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Chapter 18

International Trade

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Outline

1. Comparative Advantage
2. Graphical Analysis
3. Protectionism

Outline

1. **Comparative Advantage**

Key Concepts

David Ricardo
(1722-1823)

- ***Absolute Advantage***: one country has an absolute advantage in the production of good X if it takes fewer resources to produce one unit of X there than in another country
  - Reasons: low costs, high productivity

	Food ($/kg)	Cloth ($/m)
US	1	5
Europe	3	6

- ***Comparative Advantage (CA)***: The situation that exists when a country can produce a good with less forgone output of other goods than can another country
  - According to Paul Samuelson (1915-; Nobel prize 1970) the theory of comparative advantage is "one of the few ideas in economics that is true without being obvious"

	Food (kg)	Cloth (m)
US	0.2m of cloth	5kg of wheat
China	0.5m of wheat	2kg of wheat

Gains from Trade

- International trade flow
  - US → Europe: Food
  - Europe → US: Cloth
- Change in specialization
  - US: Food (CA)
  - Europe: Cloth (CA)
- Gains from specialization

	Food (kg)	Cloth (m)
US	0.5m of cloth ←	2kg of food ↑
Europe	0.75m of cloth →	1.33kg of food

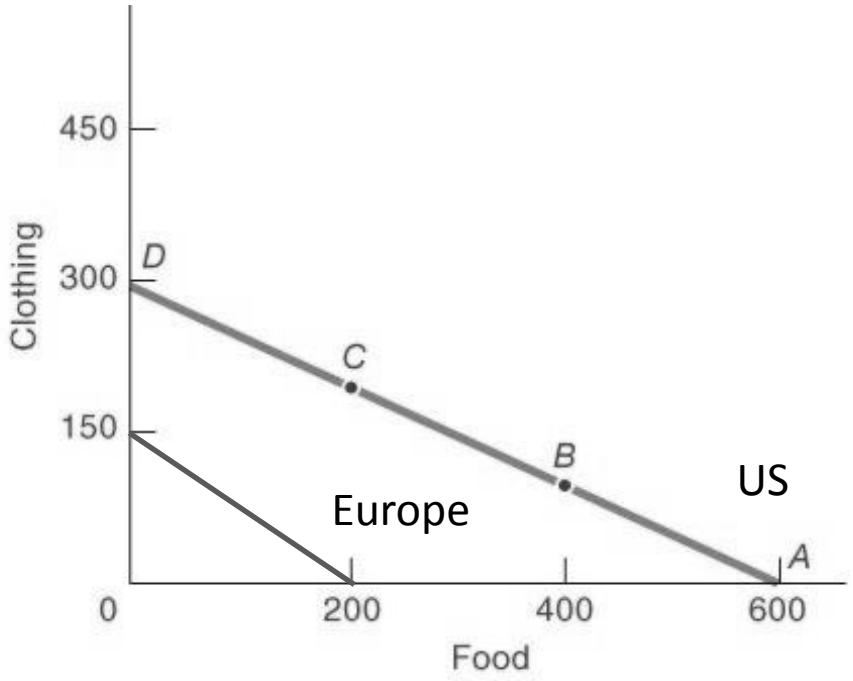
	Food (kg)	Cloth (m)
US	+5	-1
Europe	-4	+2
Total	+1	+1

Outline

1. Comparative Advantage
2. **Graphical Analysis**

US without Trade

- Assuming that both US and Europe has 600 units of labor
- PPF of US
  - Price ratio between food and cloth 1/2
  - Reflecting the relative production cost
  - 1 food = 1/2 cloth
- Consumer and Production:
  - Without trade, a country can only consumer what it produces
  - E.g., point B
- We can do exactly the same thing for Europe
  - But EU's PPF will be different with the US
  - Price ratio 3/4



America's Production-Possibility Schedule
(1-to-2 constant-cost ratio)

Possibilities	Food (units)	Clothing (units)
A	600	0
B	400	100
C	200	200
D	0	300

FIGURE 18-1. American Production Data

Opening Up to Trade

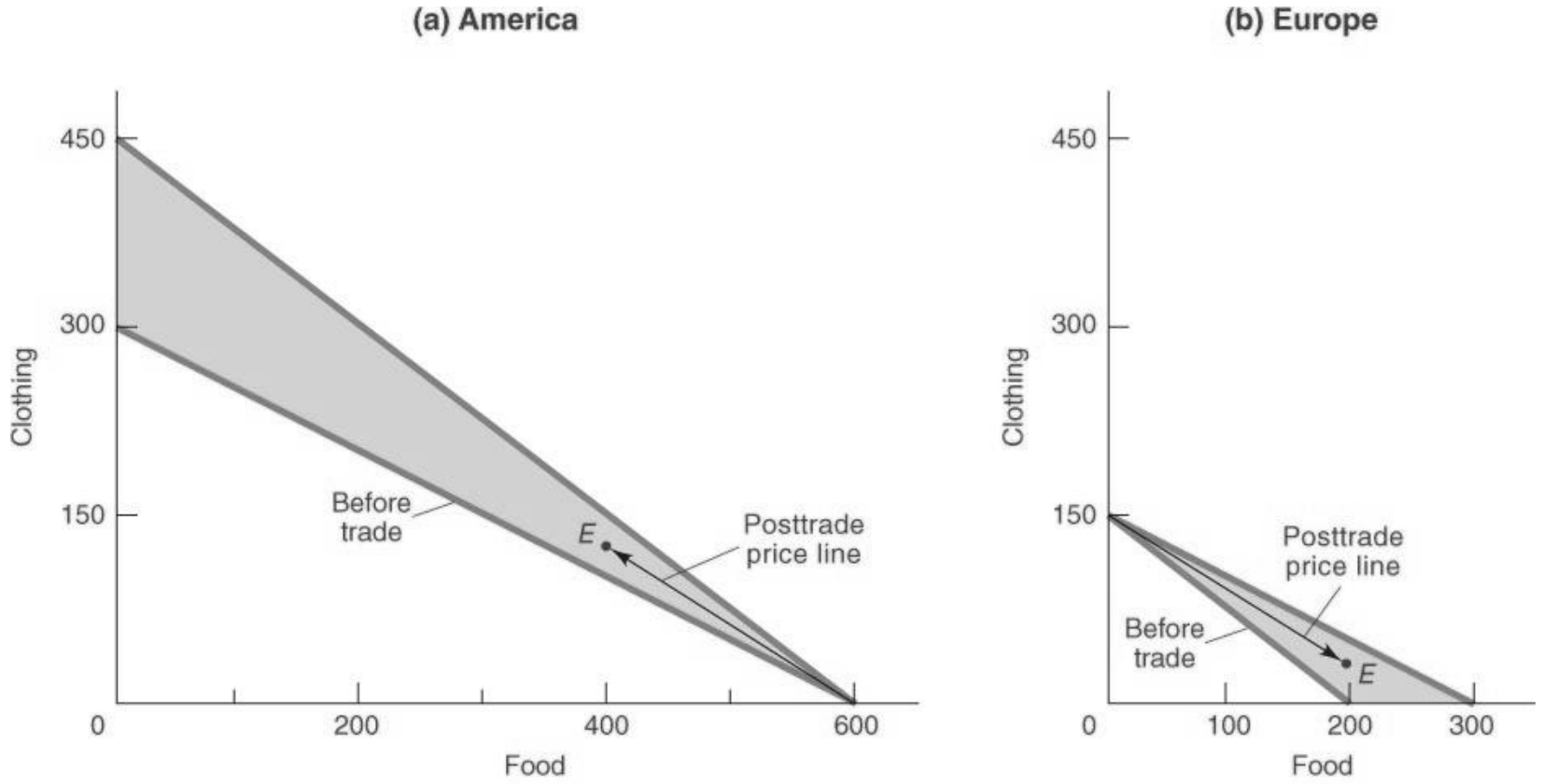


FIGURE 18-2. Comparative Advantage Illustrated

- Relative Price between food and clothing should lie between 1/2 and 3/4
- The final price ratio depends upon the relative demand for food and clothing
  - When food demand is high → price of food ↑ → final price = 3/4 → US specializes in food and Europe produces both food and cloth
  - When Cloth demand is high → price of cloth ↑ → final price = 1/2 → Europe specializes in cloth and US produces both food and cloth

US' Gains from Trade

- Assume that demand is such that the final price ratio is 2/3
  - 1 unit of food = 2/3 units of cloth
  - US should specialize in food
  - Europe should specialize in cloth
- Consumption possibility curve:
  - Begins at the region's point of complete specialization
  - Then run out at the world's price ratio of 2/3
- The final outcome
  - Europe specializes in cloth
  - US specializes in food
  - Europe exports 133 units of cloth for 200 units of US' food

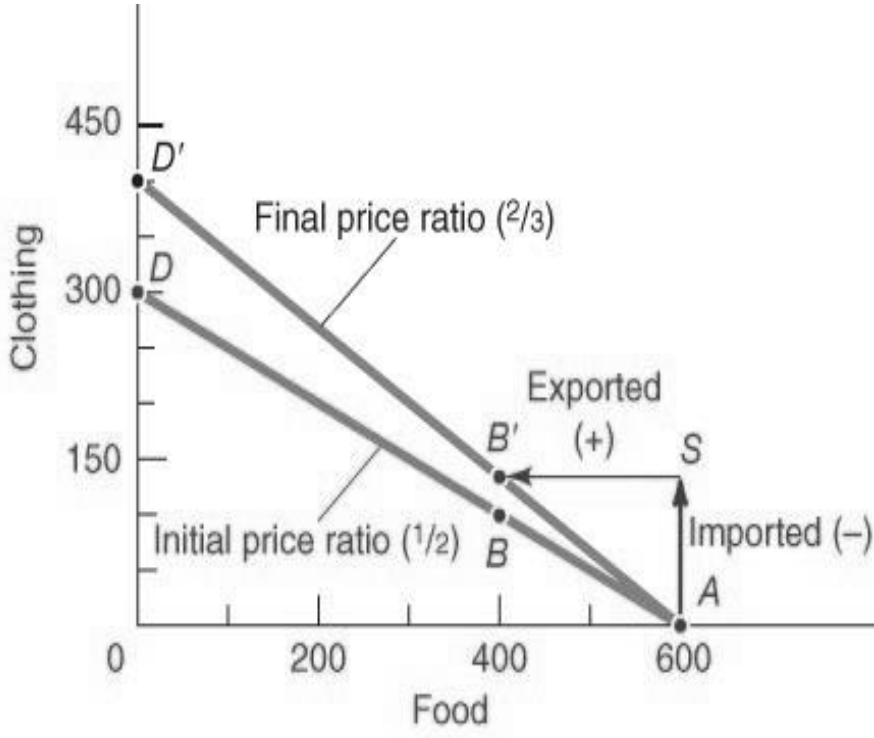
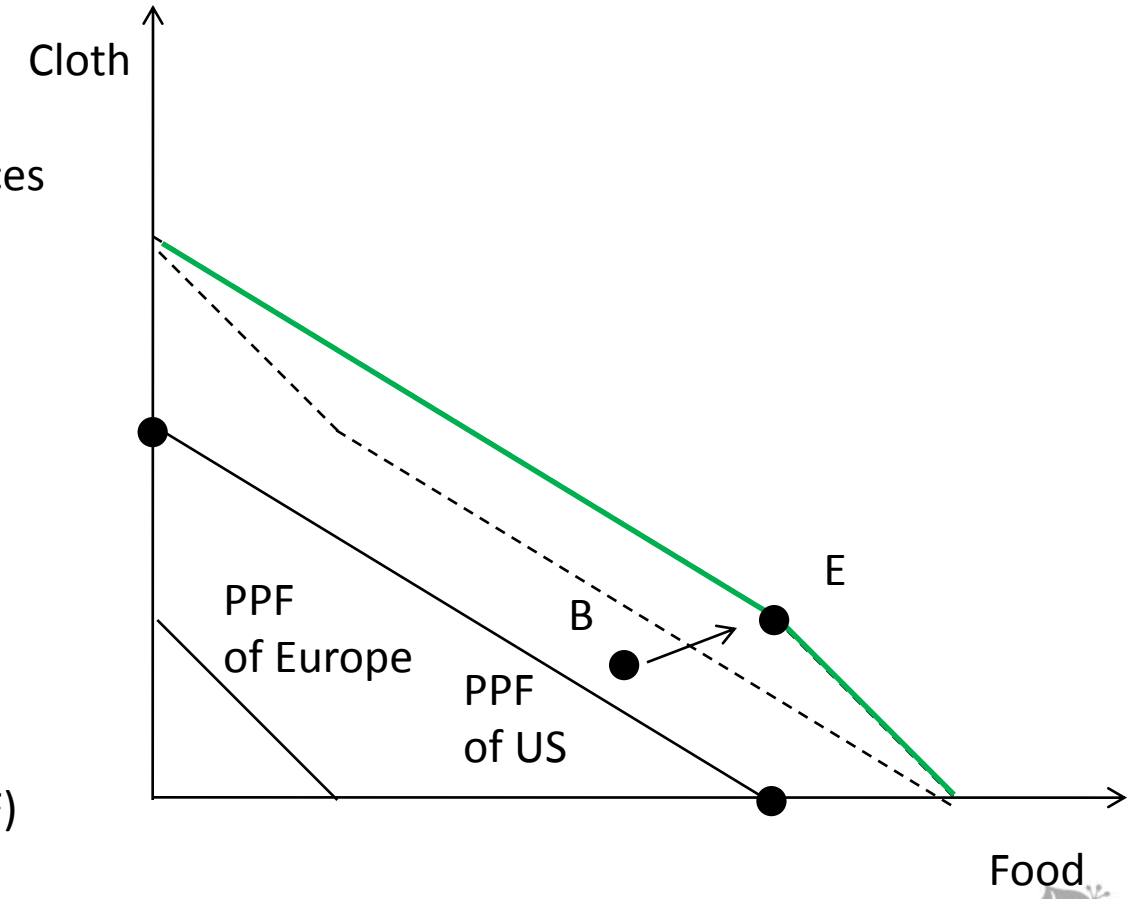


FIGURE 18-3. America before and after Trade

The World's PPF with Free Trade

- The world PPF represents the maximum output that can be obtained from the world's resources when goods are produced in the most efficient manner
  - The maximum possible Cloth production
  - The maximum possible Food production
  - All the possible production levels in between
- Gains from trade
  - Before trade B (inside the PPF)
  - After trade E (on the PPF）



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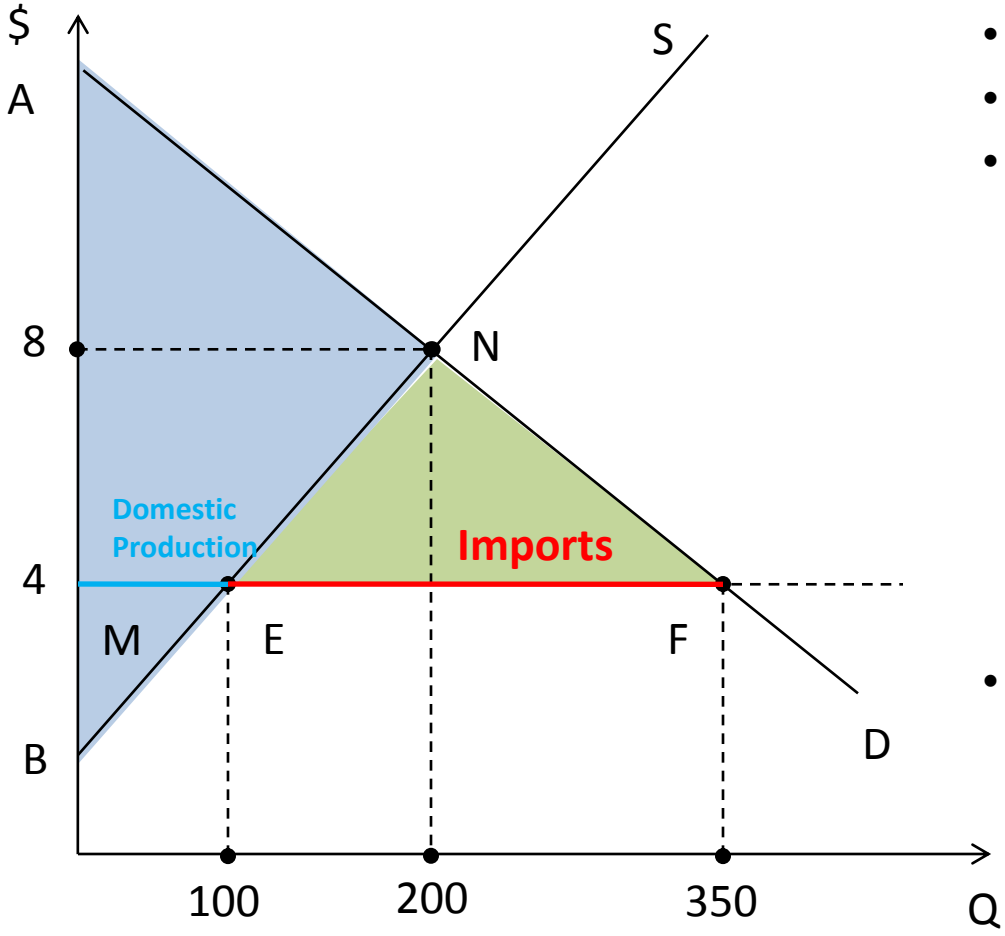
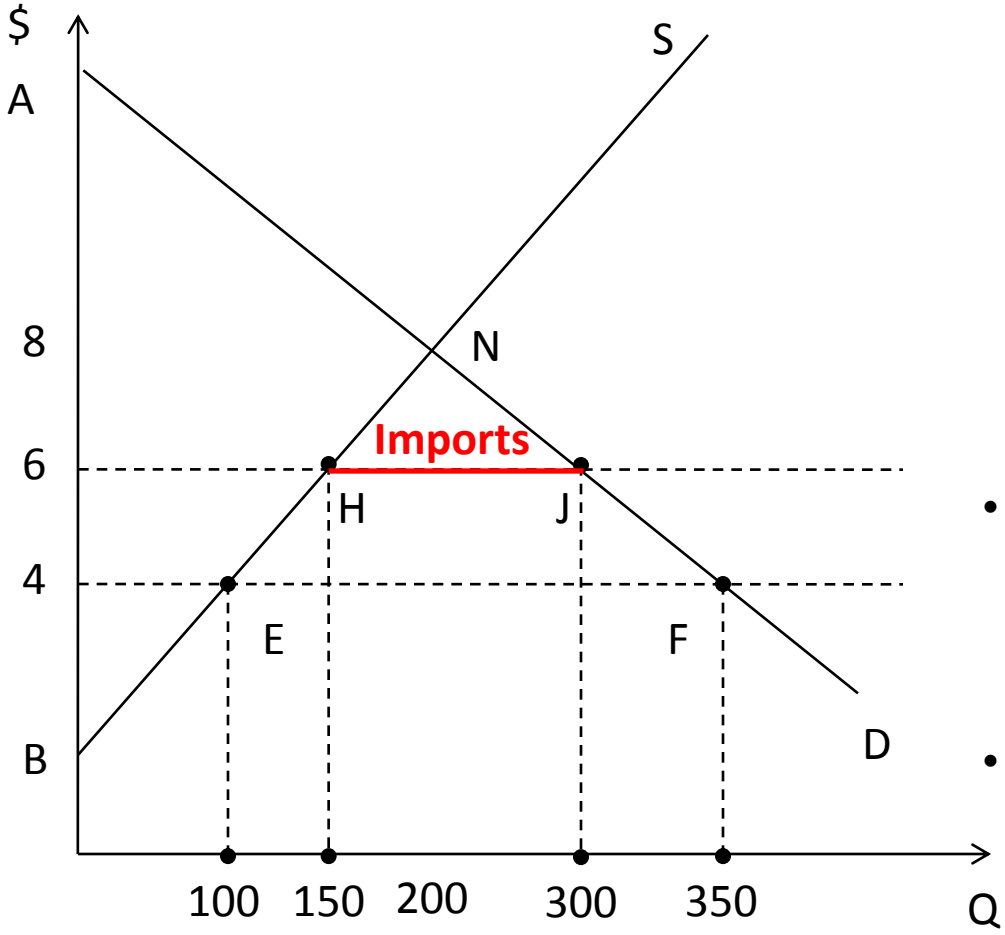
Free Trade v.s. No Trade



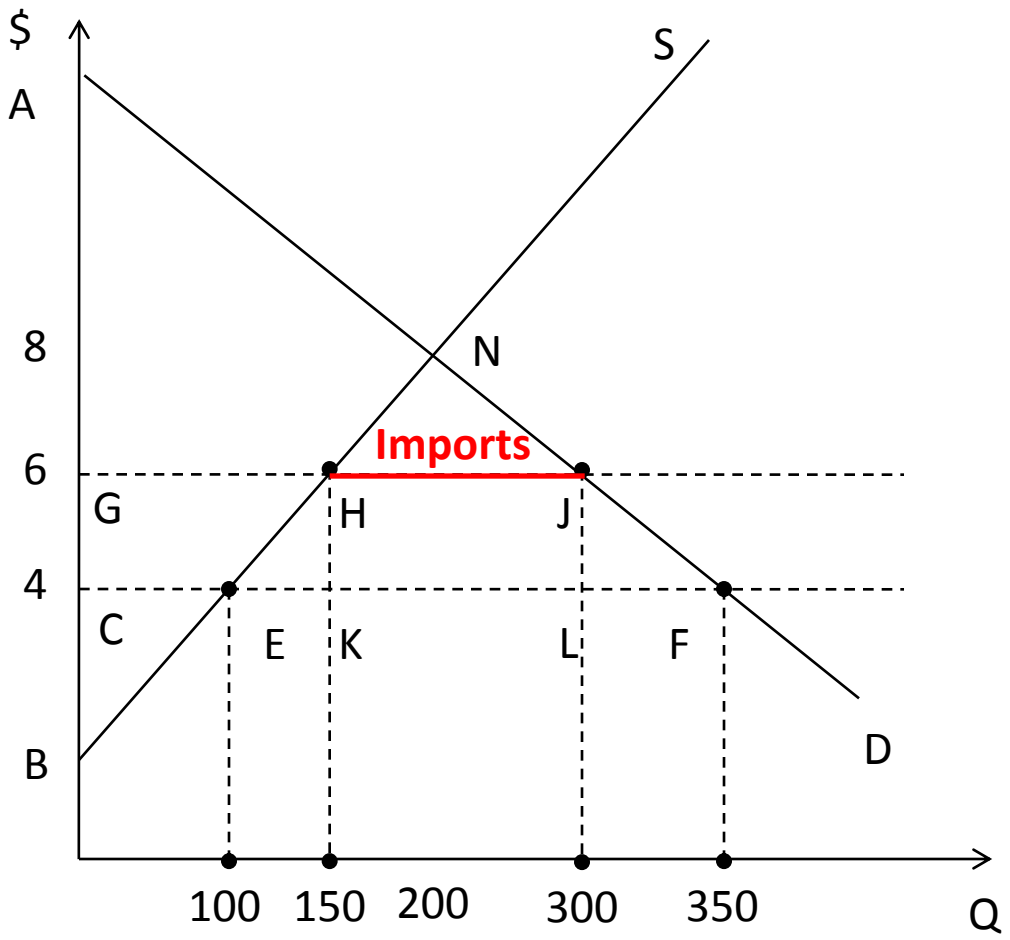
- Domestic Demand: D
- Domestic Supply: S
- No trade equilibrium: N ($8, 200)
- Free Trade equilibrium:
  - Small open economy; No transaction/transportation cost
  - Take the world price ($4) as given
  - Foreign goods flow into the country, driving the price down to the world price
  - At $4, domestic firms only willing to produce 100 units
  - But domestic consumers want 350 units
  - The gap is filled in by imports
- Gains from trade
  - Social surplus without trade: ABN
  - Social surplus with trade: ABN+NEF

Trade Barriers



- ***Prohibitive Tariff:***
  - One that prevents all imports
  - T ≥ $4
- ***Nonprohibitive Tariff:***
  - T = $2 ≤ $4
  - At $6, domestic firms only willing to produce 150 units
  - Domestic consumers want 300 units
  - Imports are reduced from 250 to 150 units
- ***Quotas:***
  - A quota of 150 units has the same equilibrium price and output as a tariff of $2
- ***Transportation Cost:***
  - Imposed by nature
  - Same effects as a tariff
  - Tariffs as the “negative railway”

The Economic Costs of Tariffs



- Effects of Tariffs Relative to Free Trade:
  1. Domestic producers, operate under a price umbrella provided by the tariff, expand their production
  2. Consumers are faced with higher prices and therefore reduce their consumption
  3. The government gains tariff revenue
- GCEH is transferred from CS to PS
- Loss in CS: HEFJ
- Gain in government revenues: HKLJ
- Efficiency loss: EKH+JLF

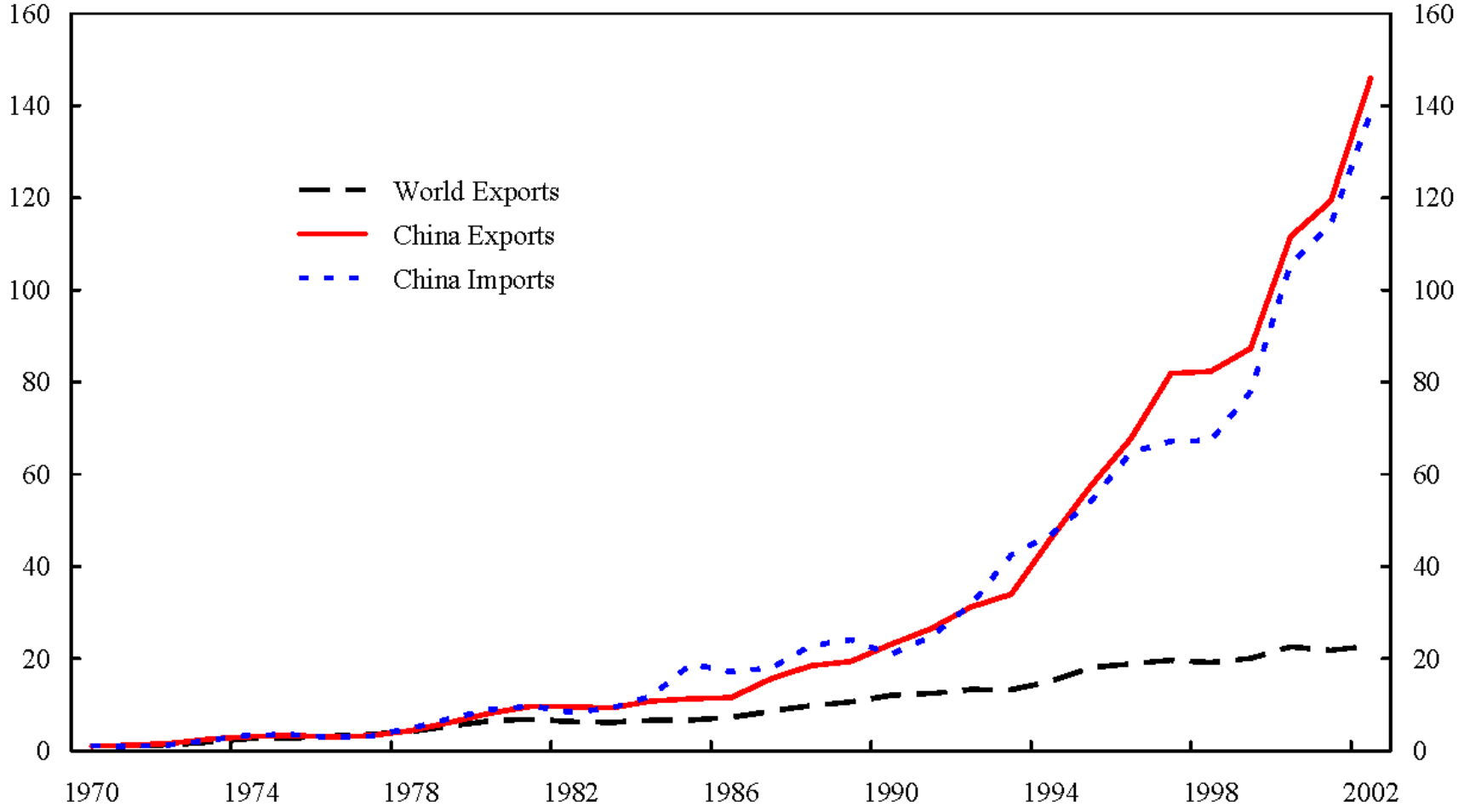
Tariff Reductions, Trade Volume and Current Account in China

year	simple average tariff	weighted average tariff	(import+export) /GDP	(export-import)/GDP(%)	Current account/GDP(%)
1995	0.3552	0.2786	0.3881	1.6426	0.2223
1996	0.2370	0.1972	0.3806	2.0502	0.8461
1997	0.1756	0.1515	0.3901	4.4951	3.8800
1998	0.1750	0.1517	0.3639	4.2999	3.0871
1999	0.1716	0.1401	0.3769	2.6491	1.9492
2000	0.1701	0.1357	0.4424	2.4092	1.7120
2001	0.1592	0.1336	0.4308	2.1199	1.3135
2002	0.0000	0.0000	0.0000	2.5713	2.4365
2003	0.1133	0.0648	0.5691	2.1987	2.7956
2004	0.1048	0.0600	0.6535	2.5514	3.5544
2005	0.0964	0.0483	0.6863	5.5296	7.1256
2006	0.0929	0.0428	0.7057	7.7006	9.3355
2007	0.0929	0.0429	0.6803	8.8000	10.6419
2008	0.0902	0.0390	0.6224	7.7152	9.6445
2009	0.0866	0.0357	0.4907	4.4148	5.9602

Source: Ju, Shi, and Wei (WP, 2011)

Figure 1. Growth in Trade, 1970–2002

(Index, 1970=1)



Sources: IMF, *Direction of Trade Statistics* .