

The Regional Economies of Colonial America

Jesús Fernández-Villaverde¹

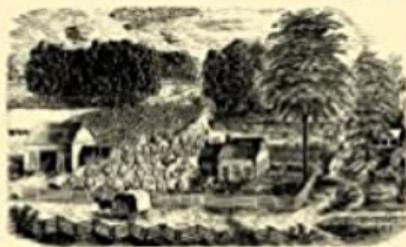
April 21, 2024

¹University of Pennsylvania



The
Economy
of British
America $\frac{1607}{1789}$

With Supplementary Bibliography



John J. McCusker & Russell R. Menard

Overview

- Before the creation of the United States, there was no unified colonial economy.
- Instead, we should talk about several local economies:
 1. Four main economic regions.
 2. Coastal settlements vs. interior settlements.
- An economic map in 1770 would show America as a fringe between the Atlantic and the Appalachians with lines connecting the Colonies to Britain, the West Indies, Africa, and the Mediterranean:
 1. The economies of trading partners was of greater concern than what occurred 100 miles inland.
 2. Newspapers were filled with information on crop and weather conditions overseas because what happened there affected the price of colonial crops.

Four regional economies

- Regions:
 1. New England: Massachusetts, Rhode Island, Connecticut, and New Hampshire.
 2. Middle (or Mid-Atlantic) Colonies: New York, New Jersey, Pennsylvania, and Delaware.
 3. Upper South (or Chesapeake) Colonies: Maryland, Virginia, and a few parts of North Carolina.
 4. Lower South: North and South Carolina, and Georgia.
- Regions generally have a stronger link to England than each other.
- Also, we should never forget Canada and Caribbean Colonies.



Variation

- Regional agriculture varies a great deal, from less labor intensive crops conducive to production on small family farms to low skill highly labor intensive crops found in plantation economies.
 1. Income distribution more unequal in the plantation economies.
 2. As well, non-farm activity provides a competitive means of livelihood and small farm areas become more diverse.
- Flexible structure. For instance, gradually Connecticut becomes more tightly linked with New York than with New England.
- Divisions within regions: costal vs. interior counties, urban vs. rural, ...

A few common ideas

- Nonetheless, we can discuss several common ideas.
 1. Extremely fast population growth.
 2. Centrality of trade.
 3. A prosperous economy.
- Given the importance of slavery, we will have an entire lecture focused on it.

Extremely fast population growth

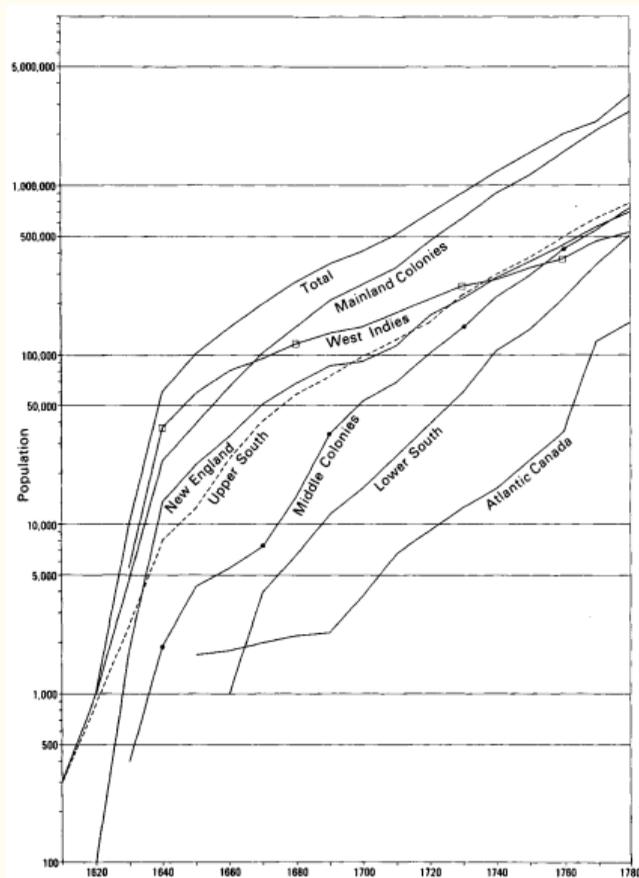
Population

- From 1650–1770, annual growth rates averaged 3.1%, so doubling roughly every 23 years.
- 42-fold increase in population between 1650 and 1770.
- Mostly a rural environment with percent of urban population declining from 1700 on even though cities are growing.
- Regional disparities:
 1. Whites: Growth rate in New England is around 2–2.5%, while the Middle Colonies and Lower South see growth rates of 3–4%.
 2. Blacks: Around 3% in New England and the Middle Colonies and nearly 4.5% in the South.
 3. Blacks small proportion in New England and Middle Colonies, 3% and 8% respectively, while 40% in the South and blacks generally outnumbered whites in plantation areas.

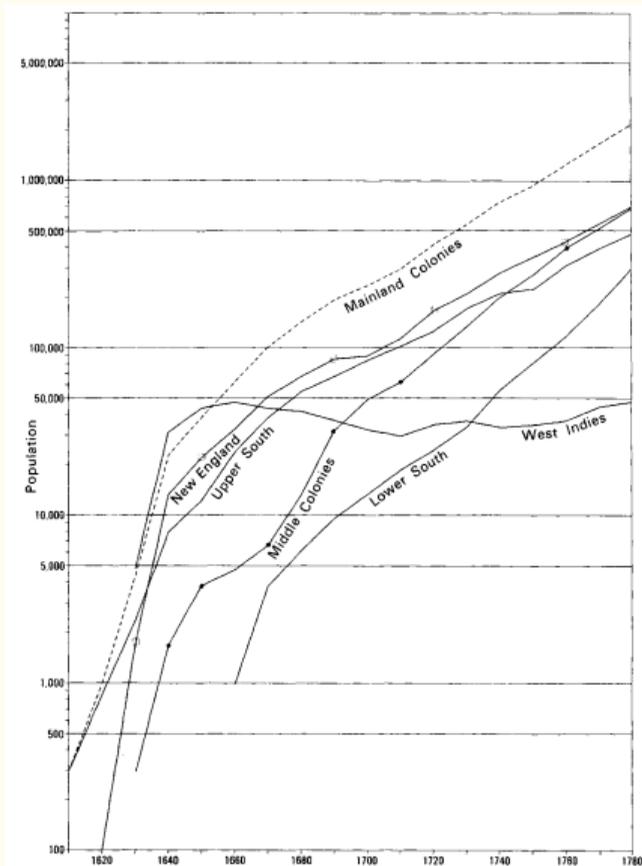
Population of the British colonies in the Americas, 1650-1770 (in thousands)

	1650	1700	1750	1770
North American Colonies				
White	53	234	964	1,816
Black	2	31	242	467
Total	55	265	1,206	2,283
West Indian Colonies				
White	44	32	35	45
Black	15	115	295	434
Total	59	147	330	479
Total				
White	97	266	999	1,861
Black	17	146	537	901
Grand Total	114	412	1,536	2,762

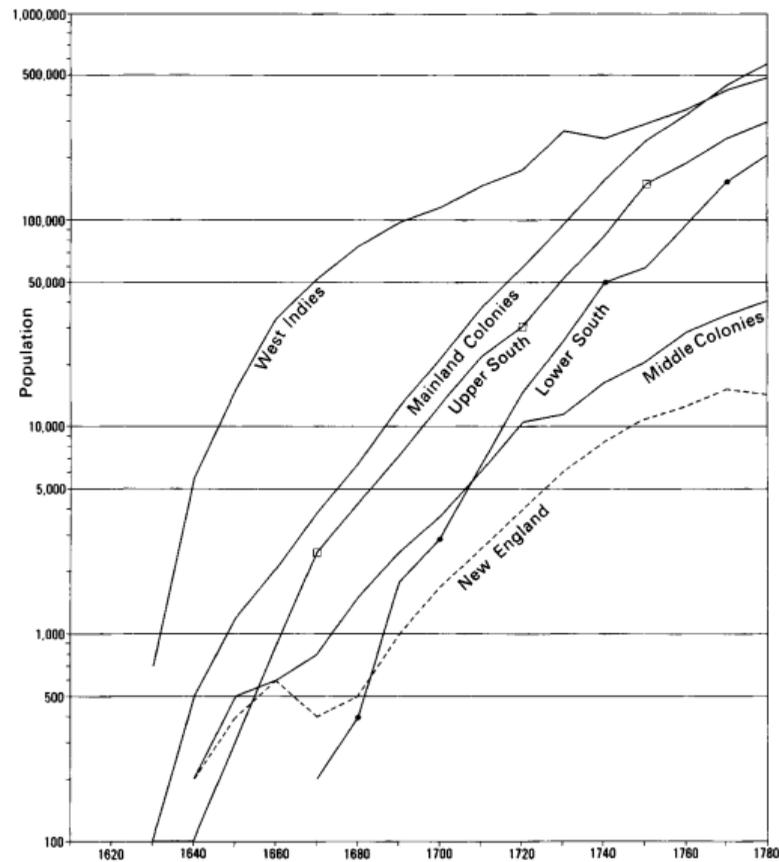
Population of British America, 1610-1780



White population of British America, 1610-1780



Black population of British America, 1610-1780





- Local growth:
 1. Marriages more frequent and earlier than in Europe. Pointed out by Benjamin Franklin.
 2. Lower mortality.
- Speed of early development depends on the number of immigrants attracted to America.
 1. Initially high costs of migrating and a lot of uncertainty over outcomes.
 2. As Britain develops, and the demand for agricultural goods rises, the profitability of colonial agriculture increases and migration flows increase as well.
 3. Immigrants often bring some capital and skills to the colonies.

Centrality of Trade

Trade and the colonial economy, I

- A central element of the colonial economies is trade and the mercantilist framework that governed it.
- “Overseas commerce did not merely make colonial life comfortable, it made it possible” (McCusker and Menard).
- The need to export drives much of the growth and promotes linkages between the regions eventually making the Colonies an independent economic force.
- Was it more important than population growth?

- The mercantilist philosophy is best viewed through the various Navigation Acts (1651, 1660, 1663, 1673, and 1696) that governed much of colonial trade and commerce.
- Three questions:
 1. What is mercantilism?
 2. What were the Navigations Acts and which effects did they have?
 3. Did Navigation Acts contribute to the Revolution?

Why trade?

- Colonies are land and natural resource rich, labor and capital poor, with a relatively small domestic market for much of their history.
 - Sets up comparative advantage in agricultural goods and commodities.
- On the other hand, Britain is rich in capital with a market large enough to get gains from economies of scale.
 - Comparative advantage in manufacturing.
- Trade shifts more British resources into manufacture and more colonial resources into agriculture.
- In summary, colonies tend to export resource intense goods such as furs, fish, forest products, wheat, corn, rice, indigo, and tobacco.

- Data is very incomplete: only data on trade with England and Wales and price data leaves much to be desired.
- Imports/exports are around 8-9% of GDP.
- The main ports were Philadelphia, New York City, Boston, and Charleston.
- Large regional disparities in the balance of payments.
 - Middle Colonies and New England run large deficits prior to Revolution, while the south produces surpluses, some of which is offset by importation of slaves.

- Imports:
 - 80% of imports were manufactured goods from Britain.
 - Tea and alcohol also big imports.

Exports from Great Britain to the Continental Colonies, 1700-1770 (£)

	Annual average constant value per capita			
	1699-1704 (1700)	1718-1723 (1720)	1747-1751 (1750)	1767-1774 (1770)
Continental Colonies	0.90	0.80	1.00	1.20
New England	0.90	0.80	0.80	1.00
Middle Colonies	0.80	0.80	0.80	1.00
Maryland and Virginia	1.70	1.00	1.00	1.30
North and South Carolina	0.70	0.60	1.00	1.10

Selected English exports sent to British America, 1770

Commodity	Quantities exported to British America	Percentage of total exported from England
Coal	6,085 chaldrons	2.8
Pilchards	160 hogsheads	0.8
White salt	11,024 pounds	23.0
Refined sugar	12,062 hundredweight	31.7
Wrought brass	8,073 hundredweight	25.2
Wrought copper	13,778 hundredweight	55.3
Wrought iron	130,687 hundredweight	59.8
Lead and shot	1,651 foddors	9.3
Tin	216 hundredweight	31.7
Beaver hats	10,790 dozen	69.4
Cordage	11,837 hundredweight	65.6
Glassware and earthenware	2,742,253 pieces	47.9
Iron nails	24,147 hundredweight	76.5
Tanned leather	408 hundredweight	65.6
Fustians	5,116 pieces	15.7
Linen	88,072 pieces	79.2
Wrought silk	30,978 pounds	57.2
Printed cotton and linen	155,789 yards	58.9
Double bays	17,812 pieces	19.9
Single bays	8,702 pieces	12.3
Long cloths	5,176 pieces	15.8
Short cloths	18,249 pieces	36.8
Spanish cloths	1,985 pieces	70.4
Flannel	346,740 yards	42.6
Perpets and serges	76,396 pounds	2.2
Men's worsted stockings	28,806 dozen pairs	34.9
Stuffs	1,225,750 pounds	14.8

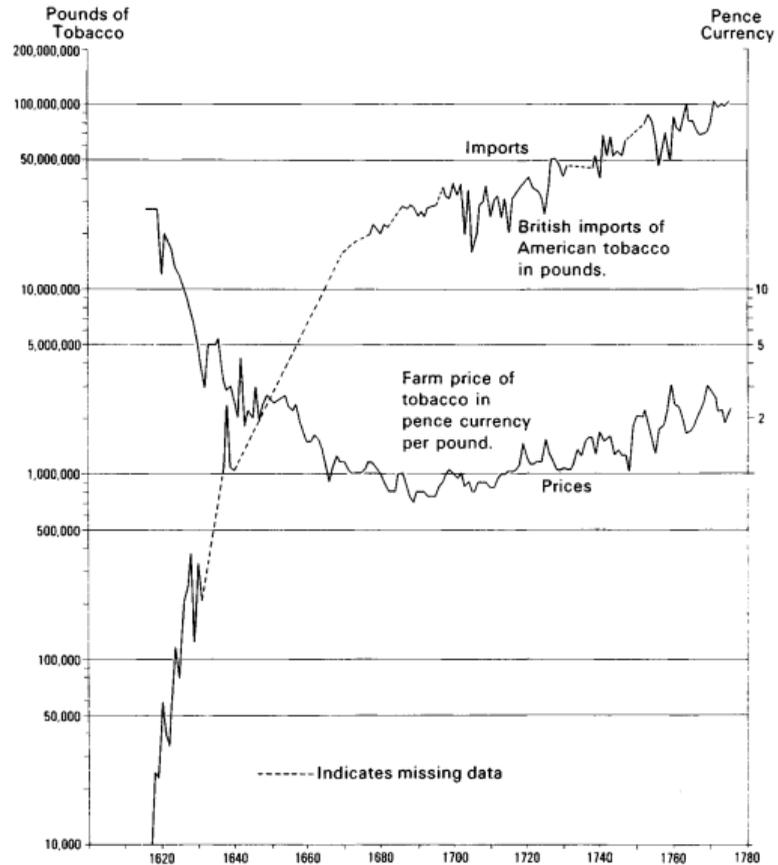
Exports

- Imported goods are largely paid for by exporting cash crops such as tobacco, rice, indigo, and fish.
- Upper South specialized in producing tobacco.
- Lower South plantation economy producing rice and indigo using slave labor imported from Africa.
- Tobacco comprised 27% of exports with wheat accounting for 19% and rice 11% (circa 1770).
- Highest per capita exports and the most dependent region on foreign markets.
- Changes in the price of imports/exports is a key driver of colonial prosperity. When tobacco prices are relatively high, the Upper South generally does well.

Balance of payments, annual average 1768-1772 (thousands of £)

	Debits	Credits
Current account ("visibles")		
Commodities		
Exports to Great Britain and Ireland		1,615
Imports from Great Britain and Ireland	3,082	
Exports to the West Indies		759
Imports from the West Indies	770	
Exports to southern Europe and Wine Islands		426
Imports from southern Europe and Wine Islands	68	
Ship sales		140
Payments for servants	80	
Payments for slaves	200	
Current account ("invisibles")		
Trade related		
Earnings from freighting goods		600
Earnings from commissions, interest, insurance		220
Money transfers by immigrants		–
British government collections/expenditures in continental colonies		
Taxes and duties	40	
Military expenditures		400
Salaries of civil servants		40
Capital and bullion accounts		
Specie and indebtedness	–	40
Totals	4,240	4,240
Subtotals		
Total exports		2,800
Total imports	3,920	
Balance of commodity trade	1,120	

FIGURE 6.1.
Farm Prices and British Imports of Chesapeake Tobacco, 1616-1775



A few extra points

- Colonies earn credits from British military expenditures and exports to Europe.
- Overall, the net balance was small, probably in the neighborhood of 40,000 pounds over the period 1768–1772.
 - The common notion of large persistent deficits has largely been discarded by economic historians.
- Not much foreign direct investment so growing capital stock is financed primarily by domestic saving. This has to be true if the balance of payments is small:

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

$$Y = C + S$$

so $S - I = X - M$.

A prosperous economy

Overview of economy

- The colonial economy is about 1/3 the size of the British economy:
 1. About 85% of workers were employed in agriculture.
 2. Self-sufficiency, however is uncommon, so trade with Britain and between the various regions is very important.
- By the early 1770s, colonial America was fairly prosperous. Income per capita was probably higher than India's income per capita in 2020.
- Between 1700-1774, colonials had a 50% higher per capita income than their British counterparts, although rich colonials could not compare with affluence of rich British.
- By 1770, the Colonies had the highest standard of living for the bulk of the population of any country at that time.
- Enticed immigration and by 1770 the population was around 2.1 million, compared to 7 million British.

Estimates of income in the thirteen continental colonies, 1650-1774 (\$2020)

Year	Per Capita GNP		Aggregate GNP (millions)	
	Growth rate at: 0.3%	Growth rate at: 0.6%	Growth rate at: 0.3%	Growth rate at: 0.6%
1650	1848	1290	101	73
1720	2288	1945	1099	934
1774	2701	2701	6357	6357

The sources of economic growth

- Productivity growth is only about 0.6% per year, but that is enough to double incomes.
- Key features include growing demand for colonial exports linked to the rapidly growing British commercial empire, trade protected by Britain, and the colonies are endowed with abundant natural resources and land.
- Major growth spurt from 1740-Revolution due to increasing demand for colonial exports.
- Terms of trade move in the Colonies favor over much of this period. For example, 100 bushels of wheat bought 150 yards of cloth in 1740 and 250 yards in the 1760s.
- Richest region is the South, then middle colonies, and finally New England.

Wealth per free white person in British America, c. 1770-1775 (£)

Region	Net worth per free white person	Total
Continental colonies (1774)	74.00	
New England	33.00	19,000,000
Middle Colonies	51.00	30,000,000
Upper and Lower South	132.00	86,100,000
West Indies (1771-1775)		
Jamaica	1,200.00	18,000,000

- Additionally, colonists increasingly become more entrepreneurial and start to diversify.
 - That process at times creates tensions within the mercantilist trading framework.
 - Some of this has to do with shipping services that compete with British merchants.
- Over time more and more trade passes through colonial merchants who initially act as commissioning agents (middlemen) and eventually operate their own fleets of ships.
 - By time of the Revolution, colonists own 60% of vessels bound for England.
 - This activity probably generated more export revenue than all but tobacco.
 - By 1772 exports were roughly 11–13% of income. If we add up earnings from commercial services and ships sold abroad could be as high as 16%.

Ownership of vessels trading between British ports and colonial ports on the North American continent, 1770 (%)

Colony from which vessels cleared	Residence of vessels' owners			
	Great Britain	Continental colonies		
		British merchants temporarily resident	Permanent residents of the colonies	Total continental colonies
New England	12.5	12.5	75.0	87.5
New York	37.5	37.5	25.0	62.5
Pennsylvania	25.0	37.5	37.5	75.0
Maryland and Virginia	75.0	12.5	12.5	25.0
North Carolina	62.5	25.0	12.5	37.5
South Carolina and Georgia	62.5	25.0	12.5	37.5

New England

- Plentiful forests and abundant fishing, but poor farming soil.
- Net importer of food: nearly all agricultural goods locally consumed.
- Economy dominated by shipbuilding, shipping services (including the arranging of trade), finance, insurance, fishing, and whaling.
- Top earning involved the carry trade (the importing and exporting of goods) and insurance.

Population

- Population growth from 92,000 in 1700 to 712,000 by 1780.
- Places stress on the amount of available land.
- Homogeneous population, nearly all of English decent.
- After initial immigration, mostly due to reproduction.
- Early and nearly universal marriage with high fertility rates and low rates of disease.
- Initially land abundant, later population pressures are alleviated by out migration both west and to New York, New Jersey, and Pennsylvania.
- New England conforms with Malthusian model: population grows until it reaches the limits of resources.

Population of New England, 1620-1780 (in thousands)

Year	Whites	Blacks	Total
1620	0.1	0.0	0.1
1630	1.8	0.0	1.8
1640	13.5	0.2	13.7
1650	22.5	0.4	22.9
1660	32.6	0.6	33.2
1670	51.5	0.4	51.9
1680	68.0	0.5	68.5
1690	86.0	1.0	87.0
1700	90.7	1.7	92.4
1710	112.5	2.6	115.1
1720	166.9	4.0	170.9
1730	211.2	6.1	217.3
1740	281.2	8.5	289.7
1750	349.0	11.0	360.0
1760	436.9	12.7	449.6
1770	565.7	15.4	581.1
1780	698.4	14.4	712.8

- The growth of the economy is largely driven by population growth and the productivity of the land.
- Productivity of a New England farm:

$$y_t = A_t T_t^{1-\alpha} L_t^\alpha \rightarrow$$
$$\ln y_t = \ln A_t + (1 - \alpha) \ln T_t + \alpha \ln L_t \rightarrow$$
$$g_y = g_A + (1 - \alpha) g_T + \alpha g_L$$

- Early on most of the population growth is through immigration, while later it is through reproduction.
- As well, there are organizational improvements.

Diversifying the economy

- New England lacked a major staple commodity for export, but needed to import a variety of goods.
- Three strategies:
 1. Move into manufacturing.
 2. Export to the West Indies (wood products, fish, and livestock)
 3. Develop a shipping industry for exporting to the West Indies, and later serve the domestic market.
- Examples:
 1. Manufactured goods for wheat with middle colonies, fish for rice with South Carolina, tobacco with Virginia. Sell rum to everyone. Coastal trade grows to 70% of exports.
 2. Trade of barrels and other timber products to the wine islands.



New England by 1775

- By Revolution, fish, whale products, wood and rum are principle exports and carry trade is perhaps the biggest regional revenue raiser.
- New England possesses an integrated and diversified economy:
 1. Farming, fishing, milling, distilling, wood products, shipbuilding.
 2. Farmers have access to millers, fisherman have access to shipbuilders, importers bring in molasses for distillers.

Average annual exports from New England, 1768-1772 (£)

Commodity	Great Britain	Ireland	Southern Europe	West Indies	Africa	Total
Fish	206		57,195	94,754		152,155
Livestock, beef, pork	374		461	89,118		89,953
Wood products	5,983	167	1,352	57,769		65,271
Whale products	40,443		804	20,416	440	62,103
Potash	22,390	9				22,399
Grains and grain products	117	23	3,998	15,764		19,902
Rum	471	44	1,497		16,754	18,766
Other	6,991	1,018	296	247		8,552
Total	76,975	1,261	65,603	278,068	17,194	439,101

Seeds of conflict, I

- Initially, England controls the trade, but New England merchants gradually gain a large share. However, the shipping of manufacturing goods totally controlled by the English.
- Developing manufactures and trade makes New England more like England than any of the other regions.
- Competition with English merchants induces Parliament to change some of the rules during the mid 18th century.
- Sugar Act which reduces the tax on molasses from six pence per gallon to three pence per gallon, but is strictly enforced making importation more costly. Also taxed sugar, certain wines, coffee, and printed calico and further regulated the export of lumber and iron.
 - Decline in rum industry, as well as reduction in trade with the Azores, Canary Islands, and French West Indies.
 - So affects manufacturing and processing, as well as the volume of trade and shipping.

Seeds of conflict, II

- Townsend Acts of 1767 placed a tax on a number of colonial imports of which one was tea.
 - Negatively affected a profitable smuggling trade.
- Leads to a boycott by spring of 1769: it does not affect British economy much, but Act does not raise much revenue and except for increased sale of tea, which did raise significant revenue, repealed in 1770.
 - Some in New England start entertaining independence as they realize they have no constitutional rights to protect their commercial activities.
- Besides trade, fishing is a huge success. New England has more southerly fisheries than the Grand Banks, a longer season, and close proximity to the coast.
 - By 1770, 10% of Labor force employed in fishing.
 - Trade with London with fish re-exported to Spain, Portugal, and the wine islands.

Middle Colonies

- Highly productive in agriculture, with grain the dominant commodity, and export surplus in their own ships.
- Grain and flour from wheat, barley, corn, and rye.
- Highly diversified economy.
- Philadelphia and New York City are centers of commercial services.
- Philadelphia, in addition, has many small manufactures largely involved in flour mills and iron works.

Population, I

- Faster growth of around 3.4% per year and by 1780 the population of this region surpasses New England and nears that of the Upper South.
 - Rapid population growth has no deleterious effects as in New England as frontier is easy to move to and it has access to Philadelphia.
- Immigration likely important throughout, and a diverse population with non-English Europeans accounting for more than 1/2 of the population.
- Most ethnically diverse: English, Dutch, German, Swedish, and some French.
 - Influences which merchant you deal with.
 - Ethnic groups cluster.
 - Pennsylvania counties too large to be dominated by any one group.

Population of the Middle Colonies, 1630-1780 (in thousands)

Year	Delaware	New Jersey	New York	Pennsylvania	Total Whites	Total Blacks	Grand Total
1630			0.4		0.4		0.4
1640			1.9		1.7	0.2	1.9
1650	0.2		4.1		3.8	0.5	1.9
1660	0.5		4.9		4.8	0.6	5.5
1670	0.7	1.0	5.8		6.7	0.8	7.4
1680	1.0	3.4	9.8	0.7	13.4	1.5	14.9
1690	1.5	8.0	13.9	11.4	32.4	2.5	34.8
1700	2.5	14.0	19.1	18.0	49.9	3.7	53.5
1710	3.6	19.9	21.6	24.4	63.4	6.2	69.6
1720	5.4	29.8	36.9	31.0	92.3	10.8	103.1
1730	9.2	37.5	48.6	51.7	135.3	11.7	147.0
1740	19.9	51.4	63.7	85.6	204.1	16.5	220.5
1750	28.7	71.4	76.7	119.7	275.7	20.7	296.5
1760	33.2	93.8	117.1	183.7	398.9	29.0	427.9
1770	35.5	117.4	162.9	240.1	521.0	34.9	555.9
1780	45.4	138.6	210.5	327.3	680.5	42.4	722.9

- Population growth puts pressure on land prices which double over similar period (marginal productivity of land goes up with more labor).
- Growth in Pennsylvania driven by exports. Wheat, flour, and bread to South Europe and Ireland.
- Economy diversified and prosperity widely distributed.
- Lowest income inequality of all the regions, as food crops profitably produced on small farms.
- Slavery not a useful model.

Philadelphia vs. New York City

- Philadelphia is a profitable business center and largest city; it becomes the commercial center.
 1. Enters the carry trade, which annoys British merchants.
 2. Due to military expenditures during the French and Indian War and dramatic upswing in grain prices in Europe after 1750, the economy improves dramatically.
 3. Philadelphia merchants well placed. Unlike New York and Boston, which also saw dramatic gains in shipping, Philadelphia trade is mostly with Britain and southern Europe.
 4. Also, increase shipping with Baltimore and Norfolk.
- New York has trading expertise, in part inherited from the Dutch, and becomes the financial center.
 - Good connections foreign financial center, especially Amsterdam.
 - New York is able to maintain a favorable trade balance.
 - Merchants fund trade to South Europe, but eventually is replaced by more profitable trade with Canada.

Why are the Middle Colonies the least enthusiastic about the revolution?

- Benefit from the mercantilist system, which restricted trade from other nations.
- Wealth surpasses that of New England.
- During the 25 years leading up to the Revolution, New York trade doubles and Philadelphia trade triples. Much of trade in colonial owned ships.
- Active merchant and financial class, and much of exports are shipped on colonial owned ships.
- Nonetheless, trading restrictions put in place in the 1760s create a lot of hostility.

Average annual exports from the Middle Colonies, 1768-1772 (£)

Commodity	Great Britain	Ireland	Southern Europe	West Indies	Africa	Total
Grains and grain products	15,453	9,686	175,280	178,961		379,380
Flaxseed	771	35,185				35,956
Wood products	2,635	4,815	3,053	18,845		29,348
Iron	24,053	695		2,921		27,669
Livestock, beef, pork	2,142		1,199	16,692		20,033
Potash	12,233	39				12,272
Other	11,082	1,310	2,227	6,191	1,077	21,887
Total	68,369	51,730	181,759	223,610	1,077	526,545

Upper South

Environment

- Area dominated by plantations, which are highly profitable undertakings, see little economic diversity.
- Tobacco is the ideal mercantilist product: imported from a colony, creates a processing industry in Britain, and is valuable for re-export.
- Tobacco attracts capital investment and provides funds for importing manufactured goods from Britain.
- But economy is sensitive to swings in tobacco prices, and its production demands slave labor, which has a large impact on the social structure of the region (an aristocratic like class).
- The period 1715-Revolution: fairly steady growth of around 2% per year (a 3.25-fold increase by Revolution).
- Declining prices driven by improvements in productivity.

Why slavery?

- High wages and cheap land make slavery relatively attractive.
- Production function for tobacco: $Q = AT^\alpha L^g$.
- The cost of overseeing slaves: $C(L) = \frac{1}{\alpha+g+d} L^{\alpha+g+d}$, so a convex cost function that will imply finite plantation size.
- Plantations maximize profits $\max_{T,L}[Q - C(L) - r_T T]$.
- Which implies $T^* = B(\alpha, g, d)(1/r_T)^{\frac{\alpha+d}{(1-\alpha)(\alpha+d)-\alpha g}} A^{\frac{\alpha+g+d}{(1-\alpha)(\alpha+d)-\alpha g}}$.

Tobacco: trade and finance

- Crop is quite profitable and that profitability leads to greater access to cheaper credit.
- Further, tobacco growers benefit from declining prices for manufacturing goods and declining distribution costs.
- It is the productivity improvement that led to falling costs of production and that allowed the scale of production to increase. This allowed colonial tobacco to compete with cheaper and poorer quality European products.
- Despite solid trend growth, price fluctuations do create cycles of economic activity.
- Price of some British manufactured goods induce industry.
- Washington's fully automated gristmill and threshing machine are good examples (increases flour production 20 fold).

A changing economy

- Also there is some gradual diversification in agriculture.
 - Washington diversifies into wheat and out of tobacco. 1764 Mt. Vernon produces 267 bushels of wheat, but by 1769 producing 6,241 bushels of wheat. Stops planting tobacco in 1766.
- Productivity in tobacco not evenly spread and marginal producers in Northern Virginia, Maryland, and North Carolina, are squeezed out and turn to grains, meats, and forest products.
 - By Revolution, the share of exports accounted for by tobacco fell by 1/3 from their share in 1700.
 - Importantly, though, moving to alternative crops may reduce aggregate income by 15%–35%.
 - Shenandoah valley has tobacco in the center and diversified farming on the periphery.

- After 1670, around 2.7% per year and immigration remains a source of population growth through most of the colonial period.
- Shorter life expectancy than New England.
- Male/female ratio changes dramatically. Initially dominated by males, but by 1775 the sex ratio is around 1.1. and creole women common in marriages in the Upper South.
- Creole majority around 1720.
- 40% black; Scots, Scot-Irish, and Germans dominate the backcountry.

Population of the Upper South, 1610-1780 (in thousands)

Year	Maryland	Virginia	Total Whites	Total Blacks	Total Population
1610		0.3	0.3		0.3
1620		0.9	0.9		0.9
1630		2.5	2.4	0.1	2.5
1640	0.6	7.6	8.0	0.1	8.1
1650	0.7	12.0	12.4	0.3	12.7
1660	4.0	20.9	24.0	0.9	24.9
1670	11.4	29.6	38.5	2.5	41.0
1680	20.0	39.9	55.6	4.3	59.9
1690	26.2	49.3	68.2	7.3	75.5
1700	34.1	64.0	85.2	12.9	98.1
1710	43.9	79.7	101.3	22.4	123.7
1720	57.8	100.8	128.0	30.6	158.6
1730	81.8	142.8	171.4	53.2	224.6
1740	116.1	180.4	212.5	84.0	296.5
1750	141.1	236.7	227.2	150.6	377.8
1760	162.3	339.7	213.4	189.6	502.0
1770	202.6	447.0	398.2	251.4	649.6
1780	248.0	538.0	482.4	303.6	786.0

- 30% of colonial population, yet no major city.
- Tobacco easy to store, transport, and relatively inexpensive to process, does not require peripheral industries, and it is an excluded good so does not generate an indigenous merchant class.
- Slavery encouraged self-sufficient plantations, so less consumer demand.
- Goods in the periphery are different. They require production facilities for wood products, merchants, and give rise to small towns.

Population, III

- In 1690 blacks were 7% of the population, but by 1750 they were 40% of Virginia's population and 30% of Maryland's.
- Cheap and abundant land kept wages high (MPL is positively related to quantity and quality of T), allowing white families to save and become planters.
- Small number of great planter families dominate politics, became conscious of their class, and associated their futures with the future prosperity of the region.
- They become leading drivers of the move toward independence, want to bypass English middlemen.

Average annual exports from the Upper South, 1768-1772 (£)

Commodity	Great Britain	Ireland	Southern Europe	West Indies	Total
Tobacco	756,128				756,128
Grains and grains products	10,206	22,962	97,523	68,794	199,485
Iron	28,314	416		461	29,191
Wood products	9,060	2,115	1,114	10,195	22,484
Other	23,344	3,357	526	12,368	39,595
Total	827,052	28,850	99,163	91,818	1,046,883

- Booming exports in 25 years preceding Revolution, reduced out-migration and supported income gains throughout the region.
- Tobacco major driver of economy.
- Unequal income distribution, leads to a political elite.
- Large family size reduces the need for immigration.
- May contribute to the formation of a more local identity.

Lower South

- Cape Fear area of North Carolina, South Carolina, and Georgia.
- In 1700 primary export is deerskins, but rice and indigo production rises to become the predominant exports.
- Rice accounts for 60% of exports by 1740 and remains around half of exports in 1770. Ranks only behind tobacco and wheat for the colonies.
- Develop irrigation system and cultivation begins in moist uplands, but eventually extends to inland swamps and the tidewater.
- Seed experimentation allows the best types of rice to be grown based on local conditions.

Rice, naval stores, and exports

- Rice initially not on the excluded list, but added in 1705. However, transport time is too long to get to Portugal by Lent, so the Iberian Peninsula gets an exception.
 - 18% goes to southern Europe, the majority is re-exported to northern Europe.
- Rice encourages large plantations worked by slave labor. Rice plantations somewhat similar to the sugar plantations in the West Indies. As in middle-South, generates a rich planter class that dominates politics.
- Naval stores also important export. Subsidized and an important factor in reducing British dependency on other countries.
- Prosperity grows quickly: Highest per capita exports and the most dependent region on foreign markets.

- Least knowledge of this region. But, had highest growth rate at 4.4%.
- Migration is largely from other colonies and Barbados.
- Mortality rates high: malaria and yellow fever.
- Growth driven by slave importation and high fertility rates outside plantation rates as well as white migration.

Population of the Lower South, 1660-1780 (in thousands)

Year	Georgia	North Carolina	South Carolina	Total Population	Total Whites	Total Blacks
1660		1.0		1.0	1.0	0.0
1670		3.8	0.2	4.0	3.8	0.2
1680		5.4	1.2	6.6	6.2	0.4
1690		7.6	3.9	11.5	9.7	1.8
1700		10.7	5.7	16.4	13.6	2.9
1710		15.1	10.3	25.4	18.8	6.6
1720		21.3	18.3	39.6	24.8	14.8
1730		30.0	30.0	60.0	34.0	26.0
1740	2.0	51.8	54.2	108.0	57.8	50.2
1750	5.2	73.0	64.0	142.2	82.4	59.8
1760	9.6	110.4	94.1	214.1	119.6	94.5
1770	23.4	197.2	124.2	344.8	189.4	155.4
1780	56.1	270.1	180.0	506.2	297.4	208.8

Average annual exports from the Lower South, 1768-1772 (£)

Commodity	Great Britain	Ireland	Southern Europe	West Indies	Africa	Total
Rice	198,590		50,982	55,961		305,533
Indigo	111,864					111,864
Deerskins	37,093					37,093
Naval stores	31,709					31,709
Wood products	2,520	228	1,396	21,620		25,764
Grains, grain products	302	169	1,323	11,358		13,152
Livestock, beef, pork	75	366	103	12,386		12,930
Other	11,877	515	365	785	362	13,904
Total	394,030	1,278	54,169	102,110	362	551,949

Takeaways leading to drive for independence

- Economy getting bigger and more diverse.
 - Leads many to believe the break-up will not be overly costly (hidden costs).
- More regions and sectors starting to become direct competitors with British counterparts.
- With increased size, the Navigation Acts, and their follow ups that involve more areas of the economy, affect certain players more directly.
 - Boston merchants.
 - Philadelphia and New York City merchants and financiers.
 - Virginia Tobacco growers (losing 15–35% of income).
- Elites band together: economic costs marry with philosophy of natural rights.

Extra slides

Family structure

- How does it contribute to human capital formation, migration, and fertility?
- 80% involved in agriculture, with seasonally intense work effort around planting and harvest.
 - Not many hired hands, use servants and slaves.
 - Wage workers confined to urban environments.
 - Indentured servants important source of labor, but their supply is driven by conditions in England.
- Scarce labor implies relatively high wages for free workers.
- In the northern colonies, the fundamental economic unit is the family.
- High fertility and rate of family formation major driver of growth.
- In the South, slave labor supply is quite elastic.

More on agriculture

- Like everything else, a lot of regional variability.
- At least 80% of population engaged in agriculture.
- When include complimentary activities like fishing, trapping, and timbering (extractive activities), the sum represents almost all of the colonial economy.
- Except in the south, farm units are not fully commercialized or specialized and a lot of home production is involved.
- Initially, in most places, transporting produce to market was difficult.
- The family farm has much different character than profit seeking plantations and commercial centers.

The economics of farms

- Competing theories about the economics of small farms:
 1. High transportation costs and high cost of labor as well as inefficient production methods and thin demand imply that even though profit driven, there is little surplus for market.
 2. The risky nature of farming and the importance of insuring the security of the family, which implies that production for the market is not an overriding feature and technological advance is not actively pursued.
- Probably something to both theories, but the self-sufficiency theory missed the fact small farms lacked the diversity of equipment to be self-sufficient. Some excess production profit required to finance the purchase of goods not self-produced.
 - High transportation costs and high cost of labor as well as inefficient production methods and thin demand imply that even though profit driven, there is little surplus for market.
 - The high price of labor, inefficient sickle technologies, and lack of scale economies implies that the most efficient way to increase production is to create more family farms.

The economics of plantations

- Plantations totally different.
- Up to a point enjoyed economies of scale. At some scale, too many laborers to supervise efficiently –economics dealing with the span of control– so size is finite and we see many large units.
 - Repetitive tasks needing low skill, so slave labor is attractive model.
- This export driven activity spins off the need for a merchant and financial class to support the activity.
- Also, it leads to a very different political environment, as well as to different degrees of income inequality.

The technological drive of Washington, I

- George Washington often laments on the lack of sophistication in colonial farming practices:

George Washington

“The aim of the farmers in this country ... is not to make the most they can from the land, which is, or has been cheap, but the most of the labor, which is dear, the consequence of which has been, much ground has been scratched over and none cultivated or improved as it ought to have been.”

- But there are some economic reasons for this.

Thomas Jefferson

“We can buy an acre of new land cheaper than we can manure an old acre.”

- Need more evidence to see if lack of state-of-the art practices is due to ignorance or availability of land.

The technological drive of Washington, II

- Washington was an innovator in both agriculture and manufacturing.
- He kept abreast of latest British agricultural developments and actively corresponded with experts at home and in England:
 1. Mt. Vernon has a new kind of barn and ice house.
 2. Develops a potato machine for separating potatoes.
 3. Barrel plow that automatically deposits seeds.
 4. Pumps installed to supply water to draft animals.
 5. Develops a better threshing machine.
 6. Fully automated grist mill making finest flour in America

Manufacturing and extraction, I

- For the most part manufacturing is not a big factor in the colonial economy.
- However, there are indications of what is to come.
 - Scarce capital and plentiful cheap land give agg a comparative advantage.
 - Limited internal markets to overcome fixed costs of setting up manufacturing — some exceptions.
 - Bulky colonial exports help British merchants subsidize the transportation of British manufactured goods.
 - Some mercantilist restrictions on colonial manufacturing, but at onset the above bullets imply not overly onerous.

Manufacturing and extraction, II

- An important early activity is fishing.
- Large demand for fish and plentiful supply.
- Many materials for building ships are in ready supply.
- During offseason the ships can be used for shipping.
- Same for whaling.
- Around these activities grows a merchant class.
- So a deep market, combined with resources, leads to an industry and support activities like shipbuilding and commercial activities.
- Indeed shipbuilding becomes an important activity supplying most of the colonial vessels that engage in trade.

- Another important early activity is gristmilling.
 - Millers keep track of grain prices and act as agents for farmers, providing economies of scale in marketing their produce.
 - Eventually expand their scale to trading thus cutting out British middlemen.
 - Gave rise to Wilmington, Delaware.
 - Technically colonial mills on par with English ones.
 - Washington builds the first fully automated mill using a process developed by Oliver Evans in 1787.
 - And again, around these activities grows a merchant class.

- Lastly, the Iron Industry.
 - Cheap readily available fuel and easily mined surface deposits.
 - Encouraged by Royal Government.
 - By 1755, at least 82 charcoal furnaces producing 300 tons of pig iron and by 1770s perhaps 1/7th of world production.
 - Larger producer than England.
 - Small exporter, but see significant productivity gains through learning by doing. The basic technology did not change.

- Reluctant to be directly involved. At best joint ventures.
 - Following the precedent of colonization — monopoly rights and grants of land.
 - Charter everything from river ferries to iron mills.
 - Massachusetts most active use of government in economy.
- So no rich history of deep involvement in economic activity.