Lecture 3

Trade-Offs, Comparative Advantage, Production Possibilities

Gains from trade in a world confronting scarcity

September 6th, 2019

August 2019 U.S. Jobs Report
(Appeared in Rearview Mirror, 8:30 this morning)

Rearview Mirror

As of Jul-19

	monthly	change	(1,000s)	
	July	3-month	6-month	12-month
total jobs	164	140	141	187
private	148	136	134	180
manufacturing	16	10	6	13
government	16	4	7	7
	monthly	3-month	3-month	
	level	average	average	
	Jul-19	Jul-19	Jul-18	Jul-17
unemployment	3.7%	3.7%	3.9%	4.3%
L.F.P.R.	63	62.9	62.9	62.8%
Wage gains (YOY)	3.2%	3.1%	2.9%	2.5%

Rearview Mirror

As of Aug-19

	monthly	change	(1,000s)	
	August	3-month	6-month	12-month
total jobs	130	156	150	173
private	96	129	136	165
manufacturing	3	6	3	12
government	34	27	14	8
	monthly	3-month	3-month	
	level	average	average	
	Aug-19	Aug-19	Aug-18	Aug-17
unemployment	3.70%	3.70%	3.90%	4.30%
L.F.P.R.	63.2	63	62.8	62.8
Wage gains (YOY)	3.2%	3.2%	3.0%	2.5%

How fast can jobs grow, over the next two years?
78,935/month, given both stable U3 and stable LFPR
173,500/month, given a fall to 3.1% for U3 and a jump to 63.1 for the LFPR

year	2018	2020	monthly gain
Pop.	257,791	261932	172,542
LFPR	62.9	62.6	
L.F.	162,075	163,969	78,935
U3	6,030	5,070	40,000
U3rate	3.7%	3.1%	
LFPR	62.9	63.1	
L.F.	162,075	165,279	133,500
Emp.	156,045	160,209	173,500

How did the August 2019 jobless rate stay steady?

- Population rose by 207,000
- Labor force rose by 571,000
- LFPR jumped to 63.2 from 63

- WHY DIDN'T UNEMPLOYMENT LEAP?

- Employment, as measured by the household survey rose dramatically:
  Up 590,000

Here is one reaction to the recent rearview mirror news:

Donald J. Trump

@realDonaldTrump

I agree with @jimcramer, the Fed should lower rates. They were WAY too early to raise, and Way too late to cut - and big dose quantitative tightening didn't exactly help either. Where did I find this guy Jerome? Oh well, you can't win them all!

Sent via Twitter for iPhone.

Scarcity: you can't always get what you want

- Limited Resources   Countless Wants

- Professor Hamilton suggests Microeconomic Theory is:

    Making the Best of a Bad Situation

Production Possibilities Frontiers

- An Island in Nova Scotia Raises Fish

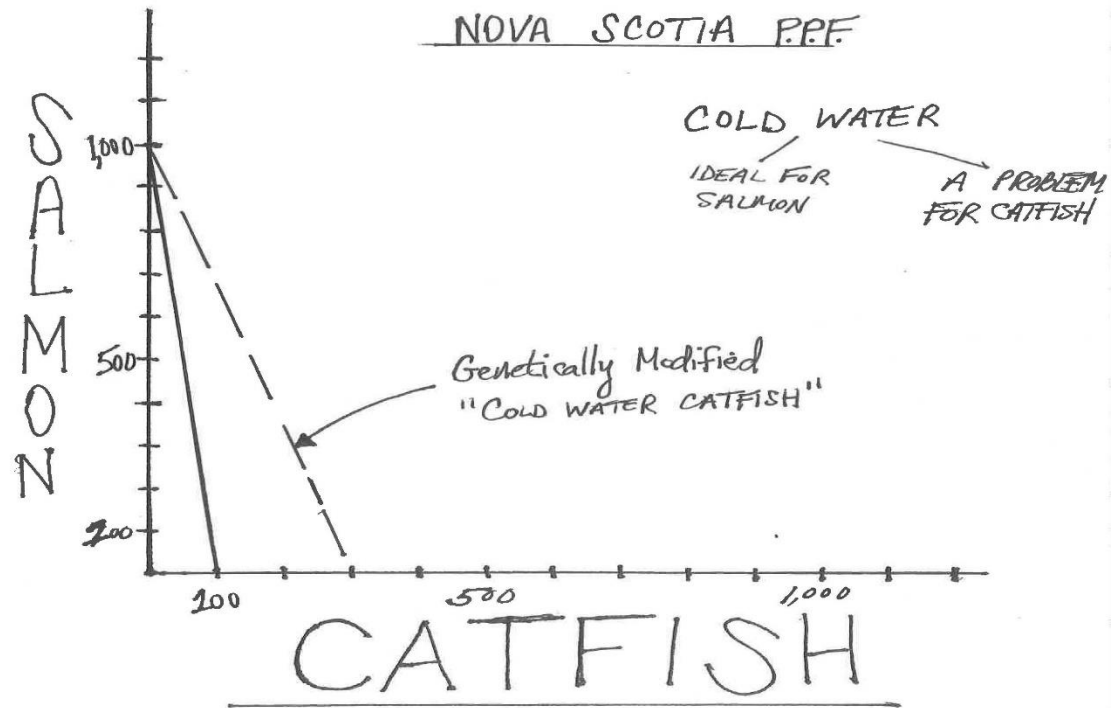| NOVA	SCOTIA
CATFISH	SALMON
0	1,000
30	700
50	500
100	0
1 CATFISH =	10 SALMON

Nova Scotia's **Production Possibilities Frontier.** A depiction of their **maximum** salmon/catfish output combinations.
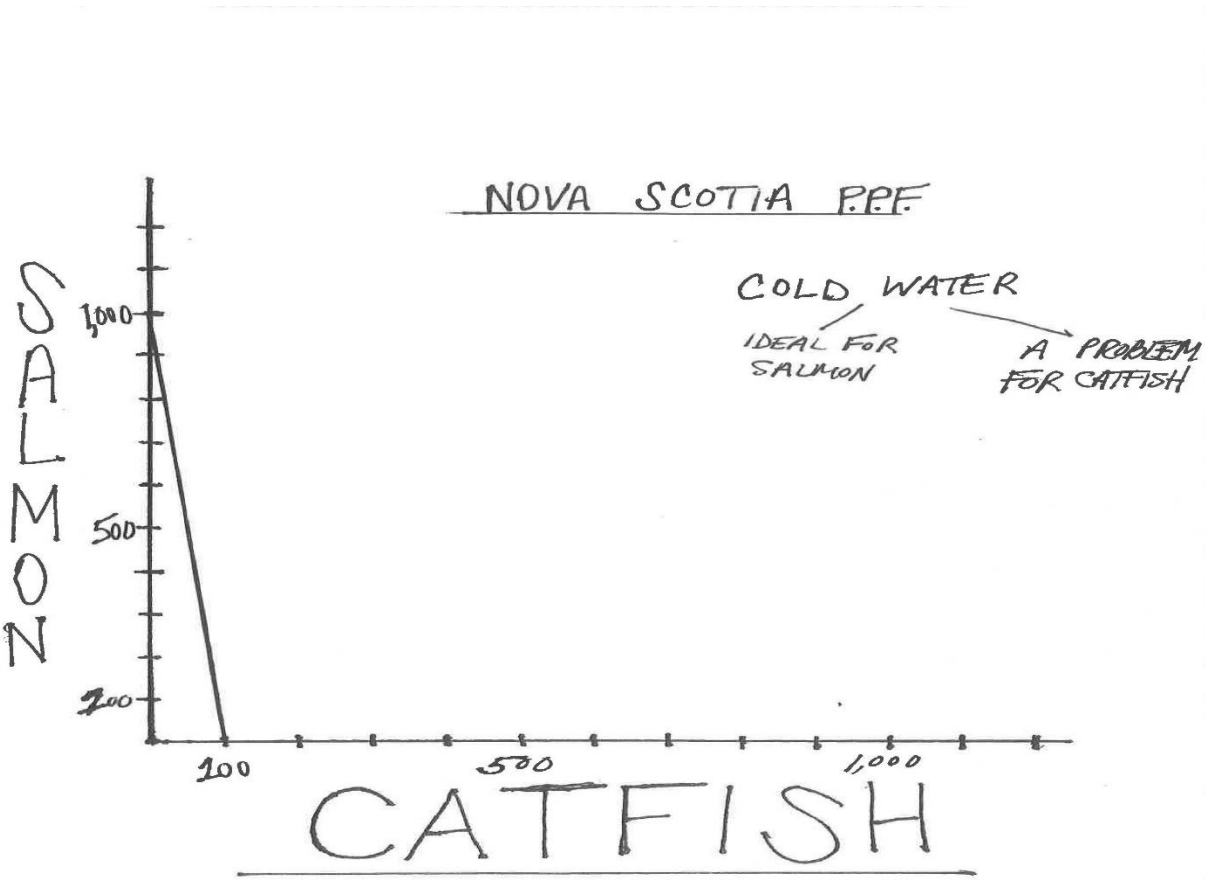
Production Possibilities Frontier

- Engineers: Establish Optimal Use of Inputs
  - They Insure We Operate Along PPF

- Economists: ASSUME Optimal Use of Inputs
  - Evaluate Tradeoffs Along PPF

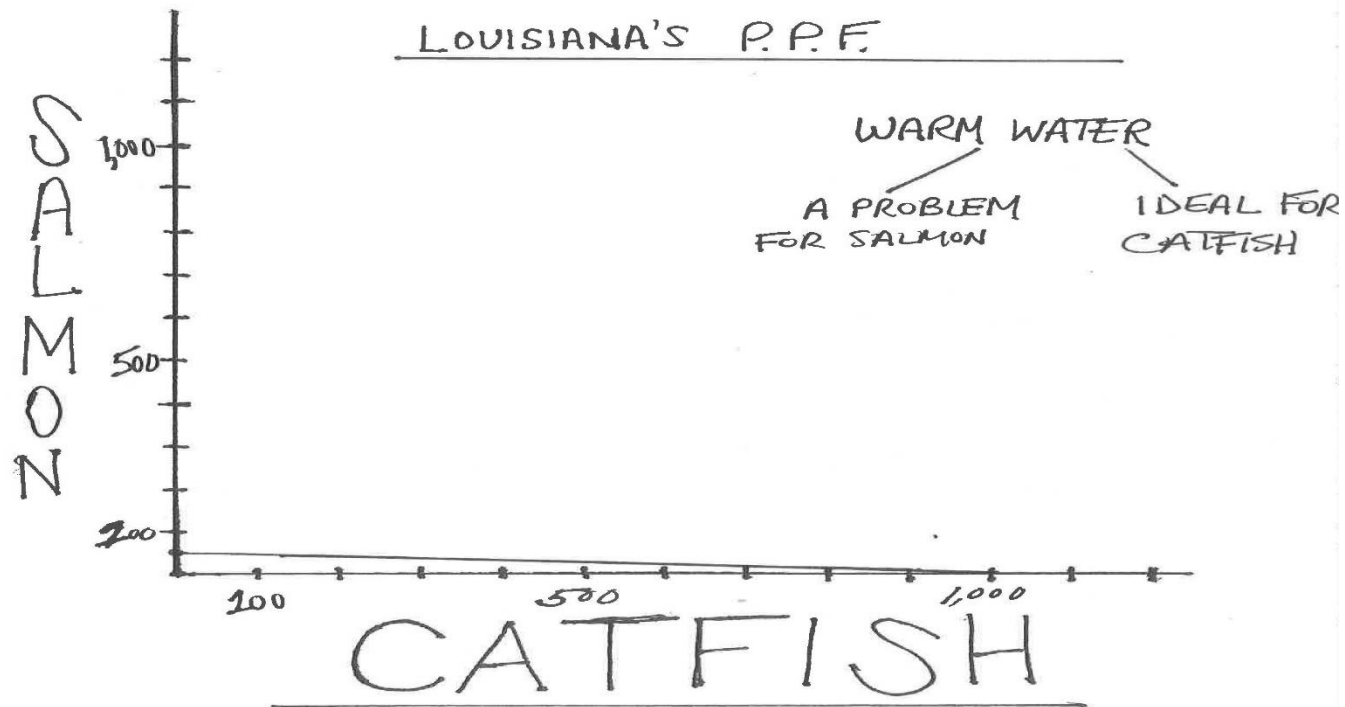- Entrepreneurs: Revolutionize Use of Inputs
  - Shift the PPF Outward

Technology: The Key to Growth

Catfish and Salmon
in the South

LOUIS	IANA
CATFISH	SALMON
1,000	0
500	25
100	45
0	50
20 CATFISH =	1 SALMON

Louisiana's **Production Possibilities Frontier.** A depiction of their **maximum** salmon/catfish output combinations
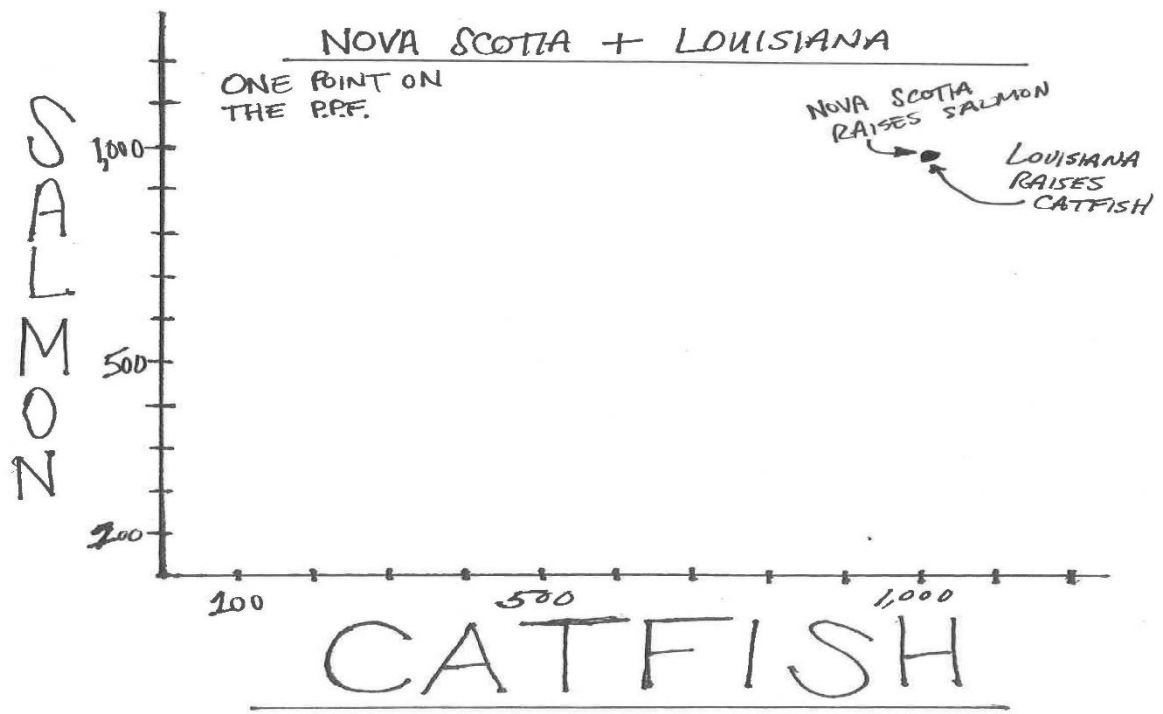

LOUISIANA'S P.P.F.

Absolute Advantage:
Gains From Trade

- Nova Scotia is Ideal for Raising Salmon
  - 1000 per pond per year

- Louisiana is All Wrong for Raising Salmon
  - 50 per pond per year

(Absolute Advantage: The ability to produce more of a good than competitors using the same inputs)
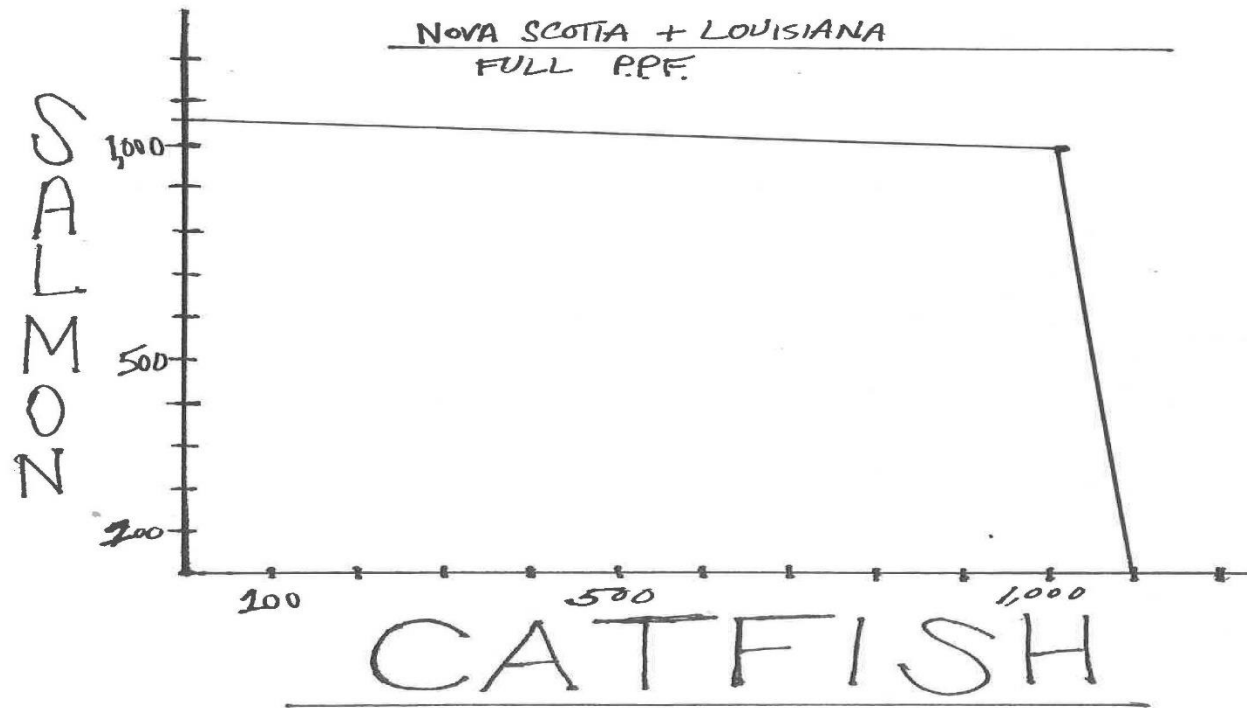
Constructing a Combined PPF for Nova Scotia and Louisiana

Combine PPFs:

	louisana			nova	scotia
	catfish	salmon	catfish	salmon
	1000	0	0	1000
	500	25	20	700
	100	45	50	500
	0	50	100	0
maximize			maximize	
catfish			salmon	
catfish	salmon		catfish	salmon
1000	1000		1000	1000
1020	700		500	1025
1050	500		100	1045
1100	0		0	1050

Combine PPF for
Nova Scotia and Louisiana

Gains from Trade

- Before Trade
- Nova Scotia: 500 Salmon/50 Catfish
- Louisiana: 25 Salmon/ 500 Catfish

- Now We Specialize and Trade:
- Nova Scotia: 1000 salmon/half to La.
- Louisiana: 1,000 catfish/half to Nova Scotia

After Trade?

- Nova Scotia: 500 salmon/500 catfish

(Compared to Nova Scotia: 500 Salmon/50 Catfish, before trade)

- Louisiana: 500 salmon/500 catfish

(Compared to Louisiana: 25 Salmon/500 Catfish, before trade)

Comparative Advantage

- Nova Scotia/Louisiana Trade

Absolute Advantage: EASY TO EXPLAIN

But Gains From Trade Exist

EVEN IF One Group is inferior

on all fronts.

Seattle: Nova Scotia
With Dirty Water

- Seattle Also Raises Fish

- Salmon do better in the Cold Water of Seattle

- Seattle Waters, however, have Less Oxygen

- Seattle's Output: Lower than Nova Scotia's

Nova Scotia: Better at Salmon and Catfish

Nova Scotia			Seattle Wash.	
catfish	salmon		catfish	salmon
0	1,000		0	400
30	700		30	250
50	500		40	200
100	0		80	0
1 catfish=	10 salmon		1 catfish=	5 salmon

The PPF for Nova Scotia and the PPF for Seattle
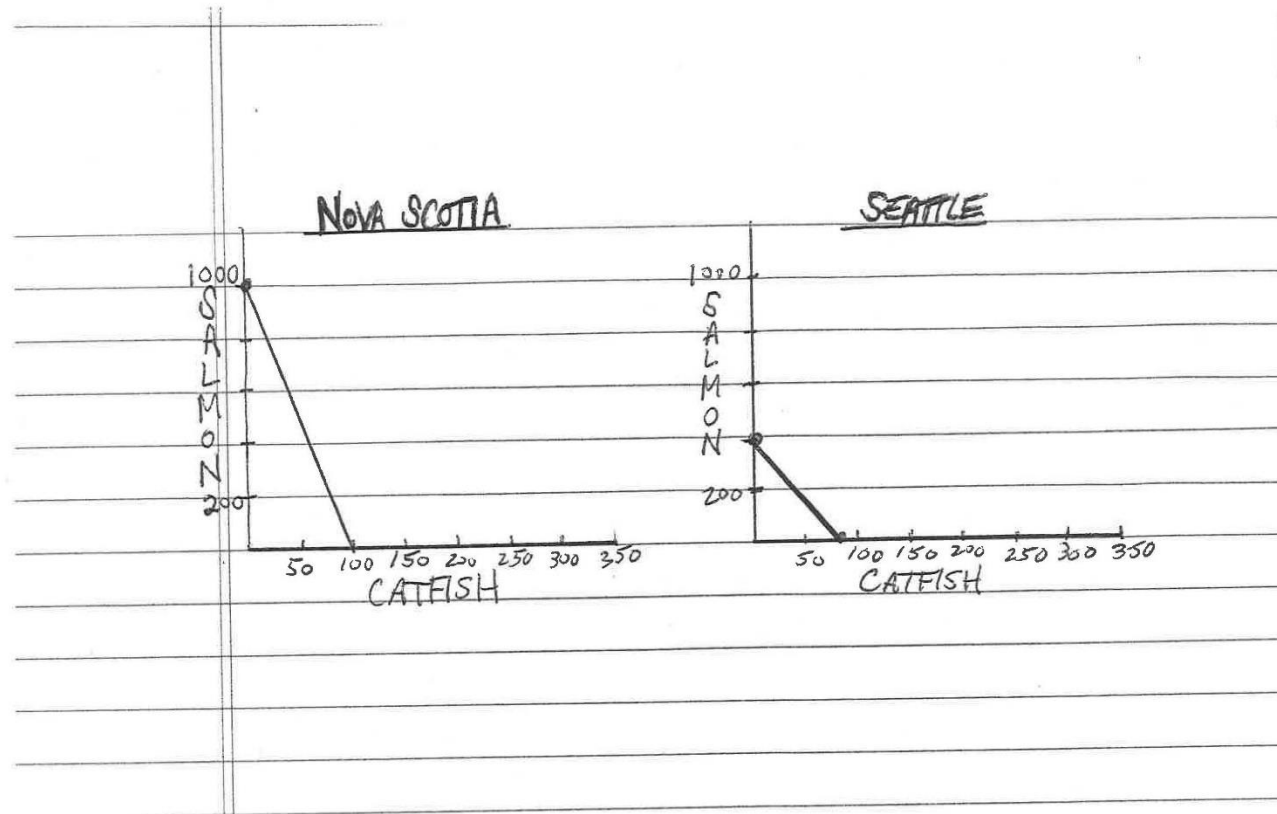
Key Point

- Salmon 'Opportunity Cost' for one Catfish
  - Nova Scotia: 10 salmon for 1 catfish
  - Seattle: 5 salmon for 1 catfish

- Seattle has a comparative advantage in the raising of catfish

- Nova Scotia Has Absolute Advantage

Comparative Advantage:

- The ability to produce a good or service at a lower opportunity cost than a competitor

- Absolute Advantage:

- The ability to produce more of a good than competitors using the same inputs

- Opportunity Cost:

- The highest valued alternative that must be given up to gain another activity

Seattle and Nova Scotia Trade

- Before Trade:
  - Nova Scotia: 50 catfish/500 salmon
  - Seattle: 30 catfish/250 salmon
- Nova Scotia, instead, raises 1,000 salmon
- Seattle, instead, raises 80 catfish

- Nova Scotia and Seattle trade

Gains From Trade: As long as Opportunity Cost falls for each

- Nova Scotia Sends 300 Salmon to Seattle

- Nova Scotia Receives 50 catfish

- Seattle sends 50 catfish to Nova Scotia

- Seattle Receives 300 salmon

Both sides better off

- Nova Scotia

after trade: 50 catfish/700 salmon

Before trade: 50 catfish/500 salmon

Seattle

After trade: 30 catfish/300 salmon

Before trade: 30 catfish/250 salmon

Adam Smith's Invisible Hand

- Gains from trade are the pervasive force in free market economies
- The KEY: It is a positive sum Game
- Negotiation can get you a bit more than the other bloke.

- But free market forces are effective because both sides gain

Is Free Trade Good for Everyone?
Suppose Nova Scotia Has 55 Workers?

	Before	Trade	
	catfish	salmon	all fish
number produced	50	500	550
Labor input	30	25	55
number consumed	50	500	550
% employed			100%
# of fish per worker	0.9	9.1	10
# of fish per person	0.9	9.1	10.0
	After	Trade	
	catfish	salmon	all fish
number produced	0	1,000	1,000
Labor input	0	50	50
number consumed	50	700	750
% employed			91%
# of fish per worker	1.0	14.0	15
# of fish per person	0.9	12.7	13.6

Two islands:
# coconuts and fish

- Windy island, palm trees violently bent over,

  One coconut = 2 fish

- High island, palm trees are very tall, (they also have giant cockroaches)

  one coconut = 10 fish

- Fishermen meet, trade begins, the climber of coconut trees, on High Island, loses her job.

- She is despondent, and kicks a giant cockroach into her boiling laundry pot

But wait! She renames cockroaches '**lobster**', and now she has a thriving business!

Global Trade of Goods and Services, 1960-2014[1]

1. Source: *"Why Has Traded Stopped Growing?"* Peterson Institute for International Economics (3/23/16)
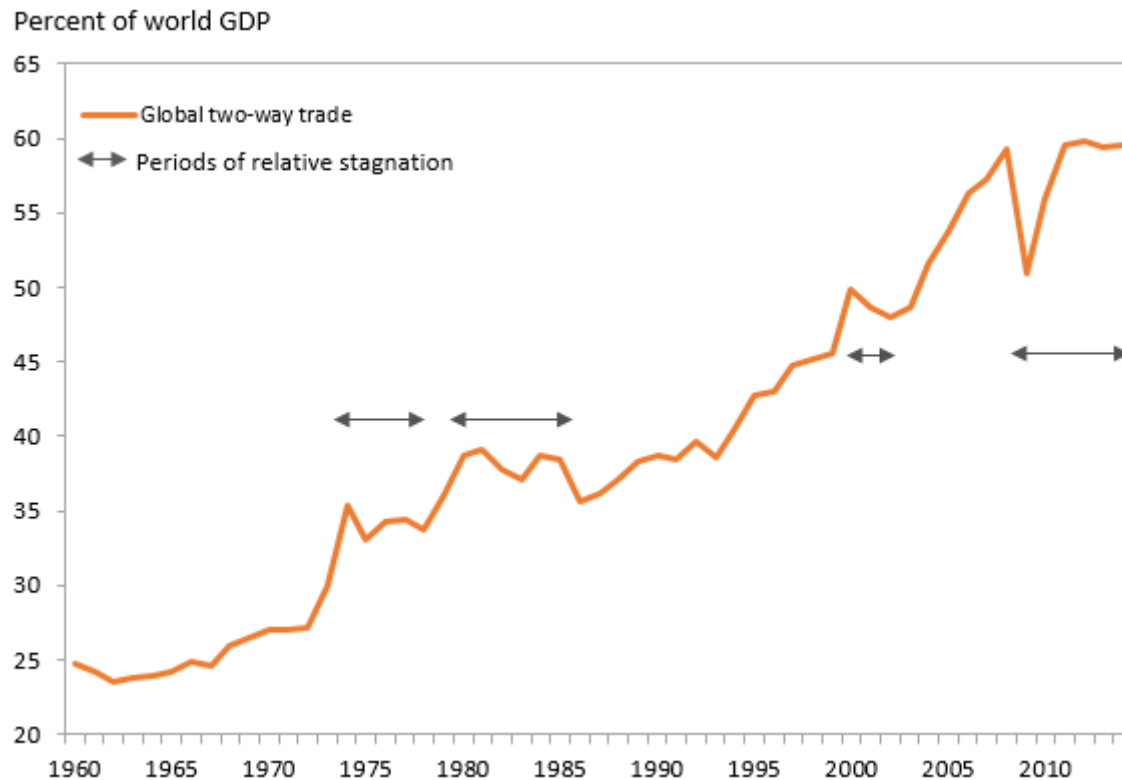
China Exports to USA:
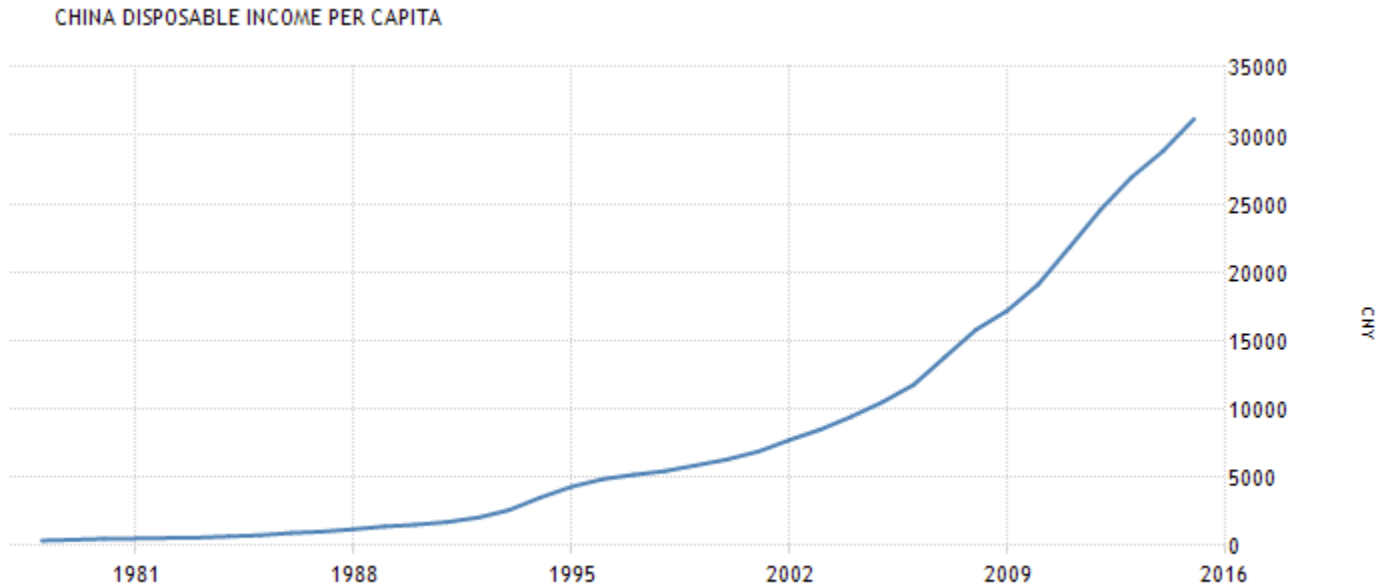# An Unprecedented Inflow

China Exports to USA as % of
USA General Merchandise Sales

Globalization: Pro Technology and Free Trade
In the Developed world, it left the poor behind.

U.S. Real Weekly Wages, 1979-2014
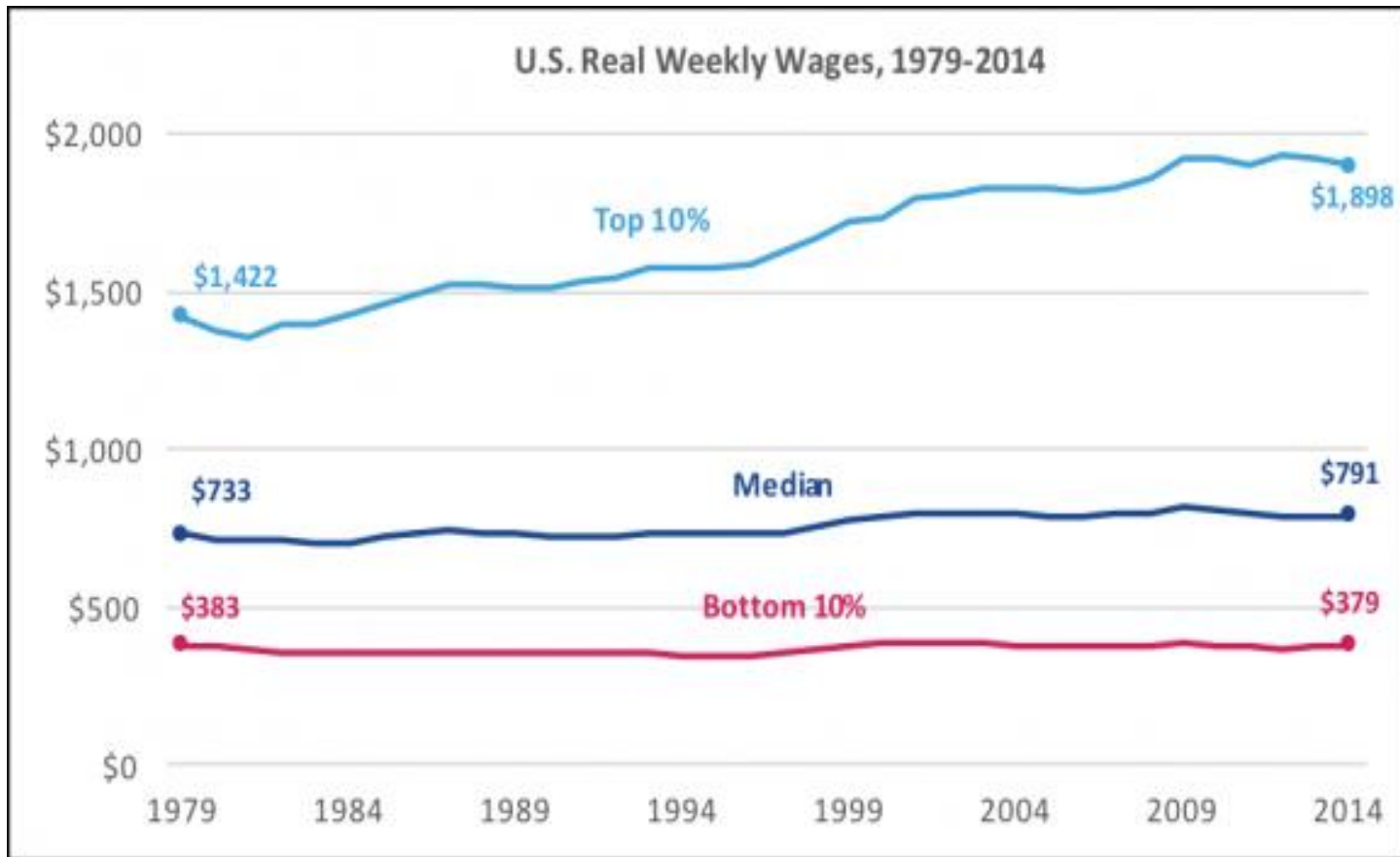
What about from a worldwide perspective?
China's export boom pulled 600 million into the 21st century

CHINA DISPOSABLE INCOME PER CAPITA

SOURCE: WWW.TRADINGECONOMICS.COM | NATIONAL BUREAU OF STATISTICS OF CHINA

The dollar values of income per capita in China:

	renminbi/dollar	income per capita(renminbi)	income per capita (dollars)
1990	4.7	2,600	553
2000	8.3	6,900	831
2010	6.8	16,000	2,353
2016	6.7	32,000	4,805

AND FOR A CLOSER LOOK:

- *Factory Girls: From Village to City in a Changing China*
- Paperback – August 4, 2009
- by Leslie T. Chang