When Belgium and the Netherlands start trading with each other, the production size of both countries does not change. However the number of varieties does change because consumers in both countries now also have excess to the varieties of the other country. According to the love-of-variety effect, consumers will consume all goods.

- In Belgium: the number of varieties increases to 10,000+14,000 = 24,000
- In the Netherlands: the number of varieties increases to 14,000+10,000 = 24,000

Because demand is proportional to the size of the market, a Belgium producer will export 7/12 of total production to the Netherlands and a Dutch producer will export 5/12 of total production to Belgium. These trade flows of similar goods are called intra-industry trade flows. Both countries gain from this trade.

The Krugman model argues that a large market can better fulfill the preferences of consumers, who like variety, than a small market.
When two countries are involving in trade with each other, consumers in both countries will purchase goods from all domestic producers and import goods from all foreign producers. This results in intra-industry trade flows of final goods from producers to consumers.

Wilfred Ethier came up with another interpretation of the same model. He explains the model with intra-industry trade flows of intermediate goods from producer to producer, rather than from producer to consumer. The producers of the final good combine the intermediate inputs from all variety producers into the single output.

We analyse trade policy under imperfect competition. The consequences of this trade policy differ from the perfect competition case. This mode; leaves more room for beneficial government intervention. An omniscient government could make the right strategic choices by promoting the interests of certain sectors. In practice strategic trade policy arguments are not very important.

International trade reduced the power of the domestic firm. Therefore the domestic form has to be protected. If there is a single producer in the domestic market, its demand curve is sloping downward, with concomitant MR and an upward sloping MC.(See p.226)
If there is no international trade the firm will charge the monopoly price p_{mon}. If there is a competitive industry this leads to p_{comp}, which is lower than the monopoly price.
The government can impose a tariff in three different ways:

- A tariff such that $p_{world} + t < p_{comp}$
  The government protects the domestic firm by imposing a tariff t. Then domestic output will increase, domestic demand falls and imports from abroad fall.
- A tariff such that $p_{comp} < p_{world} + t < p_{mon}$
  This is called a prohibitive tariff. If the market were competitive the equilibrium will be unchanged but with a single domestic firm the firms can use its monopoly power to lower output, increase prices and therefor increase profits.
- A tariff such that $p_{mon} < p_{world} + t$
  This is when the prohibitive tariff is raised even more. The firm maximized profits at the monopoly price. So the monopoly equilibrium remains the same.

Under perfect competition the welfare effects of tariffs and quotas are equal. If there is a domestic market power a quota is more restrictive than a tariff. Imposing a quota leads to higher prices and lower output. This results in a larger welfare loss than with a tariff. So when protecting a domestic industry it is better to use a tariff rather than a quota.

WTO/GATT is an agreement which is characterize by non-discrimination, reciprocity, and prohibition of trade restrictions other than tariffs.

Regional economic integration: Situation where a group of countries eliminates barriers of international trade and competition on a regional rather than on global scale. There are different types of regional economic integration:

- Preferential trade agreement(PTA); (EU countries + former colonies)
  Reductions in tariffs between countries, for specific products

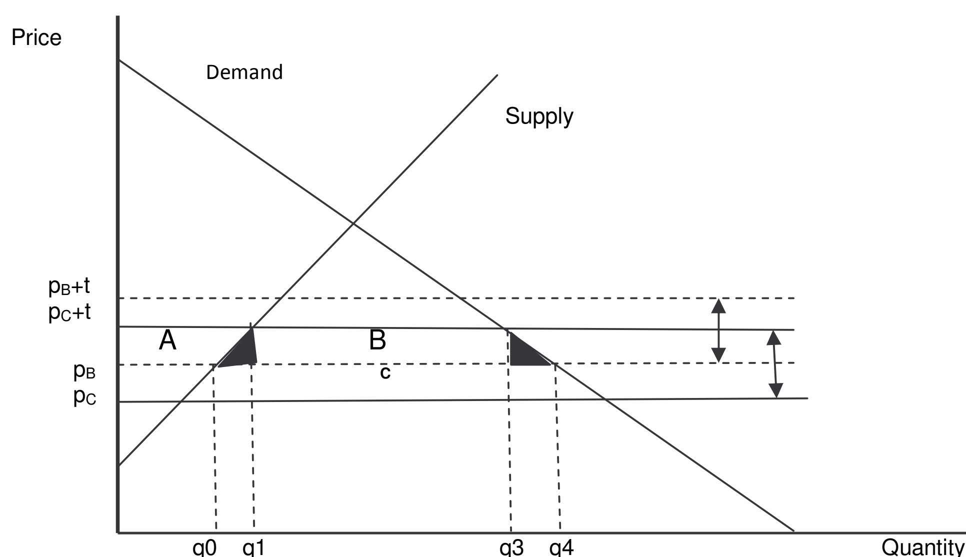
- Free trade area(FTA)
  Internal tariffs and other trade barriers abolished, but no uniform external tariffs. Examples are the European Free Trade Area (EFTA) and the North American Free Trade Area (NAFTA)
- Customs union
  No internal tariffs etc, and a common external trade policy (uniform external tariffs, etc.) An example of a custom union is the European Economic Community (EEC).
- Single/common market (EU = EEC + free movement of factors)
  Not only free movement of goods and services but also production factors, labor and financial capital, can move freely between member countries.
- Economic Union (EMU)
  This is an extension of the common/single market. But there is not only harmonization of trade policy, but also of other types of policies in the realm of economics. The economic union forms the counterpart in the sphere of a monetary union. A combined example is provided by the EU's Economic and Monetary Union (EMU).

Customs unions may have trade diversion or trade creation effects in a partial equilibrium framework. When assuming country A will form a custom union with country B.

- *Trade-creation*: Country B is a more efficient producer than country C, so $p_B<p_C$. Before the formation of the customs union, country A imports q3-q1 from country B. After the formation the tariff between country A and B is eliminated, such that p_A falls and the demand increases. Imports from country B then rise to q4-q0.
  Figure 1. Trade creation

  Producer surplus falls by area A.
  Government revenue reduces with area B.
  The net gain is area C+D.
  The increase in consumer surplus is area A+B+C+D.
- *Trade-diversion:* Country C is a more efficient producer than country B, so $p_B>p_C$. Before formation country A imports then q3-q1 from country C. After the formation the tariff between country A and country B is eliminated, so $p_B<p_c+t$. There is an import rise from q3-q1 to q4-q0.
  The producer surplus decreases with area A.
  Government revenue reduces with area B+C.
  The net gain/possible loss is area B +
  The increase in consumer surplus is area A+B+

Figure 2. Trade diversion



Kemp-Wan theorem: Under perfect competition, a customs union can always be welfare-enhancing for both members and non-members, provided that external tariffs keep world prices fixed and complicated internal transfers between members can be introduced.

All members of the GATT/WTO are bound to notify the regional trade agreements (RTAs) in which they participate. Almost all countries participate in such an agreement. The number of RTAs has increased fast since 1993. Some important RTAs:

- In Africa the most important RTA is the Common market for Eastern and Southern Africa (COMESA).
- In Asia the most important RTA is the Association of South East Asian Nations (ASEAN).
- In America there are multiple important RTAs. An example is the Central American Common Market (CACM).

RTA's became increasingly popular and more powerful as many countries were organizing themselves in such agreements. This is called *regionalism*. Countries were afraid that countries that were in the same RTA would be more protective towards countries outside the agreement.

Krugman argued that consequences are much less clear-cut in markets in which prices are not equal to marginal costs (as a consequence of imperfect competition). Generally:

- When substitution elasticities between varieties are high, welfare is lower for multiple regional trading blocs.
- Total welfare falls as the number of trading blocs decreases.
- Total welfare is maximized if there is free trade.
- An increase in the tariff rate t imposed on imports from outside the trading bloc leads to a reduction in the welfare and an increase in number of trading blocs.

The European Economic Community (EEC): An organization that forms the EC with two other organizations. Together they provide criteria for monetary integration in the Economic and Monetary Union (EMU). The objective of the EEC was to establish a common market, which also allows for the four freedoms:

1. Free movement of goods. Not only removal of tariffs and quotas but also removal of other obstacles that limit free movement of goods.