

14.03/003 Microeconomic Theory & Public Policy

Lecture 15. Why Free Trade is Controversial

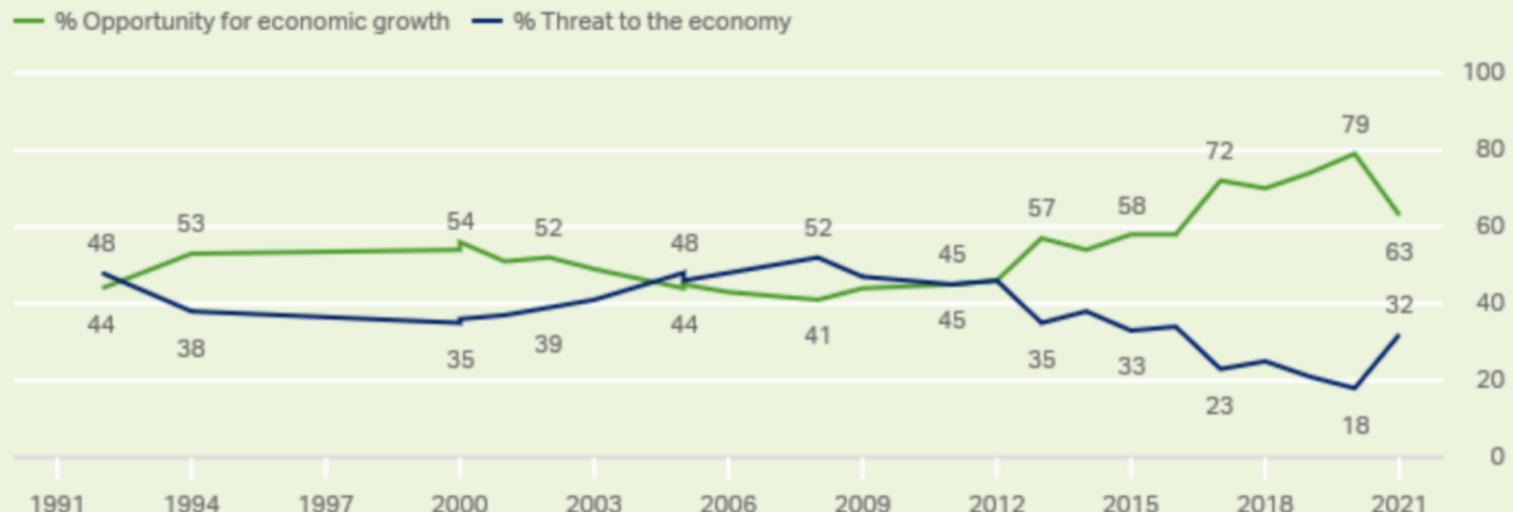
David Autor (Prof), MIT Economics and NBER

Jonathan Cohen (TA), MIT Economics

**If International Trade is so Great,
Why is it so Controversial?**

Americans' Positive Views of Foreign Trade Drop Sharply

What do you think foreign trade means for America? Do you see foreign trade more as an opportunity for economic growth through increased U.S. exports or a threat to the economy from foreign imports?



GALLUP

Why is Free Trade Controversial?

- ▶ **Free trade among consenting nations raises GDP in all of them**
- ▶ **So why isn't it free trade universally beloved?**

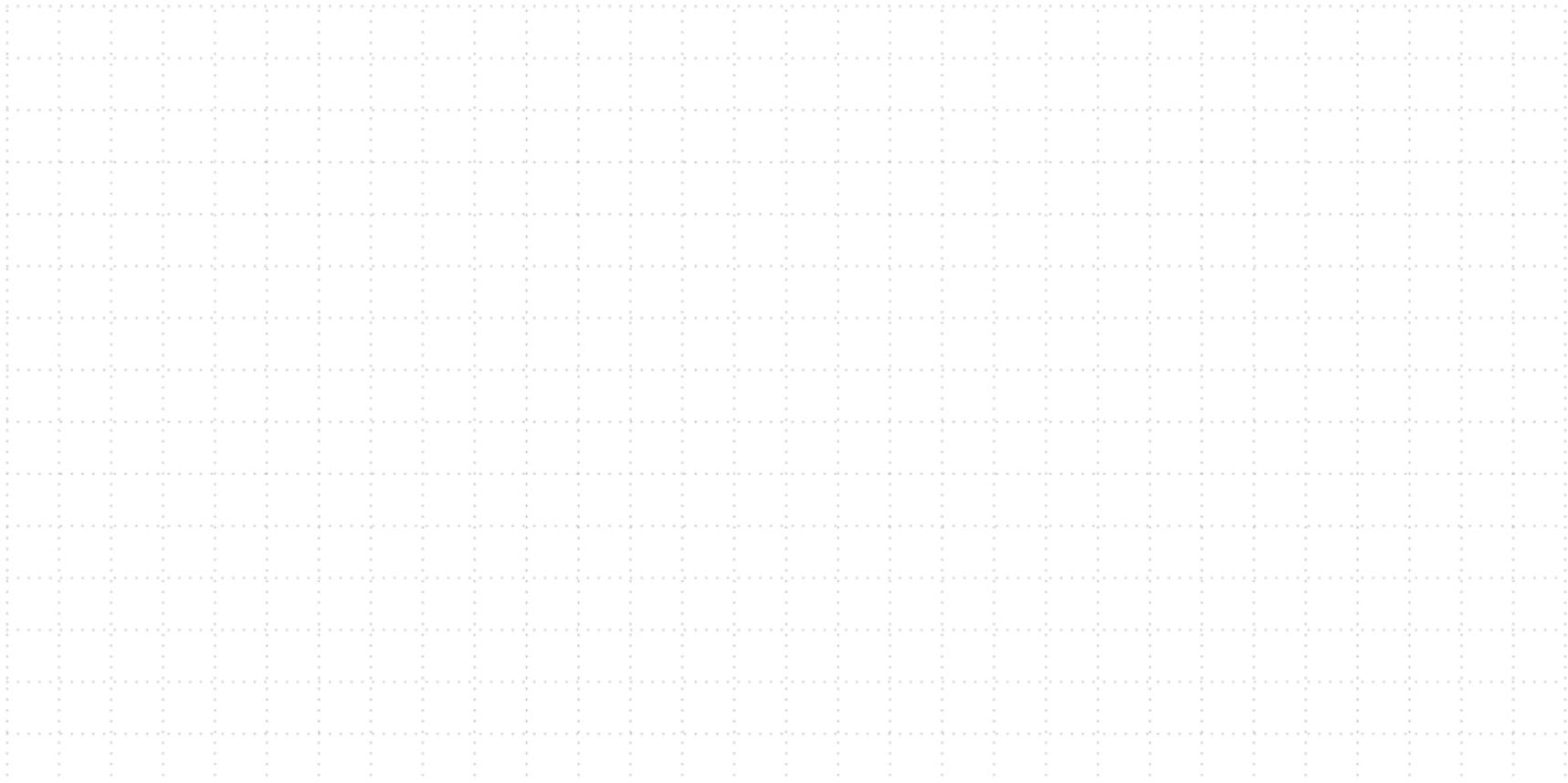
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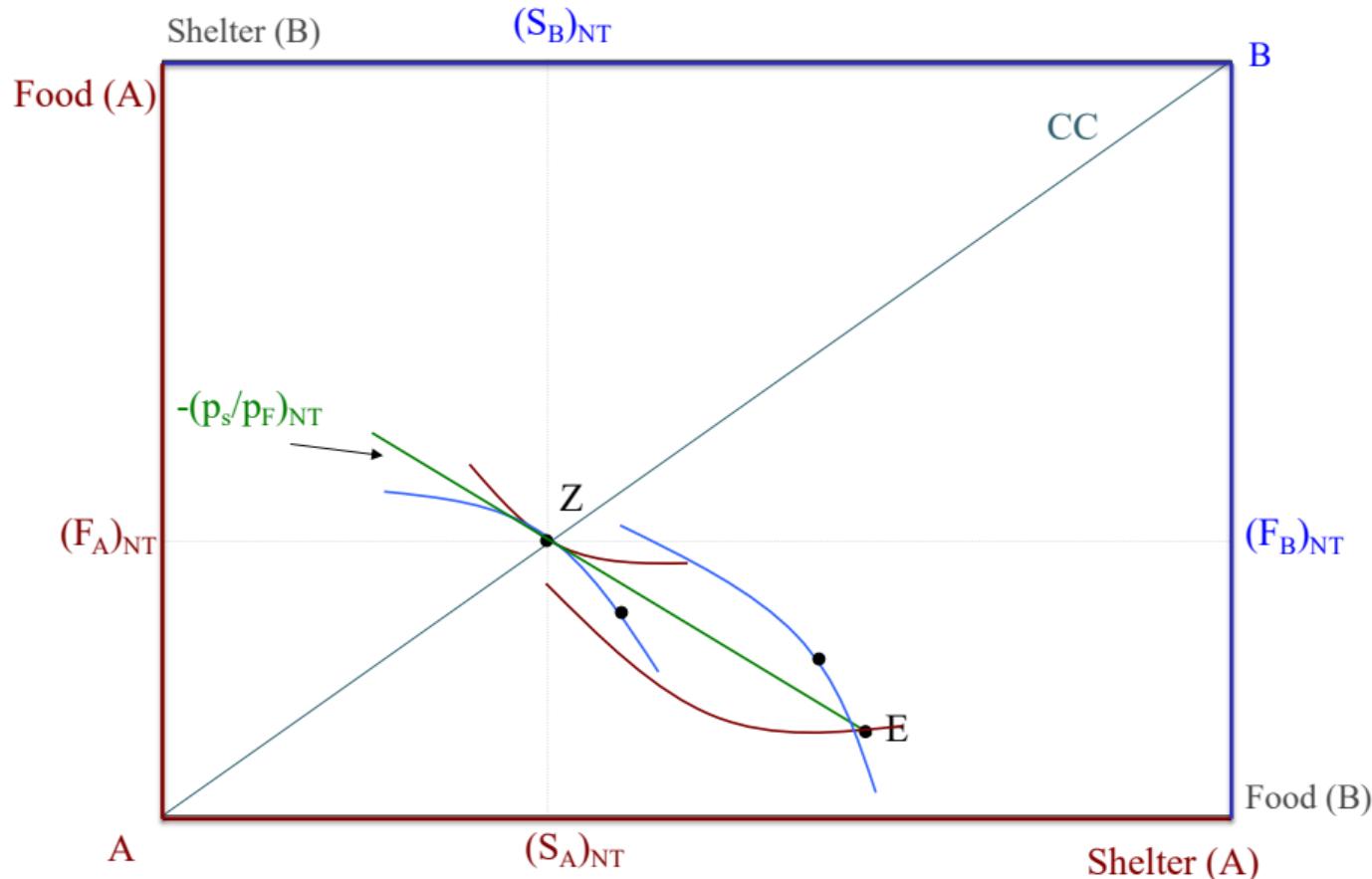
Why is Free Trade Controversial?

- ▶ **Free trade among consenting nations raises GDP in all of them**
- ▶ **So why isn't it free trade universally beloved?**
 - 1 Economics is hard — people don't get it
 - 2 There's another Second Welfare Theorem problem lurking here

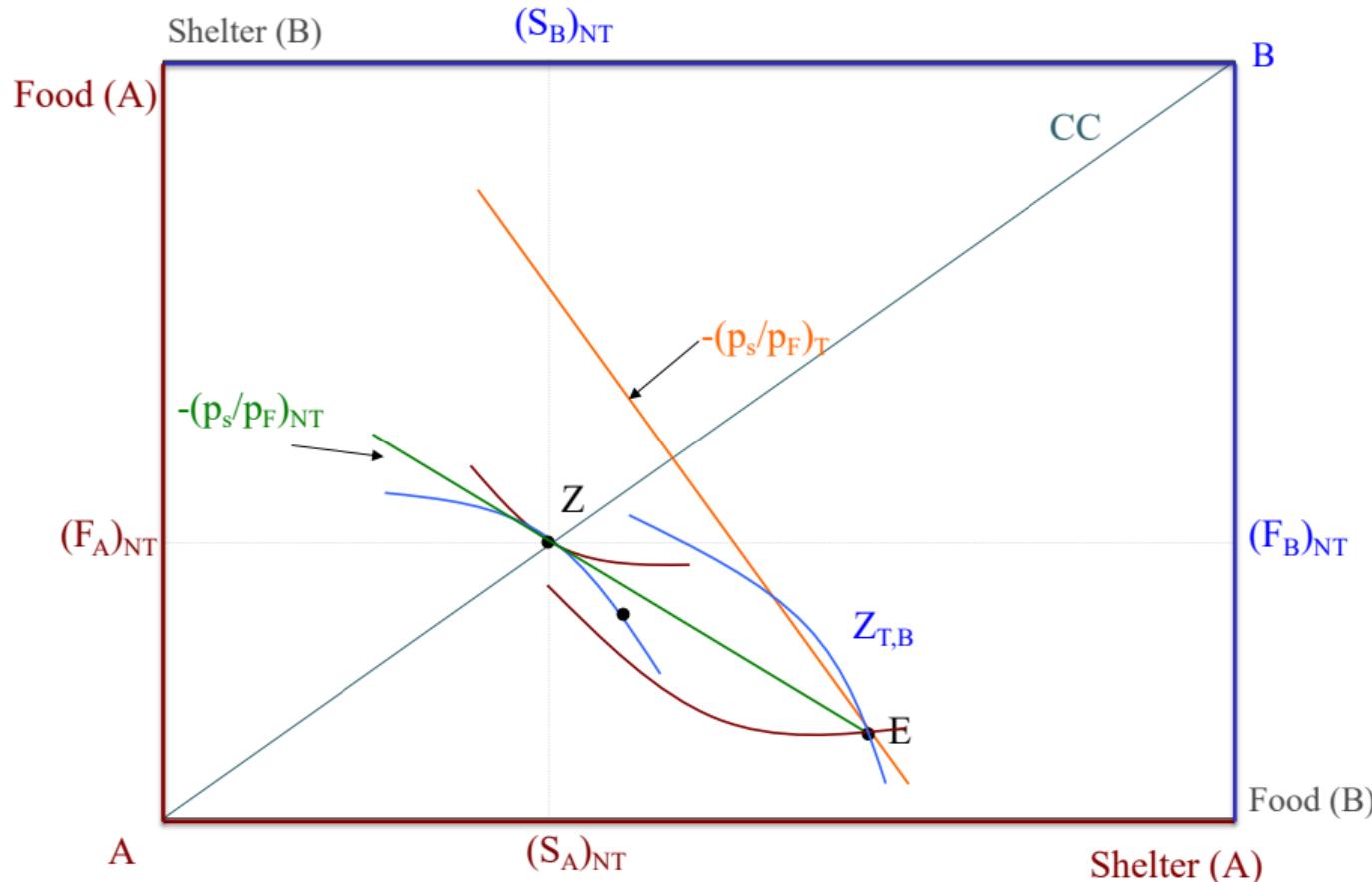
Trade creates winners and losers



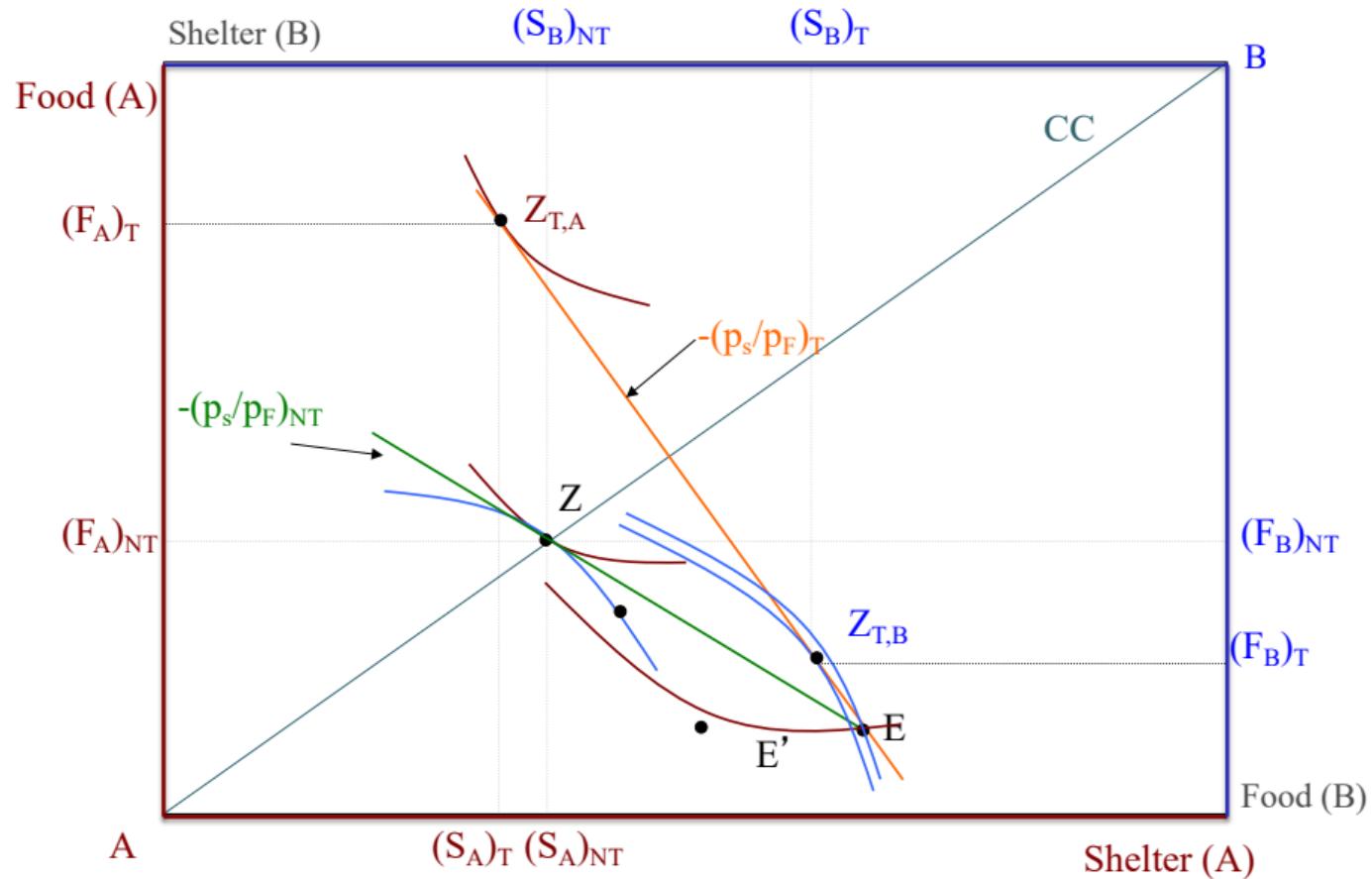
I. Trade and welfare for A and B under autarky



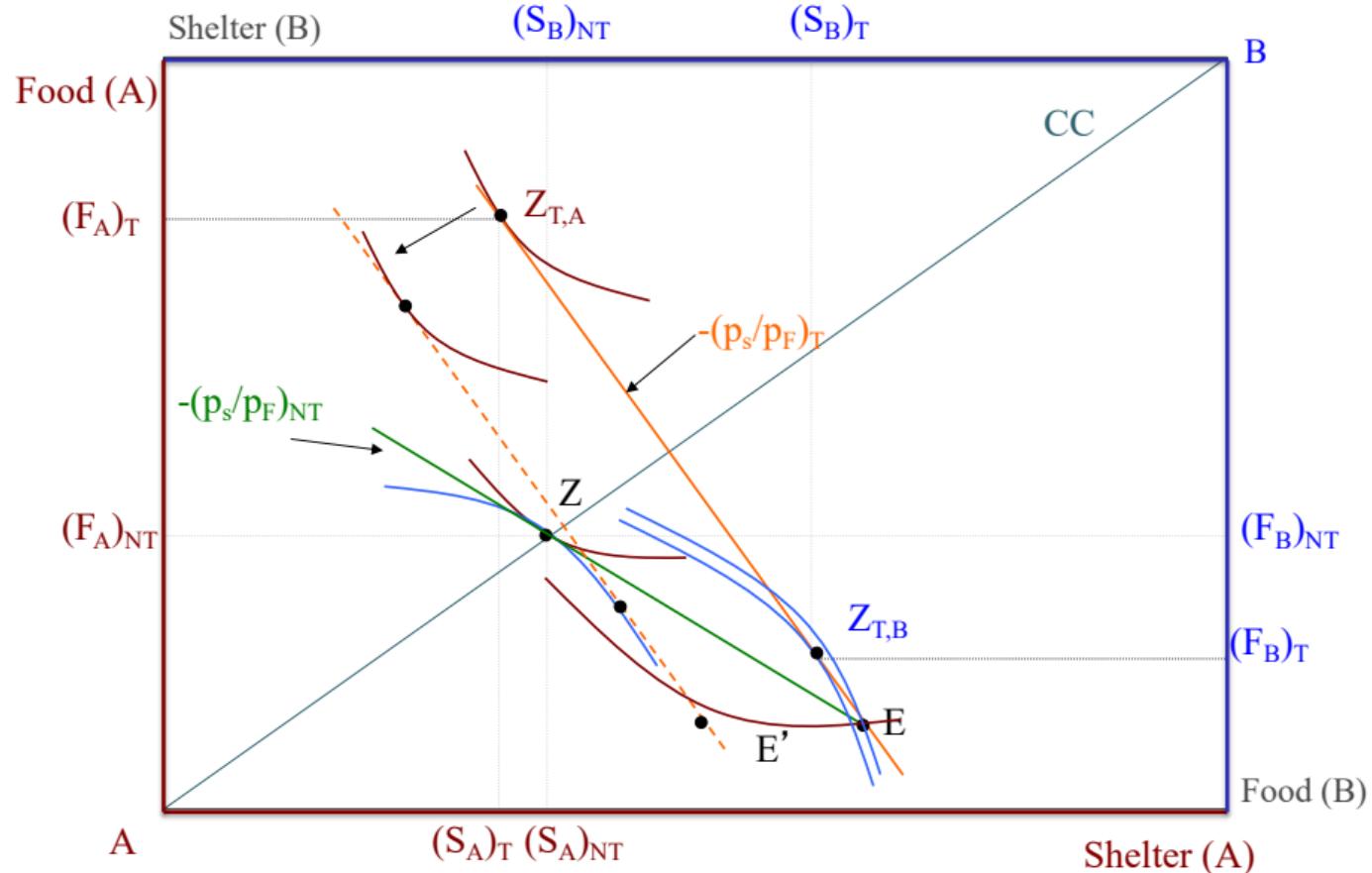
II. Adding the possibility of international trade



III. Trade and welfare for A and B under international trade



IV. Lumpsum transfers can make int'l trade Pareto-improving

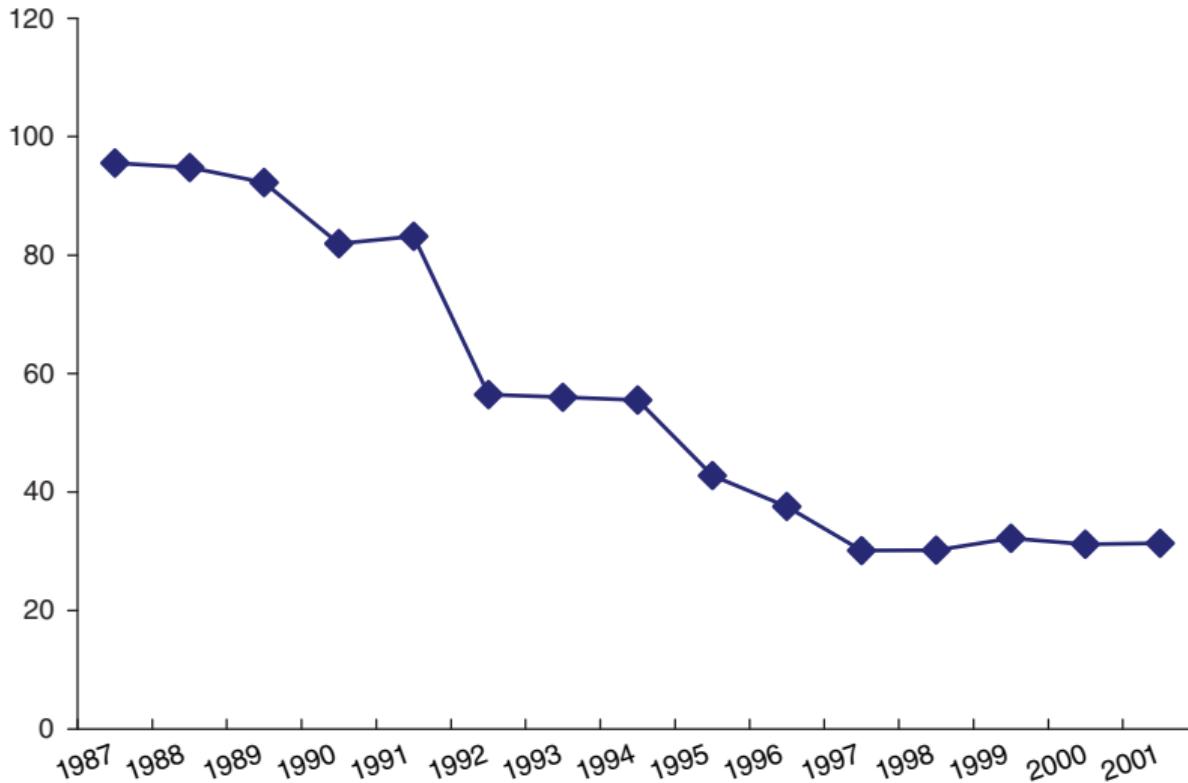


Trade and Rural Poverty in India

Petia Topalova, 2010

India's import tariffs suddenly reduced by half, 1992–1997

Panel A. Average nominal tariffs



Agricultural tariffs saw the sharpest fall

Panel B. Tariffs by broad industrial category

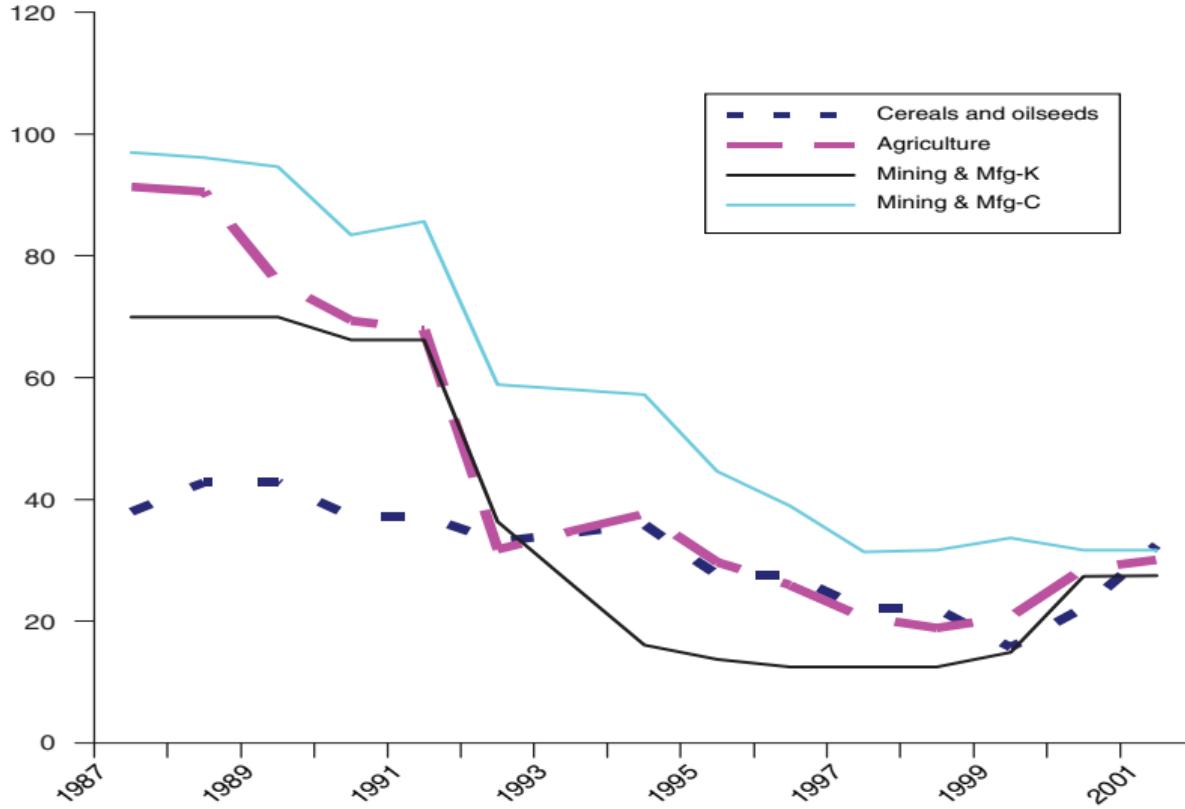


FIGURE 1. EVOLUTION OF INDIA'S TARIFF AND NTBs (*Continued*)

Why so sudden?

“...the new policy package was delivered swiftly in order to complete the process of changeover so as not to permit consolidation of any likely opposition to implementation of the new policies. The strategy was to administer a ‘shock therapy’ to the economy...” —

SK. Goyal, 1996

Was this policy Pareto-improving? Topalova 2010 provides a causal test

- ▶ Big idea: Exploit differences in district-level exposure to tariff cuts to test how these cuts causally affect poverty and consumption

Was this policy Pareto-improving? Topalova 2010 provides a causal test

- ▶ Big idea: Exploit differences in district-level exposure to tariff cuts to test how these cuts causally affect poverty and consumption
 - Although all of India was subject to national tariff cuts, districts differed in their 'exposure' according to their industrial specialization at that time
 - Districts with more agriculture are more 'exposed' because they are specialized in producing goods facing big tariff cuts
 - Roughly 450 Indian districts, averaging 2m people per district. (Number of districts and population have risen since paper was written)

Rural areas were/are concentrated in farming and extremely poor

TABLE 1—DESCRIPTIVE STATISTICS

	Rural (<i>N</i> = 366)				Urban (<i>N</i> = 62)			
	1987/88		1999/00		1987/88		1999/00	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Poverty rate	0.373	0.193	0.242	0.139	0.214	0.120	0.122	0.070
Log per capita consumption	5.054	0.246	5.759	0.263	5.449	0.199	6.250	0.217
Scaled tariff	0.083	0.082	0.026	0.022	0.198	0.073	0.069	0.026
Initial district characteristics	Mean	SD			Mean	SD		
Share literate	0.368	0.137			0.622	0.073		
Share SC/ST	0.291	0.162			0.157	0.065		
Share farming	0.814	0.105			0.159	0.070		
Share manufacturing	0.056	0.045			0.217	0.077		
Share mining	0.005	0.014			0.013	0.024		
Share service	0.065	0.037			0.260	0.053		
Share trade	0.033	0.020			0.215	0.033		
Share transport	0.013	0.012			0.083	0.025		
Share construction	0.013	0.014			0.053	0.017		
Poverty rate change in the 80s	-0.060	0.161			-0.225	0.098		

Calculating district-level tariff exposure

- We want to estimate the following statistical model

$$\Delta Y_d = \alpha + \beta \Delta \text{Tariff}_d + \gamma_d + \varepsilon_d$$

- If ΔTariff_d were *constant* across districts, this model would not be estimable because β would be indistinguishable from α

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- If ΔTariff_d were *constant* across districts, this model would not be estimable because β would be indistinguishable from α
- But ΔTariff_d differs across districts because districts produce different commodities

$$\Delta \text{Tariff}_d \equiv \frac{\sum_i L_{d,i,1991} \Delta \text{Tariff}_{i,91-99}}{\sum_i L_{d,i,1991}}$$

- $L_{d,i,1991}$ is the number of workers employed in district d in industry i in 1991

What should we expect to happen?

► Almost certain

- Price of goods in previously tariff-protected sectors will fall in price (towards world prices)
- Wages/earnings of workers in those sectors may also decline
- Consumer purchasing power will rise *on average*
- Workers/households may switch industries or move out of agriculturally intensive districts

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► Good scenario

- Rise in purchasing power will offset drop in incomes in tariff-protected sectors — leading to higher consumption
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- Rise in purchasing power will offset drop in incomes in tariff-protected sectors — leading to higher consumption
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► Bad scenario

- Rise in purchasing power does *not* offset drop in incomes in tariff-protected sectors — leading to *lower* consumption
- Workers/households do *not* rapidly switch to new opportunities

What actually happened?

Tariff declines increased rural poverty

TABLE 3A—TRADE LIBERALIZATION, POVERTY, AND AVERAGE CONSUMPTION IN RURAL INDIA

Data	Pre & post	Pre & post	Pre & post	Pre & post
	(1)	(2)	(3)	(4)
<i>Panel A. Dependent variable: poverty rate</i>				
Tariff	-0.242*		-0.710***	-0.467*
	[0.122]		[0.250]	[0.247]
Traded tariff		-0.223**		
		[0.084]		
NTB (share of free HS codes)				
IV with traded tariff	No	No	Yes	Yes
IV with traded tariff and initial traded tariff	No	No	No	No
Region indicators	Yes	Yes	Yes	Yes
Initial region indicators \times post	No	No	No	Yes
Pre-reform trend \times post	No	No	No	No
Other reforms controls	No	No	No	No
<i>N</i>	127	127	127	126

Tariff declines decreased rural consumption

TABLE 3A—TRADE LIBERALIZATION, POVERTY, AND AVERAGE CONSUMPTION IN RURAL INDIA

Data	Pre & post (1)	Pre & post (2)	Pre & post (3)	Pre & post (4)
<i>Panel B. Dependent variable: log average per capita consumption</i>				
Tariff	-0.055 [0.353]		0.512 [0.639]	0.677* [0.400]
Traded tariff		0.161 [0.207]		
NTB (share of free HS codes)				
IV with traded tariff	No	No	Yes	Yes
IV with traded tariff and initial traded tariff	No	No	No	No
District indicators	Yes	Yes	Yes	Yes
Initial district conditions × post	No	No	No	Yes
Region indicators	NA	NA	NA	NA
Initial region indicators × post	NA	NA	NA	NA
Other reforms controls	No	No	No	No
<i>N</i>	728	728	728	728

Household consumption fell most in the lowest income households

TABLE 6—TRADE LIBERALIZATION AND PER CAPITA HOUSEHOLD CONSUMPTION
ACROSS THE CONSUMPTION DISTRIBUTION IN RURAL INDIA

	10th percentile (1)	20th percentile (2)	40th percentile (3)	60th percentile (4)	80th percentile (5)	90th percentile (6)
<i>Panel A. District level</i>						
Tariff	0.698** [0.339]	0.673* [0.344]	0.346 [0.278]	0.383 [0.336]	0.5 [0.440]	0.443 [0.482]
N	728	728	728	728	728	728

Surprisingly, no effect on migration

TABLE 5—MIGRATION, POPULATION, AND TARIFFS IN RURAL INDIA

	All (1)	Men (2)
<i>Panel A. Dependent variable: share of in-migrants from outside district/sector</i>		
Tariff	0.066 [0.071]	0.059 [0.091]
<i>Panel B. Dependent variable: log population</i>		
Tariff	-0.006 [0.152]	-0.014 [0.158]
N	728	728

Notes: Standard errors (in brackets) are clustered at the state-year level. Regressions are weighted by the number of households in a district. Tariff is instrumented with traded tariff. All regression include controls for district and year fixed effects and initial district conditions that are interacted with the post-reform indicator (see notes to Table 3 for details). Data in panel A are from the forty-third and fifty-fifth rounds of the NSS; data in panel B are from the 1991 and 2001 census.

But a large fall in prices and wages in tariff-exposed industries

TABLE 7—REALLOCATION, PRICES, AND TARIFFS

	Log wholesale price index	Log real workers wage
<i>Panel B. Prices</i>		
Tariff	0.096*** [0.031]	0.080*** [0.027]
Production sector indicators	Yes	Yes
District indicators	No	No
Year indicators	Yes	Yes
Data source	WPI	ASI
<i>N</i>	4,201	1,472

Bottom line of Topalova, 2010

Consequences of 'shock therapy' were shockingly bad

- 1 Prices and wages/incomes fell in tariff-exposed industries

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- 5 Workers/households did not move away from tariff-exposed regions
- 6 Workers/households did not move out of tariff-exposed sectors

Questions for consideration

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- ① Should we conclude that tariff reform was bad for India?
- ② How might the longer-run versus shorter-run consequences of tariff reform differ?
- ③ How could India have done this differently/better?

Takeaways

- ▶ The **principle of comparative advantage** is a fundamental economic insight — analogous to the general welfare theorems
 - Welfare theorems demonstrate that allowing individuals to trade freely is Pareto-improving (and leads to Pareto efficient allocations)
 - The principle of comparative advantage says that allowing countries to trade always raises welfare in both countries
 - But there is a key difference: International trade does *not necessarily* benefit every individual in each country
 - International trade generally almost always yields winners and losers
 - Consequently, international trade usually involves trade-offs...
- ▶ Second welfare theorem proves that it's *possible* to make every citizen better off through trade than under autarky—but only *if* trade is combined with lump-sum transfers