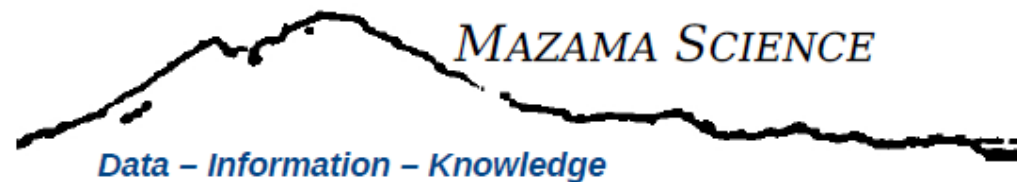


Oil Econ 101

Supply, Demand and Price

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Mazama Science



Law of Supply and Demand

- Price depends on the interplay of supply and demand.
- If demand goes up but supply does not, **Prices Rise.**

Economists got at least this one thing right.

Supply and Demand: Safeco Field

Supply: 47,878 seats
Demand: low



Supply: 47,878 seats
Demand: HIGH



What will last-minute tickets cost?

Supply and Demand: Liquid Fuels

Supply: ~85 mbd
Demand: low



Supply: ~85 mbd
Demand: HIGH



What will last-minute barrels of oil cost?

Law of Supply and Demand

It's really that simple.

So why all the confusion?

The News is Noise

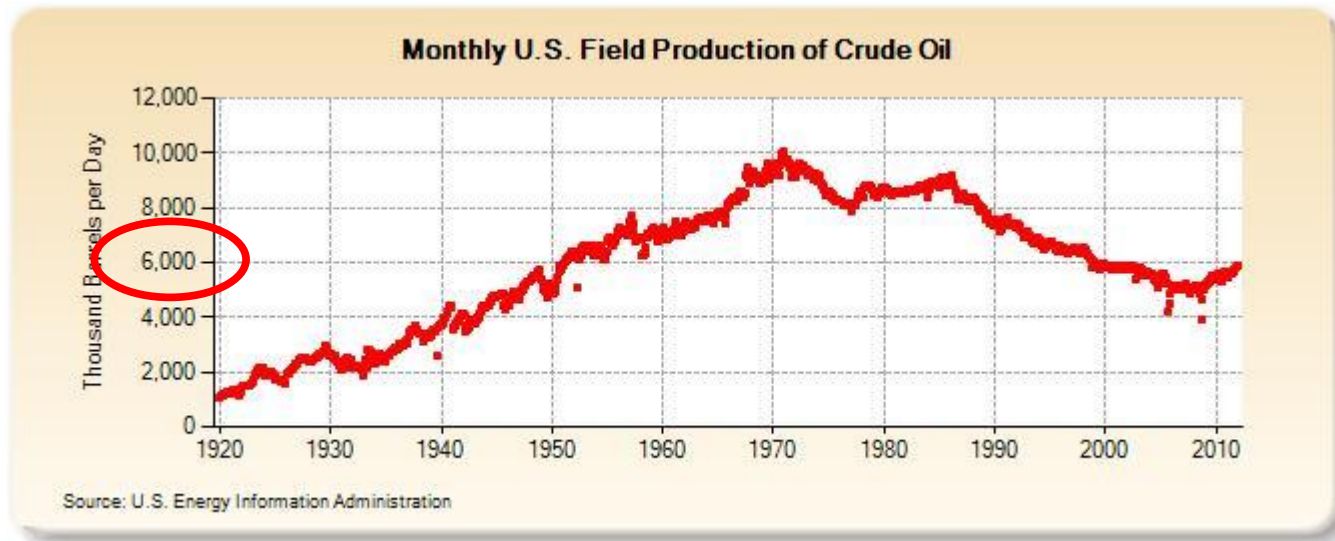
Oil boomlet sweeps U.S. as exports and production rise
(USA Today 12/19/2011)

Americans Gaining Energy Independence With U.S. as Top Producer
(Bloomberg, 02/06/2012)

World can replace oil lost to Iran sanctions: U.S.
(Reuters, 03/01/2012)

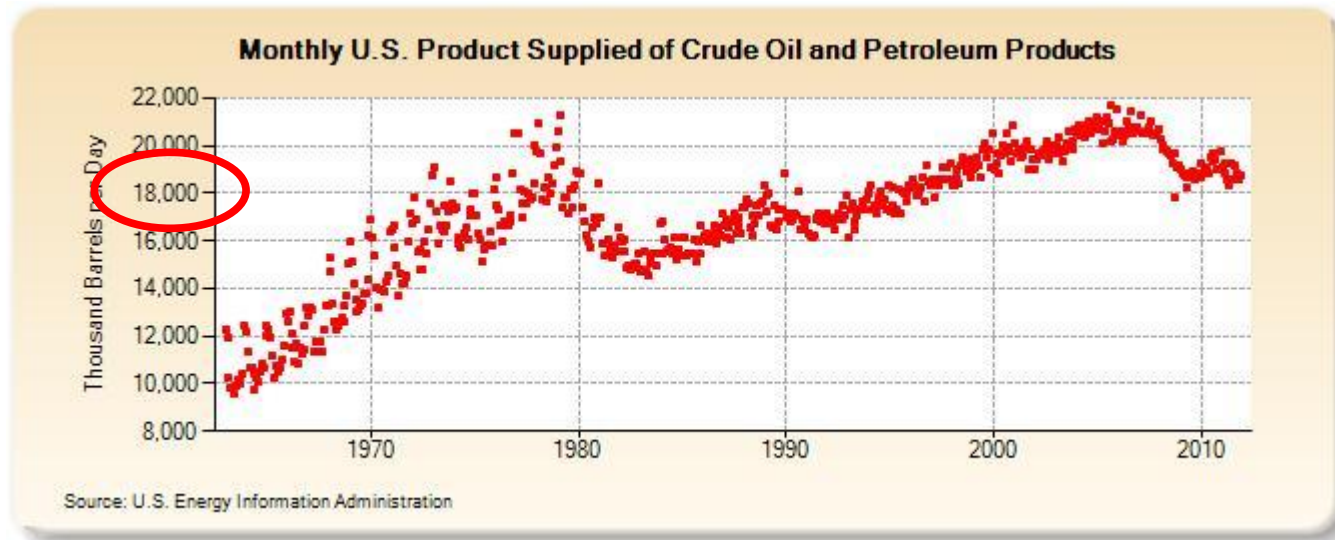
All very misleading. For the real story, look at the data.

EIA: US Oil Production from 1920



We produce 6 mbd (million barrels per day).

EIA: US Oil Consumption from 1963



But consume 18 mbd. Gaining energy independence?

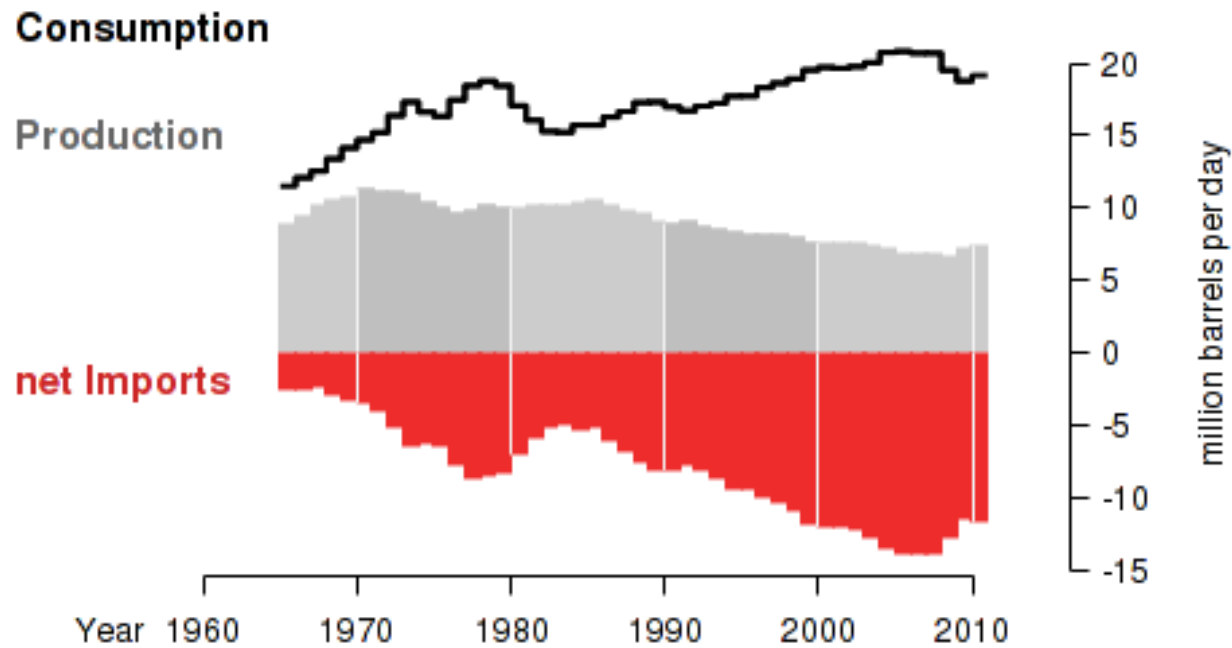
Reviewing Historical Data

- The BP Statistical Review is a well respected dataset.
- We will look at production and consumption data.
- Net Exports (Imports) = Production – Consumption
- No fancy math, no models, just the data.
- No “experts” needed.

A look at historical data will reveal some interesting stories.

The US is the #1 oil importer.

United States : Oil 2010 imports increased by 1.1 %

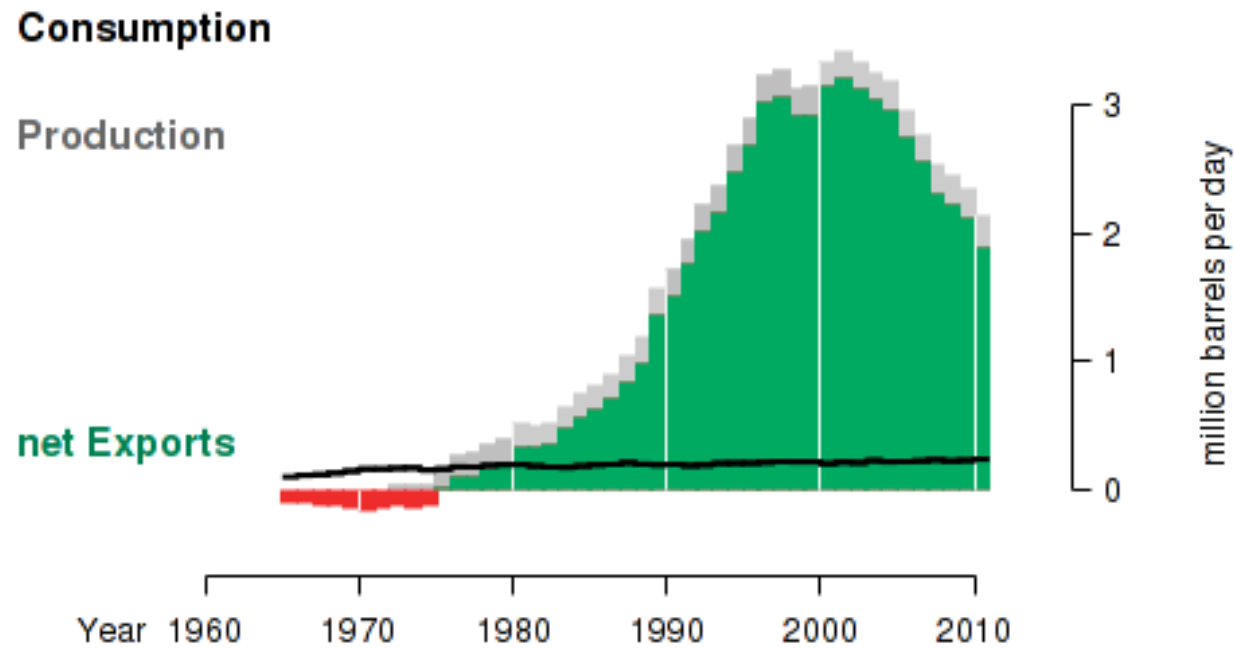


Data: BP Statistical Review 2011 Graphic: mazamascience.com

Consumption reflects ups and downs in the economy.

Norway is well past “peak production”.

Norway : Oil 2010 exports decreased by 10. %

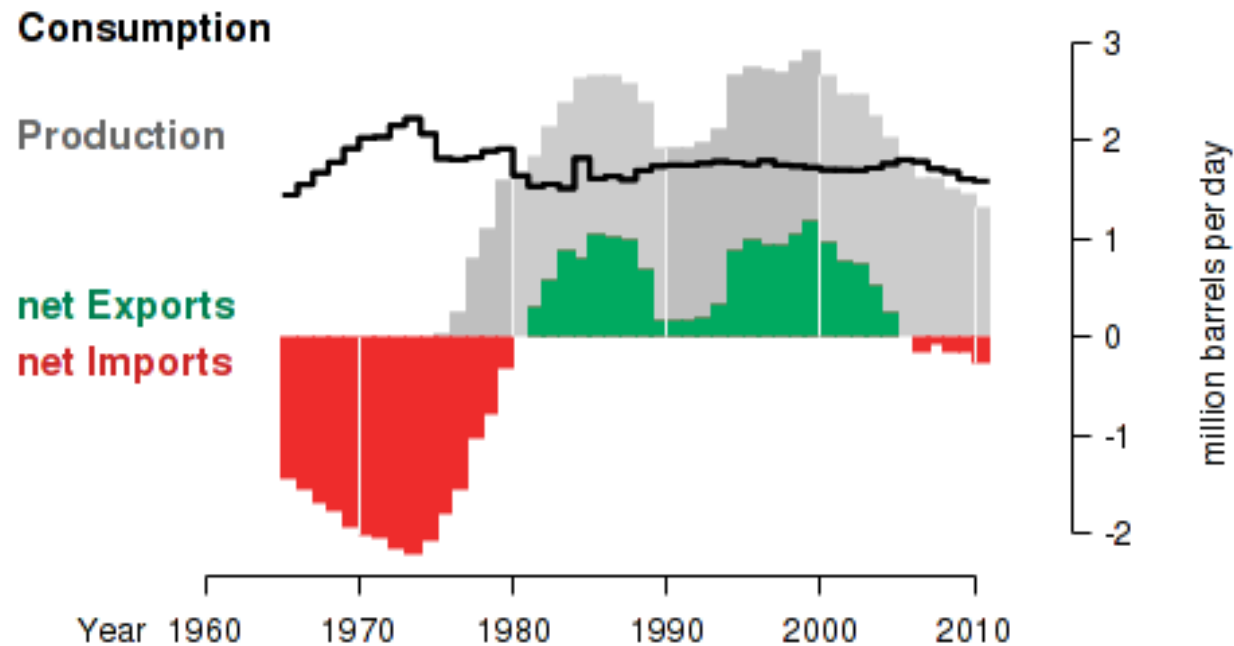


Data: BP Statistical Review 2011 Graphic: mazamascience.com

Peak oil is a phenomenon, not a theory.

The UK enjoyed a brief window of oil exports.

United Kingdom : Oil 2010 imports increased by 58. %

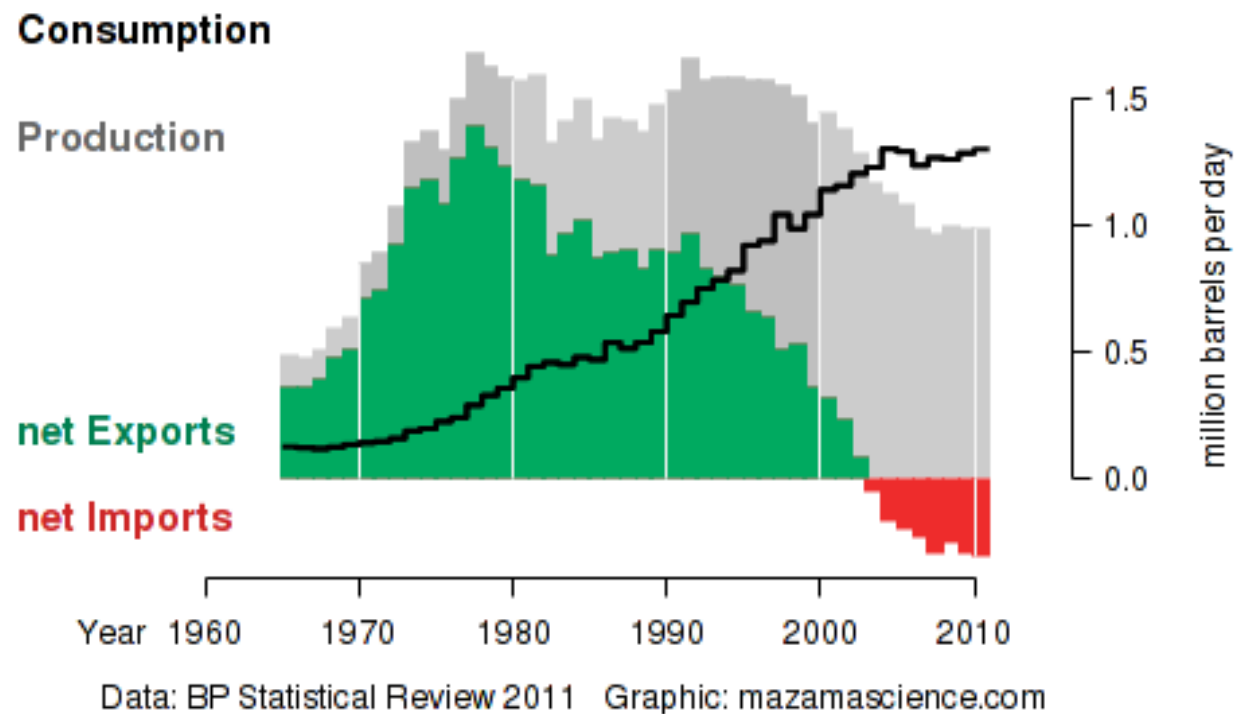


Data: BP Statistical Review 2011 Graphic: mazamascience.com

\$13/bbl in 1998, \$111/bbl in 2011

Indonesia had to drop out of OPEC.

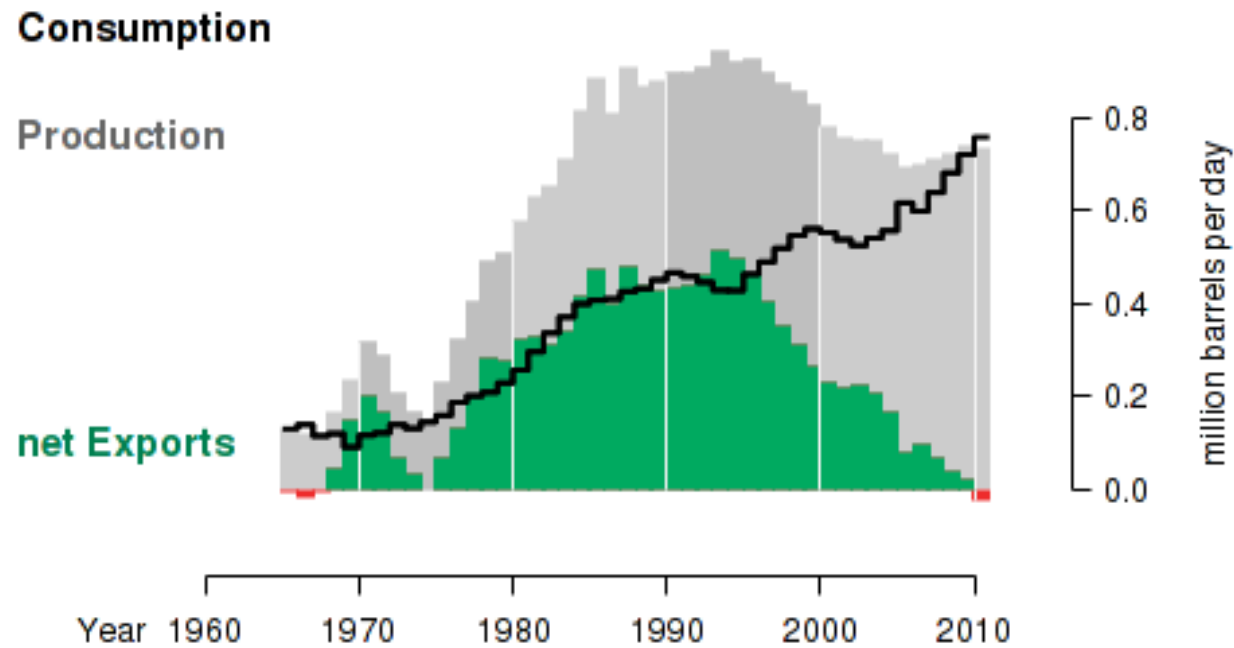
Indonesia : Oil 2010 imports increased by 6.5 %



Consumption rose faster than production.

Something happened recently in Egypt.

Egypt : Oil 2010 imports increased by 189 %

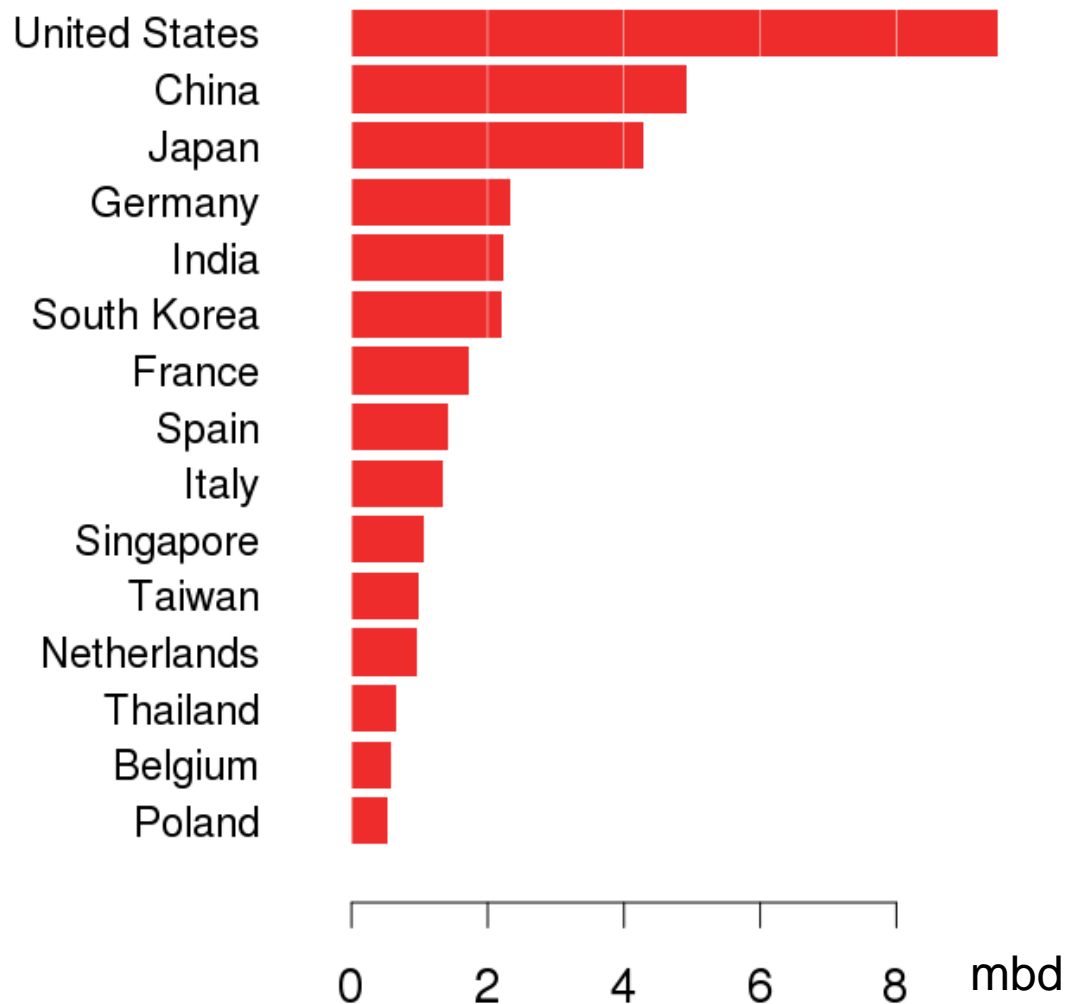


Data: BP Statistical Review 2011 Graphic: mazamascience.com

Global Supply and Demand

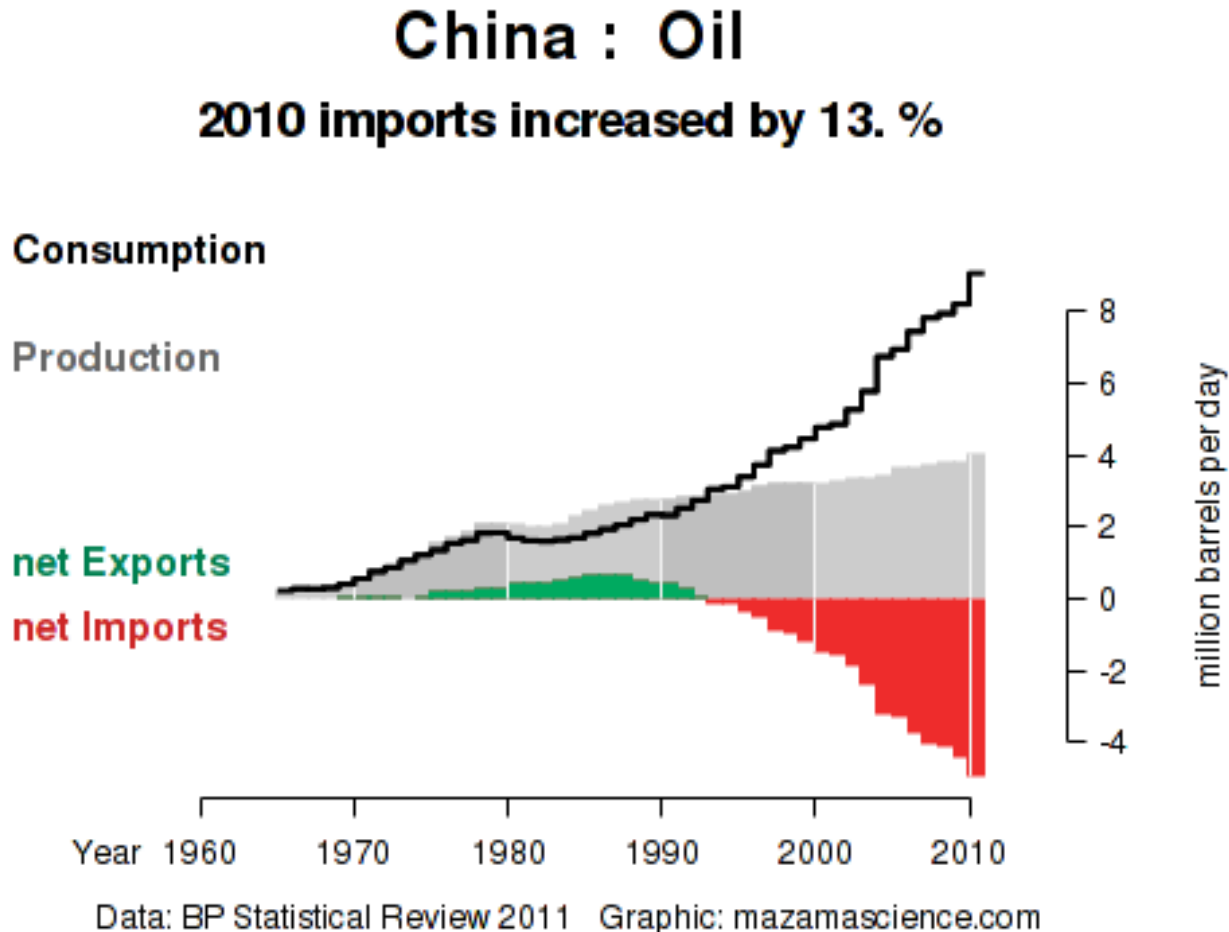
- Oil is a global commodity.
- Globally, we use +/- 85 million barrels per day.
- Global supply comes from nations that export.
- Global demand comes from nations that import.

On the global demand side we have importers.



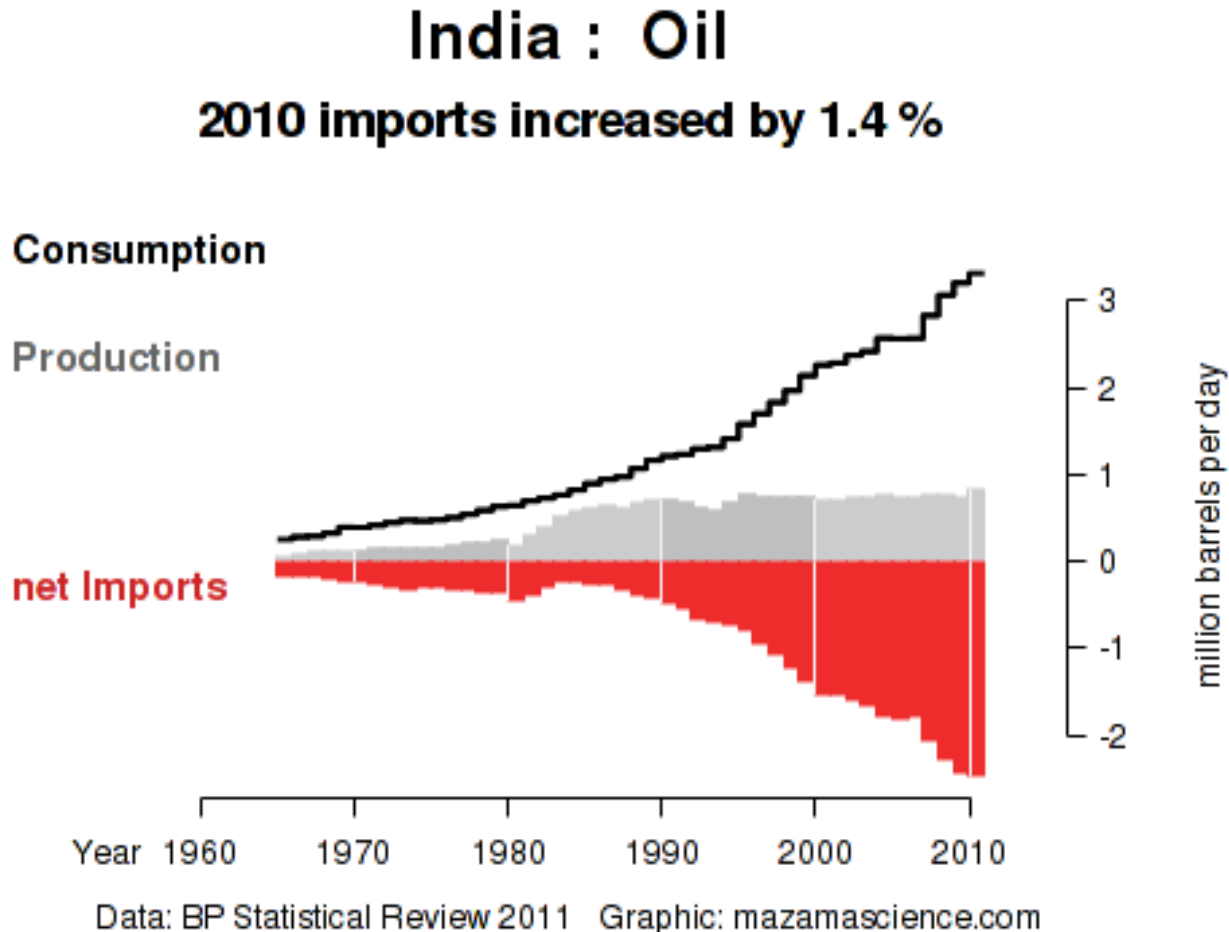
US *per capita* consumption is 10x that of China.

China is the #2 oil importer.



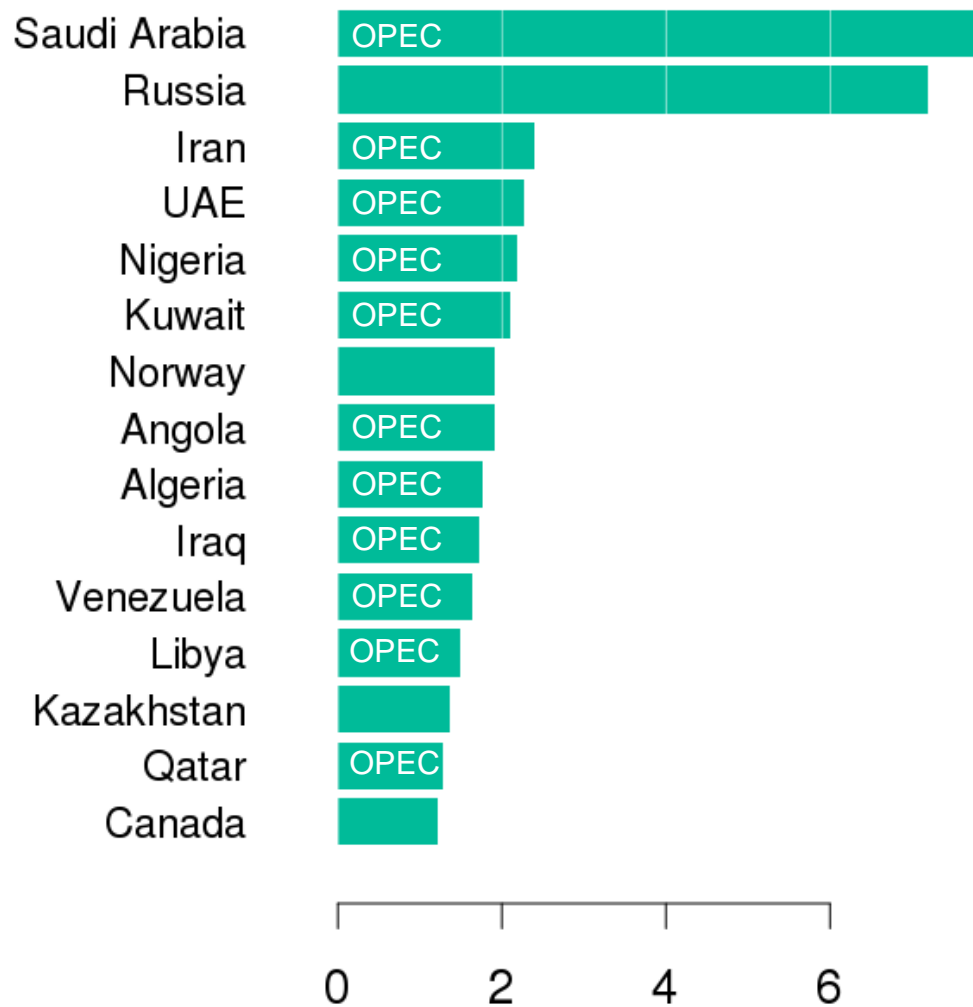
As nations develop, consumption rises rapidly.

India is the #5 oil importer.



As nations develop, consumption rises rapidly.

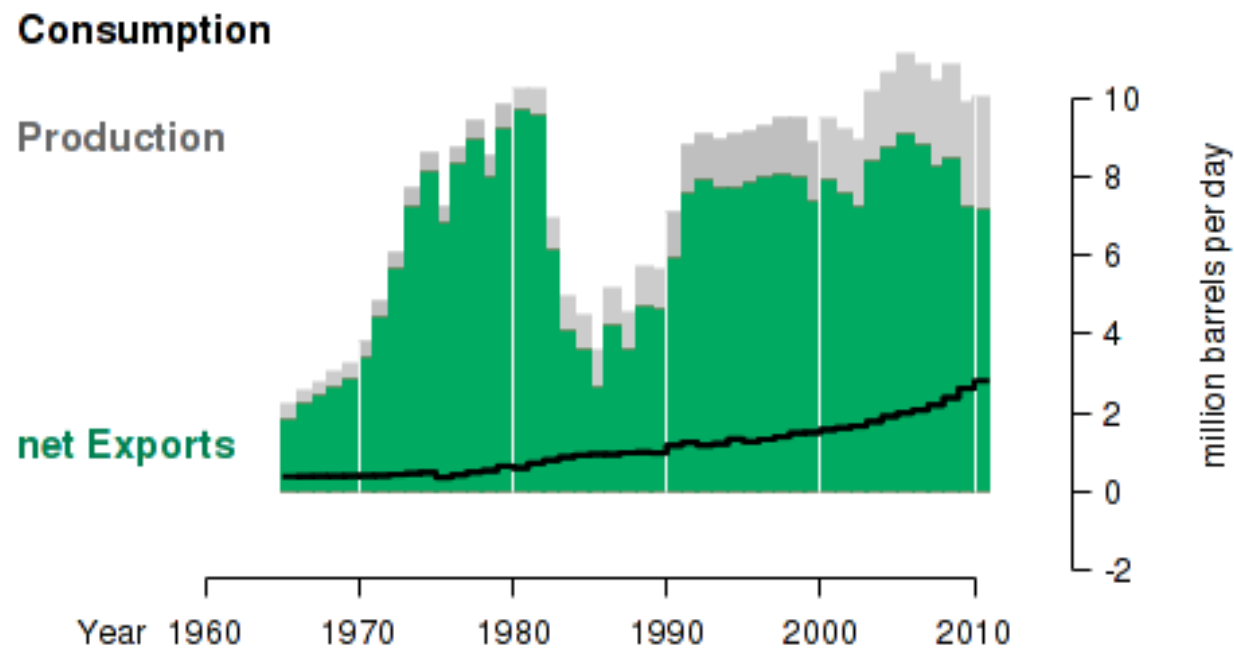
On the global supply side we have exporters.



Not many free market democracies.

Saudi Arabia is the #1 oil exporter.

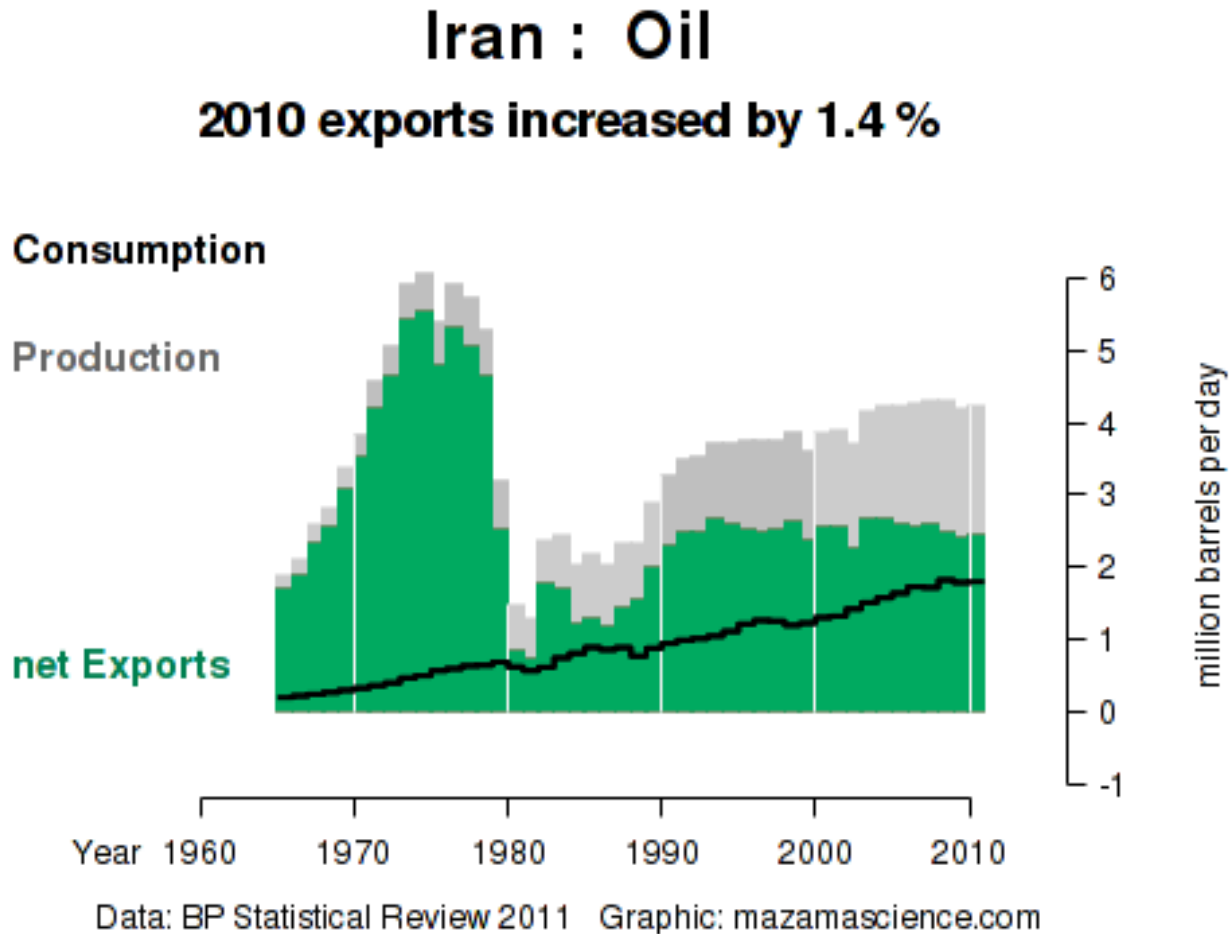
Saudi Arabia : Oil 2010 exports decreased by 1.0 %



Data: BP Statistical Review 2011 Graphic: mazamascience.com

1.5 million barrles per day to desalinate water.

Iran is the #3 oil exporter.



Exports are trending down.

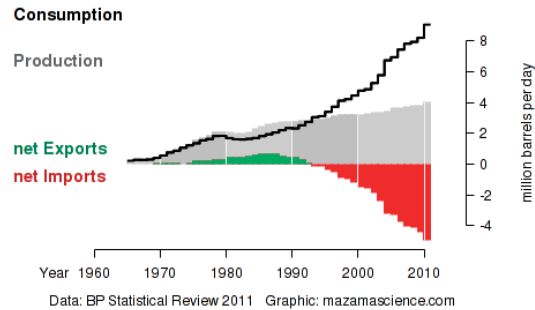
YOU can interpret this data!

- Who is importing more oil?
 - Who is importing less?
 - What trends are evident?
-
- Who is exporting more?
 - Who is exporting less?
 - What trends are evident?

Global demand for oil.

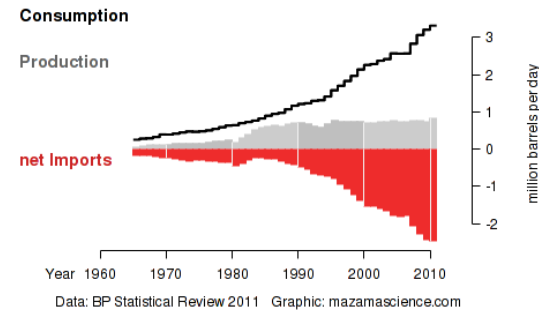
China : Oil

2010 imports increased by 13. %



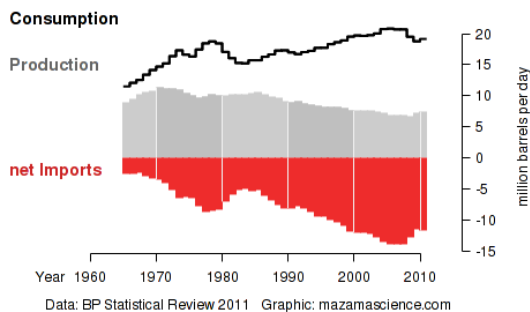
India : Oil

2010 imports increased by 1.4 %



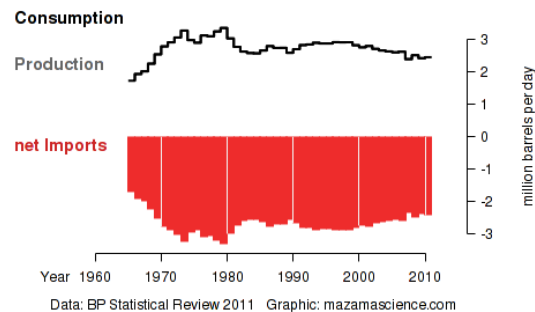
United States : Oil

2010 imports increased by 1.1 %



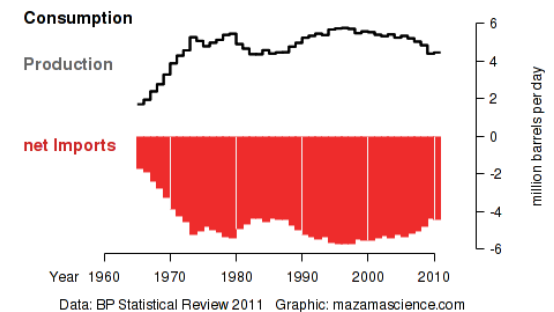
Germany : Oil

2010 imports increased by 1.3 %



Japan : Oil

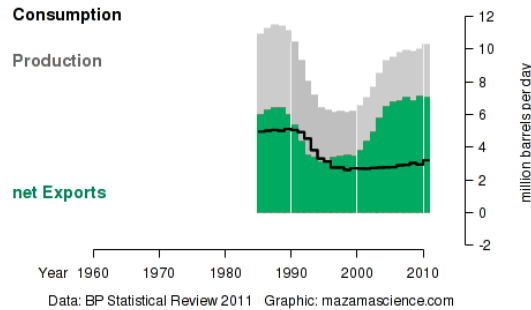
2010 imports increased by 1.3 %



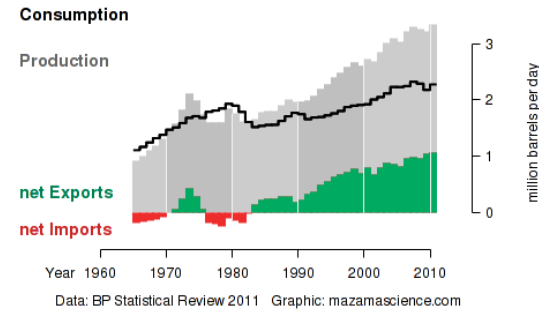
Developing nations using more; OECD nations less

Global supply of oil.

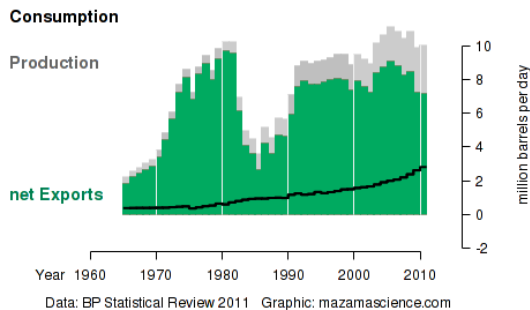
Russia : Oil
2010 exports decreased by 0.3 %



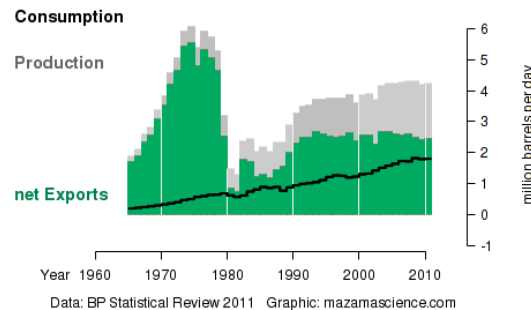
Canada : Oil
2010 exports increased by 1.4 %



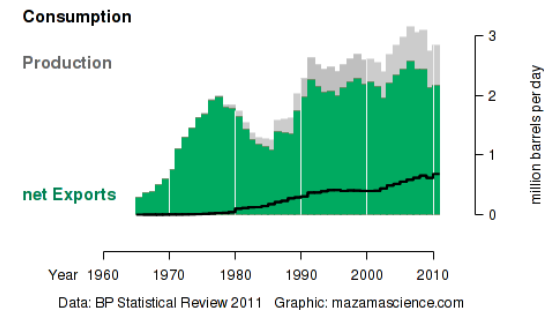
Saudi Arabia : Oil
2010 exports decreased by 1.0 %



Iran : Oil
2010 exports increased by 1.4 %

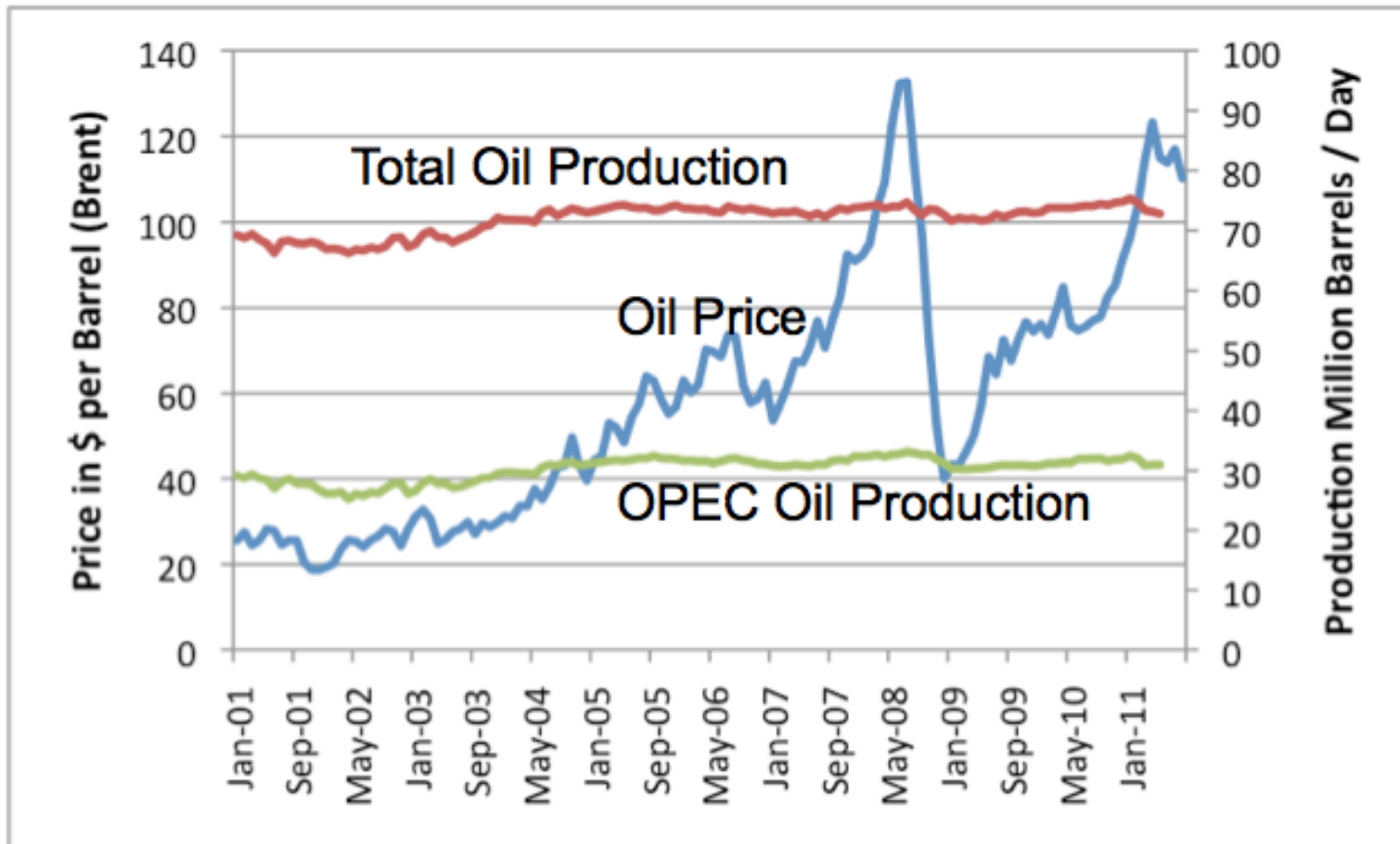


United Arab Emirates : Oil
2010 exports increased by 1.5 %



Internal consumption increasing in OPEC nations.

Global price of oil



At constant supply, price is a proxy for demand.

Law of Supply and Demand



Who can afford a seat?

End of Talk