Revised November 2, 2025

14.03/003 Microeconomic Theory & Public Policy Fall 2025

Lecture slides 16. Why is free trade so controversial?

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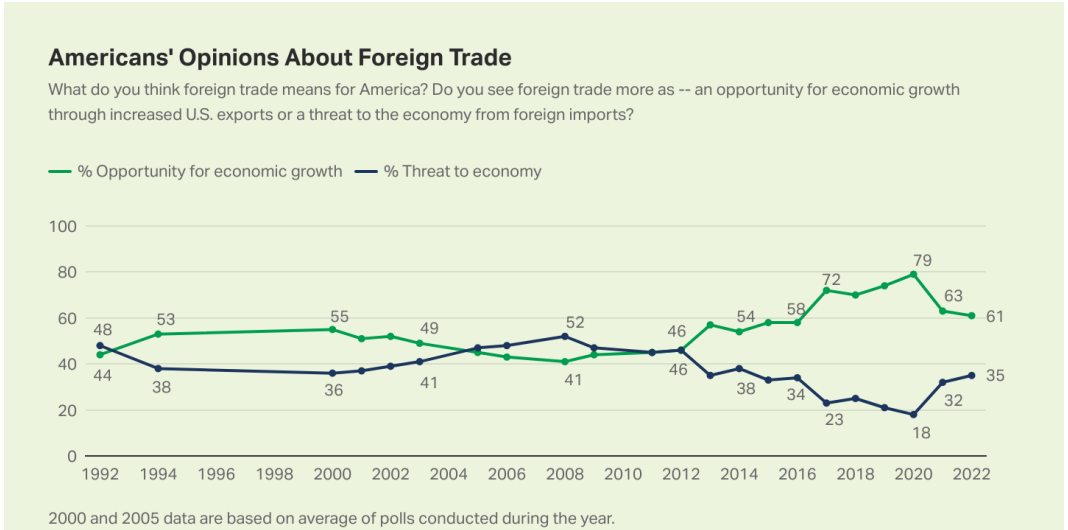
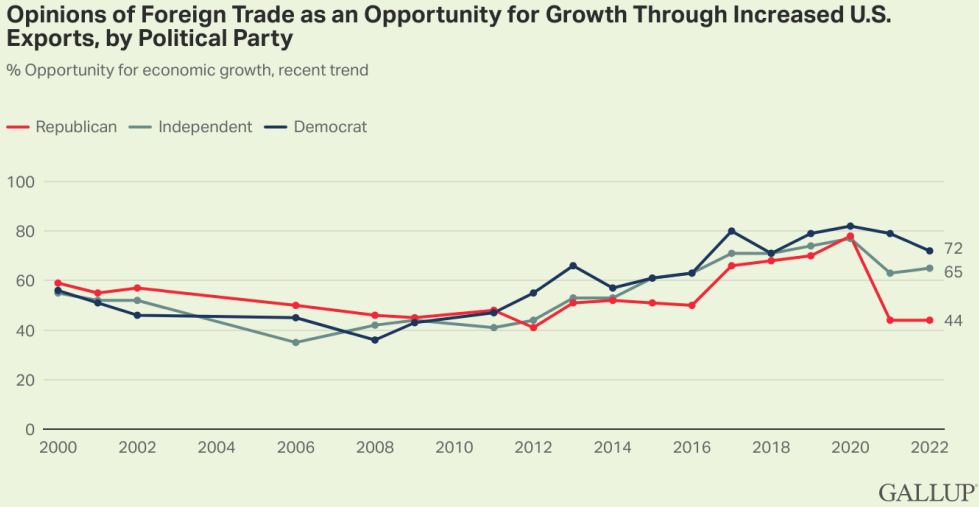
If international trade is so great,

why is it so controversial?

Views on gain vs. threat of foreign trade shifted after 2020



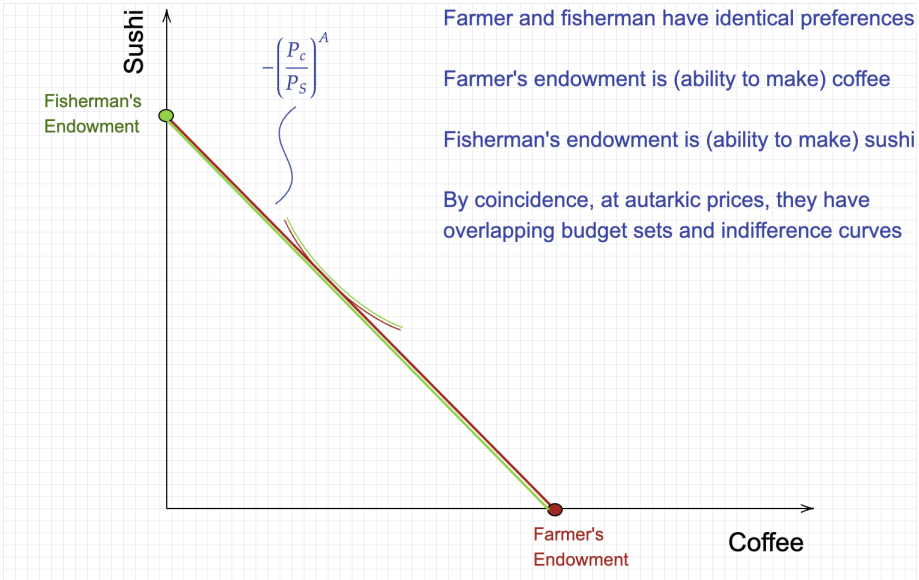
Republicans historically more positive on trade–until mid 2000s

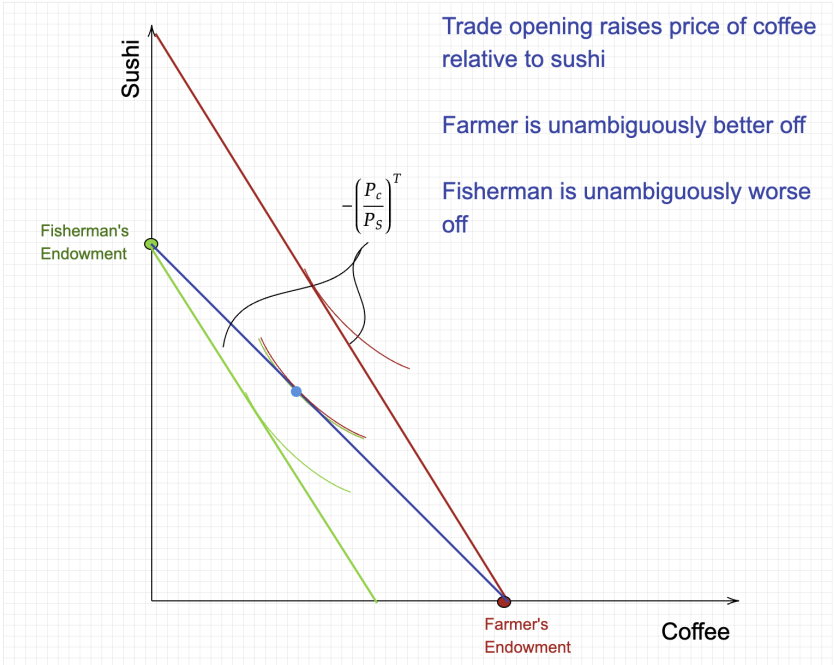


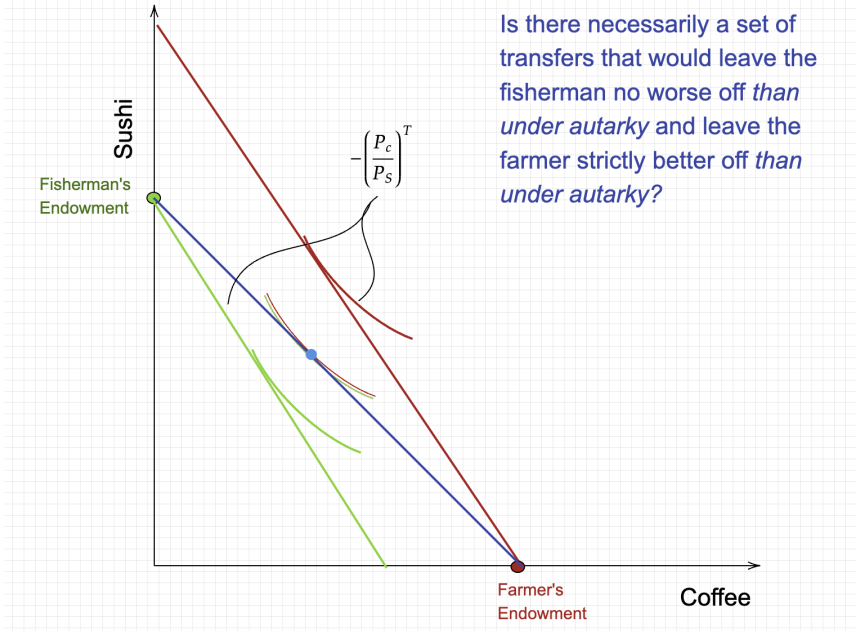
Why is free trade controversial?

- 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

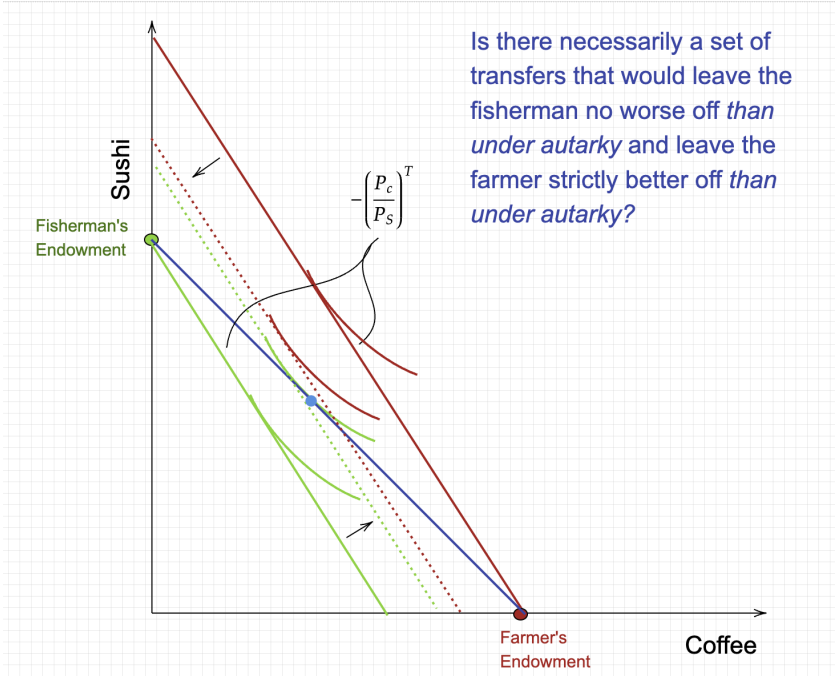
Trade necessarily creates winners and losers


Sushi
$-\left(\frac{P_c}{P_S}\right)^A$
Fisherman's Endowment
Farmer's Endowment
Coffee
Farmer and fisherman have identical preferences
Farmer's endowment is (ability to make) coffee
Fisherman's endowment is (ability to make) sushi
By coincidence, at autarkic prices, they have overlapping budget sets and indifference curves


Sushi
Coffee
Fisherman's Endowment
Farmer's Endowment
$-\left(\frac{P_c}{P_S}\right)^T$
Trade opening raises price of coffee relative to sushi
Farmer is unambiguously better off
Fisherman is unambiguously worse off



Is there necessarily a set of transfers that would leave the fisherman no worse off *than under autarky* and leave the farmer strictly better off *than under autarky?*



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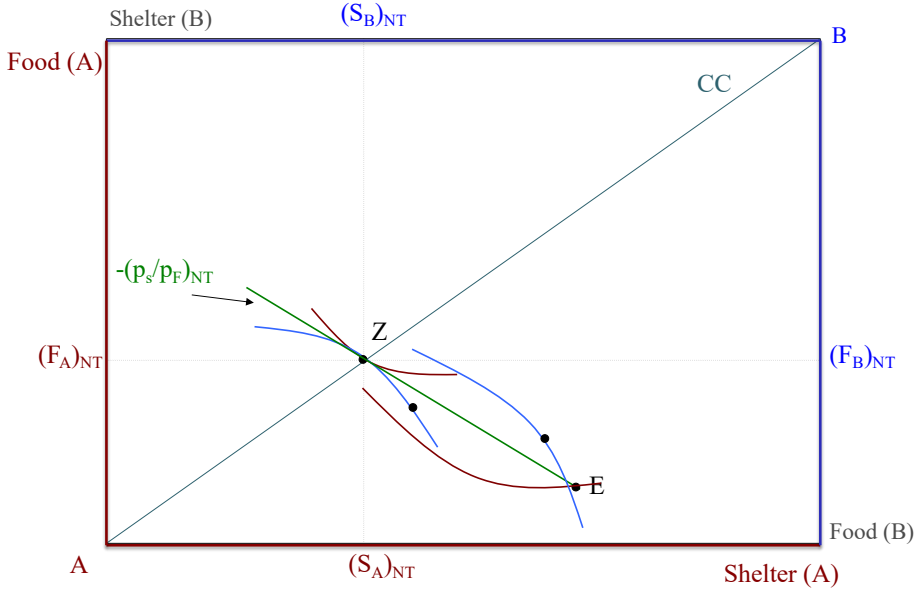
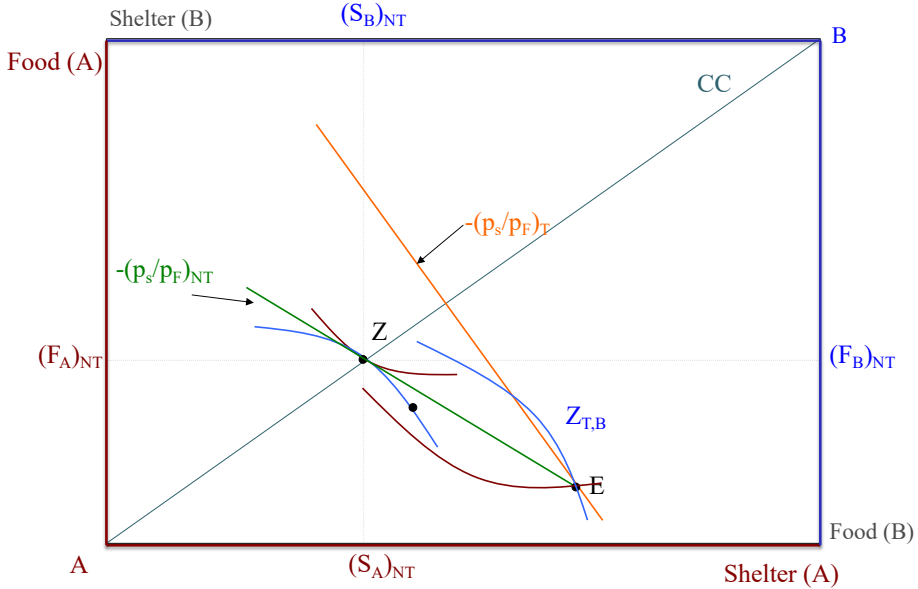
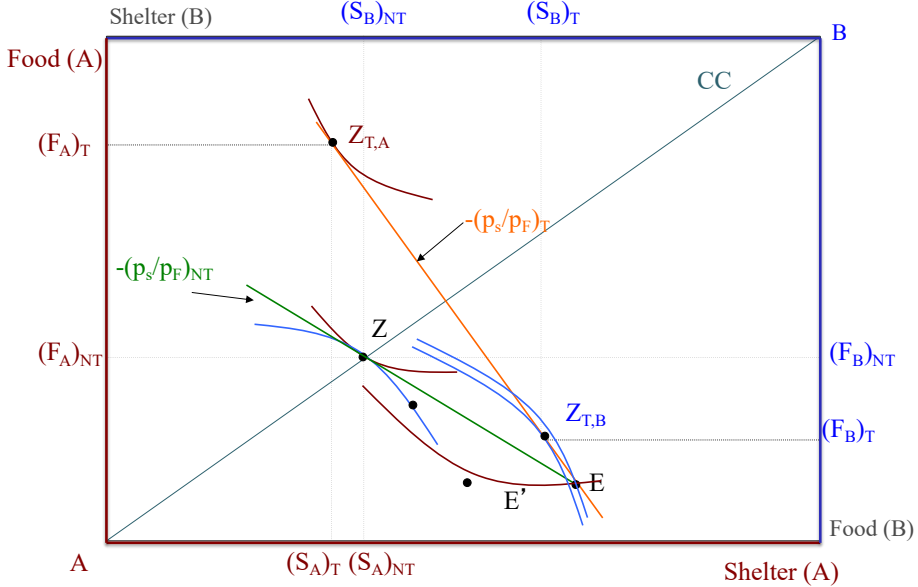
1. Trade and welfare for A and B under autarky



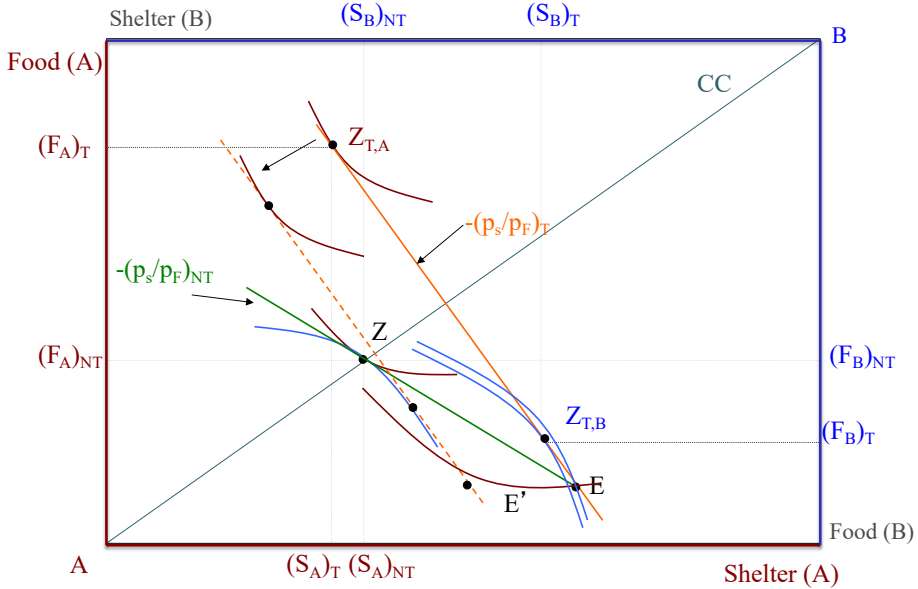
2. Adding the possibility of international trade



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

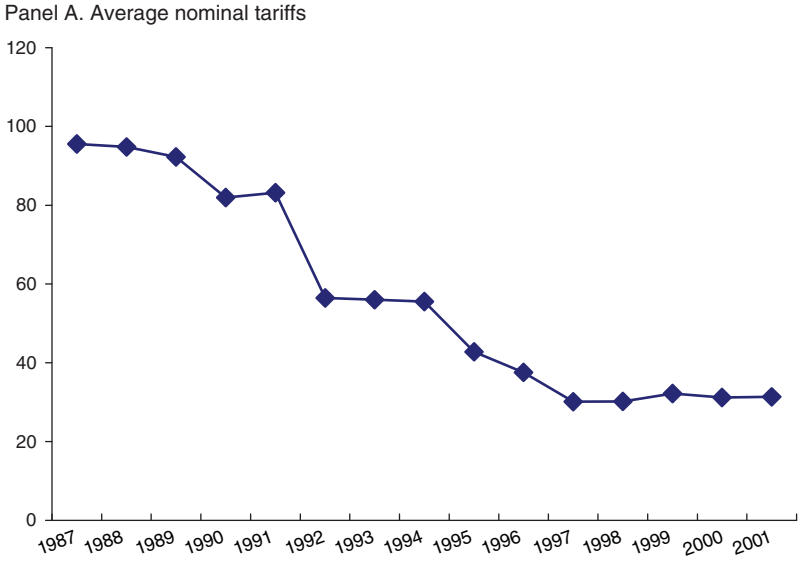


4. Lumpsum transfers can make intn'l trade Pareto-improving



Trade and rural poverty in India — Petia Topalova, 2010

India's import tariffs rapidly cut in half, 1992–1997



Agricultural tariffs saw the sharpest fall

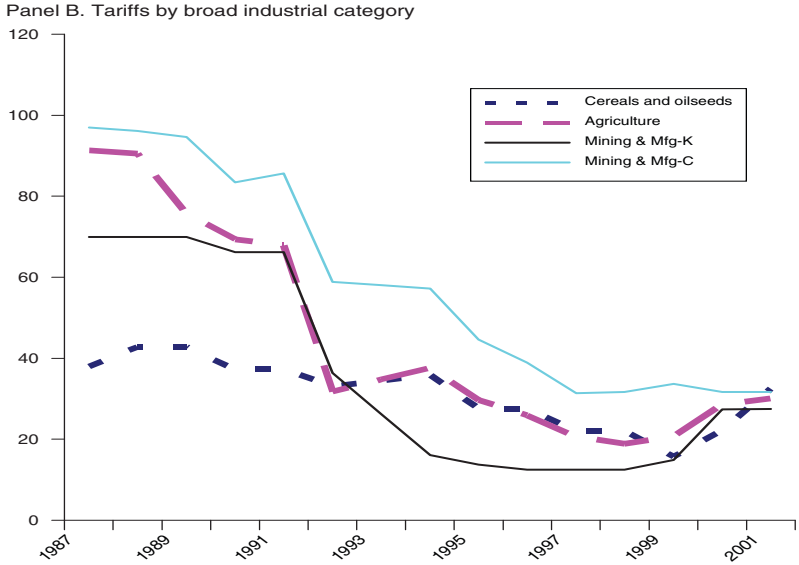


FIGURE 1. EVOLUTION OF INDIA'S TARIFF AND NTBS (*Continued*)

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
  - 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 concentrated in farming, extremely poor

TABLE 1—DESCRIPTIVE STATISTICS

	Rural ($N = 366$)				Urban ($N = 62$)			
	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

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

- If $\Delta \texttt{Tariff}_d$ were *constant* across districts, this model would not be estimable because β would be indistinguishable from α
- But $\Delta \texttt{Tariff}_d$ differs across districts because districts produce different commodities

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

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

What should we expect to happen?

Almost certain – will occur under any scenario

1. Price of goods in previously tariff-protected sectors will fall in price (towards world prices)
2. Wages/earnings of workers in those sectors may also decline
3. Consumer purchasing power will rise *on average*

What should we expect to happen?

Good scenario – what could go right

1. Rise in purchasing power offsets drop in incomes in tariff-protected sectors — leading to higher consumption

2. Workers/households rapidly switch to new sectors, move to new districts

Bad scenario – what could go wrong

1. Rise in purchasing power does *not* offset drop in incomes in tariff-protected sectors — leading to *lower* consumption

2. Workers/households do *not* rapidly switch to new sectors, districts

Urban households move pretty frequently, esp. the rich ones

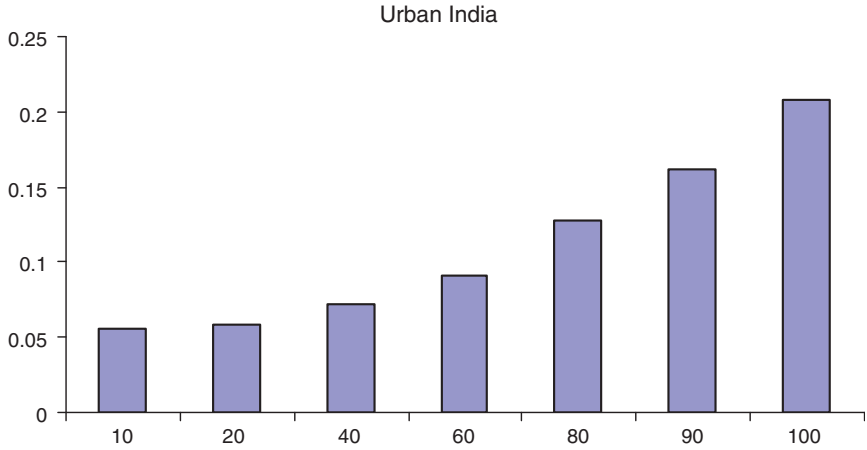


FIGURE 2. PROBABILITY OF HAVING MOVED WITHIN THE PAST 10 YEARS BY PERCENTILES OF PER CAPITA CONSUMPTION
(*excluding migration within the same district and within the same sector*)

Ominously, rural households move very infrequently

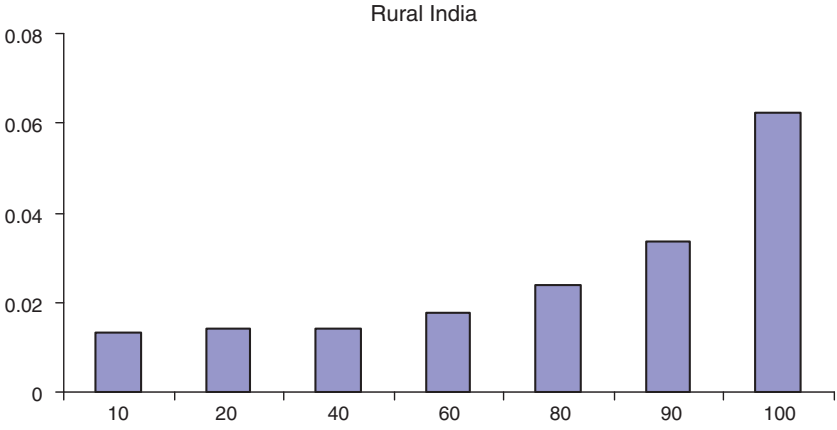


FIGURE 2. PROBABILITY OF HAVING MOVED WITHIN THE PAST 10 YEARS BY PERCENTILES OF PER CAPITA CONSUMPTION
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What actually happened?

Steep fall in prices and wages in tariff-exposed industries

TABLE 7—REALLOCATION, PRICES, AND TARIFFS

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

No effect on migration

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

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

Each 1% ppt fall in tariffs raised rural poverty by 0.24 ppts

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

Data	Pre & post (1)	Pre & post (2)	Pre & post (3)	Pre & post (4)
Panel A. Dependent variable: poverty rate				
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 × post	No	No	No	Yes
Pre-reform trend × post	No	No	No	No
Other reforms controls	No	No	No	No
N	127	127	127	126

Household consumption fell as tariffs fell, esp in poorer HH's

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)
Panel A. District level						
Tariff	0.698**	0.673*	0.346	0.383	0.5	0.443
	[0.339]	[0.344]	[0.278]	[0.336]	[0.440]	[0.482]
N	728	728	728	728	728	728

Bottom line of Topalova, 2010

Consequences of 'shock therapy' were shockingly bad

1. Prices and wages/incomes fell in tariff-exposed industries
2. Poverty rose in tariff-exposed districts, especially rural agricultural districts
3. Household consumption fell in tariff-exposed districts
4. Household consumption fell by most in the poorest households
5. Workers/households did not move away from tariff-exposed regions
6. Workers/households did not move out of tariff-exposed sectors

Concluding thoughts

The principle of comparative advantage is a fundamental economic insight — analogous to the welfare theorems

1. First welfare theorem shows that free trade among individuals is Pareto-improving (and leads to Pareto efficient allocations)
2. The principle of comparative advantage says that allowing countries to trade always raises welfare in both countries
3. Key difference: International trade does not benefit all individuals in each country
4. Trade opening without lumpsum transfers yields both winners and losers

Second welfare theorem proves it is possible to make every citizen better off under trade than autarky — but only if combined with lump-sum transfers