Trade and Tariffs

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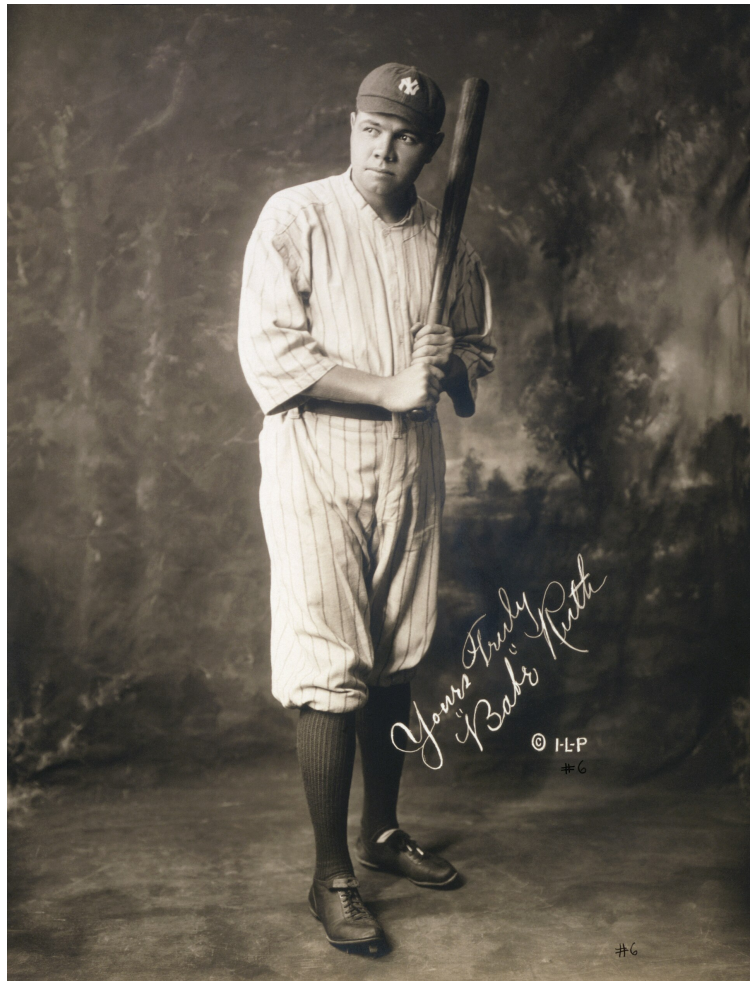
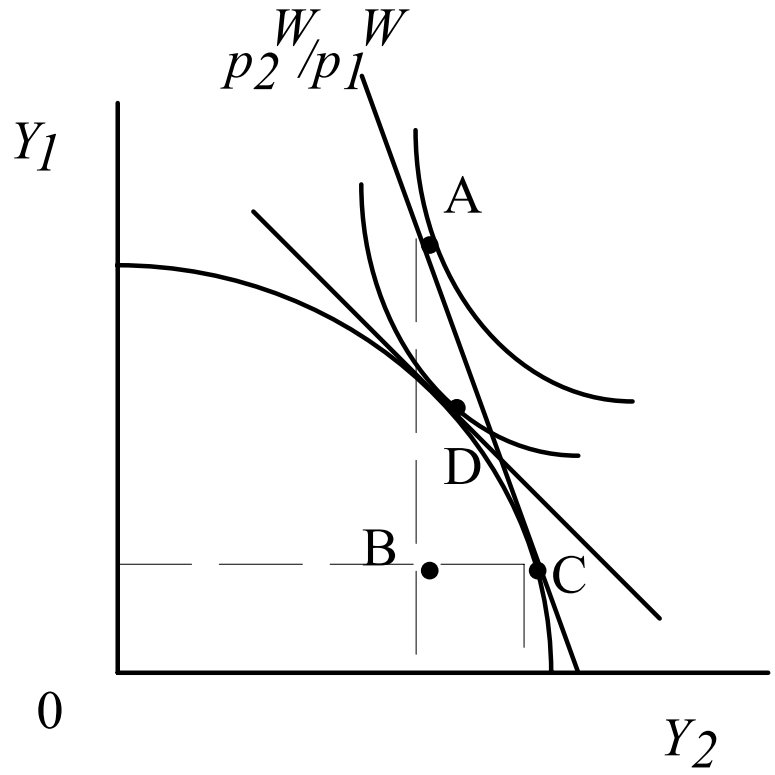
What Does Babe Ruth Have to do with Trade and Tariffs?



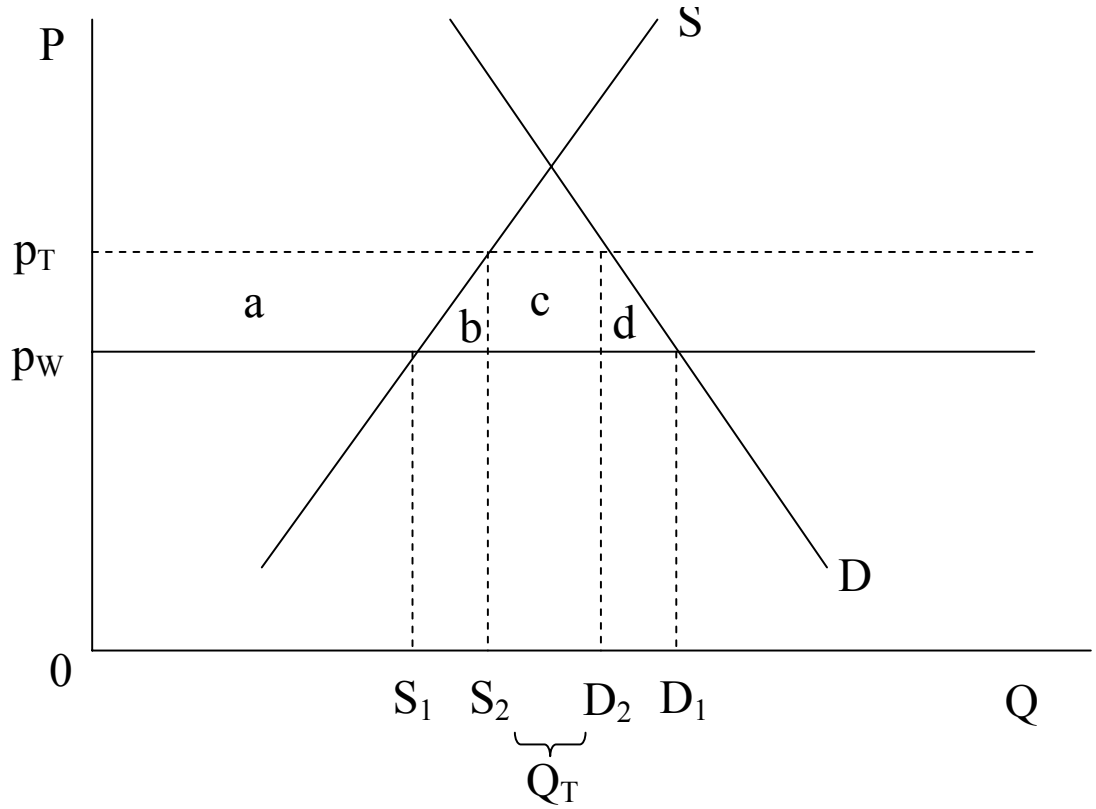
- Began his MLB career as a pitcher for the Boston Red Sox
- Greatest fame as a slugging outfielder for the New York Yankees
- With finite time and resources, he specialized in what he was relatively best at, leaving others to specialize as pitchers

Aggregate Gains from Trade



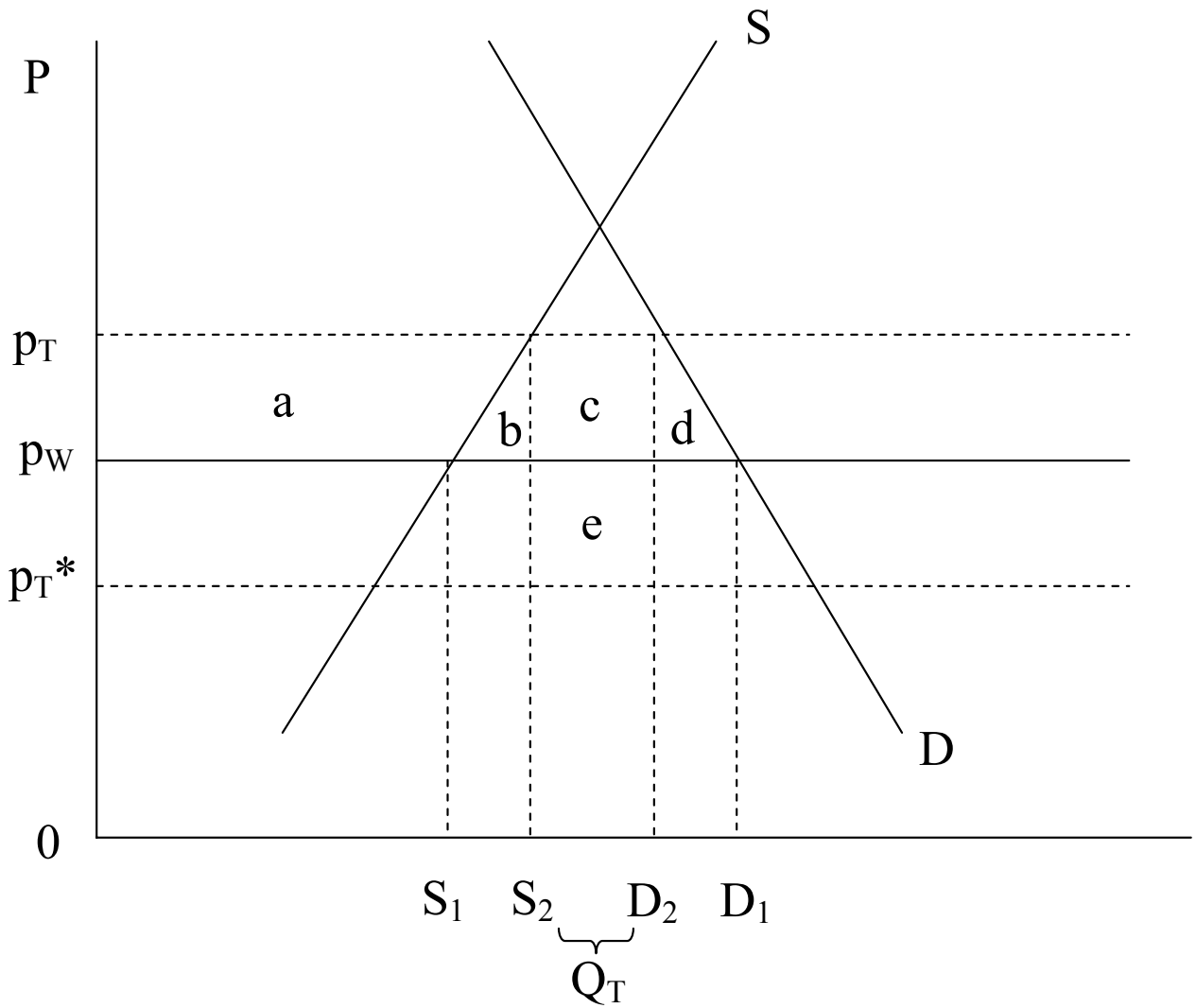
- International trade allows a country to consume outside its PDF and acts like a *technology improvement*
- Not Win-Lose but Win-Win by expanding the size of the pie
- Tariffs are taxes on trade ($\rightarrow$ like taxes on technology)
- May be income distributional reasons for these taxes, but they involve forgoing aggregate welfare gains

Economics of Tariffs (Small Country)



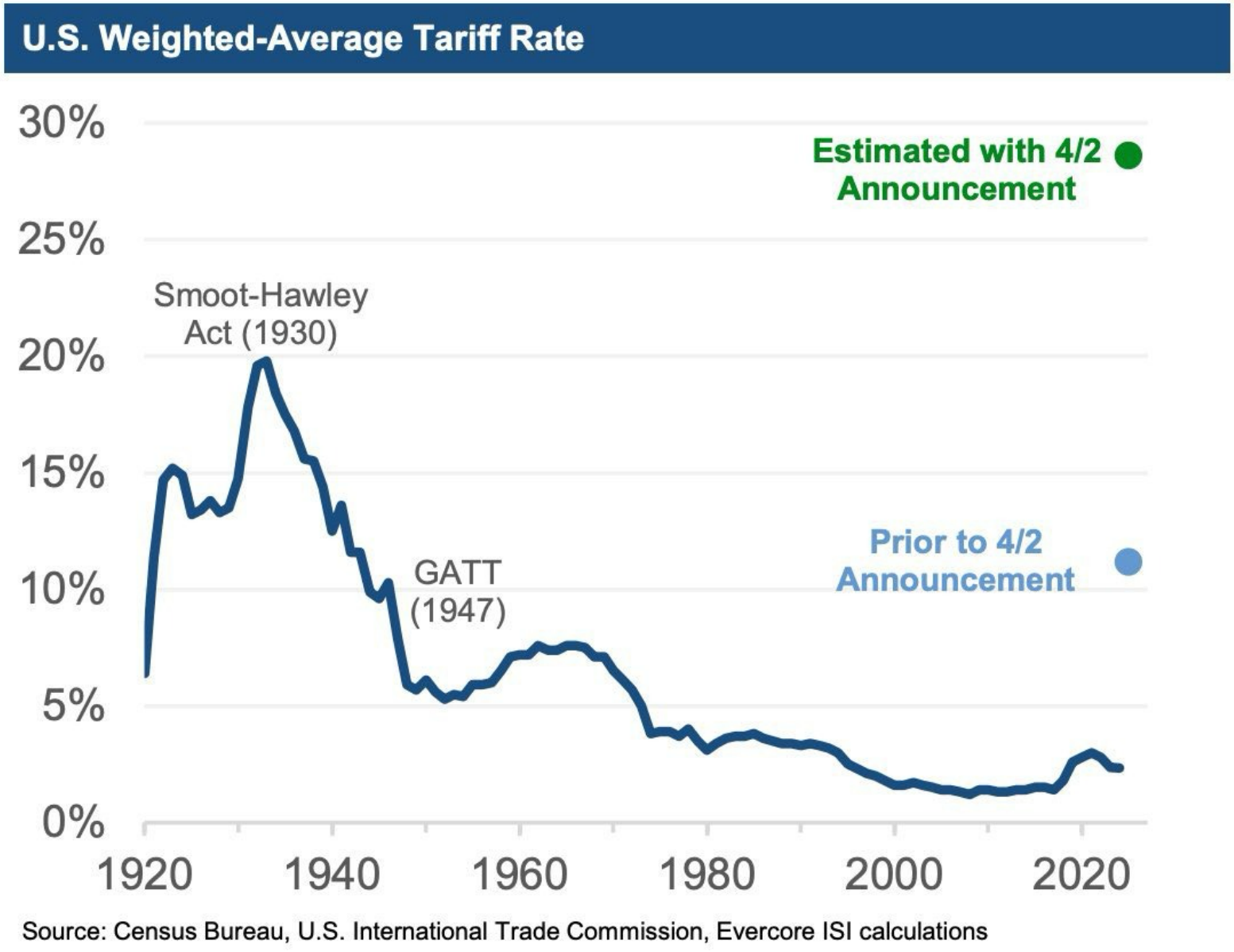
- Statutory incidence of tariffs is on imports, but they distort both *production* (area *b*) and *consumption* (area *d*) decisions
- Equivalent to a combination of a *domestic production subsidy* and *domestic consumption tax*
- Welfare reducing: -(b+d)

Economics of Tariffs (Large Country)

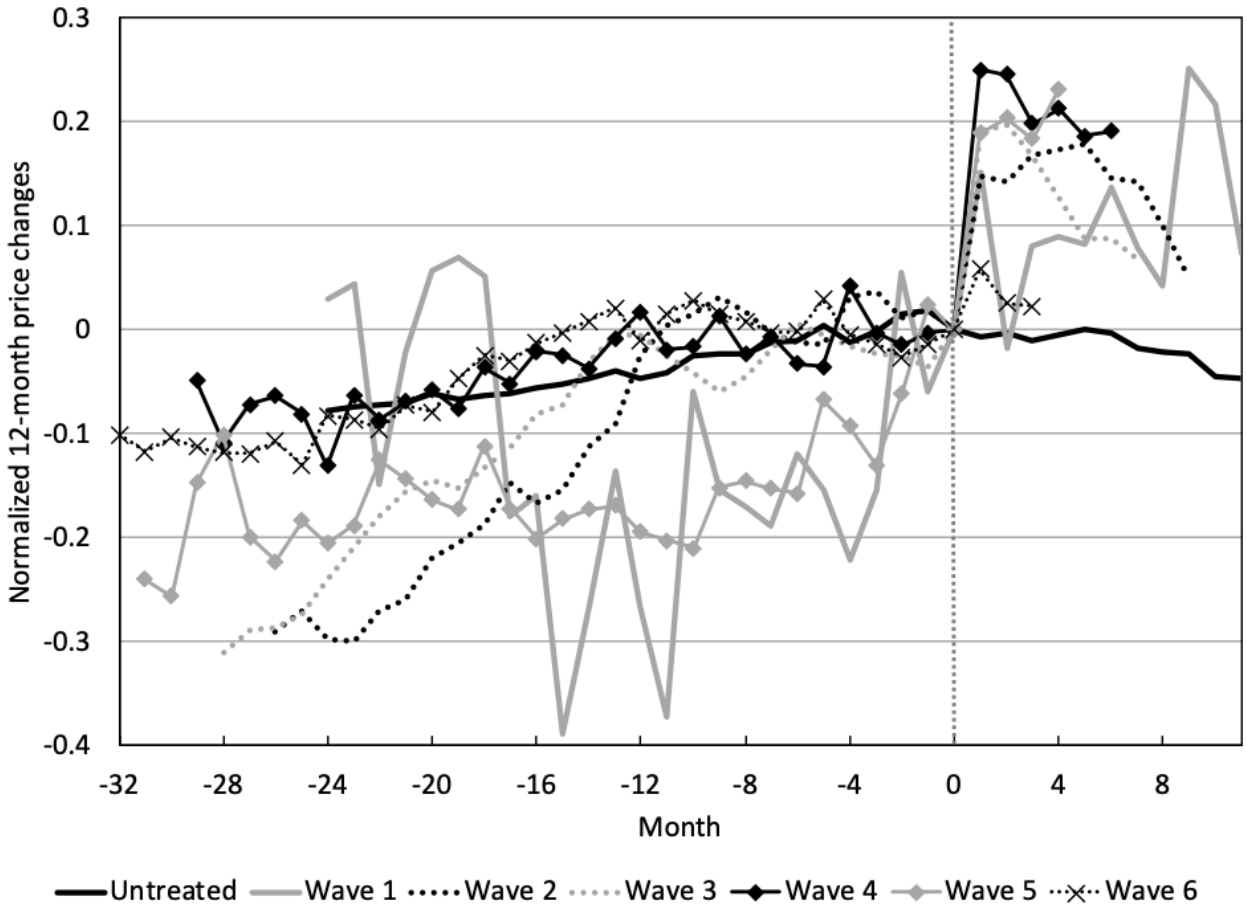


- Welfare effect: e-(b+d) (typically welfare reducing with retaliation)

Average Tariff Rates

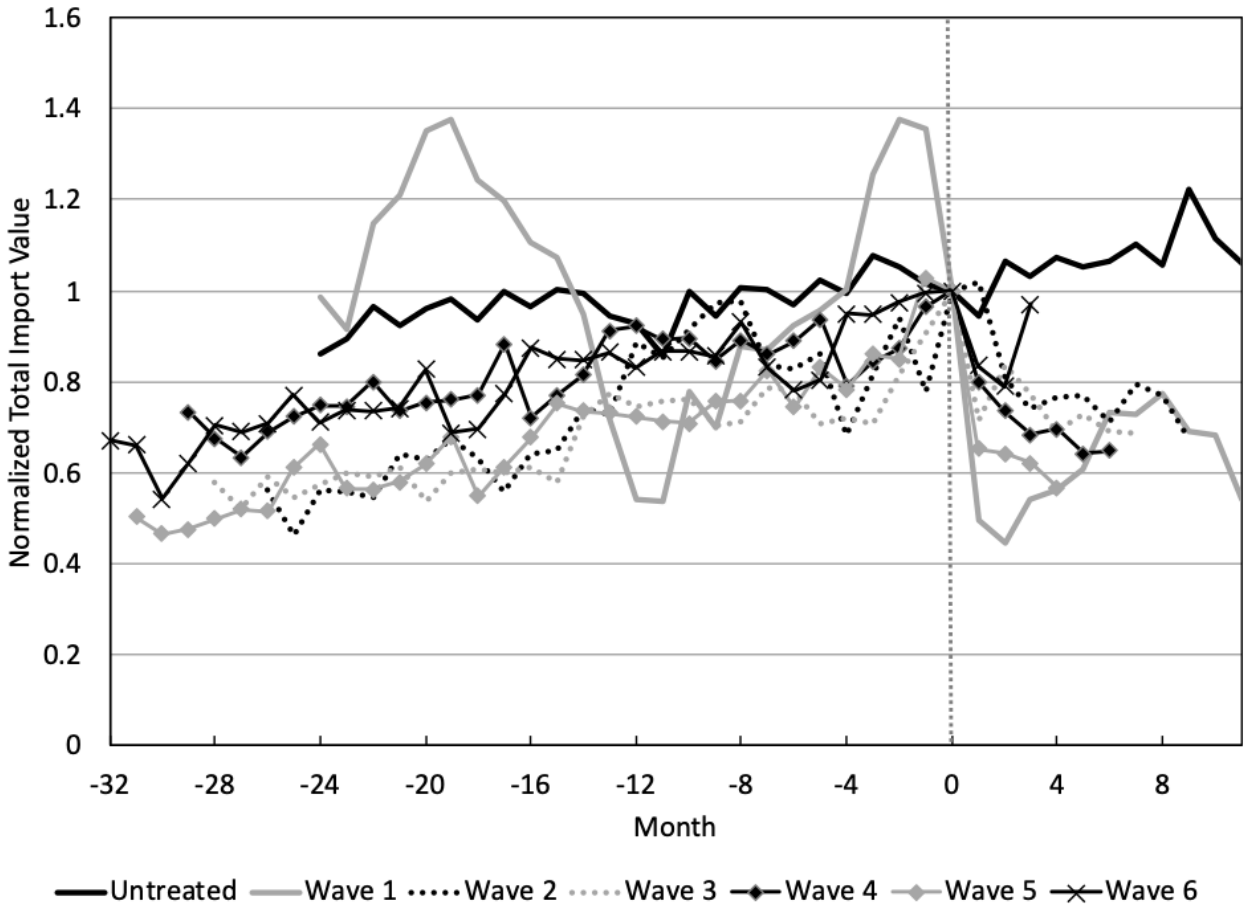


Import Price Changes up to 2018



Notes: Proportional change in an import-share-weighted average of 12-month relative changes in U.S. import unit values inclusive of tariffs (import values divided by input quantities) for each tariff wave and for unaffected countries and products; proportional changes for each wave are normalized to equal zero in the month prior to the introduction of the tariff; for the untreated month zero is defined as in the first tariff wave; Amiti, Redding & Weinstein (2019).

Import Value Changes up to 2018



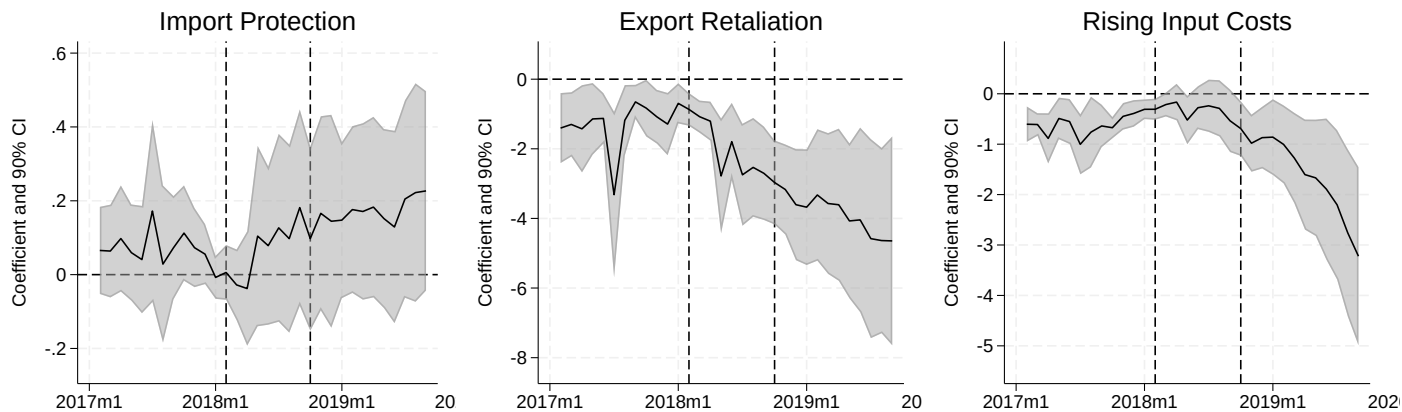
Notes: 12-month proportional changes in the value of U.S. imports by tariff wave and for unaffected countries and products; each series is normalized to the value one in the month prior to the introduction of the tariff; for the untreated month zero is defined as in the first tariff wave; Amiti, Redding & Weinstein (2019).

Global Value Chains (GVCs)

- With GVCs, output of one industry is input of another industry
- Output tariffs that protect one industry are input tariffs that anti-protect another industry

Figure 5: Effects of Cumulative Tariffs (Detrended)

(a) Employment



- Flaaen, Aaron and Pierce, Justin (2024) "Disentangling the Effects of the 2018-2019 Tariffs on a Globally Connected U.S. Manufacturing Sector," *Review of Economic Statistics*
- Challenging for firms to make plant investment decisions for GVCs when tariffs could be 0, 25%, or 50%

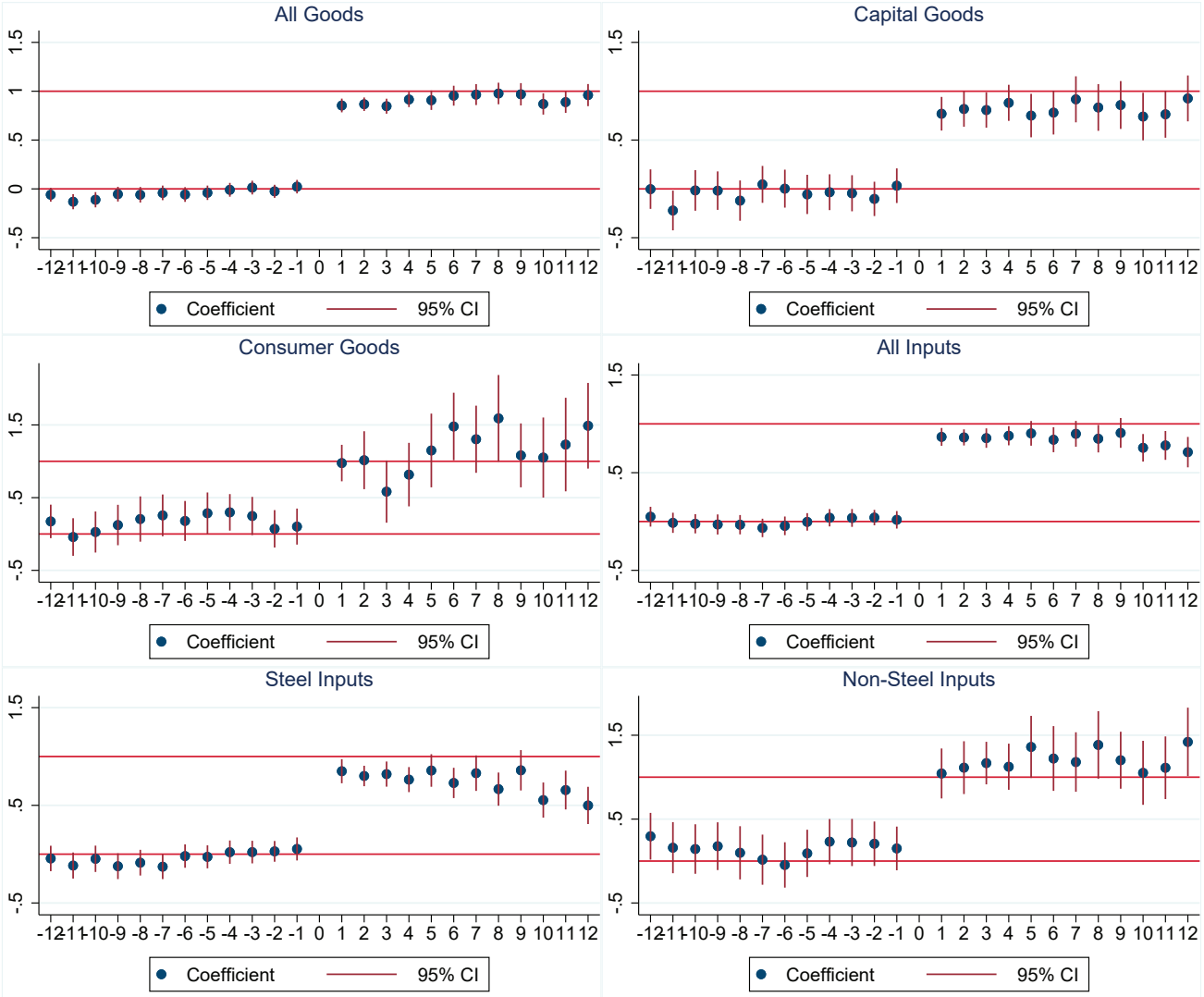
Conclusions

- International trade allows a country to consume outside its PDF and acts like a *technology improvement*
- Not Win-Lose but Win-Win by expanding the size of the pie
- Tariffs are taxes on trade ($\rightarrow$ like taxes on technology)
- May be income distributional reasons for these taxes, but they involve forgoing aggregate welfare gains
- Potentially other more efficient ways to redistribute income
- Global Value Chains (GVCs) substantially complicate the impact of tariffs
- If GVCs involve sunk investments, trade policy uncertainty itself can be a source of welfare losses

Appendix Slides

Event-Study Estimates

- Event-study estimates for import prices from Jan 2016 - October 2019



Estimating Deadweight Welfare Effects

- Assuming that the import demand curve has a constant slope, the deadweight welfare loss can be estimated as

$$\frac{1}{2}p_1^*\tau\left(m_0 - m_1\right) = \frac{1}{2}\left(p_1^* m_1\right)\tau\left(\frac{m_0 - m_1}{m_1}\right)$$

- Where τ, p_1^* and m_1 are observed
- We estimate the percentage change in imports due to the tariff as

$$-\beta \ln\left(\frac{1+\tau_t}{1+\tau_{t-12}}\right) = -\ln\left(\frac{m_1}{m_0}\right) \approx \left(\frac{m_0 - m_1}{m_1}\right)$$

- Therefore the deadweight welfare loss is estimated as

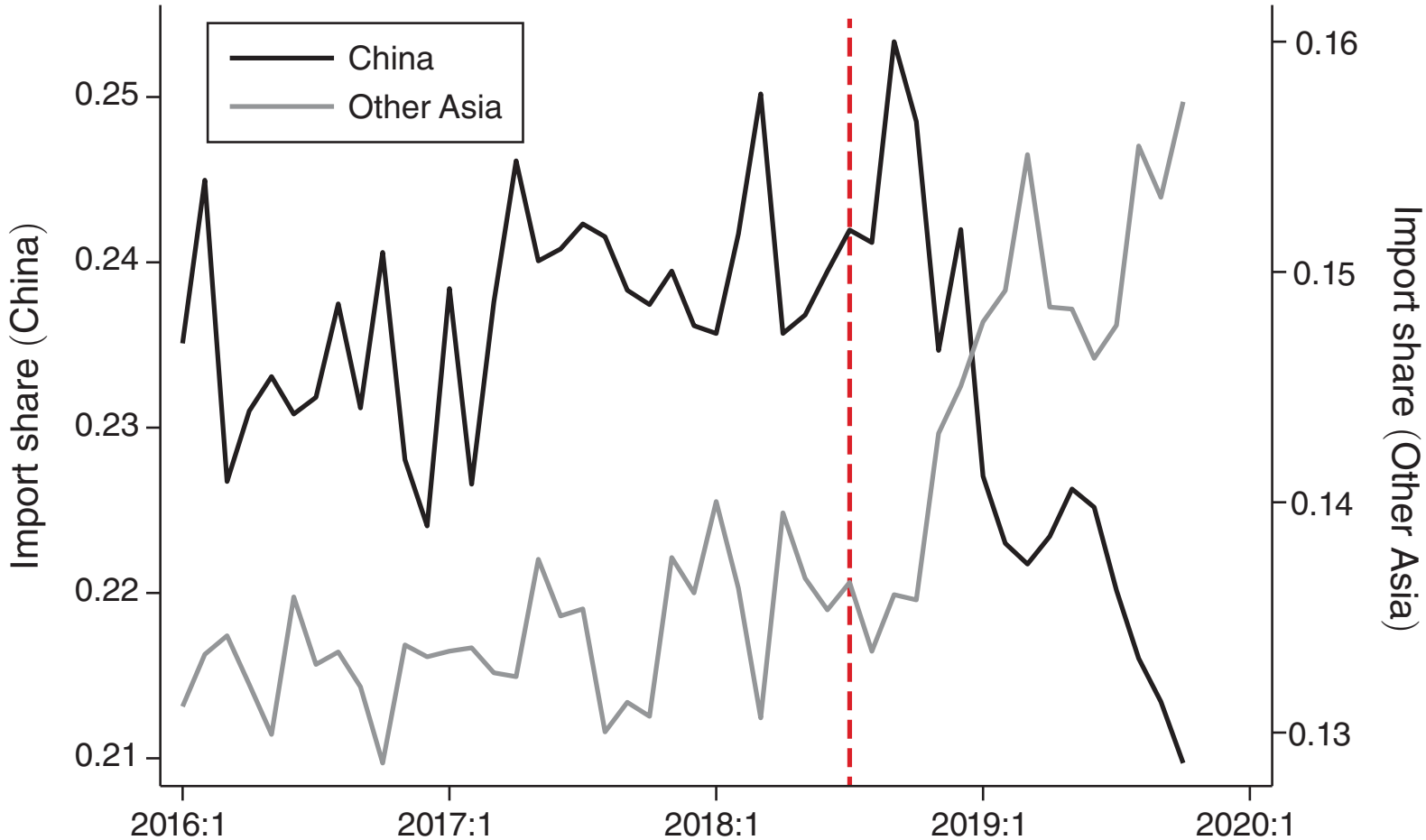
$$-\frac{1}{2}\left(p_1^* m_1\right)\tau\beta \ln\left(\frac{1+\tau_t}{1+\tau_{t-12}}\right)$$

Deadweight Welfare Effects

Month	Deadweight Loss	Tariff Revenue	Total Cost to Importers
Jan	0	0	0
Feb	0.1	0.1	0.2
Mar	0.1	0.1	0.2
Apr	0.3	0.4	0.7
May	0.2	0.4	0.6
Jun	0.4	0.7	1.2
Jul	0.9	1.4	2.4
Aug	0.9	1.4	2.3
Sep	1.0	1.6	2.6
Oct	1.5	3.2	4.6
Nov	1.4	3.0	4.4
Dec	1.4	3.2	4.7
Total	8.2	15.6	23.8

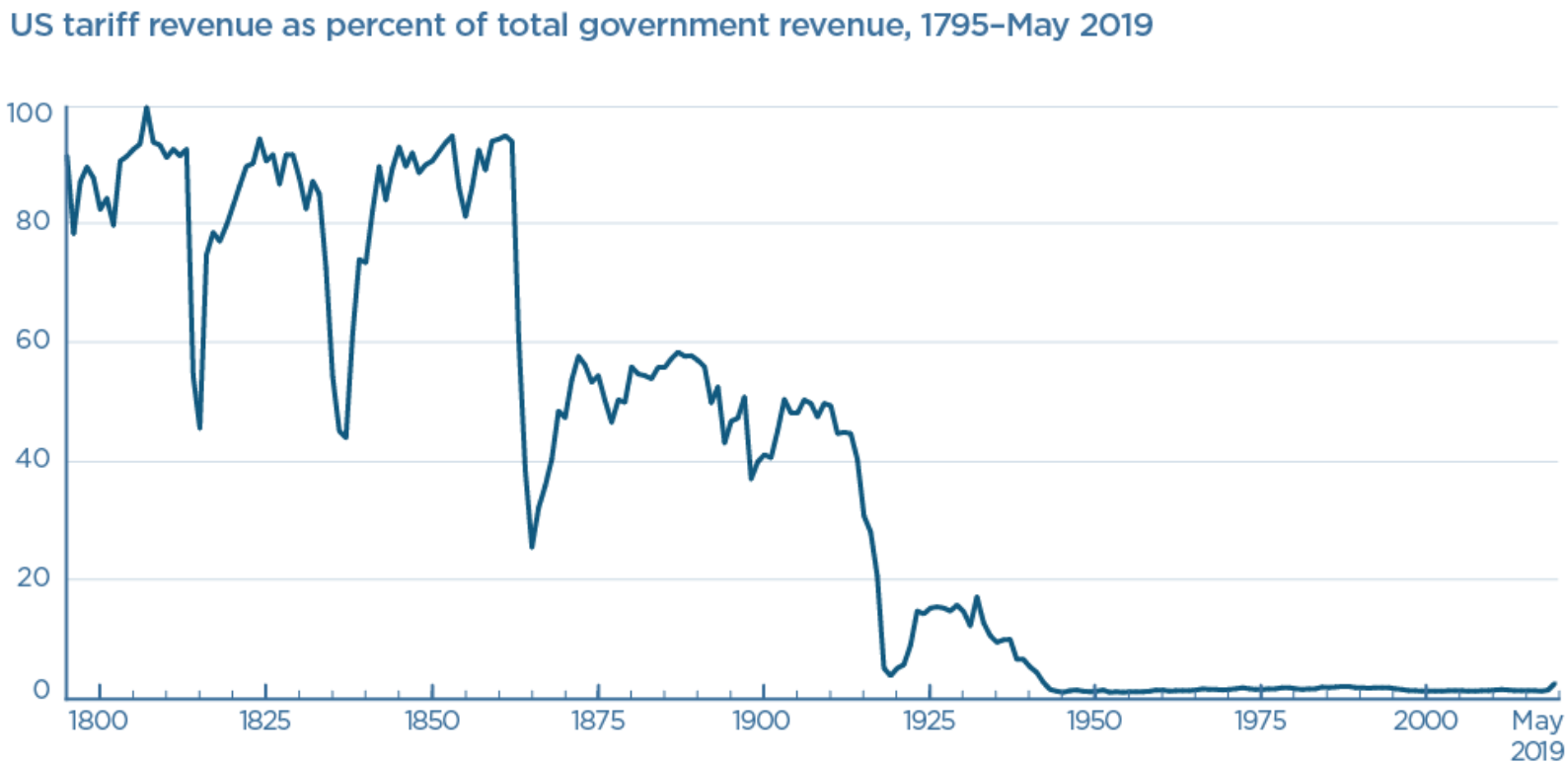
Note: Deadweight welfare loss and tariff revenue measured in current prices in billions of dollars. Column 3 is the sum of columns 1 and 2; see the text for the details of these calculations.

Import Shares



- Grossman, Helpman and Redding (2024) "When Tariffs Disrupt Global Supply Chains," *American Economic Review*, 114(4), 988-1029

Tariff Revenue?

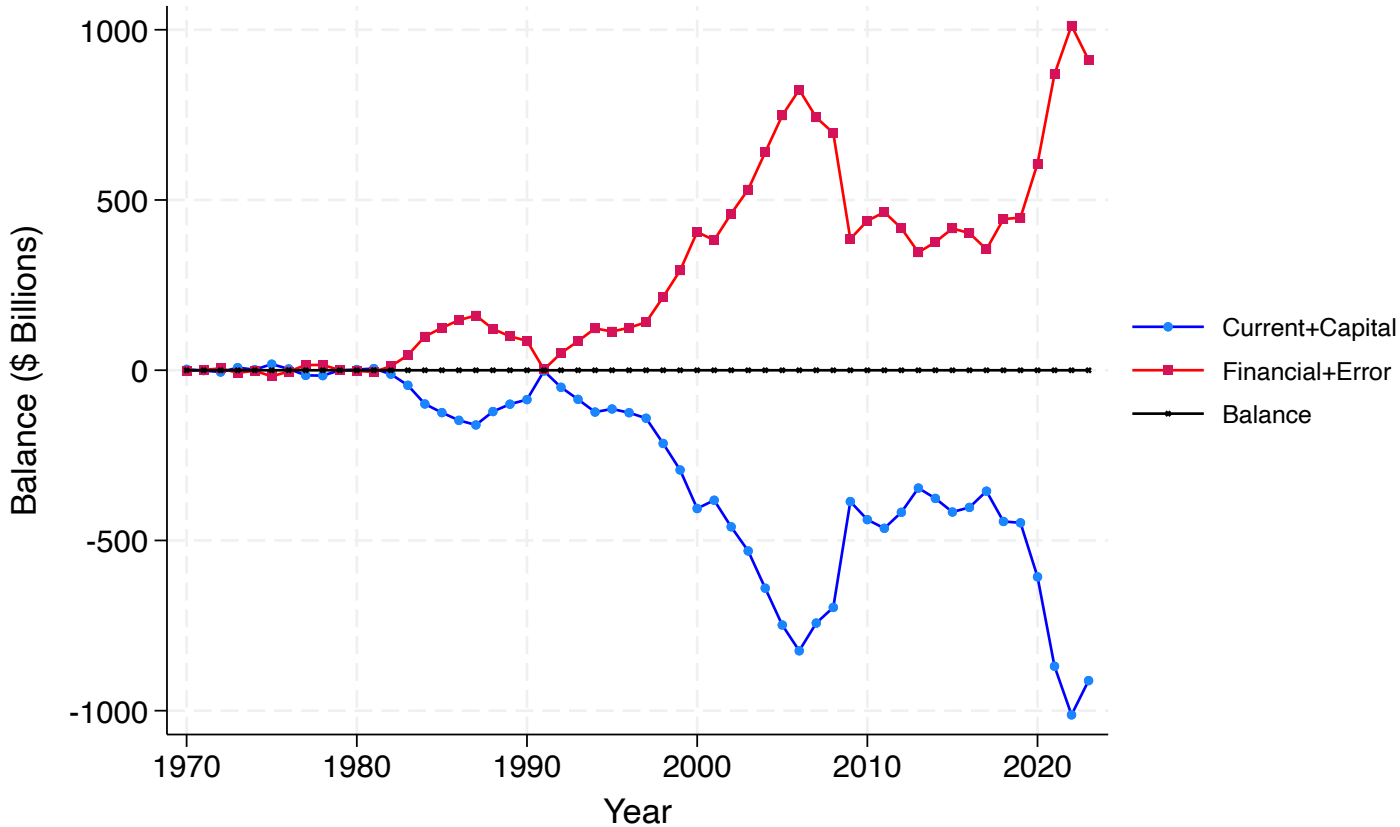


Reciprocity

- U.S Reciprocal Trade Agreements Act 1934
  - Bring in domestic exporters as a counterfactual political force against special interests who supported tariffs
- General Agreements on Tariffs and Tariff 1947
  - Countries exchange tariff concessions of equal value

GATT Rounds	**Ave. Tariff Reduction (%)**	**Remain. Tariff (% of 1930 level)**
Pre-GATT, 1934-47	32.2	66.8
First Round, 1947	21.1	52.7
Second Round, 1949	1.9	51.7
Third Round, 1950-1	3.0	50.1
Fourth Round, 1955-6	3.5	48.9
Dillion Round, 1961-2	2.4	47.7
Kennedy Round, 1964-7	36.0	30.5
Tokyo Round, 1974-9	29.6	21.2
Uruguay Round, 1986-94	30.0	14.8

Trade Deficits

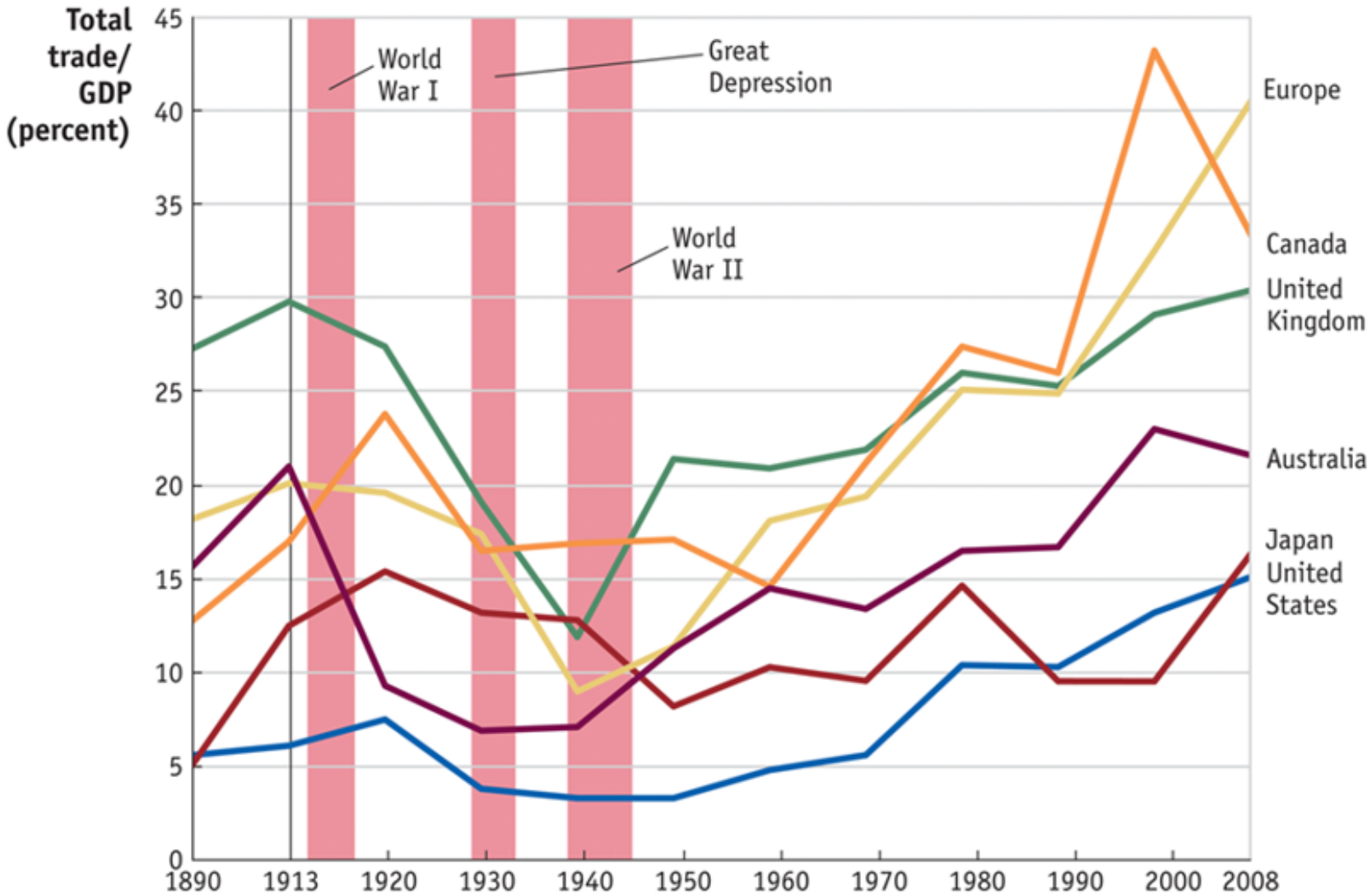


$$Y = C + I + G + (X - M)$$

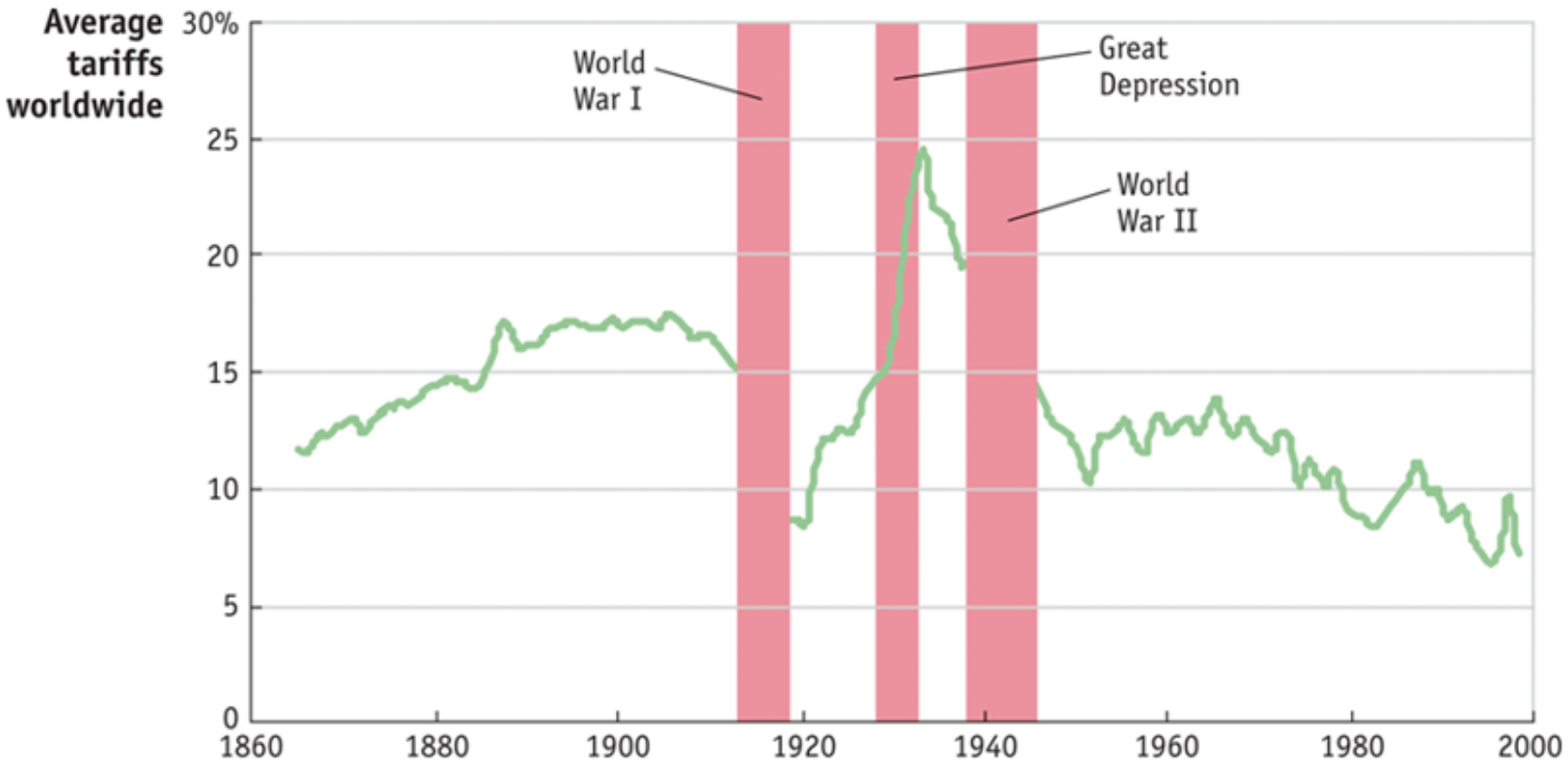
$$\Rightarrow \qquad S - I = X - M$$

$$\text{Current A/C + Cap A/C + Fin A/C + Error} = 0$$

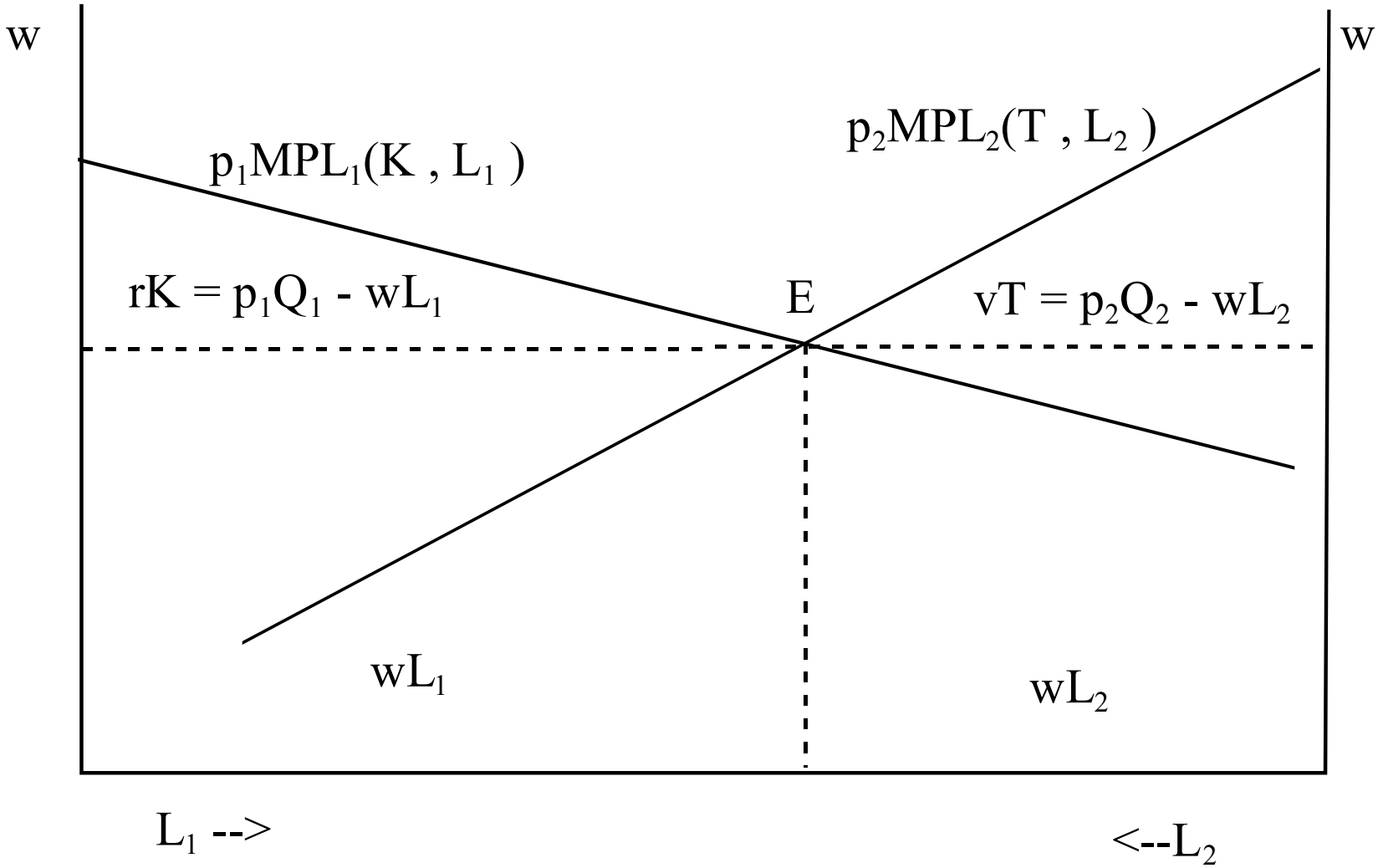
Trade / GDP


Total trade/ GDP (percent)
45
40
35
30
25
20
15
10
5
0
1890
1913
1920
1930
1940
1950
1960
1970
1980
1990
2000
2008
World War I
Great Depression
World War II
Europe
Canada
United Kingdom
Australia
Japan
United States

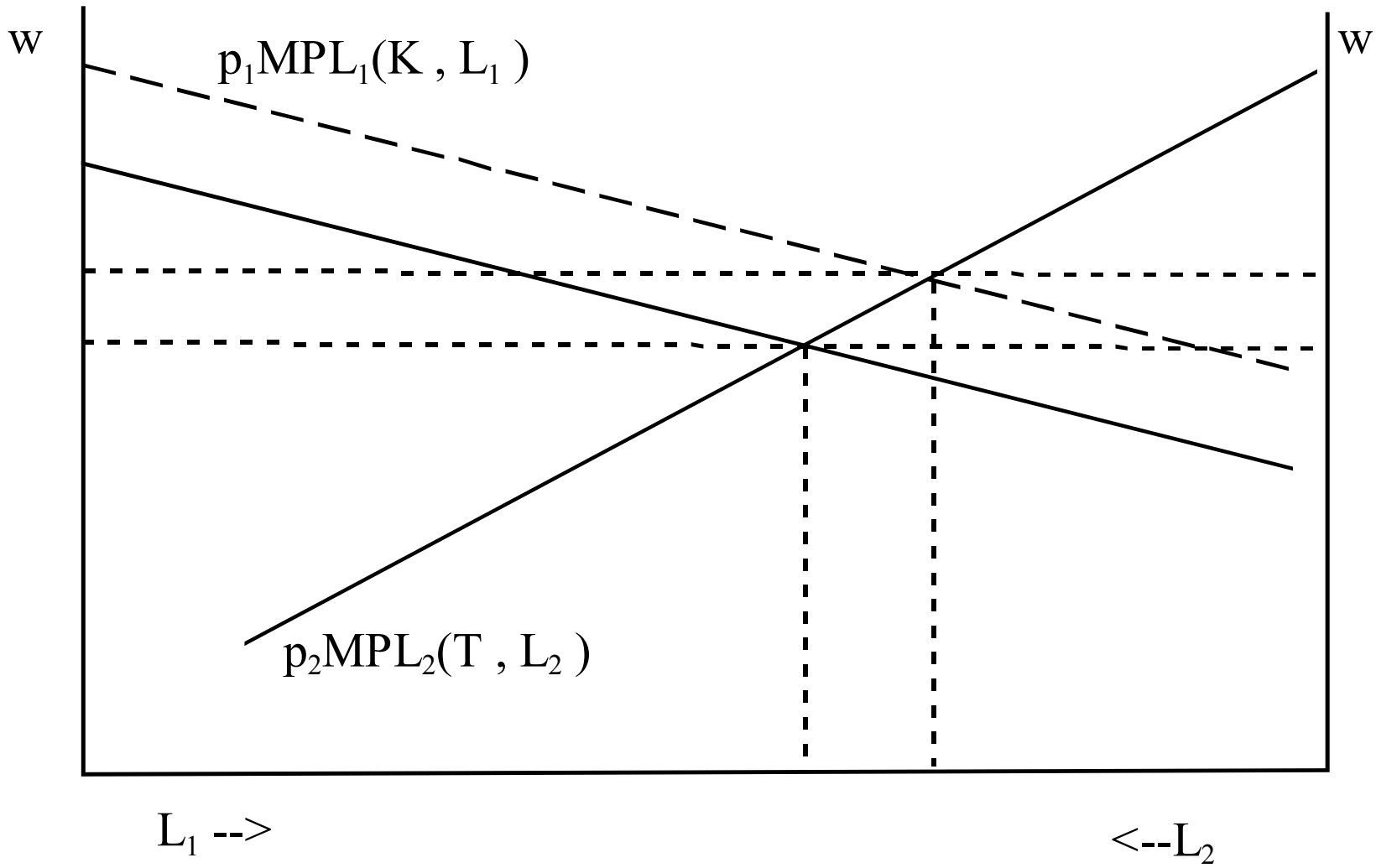
U.S. Tariffs


Average tariffs worldwide
30%
25
20
15
10
5
0
1860
1880
1900
1920
1940
1960
1980
2000
World War I
Great Depression
World War II

Income Distribution



Tariffs & Income Distribution



GE Tariffs