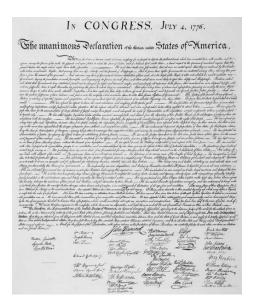
Announcements

- Keep working on your first referee report, due September 28th at 5pm (on "The Market Evaluation of Human Capital" by Galenson)
- We're talking about founding the US economy today, looking at Sawers (1992) "The Navigation Acts Revisited" and the Federalist Papers
- Next week will be the evolution of the banking sector and Temin (1968) "The Economic Consequences of the Bank War"
- Study guide questions are up for all of these readings

Economics and Independence



Economics and Independence

"We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness...."

"For cutting off our Trade with all parts of the world" "For imposing Taxes on us without our Consent"

Economics and Independence





- Being of part of the British Empire had its advantages and disadvantages
- Many of the economic benefits and costs of membership arose from British mercantilist policies
- Most of these policies were contained in the Acts of Trade and Navigation
- The passage of these acts began in 1651 and continued to be modified and expanded until the 1840s
- The acts severely restricted the ways in which the colonies could trade with Britain and other countries

The main provisions of the Navigation Acts:

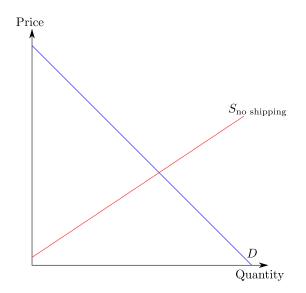
- All trade of the colonies was to be carried in vessels built, owned and commanded by English or colonialists
- All foreign trade with the colonies had to be conducted through England
- Specific enumerated goods could be exported only to England (these included tobacco, sugar, cotton and other goods)

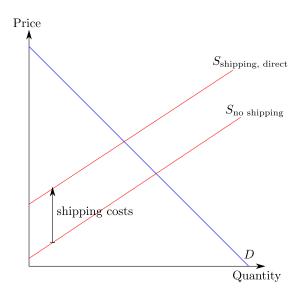
First, the benefits of being part of the British Empire:

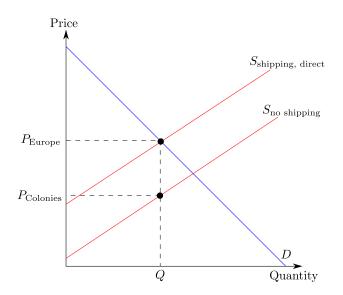
- Military protection (important to protect naval trade and important because of the threat of the French in North America)
- Protection of growing industries from foreign competition
- Subsidies for particular colonial products (indigo, lumber)
- Protection in the British domestic market

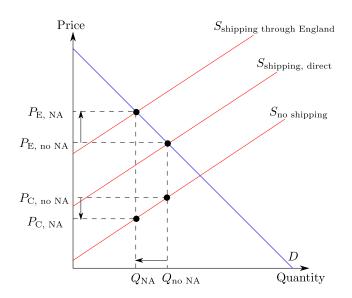
Now for the costs of being part of the British Empire:

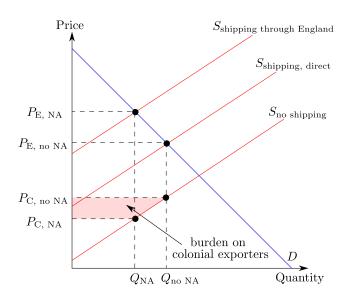
- Having to transport enumerated goods through England before selling them to the rest of Europe increased shipping costs, leading to lower prices received for exports and lower quantities of exports
- Imports having to pass through England before reaching the colonies increased the price of imports and decreased the quantities of imports
- The need for Britain to generate revenue to pay off public debt led to additional tax burdens on the colonies

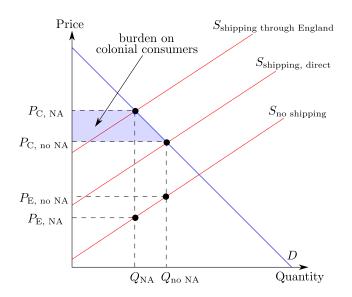












Quantifying the Benefits and Costs of Empire Membership

- It's clear that the Navigation Acts affected the colonial economy, but how big was the impact?
- If the burdens of empire membership were small, economics probably had little to do with revolution
- However, if the burdens were large they may have driven revolution
- Robert Paul Thomas set out to quantify just how much being under British rule cost the colonies

Quantifying the Costs of the Navigation Acts

- Thomas focuses on the effects of the Navigation Acts for 1763-1772
- He argues that in earlier periods, the benefits greatly outweighed the costs because of the need for protection
- He also argues that the Navigation Acts imposed a much larger economic burden than other restrictions (the Revenue Acts, land regulations, interference with colonial issues of paper money, regulations discouraging manufactures)

The Threat of the French



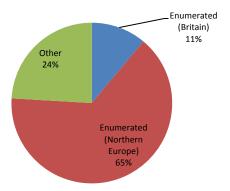
Quantifying the Costs of the Navigation Acts

Thomas splits up the problem into several pieces:

- the effects of regulations on exports of colonial products
- the effects of regulations on imports into the colonies
- colonial foreign commerce
- colonial shipping earnings
- the compensating benefits of being in the British Empire

The Effects on Exports of Colonial Products

Colonial Exports, 1770

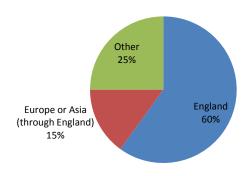


The Effects on Exports of Colonial Products

- The added transportation costs on enumerated goods lowered the price received by the colonies and the quantities sold
- How large these effects were depended on the supply and demand elasticities (quick chalkboard aside)
- Tobacco as an example:
 - Thomas estimates that the colonial price would have been 34 percent higher under independence
 - He assumes that supply would have increased by one percent for every percent increase in price
 - These estimates put the lost surplus of tobacco growers around 64,000 pounds for 1770
- Thomas also calculates the benefits from bounties and preferential duties

The Effects on Imports

Sources of Colonial Goods



The Effects on Imports

- Same approach as exports, you need to estimate supply and demand elasticities
- Tea and pepper were the two main imports in determining the size of the burden
- Thomas finds that the prices for these goods would have been 16 percent lower under independence

- One of the biggest benefits of the British Empire was military protection
- Thomas figured that the colonies would have needed to maintain a standing army of 5,000 men
- That's a simple enough calculation
- But military might doesn't just protect you from land invasion, it also protects your commercial ships
- How do you price that?







- To think about the value of the British Navy for commercial ships, you can look at shipping insurance
- There was a big difference in shipping insurance with and without British naval protection
- This difference isn't about the ocean getting choppier
- Insurance rates were around 3.5 to 7 percent when protected by the British navy and rose as high as 28 percent without those protections

Summary of Costs and Burdens (Thomas, 1965)

	1763-1772	1770
Burden on foreign commerce	\$2,255,000	\$2,660,000
Burden per capita	\$1.20	\$1.24
Benefit of British protection	\$1,775,000	\$1,755,000
Benefit per capita	\$0.94	\$0.82
Balance	(\$0.26)	(\$0.42)

Colonial per capita income at the time was roughly \$100.

A Critique of Thomas's Results

- By Thomas's numbers, economics didn't spark the revolution, maybe it was all about life, liberty and the pursuit of happiness
- This countered the belief for decades that economics was an important part of the reasons for revolution and became generally accepted
- Decades later, another economist came along to question Thomas's results
- Larry Sawers published a paper in 1992 challenging Thomas's methodology and results

Sawer's Critique

- Sawers finds several problems with the approach that Thomas took and the interpretations he made
- He believes Thomas was using the wrong counterfactual
- He also believes Thomas was focusing on the wrong numbers
- Sawers conclusions are that the economic burden was an important motivation for independence

What is the Right Counterfactual?

- Thomas was estimating things right around the time of the revolution
- But if you're thinking revolution, you're thinking about the long run
- Manufacturing was becoming more important, protection from the French less important
- The empire was designed to protect against foreign competition but promote competition within the empire, as the colonies grew this became less and less beneficial

What is the Right Way to Measure the Burden?

- Thomas calculates the economic burden per person
- In these terms, the burden was indeed quite small
- But the benefits and costs were not equally shared
- The leaders of the revolution had more to gain economically than other groups of colonial society



John Hancock - merchant involved in Atlantic trade





George Washington, Thomas Jefferson – tobacco planters

The Founding Fathers by Occupation and Region

The rounding runners by occupation and region				
Occupation	New England	Middle	South	
Merchant	37%	18%	5%	
Lawyer	42	55	38	
Politician	11	3	14	
Minister	0	3	5	
Physician	10	3	8	
Farmer-Planter	0	12	30	
Landowner	0	6	0	

From "The Founding Fathers of 1776 and 1787: A Collective View" by Richard Brown, William and Mary Quarterly, Vol. 33, No. 3, 1976

Distribution of prior occupations for senators in the 111th Congress

111til Colligless			
	% reporting		
Occupation	occupation		
Law	54		
Public service / politics	32		
Business	26		
Education	16		
Real estate	6		
Journalism	5		
Agriculture	5		
Medicine / doctor	3		
Labor / blue collar	2		
Artistic / creative	2		
Military	1		
Professional sports	1		
Homemaker / domestic	1		
Actor / entertainment	1		
Miscellaneous	1		

Economics and Independence

- Being part of the British Empire had a variety of economic advantages and disadvantages
- As the colonies grew, many of the benefits declined while the costs grew
- Thomas's analysis suggests that at the time of independence, the costs of empire membership were very small, concluding economics weren't a major factor
- Sawers disagrees, arguing that the costs were getting more and more significant and that the planters and merchants stood to gain a great deal from independence
- Sawers does not claim that economics was the only force driving revolution, but maintains that it was important

Economics and Independence

- There is one more point of contention in this debate
- Regardless of the costs and benefits, did people care?
- Where are all of the fiery speeches about economic burden?
- Why are there just a couple of economic grievances buried in the middle of the Declaration of Independence?

Economics and Independence

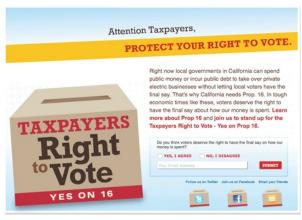


Image from http://www.postcarbon.org/article/102372-an-even-bigger-spill-looming/13916-government

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- Submit the reports by email (jmparman@wm.edu) as a pdf document
- Include your name at the top of your report
- Today we're still talking about setting up the national economy
- On Thursday we will be getting the evolution of the banking sector and Temin (1968) "The Economic Consequences of the Bank War"

Timeline of Independence

- 1774 First Continental Congress
- 1775 Second Continental Congress
- 1776 Articles of Confederation are drafted,
 Declaration of Independence
- 1778 8 of 13 states ratify the Articles of Confederation
- 1781 Surrender at Yorktown, final states ratify Articles of Confederation
- 1783 Treaty of Paris
- 1787 Constitutional Convention

The Revolutionary War

- Eventually revolution happened
- Declaring independence raised issues of how the new national economy would be structured
- These were fairly pressing issues considering that there was a war to fight
- The Continental Congress had limited options: it could (and had to) spend money on the military but couldn't easily raise revenue

How Can a Country Raise Money?

Ways to Raise National Revenue

ways to Raise national Revenue		
Revenue Source	Problems	
Taxation	Difficult to set up quickly, need consent of individual colonies	
Borrowing	Hard to borrow without something to borrow against (future tax revenue)	
Printing Money	Not really a long run solution	

Congress's Solution: The Continental Dollar



Continental Dollar Emissions

Continental Dollar Emissions (1775-1779)

	Nominal Dollars
Year of Emission	Emitted
1775	\$6,000,000
1776	19,000,000
1777	13,000,000
1778	63,000,000
1779	140,500,000

What Happened When Congress Printed Money

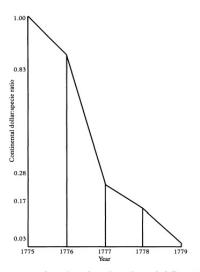


Figure 1. Average annual specie value of continental dollar, 1775-1779

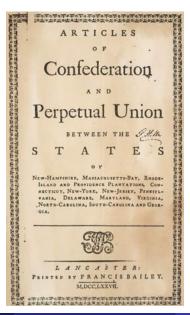
Note: The period covered is from the initial issue of currency to the year in which the Continental Congress first resolved to end issues as a source of revenue. Ratio on 22 June 1775 = 1.00

Source: Bullock, 'Finances', p. 135

Financing the War

- Printing money worked at first to fund the military
- However, the currency quickly began to depreciate for a couple of reasons:
 - The individual colonies were issuing their own money that competed for the same resources
 - The British were actively attempting to devalue the Continental dollar
 - People lost faith that the government could back up the Continental dollar
- Ultimately, this was a fairly poor approach to a national monetary policy

The Articles of Confederation - ratified 1781

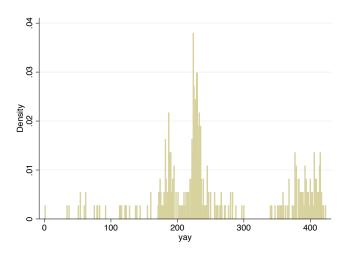


The Articles of Confederation

Each state retains its sovereignty, freedom, and independence, and every power, jurisdiction, and right, which is not by this Confederation expressly delegated to the United States, in Congress assembled.— Article II, Articles of Confederation

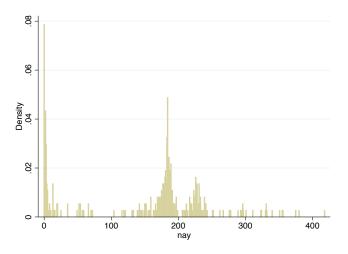
- States rights were the focus
- Voluntary contributions by states were set up in an attempt to get around free rider problem
- Federal government still did not have powers to tax directly
- Gaining the power of taxation required a unanimous vote of the states

The Articles of Confederation



Distribution of house votes for the 115th Congress

The Articles of Confederation



Distribution of house votes for the 115th Congress

- The country had all sorts of problems under the Articles of Confederation
- Congress didn't have an independent source of revenue to pay off war debts
- The Continental Army had been demobilized leading to a lack of protection (particularly in the west)
- States were imposing tariffs and disrupting trade
- Treaties with Spain and France couldn't be worked out
- Leaders realized they had to come up with a new structure for the country, the result was the Constitution of the United States

Federalist No. 11 (Alexander Hamilton)

- A united country would have far more bargaining power with European countries
- A federal navy would help ensure a strong position for Americans in international trade
- There are certain things that are naturally best left to federal government: fisheries, navigation of the Western lakes and the Mississippi
- An integrated economy smooths the effects of local shocks

Federalist No. 30 (Alexander Hamilton, December 28, 1787)

"Money is...the vital principle of the body politic...a deficiency in this particular, one of two evils must ensue; either the people must be subjected to continual plunder, as a substitute for a more eligible mode of supplying the public wants, or the government must sink into a fatal atrophy.."

- Current confederation doesn't work: federal government revenue is dependent on the intermediate agency of its members
- Internal versus external taxation
- Need to credibly commit to repayment

Federalist No. 35 (Alexander Hamilton)

"the jurisdiction of the national government, in the article of revenue, should be restricted to particular objects, it would naturally occasion an undue proportion of the public burdens to fall upon those objects..."

- How to make taxation equitable
- Distribution of taxes across industries and across states
- Efficiency: "[Duties on imports] force industry out of its more natural channels into others in which it flows with less advantage..."
- Representative democracy and economic interests

The Constitution of the United States - ratified 1788



Economics of the Constitution-Article I, Section 8

The Congress shall have power to lay and collect taxes, duties, imposts and excises, to pay the debts and provide for the common defense and general welfare of the United States; but all duties, imposts and excises shall be uniform throughout the United States;

٠.

To borrow money on the credit of the United States;

..

To regulate commerce with foreign nations, and among the several states, and with the Indian tribes;

. . .

To coin money, regulate the value thereof, and of foreign coin, and fix the standard of weights and measures;

. . .

To provide for the punishment of counterfeiting the securities and current coin of the United States;

Economics of the Constitution-Article I, Section 9

No tax or duty shall be laid on articles exported from any state.

..

No preference shall be given by any regulation of commerce or revenue to the ports of one state over those of another: nor shall vessels bound to, or from, one state, be obliged to enter, clear or pay duties in another.

..

No money shall be drawn from the treasury, but in consequence of appropriations made by law; and a regular statement and account of receipts and expenditures of all public money shall be published from time to time.

Economics of the Constitution-Article I, Section 10

No state shall enter into any treaty, alliance, or confederation; grant letters of marque and reprisal; coin money; emit bills of credit; make anything but gold and silver coin a tender in payment of debts; pass any bill of attainder, ex post facto law, or law impairing the obligation of contracts, or grant any title of nobility.

. . .

No state shall, without the consent of the Congress, lay any imposts or duties on imports or exports, except what may be absolutely necessary for executing it's inspection laws: and the net produce of all duties and imposts, laid by any state on imports or exports, shall be for the use of the treasury of the United States; and all such laws shall be subject to the revision and control of the Congress.

Economics of the Constitution–Article VI

All debts contracted and engagements entered into, before the adoption of this Constitution, shall be as valid against the United States under this Constitution, as under the Confederation

The Bill of Rights - ratified 1791



Economics of the Constitution-Fourth Amendment

The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.

Economics of the Constitution-Fifth Amendment

No person shall be held to answer for a capital, or otherwise infamous crime, unless on a presentment or indictment of a grand jury, except in cases arising in the land or naval forces, or in the militia, when in actual service in time of war or public danger; nor shall any person be subject for the same offense to be twice put in jeopardy of life or limb; nor shall be compelled in any criminal case to be a witness against himself, nor be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use, without just compensation.

Economics of the Constitution-Fifth Amendment

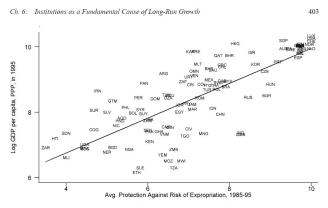


Figure 1. Average protection against risk of expropriation 1985-95 and log GDP per capita 1995.

Summary of Economic Aspects of the Constitution

- Article I, Sec. 8 gives the federal government the power to tax, to borrow money, to regulate commerce between states and with other countries, and to issue currency
- Article I, Sec. 9 provisions to keep trade free between states
- Article I, Sec. 10 prevents states from making their own treaties or issuing their own currency, limits states' ability to tax imports and exports
- Article VI previous debts will still be honored
- Fourth Amendment protects private property from unreasonable search and seizure
- Fifth Amendment people cannot be deprived of life, liberty, or property without due process, private property cannot be taken for public use without just compensation

Summary of Economic Aspects of the Constitution

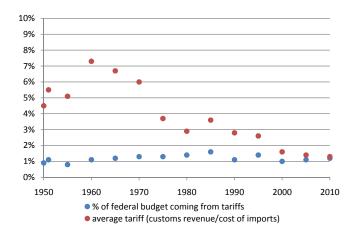
The Constitution did several things to provide stability for the American economy and foster economic growth:

- It gave the federal government the power to tax, giving it the means to carry out its duty to provide public goods
- It went to great lengths to keep interstate commerce free and promoted the concept of a national economy
- It placed the power to issue currency in the hands of the federal government rather than the states
- It explicitly protected private property

Establishing Foreign Trade Policy

- The Constitution gave the federal government the power to regulate trade with other nations
- One main policy instrument for regulating trade is the use of tariffs
- Tariffs are essentially taxes on imports
- By effectively raising the price of imported goods, tariffs can benefit domestic producers
- By generating revenue for the federal government, they could also provide the federal government with a source of funding

Modern Tariffs



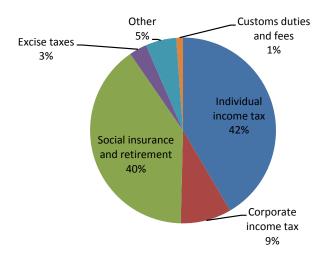
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- I'll also take as long as you want at the start of class today to answer general questions

The Modern Federal Budget

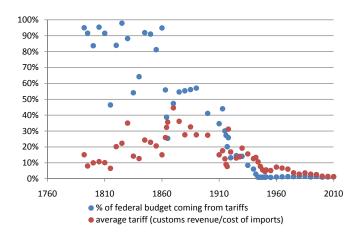


The Modern Federal Budget



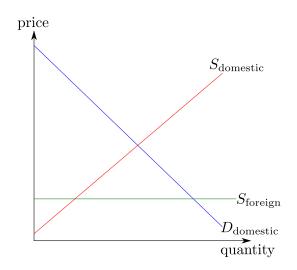
Revenue sources for the federal government, 2010

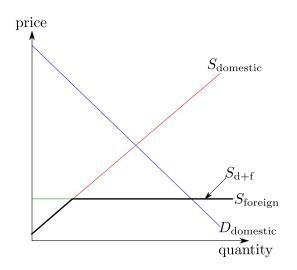
Historical Tariffs

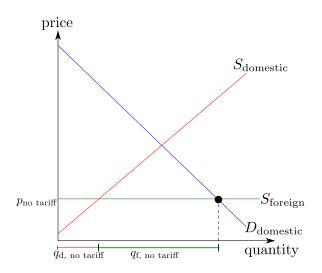


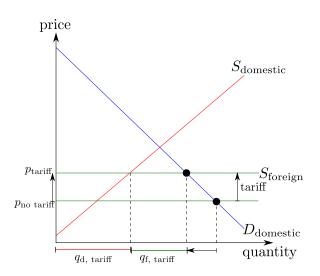
Historical Tariffs

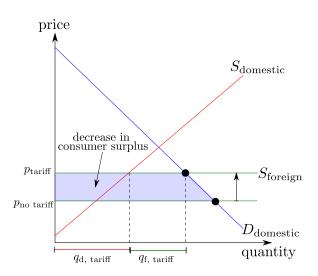
- So tariffs were much higher in the nineteenth century
- There were also a much more important component of the federal government's revenue
- So why has policy shifted away from the use of tariffs over time?
- Why have we (mostly) decided that income tax is a better way to fund the federal government and free trade is better than protectionism?

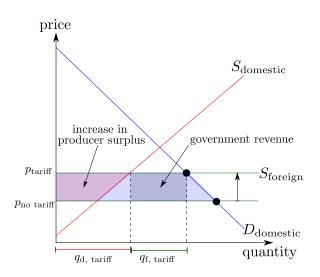












The Economic Argument Against Tariffs: Efficiency

- So there are a few economic consequences of imposing tariffs
- Consumers end up paying higher prices and consuming less
- Domestic producers sell more at higher prices
- Foreign producers sell less at the same price as before (after subtracting the tariff)
- Tariffs generate revenue for the government
- The gain in government revenue and producer surplus is smaller than the loss in consumer surplus

The Economic Argument Against Tariffs: Comparative Advantage

A simple comparative advantage argument:

- Suppose an American worker can produce 2 units of food (F) or 1 unit of manufactured goods (M) and a British worker can produce 1 unit of F or 2 units of M
- Assume each country has one hundred workers
- Say American consumers want 50 M
- Without trade, that would take 50 workers, leaving 50 workers for food production (or 100 units of F)
- Britain also wants 50 units of M, this takes 25 workers leaving 75 workers to produce 75 units of F
- What if America specializes in food and trades 1.5 units of *F* for every 1 unit of *M*?

The Economic Argument Against Tariffs: Comparative Advantage

- If America uses all 100 workers to produce food, it will produce 200 units of F
- America trades 75 F for 50 M from Britain, leaving America with 125 F and 50 M
- If Britain uses all 100 workers in manufacturing, it will produce 200 units of M
- It trades 50 of those units for 75 F, leaving Britain with 150 units of M

The Economic Argument Against Tariffs: Comparative Advantage

- So without specialization and trade:
 - America gets 50 M and 100 F
 - Britain gets 50 M and 75 F
- With specialization and trade:
 - America gets 50 M and 125 F
 - Britain gets 150 M and 75 F
- Specialization and trade has made everybody better off

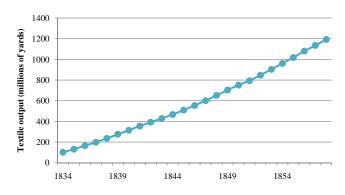
The Economic Argument Against Tariffs

- So tariffs are inefficient, they generate a deadweight loss to society
- Add to this Hamilton's point about forcing "industry out of its more natural channels"
- Restricting trade reduces the benefits from exploiting comparative advantage
- The economic arguments for tariffs start to look pretty weak
- Was the US foolish to rely so heavily on tariffs?

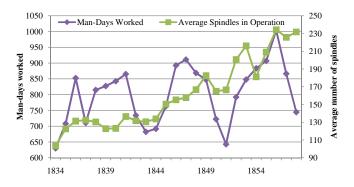
The economic case for tariffs, courtesy of Hamilton in the 1792 *Report on Manufactures*:

"The superiority antecedently enjoyed by nations who have preoccupied and perfected a branch of industry, constitutes a more formidable obstacle...to the introduction of the same branch into a country in which it did not before exist."

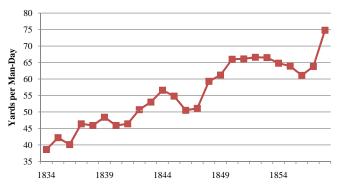
- The basic argument is that infant industries need protection early on
- It takes time for firms to become efficient and until they are, their high costs mean they can't compete with mature firms
- This is especially important if you consider Britain's head start on manufacturing, particularly textiles
- Economists have shown that a fair amount of *learning* by doing took place in the textile industry
- If learning by doing is important, you can't expect to be competitive right away even with the latest technology
- Let's look at some work by Paul David (JEH, 1970) on learning by doing in the textile industry



American textile output, 1834-1858



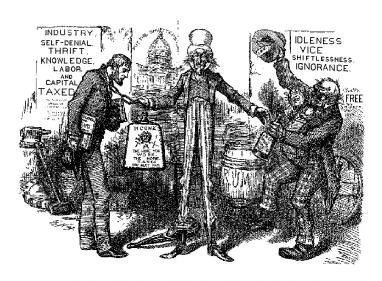
Inputs in the American textile industry, 1834-1858



Labor productivity in the American textile industry, 1834-1858

Growth in the American te	extile industry,	industry, 1833-1859	
	1833-1839	1855-1859	
Growth rate of cloth output		_	
per man-hour:	6.67%	3.20%	
Due to:		_	
Increase in spindle-hours per			
man-hour	0.74%	0.43%	
Increase in raw cotton per			
man-hour	3.33%	1.60%	
Growth of productivity of all			
inputs	2.60%	1.17%	
Growth in productivity from			
learning by doing	2.02%	0.54%	

- Policy is not strictly guided by economic analysis
- The politics of tariffs are also important in understanding why we relied on a potentially inefficient policy tool
- Consider the reasons Hamilton gave Congress for enacting a tariff:
 - To support the government
 - To discharge the debts of the United States
 - To encourge manufacturers



INCOME TAX - THE MORE YOU WORK, THE MORE TAXES YOU MUST PAY

\$ IN YOUR POCKET \$

Protect Your Job--Your Farm---Your Business

The Only Issue Before The Voters is The

PROTECTIVE TARIFF

UNDER THE REPUBLICAN PROTECTIVE TARIFF-

Employment at High Wages. Home Market-The World's Greatest-Preserved For the Farmer. Expansion of Business. Thriving Industry.

UNDER DEMOCRATIC FREE TRADE-

Labor competes with low-paid foreigners. Farmer faces flood of intports- Canadian Wheat Danish Butter Argentine Corn Australian Wool, Etc.

Stand By The Party That Stands By You!

Industry and Business Depressed VOTE FOR-

THE TARIFF AMERICAN PRICES FOR AMERICAN PRODUCTS LOWER TAXES PAYMENT FOREIGN DEBTS RESTRICTED IMMIGRATION LABOR EMPLOYED AMERICAN WAGES FOR AMERICAN WORKERS

VOTE STRAIGHT REPUBLICAN NEXT TUESDAY-NOVEMBER 2



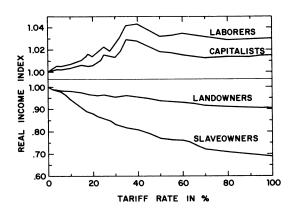


FIGURE 2. DOMESTIC MANUFACTURING OUTPUT AS A FUNCTION OF THE TARIFF RATE, 1859

From "The Optimal Tariff in the Antebellum United States" by John James, American Economic Review, Vol. 71, No. 4, 1981

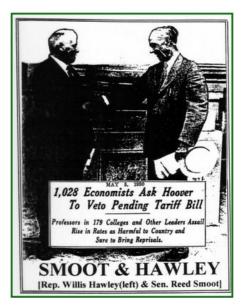
Welfare effects of a 50% cotton export tax in 1859

	Elasticity of US export supply (\mathcal{E}_{US})	
	1	2
Change in world price (percent)	+13	+19
Change in domestic price (percent)	-26	-19
Change in exports (percent)	-26	-39
Tax revenue (millions of dollars)	\$46	\$38
Change in welfare (millions of dollars)	\$10	\$13
Welfare as percent of US GNP (in 1859)	0.24	0.32
Welfare as percent of the South's GNP (in 1859)	0.9	1.2
Welfare as percent of value of cotton crop (in 1859)	4.0	5.2

From "The Optimal Tax on Antebellum US Cotton Exports" by Douglas Irwin, Journal of International Economics, Vol. 60, 2003

The Political Economy of Tariffs

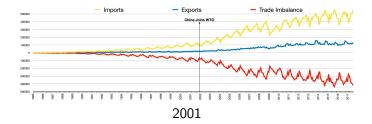
- The impacts of high tariffs differed greatly across occupational groups and geographical regions
- In general, manufacturers of protected goods benefited, consumers were hurt
- This meant factory owners and skilled workers in the North made more money
- It also meant that producers of unprotected goods would pay the price by getting fewer manufactured goods in exchange for their output
- Most southerners fell in this latter category

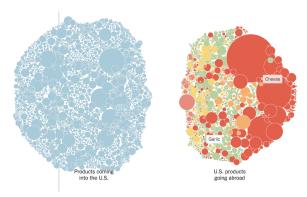




1947







The 2018 Trade War