



## Section 15

# International Trade

Reference:

N. Gregory Mankiw and Mark P. Taylor (2020), *“Microeconomics”*, Cengage Learning, Chapter 17

*The slides of this section are mainly based on the 6<sup>th</sup> edition of the book by Mankiw and Taylor (2023). In some slides we reproduce figures, sentences and definitions given in the book.*

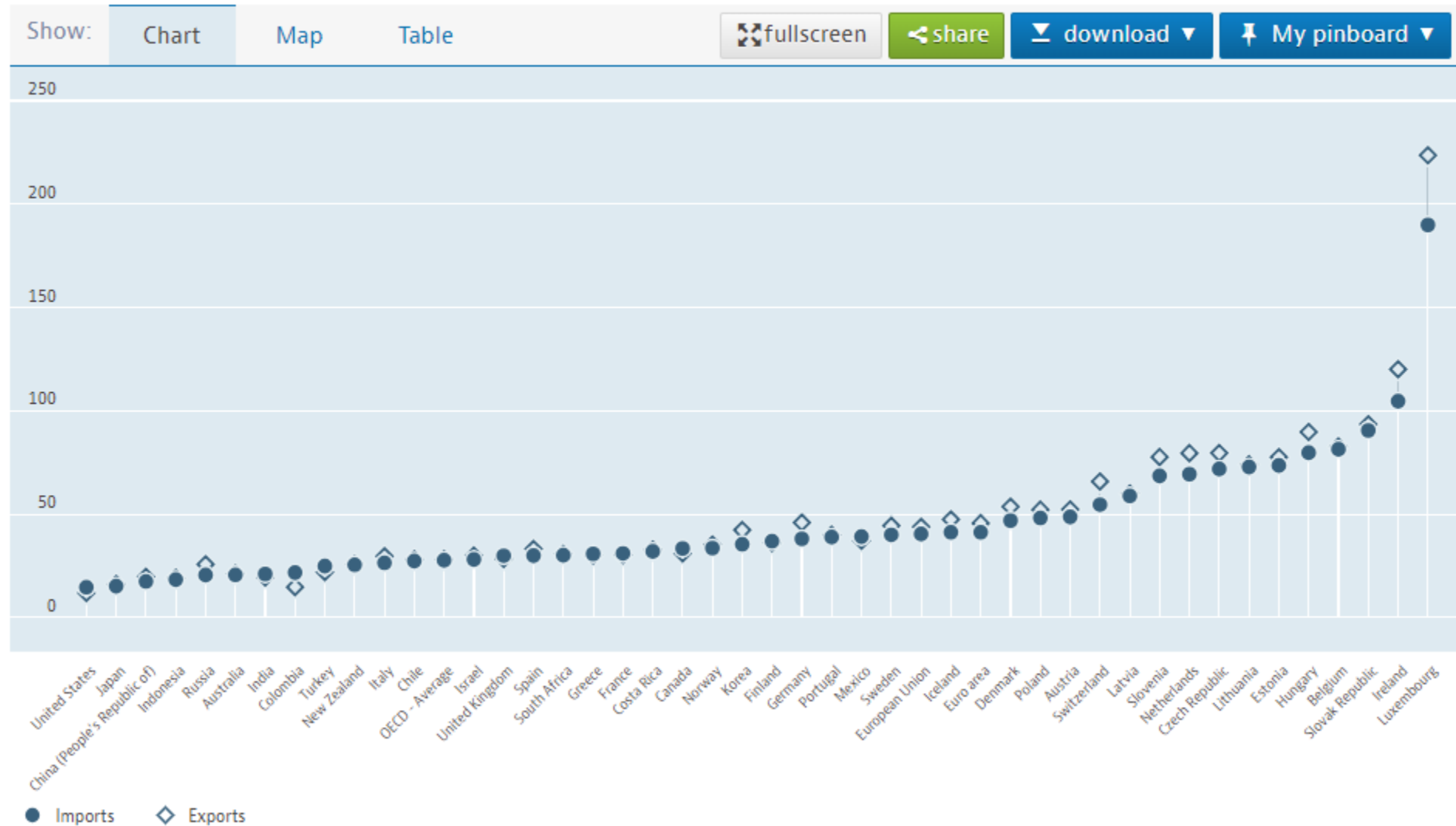
# **Introductory video: *North American Free Trade Agreement (NAFTA)* explained by avocados and shoes.**

<https://www.youtube.com/watch?v=DwKR08t5BGA>

# Trade in goods and services

Imports / Exports, % of GDP, 2016

Source: OECD National Accounts Statistics: National Accounts at a Glance



# Contents

- A. Interdependence and the Gains from Trade
- B. Effects of Trade
- C. Trade Policies
- D. Economic problems related to trade and globalization

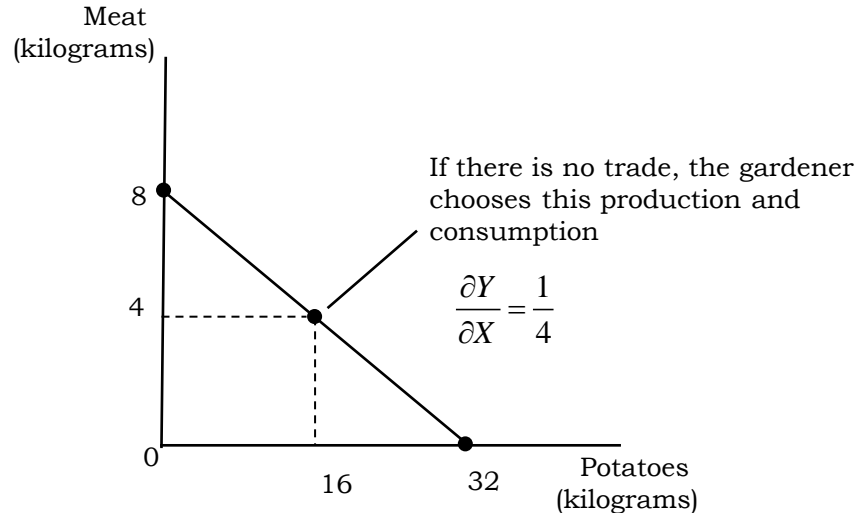
# ***A. Interdependence and the Gains from Trade***

# Interdependence and the Gains from Trade

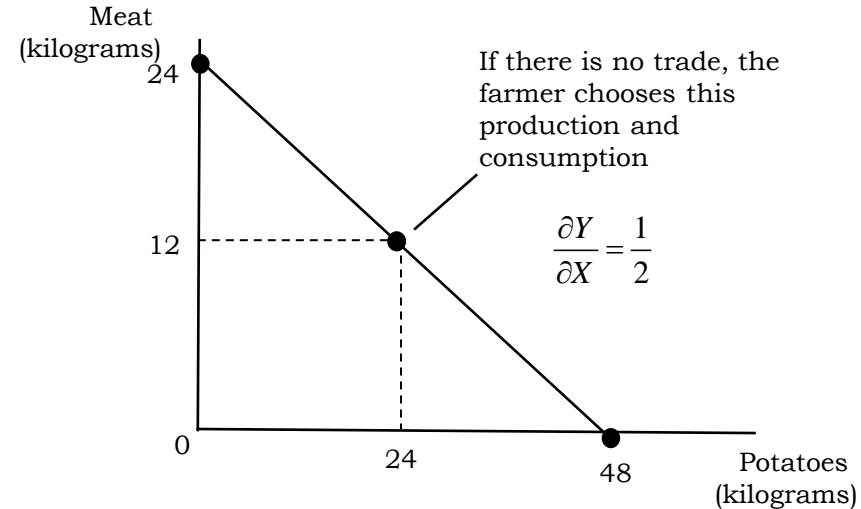
- If countries own **different resources/goods** and/or have **different skills/desires**, the trade will be possible and beneficial to every participant.
- **The theory of comparative advantage:** countries should specialize in producing the goods with the lowest opportunity cost, produce a surplus of goods, and then trade with other nations.
- Voluntary trade is desirable because it allows everyone to enjoy a greater quantity and variety of goods and services.
- General assumption: perfect competition

# Production Possibilities Frontier in a simple two-goods economy

- Panel (a) shows the combinations of meat and potatoes that the gardener can produce. Panel (b) shows the combinations of meat and potatoes that the farmer can produce. Both production possibilities frontiers are derived from Table 19.1 and the assumption that the gardener and farmer each work 8 hours a day.



(a) The gardener's production possibilities frontier



(a) The farmer's production possibilities frontier

A kilogram of meat costs the gardener 4 kg of potatoes, while it costs the farmer only 2 kg of potatoes

# The Opportunity Cost of Meat and Potatoes

	Opportunity cost of 1 kg of meat	Opportunity cost of 1 kg of potatoes
Gardener	4 kg of potatoes	0.25 kg meat
Farmer	2 kg of potatoes	0.5 kg meat

- In our example, the gardener has a lower opportunity cost of producing potatoes than does the farmer: a kilogram of potatoes costs the gardener only  $\frac{1}{4}$  kg of meat, while it costs the farmer  $\frac{1}{2}$  kg of meat.
- The farmer has a lower opportunity cost of producing meat than does the gardener: a kilogram of meat costs the farmer 2 kg of potatoes, while it costs the gardener 4 kg of potatoes.
- Thus, the gardener has a comparative advantage in growing potatoes, and the farmer has a comparative advantage in producing meat.

**Comparative advantage** the comparison among producers of a good according to their opportunity cost. A producer is said to have a comparative advantage in the production of a good if the opportunity cost is lower than of another producer

In a two-goods economy: The amount of good A you have to forego in order to get a certain amount of good B represents the **opportunity cost** of product B.



# Interdependence and the Gains from Trade

- Allowing some trade is better than not allowing any
  - ↳ But it does not say that everything that happens in the international economy makes everyone better off.
  - ↳ Some people will gain others could also loose

## New Trade Theory: Paul Krugman (Winner of the 2008 Nobel Prize)

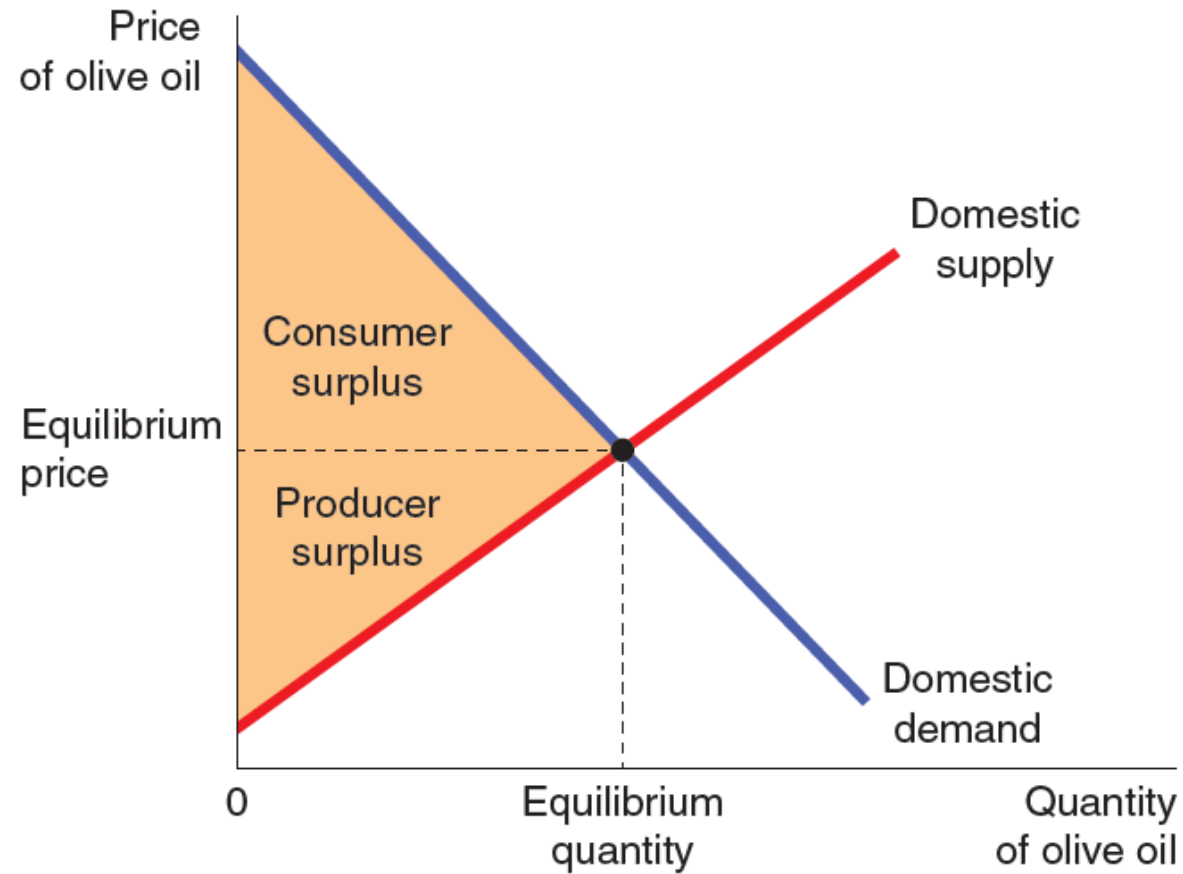
- Models of trade based on comparative advantage (e.g. Ricardian model) used the assumptions of **constant returns to scale**, **homogenous** products and **perfect competition**
- New trade theory: models that assume **increasing returns to scale**, **network effects**, **products differentiation**, **love of variety**, **transport costs**, **environmental costs**, **imperfect competition** etc.
- **Welfare conclusions on the effects of trade policies can be different.**
- *“These new models call into doubt the extent to which actual trade can be explained by comparative advantage; they also open the possibility that government intervention in trade via import restrictions, export subsidies, and so on may under some circumstances be in the national interest after all”*

Krugman P. (1987) Is Free Trade Passe? Journal of Economic Perspectives, 1, pp. 131-144.

## ***B. Effects of Trade***

***Who gains and who loses from the free trade  
among countries?***

# Effects of Trade



Source: Mankiw & Taylor (2023), "Microeconomics"

## Effects of Trade

- If the government allowed the country to import and export olive oil, what would happen to the price of olive oil and the quantity of olive oil sold in the domestic market?
- Who would gain from free trade of olive oil and who would lose, and would the gains exceed the losses?
- Should a tariff (a tax on olive oil imports) or an import quota (a limit on olive oil imports) be part of the new trade policy?

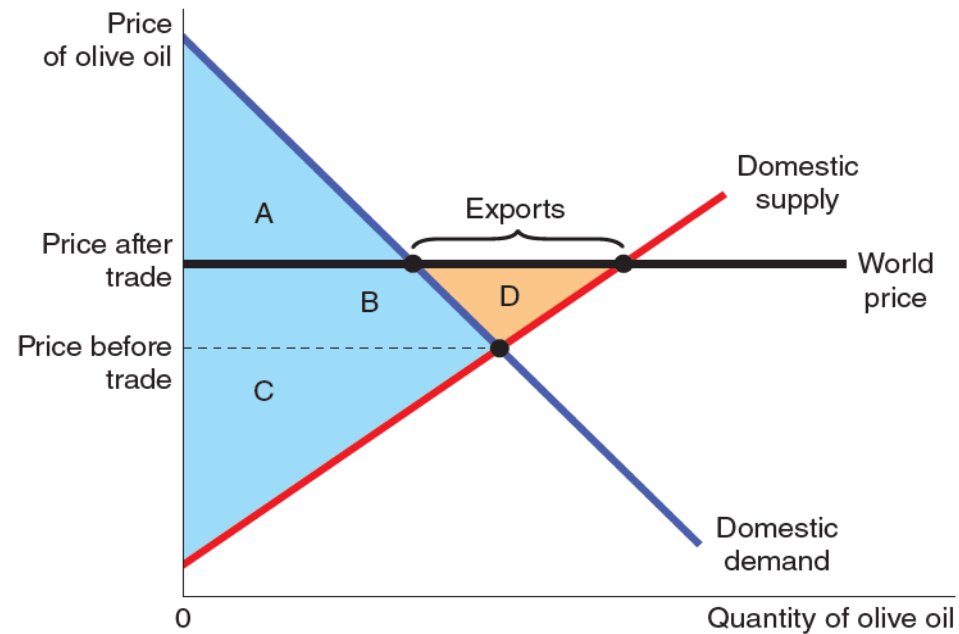
## Effects of Trade

- The effects of free trade can be shown by comparing the domestic price of a good without trade and the world price of the good.
- **The world price** refers to the price that prevails in the world market for that good.
  - ↳ If a country has a comparative advantage, then the domestic price will be below the world price, and the country will be an **exporter** of the good. ( $P_{\text{domestic}} < P_{\text{world}}$ )
  - ↳ If the country does not have a comparative advantage, then the domestic price will be higher than the world price, and the country will be an **importer** of the good. ( $P_{\text{domestic}} > P_{\text{world}}$ )

# Exporting Country

	Before trade	After trade	Change
Consumer surplus	$A + B$	$A$	$-B$
Producer surplus	$C$	$B + C + D$	$+(B + D)$
Total surplus	$A + B + C$	$A + B + C + D$	$+D$

The area D shows the increase in total surplus and represents the gains from trade.

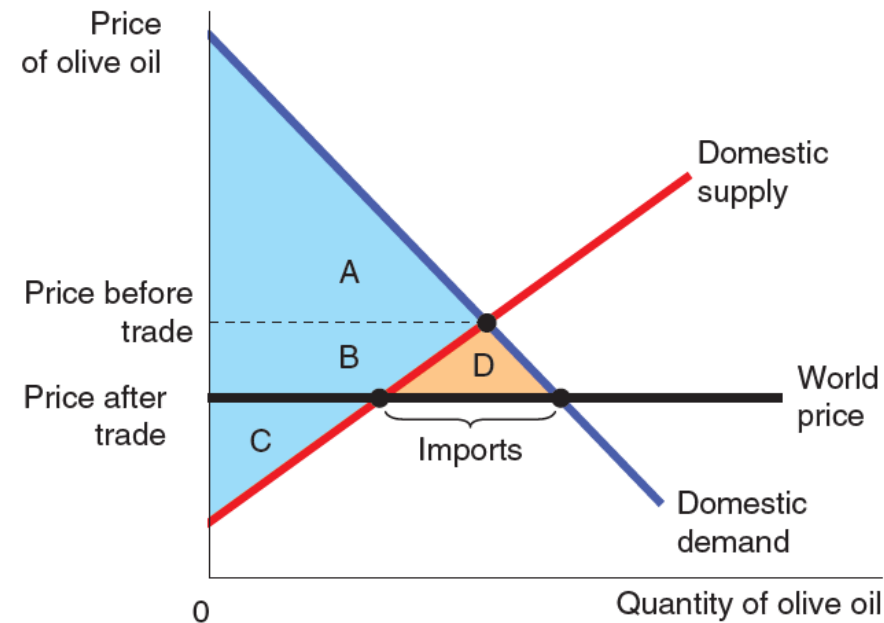


Source: Mankiw & Taylor (2023), "Microeconomics"

# Importing Country

	Before trade	After trade	Change
Consumer surplus	A	A + B + D	+(B + D)
Producer surplus	B + C	C	-B
Total surplus	A + B + C	A + B + C + D	+D

The area D shows the increase in total surplus and represents the gains from trade.



Source: Mankiw & Taylor (2023), "Microeconomics"



## Trade, size of a cake and cake division

- In these examples, the gains of the winners exceed the losses of the losers, so the winners could compensate the losers and still be better off.



**VS**



- In practice compensation is rare
- Without compensation, opening up to international trade is a policy that expands the size of the economic cake, while perhaps leaving some participants in the economy with a smaller slice.



**VS**



## ***C. Trade Policies***

***Which are the effects of an important  
quota of tariff?***

# Trade Policies

- World trade create conflicts between the interests of consumers and the interests of producers
- Cheap imports benefit consumers but hurt domestic producers
- Export subsidies benefit the producers but hurt the consumers
- The economics of commercial policy analyzes the costs and benefits of different instruments

# Trade Policies

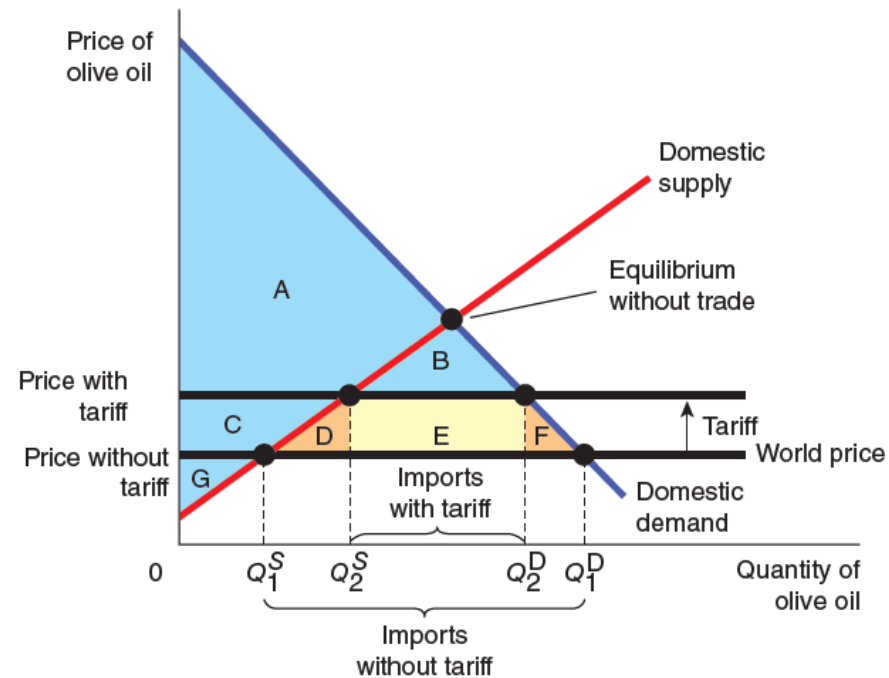
Possible Trade Policies:

- ↳ **Tariff:** tax on goods produced abroad and sold domestically.
- ↳ Tariffs raise the price of imported goods above the world price by the amount of the tariff.
- ↳ **Import Quota:** limit on the quantity of a good that can be produced abroad and sold domestically (government sell import licences).

# Effect of a Tariff

	Before tariff	After tariff	Change
Consumer surplus	$A + B + C + D + E + F$	$A + B$	$-(C + D + E + F)$
Producer surplus	$G$	$C + G$	$+C$
Government revenue	None	$E$	$+E$
Total surplus	$A + B + C + D + E + F + G$	$A + B + C + E + G$	$-(D + F)$

The area  $D + F$  shows the fall in total surplus and represents the deadweight loss of the tariff.

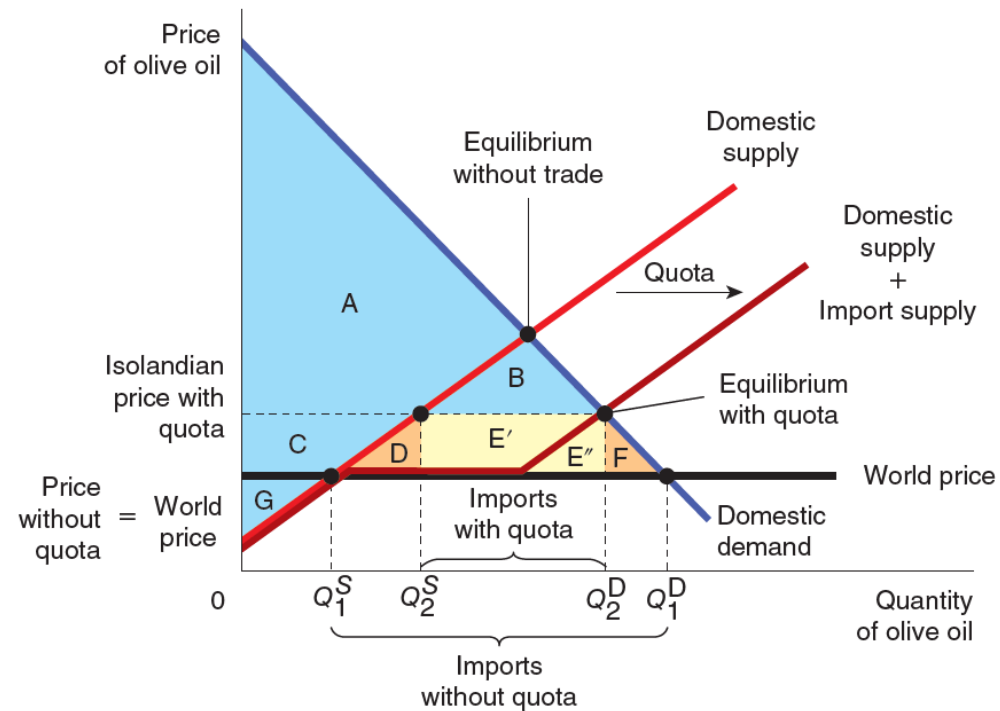


Source: Mankiw & Taylor (2023), "Microeconomics"

# Effect of Import Quota

	Before quota	After quota	Change
Consumer surplus	$A + B + C + D + E' + E'' + F$	$A + B$	$-(C + D + E' + E'' + F)$
Producer surplus	$G$	$C + G$	$+C$
Licence holder surplus	None	$E' + E''$	$+(E' + E'')$
Total surplus	$A + B + C + D + E' + E'' + F + G$	$A + B + C + E' + E'' + G$	$-(D + F)$

The area  $D + F$  shows the fall in total surplus and represents the deadweight loss of the quota.



# Other Benefits of International Trade

## Other Benefits of International Trade

Our conclusions so far have been based on the standard analysis of international trade. There are several other economic benefits of trade beyond those emphasized in the standard analysis which can be taken into account. Here, in a nutshell, are some of these other benefits:

- **Increased variety of goods.** Goods produced in different countries are not exactly the same. German beer, for instance, is not the same as US beer. Free trade gives consumers in all countries greater variety from which to choose.
- **Lower unit costs through economies of scale.** Some goods can be produced at low unit or average cost only if they are produced in large quantities. A firm in a small country cannot take full advantage of economies of scale if it can sell only in a small domestic market. Free trade gives firms access to larger world markets and allows them to realize economies of scale more fully.
- **Increased competition.** A company shielded from foreign competitors is more likely to have market power, which in turn gives it the ability to raise prices above competitive levels. This is a type of market failure. Opening up trade fosters competition with the benefits that arise from more competitive markets.
- **Enhanced flow of ideas.** The transfer of technological advances around the world is often thought to be linked to international trade in the goods that embody those advances. The best way for a poor, agricultural nation to learn about the computer revolution, for instance, is to buy some computers from abroad, rather than trying to make them domestically.
- **Generates economic growth.** For poor countries, the increase in output can be a trigger to generating economic growth, which may also bring an improvement in the standard of living for its citizens.

# ***D. Economic problems related to trade and globalization***



# Arguments for Restricting Trade

- There are some arguments for restricting trade:

- ↳ *Jobs*

- ↳ *National Security*

- ↳ *Infant Industry*

- ↳ *Unfair Competition*

- ↳ *Environment and trade*



- Some of these arguments have some merit; economists generally believe that free trade is usually the better policy
- However, free trade strategies should be design and implemented in order to be sustainable from an environmental and social point of view

# Arguments for Restricting Trade

- *Jobs*

- ↪ Free trade destroys domestic jobs

- ↪ Free trade can create new jobs in other sectors

- ↪ Social and industrial policy; programs to relocate people in expanding regions,...

- *National Security*

- ↪ Free trade increases dependence on other countries

- ↪ For important products special policies can be imposed in order to promote national security

# Arguments for Restricting Trade

- *Infant Industry*

- ↳ New industries need trade restrictions to get started

- *Unfair Competition*

- ↳ Free trade is only desirable if all countries have the same rules (good job safety, no child exploitation, same environmental standards and taxes...)

- *Uncovered environmental costs / social costs*

- ↳ Not all costs are considered in the international cost-comparisons of the firms

- ↳ Not all cost are considered in the international transport of the goods

- ↳ inefficient trade flows



## EU launches first phase of world's first carbon border tariff

By Philip Blenkinsop and Kate Abnett

October 2, 2023 5:44 PM GMT+2 · Updated 3 months ago

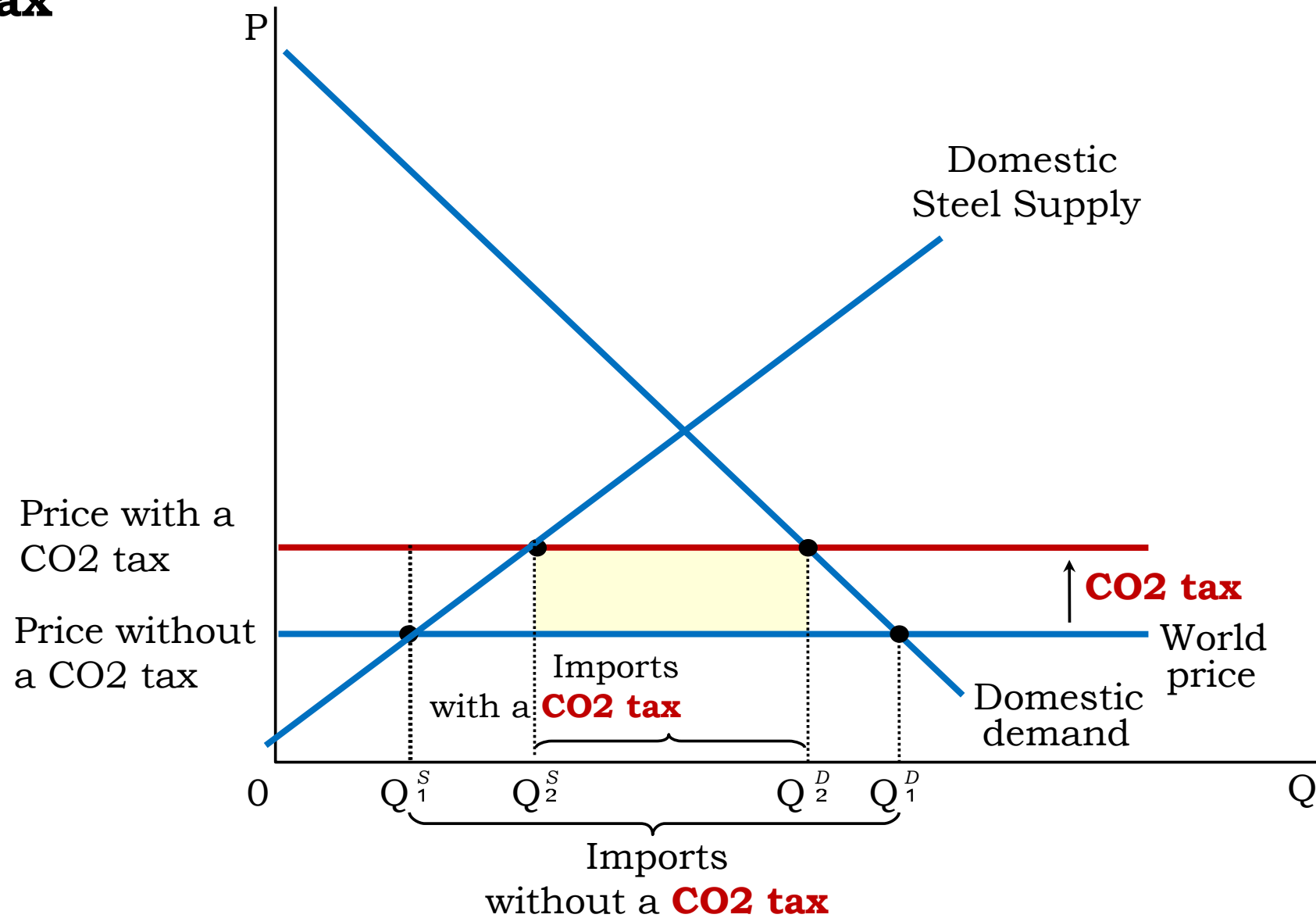


Vapour pours from a steel mill chimney in the industrial town of Port Kembla, about 80 km (50 miles) south of Sydney July 7, 2011.

REUTERS/Tim Wimborne/File Photo [Acquire Licensing Rights](#)

BRUSSELS, Oct 1 (Reuters) - The European Union launched on Sunday the first phase of the world's first system to impose CO2 emissions tariffs on imported steel, cement and other goods as it tries to stop more polluting foreign products from undermining its green transition.

The planned tariff has caused disquiet among trading partners and at a forum last month, China's top climate envoy [Xie Zhenhua](#) urged countries not to resort to unilateral measures such as the EU levy.

CO<sub>2</sub> tax

# Stiglitz: How to Rewrite the Rules of Globalization



<https://www.youtube.com/watch?v=Gsq4o3KY9sE>

# Extra slides

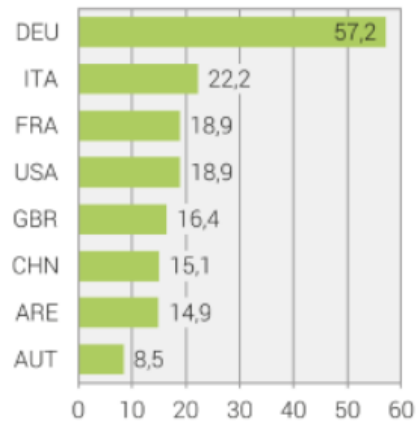
# Most Important Trade Partners of Switzerland and Structure of Goods with the Swiss Foreign Trade

## Aussenhandel der Schweiz, 2019

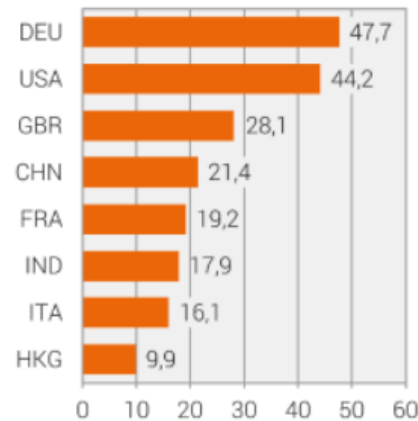
In Milliarden Franken

### Die wichtigsten Partner

Importe



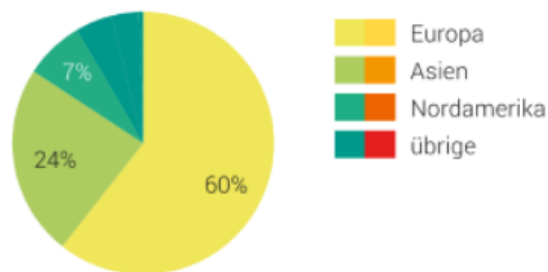
Exporte



### Aufteilung nach Kontinent

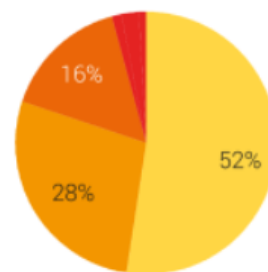
Importe

Total: 276,1 Mrd. Fr.



Exporte

Total: 312,0 Mrd. Fr.



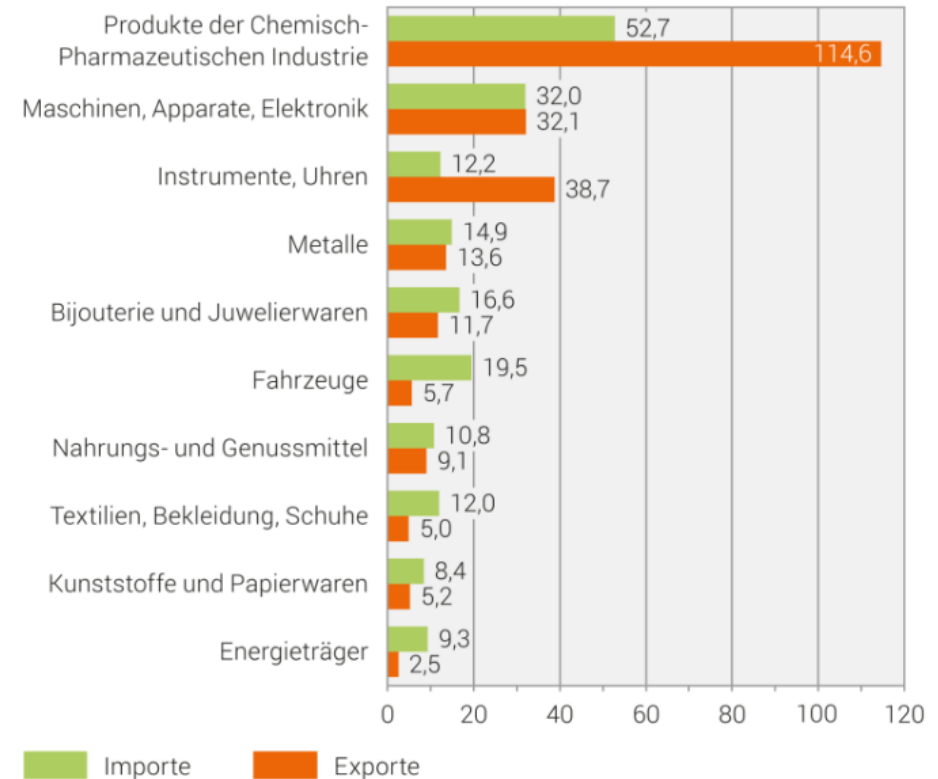
Quelle: BFS, EZV – Aussenhandelsstatistik

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## Aussenhandel der Schweiz, 2019

In Milliarden Franken

### Die wichtigsten Waren



Quelle: BFS, EZV – Aussenhandelsstatistik

© BFS 2020

Source: Bundesamt für Statistik, [www.bfs.admin.ch](http://www.bfs.admin.ch)

International Trade |



## Comparative Advantages

- How is the price of the exchange determined?
- How do you share the benefits?
- In a simple and intuitive way:
  - For both parties to benefit from the exchange, the price must be between their two opportunity costs.
- Contractual power

## Interesting use of commercial policy instruments

**Starting point:** a good commercial policy (Tariff, Quota,...) should pass **a double test:**

- ↳ The policy instrument must work in the sense that it brings about a socially desirable objective.
- ↳ It must do so at a lower cost, in terms of welfare, than any other available instrument.

- Example mountain farmers: Society may want to protect the livelihood of farmers in the Alps with a **tariff on milk**.
- Society feels that these people, with their traditional, stable way of life and with their activities in the Alps contribute to maintain and improve common natural resources and traditions.
- Is this the best instrument (import tariff on milk)?
  - ↳ Not really → this is a second best argument/solution because there is a better way of protecting mountain farmers at a lower cost for consumers → subsidy system