Econ Dept, UMR

Presents

Principles of International and Interregional Trade

Part I

Starring

- The Importance of International Trade

and

- Comparative Advantage
  - With Linear PPF
  - With Concave PPF

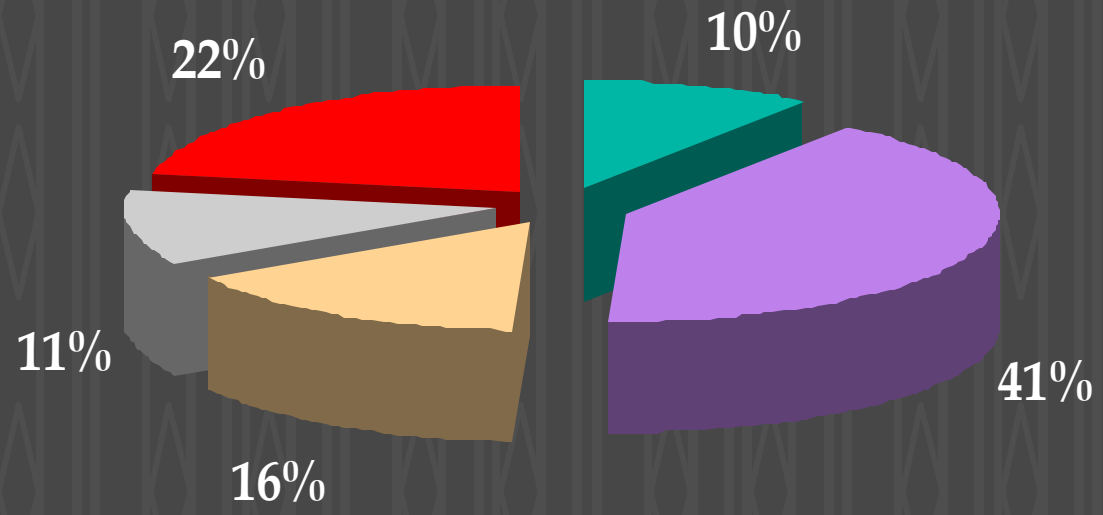
Why Foreign Trade?

- For the same reason we go to WalMart
- We get more of what we want for less
- Trade involves exchanging something we value less for something we value more
- International Trade is the exchange of exports (goods we value less) for imports (goods we value more)

Export, Imports, and GDP

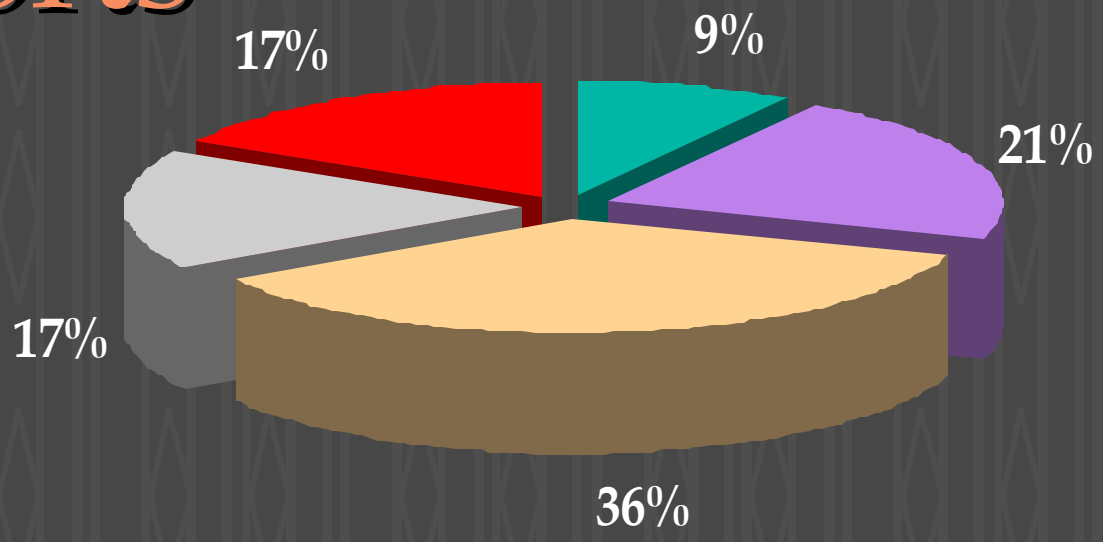
- GDP, Gross Domestic Product, is the market value of final goods and services produced. In 1997, GDP was about $7,000 billion. Exports, included in GDP, were about $600 billion, and Imports, which are a subtraction from GDP, were about $800 billion.

Exports 1996



- Agriculture Products
- Capital Goods
- Other
- Automobiles
- Industrial Supplies and Materials

Imports 1996



- Petroleum and Products
- Capital Goods
- Other
- Automobiles
- Industrial Supplies and Materials

Foreign Trade Links

Economic Report of the President

Annual Report 1997, Ch. 7, has a broad discussion of the U.S. role in the global economy

NAFTA And Fast Track

A collection of articles on these issues from Policy.com

U.S. Department of Commerce

Facts on international trade by country and trade sector

What Determines What We Sell and What We Buy?

- David Ricardo English Economist, 1772-1823
- Formulated the notion of Comparative Advantage

Comparative Advantage

- The ability to produce something desired at a lower opportunity cost than someone else
- By specializing in activities where you have a comparative advantage and trading, you realize a higher standard of living

By Exercising Comparative Advantage, We Gain From Trade

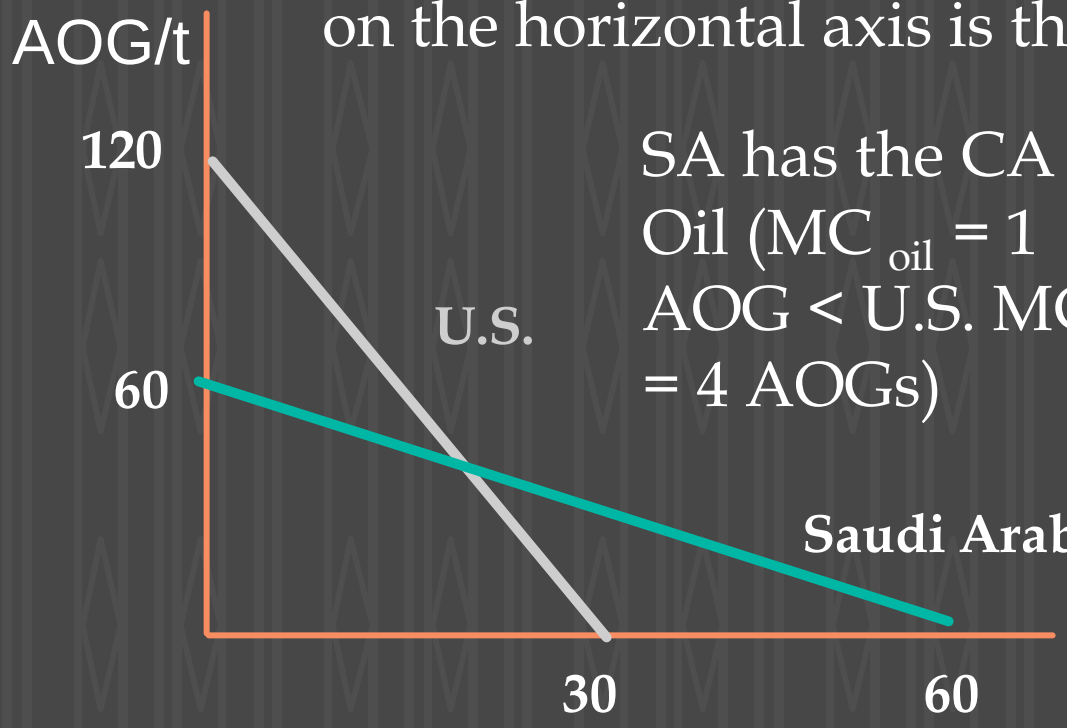
- Let's go back to the Production Possibilities Model
- And see how two countries win with trade

A Simple PPF

- Constant Marginal Cost
- Two Countries: U.S. and Saudi Arabia
- Two Goods: Oil and All Other Goods, AOG

Production Possibilities

Remember, the Marginal Cost of the good on the horizontal axis is the slope.



SA has the CA in Oil (MC_{oil} = 1 AOG < U.S. MC_{oil} = 4 AOGs)

Should They Trade?

- Who can produce the most Oil? the most AOG?
- Who has a comparative advantage in Oil? in AOG?
- Who should produce what?

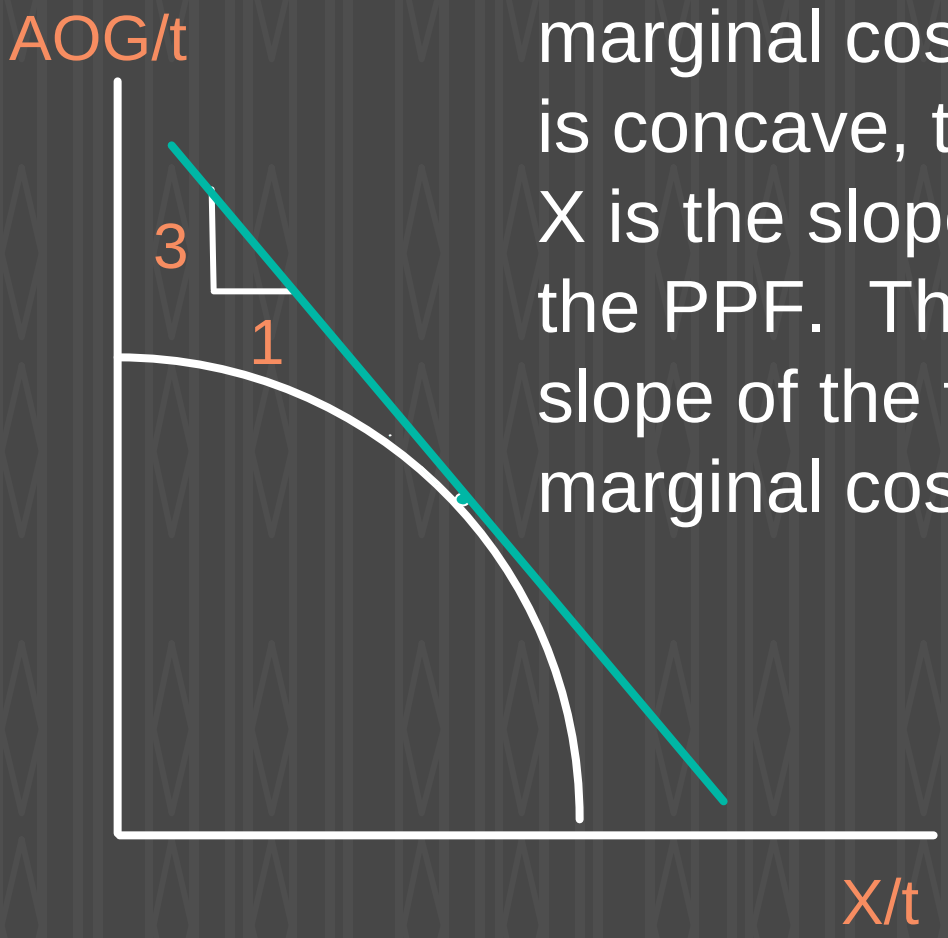
Who Can Produce More Depends on Resources Stock and Technology

- The U.S. can produce more AOG
- And Saudi Arabia more Oil
- But this has little relevance for answering the question who will trade what

Comparative Advantage and Marginal Cost

- Comparative Advantage depends on opportunity cost on the margin, Marginal Cost

Determining MC

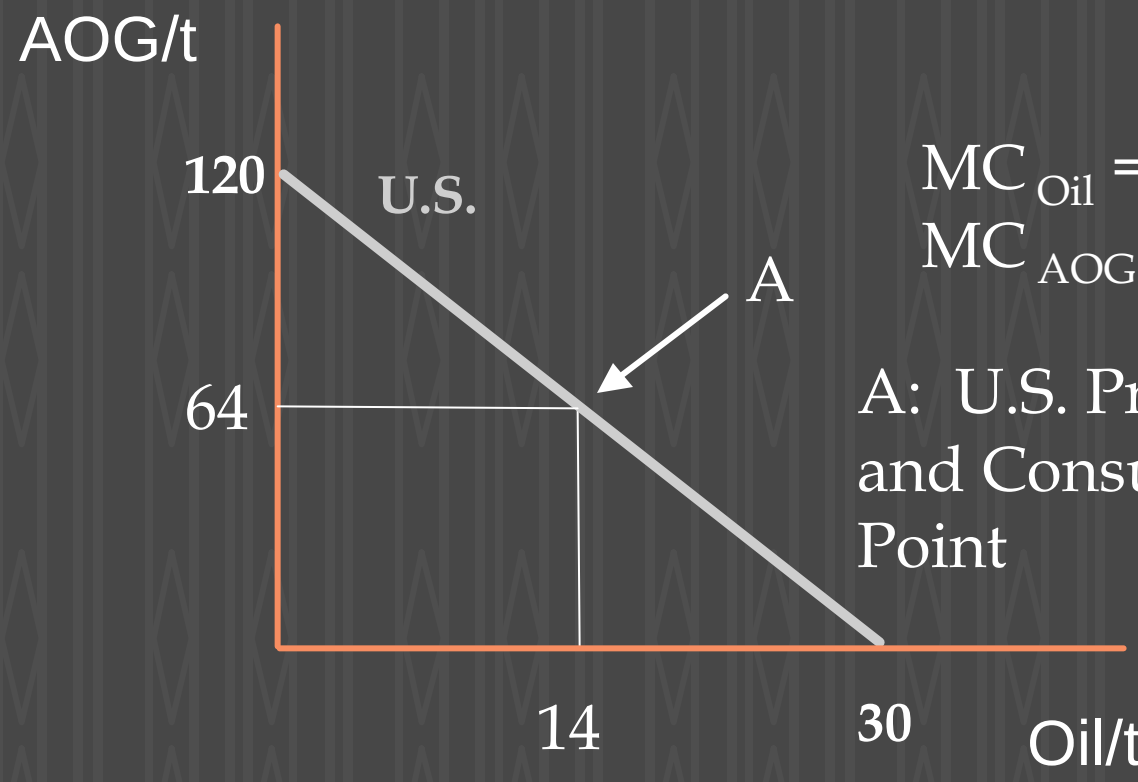


The slope of the PPF is the marginal cost of X. If the PPF is concave, the marginal cost of X is the slope of a tangent to the PPF. The inverse of the slope of the tangent is the marginal cost of AOG,

$MC_X = 3$ AOGs,

$MC_{AOG} = 1/3$ X.

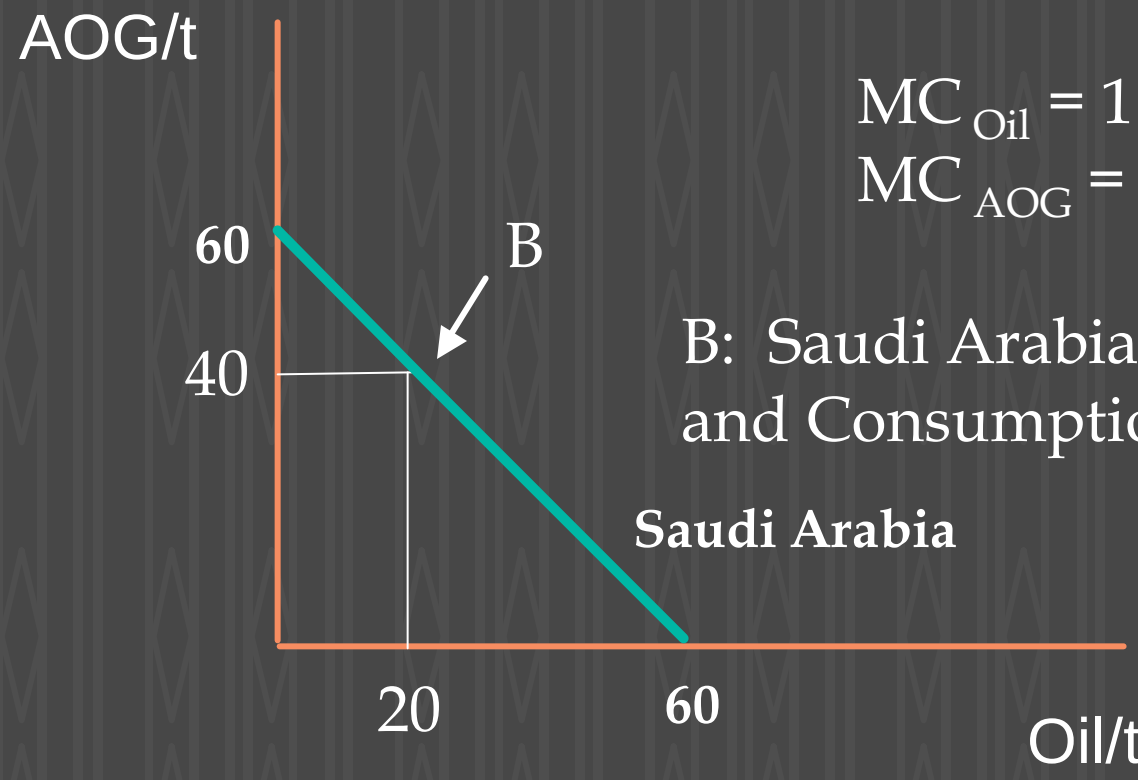
Opportunity Cost (U.S.)- Linear PPF



MC_{Oil} = 4 AOGs
MC_{AOG} = 1/4 Oil

A: U.S. Production and Consumption Point

Opportunity Cost (Saudi Arabia)



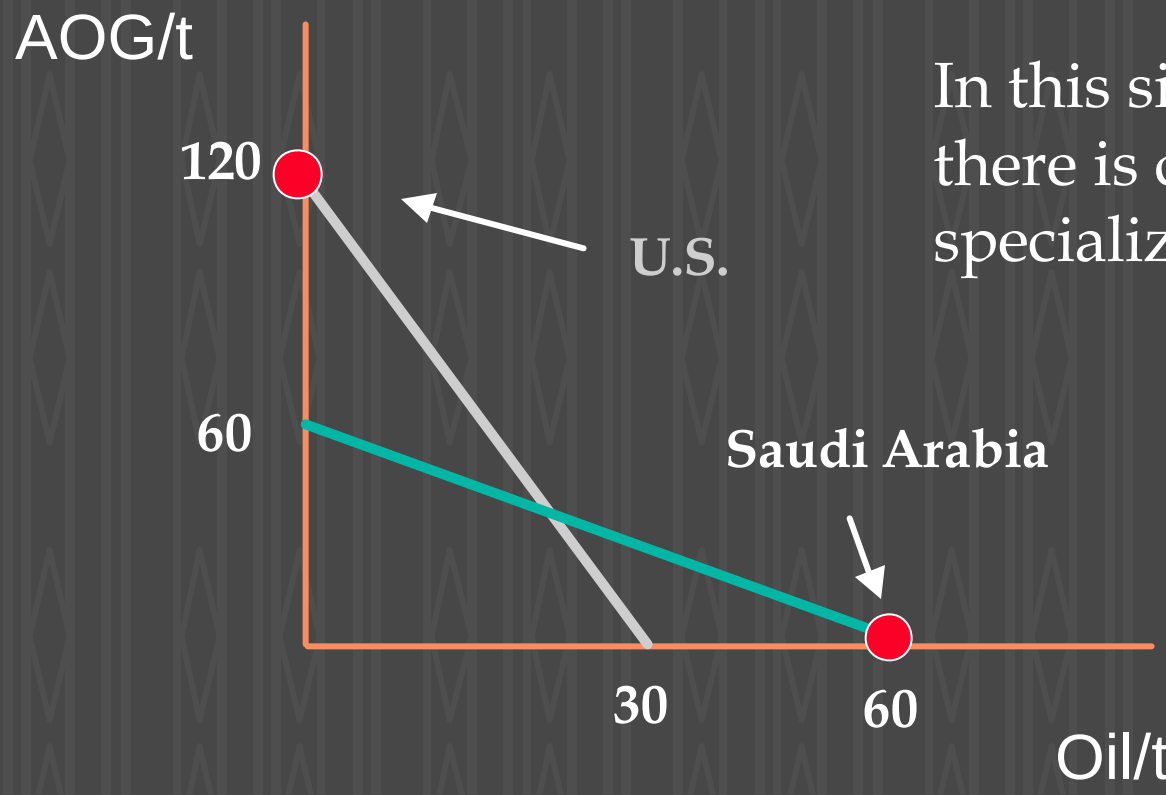
MC_{Oil} = 1 AOGs
MC_{AOG} = 1 Oil

B: Saudi Arabia's Production and Consumption Point

Comparative Advantage

- Saudi Arabia has a comparative advantage in Oil production
- U.S. has a comparative advantage in AOG production
- This is established by comparing MCs, e.g., MC_{Oil} = 4 AOGs in U.S. > MC_{Oil} = 1 AOG in SA
- Each can gain if they specialize

Specialization

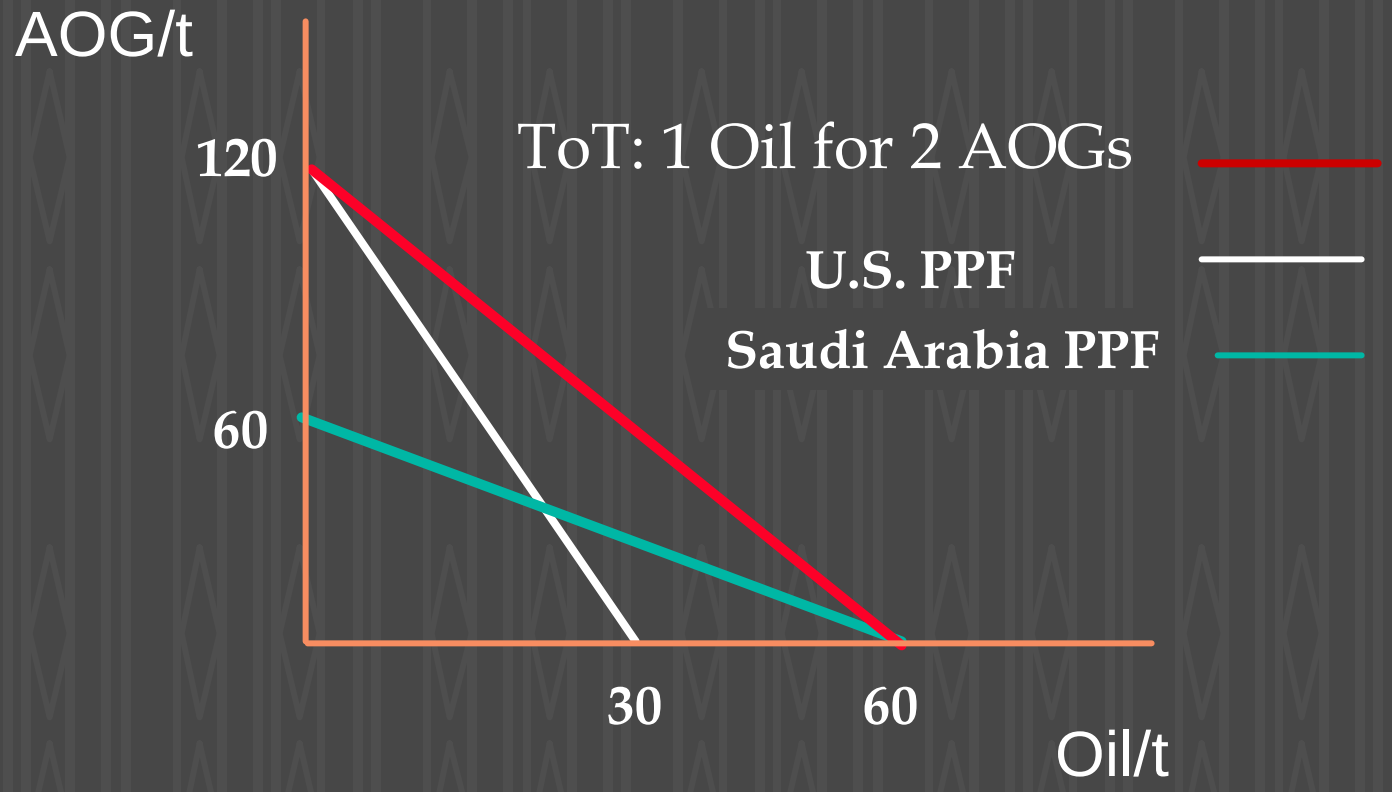


In this simple model, there is complete specialization

Terms of Trade (ToT)

- U.S. is willing to pay up to four units of AOGs for one unit of Oil (max WTP)
- Saudi Arabia wants at least one AOG for a unit of Oil (min WTA)
- ToT must lie between max WTP and min WTA (1 AOG < ToT < 4 AOG)
- Let's use 2 AOGs for 1 Oil

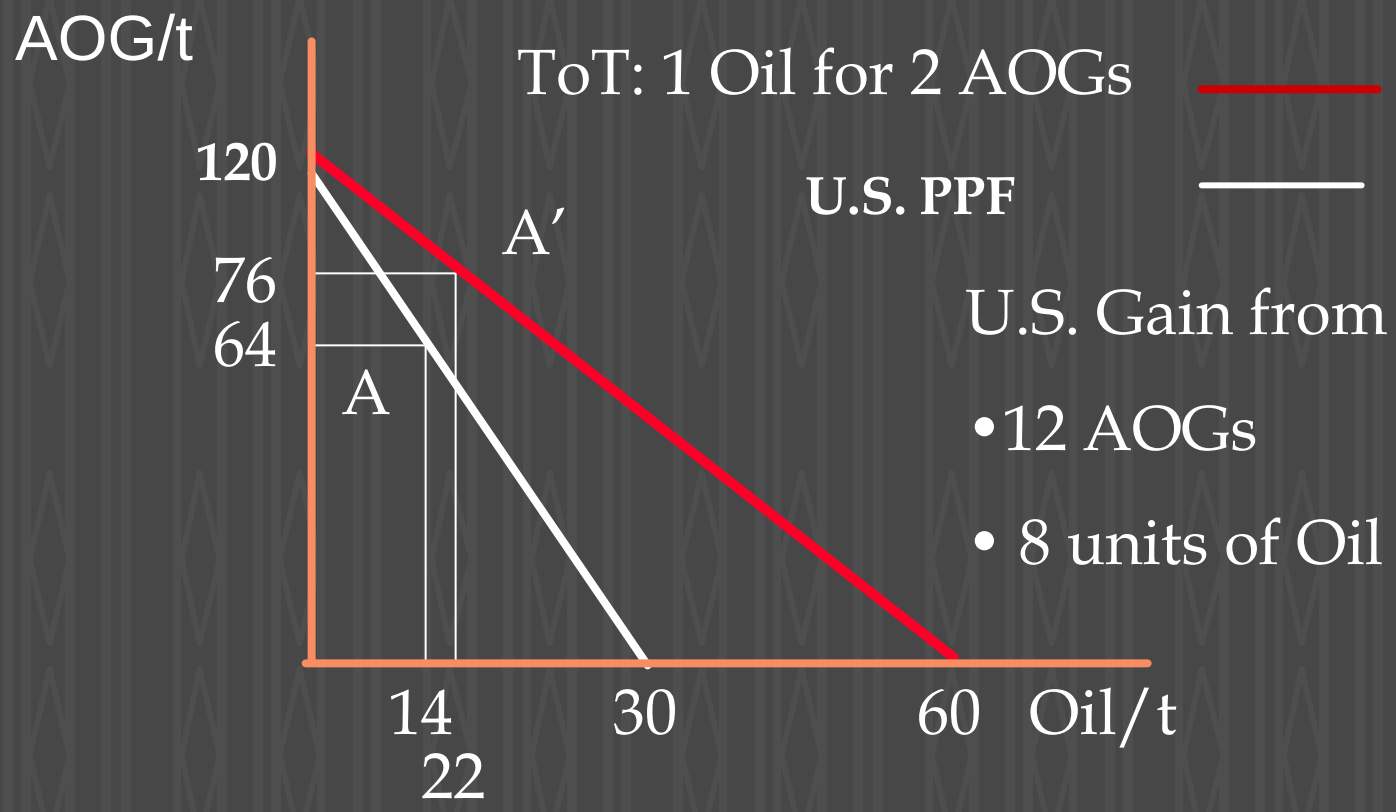
Consumption Possibilities



U.S. Gains from Trade

- Increase in production mix from A to 120 AOGs
- Exports 44 units of AOG for 22 units of Oil (ToT is 2 AOGs of 1 Oil)
- Consumption increases from 64 AOGs and 14 Oil (A), to 76 AOG and 22 Oil (A')

U.S. Gain From Trade



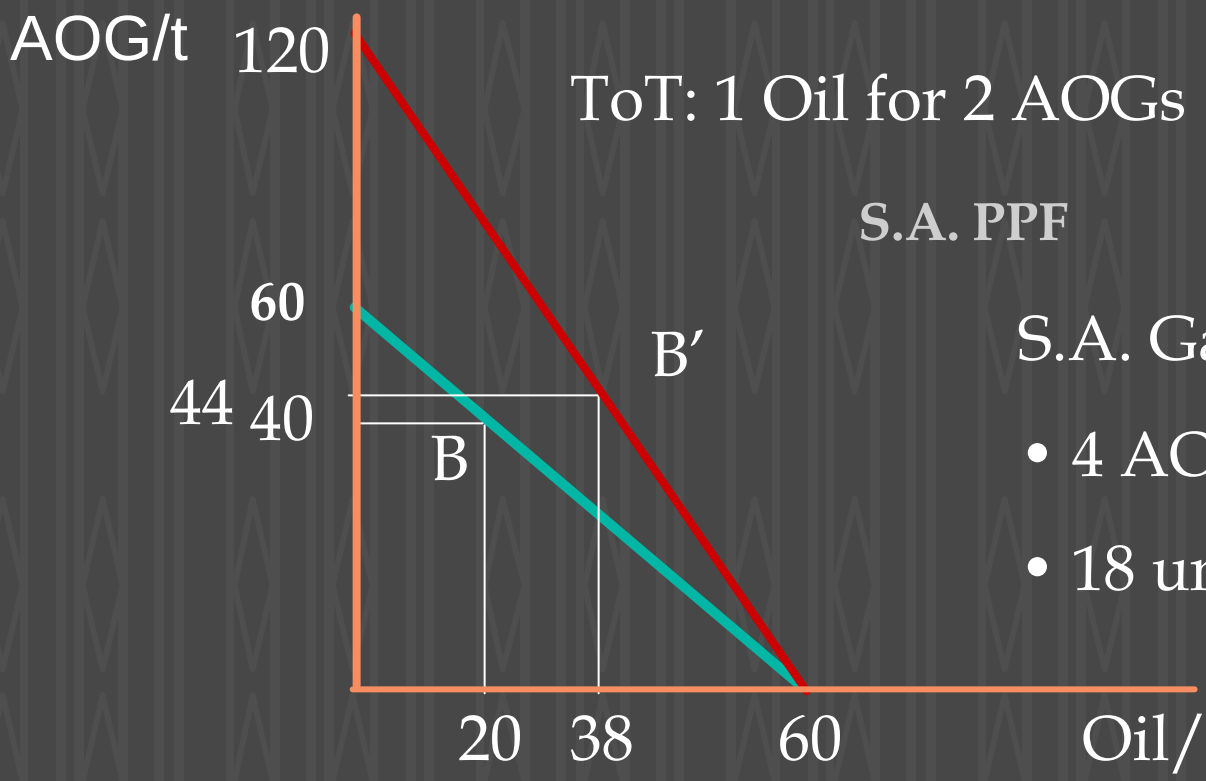
U.S. Gain from trade:

- 12 AOGs
- 8 units of Oil

Saudi Arabia Gains from Trade

- Increase in production mix from B to 60 units of Oil
- Exports 22 units of Oil for 44 AOGs (ToT is 2 AOGs of 1 Oil)
- Consumption increases from 40 AOGs and 20 Oil to 44 AOG and 38 Oil

Saudi Arabia's Gain From Trade



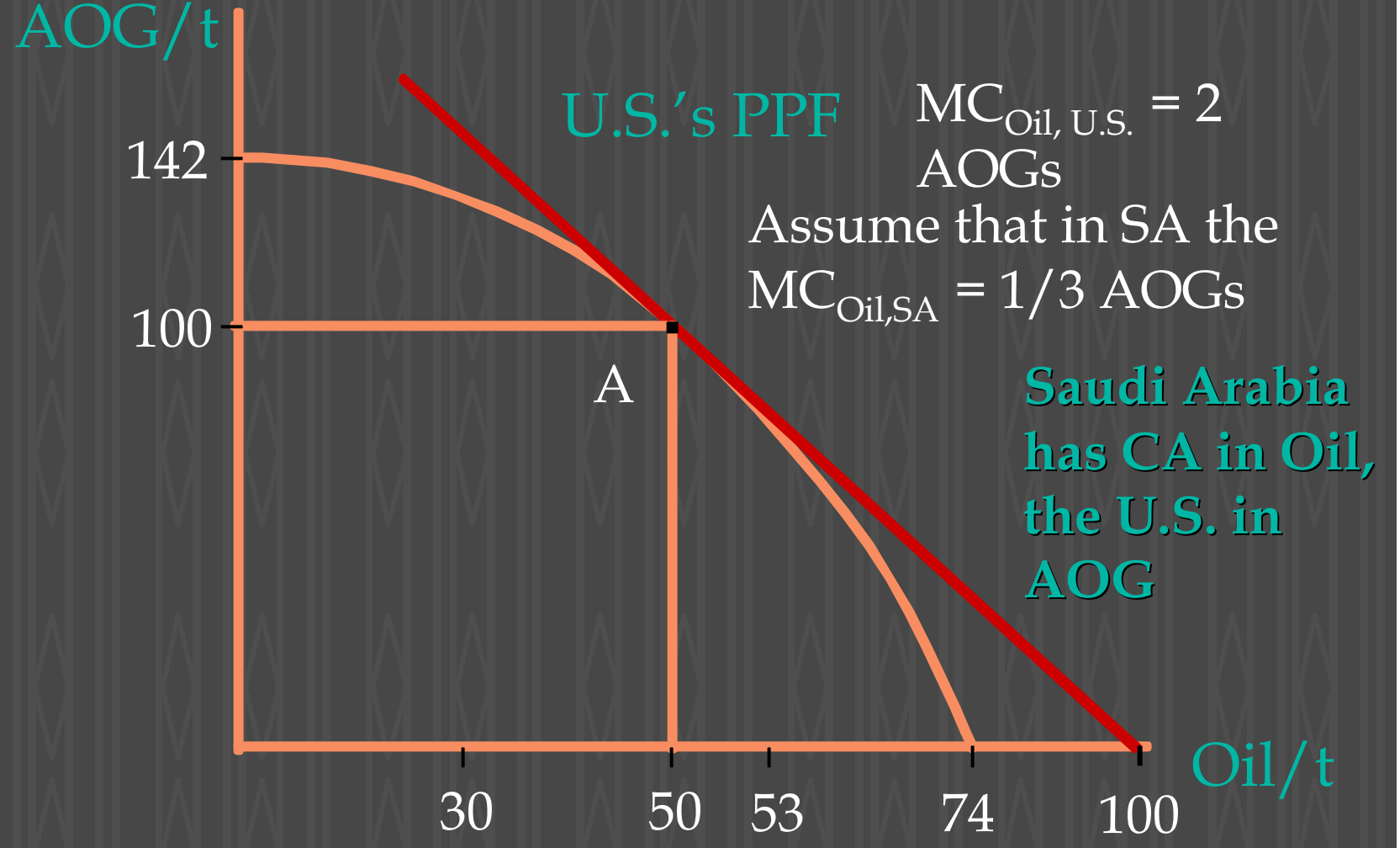
S.A. Gain from trade:

- 4 AOGs
- 18 units of Oil

A More Complex Model

- Increasing Marginal Cost
- As production of a good increases, so does its MC (the PPF is concave)
- Increased specialization, but not complete specialization

First Determine Comparative Advantage



$MC_{Oil,\ U.S.}$ = 2 AOGs

Assume that in SA the $MC_{Oil,SA}$ = 1/3 AOGs

Saudi Arabia has CA in Oil, the U.S. in AOG

Second Determine the Terms of Trade (ToT)

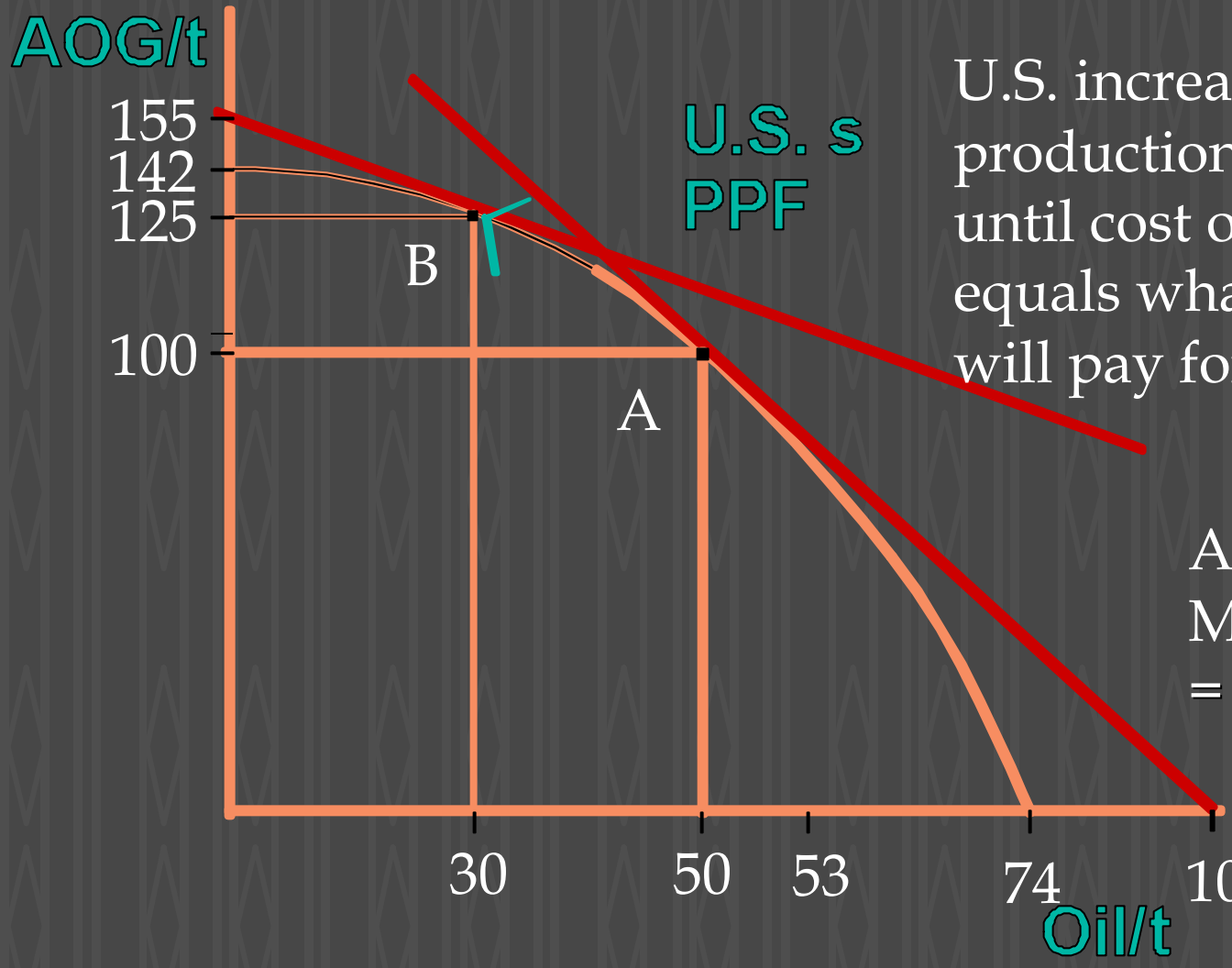
The terms of trade will lie between the importers' maximum willingness to pay and the exporters' minimum willingness to accept.

Here, Saudi Arabia has the CA in Oil and must have at least 1/3 AOG for a unit of Oil. The U.S. would only be willing to pay SA what it costs to produce at home, 2 AOGs

Min WTA = 1/3 ≤ ToT ≤ 2 = Max WTP

Assume ToT is 1 AOG for 1 Oil

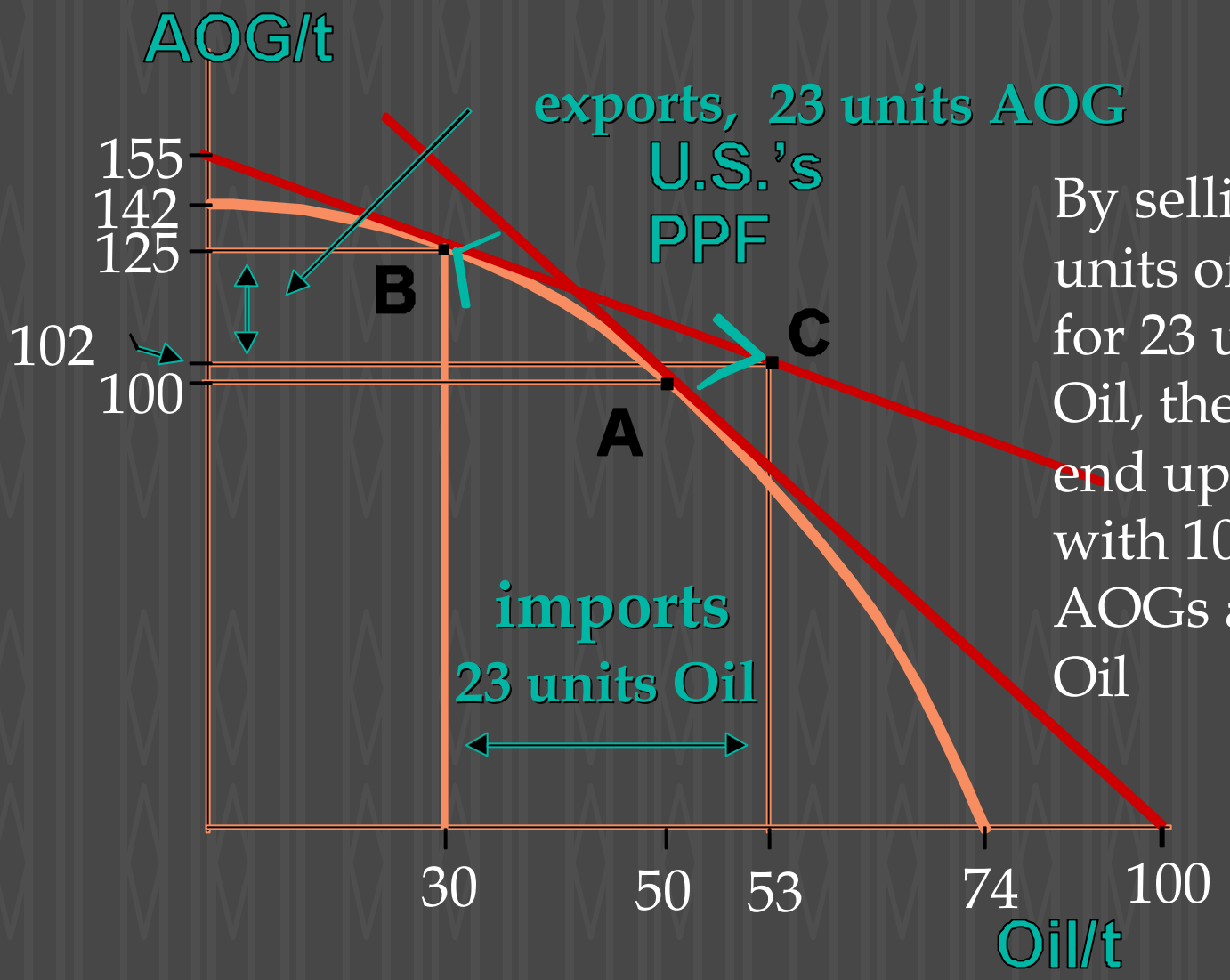
Third Increase Production in Good with Comparative Advantage



U.S. increases production of AOG until cost of AOG equals what SA will pay for it, 1 Oil

At B, MC_{AOG} = 1 Oil

Fourth Enjoy Gains From Trade



By selling 23 units of AOG for 23 units of Oil, the U.S. end up at C with 102 AOGs and 53 Oil

As can be seen by the previous slides, both countries are able to consume more than they can produce. This is made clear by their consumption point being located to the right of their production possibilities curve. This can only be done because they are specializing and trading for the other goods they consume.

The End

Continue to Part II