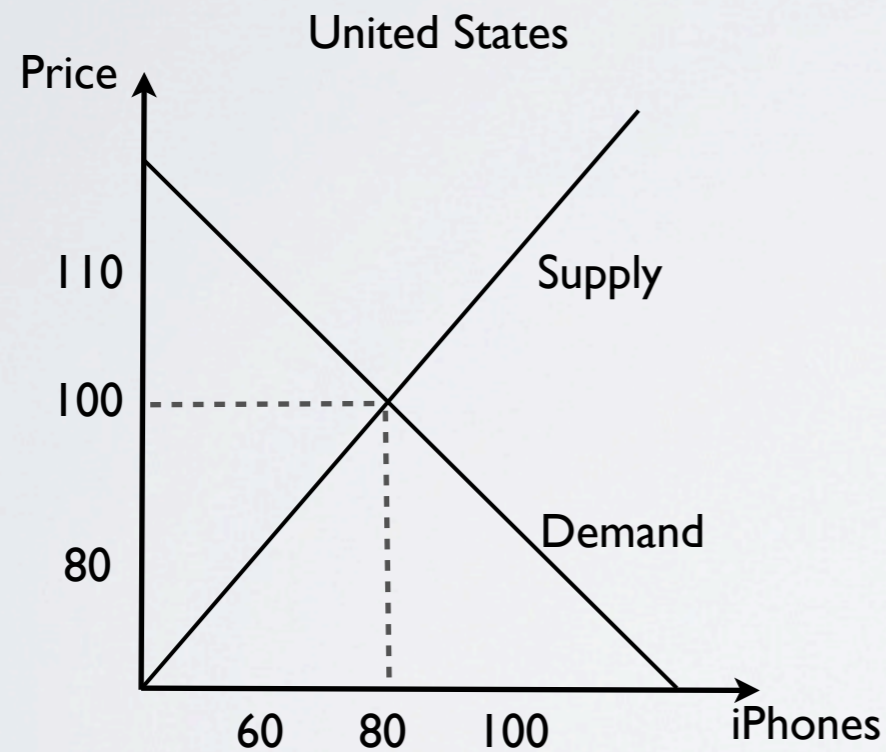
WHAT IS A LARGE COUNTRY?

- Not a small country
 - United States, China, Brazil..
- Important distinction is that **country is big enough to affect world prices** (in supply or demand)
- How do we find a trade equilibrium now?

TRADE EQUILIBRIUM

CANADA-US TRADE

- Take iPhone trade with Canada and the US



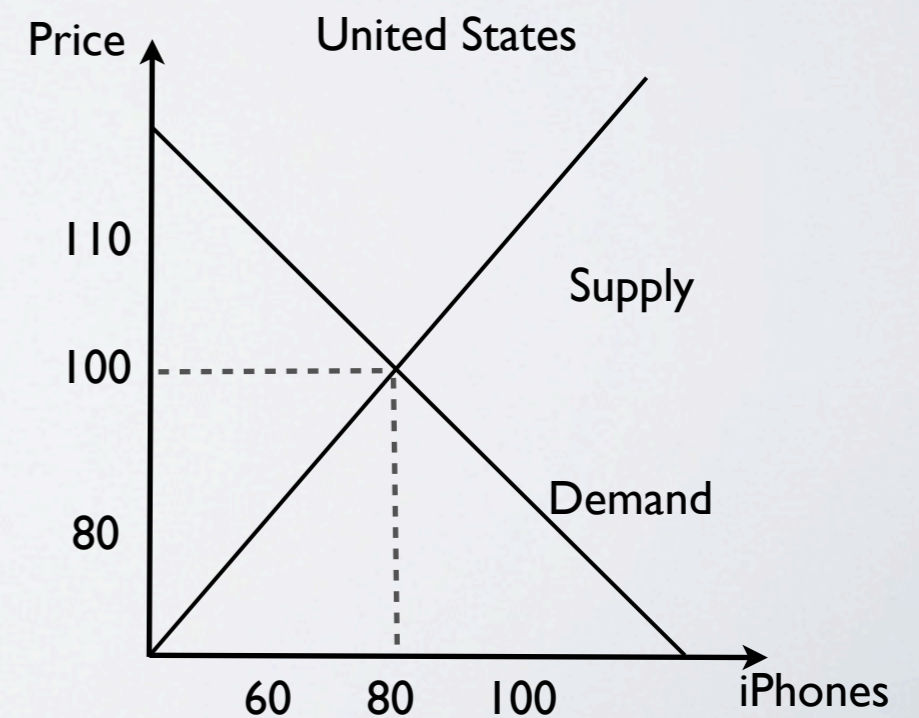
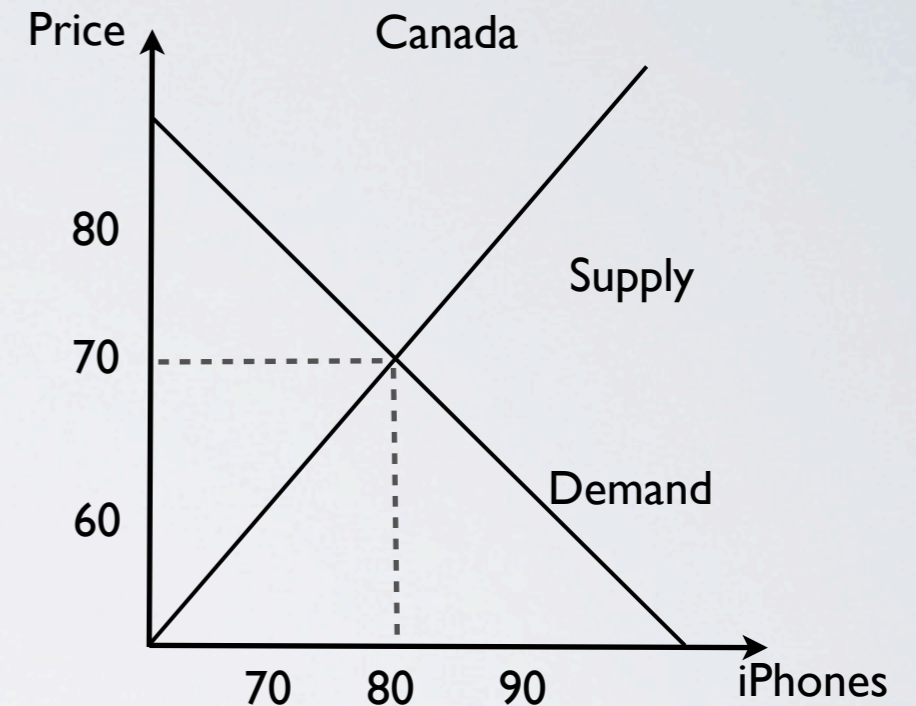
- Autarky equilibrium in US: \$100, 80 iPhones
- Autarky equilibrium in Canada: \$70, 80 iPhones

CANADA-US TRADE

- In a trade equilibrium, what will price be?
 - **Know it will be the same for both countries**
 - What should this price accomplish?
 - With only domestic production, we want domestic supply = domestic demand by the price
 - With international trade, we want exports = imports so there is no excess supply or production internationally
- As before, we can first lower and upper bound on prices

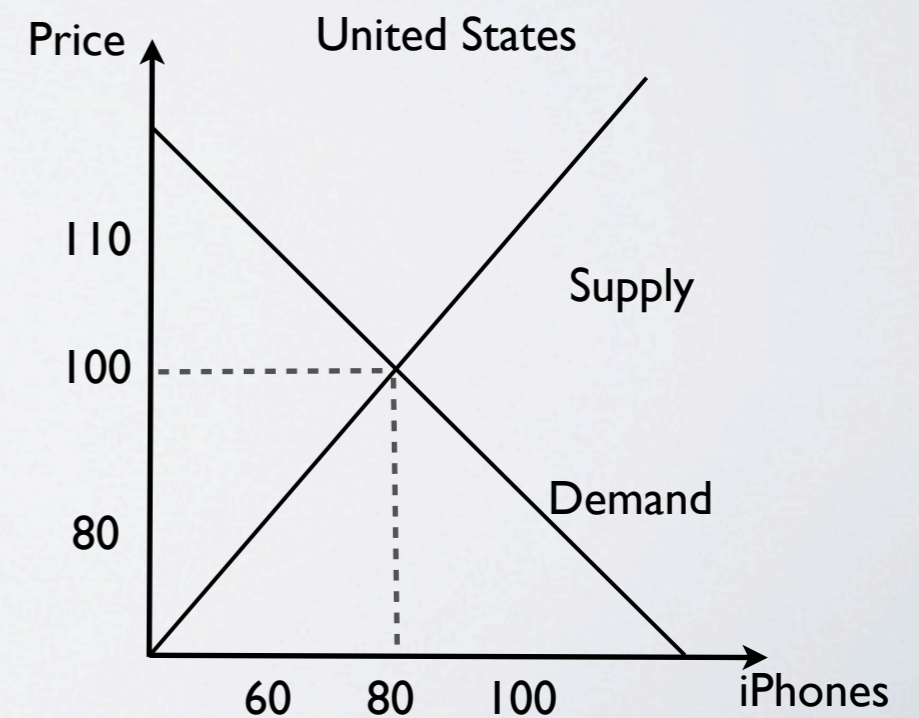
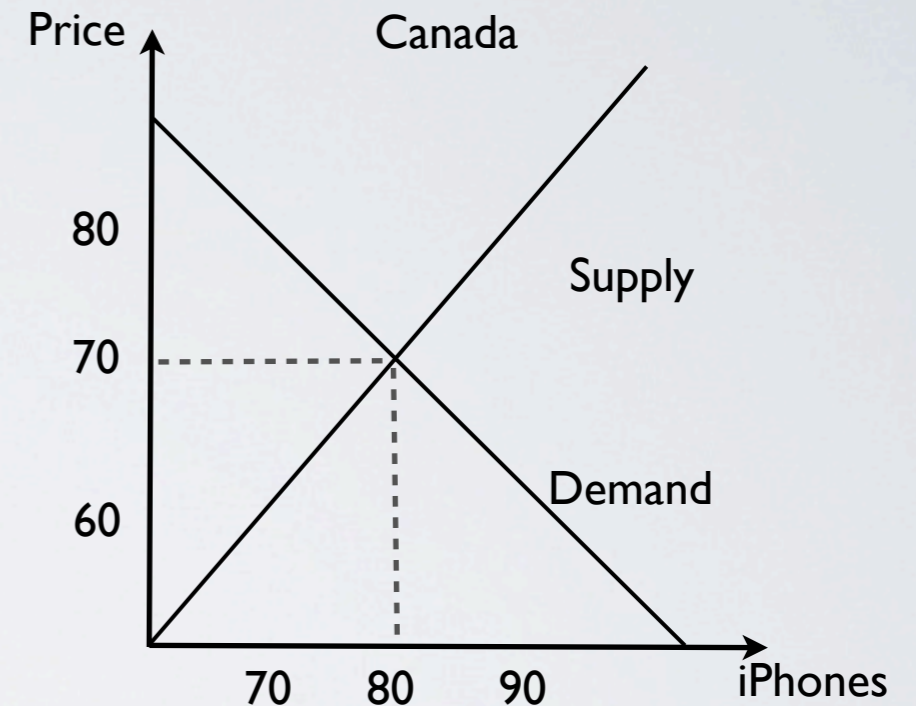
CANADA-US TRADE

- Consider price \$60, who wants to import and export?
 - At price \$60, both want to import so the possibility of import = export is impossible
- Consider price \$69?
 - Same situation
- First price at which both do not want to import is \$70
- So **minimum trade price** is \$70



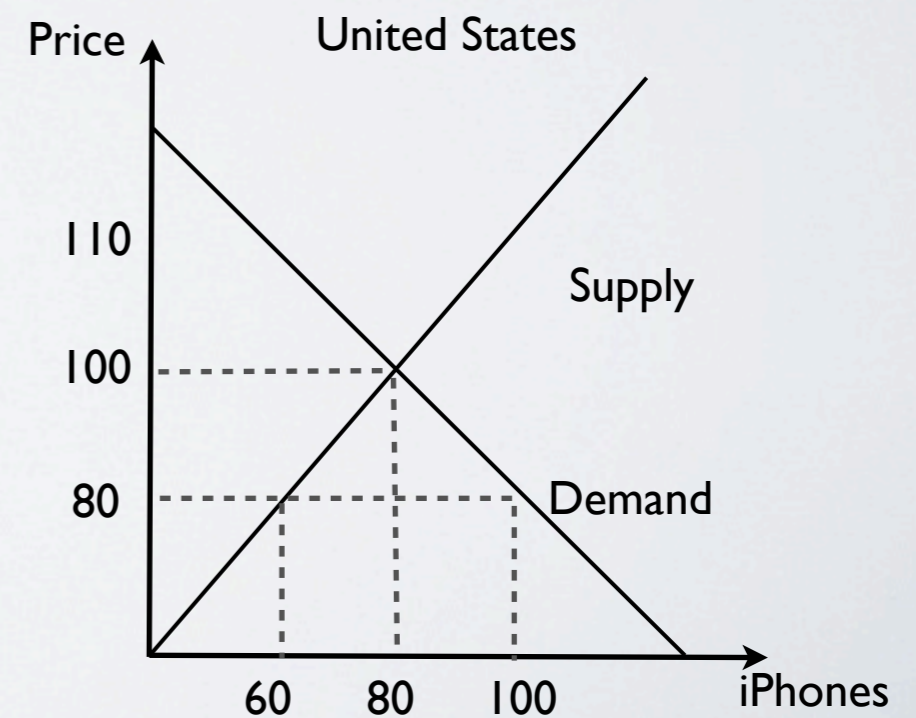
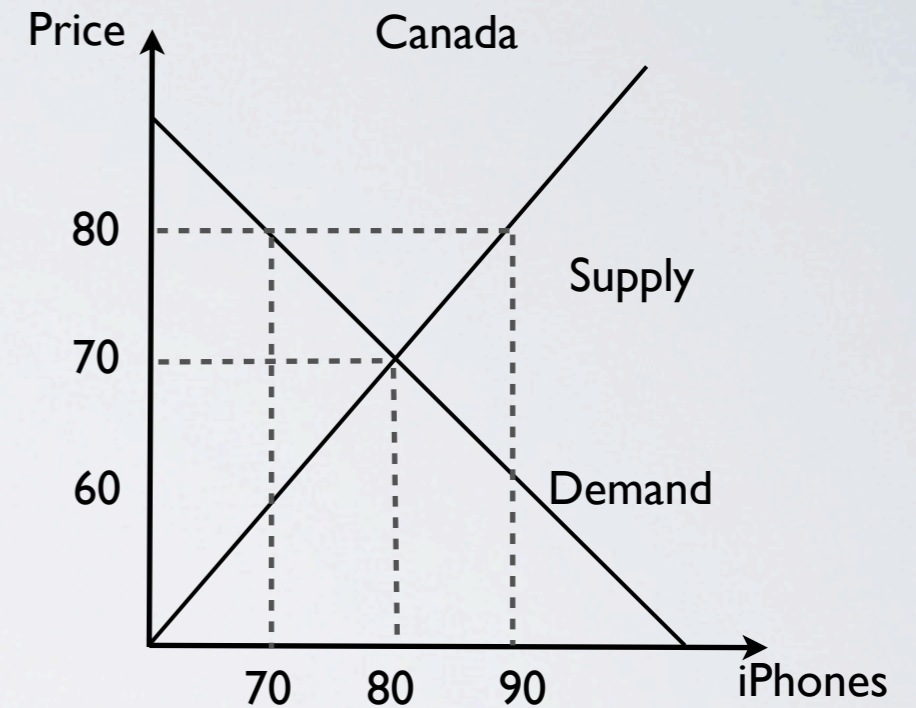
CANADA-US TRADE

- Likewise, if prices are too high, both will want to export
- What is the highest price at which both do not want to export?
- The **maximum price with free trade** is \$100
- So the final iPhone price is between \$70 and \$100



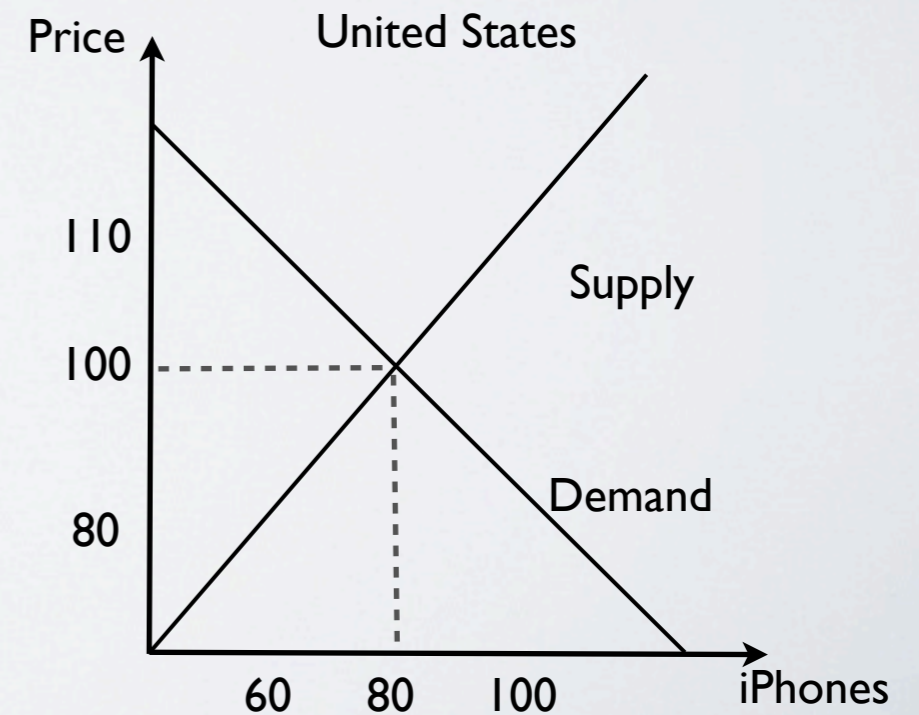
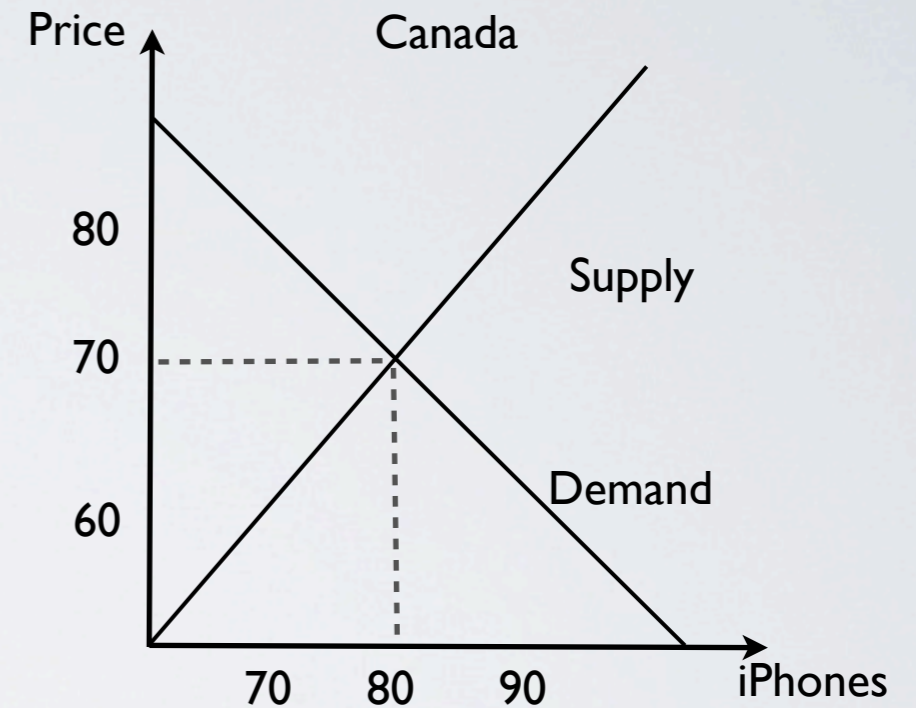
CANADA-US TRADE

- Suppose price is \$80, what are import and export demands?
 - Canada wants to export 20
 - US wants to import 40
- So import demand $>$ export supply
- What should we do to price to lower imports and increase exports?
- Increase price!



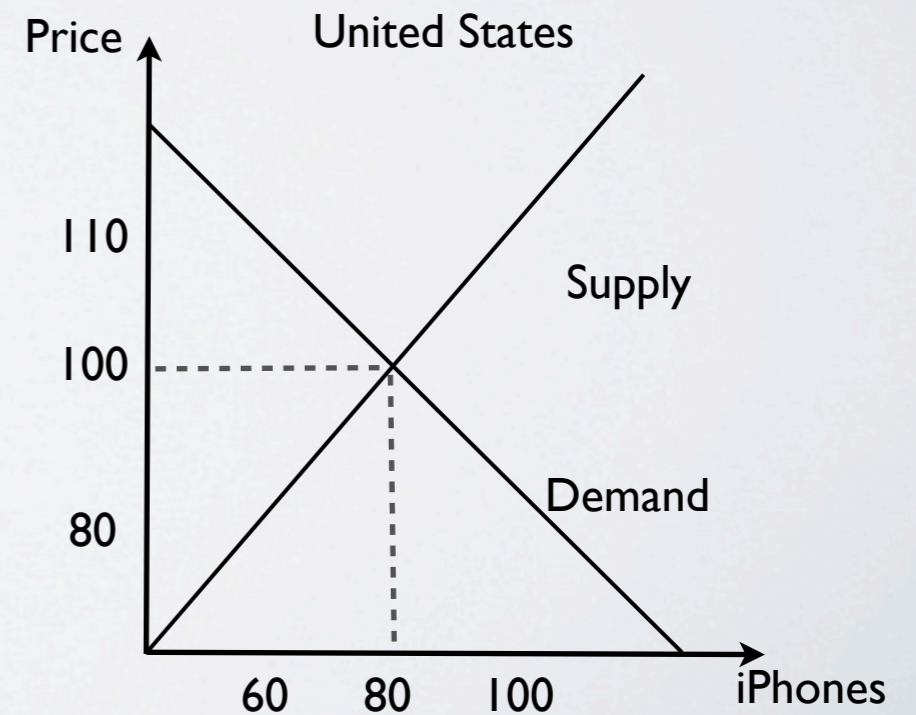
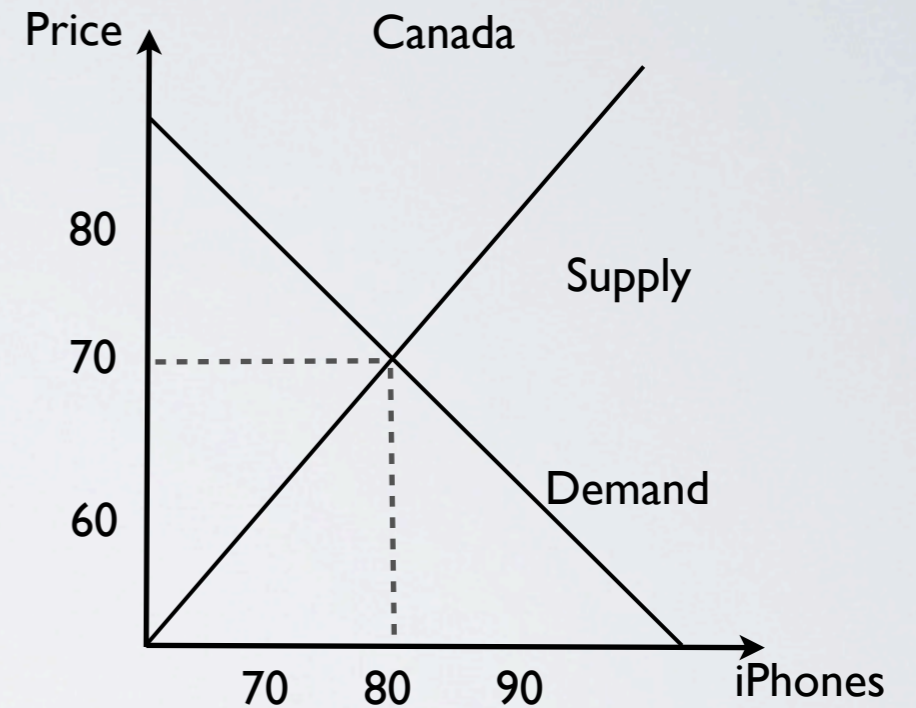
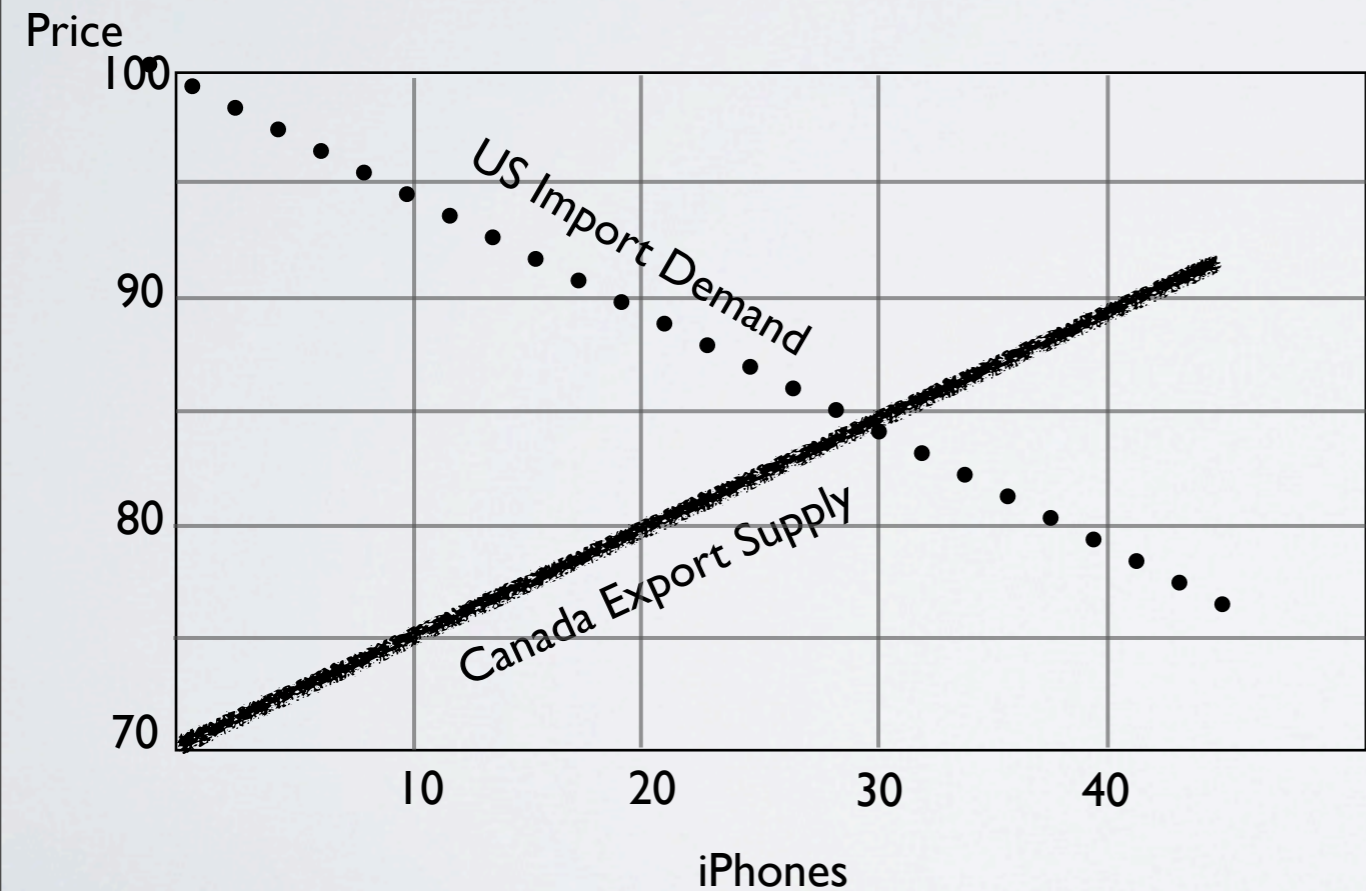
CANADA-US TRADE

- Easier way is to simply graph international export supply and import demand
- Know in our price range (\$70 to \$100), Canada will be exporter and US will be importer
- So, in this case, graph US import demand as a function of price and Canadian export supply (we have two data points for each country, enough to graph it)
- Equilibrium is where export = import



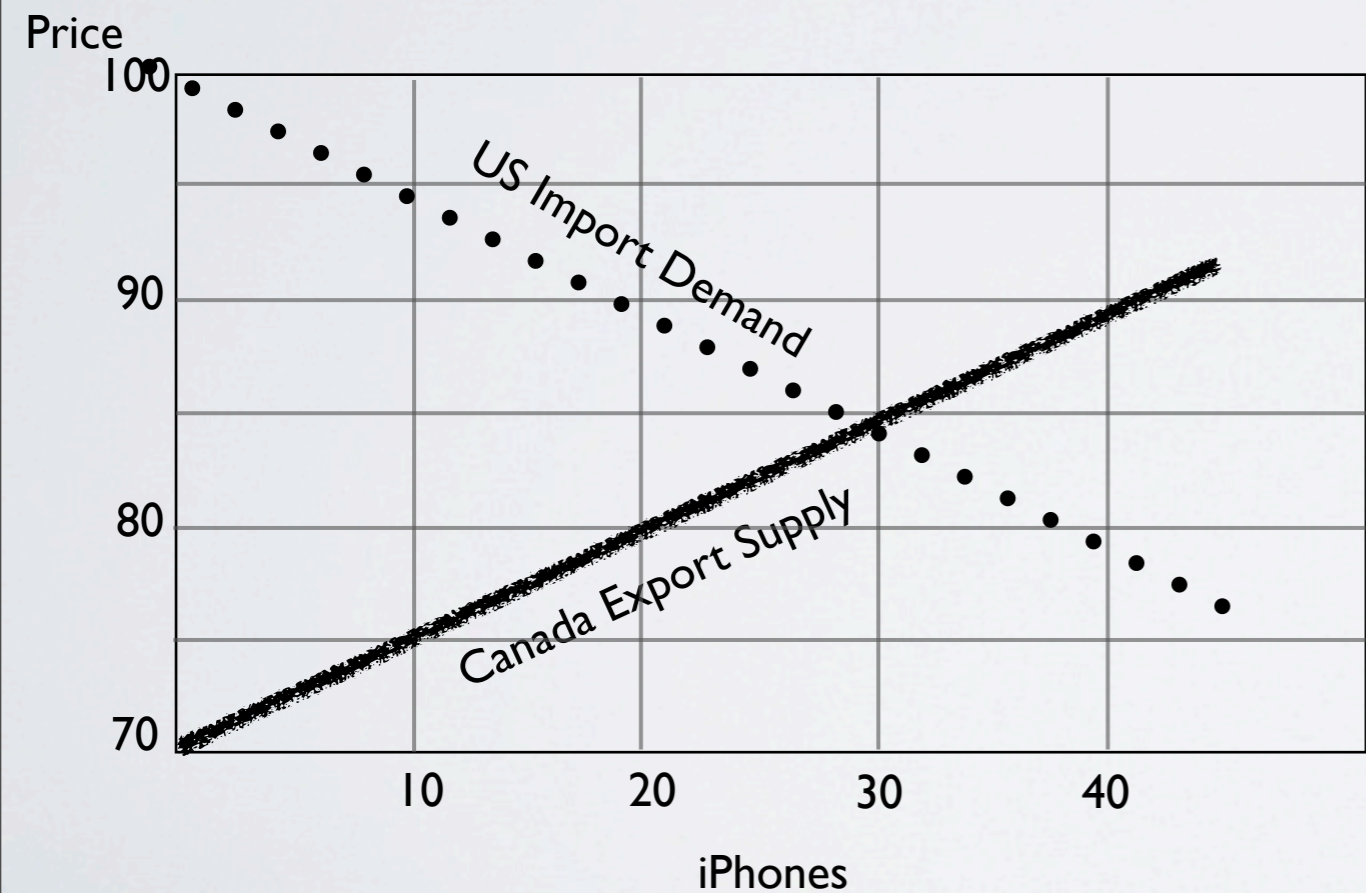
CANADA-US TRADE

Export/Import Equilibrium



CANADA-US TRADE

Export/Import Equilibrium



- If graph is drawn correctly, see that trade equilibrium is at price of \$85
- US Imports 30 units, Canada exports 30 iPhones
- What is consumption and production in each country at each price?
 - Need to figure out equations for supply and demand curves for Canada and US (try it)
 - Answer: US produces 65, consumes 95
 - Canada produces 95, consumes 65

TRADE POSITIONS

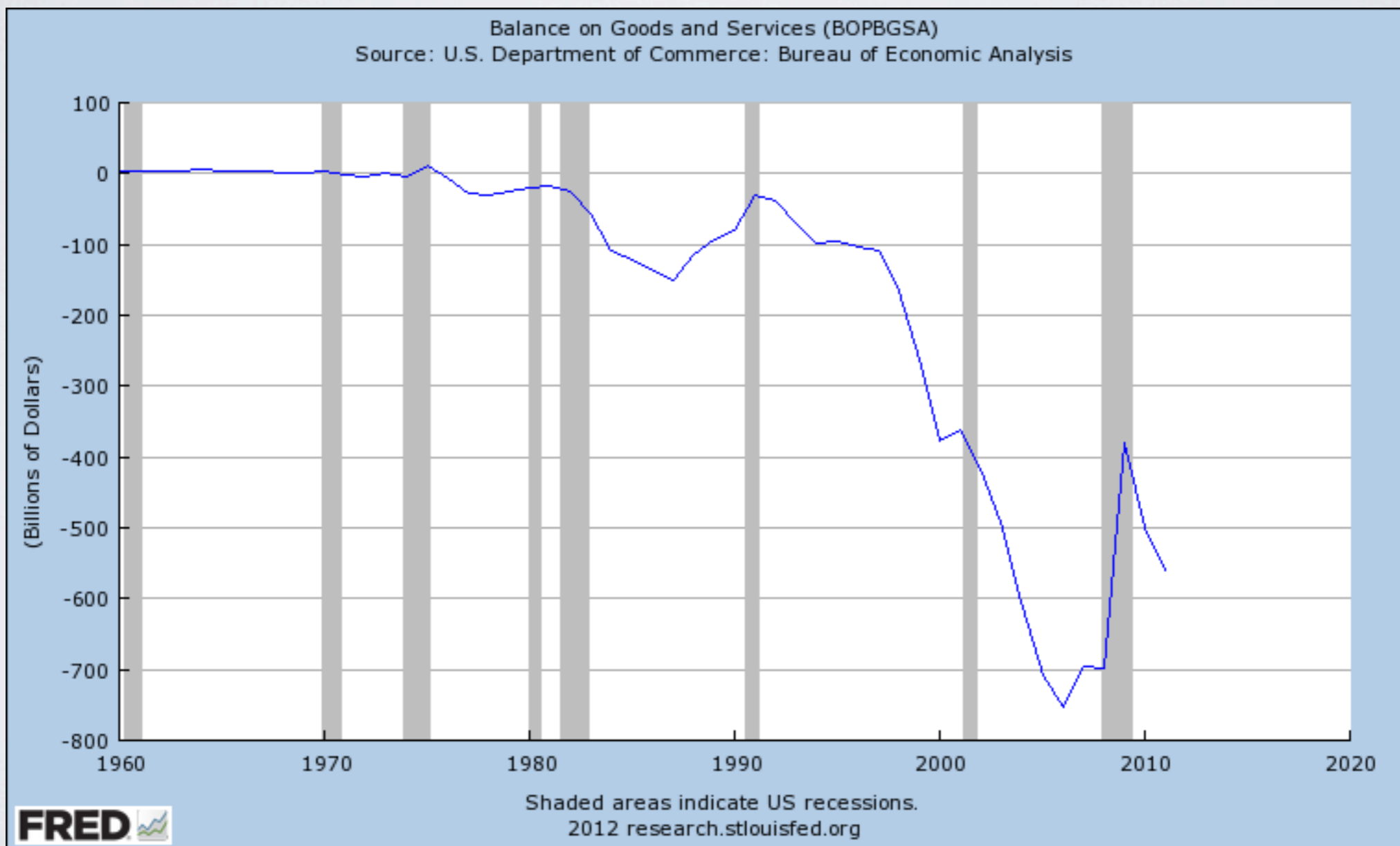
- Can it be the case that every country has a trade surplus?
 - NO! Who is importing the stuff?
 - It does not make sense that global exports \neq global imports
- In the real world, exports and imports are not based on one good
- Measure **net exports (NX) = value of exports - value of imports**
 - Also known as the trade balance
 - If $NX > 0$, value of exports $>$ value of imports, and have a **trade surplus**
 - **Trade deficit** occurs if $NX < 0$

TRADE POSITIONS

- If a country has $NX = 0$, it has **balanced trade**
- So having a trade deficit in oil does not mean the US has a trade deficit (although it does)
- Trade deficit follows from value of imports being greater than value of exports
- So where is the extra money made up to pay for imports coming from?
 - Will learn a country with a trade deficit **must** have a surplus in asset flows (more foreigners buying financial assets in US than US buying foreign assets)
 - Opposite for a country with a deficit

US DEFICIT

US DEFICIT IN TRADE OF GOODS AND SERVICES



CAUSES OF DEFICIT

- US services sectors actually export much more than import (so we have a trade surplus)
- Goods sectors are net importers
- What are some causes for this latter trend?

CAUSES OF DEFICIT

I. US Economy grows faster than major trade partners

- Economic growth implies increase in real income
- With more income consumers demand more goods
- Demand for more goods implies higher demand for imports since domestic sectors already do not supply many goods
- Trade partners do not grow as fast, however, so their demand for imports (our exports) do not grow as quickly

CAUSES OF DEFICIT

2. Increase in oil prices

- The US imports a lot of oil (from 2005 - 2008 about 5 billion barrels) and is about 8-10% of imports
- In 2005 price was \$50 / barrel versus \$65 in 2010
- In 2005 money spent on oil was \$200 billion, \$330 bil in 2007

CAUSES OF DEFICIT

3. China

- China has a fixed exchange rate relative to US currency (generally)
- Relatively high price for US dollar increases US demand for Chinese imports increases and Chinese demand for US exports decreases
- This trend is support for argument of requesting China appreciate (increase value of) its own currency (though past appreciations have not addressed the trade deficit)

CAUSES OF DEFICIT

4. Decline in US savings rate

- Recall that savings in the US are incredibly low (negative for the household, around .5% nationally in 2007)
- Has increased a bit in the crisis, but firms need more supply (of loanable funds) for investment so foreigners invest in US bonds
- Purchase of US assets by foreigners leads to the financial account surplus and in turn helps create the trade deficit (foreign money can buy more imports)

BIG PICTURE

- Large countries are so because their domestic supply and demand impact international prices
- The international price that clears the international market (import demand = export supply) is the price in equilibrium
- Countries that import more than they export (in terms of value of those goods and services) have a trade deficit
- The US has a large trade deficit, which is a function of domestic and international factors