State Taxes, Wealth, and Public Finances after the American Revolution, 1783-1815

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Abstract

This dissertation uses state property tax records to examine the economic consequences of the American Revolution. State governments reformed their fiscal infrastructure to respond to the crises encountered under the Articles of Confederation. Legislators worked to make local officials accountable and introduced strong incentives to ensure reliable and accurate tax collection. Tax lists are ideal sources for measuring economic change in the early republic. Local officials recorded detailed information that can be used to study wealth, inequality, insolvency, and social mobility. The dissertation samples the taxable property of more than 70,000 taxpayers from the ten most populous states between 1785 and 1815. The data reveal that Americans experienced significant economic mobility despite falling wealth averages and high levels of inequality. Instability was greatest for taxpayers in the top deciles of the wealth distribution. Local economic conditions and living standards varied tremendously, however, suggesting that national averages present a false aggregate of the American economy. Variation between individual counties and towns helps to explain why histories of the period often provide such starkly divergent accounts of the American economy. Rather than focusing on national figures, economic historians should consider states and counties as distinct units for economic analysis.

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Acquiring the data for the tax sample required visiting archives across the East Coast. Several archivists went above and beyond in their efforts to locate state property tax lists and to make their collections accessible. Special thanks to Bill Kimok at the Robert E. and Jean R. Mahn Center for Archives and Special Collections at Ohio University, Joseph D. Leizear and Maria Day at the Maryland State Archives, G. Jerry Ellis at the Pennsylvania State Archives, Diana Ross McCain at the Connecticut Historical Society, and Beth Carroll-Horrocks at the State Library of Massachusetts. The author would also like to thank the archivists at the Library of Virginia, North Carolina State Archives, Maryland Historical Society, Ohio Historical Society, New York Historical Society, New York State Archives, Connecticut State Library, State Library of Massachusetts, and the Rare Book and Manuscript Library at Columbia University.

As I travelled for my dissertation research I often stayed with host families that I met through Couchsurfing.org, an online community that connect fellow travelers with prospective hosts. Without Couchsurfing, extensive travel for the archival research would have been unaffordable and my project would not have been possible. Sonia Marcus and James Huth initiated my Couchsurfing journey as I conducted research at Ohio University in Athens, Ohio. Samet Okumus and Jordan Dale generously hosted me for two research trips in Raleigh, North Carolina. Lee Gimpel provided accommodations on a follow-up trip to the Library of Virginia in Richmond. Fiyinfoluwa Elegbede and Mike Szabo showed me around in Annapolis during my visit to the Maryland State Archives. Siri Ming and Michael Bowman introduced me to the Couchsurfing community in Baltimore while I conducted research at the Maryland Historical Society. William Kinsman kindly hosted me for nearly two weeks on two separate research trips to Harrisburg, Pennsylvania. Mike and Carrie Hillman gave me a tour of the state capitol and allowed me to continue my research at the Pennsylvania State Archives. While working at the New York State Archives in Albany, I stayed with Andrew Ash and family. Kevin Schneider offered his couch in New York City. Jonathan Clark in Hartford and George Sharrow in Bloomfield hosted me while I worked at the Connecticut State Archives and Connecticut Historical Society. George Byrd, Jim Keller, and Bill Anderson showed me everything Columbus has to offer as I completed my research at the Ohio Historical Society.

Transcribing and tabulating the handwritten tax lists proved to be a long and arduous process. To complete the research, I hired research assistants to assist with the data entry using Upwork.com, a website that connects a world of highly-skilled freelancers with prospective employers. I developed a system for transcribing and double checking each entry to ensure that any judgement calls remained solely at my discretion. Although I personally double checked

every page of the transcriptions, Raphael C.J. Joseph (Cochin, India), Mark Jim Santos (Pasig, Philippines), Rhandy Maco (Cebu City, Philippines), Muhammad Syarif Fadhlurrahman (Jakarta, Indonesia), Joan Nduta (Nairobi, Kenya), Amber Van Karsen (Houghton, Michigan), Elaine Hansen (Bountiful, Utah), and Elena Miceva (Skopje, Macedonia) worked on various stages of the data entry project. My close friend, Charles Joynson worked to create the maps that accompany Chapter 2. Mitch Nuguit (Muntinlupa, Philippines) made revisions to the maps, and worked with me to produce a town map of Massachusetts and Connecticut. Chris Gist at the University of Virginia Scholar's Lab helped to convert the New England maps to GIS. Power Xin Xue provided much needed help with Stata, and Renato Lima de Oliveira offered advice for programming in R.

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My parents, Warren and Martha Garmon, inspired my love of history. Through years of collecting antiques they filled their house as though it were a museum overflowing with

collectables. Together they encouraged their five sons to pursue any subject that interested them. Whenever any of the five of us expressed curiosity in a new interest hobby, our parents would join us in support or as collaborators. Like any good collector they not only took pleasure in acquiring materials for their own collections, but also in cultivating new collections by fostering and mentoring new collectors. With each new hobby they helped us to acquire the relevant reference books, accompanied us to the appropriate meetings for fellow enthusiasts, and often learned the basics in that field of interest along the way. My skills as a researcher owe as much to my training as a historian as to my parents' ability to search the ends of the earth to locate scarce items for specialized collecting interests. Unfortunately, my father did not live to see the completion of this project. I have dedicated the dissertation to his memory.

In memory of my father, Frank Warren Garmon Sr.,
who encouraged my love of history through fifty-six years of collecting
1950-2016

Introduction

This dissertation uses state property tax records to measure the economic consequences of the Revolution. It argues that tax records are an ideal source for measuring economic change. Many historians have studied the political economy dimensions of taxation, focusing on taxes as a factor in causing the American Revolution or emphasizing the fiscal failures under the Articles of Confederation. These histories tend to focus on tax policy at the national level but usually give little attention to state property taxes, which constituted the most important assessments during this period.[1] Only a handful of studies have employed tax records to measure economic outcomes. When economic historians have produced estimates for the American economy they almost always emphasize trends at the national level in an effort to understand long-run growth rates. I argue that national averages present a false aggregate of the American economy. Rather than focusing on national figures, historians should consider states and counties as distinct units for economic analysis. National models have difficulty accounting for the tremendous regional and local variation exhibited in the early republic. Given that the period predates the formation of nationally integrated markets such variation is to be expected, and the variation helps to explain why histories of the period often provide such starkly differing accounts of economic conditions. This dissertation uses tax records to test several hypotheses regarding economic development, social mobility, and inequality.

What effect did the American Revolution have on living standards, economic mobility, and the distribution of wealth? After fighting a prolonged war for independence initiated at least

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[1] Exceptions exist. Robert Becker's study emphasizes state taxation during the Revolution but concludes in 1783 without examining the effects of tax policy in the years that followed. Robert A. Becker, *Revolution, Reform and the Politics of American Taxation, 1763-1783* (Baton Rouge: Louisiana State University Press, 1980); see also, Roger Brown, *Redeeming the Republic: Federalists, Taxation, and the Origins of the Constitution* (Baltimore: Johns Hopkins University Press, 1993); Robin Einhorn, *American Taxation, American Slavery* (Chicago: University of Chicago Press, 2006)

partly for economic reasons, we might expect that freedom from British mercantilism would have ushered in a period of unparalleled affluence. High growth rates experienced during the colonial period might have continued unabated. The newly-independent former colonists could now chart their own course, and were free to trade or manufacture what they wished. A new national government overcame many of the limitations of the Articles of Confederation and created strong institutions that secured property rights, promoted commerce, and facilitated economic growth. Contemporaries described the United States as possessing an egalitarian social structure and an upwardly mobile population. James Madison noted at the Constitutional Convention in Philadelphia that "the people of the United States are more equal in their circumstances than the people of any other Country." He questioned whether there were more than a hundred Americans whose wealth equaled that of "esteemed rich in Europe" and emphasized that, unlike Europe, wealth in the United States was not concentrated among those hundred individuals. Rather, Madison noted that American wealth was widely dispersed "in the great body of the people, among whom there are no men of wealth, and very few of real poverty."[2] Our first hypothesis proposes that American wealth expanded rapidly after the Revolution, and that Americans possessed an egalitarian distribution of wealth and great degree of social mobility.

At the same time, there are reasons to suspect that the American economy might not have been as prosperous or egalitarian as first imagined. A second hypothesis suggests that economic growth in the post-revolutionary period was paltry, and that concentrated wealth limited social mobility. The Revolution itself proved to be incredibly costly, not only in terms of material destructive and loss of life but also in the immense debts incurred to pay for it. Taxes were

[2] Max Farrand ed., *The Records of the Federal Convention of 1787,* Two Volumes (New Haven: Yale University Press, 1911), 1:400-401.

higher after the Revolution than before, and disruptions in trade persisted in the decades that followed. Many contemporaries worried that republican virtue was in the process of being supplanted by an aristocracy. Although John Adams understood that the United States did not maintain hereditary peers on the British model, he criticized a pamphlet author in 1808 by emphasizing that "we do possess one material which actually constitutes an aristocracy that governs the nation. That material is wealth." He observed that "Infinite art and chicanery have been employed in this country to deceive the people in their understanding of this term *aristocracy*, as well as of that of *well-born*, as if aristocracy could not exist without hereditary power and exclusive privileges; and as if a man could not be well-born, without being a hereditary nobleman and a peer of the realm." Adams noted further that the "state of Connecticut has always been governed by an aristocracy, more decisively than the empire of Great Britain is."[3] Clearly Adams believed that social mobility was limited in a world where inherited wealth dominated.

In describing the period fifty years ago, Paul David famously referred to the years before 1840 as a "statistical dark age."[4] At the time of David's article few statistics had been compiled for the early republic aside from population figures found in the census and import and export statistics from major port cities. Economic conditions and living standards had been explored only anecdotally and appraised by previous generations of historians using farm records and merchants' ledgers. The difficulty in examining these records systematically stifled efforts to present a comparative or macroeconomic picture. In the intervening years economic historians have greatly expanded our understanding of the early-American economy. The advance of New

[3] Charles Francis Adams, *The Works of John Adams, Second President of the United States: With a Life of the Author* (Boston: Charles C. Little and James Brown, 1851), 6:529-530.
[4] Paul David, "New Light on a Statistical Dark Age: U.S. Real Product Growth Before 1840" *American Economic Review* 57, no. 2 (May 1967), 294-306.

Economic History in the 1960s and 1970s introduced new tools and techniques for measuring economic change. At the same time, the initial questions posed by David have not been resolved completely. A variety of interpretations persist for how Americans fared after the Revolution. How can we reconcile the competing assessments of the early-American economy?

I have sampled the taxable wealth of more than 70,000 taxpayers from the ten most populous states between 1785 and 1815 to test these competing hypotheses. Although largely overlooked by historians, state property tax records provide a rich source for examining economic change and allow us to measure key economic indicators such as wealth, economic growth, insolvency and inequality. State legislators divided taxpayers into local collection districts, and the records provide an annual snapshot of economic conditions for every county and town in the country. Strong incentives ensured that tax assessors and collectors followed the instructions of the state legislature, and harsh penalties guaranteed that taxpayers paid their taxes on time and in full. The analysis of this data illuminates the complexities of the American economy and makes clear the importance of policymakers and local conditions in shaping economic outcomes. The records reveal tremendous economic variation between regions and even between neighboring counties. The findings suggest that previous estimates of national wealth obscure the immense variation in taxpayers' lived experiences. Wealth levels were falling in the early republic, but not because individual taxpayers failed to improve their circumstances. Instead, instability among the fortunes of the wealthiest taxpayers in the sample caused wealth averages to decline. Roughly two thirds of taxpayers improved their material wellbeing from decade to decade. Inequality levels were higher in the United States than many previous historians have maintained, but the concentration of wealth among to top one percent was egalitarian by European standards. The data collected for this dissertation provide the largest sample of American wealth before the Civil War.

While the thesis emphasizes implications for economic history, these data are artifacts of a political process and it is necessary to consider the political economy of taxation when interpreting the documents. Tax laws were integral in shaping the way local officials assessed and collected taxes. Ascertaining whether or not the tax lists present an accurate measure of taxpayers' assets is a necessary first step in analyzing the records as a source of economic data. The compromises forged in the early republic provided the origins of American tax policy and defined the fiscal relationship between the states and the federal government until the Civil War. Legislators in the early republic developed a unique system of taxation by centralizing the collection of indirect taxes in the form of the federal tariff, and simultaneously decentralizing direct taxes through federal apportionment and state tax collection. The tax system allowed both the states and the federal government to collect large revenues in the midst of a crisis. While the tariff provided the vast majority of federal revenues throughout the antebellum period, Congress could rely on state governments to collect direct taxes in times of war. The tax compromises brokered in the early republic maintained the importance of local officials in assessment and collection. Property taxes had existed in various forms since the arrival of the first colonists in the seventeenth century. Taxpayers believed ultimately that local officials were more accountable than distant revenue officers, and that local politicians would be most responsive to the needs of their constituents. The American fiscal system also meant that the extent of government involvement in the lives of everyday citizens was hidden from view. Alexander Hamilton described the country as possessing "a government out of sight."[5] Without the fiscal

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[5] Brian Balogh, *A Government Out of Sight: The Mystery of National Authority in Nineteenth-Century America* (Cambridge: Cambridge University Press, 2009); see also Alexander Hamilton to Jonathan Burrall, 14 March 1793,

federalism that developed in the early United States, the federal government that emerged from the Revolution might have been even more powerful.

Taxpayers resisted when legislators deviated from the fiscal federalism arrangement, particularly when Congress attempted to levy excise taxes that appeared to many to be direct taxes. Resistance to the Whiskey Excise in Western Pennsylvania stemmed not only from the rebels' lost incomes and concerns that their industry had been unfairly targeted for Congressional revenue, but also from taxpayers' belief that direct taxes on property should be the purview of state governments. Two years later a federal carriage tax resulted in a constitutional challenge that made its way to the Supreme Court. While the court upheld the government's position in *Hylton v. United States* and ruled that the carriage tax was an excise not a direct tax, the case represented a significant challenge to federal taxing power. Congress never repeated the same mistakes in the antebellum period, and it was not until after the Civil War that Americans consented to a new system of excise taxes.

Chapter one defends tax records as viable sources for measuring economic change and examines the creation of early-American tax administrations. I argue that tax lists are reliable sources for investigating economic transformations in the early republic. Although many historians have criticized early tax officials by describing them as hopelessly corrupt, lazy, or incompetent, and by describing some state tax systems as primitive, these concerns echo the fears and rhetoric of late-nineteenth century Progressive reformers who sought to centralize tax collection and replace the property tax with a tax on income.[6] Nineteenth-century advocates

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in Harold C. Syrett ed., *The Papers of Alexander Hamilton* twenty seven volumes (Columbia: Columbia University Press, 1969),

[6] Einhorn, *American Taxation, American Slavery*, 27, 29-78; For Progressive reformers and taxation, see Ajay K. Mehrotra, *Making the Modern American Fiscal State: Law, Politics, and the Rise of Progressive Taxation, 1877-1929* (Cambridge: Cambridge University Press, 2013), chapters 1-2.

believed that the income tax would better capture industrial profits, which they argued were shielded from taxation when states elected to levy traditional taxes on land and other personal property. Other critics of early-American taxation suggest that the numerous frauds and abuses encountered during the colonial period persisted during the early republic despite the conspicuous absence of such accusations in the historical records. There are vastly fewer documented references to corruption under the new national government compared to the colonial period. For some historians the relative scarcity of corruption accusations after the Revolution is a testament to the ingenious methods of the tax collectors' deception, and some critics question whether or not taxes could be collected reliably by a government that had just emerged from a revolution fought at least partly over issues of taxation.

The concurrent system state and federal taxation that emerged developed out of the compromises of the Constitution and ratification debates. State legislatures reformed their tax administrations in response to the crises unleashed by the Revolution. Desperate for revenues to finance the war, policymakers applied the latest developments in political economy to introduce strong incentives that would ensure collection and mollify taxpayer unrest. This tax system that emerged was decentralized yet powerful. It provided a government that was flexible to the needs of local constituents yet accountable to local assessors. In defending the Constitution, Alexander Hamilton envisioned a system of taxation that would divide taxing authority between the states and federal government. The federal government would enjoy supremacy in realm of indirect taxes on imports, but would also hold constrained authority to raise direct taxes in times of crisis. State governments would preserve their role as the primary collectors of direct taxes on property, and concede their authority to collect tariffs or imposts. In reforming their tax administrations, state legislators followed the principles outlined by Adam Smith in crafting tax policy. While the intellectual link between Smith and American policymakers is inexact, Smith provided the clearest explication of the prevailing views on taxation and his ideas circulated broadly. Although the founding generation rarely invoked Smith directly, the reforms they introduced followed his principles in spirit. In describing Smith's attitudes towards taxation Deborah Boucoyannis has noted that in his attitudes towards taxation, "Smith's overriding concern is productivity" and that "[t]axation is thus proposed as a mechanism to correct irrational behavior."[7] State legislators took these lessons to heart as they worked to develop a tax system that could raise large revenues without excessively burdening the average taxpayer.

A second chapter uses Virginia as a case study to examine how one state legislature responded to the crises it faced under the Articles of Confederation. A multitude of interpretations persist for how the Chesapeake economy fared after the Revolution. One group of historians follow Thomas Jefferson, who upon arriving in Norfolk in 1789 described the city as "rising like a Phoenix out of it's [sic] ashes."[8] These interpretations contend that the postwar years were a time of rising prosperity and expanding opportunities. A second group contends that the hardships faced after the war may have exceeded the depths of the Great Depression. They argue that farmers in the Chesapeake struggled in the postwar decades in the face of mounting debts and in the wake of the war's material devastation. A third interpretation claims that farmers in the immediate postwar years were flourishing as the conclusion of hostilities opened the doors of trades and provided farmers who had stored crops for multiple seasons with a quick payday. The economy appeared promising until the machinations of a French tobacco monopoly initiated a financial panic in 1786 that temporarily dashed economic prospects. Max Edling notes that

[7] Boucoyannis, "The Equalizing Hand: Why Adam Smith Thought the Market Should Produce Wealth Without Steep Inequality," 1058, 1059.
[8] "Jefferson's Reply to the Foregoing Address of Welcome" in Julian P. Boyd ed. *The Papers of Thomas Jefferson*, (Princeton: Princeton University Press, 1958) 15:556-557.

historians have found it difficult to "judge whether the farmers were merely putting on the poor mouth or if they were in genuine distress."[9]

Tax records provide an opportunity to reconcile these interpretations. County collectors kept lists of taxpayers who failed to pay their taxes each year and state law required sheriffs to provide an explanation as to why the taxpayer could not make payment. These lists of insolvent and delinquent taxpayers can be matched against the assessment lists to provide an indication of the level of distress in each county. Uniform taxes and tax collection practices facilitate comparisons between regions in a way that plantation ledgers cannot compare. Because all taxpayers were in debt to the state, the records are more useful than examining letters from individual farmers who might be inclined to exaggerate the hardships they faced, or from wealthy elites who might have prosperity amid their neighbor's declining prospects. Taxes in the 1780s were moderate by modern standards. Those who could not make payment were likely in debt or otherwise facing economic hardship. Strong incentives encouraged assessors, collectors, and taxpayers to accurately and efficiently perform the functions of tax collection. Taxpayers who failed to make payment could have their assets seized and sold at auction, and could find themselves in debtors' prison until their obligations had been repaid. Local officials faced harsh penalties if they failed in their duties as tax collectors. The proportion of insolvents can be compared to a modern bankruptcy or unemployment rate, providing an indication of the challenges facing the larger economy. The tax records provide little evidence of the financial panic hypothesis, but demonstrate that local prices and the mix of crops planted were most important in determining whether the economic prospects of taxpayers in a particular county prospered or deteriorated.

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[9] Max M. Edling, *A Revolution in Favor of Government: Origins of the U.S Constitution and the Making of the American State* (New York: Oxford University Press, 2003), 156.

The third chapter develops a methodology for sampling tax records to estimate wealth. The chapter builds upon previous studies undertaken by Alice Hanson Jones and Lee Soltow.[10] Jones conducted a national representative sample of probate inventories to estimate American wealth in 1774 on the eve of the American Revolution. Her groundbreaking study of 919 wealth holders is the most thorough survey of early-American wealth, and Jones carefully recorded every step in the development of her methodology in the hopes of informing future scholarship. In addition to a three volume methodological supplement published in 1977, Jones left her personal papers and research notes to Columbia University after her death in 1985. The collection documents Jones' pioneering sampling techniques and weighting methodology. Soltow produced a comparable study for 1798 using samples from the federal direct tax returns. To ensure that his results were accurate, Soltow took great care to examine the assessment and collection practices employed by the direct tax commissioners. I have adapted Jones and Soltow's methodologies for the purposes of sampling of state property tax lists. The chapter outlines the process of data collection, weighting, and analysis, and argues that the resulting sample can be used to construct an unbiased estimate of national wealth. Detailing the sample methodology is imperative for understanding the results and for ensuring that the data are accurate. Documenting this information is a necessary part of preserving the data for future scholarship. Judgements made in data collection and normalization invariably affect interpretation.

Chapter four uses the tax data to measure wealth levels and economic growth. The data confirm that wealth levels were falling in the early republic as a result of instability among the

[10] Alice Hanson Jones, *American Colonial Wealth: Documents and Methods* Three Volumes (New York: Arno Press, 1977); Alice Hanson Jones, *Wealth of a Nation to Be: The American Colonies on the Eve of the Revolution* (New York: Colombia University Press, 1980); Lee Soltow, *Distribution of Wealth and Income in the United States in 1798* (Pittsburgh: University of Pittsburgh Press, 1989)

fortunes of top wealth holders. While most Americans improved their fortunes, the post-revolutionary years were a time of economic crisis for many elites. Despite the falling wealth averages, wealth levels were higher in the early United States than virtually anywhere else in the world. Most taxpayers improved their material conditions from decade to decade, and growth rates among matched taxpayers are in line with several previous estimates. Detailed records from New England facilitate an examination of land allocation to study how taxpayer's landholding preferences changed over time. The tax lists allow us to determine whether economic growth during their period was extensive or intensive, driven by land abundance or productivity enhancements. While the data suggest that most of the growth in taxpayers' wealth can be attributed to acquiring larger tracts of land, there is some evidence of improvements in agricultural productivity. The wealth data can also be transformed to estimate national income. James L. Huston notes that "wealth in pre-twentieth-century parlance was almost always a surrogate for income" and the tax records provide a reliable measure of household earnings.[11]

A final chapter scrutinizes the tax data further to uncover regional and local patterns, and measures the level of inequality in each district by studying changes in the distribution of wealth. Inequality levels were higher than many previous historians have reported but the proportion of wealth owned by elites was egalitarian compared to other eras and countries. The proportion of wealth owned by taxpayers at the bottom of the wealth distribution continued to rise suggesting that opportunities remained for poor taxpayers. Tax records from Pennsylvania and Connecticut reveal taxpayers' occupations and reveal structural inequality in those two states. Patterns of wealth holding, wealth levels, and inequality varied tremendously from place to place, and the national averages communicate only part of the story. Most of this variation was interregional

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[11] James L. Huston, *Securing the Fruits of Labor: The American Concept of Wealth Distribution, 1765-1900* (Baton Rouge: Louisiana State University Press, 1998), xix.

rather than intraregional. Americans lived in relatively homogeneous communities but shared few similarities in wealth holding patterns with taxpayers in other parts of the country. Analysis of the tax sample challenges previous interpretations of American equality and suggests that Jefferson’s vision of an egalitarian country composed of independent smallholders may have been incongruent with the realities of many taxpayers in the early republic. The tax records also indicate that twenty-first century developments in the American wealth may not be unprecedented. The top one-percent of Americans possessed approximately the same proportion of total wealth today as it did after the Revolution, although the structure of the distribution bears little resemblance.

Chapter 1

"*The System of Each State*": State Taxes in the Early Republic

In the debates over the ratification of the Constitution the Anti-Federalists raised a number of challenges to strengthening federal taxing authority. Anti-Federalists argued that granting Congress expanded taxing powers would invite a host of abuses. The necessary and proper clause was a primary target of Anti-Federalist opposition. An anonymous author, writing as Brutus, argued that this clause would serve as a justification for a federal government whose "power, exercised without limitation, will introduce itself into every corner of the city, and country." Brutus emphasized that federal power would permeate every facet of American life, and that this power would even "wait upon the ladies at their toilett, and will not leave them in any of their domestic concerns …" and that revenue collectors would "enter the house of every gentleman, watch over his cellar, wait upon his cook in the kitchen, follow the servants into the parlour, preside over the table, and note down all he eats and drinks; it will attend him to his bedchamber, and watch him while he sleeps." Brutus described the potential revenue demands of the new federal government as insatiable, adding that to "all these different classes of people, and in all these circumstances, in which it will attend them, the language in which it will address them, will be GIVE! GIVE!"[12] Compared to the Articles of Confederation, the Constitution afforded Congress with broad taxing authority and few restrictions. The Anti-Federalists believed that, left unchecked, unrestrained taxing authority would lead to tyranny.

The attentiveness of the legislature presented another avenue for potential abuses according to Anti-Federalist writers. As an anonymous Virginian writing as Cato Uticensis asked

[12] "Brutus VI," *New York Journal*, 27 December 1787 in John P. Kaminski, Gaspare J. Saladino, and Richard Leffler ed. *The Documentary History of the Ratification of the Constitution*, 26 Volumes (Madison: State Historical Society of Wisconsin, 1984), 15:113-114.

his fellow taxpayers if "it ever enter[ed] the mind of any one of you, that you could live to see the day, that any other government, but the General Assembly of Virginia should have the power of *direct taxation* in this state?"[13] Anti-Federalists feared that legislators from other states would be unresponsive to the needs and concerns of taxpayers outside their constituencies. These authors worried also that Congressional taxes would discriminate against particular trades, or introduce taxes that would place a disproportionate burden on some states in favor of others. Patrick Henry described the situation clearly in his arguments during the Virginia ratifying convention by emphasizing that it "has required the most constant vigilance of the legislature to keep them [the sheriffs] from totally ruining the people … if Sheriffs thus immediately under the eye of our State Legislature and Judiciary, have dared to commit these outrages, what would they not have done if their masters had been at Philadelphia or New-York?"[14] Concerns about unsympathetic legislators enacting discriminatory taxes pervaded Anti-Federalist thought. Opposition to taxes imposed by an external power stemmed from the ideology of the American Revolution, and Anti-Federalist authors occasionally invoked comparisons with the British colonial system to bolster their arguments. As Cato Uticensis emphasized, are "we not to expect, that New England will send us revenue officers, instead of their onions and their apples?"[15]

Both Anti-Federalists and federalists greeted direct taxes with suspicion. The Revolutionary generation drew a distinction between direct or internal taxes levied on land or capitation, and indirect taxes on imported commodities. Although many Anti-Federalists were willing to concede indirect taxing authority to the federal government, direct taxes proved a

[13] Cato Uticensis may have been George Mason. Cato Uticensis, *Virginia Independent Chronicle*, 17 October 1787, in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 8:73, 70n.
[14] "Debates" in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 9:963.
[15] Cato Uticensis, *Virginia Independent Chronicle*, 17 October 1787, in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 8:74.

source of contention in the state ratifying conventions. As an alternative to direct taxing powers, the Anti-Federalists proposed adding an enforcement mechanism to the requisition system. If any state failed to remit their apportioned quota, Congress could use its own agents to collect the tax and increase the tariff on taxpayers in that state until the balance had been paid with interest. It is striking that every state that offered amendments to the Constitution in its ratification convention proposed that congressional power be limited to indirect taxes with a requisition system to raise additional revenues and federal collection of state revenues permitted in instances of nonpayment. Even some federalists believed that federal direct taxes might incorporate elements of the requisition system.[16] In granting Congress the power to levy direct taxes, the framers intentionally restricted Congressional power by requiring Congress to apportion direct taxes based on population.

The framers did not intend to make the obstacle to direct taxation insurmountable, however, as the system of apportionment resembled previous limitations placed on the Continental Congress under the Articles of Confederation.[17] The Articles required Congress to apportion direct taxes based on the value of each state's real estate in proportion to national wealth. The direct tax clause in the Constitution sought to rectify a problem inherent in the Articles of Confederation, where the lack of central authority hampered the ability of the Continental Congress to conduct a survey of national wealth. The apportionment process also had historical antecedents in the system of taxation adopted in New England, where legislatures

[16] E. James Ferguson, *The Power of the Purse: A History of American Public Finance 1776-1790* (Chapel Hill: Institute for Early American History and Culture and University of North Carolina Press, 1961), 291.

[17] Robin Einhorn argues that apportionment was "intended to prevent the tax debates that would politicize slavery." Apportionment under the Articles of Confederation, according to Einhorn, represented an unworkable solution designed purposefully to ensure that no federal direct taxes could be collected. Because the Articles provided no process for compelling states to produce valuations of their taxable real estate, no state provided Congress with the necessary assessments and Congress could levy no direct taxes as a result. Robin Einhorn, *American Taxation, American Slavery* (Chicago and London: University of Chicago Press, 2006), 158.

apportioned tax quotas to towns based on wealth or population and provided local officials with some flexibility in assessing and collecting the tax. The framers believed that apportionment would prevent Congress from levying a direct tax on forms of property that would discriminate against a particular trade, state, or region. By establishing a clear system for collecting a direct tax that could not be manipulated, Alexander Hamilton argued in Federalist 36 that apportionment "effectually shuts the door to partiality or oppression."[18]

Perhaps chief among the Anti-Federalists' complaints with respect to taxation was the fear of double taxation. The Anti-Federalists believed that providing strong taxing authority to Congress would undermine the states' ability to levy their own taxes, or worse, that federal revenue officers would duplicate the efforts of state tax collectors and effectively double the tax burden. In the Virginia ratifying convention, Patrick Henry contended that in "this scheme of energetic government, the people will find two sets of tax-gatherers—the State and the Federal Sheriffs. This it seems to me, will produce such dreadful oppression, as the people cannot possibly bear. The Federal Sheriff may commit what oppression, make what distresses he pleases, and ruin you with impunity: for how are you to tie his hands?"[19] In every case, Anti-Federalists believed that strong federal taxing authority would lead to a concentration of federal power at the expense of state governments. As Brutus emphasized, "The command of the revenues of a state gives the command of every thing in it."[20]

In his defense of concurrent powers, Alexander Hamilton proposed a solution to placate Anti-Federalist fears of federal revenue collectors. Rather than the federal government

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[18] Alexander Hamilton, "Federalist 36" in Lawrence Goldman ed. *The Federalist Papers* (Oxford: Oxford University Press, 2008), 170.
[19] "Debates" in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 9:962.
[20] "Brutus V," *New York Journal*, 13 December 1787, in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 19:413.

subsuming state tax collection efforts, Alexander Hamilton argued in Federalist 36 that the federal government could rely on each state's fiscal infrastructure to collect federal revenues. Hamilton argued that "there is a simple point of view in which this matter may be placed that must be altogether satisfactory. The national legislature can make use of the *system of each State within that State.* The method of laying and collecting this species of taxes in each State can, in all its parts, be adopted and employed by the federal government."[21] Hamilton envisioned using state tax collectors to collect federal direct taxes, believing that the direct taxes could be assessed and collected alongside state property taxes with little additional effort on the part of local officials. Although many Federalists criticized state governments for their failure to meet their requisitions during the 1780s, Hamilton believed that state governments were ultimately competent and could be relied upon to use their local knowledge to assess and collect federal direct taxes. Congress employed this method successfully in each of the four federal direct taxes levied in 1798, 1813, 1815, and 1861. The federal government supervised the collection of each tax by appointing federal commissioners to oversee the assessment process and ensure that the tax was applied equally between districts. Congress went further in 1813, 1815, and 1861 by incentivizing state governments to assume their portion of the tax burden, offering a fifteen percent discount to states that agreed to collect the entirety of the tax themselves.[22]

Historians of taxation have often quoted Joseph Schumpeter, who described fiscal policy as "the thunder of world history."[23] In describing taxation as the "thunder," Schumpeter argued that fiscal policy had been largely ignored by scholars but that it was indicative of significant

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[21] Alexander Hamilton, "Federalist 36" in Lawrence Goldman ed. *The Federalist Papers* (Oxford: Oxford University Press, 2008), 170.
[22] Einhorn, *American Taxation, American Slavery*, 158.
[23] Joseph Schumpeter, "The Crisis of the Tax State" [1918] rpt. in R. Swedberg ed., *The Economics and Sociology of Capitalism* (Princeton: Princeton University Press, 1991), 101.

historical change.[24] Schumpeter's allusion to thunder is useful when describing the scholarship of the early republic. In focusing on developments in federal public finances and the Hamiltonian moment of the 1790s, historians have overlooked the importance of state governments in crafting fiscal policy and have discounted the usefulness of state property tax records as sources for measuring macroeconomic change. Nearly all studies of early American taxation emphasize fiscal policy enacted by the new federal government, even though state governments levied the most visible and important taxes that taxpayers would have encountered in the early republic. Historians have often assumed that state tax collectors were incompetent or corrupt, and many scholars have concluded that tax records are less accurate than probate inventories or other sources from this period. Critics charge that tax collectors systematically underreported or understated the value of taxable property in their districts to curry favor with their neighbors or to win reelection.

This chapter challenges these interpretations. First, this chapter argues that tax records are a reliable source for measuring changes in the early-American economy by defending Hamilton's position that state tax collectors were capable and that the vast majority acted scrupulously. Evidence from the direct tax debates from both the state ratifying conventions and the debates surrounding the 1798 Direct Tax supports the reliability of the information found in state tax records. As a result, state tax records provide an excellent source for historical analysis. Secondly, this chapter details the numerous advantages that tax lists have over alternative sources for the period. Finally, this chapter provides an overview of state tax policy in the early republic and demonstrates how the relative consistency of these policies makes tax lists ideal sources for macroeconomic analysis. Although each state pursued its own fiscal policy

[24] Jean-Baptist Say made a similar, albeit less developed argument, noting that in "a complex social organization the pressure of taxation is often imperceptible." Say, *A Treatise on Political Economy*, 465.

independently, policymakers in the early republic were influenced by the leading theorists of the Enlightenment, particularly the maxims on taxation expounded by Adam Smith in the *Wealth of Nations.* In reforming each state's tax code, policymakers pursued fiscal strategies that facilitated economic growth in the years that followed. The methods of tax collection formalized in the early republic allowed state governments to collect significant tax revenues while minimizing the burden of taxation on the average taxpayer. Although the early federal government would have appeared hidden from view to the average American, state governments wielded significant taxing authority and fiscal capacity.[25]

State Tax Records as Source for Measuring Economic Change

In the years following the American Revolution, state governments struggled to collect taxes to meet the revenue needs of the Continental Congress. The absence of strong taxing authority under the Articles of Confederation left the burden of debt entirely on the newly-formed state governments. Dealing with this burden proved particularly challenging in the decade following the Revolution, as consistent deflation magnified the states' obligations. Colonial officials had employed a strategy of raising taxes considerably for short periods of time after a war to avoid a standing public debt. Such policies had been employed successfully after the French and Indian War, when the colonists repaid their debts within a few years of the conclusion of hostilities. The debts incurred during the Revolutionary War exceeded that of any previous colonial conflict, however, and by some estimates amounted to more than twenty times

[25] Brian Balogh, *A Government Out of Sight: The Mystery of National Authority in Nineteenth-Century America* (Cambridge: Cambridge University Press, 2009); Max Edling and Mark D. Kaplanoff, "Alexander Hamilton's Fiscal Reform: Transforming the Structure of Taxation in the Early Republic" *The William and Mary Quarterly* Third Series 61, no. 4 (October, 2004), 713-744; Max Edling, "'So Immense a Power in the Affairs of War': Alexander Hamilton and the Restoration of Public Credit" *The William and Mary Quarterly* Third Series 64, no. 2 (April 2007), 287-326

the cost of the French and Indian War.[26] State governments also operated in a period of significant social unrest and taxpayer resistance that included the outbreak of Shays' Rebellion in Massachusetts and similar incidents in other states. State governments pursued a variety of policy strategies to address their fiscal crises, with mixed results. One effect of this decade of experimentation was an expansion of state fiscal capacity. The crises of the Revolution pushed state policymakers to implement tax laws that could raise revenue but also minimize the burden on the average taxpayer.

Historians have often described early-American taxation using farcical language, as if local officials merely pretended to engage in the practice of tax collection.[27] In his early history of state taxation, Richard Ely described early American taxes as "clumsy, and inefficient."[28] Robin Einhorn presents the most scathing indictment of the fiscal policies enacted by the founding generation, arguing that slaveholders engineered tax legislation designed to escape their tax obligations. According to Einhorn, the framers' defense of slavery undermined the democratic process as slaveholders worked to constrain the hand of the state to shield their human property from state taxing authority. Einhorn draws a distinction between free and slave states in comparing the competencies of state tax administrations, and contrasts the "sophisticated" tax systems in New England with the "primitive" and "hopelessly corrupt" tax systems found in the South.[29] Taxes in New England were "recognizably modern," according to

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[26] Edwin J. Perkins, *American Public Finance and Financial Services 1700-1815* (Columbus: Ohio State University Press, 1994), 94.

[27] Gary Nash argued that colonial "Bostonians elected their tax collectors partially on the basis of their willingness to collect what they could, given a family's circumstances, and leave the remainder in arrears." Likewise, Gerard Warden observed that in Colonial Boston "the assessors and collectors were notoriously and consistently inefficient, dilatory, and lenient in their official duties." Gary B. Nash, *The Urban Crucible: Social Change, Political Consciousness, and the Origins of the American Revolution* (Cambridge: Harvard University Press, 1979), 252; G.B. Warden, "Inequality and Instability in Eighteenth-Century Boston: A Reappraisal" *The Journal of Interdisciplinary History* 6, no. 4 (spring, 1976), 607.

[28] Richard T. Ely, *Taxation in American States and Cities* (New York: Thomas Y. Crowell & Co., 1888), 117.

[29] Einhorn, *American Taxation, American Slavery,* 27, 29-78, quotation 34.

Einhorn, and required tax collectors to assess the value of a multitude of taxable items using guidelines mandated by the state legislature.[30] In the South, legislatures rarely required tax collectors to assess the value of taxable property, preferring instead to levy taxes at fixed rates based on the number of acres of land and the number of slaves, horses, or cattle. Einhorn describes local sheriffs as inept and incompetent, but also cunning with a rapacity that "was nearly boundless."[31] According to Einhorn, sheriffs took advantage of their lucrative positions through embezzlement, extortion, currency manipulation, and arbitrary confiscation of taxpayers' property. Einhorn argues that sheriffs were politically connected and thoroughly corrupt, and she compares them to the machine bosses of later eras such as Boss Tweed or Richard Daley.[32] Critics of tax lists have taken the warnings of Patrick Henry and others at face value, without considering whether or not local officials fulfilled their duties honorably. These historians have often interpreted tax relief as a sign of negligence or corruption on the part of state tax collectors. Although early Americans politicized debates over taxation similar to their modern counterparts, the outcomes of these debates did not introduce systemic errors into the tax data.

Historians have also questioned the accuracy of state property tax assessments, and have cited the newly-formed state governments' failures to meet their requisitions under the Articles of Confederation as evidence of the ineffectiveness of state tax administrations. As Peter Lindert and Jeffrey Williamson have recently emphasized, can we "trust the quality of the data extracted by tax collectors from a new nation that had just shed its royal government partly over tax

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[30] Einhorn, *American Taxation, American Slavery,* 68.
[31] Einhorn, *American Taxation, American Slavery,* 35.
[32] Einhorn, *American Taxation, American Slavery,* 34-35.

issues?"[33] In other words: can we attribute political motivations to the errors found in the tax lists? Some historians have argued that because local officials administered and collected the tax, early-American tax laws encouraged a process of competitive underassessment. This argument suggests that tax collectors under assessed or undervalued their neighbors' property to curry favor in their communities or provide tax breaks to close friends or relatives.[34] Underassessment or undervaluation would have introduced perverse incentives for tax collectors in other districts. The theory argues that the actions of tax collectors in one district could have created a ripple effect that might have encouraged other collectors to follow to avoid overtaxing their constituents. This form of tacit collusion would cause the valuations produced in the assessment lists to be unreliable and inconsistent. Lindert and Williamson cite the Massachusetts 1771 valuation list as an example of a tax list containing assessments that seem implausibly low.[35] In the years following the ratification of the Constitution, however, the state and federal tax collectors operated as part of a well-functioning system. Despite the difficulties encountered during the confederation period, Americans were largely contented with their new tax system by the early-nineteenth century.

These criticisms of tax lists apply almost exclusively to the period *before* the American Revolution, however, when tax collection in most of the colonies was more haphazard and susceptible to abuses. Tax laws enacted during and after the Revolution established clear

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[33] Lindert and Williamson, "American Incomes Before and After the Revolution" *Journal of Economic History* 73, no. 3 (September 2013), 739.

[34] Gary B. Nash, *The Urban Crucible: Social Change, Political Consciousness, and the Origins of the American Revolution* (Cambridge: Harvard University Press, 1979), 252. Merrill Jensen, "The American People and the American Revolution," Journal of American History 57, no.1 (June 1970): 11.

[35] Lindert and Williamson also examined a Philadelphia tax list for 1772 and a New York City tax list for 1786, and note that they "found those tax rolls useful for identifying occupational coverage, including occupations revealed by the presence or absence of each asset type, but not for the assessed values themselves." Lindert and Williamson, "American Incomes Before and After the Revolution" *Journal of Economic History* 73, no. 3 (September 2013), 739; Lindert and Williamson, "American Incomes Before and After the Revolution," NBER Working Paper 17211 (July 2011), 10, 16-17.

guidelines for local officials when assessing taxable property and contained enforcement mechanisms that ensured efficient collection efforts. Even Einhorn acknowledges that "tax legislation included vastly fewer references to 'frauds' in the eighteenth century than in the seventeenth."[36] Over the course of the eighteenth century, colonial legislatures began increasingly to hold tax collectors personally liable for uncollected taxes. When collectors failed to collect all of the required taxes, the law required them to remit their own funds to the treasury to make up the difference. Not only did this practice provide strong incentives for local officials to carry out their duties, but it also inverted the relationship between the state and taxpayer. By forcing tax collectors to remit their own funds in the case of discrepancy, colonial legislatures privatized the duty of collecting the tax. Because the laws of some states made the tax collector a creditor for the delinquent taxpayer, the tax collector could then sue the taxpayer directly for repayment.[37] If the prospect of remitting one's own funds to the treasury was not enough to discourage local officials from serving, tax collectors could also be fined or imprisoned if they failed to collect from their neighbors.

Far from being a lucrative or desirable position, tax collectors in the early republic sought frequently to abandon their duties once appointed or elected, and few tax collectors agreed to serve for multiple years. In her study of tax collection in colonial Boston, Catharine Menand found that the average tax collector between 1730 and 1776 served for only 6.6 years, and observed that many elected officials refused to take office or to stand for reelection once their duties had been fulfilled.[38] Although tax collectors were often wealthier than their neighbors, serving as tax collector rarely provided opportunities to attain higher office and very few

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[36] Einhorn, *American Taxation, American Slavery,* 36.
[37] Catharine S. Menand, "The Things That Were Caesar's: Tax Collecting in Eighteenth-Century Boston" *Massachusetts Historical Review* 1 (1999), 69.
[38] Menand, "The Things That Were Caesar's: Tax Collecting in Eighteenth-Century Boston," 62-63, 75n.

prominent individuals served.[39] A nearly constant feature of tax collection in every jurisdiction was that the collectors complained of the difficulties of the office. After being appointed sheriff for Ann Arundel County, Maryland during the Revolution, William Harwood wrote to the Governor, Thomas Johnson, that "upon Consulting my Brother, and making Calculations for the Expenses and uncertainty of the office find I cannot undertake the Execution of it without being a great sufferer. Therefore beg your Excellency will accept my Resignation."[40] To curtail the number of tax collectors resigning from or refusing to hold office, several states enacted fines on sheriffs who declined to take the oath of office. Despite the claims of some historians, early American tax collectors did not seek their rewards through the ballot box.

Tax laws provided further incentives to discourage fraud and tax evasion. Taxpayers who produced inaccurate returns of their taxable property or intentionally concealed property from assessors faced steep fines and imprisonment. During the Revolution, many states reformed their tax collection practices to prevent tax evasion. By separating tax assessment and collection, legislatures sought to prevent collusion between local officials that could result in fraud or abuse. The penalties for non-compliance were high for taxpayers. Tax collectors in New England kept lists of "fourfolds," including those taxpayers who concealed or misrepresented their taxable property, as the law required that these taxpayers pay four times the value of their original tax

[39] Samuel Adams and Alexander Hamilton are notable exceptions. Adams served as a tax collector in Boston from 1756 to 1765, and Robert Morris appointed Hamilton to serve as receiver of continental taxes for the state of New York in May of 1782. Catharine Menand notes that Adams was not a prominent figure when he was first elected, and nearly all colonial tax collectors in Boston were fellow tradesmen. Menand, "The Things That Were Caesar's: Tax Collecting in Eighteenth-Century Boston," 58; Ron Chernow, *Alexander Hamilton* (New York: Penguin Books, 2004), 170; see also, Edward M. Cook Jr., *The Fathers of the Towns: Leadership and Community Structure in Eighteenth-Century New England* (Baltimore: Johns Hopkins University Press, 1976), 27-34.

[40] William Harwood to Thomas Johnson, January 18, 1778, Maryland Miscellanea, 1762-1783. MS 1134, Maryland Historical Society.

obligation.[41] Moreover, taxpayers remained liable for their tax obligations in perpetuity. If a taxpayer failed to make payment, county courts could authorize the sheriff to seize the taxpayer's assets and sell them at public auction. In the absence of bankruptcy laws, unpaid taxes could mean a lengthy term in debtor's prison for indebted taxpayers.[42] For many taxpayers, the only way to escape their tax obligations was to flee the state, moving west to avoid burdensome taxes. The inescapability of taxation is also evident in the descriptions of eighteenth-century authors, who described tax collection as an inevitable and routine part of everyday life. Benjamin Franklin remarked famously that "in this world nothing can be said to be certain, except death and taxes."[43]

From the perspective of modern observers interested in determining the reliability of the tax lists, Hamilton's assumption plan may have provided further incentives to uncover corruption on the part of local officials. Each state submitted claims to Congress to receive credit for debts incurred during the Revolutionary War, and Congress spent more than a decade reviewing each states' claims. Both state and federal officials scrutinized the tax returns from previous years as part of the process of assuming the states' debts. The auditing process would have provided additional opportunities to uncover corruption, and federal officials would have faced at least some incentives to expose unwarranted claims. Moreover, state officials would in theory have had an incentive also to punish local officials who acted with impropriety in previous tax years.

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[41] New England legislators likely drew biblical inspiration to justify the penalty imposed on those who concealed taxable property. In Luke 19:8, the tax collector, Zacchaeus, proclaims "if I have taken anything from any man by false accusation, I restore him fourfold."

[42] Congress passed the first bankruptcy statute in 1800. Bruce H. Mann, *Republic of Debtors: Bankruptcy in the Age of American Independence* (Cambridge, MA: Harvard University Press, 2002).

[43] Franklin's quotation echoes the thoughts of earlier writers, including Christopher Bullock in *The Cobbler of Preston* (1716), who wrote that "Tis impossible to be sure of any thing but Death and Taxes." Edward Ward in *The Dancing Devils* (1724) observed that "Death and Taxes, they are certain." Fred R. Shapiro ed., *The Yale Book of Quotations* (New Haven: Yale University Press, 2006), 610; Benjamin Franklin to Jean Baptist Le Roy, 13 November 1789, in John Bigelow ed., *The Complete Works of Benjamin Franklin,* Ten Volumes (New York and London: G.P. Putnam's Sons, 1888), 10:170.

E. James Ferguson argued that in settling the state accounts after the war, Congress treated the states' claims leniently as it had no means of distinguishing between authorized and unauthorized expenditures.[44] Every state had made expenditures during the war that had not been authorized by the Continental Congress to raise troops and supplies for the war effort. While the official nature of state expenditures may have been called into question in a period where states routinely merged federal and state accounts, the amounts each state raised from taxation were more certain and could be double checked by consulting the tax lists. That these proceedings did not uncover widespread corruption suggests that local officials largely acted scrupulously.

The valuations contained in the tax lists are a reflection of the assessment process that produced them. As a result, historians criticizing tax lists have charged that "some tax lists were shaped as much by fraud, corruption, and the vagaries of politics as by the actual distribution of property."[45] Just as modern property tax assessments rarely equal market prices, eighteenth-century taxes were no different, and the discrepancy between market valuations and tax assessments does not necessarily indicate a systemic bias on the part of the tax collector. Tax collectors followed guidelines specified in the tax laws for assessing taxable property, and these principles did not always require that tax collectors approximate market valuations in their assessments. Rather than requiring tax assessors to make the difficult determination of what a given taxable item might sell for at auction, many states mandated that assessors record valuations based on systematic or abstract principles specified in the tax laws. In some cases, confusion has resulted from misinterpretations of figures derived from the tax lists. Some historians have averaged the average tax that each taxpayer paid, including the value of the poll

[44] Ferguson, *Power of the Purse*, 203-219.
[45] John J. McCusker and Russell R. Menard, *The Economy of British America 1607-1789: Needs and Opportunities for Study* (Chapel Hill and London: University of North Carolina Press, 1985), 273-274.

tax to provide a proxy for wealth.[46] Many states assigned valuations for certain categories of property based on an average valuation for the whole state, regardless of variation in the quality of the taxable property or variations in local prices across the state. Other states instructed assessors to follow different methods to produce valuations for different classes of taxable property. For example, Massachusetts recorded the number of acres of land into various classes and then provided a valuation for the total value of the real estate by estimating the land's annual rent.[47] Occasionally historians have interpreted these figures as valuations, and then been surprised to find that the figures fall short of market prices.

Eighteenth-century policymakers preferred to leave as little subjectivity as possible in the hands of tax assessors to minimize the potential for abuse. In the case of the Massachusetts 1771 valuation list, Gerard Warden has estimated that the assessments on commercial property for a given state likely approached market value, while assessments on real estate likely understated their true valuation. As a result, Warden argued that the "tax lists do not give an accurate reflection of the actual distribution of wealth in Boston, but they represent only the political distribution of tax burdens in the town."[48] While there are certainly reasons to question the accuracy of valuations produced by some early American tax assessors, the implications of Warden's argument are overstated. The introduction of political considerations into the

[46] Edward Cook noted that the tax lists would serve as a useful source for measuring the relative wealth of each town's inhabitants if only the records provided sufficient detail to determine the rate of taxation or the valuation of each component of the taxpayers' estates. Instead, Cook stressed that "most tax lists simply record the amount of money assessed on each inhabitant and provide no further information." Cook used the amount of tax assessed to each taxpayer as a proxy for wealth, and observed that the "presence or absence of the poll tax … made a substantial difference in the apparent distribution of property." Because the poll tax applied to all adult male taxpayers equally, regardless of wealth, Cook found that the inclusion of the poll tax biased the results since he had been measuring the distribution of the tax burden and not the distribution of wealth. Edward M. Cook Jr., *The Fathers of the Towns: Leadership and Community Structure in Eighteenth-Century New England* (Baltimore: Johns Hopkins University Press, 1976), 64, 65n.

[47] Earlier tax lists specified that collectors value properties at the price of six years' annual rent. Edward M. Cook Jr., "Social Behavior and Changing Values in Dedham, Massachusetts, 1700 to 1775" *The William and Mary Quarterly* 27, no. 4 (Oct., 1970), 570n.

[48] G.B. Warden, "Inequality and Instability in Eighteenth-Century Boston: A Reappraisal," 604-609, quotation 608.

assessment process does not mean that the evidence found in the tax records should be dismissed. Even if we disregard the valuations provided by the assessors, local officials recorded the quantity of each taxable item, such as the number of acres of land, and the number of slaves, horses, and cattle. When combined with contemporary market prices, these quantities provide us with enough information to identify wealth levels and the distribution of wealth. Moreover, the relative values offered by the tax assessors provide an accurate indication of the quality of each taxable item. There is little evidence to suggest systemic biases in the relative valuations. While the absolute valuations may understate wealth levels, as a result of the eccentricities of the assessment process, the relative values serve as a useful indication of early-American inequality.

Although every state failed to meet its requisitions to the Continental Congress, it was burdensome taxes and difficult economic circumstances that prevented collectors from raising the necessary revenues, not insincere efforts on the part of state tax collectors. Edward Perkins has calculated that state governments ultimately provided nearly forty percent of the funds needed to fight the Revolution before the federal government assumed the responsibility of repaying the war debts.[49] Alexander Hamilton summarized the condition of the nation's finances clearly in January 1790 in his First Report on Public Credit. He described the Revolutionary War debts as the "price of liberty," and he argued forcefully that the federal government should take immediate action to restore the new nation's public credit. Hamilton lamented that the Continental Congress had been unable to meet payments due to its creditors, noting that "the necessities of war, conspiring with inexperience in the subjects of finance, produced direct infractions; and that the subsequent period has been a continued scene of negative violation, or

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[49] Perkins notes further that the "evidence does not suggest that the formation of a stronger government under the Constitution was a necessary condition for the eventual settlement of all the debts incurred during the war years." Perkins, *American Public Finance and Financial Services 1700-1815*, 99-103, quotations 99, 101.

non-compliance." At the same time, Hamilton observed that "a diminution of this regret arises from the reflection, the last seven years have exhibited an earnest and uniform effort, on the part of the government of the union, to retrieve the national credit ..."[50] Despite the failures of the Articles of Confederation, Hamilton believed that the state governments had generally acted in good faith, working independently after the war to meet quotas for tax collection set by the Continental Congress.

The potential for concurrent taxation was clear from the debates over the Ratification of the Constitution. In the Virginia ratification debates, Edmund Pendleton argued that federal and state taxing powers "can no more clash, than two parallel lines can meet.—Both lay taxes, but for different purposes.—The same officers may be used by both Governments, which will prevent a number of inconveniences."[51] James Madison rose to speak next, noting "[h]as it not been possible for collections of taxes, for parochial, county and State purposes, to go on at the same time? … This concurrent collection appears to me neither chimerical nor impracticable."[52] Madison further defended against critics by noting that it "has been amply proved, that the General Government can lay taxes as conveniently to the people as the State Governments, by imitating the State systems of taxation."[53] Even Patrick Henry acknowledged that state tax collectors could collect federal revenues, but challenged the virtue of concurrent powers by noting that "[t]hey tell us, that one collector may collect the Federal and State taxes … if the Sheriff is to collect for both; his right hand for the Congress, his left for the State; his right hand

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[50] Alexander Hamilton, "First Report on Public Credit," *Papers of Alexander Hamilton*, 6:69.
[51] "Debates" in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 10:1199.
[52] "Debates" in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 10:1203-1204.
[53] "Debates" in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 10:1222.

being paramount over the left, his collections will go to Congress. We will have the rest. Defficiencies in collections will always operate against the States."[54]

Hamilton's belief that state governments could be relied upon to collect federal taxes remained persuasive as Congress made plans to levy the first direct tax. In 1796 Congress requested that the Secretary of the Treasury, Oliver Wolcott Jr. prepare a report on the practicality of levying and collecting the direct tax using the states' existing fiscal infrastructure. Wolcott extolled the benefits of employing state and local tax collectors, and emphasized that "the fiscal systems of the several States … have been long established; that, in general, they are well approved by the people; that habit has rendered an acquiescence under the rules they impose, familiar." State legislatures "possessed of a minute and particular knowledge of the circumstances and interests of the respective States" and he emphasized that "it may be conceded that, so far as the principles of the State systems can, with propriety, be adopted by Congress, the hazards of new experiments, and the delays incident to the organization of a new plan, will be avoided." Wolcott noted additionally that to

> establish officers in every district, possessed of skill competent to institute and maintain a check on the collectors, would be attended with enormous expense; to allow the people to elect assessors in the manner now practised, and, at the same time, to renounce the idea of local responsibility, would be manifestly unsafe. Under such a system, there could be no security that local partiality would not lead to the connivances for the suppression and concealment of property justly subject to taxation.

Wolcott believed that if the differences between each states' system of taxation could be reconciled, the costs incurred from collecting a federal direct tax would be substantially reduced. State tax collectors could rely on their local knowledge to construct federal assessments at a fraction of the cost, and federal officials could supervise and audit the tax returns to ensure

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[54] "Debates" in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 9:1045.

impartiality. For Hamilton and Wolcott, the systems already established by each state were sufficient for federal revenue collection.

At the same time, Wolcott noted, that the plan was "liable to great, if not insurmountable objections." The challenge of leveraging state tax administrations remained in the difficulty of standardizing tax collection efforts on a national scale. Wolcott noted that "the State systems are utterly discordant and irreconcilable, in their original principles."[55] The states collected taxes on a variety of assets, using different tax rates, and employing one of several methods for measuring wealth. Even if Congress elected to limit the scope of federal taxation to a single category of taxable property, the different methods of assessment in each state would pose a challenge. Although the distinctive features of each state's tax administration prevented Congress from devising a national system based on existing state tax laws, Wolcott emphasized repeatedly that leveraging the states' fiscal capacity would provide the most efficient means of collecting a federal direct tax. The fact that Congress considered introducing a system of direct taxation that would have been entirely reliant on state property tax collectors, and that policymakers decided ultimately to enlist state and local officials in assessing and collecting the tax, suggests that the founding generation placed a high degree of trust in the reliability of state tax administrations.

In the debates over federal taxing authority, the Anti-Federalists drew upon and the federalists eschewed a Revolutionary rhetoric that defined direct taxes as those imposed without the consent of the governed. In the Virginia ratifying convention, John Marshall emphasized that "I cannot express my astonishment at his high-coloured eulogium on such a Government. Can any thing be more dissimilar than the relation between the British Government, and the Colonies,

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[55] Oliver Wolcott Jr., "Direct Taxes," December 14, 1796 in Walter Lowrie and Matthew St. Clair Clark, comps., *American State Papers: Documents, Legislative and Executive, of the Congress of the United States,* 10 vols. (Washington, 1832-1861), 3rd Series, *Finance,* 1:414-465, quotations 436-438.

and the relation between Congress and the States?" Marshall continued, noting that we "*were not* represented in Parliament. Here we are represented. Arguments which prove the impropriety of being taxed by Britain, do not hold against the exercise of taxation by Congress."[56] In describing the founding generation's understanding of direct taxation, historians have commonly emphasized their uncertainty as to what constituted a direct tax. One of the most frequently cited references to taxation in the Constitutional Convention is when Rufus King asked "what was the precise meaning of *direct* taxation. No one answd."[57] Although some of the framers expressed uncertainty as to the definition of direct taxes, John Marshall noted in the Virginia ratification debates that the "objects of direct taxes are well understood—They are but few—What are they? Lands, slaves, stock of all kinds, and a few other articles of domestic property."[58] Direct taxes were those that fell directly on the taxpayer, and could not be shifted or confounded easily with the price of asset.[59] Many of those debating the ratification expressed their view that direct taxes should be levied only in emergencies and times of war, and believed that tariffs and import duties were voluntary and progressive. If an individual wished to avoid paying the tax, they could simply refrain from purchasing the enumerated good. An anonymous author, writing as the Impartial Examiner I, wrote that "whereof the *wealthy* by consuming the greatest share, will of course contribute the largest proportion of the tax."[60]

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[56] "Debates" in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 9:1118.

[57] Max Farrand ed., *The Records of the Federal Convention of 1787.* 3 Volumes (New Haven: Yale University Press, 1911), 2:350.

[58] "Debates" in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 9:1122.

[59] E.H. Ketcham noted that to "be sure this idea was not clearly in the minds of all those who framed and ratified the constitution, but indications would tend to show that further discussion and analysis would have but more clearly formulated that idea." E.H. Ketcham, "The Direct Tax Clause of the Federal Constitution" *The North Carolina Historical Review* 4, no. 3 (July 1927), 281.

[60] The Impartial Examiner I, *Virginia Independent Chronicle,* 27 February 1788, in Kaminski, Saladino, and Leffler ed. *The Documentary History of the Ratification of the Constitution*, 8:421.

The nature of congressional apportionment to facilitate direct taxation was a subject of intense debate. The delegates to the Constitutional Convention understood clearly the connection between taxation, representation, and wealth in the debates over direct taxation. For them, wealth in the form of taxation provided a justification for representation in the new national government. Population served as a proxy for wealth, as greater population suggested a larger workforce that could support a larger tax base. The delegates realized that population was in imperfect measure of wealth, but all acknowledged that a study of American wealth could be undertaken only with great difficulty. The Continental Congress resorted to using population as a proxy for wealth when the state governments neglected to undertake surveys of national wealth for the purposes of levying a national direct tax. Congress used population to apportion its requisitions with the understanding that the quotas would be retroactively adjusted once the total value of land in each state could be determined. Oliver Ellsworth introduced a motion in the Constitutional Convention that would have made population a temporary measure for the basis for apportioning taxation and representation "until some other rule that shall more accurately ascertain the wealth of the several States can be devised and adopted by the Legislature."[61] Rufus King proposed a similar motion, authorizing Congress "to devise & adopt such other Rule or Ratio, as may bear a more direct proportion to the relative Wealth & population of the States in Union" if the Census found that population was not reflective of wealth.[62] Although neither motion carried, the debates make clear that the delegates understood a connection between population and wealth, and believed that wealth provided the basis for both taxation and representation.

[61] Farrand ed., *The Records of the Federal Convention of 1787*, 1:594.
[62] Ibid, 1:597.

The negotiations over the three-fifths compromise centered on the connection between wealth, taxation, and representation, as the delegates agreed to allow the slaveholding states greater representation in exchange for bearing a greater share of direct taxation with respect to their free populations. Although many historians have described the three-fifths clause as an insult to African-Americans by treating them as three fifths of a person, Robin Einhorn argues that the compromise went further. The three-fifths clause did not grant African-Americans three-fifths of a vote, any representation in politics, or any claim to citizenship for that matter. Instead, the compromise assigned greater representation to states with significant slave populations. Einhorn argues that the compromise amounted to a tax break for Southerners, who paid a smaller share of the tax burden than they would have received had slaves been counted as full persons for the purposes of apportionment.[63] If slaves had been fully counted for the purposes of taxation, instead of three-fifths, they would have provided the Southern states with even greater representation.

The three-fifths compromise also provided a check on federal power similar to apportionment by limiting the range of taxable property that could survive the political bargaining process. If Southern taxpayers had received a tax break as part of the compromise, we would expect that they would have been more willing to enact direct taxes. From the Southerners' perspective, however, their larger slave populations meant that they would pay a larger share of any direct taxes levied with respect to their free populations. The Northern delegates recognized the implications of the three-fifths compromise and debated the implications at length in their ratification conventions. Some Northern delegates expressed concern that counting slaves as three-fifths would provide taxpayers in the Southern states with a

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[63] Einhorn, *American Taxation, American Slavery,* 302.

tax discount. They emphasized that free blacks counted fully in their apportionment quotas even though slaves and free blacks were similarly productive, and the delegates argued that slaveholders would pay a lower marginal tax rate as a result of their greater wealth. Other delegates feared that the compromise would make the Southern taxpayers reluctant to levy direct taxes, and that their aversion to direct taxes might resurrect the political struggles over taxation that occurred under the Articles of Confederation. Years later, Rufus King described the three-fifths compromise by noting that "great, however, that this concession was, it was definite, and its full extent was comprehended."[64] Although delegates at the state ratification conventions decried the compromise from both sides each time the clause came up for debate, the delegates recognized that the three-fifths compromise made an even trade of taxation for representation.

State property tax records allow us to explore the antebellum economy where traditional sources have fallen short. Paul David famously referred to the period before 1840 as the "statistical dark age," noting the comparative lack of published sources for economic data.[65] Census records from the early republic record only the population by age, race, and sex. Census takers did not record any information on manufacturing until 1810, and they did not complete the first Census of Agriculture until 1840. Historians examining early-American wealth have preferred to employ probate inventories, arguing that these records provide a more comprehensive measure of wealth holding. Probate inventories provide a detailed record of a deceased wealth holder's personal property, including assessed valuations for such disparate items such as silver spoons, leather boots, and wooden tables. Assessors catalogued a list of all movable assets in the estate shortly after the death of the wealth holder, and local officials

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[64] Farrand notes that the document does not have a date, but that the speech likely dates to March 1819. Farrand ed., *The Records of the Federal Convention of 1787*, 3:430.
[65] Paul David, "New Light on a Statistical Dark Age: U.S. Real Product Growth Before 1840" *American Economic Review* 57, no. 2 (May 1967), 294-306.

maintained probate inventories in the event that the property owner's heirs or creditors contested the will or removed assets from the house before the will could be executed. While probate inventories provide more inclusive measurements of household assets than tax records, probate inventories are painstakingly difficult to tabulate and access.[66] Probate assessors recorded lengthy descriptions of goods of varying quality in list form. A typical list might include pairs of "good" leather boots and "fine" leather boots, with assessed values for each of them, and the level of detail and variety of goods found in these lists makes the task of transcription and tabulation more difficult. Tax lists present a manageable alternative because they measure only a fixed subset of taxpayer's possessions, including items that represented the vast majority of household wealth during this period, and because tax collectors assembled the lists annually using standardized practices for assessment and collection.

Previous historians employed probate inventories in their research because of the lack of comparable sources presented few alternatives for measuring colonial American wealth. Complete tax lists are far less plentiful for the colonial period, and the surviving records are less reliable compared to the early republic. Carole Shammas noted that "not many early modern communities had good tax lists, and if they did, it is probably more efficient to use them for a profile of wealth than bothering with the inventories."[67] The factors that made probate

[66] For the uses and limitations of probate inventories as sources, see Holly V. Izard, "Random or Systemic? An Evaluation of the Probate Process" *Winterthur Portfolio* 32, no. 2/3 (summer – autumn 1997), 147-167; Winifred Barr Rothenberg, *From Market-Places to a Market Economy: The Transformation of Rural Massachusetts, 1750-1850* (Chicago: University of Chicago Press, 1992), 60-61; Alice Hanson Jones, "Estimating Wealth of the Living from a Probate Sample" *Journal of Interdisciplinary History* 13, no. 2 (autumn 1982), 273-300; Carole Shammas, "Constructing a Wealth Distribution from Probate Records," *Journal of Interdisciplinary History* 9, no. 2 (Autumn, 1978), 297-307; Gloria Main's "Probate Records as a Source for Early American History" *The William and Mary Quarterly 3rd Series* 32, no. 1 (January 1975), 89-99; Daniel Scott Smith, "Underregistration and Bias in Probate Records: An Analysis of Data from Eighteenth-Century Hingham, Massachusetts" *The William and Mary Quarterly 3rd Series* 32, no. 1 (January 1975), 100-110; Gloria L. Main, "The Correction of Biases in Colonial American Probate Records," *Historical Methods Newsletter* 8, no. 1 (Dec., 1974), 10-28.
[67] Shammas, "Constructing a Wealth Distribution from Probate Records," 297-298.

inventories such a desirable source for measuring economic change in the colonial period no longer applied in the early republic. Local officials performed probate inventories less regularly after the Revolution, particularly by the first decades of the nineteenth century. The records also suffer from significant age and class biases that must be taken into account when analyzing the returns. Because assessors recorded probate inventories only after the wealth holder had died, the individuals included in probate inventories tended to be much older and wealthier than the general population. Relatively few wealth holders had their estates probated after their death. Those without significant estates, including poor whites and free blacks are particularly underrepresented.[68]

Holly Izard has identified five criteria that influenced whether or not an individual's estate might receive a probate inventory. Those who died leaving a written will, owned real estate, had minor heirs, died in debt, or died with money owed to them were much more likely to have their estates inventoried by local officials.[69] Compared to tax records, probate inventories recorded wealth information for only a fraction of society. Alice Hanson Jones found that only 32.7% of potential wealth holders in New England had their estates inventories, compared to roughly two thirds of estimated wealth holders in other colonies.[70] On the other hand, historians analyzing complete tax lists have shown that tax records regularly included 89% to 97% of

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[68] Alice Hanson Jones notes that "[p]robate inventories were made chiefly for whites." Jones only found one inventory for a free black among her 919 sample cases. To test for the representativeness of her sample, Alice Hanson Jones matched up the names of probated wealth holders with records from the tax lists for Essex County, Massachusetts. Alice Hanson Jones to Stephen E. Fienberg, April 16, 1970, Alice Hanson Jones Papers, Box 2, Folder "Fienberg-Larntz Correspondence Regarding New Sample Statistical Consultation"; Jones, *American Colonial Wealth,* 1:6-7.

[69] Holly V. Izard, "Random or Systemic? An Evaluation of the Probate Process," 148.

[70] Daniel Scott Smith found similar results for his study of Hingham, Massachusetts, finding that 42% of men and only 4% of women had their estates probated in the eighteenth century. Jones, "Wealth Estimates for the New England Colonies About 1770," 116; Jones, *Wealth of a Nation to Be,* 45; Smith, "Underregistration and Bias in Probate Records: An Analysis of Data from Eighteenth-Century Hingham, Massachusetts," 104.

potential wealth holders.[71] To account for the lack of representativeness found in probate inventories, historians have had to make adjustments to their data to estimate the wealth of the living population. Historians have sometimes used tax records to confirm the accuracy of their results, test the representativeness of their sample, or to determine the wealth of non-probated wealth holders in the same district. Daniel Scott Smith observed that tax lists "require less elaborate assumptions for their adjustment, probably provide a better basis than probate inventories for determining the extent of wealth inequality."[72]

State property tax records are ideally suited for measuring economic conditions in the early republic. Compared to other sources available for the period, tax records provide accurate measures for a number of important economic indicators. Tax lists record individual taxpayers at a particular place in time and can measure changes in population and migration. Sheriffs submitted lists of insolvent taxpayers that can indicate the level of distress in the economy. Perhaps most importantly, the records reveal the assessed property of every household, providing a comprehensive census of American wealth holding.[73] In addition to offering a window into the life of the typical wealth holder, the micro-data generated from counties and towns allow for a

[71] Lee Soltow and Kenneth Keller estimated that approximately 6-11% of free adult white males do not appear in the tax records for Pennsylvania, and notes that non-residents and apprentices were exempted from certain taxes. Jackson Turner Main notes that, as a general rule, approximately twenty percent of adult males in early America were between the ages of sixteen and twenty-one. After counting the number of additional polls listed in the tax records for one town in Massachusetts, Main added them to the number of taxpayers found in the same list and discovered that only 3% of the town's polls went unreported. . Lee Soltow and Kenneth Keller, "Rural Pennsylvania in 1800: A Portrait from the Septennial Census" *Pennsylvania History* 49, no. 1 (January 1982), 27-28; Jackson Turner Main, *The Social Structure of Revolutionary America* (Princeton: Princeton University Press, 1965), 20n.

[72] Although Alice Hanson Jones used tax lists to substitute missing wealth information in her sample, she argued that the correlation between the wealth estimates derived from probate inventories and tax assessments were too low to use tax lists independently. Alice Hanson Jones, "Wealth Estimates for the New England Colonies About 1770" *Journal of Economic History* 32, no. 1 (March 1972), 118; Daniel Scott Smith, "Underregistration and Bias in Probate Records: An Analysis of Data from Eighteenth-Century Hingham, Massachusetts" *The William and Mary Quarterly 3rd Series* 32, no. 1 (January 1975), 110.

[73] A further testament to the accuracy of tax records as a historical source is that genealogists and historians have used tax records to reconstruct missing portions of the first federal census in 1790. Netti Schreiner-Yantis and Florene Speakman Love, *The 1787 Census of Virginia* (Springfield, VA: Genealogical Books in Print, 1987), 1.

detailed understanding of local economies. While the items listed and valuations recorded in probate records were subject to the caprices of the appraiser, local officials produced tax lists using standardized assessment and collection practices. Standardized tax collection practices in the early republic facilitate comparisons between regions, and make possible the construction of national estimates for inequality and productivity. Tax collectors compiled these handwritten lists annually to assess taxpayers for a multitude of classes of taxable property. Colonial governments had levied similar taxes, and many of the practices involved in annual tax collections were well established by the time of the Revolution. In the years following the Revolution, state governments expanded upon and improved their existing infrastructure, clarified and standardized tax collection practices, and exerted significant fiscal capacity.

A primary advantage of tax records over other sources available for the period is that tax records make possible a larger and more-representative sample than previous studies. Thomas Piketty notes that "the dynamics of income inequality can only be studied in a long-run perspective, which is possible only if one makes use of tax records."[74] Tax records are relatively easy to tabulate, and tax collectors organized most lists into rows and columns detailing each taxpayer's taxable assets. State governments taxed a variety of classes of property, including those assets that would have encompassed the vast majority of household wealth. The tax lists provide a more-representative sample of the population because nearly all free white males over the age of twenty-one paid a poll or head tax during this period regardless of whether or not they held property.[75] Unlike probate inventories, tax lists record living individuals and most states

[74] Thomas Piketty, *Capital in the Twenty-First Century* translated by Arthur Goldhammer (Cambridge: Harvard University Press, 2014), 17.

[75] Each state exempted several professions from the poll tax. These individuals would have still been required to pay taxes on any taxable property, but they would have likely been absent from the tax lists if they owned no personal property or real estate. Additionally, states frequently exempted those who were too poor to pay the poll tax or those who were considered too old or infirm. For example, Virginia exempted clergymen, Revolutionary war veterans, college professors, elected officials, noncitizens, and ferrymen from the poll tax levied on adult whites.

provided annual assessments of taxpayer wealth. Because probate inventories recorded movable assets, moreover, the records sometimes omit landholdings, and studies employing probate inventories have occasionally relied on regression analysis to estimate missing land values.[76] Tax lists have the advantage of providing precise records of each taxpayer's landholdings, and the records overcome many of the obstacles presented by income assessments. As Hartmut Kaelble and Mark Thomas observe, income valuations rarely include non-monetized elements of consumption, such as rates of homeownership, causing inequality figures to be understated. Income valuations also introduce difficulties in determining the size of households, an obstacle overcome through the use of tax records, which record household wealth.[77] Because states assessed household for assets employed in agricultural production, moreover, their concentrations provide an indication of economic growth for the early republic.

Although probate inventories provide more detailed information for some wealth components, tax records include information on property that would have constituted the vast majority of total physical wealth.[78] Every state taxed land and some states included separate valuations for real estate. Every state in which slavery remained legal levied a tax on slaves. Every state except Ohio collected taxes on livestock. Several states enacted taxes on luxury items such as gold and silver plate, watches, or silver shoe buckles. A few states combined their assessment lists for the federal direct taxes enacted during the War of 1812, and these lists include the value of expensive furniture. Only the New England states regularly assessed

[76] Alice Hanson Jones employed regression analysis to estimate landholding for New York, and to find missing land valuations in the southern colonies. Jones, *American Colonial Wealth,* 3:1739-1759.
[77] Hartmut Kaelbble and Mark Thomas, "Introduction" in Y.S. Brenner, Hartmut Kaelble, and Mark Thomas ed. *Income Distribution in the Historical Perspective* (Cambridge: Cambridge University Press, 1991), 16-22.
[78] Neither tax records nor probate inventories consistently reported information on financial assets or liabilities. As a result, total physical wealth provides a better comparison for analysis than net worth. Net worth is total physical wealth plus financial assets minus financial liabilities. Total physical wealth includes the value of real estate, slaves and servants, and nonhuman portable wealth (livestock, durables, crops, inventories, and perishables). For the differences between these and other wealth categories, see Jones, *Wealth of a Nation to Be,* 27.

equipment, crops, and business inventories. Alice Hanson Jones calculated the proportion of each component of total physical wealth for 1774 (Table 1.1). Tax collectors in the early republic regularly assessed property that would have encompassed 83.8% of total physical wealth. There is no reason to suspect that the relative proportions of each component would have been drastically different in the post-revolutionary period. Because probate inventories do not always include information on land and real estate, which accounted for more than fifty percent of household wealth in 1774, tax records provide a better indication of the major sources of wealth in the early republic in the absence of supplementary sources.

Table 1.1: *Components of Total Physical Wealth, 1774*

	Proportion of Total Physical Wealth in 1774	Typically Included in Post-Revolutionary Tax Lists
Land and Real Estate	55.0%	Yes
Slaves and Servants	19.6%	Yes
Livestock	9.2%	Yes
Equipment, Farm and Household	2.9%	No
Equipment, Nonfarm Business	0.4%	No
Crops	2.9%	No
Materials in Household	0.5%	No
Business Inventory	1.6%	No
Apparel	1.5%	No
Equipment, Furniture, Other	5.8%	No
Perishables	0.6%	No
Total	100.0%	83.8%

Source: calculated from Jones, *Wealth of a Nation to Be*, 90, 128.

While Oliver Wolcott Jr. described the various state property tax regimes as "*utterly different from each other, in respect to objects and principles of taxation*" in his report to Congress, the persistence and relatively stability of state property tax records make them an excellent source for comparative analysis.[79] The tax laws in many states fluctuated tremendously during the Revolution, but by the time of the Constitution's Ratification every state had introduced a system of taxation that would remain fairly consistent for the decades to follow. Although late-nineteenth century progressive reformers sought to reform the property tax by further centralizing the collection process, many of the collection practices devised during the eighteenth century persisted into the twentieth century.[80] The regularity of state property tax laws facilitates comparisons between states. Great care has been taken in this study to reconcile the various tax systems in constructing wealth estimates.[81] Fortunately, the taxable property detailed in the tax lists would have comprised the most valuable assets in the early republic, and the differences in assessment practices do not interfere with economic comparisons between states.

Although tax records provide a more efficient means of tabulating household wealth statistics, several limitations exist. Tax records only record a fixed subset of personal property, and often omit the value of household possessions that would have been included in probate inventories.[82] Through neglecting household possessions, the tax lists for some states may understate nonagricultural wealth, particularly the contributions of household manufactures,

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[79] Oliver Wolcott Jr., "Direct Taxes," December 14, 1796 in Walter Lowrie and Matthew St. Clair Clark, comps., *American State Papers: Documents, Legislative and Executive, of the Congress of the United States,* 10 vols. (Washington, 1832-1861), 3rd Series, *Finance*, 1:437.

[80] For efforts to reform the property tax in the nineteenth and twentieth centuries, see especially Ajay K. Mehrotra, *Making the Modern American Fiscal State: Law, Politics, and the Rise of Progressive Taxation, 1877-1929* (Cambridge: Cambridge University Press, 2013); Isaac William Martin, *The Permanent Tax Revolt: How the Property Tax Transformed American Politics* (Stanford: Stanford University Press, 2008)

[81] See chapter 3 for details on the methodology of this study.

[82] The exclusion of household items could serve to understate or exaggerate the level of inequality. Personal possessions might have accounted for a greater proportion of household wealth for poor taxpayers. At the same time, wealthy individuals would have been more likely to own a greater number and variety of personal possessions. These individuals would have also possessed more luxury goods and more expensive household items—silver spoons instead of wooden ones. Jan De Vries argues that early-modern consumers participated in "consumption clusters," employing a range of consumer choices based on income level. These choices could reinforce the level of inequality if consumers spent similar proportion of their incomes. Jan de Vries, *The Industrious Revolution: Consumer Behavior and the Household Economy, 1650 to the Present* (New York: Cambridge University Press, 2008), 37.

which many historians believe may have accounted for a significant portion of the eighteenth-century economy. Moreover, tax laws frequently exempted from taxation those individuals with minimal wealth considered too poor or those disabled from age or infirmities.[83] While these individuals were not necessarily penniless, tax collectors recorded them as having zero taxable assets. The administrative nature of tax collection presents a further challenge. Because the tax lists only measured property held within the state, and cannot be collated with lists from other states without considerable effort and a one-hundred-percent sample size, the records understate the wealth holdings of a few individuals who owned multiple properties across state lines.[84] Like probate inventories, the tax records do not facilitate the study of intergenerational wealth transfers. When comparing evidence from the tax lists over time, the results should not be taken necessarily to argue that the opportunities of specific taxpayers improved or declined in each decade. Jack Marietta provides a useful analogy, noting that "the data indicate how the 'pie' of taxable wealth was sliced and distributed, and not the absolute size of the pie or pieces."[85] While the tax lists provide a detailed look into the life of ordinary taxpayers, it is difficult to trace the experiences of specific families. These caveats, however, are shared by all existing studies that employ tax data in their analysis and apply equally to all counties and regions in the sample.[86]

[83] Steven Sarson identifies a common practice of tax collectors in Maryland exempting those individuals with estates valued at less than forty dollars. Judging from the lists of insolvent and delinquent taxpayers from other states it appears that tax collectors employed similar policies. These lists often contained the names of individuals who had proved tax exemption, and sheriffs occasionally wrote "too poor" next to the names of these individuals as an explanation for uncollected debts. Sarson, "Wealth, Poverty and Labor in the Tobacco Plantation South: Prince George's County, Maryland in the Early National Era," 37.

[84] In a few cases, the tax lists do not collate properties owned by taxpayers in other counties within the same state. Lee Soltow described his inability to collate the properties of individuals who owned land or dwelling houses in multiple counties as a significant limitation on his sample of the 1798 federal direct tax. Soltow, *Distribution of Wealth and Income in the United States in 1798,* 40, 296n.

[85] Jack D. Marietta, "The Distribution of Wealth in Eighteenth-Century America: Nine Chester County Tax Lists, 1693-1799" *Pennsylvania History* 62, no. 4 (fall 1995), 532.

[86] Soltow, *Distribution of Wealth and Income in the United States in 1798,* 44; Sarson, "Wealth, Poverty and Labor in the Tobacco Plantation South: Prince George's County, Maryland in the Early National Era," 35-75, 167-207, 437-440.

In his early history of state taxation, Richard Ely criticized state tax regimes by noting that "such diversity where uniformity would be prescribed by the fundamental principles of taxation may be regarded as evidence of the faultiness of most, if not all, of these systems." But Ely continued by noting that "and yet little dissatisfaction seems to have been manifested in any of these states."[87]

Adam Smith's Principles of Taxation in the Early American Republic

Compared to Smith's thoughts on trade, banking, and the market process, his views on taxation have been comparatively understudied. As Deborah Boucoyannis noted recently, "with only a few exceptions, Smith's system of taxation has not been assessed as a whole."[88] Early-American policymakers applied theories proposed by Smith and others because these fiscal strategies proved less distortionary to the market process than other forms of taxation. Although it was Adam Smith who best distilled these maxims, the reasoning underpinning Smith's theories circulated widely among eighteenth-century political thinkers. While much of the literature has emphasized fiscal policy enacted by the new federal government, federal taxation existed concurrently with taxes collected by state governments. While Americans rarely interacted with federal revenue officers, they cooperated with local tax collectors annually. Legislators in the early republic developed a unique system of taxation by centralizing the collection of indirect taxes in the form of the federal tariff, and simultaneously decentralizing direct taxes through federal apportionment and state tax collection. By studying state and federal taxes as part of a comprehensive system, this chapter examines how the founding generation both empowered and constrained the taxing powers of government.

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[87] Ely, *Taxation in American States and Cities*, 116-117.
[88] Deborah Boucoyannis, "The Equalizing Hand: Why Adam Smith Thought the Market Should Produce Wealth Without Steep Inequality." *Perspectives on Politics* 11, no. 4 (December 2013), 1058.

The system of state and federal taxation that emerged out of the struggles under the Articles of Confederation shaped the development of early-American tax collection. Geoffrey Brennan and James Buchanan have demonstrated that tax systems take on semi-constitutional qualities by establishing the rules that guide individual and state actors. Tax systems establish a set of rights, a mechanism for enforcement, and a set of rules governing collective decisions. Consistent rules provide clear expectations for both taxpayers and public officials. Brennan and Buchanan argue that stable tax regimes amount to a form of social capital that is susceptible to destruction by altering the rules of the game.[89] After an initial period of experimentation, tax collection in the early republic remained consistent for approximately fifty years, until several states began rewriting their state constitutions in the second quarter of the nineteenth century. The federal Constitution both empowered and constrained federal taxing authority by coupling unlimited indirect taxing powers with an imperfect system of direct taxation. State governments yielded their authority to levy taxes on imports under the Constitution in exchange for a preservation of their fiscal autonomy in the sphere of direct taxation. The combined federal and state system placed constitutional limits on taxation and divided taxing authority in a way that sought to minimize distortions in the market process.[90]

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[89] Geoffrey Brennan and James Buchanan. "The Tax System as Social Overhead Capital: A Constitutional Perspective on Fiscal Norms." From Karl Roskamp ed., *Public Finance and Economic Growth*, Proceedings of the 37th Congress of the International Institute of Public Finance, Tokyo, 1981 (Detroit: Wayne State University Press, 1983), 41-54, reprinted in *The Collected Works of James M. Buchanan* 20 Volumes (Indianapolis: Liberty Fund, 2000), 14:269-283.

[90] F.A. Hayek, *The Constitution of Liberty*. Definitive Edition. ed. Ronald Hamowy. (1960; rpt. Chicago: University of Chicago Press, 2011); James M. Buchanan, *The Limits of Liberty: Between Anarchy and Leviathan*. The Collected Works of James M. Buchanan (Chicago: University of Chicago Press, 1975; rpt. Indianapolis: Liberty Fund, 2000); Geoffrey Brennan and James M. Buchanan, *The Reason of Rules: Constitutional Political Economy*. The Collected Works of James M. Buchanan (Cambridge: Cambridge University Press, 1985; rpt. Indianapolis: Liberty Fund, 2000).

The framers of the Constitution hesitated to provide the federal government with unlimited taxing authority, believing instead that federalism would promote responsible government and that divided authority would prevent abuse. Political scientists studying fiscal federalism and economists following public choice theory have also stressed the importance of decentralized authority in a federal system. Fiscal federalists argue that when voters' preferences are geographically dispersed, local officials are best informed to make decisions on behalf of their constituents.[91] Public choice economists make a similar case for decentralization, arguing that decentralized government provides a check against wasteful expenditures by forcing self-interested state actors to compete for revenues.[92] In the case of the early republic, decentralized tax collection reduced administration costs because state governments subcontracted the assessment and collection process to local officials at a fraction of the cost. Through applying the principles of Adam Smith and others, state governments implemented fiscal strategies that facilitated economic growth. Although the early federal government would have appeared hidden from view to the average American, the combined state and federal system wielded significant taxing authority and fiscal capacity.

The founding generation read Smith avidly and incorporated elements of his maxims into their tax systems when they installed new tax administrations after the American Revolution. The combined system of federal and state taxation owes almost as much to Adam Smith's principles as it does to Alexander Hamilton, who read Smith closely and proposed a grand vision for concurrent tax powers. Hamilton articulated the benefits of Constitutional limitations on taxing authority in the *Federalist Papers*. The Constitution constrained the federal government's

[91] Wallace Oates, *Fiscal Federalism* (New York: Harcourt Brace Jovanovich, 1972).
[92] Geoffrey Brennan and James M. Buchanan *The Power to Tax: Analytical Foundations of a Fiscal Constitution.* (Cambridge University Press, 1980).

power to levy direct taxes but provided it with unlimited authority over indirect taxes. The combined federal and state system of taxation had the effect minimizing distortions in the market process by limiting the burden of taxation on average Americans.

Smith's Principles of Taxation

Smith outlined four principles of taxation in the *Wealth of Nations,* and devoted more than a hundred pages to the topic of taxation in explicating his theory of political economy. His first principle encapsulates two seemingly antagonistic propositions. First, Smith argued that the "subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities." Modern scholars have described this argument as the "ability to pay" rule, and interpreted the first half of this principle as Smith's defense of progressive taxation. Smith advocated for progressive taxation at several points in the *Wealth of Nations,* noting that it "is not very unreasonable that the rich should contribute to the publick expence, not only in proportion to their revenue, but something more than in that proportion."[93]

Table 1.2: Adam Smith's Principles of Taxation

1. Equity	"The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state."
2. Transparency	"The tax which each individual is bound to pay ought to be certain, and not arbitrary."
3. Convenience	"Every tax ought to be levied at the time, or in the manner, in which it is most likely to be convenient to the contributor to pay it."
4. Efficiency	"Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible, over and above what it brings into the public treasury of the state"

Source: Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations,* R.H. Campbell and A.S. Skinner ed. Two Volumes, (1776; Oxford: Oxford University Press, 1976; rpt. Indianapolis: Liberty Fund, 1981), 2:825-826.

93 Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations,* R.H. Campbell and A.S. Skinner ed. Two Volumes, (1776; Oxford: Oxford University Press, 1976; rpt. Indianapolis: Liberty Fund, 1981), 2:825, 842.

Arguments in favor of progressive taxation circulated broadly in the eighteenth century. The Swiss political theorist Jean-Jacque Burlamaqui argued that the wealthy should pay higher tax rates on income, emphasizing that the burden of taxation ought to be proportional to "the benefits of peace; for though all equally enjoy peace, yet the advantages, which all reap from it, are not equal."[94] An argument for progressive tax rates can also be found in Rousseau's *Discourse on Political Economy.* He argues that taxes should be proportional not only to the value of each taxpayer's wealth, but that taxes should also account for differences in their social standing and the extent to which their wealth is superfluous.[95] Rousseau also emphasized that anyone "who has only the bare necessities should not pay anything at all; taxation of someone who has superflux may, if need be, go up to the full amount that exceeds his necessities."[96] Earlier intimations of Smith's "ability to pay" principle can be identified in many popular political treatises from the period. Lord Kames argued that "every man ought to contribute to the public revenue, not in proportion to his substance, but to his ability.'"[97] William Paley noted that "a tax, constructed with a view to that conveniency, ought to rise upon the different classes of the community, in a much higher ratio than the simple proportion of their incomes. The point to be regarded is, not what men have, but what they can spare"[98] Jean-Baptist Say later drew the same conclusions from reading Smith, but adopted a bolder stance on progressive taxation. Say argued that "a tax merely proportionate to individual income would be far from equitable … I have no

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[94] Burlamaqui borrowed this passage from Pufendorf VIII.5§6. Jean-Jacques Burlamaqui, *The Principles of Natural and Political Law* ed. Petter Korkman, trans. Thomas Nugent (1747; rpt. Indianapolis: Liberty Fund, 2006), 437.
[95] Jean-Jacques Rousseau, *The Social Contract and Other Late Political Writings* ed. and trans. Victor Gourevitch, Sixth Printing (1755; rpt., Cambridge: Cambridge University Press, 2006), 32-33.
[96] Rousseau, *The Social Contract and Other Late Political Writings,* 31.
[97] Henry Home, Lord Kames, *Sketches of the History of Man: Considerably Enlarged by the Last Additions and Corrections by the Author,* James A. Harris ed., Three Volumes (1778; rpt., Indianapolis: Liberty Fund, 2007), 2:359.
[98] William Paley, *The Principles of Moral and Political Philosophy* (1785; rpt., Indianapolis: Liberty Fund, 2002), 448.

hesitation in going further, and saying, that taxation can not be equitable, unless its ratio is progressive."[99] Others, like Thomas Paine, argued that progressive taxation would serve as a check against the unequal effects of primogeniture and the corrupting effects of inherited wealth. While serving as Minister to France, Thomas Jefferson noted the striking differences between the rich and the poor in a letter to James Madison. He recommended laws restricting primogeniture to ensure that inherited property would be divided equally. Jefferson also suggested that another "means of silently lessening the inequality of property is to exempt all from taxation below a certain point, and to tax the higher portions of property in geometrical progression as they rise."[100]

Smith, however, clarified his position in the second half of his first principle by continuing "that is, in proportion to the revenue which they respectively enjoy under the protection of the state."[101] Scholars have termed this second statement the "benefits theory," and interpreted it as advocating for a system of taxation comprised of user fees based on the relative protections or services that citizens received from their governments.[102] A tax system built upon user fees would likely have a regressive character, which could appear to contradict the first half of Smith's first principle. Although scholars have described the two propositions as incongruous, Smith did not find any inconsistency. Smith recognized that wealthy taxpayers derived greater benefits from the state than their poorer neighbors. Smith described the expenses of government

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[99] Jean-Baptist Say, *A Treatise on Political Economy; or the Production, Distribution, and Consumption of Wealth* trans. C.R. Prinsep New American Edition ed. by Clement C. Biddle (1803; rpt. Philadelphia: Grigg, Elliot, & Co., 1848), 455; J.C.L. Simonde de Sismondi, "Political Economy" Reprints of Economic Classics (1815; rpt New York: Augustus M. Kelley, 1966), 95.
[100] Thomas Jefferson to James Madison, 28 October 1785 in , in Julian P. Boyd ed., *The Papers of Thomas Jefferson* (Princeton: Princeton University Press, 1953), 8:682.
[101] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:825.
[102] For a discussion of the "benefits theory" and its implications, see Ajay K. Mehrotra, *Making the Modern American Fiscal State: Law, Politics, and the Rise of Progressive Taxation, 1877-1929* (Cambridge: Cambridge University Press, 2013), 61-67.

as being like the expenses of “the joint tenants of a great estate, who are all obliged to contribute in proportion to their respective interests in the estate.”[103] Just as a tenant occupying a larger share of an estate might pay a greater portion of the combined rent, Smith believed that wealthier taxpayers might contribute a greater share of their incomes towards the expenses of government. Smith’s contemporaries occasionally made similar arguments noting the benefits wealthy individuals derived from the state. Emerich de Vattel emphasized that taxpayers should pay “proportion to their' abilities, and the advantages they reap from the society.”[104] As Smith noted, it “is the industry which is carried on for the benefit of the rich and the powerful, this is principally encouraged by our mercantile system. That which is carried on for the benefit of the poor and the indigent, is too often, either neglected or oppressed.”[105]

Smith’s second maxim emphasized that the “tax which each individual is bound to pay ought to be certain, and not arbitrary.”[106] The amount to be paid, the forms of payment accepted, and the date of payment should be transparent for all to see. In making this argument, Smith followed David Hume, who had emphasized that “the most pernicious of all taxes are the arbitrary.”[107] Smith expanded and elucidated his position; however, noting that the amount to be paid, the forms of payment accepted, and the date of payment “ought all to be clear and plain to the contributor.” Uncertainty in tax collection promoted insolence and corruption among tax collectors, according to Smith, and exposed taxpayers to the possibility of extortion. Smith

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[103] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations,* 2:825.
[104] Emerich de Vattel, *The Law of Nations; or Principles of the Law of Nature, Applied to the Conduct of Affairs of Nations and Sovereigns*, trans. Joseph Chitty, Sixth American Edition (1759; rpt. Philadelphia: T. & J.W. Johnson, 1844), 110.
[105] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations,* 2:644.
[106] Similarly, David Hume argued that “the most pernicious of all taxes are the arbitrary.” Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:825-826; David Hume, “Of Taxes” (1742), in Eugene Rotwein ed. *David Hume: Writings on Economics* (Madison: University of Wisconsin Press, 1955), 86.
[107] David Hume, “Of Taxes” (1742) in Eugene Rotwein ed. *David Hume: Writings on Economics* (Madison: University of Wisconsin Press, 1955), 86.

concluded that the "certainty of what each individual ought to pay is, in taxation, a matter of so great importance, that a very considerable degree of inequality, it appears, I believe, from the experience of all nations, is not near so great an evil as a very small degree of uncertainty."[108]

In addition to transparency, other contemporary political economists argued that certainty and consistency in taxation provided a sort of equilibrium that minimized the burden of taxation by concealing taxes in everyday prices and balancing the effects of the tax among a broad constituency. Many political theorists believed that an ideal tax system could be achieved that would equitably distribute the burdens of taxation through a system of overlapping taxes on various articles and trades. William Paley argued that it "is only by a system and variety of taxes mutually balancing and equalising one another, that a due proportion can be preserved."[109] Paley suggested that a land tax, which bore heavily on rural taxpayers, might be counteracted with a tax on the rent of houses to ensure that urban taxpayers provided an equal contribution to the public treasury. Such a system was implemented successfully in the United States in each of the federal direct taxes. Others noted that once market prices adjusted to reflect the cost of the tax, the duty remained hidden from the average taxpayer. New taxes, along with tax laws that changed frequently or abruptly, could be much more disruptive because they distorted market prices. Antoine Louis Claude Destutt de Tracy, whose treatise on political economy was translated by Thomas Jefferson, argued that the best taxes were "the most ancient, because they have entered into all prices and that all are regulated in consequence."[110] Another political economist, Benjamin Constant, argued that "a new tax always causes a perturbation which

[108] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:825-826.
[109] Paley, *The Principles of Moral and Political Philosophy,* 449.
[110] Antoine Louis Claude Destutt de Tracy, *A Treatise on Political Economy* ed. Jeremy Jennings, trans. by Thomas Jefferson (1817; rpt. Indianapolis: Liberty Fund, 2011), 241.

spreads from taxed activities to untaxed ones … equilibrium is restored only slowly."[111] Smith and others believed that maintaining consistent and familiar tax collection practices would minimize taxpayer uncertainty and avoid disturbances in the market.

Thirdly, Smith noted that every tax "ought to be levied at the time, or in the manner, in which it is most likely to be convenient to the contributor to pay it." Smith reasoned that taxes could be collected with minimal inconvenience if legislators enacted taxes that coincided with harvests or when the taxpayer was "likely to have wherewithal to pay."[112] This principle bears a striking similarity to one proposed by Montesquieu, who wrote that the "laws must put a certain order in the manner of levying taxes so that the manner is not heavier than the burdens themselves."[113] In the early-nineteenth century Sismondi endorsed Smith's principle by drawing an analogy. Sismondi noted that a tax levied on capital rather than income was "as if tithes were levied on the seed, instead of being levied on the crop." Instead, Sismondi argued that "in gathering the product at the moment when nature grants it, we are sure exactly to meet the proprietor's convenience for paying it."[114]

Smith exhibited a clear preference for indirect taxes on imported luxuries. Luxuries were a particular target of taxation for eighteenth-century political theorists. While Smith noted that taxes on the "necessities of life," such as salt, leather, soap, and candles, could be easy to collect and could provide consistent revenue for the government, these taxes tended to raise price of labor and could be oppressive for the poor. On the other hand, Smith noted that taxes on luxuries had "no tendency to raise the price of any other commodities except that of the commodities

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[111] Benjamin Constant, *Principles of Politics Applicable to All Governments* ed. Etienne Hofmann, trans. by Dennis O'Keeffe (1815; rpt. Indianapolis: Liberty Fund, 2003), 207.
[112] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:826; Sismondi, "Political Economy,"
[113] Montesquieu, *The Spirit of the Laws* translated and edited by Anne M. Cohler, Basia C. Miller and Harold S. Stone, Cambridge Texts in the History of Political Thought (1748; rpt. Cambridge: Cambridge University Press, 2005), 56.
[114] Sismondi, "Political Economy," 105, 97.

taxed."[115] Taxes on luxuries could also prove beneficial for society, according to many theorists, by restraining an unhealthy propensities toward status. Jean-Jacques Rousseau noted that as "long as there are rich people, they will want to distinguish themselves from the poor, and the state cannot possibly devise a less burdensome or a more secure revenue than one based on this distinction." Rousseau described taxes on luxuries as comparable to a fine that restrained their use without prohibiting them entirely.[116] Likewise, Smith believed that taxes on coaches and alcohol would curtail the "indolence and vanity of the rich" and promote temperance and thrift among the poor.[117]

Because market prices concealed the cost of the tariff and passed the tax on to the final consumer, Smith argued that duties on imported goods diffused the burden of taxation broadly in a manner that was most convenient for the average taxpayer. Smith reasoned that "he is at liberty too, either to buy, or not to buy as he pleases, it must be his own fault if he ever suffers any considerable inconveniency from such taxes."[118] Political theorists in the eighteenth and early-nineteenth centuries believed that the incidence of taxation should be dispersed as broadly as possible across the base of eligible taxpayers, and many argued that indirect taxes on imports were the most convenient means of equitably distributing the tax burden. Benjamin Constant argued that indirect taxes spread the incidence of taxation evenly across a population just as "the weight of the air spread across the whole body of a man exceeds thirty thousand liters. He can take it without noticing, while a much lighter weight trained on a single part of the body would be unendurable."[119] In describing the ways in which legislatures could design taxes to minimize

[115] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:873-875, quotations 874, 873.
[116] Rousseau, *The Social Contract and Other Late Political Writings*, 37, quotation 36.
[117] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:725, 878.
[118] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:826.
[119] Constant, *Principles of Politics Applicable to All Governments*, 211.

their burden, Smith followed David Hume and Montesquieu in arguing that taxes on consumption caused consumers to confound the tax with the market price.[120]

Finally, Smith argued that every tax "ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible, over and above what it brings into the public treasury of the state."[121] Smith's maxim resembles a similar one by Jean-Jacques Burlamaqui, who argued that "the sovereign ought to exact no more than the public necessities, or the signal advantage of the state, shall require."[122] Montesquieu had also expressed a similar sentiment, noting that one "must not take from the real needs of the people for the imaginary needs of the state."[123] Smith identified four ways in which excessive taxes might have deleterious effects. High taxes might require additional revenue officers who could raise the cost of collecting the tax, and impose an additional burden on the population as a result. Immoderate taxes could also threaten to stifle industry, divert capital to the state treasury that could have been used to start a new business, or discourage taxpayers from adopting certain forms of employment. The punishments imposed on individuals who failed to make payment or attempted unsuccessfully to avoid paying their taxes provided a third method for enforcing an additional burden on the population. Smith argued that the penalties and forfeitures inflicted on these individuals had a tendency to ruin them and remove their labor and capital from the market.

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[120] David Hume argued that the "best taxes are such as are levied upon consumptions, especially those of luxury; because such taxes are least felt by the people … being confounded with the natural the commodity, they are scarcely perceived by the consumers." Likewise, Montesquieu emphasized that "[d]uties on commodities are the ones least felt by the people … the buyer who ultimately pays it, confounds it with the price." David Hume, "Of Taxes," 85; Montesquieu, *The Spirit of the Laws*, 217-218, 222, quotation 217.
[121] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:826.
[122] Burlamaqui himself borrowed from Jean Barbeyrac's translation of Samuel von Pufendorf's work, translated as *Le Droit de la Nature et des Gens* VII.9§10. Jean-Jacques Burlamaqui, *The Principles of Natural and Political Law* ed. Petter Korkman, trans. Thomas Nugent (1747; rpt. Indianapolis: Liberty Fund, 2006), 390.
[123] Montesquieu, *The Spirit of the Laws*, 213.

Lastly, Smith emphasized that unnecessary taxes posed a threat to taxpayers' liberties by subjecting them to repeated visits from revenue officers.[124]

Many political economists from the period stressed the importance of protecting taxpayers' liberties. Montesquieu wrote that governments "can levy heavier taxes in proportion to the liberty of the subjects," and noted that all "is lost when the lucrative profession of tax-collectors, by its wealth, comes to be an honored profession."[125] For many theorists, a direct connection existed between liberty and the tax strategy employed under each system of government. Thomas Paine described early American taxation by noting that their "taxes are few, because their government is just."[126] Rousseau believed that distance between government and the people contributed to the burden of taxation. For Rousseau, taxation was least burdensome in a democracy, more still under an aristocracy, and most burdened in a monarchical system. As a result, monarchy could only subsist in large and opulent nations, while democracy was well suited to small and poor states.[127] Later authors echoed Smith's views. In restating Smith's maxims, Sismondi described Smith's fourth principle as one of liberty, noting that "finally, the citizen's liberty must be respected, that so he may not be exposed otherwise, than with extreme caution, to the inspection of revenue-officers, to the dependent, and all the vexatious measures too often conducted with the levying of taxes."[128] Benjamin Constant argued that the "nature and mode of collection should cause as little hardship as possible for the taxpayers, tending neither to harass nor corrupt them and not giving rise, by way of pointless

[124] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:826-827.
[125] Jean-Baptist Say argued similarly that superior wealth allowed rich nations to raise large revenues from taxation. Montesquieu, *The Spirit of the Laws*, 220, 227; Say, *A Treatise on Political Economy*, 448.
[126] Thomas Paine, *The Rights of Man; Being An Answer to Mr. Burke's Attack on the French Revolution,* Two Volumes (1791; rpt. London: W.T. Sherwin, 1817), 2:20.
[127] Rousseau, *The Social Contract and Other Late Political Writings,* 101.
[128] Sismondi, "Political Economy," 96.

expenditures, to further taxation."[129] Jean-Baptist Say noted that "[e]xorbitant or inequitable taxation promotes fraud, falsehood, and perjury."[130] By restraining the revenue demands of the state, Smith and other political theorists argued that taxpayers' liberties would be preserved.

Concern for the laboring poor figured prominently in Smith's theories of taxation and government. As John Tomasi has identified, Smith criticized mercantilism for favoring those individuals with access to political power, as these individuals could more easily craft legislation to their benefit.[131] By restricting trade and limiting new entrants in the marketplace, mercantilist policies weighed heavily on the poorer classes. Smith argued that reducing restrictions on trade would benefit the poor by freeing them to pursue their best interests. As a result, Smith frequently considered the effects of various tax proposals on the poor when discussing the policies implications and relative merits. Smith realized that the laboring classes were unlikely to provide significant revenues to the state, and recognized that taxes paid by the poor raised the price of labor, which had distortionary effects on prices and limited overall production and consumption. Because laborers could not bear any considerable portion of a tax levied on their wages, Smith argued that landlords and consumers ultimately paid, in the form of higher prices, any tax levied upon the poor. Other scholars have interpreted Smith's concern for the poor to support and argument for redistributive economic policies, and have made comparisons to John Rawls' position that inequality could only be justified if the least-well off benefit.[132] Concern for the poor also supports Smith's emphasis on sympathy and reciprocity developed in both the *Wealth of Nations* and in the *Theory of Moral Sentiments.*

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[129] Constant, *Principles of Politics Applicable to All Governments*, 207.
[130] Say, *A Treatise on Political Economy,* 459.
[131] John Tomasi, *Free Market Fairness* (Princeton: Princeton University Press, 2012), 129-130.
[132] Samuel Fleischacker, *A Short History of Distributive Justice* (Cambridge: Harvard University Press, 2004), 39; Samuel Fleischacker, *On Adam Smith's Wealth of Nations: A Philosophical Companion* (Princeton: Princeton University Press, 2004).

Smith in the Early Republic

Americans in the early republic were more familiar with Adam Smith than previous generations of historians have acknowledged. Samuel Fleischacker notes that the "consensus among intellectual historians has been that Americans paid no special attention to *Wealth of Nations* in the founding period."[133] Most intellectual historians have focused on the period leading up to the Constitution, and noted that references to Smith are scanty in the ratification debates. Surveys of early-American libraries reveal that Smith's works were read more widely than the ratification debates suggest and that his works grew in popularity in the decades following their publication. David Lundberg and Henry May found that *Wealth of Nations* appeared in 28% of American libraries in the years 1776-1790, 42% of libraries sampled from 1791 to 1800, and 65% of libraries between 1801 and 1813.[134] Aside from a few religious tracts, Smith's *Wealth of Nations* appears to have been one of the most popular books in American libraries by the first decade of the nineteenth century.

Although the *Wealth of Nations* provided the clearest explication of Smith's maxims regarding taxation, iterations of these arguments could be found in many eighteenth and early-nineteenth century treatises on political economy. State legislators would not have needed to consult Smith to have recognized which forms of taxation best satisfied the revenue needs of the state while minimizing distortions in the market. Americans benefited from being able to observe firsthand the multitude of tax reforms taking place in Europe.[135] New techniques in public

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133 Samuel Fleischacker, "Adam Smith's Reception Among the American Founders, 1776-1790" *The William and Mary Quarterly* Third Series 59, no. 4 (October 2002), 899-900.
134 David Lundberg and Henry F. May, "The Enlightened Reader in America" *American Quarterly* 28, no. 2 (summer 1976), 288.
135 For eighteenth-century tax reforms in Europe, see especially John Brewer, *The Sinews of Power: War, Money and the English State, 1688-1783* (London: Unwin Hyman, 1989); Christopher Storrs ed. *The Fiscal-Military State in Eighteenth-Century Europe: Essays in Honour of P.G.M. Dickson* (Burlington, VT: Ashgate Publishing Company, 2009); Rafe Blaufarb, *The Politics of Fiscal Privilege in Provence, 1530s-1830s* (Washington, D.C.: The Catholic University of America Press, 2012); Michael Kwass, *Privilege and the Politics of Taxation in Eighteenth-*

finances spread quickly across countries and continents, and lawmakers readily discarded strategies that failed in favor of those that proved more reliable or efficient. In describing how quickly fiscal policy innovations had spread within Europe, Smith remarked that there "is no art which one government sooner learns of another than that of draining money from the pockets of the people."[136]

Popular histories written in the eighteenth century described the tax systems of ancient and early-modern governments in great detail.[137] For Early American readers, understanding the seemingly trivial differences between various systems of taxation contributed to their knowledge of the fall of Rome and the development of early modern England and France. Like many of his contemporaries, Smith provided a historical overview of each form of taxation, using examples from history to demonstrate the advantages and shortcomings of each source of revenue. Other political theorists from the period used similar rhetorical techniques, but they often confined their examples to instances of taxes imposed in Europe or in ancient Rome. Smith exceeded previous discussions of taxation not only in his thorough treatment of the subject, but also in his range of examples. By including numerous references to taxation in the American colonies, Smith wrote a treatment of taxation that would have been more engaging for American readers.

Century France: Liberté, Egalité, Fiscalité (Cambridge: Cambridge University Press, 2000); For Spanish and Portuguese reforms and their effect on their Latin American colonies, see Carlos Marichal, "Money, Taxes, and Finance" in Victor Bulmer-Thomas, John H. Coatsworth and Roberto Cortés Conde ed. *The Cambridge Economic History of Latin America* (Cambridge: Cambridge University Press, 2006), 1: 427, 432-436; J.H. Elliott, *Empires of the Atlantic World: Britain and Spain in America 1492-1830* (New Haven: Yale University Press, 2006), 353-368.

[136] Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, 2:861.

[137] Among the most popular histories in the early republic were David Hume's *History of England* (1754-1761), Edward Gibbon's *Decline and Fall of the Roman Empire* (1776-1789), Adam Ferguson's *History of the Progress and Termination of the Roman Republic* (1783), and Voltaire's *Age of Louis XIV* (1751; translated 1752). Each of these works appeared in roughly a third of American libraries from the period, and all are littered with numerous mentions of taxation. Gibbon and Hume presented particularly sophisticated interpretations of historical tax policies, and both authors commented frequently on the aptness and effects of a range of fiscal reforms.

Several of the most prominent members of the post-revolutionary generation revealed their familiarity with Smith's work. An early biography of Alexander Hamilton claimed that Hamilton wrote a detailed commentary on the *Wealth of Nations* while serving in the Confederation Congress in 1783.[138] It is well known that Alexander Hamilton was influenced by Smith in developing his positions on political economy, but other leading members of the founding generation cited Smith approvingly. John Adams, James Madison, Thomas Jefferson, and James Monroe were all aware of Smith's work and in a few cases cited the *Wealth of Nations* directly. Jefferson praised Smith's treatise in a letter to Thomas Mann Randolph Jr., noting that in "political oeconomy I think Smith's wealth of nations the best book extant. In the science of government Montesquieu's spirit of laws is generally recommended." In a later letter to John Norvell, Jefferson wrote that Smith's *Wealth of Nations* "is the best book to be read, unless Say's Political economy can be had." Beyond the founding elite, treatises on political economy were read more widely among early-American statesmen. James Madison recorded a list of books purchased for the Confederation Congress in 1783. The list included both the first and second editions of Smith's *Wealth of Nations,* along with the collected works of Montesquieu and Hume's political essays.[139]

Although the theories developed by Smith and others circulated beyond the founding elite, their influence among state legislators is much more difficult to trace. It would be a

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[138] Harold C. Syrett ed., *The Papers of Alexander Hamilton* (New York: Columbia University Press, 1963-1967), 10:8.

[139] See Thomas Jefferson to Thomas Mann Randolph Jr., 30 May 1790, in Julian P. Boyd ed., *The Papers of Thomas Jefferson* (Princeton: Princeton University Press, 1961), 16:449; Thomas Jefferson to John Norvell, 11 June 1807 [unpublished early access] in *Papers of Thomas Jefferson*; John Adams to Edmund Jennings, 21 April 1783 in Gregg L. Lint et. al., eds., *Papers of John Adams* (Cambridge: Harvard University Press, 2008) 14:435n; Harold C. Syrett ed., *The Papers of Alexander Hamilton* (New York: Columbia University Press, 1963-1967), 7:236, 12:244; Thomas Jefferson to John Wayles Eppes, 6 November 1813 in J. Jefferson Looney et. al., eds., *The Papers of Thomas Jefferson* Retirement Series (Princeton: Princeton University Press, 2009), 6:583, 593; "Report on Books for Congress" 23 January 1783 in William T. Hutchinson, William M.E. Rachal, and Robert A. Rutland et. al., eds. *The Papers of James Madison* (Chicago: University of Chicago Press, 1969-1975), 6:86, 9:84n.

tremendous undertaking to attempt to reconstruct the debates surrounding changes made to each state's tax laws over the course of four decades. State taxes in the early republic involved thousands of legislators and countless petitions from taxpayers and local officials seeking changes to the existing laws. State legislatures in the eighteenth century did not always keep detailed records of their debates, votes, or, in some cases, even the bills under consideration. Most legislatures recorded only summaries of the topics discussed and indicated whether or not the proposed bill had passed. These summaries occasionally provided the number of votes for and against the proposed legislation, but they rarely list the names of those voting or abstaining. Although policymakers and tax collectors left voluminous records and collections of personal papers, they rarely recorded their thoughts on taxation or identified the theories or theorists who had guided their decision-making. It is not necessary to reconstruct the politics surrounding tax legislation to understand the guiding philosophies behind tax policy, however, as we can examine the extent to which the founding generation followed Smith's recommendations by examining the economic consequences of successful legislation.

In every case, political theorists believed that taxation presented a compromise between competing social goals. As David Ricardo emphasized, "taxation under every form presents but a choice of evils."[140] Early-American policymakers were particularly concerned about the distribution of the tax burden, what economists now call the incidence of taxation. Treatises on political economy grew in popularity in the late-eighteenth century, and these tracts emphasized the importance of examining the incidence of taxation and its effects. After outlining an overarching theory of political economy, political theorists tended to include sections on taxation at the end of the volume. The sections dealing with taxation applied the author's universal

[140] Ricardo, *On the Principles of Political Economy and Taxation*, 167.

principles and suggested specific policy prescriptions to promote efficiency, equity, and fairness in government. Although theorists generally agreed that a broadly-based single tax that applied to all taxpayers would be ideal from a perspective of simplicity of collection, they believed that the various means of measuring income would render the tax subjective and arbitrary. Instead, they recommended levying a variety of light taxes that, taken together, would distribute the burden of taxation equitably among the taxpaying population. Eighteenth-century authors referred sometimes to the “equality,” “uniformity,” or “impartiality” of taxation. Theorists proposed various taxes to cover all trades to ensure that neither merchants nor farmers bore a disproportionate share of taxation with respect to their incomes. At the same time, eighteenth-century theorists argued that equitable taxation required that tax liabilities fall only upon those who had the means to pay. David Ricardo followed Adam Smith in arguing that laborers are “never able to bear any considerable proportion of taxation.”[141] State legislators carefully considered the distribution of the tax burden and applied the leading theories of taxation as they crafted fiscal policy in the eighteenth century.

Smith’s principles of equity, transparency, convenience, and efficiency informed American policymakers’ understanding of taxation in the early republic and were reflected in the state and federal systems of taxation. The period immediately following the American Revolution was one of bold experimentation as the state governments struggled to repay the immense debts incurred during the war. As the states struggled to develop a functioning tax system, the fiscal crisis facing the Confederation Congress prompted calls for a Constitutional Convention. The delegates in Philadelphia proposed expanding federal taxing authority to move away from the haphazard collection system in place under the Articles of Confederation. Under

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[141] David Ricardo, *On the Principles of Political Economy and Taxation* ed. Piero Sraffa (1817; rpt. Indianapolis: Liberty Fund, 2004), 159.

the Articles of Confederation, the Confederation Congress could only levy a tax on imports with unanimous approval from the states, and could only enact direct taxes if those taxes were apportioned to the states based on each state's proportion of the total value of real estate in the United States. Because Rhode Island consistently resisted calls for a tax on imports, and because no state submitted a survey of its real estate to Congress, the opposition of only a few states scuttled plans that would have improved fiscal solvency. Congress had only the power to request "requisitions," tax quotas assigned to each state for the purposes of repaying loans contracted by the Continental Congress. No state came close to fulfilling its quota, and the Confederation Congress languished under the voluntary requisition system. In light of the nation's fiscal challenges, federalist delegates to the Constitutional Convention proposed a system of taxation that would prove remarkably resilient. Congress would have unlimited power to enact indirect taxes on imports, but its powers over direct taxation would be constrained. The Constitution required that direct taxes be apportioned based on population, and granted Congress the authority to conduct a census every ten years to provide a basis for that apportionment. State governments conceded their ability to enact their own tariffs, but maintained their system of direct property taxes. Granting Congress the power to collect its own revenues reduced the overall costs of collection and relieved the state governments of burdensome taxes, particularly after Hamilton's funding plan assumed and annuitized the state debts. Perhaps more importantly, the system of taxation that emerged out the Constitution eased the tax burden for the average taxpayer. The tariff obviated the need for the requisition system, and state governments reduced property taxes substantially in the years following the ratification of the Constitution. The tariff provided the vast majority of federal tax revenues in the early republic, and between 1817 and 1861 the tariff was the only source of federal taxation. By establishing clear rules for tax collection, improving the efficiency of the collection system, and shifting the burden of taxation to voluntary consumption, the American system of taxation was consistent with Adam Smith's principles.

Policymakers in the early republic generally followed the principles outlined by Adam Smith and adopted an effective system that succeeded in repaying the Revolutionary War debts. At the same time, Americans were not always consistent in applying Smith's principles, and the system of fiscal federalism introduced at the founding gradually broke down in the nineteenth century. Hamilton's funding plan called for a sinking fund that Smith explicitly rejected.[142] As the federal tariff emerged as the primary source of federal tax receipts, the very qualities that made the tariff so desirable also made it subject to abuse. Smith and Hume had argued that tariffs were invisible to the average taxpayer, as consumers conflated them with the cost of the imported good. Imperceptible taxes on luxuries quickly gave way to protectionism, logrolling, and vote trading in the nineteenth century as new theories of political economy emerged. As federal power expanded, the Congressional taxing authority outgrew its constitutional limitations. The Sixteenth Amendment to the Constitution expanded federal power to provide unlimited authority to raise taxes on income and state governments moved away from property taxes as their primary source of revenue. The federalist system of taxation developed in the early republic eroded gradually and paved the way for the modern administrative state.

[142] Donald R. Stabile, *The Origins of American Public Finance: Debates over Money, Debt, and Taxes in the Constitutional Era, 1776-1836* (Westport, CT: Greenwood Press, 1998), 92.

Chapter 2

Mapping Distress: The Geography of Tax Insolvency in Virginia, 1782-1790

In the decade following the American Revolution, widespread and severe indebtedness remained the most pressing issue for Virginia's smallholders.[143] The war saddled taxpayers with an enormous public debt, and policymakers struggled to craft fiscal policy to meet the revenue demands of the Continental Congress. Personal debts further encumbered taxpayers, as many farmers had borrowed heavily before the war to purchase land or slaves or to finance personal expenditures. Although the state's courts remained closed to British creditors, high marginal tax rates pressed heavily on indebted farmers, increasing their financial obligations in an economy already pressed for specie. A decade of declining tobacco prices and persistent deflation caught taxpayers by surprise and magnified their obligations. Smallholders were the primary victims of economic distress, and as the decade progressed, state policymakers compromised with indebted farmers to facilitate tax collection. Opposition to property seizures during this time prompted legislators to implement indirect methods of taxation, providing both a measure of tax relief for smallholders and a scapegoat in the form of British creditors. Despite the best efforts of state legislators, however, hard times prevented many taxpayers from meeting their annual tax obligations. The effects of this critical period can be observed in the records of insolvent and delinquent taxpayers, the lists of individuals unable to pay their taxes each year. These previously underutilized records provide an objective means for evaluating the level of distress

[143] Because the term *planter* has often been ambiguous in the historical literature, I have followed Woody Holton's decision to eschew the term favor describing wealthy Virginians as *gentleman* and those less well off as *smallholders*, and by referring to both groups together as *taxpayers* or *farmers.* Woody Holton, *Forced Founders: Indians, Debtors, Slaves, & the Making of the American Revolution in Virginia* (Chapel Hill and London: Omohundro Institute for Early American History and Culture, 1999), xxi.

in the Virginia economy, and allow for a comparative and regional assessment.[144] Although overlooked by previous historians, these records illuminate the complexities of the postwar economy and provide a means of identifying the geographic variation of economic distress in the years following the American Revolution.

Regional insolvency patterns provide an excellent measure of the level of distress in the economy and are indicative of larger trends in the postwar period. Insolvency records offer quantitative evidence that allow us to confirm most leading interpretations while providing a better understanding of the causes and chronology of economic distress. Recognizing these regional economies as distinct economic units allows for a more dynamic and nuanced interpretation of the critical period. Every state faced a crisis of tax collection during the 1780s. Although no state succeeded in meeting their requisitions to the Continental Congress, many legislatures responded by compromising with indebted taxpayers to facilitate tax collection efforts. Through using Virginia as a case study, we can observe how the largest and most economically important state navigated the challenges of developing its tax infrastructure successfully during a period of economic distress. Insolvency records also provide a framework for understanding the spatial distribution of taxpayer resistance and sectional voting patterns during the Constitutional ratification debates. Although economic distress inflamed taxpayer

[144] Lists of Insolvent and Delinquent Taxpayers are housed at the Library of Virginia in Richmond. Augustus Low used these records in his 1941 dissertation, and Robert D. Mitchell cited lists from Augusta County to describe migration trends, but I can find no other record of their being employed by historians. The fact that these records were not microfilmed with Virginia's other tax records from the period may have limited their use. Their fragmentary nature also limits their application. Although the records are incomplete for most counties, the seven hundred and eighty eight surviving lists provide an excellent source for aggregate comparison. Low compared the lists to tax records from before the Revolution, and concluded that tax delinquency was only slightly higher in the decade after the war than in the decade before. Low, however, ignored the enormous variation and fluctuations in insolvency in many counties and across the state over the course of the decade. These changes are the subject of this paper. See, Augustus W. Low, "Virginia in the Critical Period, 1783-1789" (PhD diss., University of Iowa, 1941), 12, 116; Robert D. Mitchell, *Commercialism and Frontier: Perspectives on the Early Shenandoah Valley* (Charlottesville: University Press of Virginia, 1977), 57n.

militancy and later encouraged Anti-Federalist sentiment, distress and popular unrest were not universal. Taxpayers responded to local economic conditions. Tax records reveal economic conditions at the county level, which allow us to map macroeconomic changes and follow the transmission of distress in early Virginia. Mapping the changing economic circumstances of Virginia's taxpayers informs our understanding of taxpayer resistance, the political economy of taxation under the Articles of Confederation, and sectional voting patterns during the Constitutional ratification debates.

Disruptions in postwar trade, differences in the mix of crops planted, and changes in relative local crop prices were most important in distributing the depression's effects. Tax data show that insolvency rates in the Central Piedmont remained elevated but stable over the course of the decade, and that insolvency rates in the Shenandoah Valley and western counties rose consistently from year to year. Rising wheat and corn prices in Northern Virginia and the Northern Neck ensured low rates of insolvency for most of the decade. The situation was reversed in Southside and the Lower James, where declining corn prices and low wheat prices caused insolvency rates to double in the first half of the decade before recovering quickly in the years that followed. The data from the Tidewater suggest that insolvency spiked suddenly in 1786, but was generally declining over the course of the decade. The data demonstrate that Virginians did experience a critical period in the years immediately preceding the Ratification of the Constitution. At the same time, the data present a generally positive story, with most regions exhibiting signs of recovery by 1787 and the average rate of insolvency declining from 6.3 to 3.3 percent as crop prices improved, yields returned to prewar levels, and state legislators enacted changes to the tax code designed both to mitigate hardship and to facilitate tax collection.

From the numerous petitions sent from taxpayers seeking tax relief, historians have found it difficult to "judge whether the farmers were merely putting on the poor mouth or if they were in genuine distress."[145] The traditional interpretation argues that the Chesapeake experienced a "critical period" of severe economic contraction caused by insatiable spending, soil exhaustion, and mounting debts to British creditors.[146] Studies that follow this line of argument emphasize the decline of the gentry, and use a multitude of court cases, letters, and travelers' accounts to construct a negative depiction of the postwar Virginia economy. A second group of historians has argued that the economy rose "like a phoenix from the ashes," contending that the years following the Revolution were a time of "real prosperity" and "extraordinary economic growth."[147] Relying on aggregate export data, these historians maintain that tobacco production was largely unaffected by wartime disruptions, and point to high tobacco prices in the immediate post-war period to support their positive portrayal of Virginia's economy.[148] Such interpretations

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[145] Max M. Edling, *A Revolution in Favor of Government: Origins of the U.S Constitution and the Making of the American State* (New York: Oxford University Press, 2003), 156.

[146] Terry Bouton, in his study of post-revolutionary Pennsylvania, notes that "in terms of property foreclosures, the downturn in the revolutionary economy may have surpassed the Great Depression of the 1930s." Terry Bouton, *Taming Democracy: "The People," the Founders, and the Troubled Ending of the American Revolution* (New York: Oxford University Press, 2007), 91; For other interpretations that point to recession in the 1780s, see Emory G. Evans, *"A Toppling People" : The Rise and Decline of Virginia's Old Political Elite, 1680-1790* (Charlottesville: University of Virginia Press, 2009); Michael McDonnell, *The Politics of War: Race, Class, & Conflict in Revolutionary Virginia* (Chapel Hill and London: Omohundro Institute for Early American History and Culture, 2007); Woody Holton, *Unruly Americans and the Origins of the Constitution* (New York: Hill and Wang, 2007); Holton, *Forced Founders.*

[147] Alan Schaffer, "Virginia's 'Critical Period'" in Rutman, Darrett B. ed. *The Old Dominion: Essays for Thomas Perkins Abernethy* (Charlottesville: The University Press of Virginia, 1964), 152; Gordon C. Bjork, *Stagnation and Growth in the American Economy, 1784-1792* (New York: Garland Publishing Inc., 1985), 159; Merrill Jensen, *The New Nation: A History of the United States During the Confederation 1781-1789* (New York: Alfred A. Knopf, 1950), 423.

[148] For interpretations that portray the postwar economy in a positive light, see Gordon S. Wood, *Empire of Liberty of Liberty: A History of the Early Republic, 1789-1815* (New York: Oxford University Press, 2009), 14-16; Gordon C. Bjork, *Stagnation and Growth in the American Economy, 1784-1792*; Norman K. Risjord, *Chesapeake Politics 1781-1800* (New York: Colombia University Press, 1978), 40; Jacob M. Price, *France and the Chesapeake: A History of the French Tobacco Monopoly, 1674-1791, and of Its Relationship to the British and American Tobacco Trades,* two volumes (Ann Arbor: The University of Michigan Press, 1973), 2:728-731; Gordon S. Wood, *The Creation of the American Republic 1776-1787* (Chapel Hill: Institute for Early American History and Culture, 1969), 394; E. James Ferguson, *The Power of the Purse: A History of American Public Finance 1776-1790* (Chapel Hill: Institute of Early American History and Culture, 1961), 336-337; Jensen, *The New Nation*, 192-193, 254-255, 423-424; Schaffer, "Virginia's 'Critical Period'" in Rutman ed. *The Old Dominion: Essays for Thomas Perkins*

often compare Virginia to Massachusetts, noting the absence of a Shays's Rebellion in Virginia. These arguments ignore the numerous local and individual acts of resistance to tax collection and debt repayment in Virginia during this time.[149] Regardless of their interpretation, however, both groups of historians characterize the postwar economy as a monolithic entity and ignore variations at the regional level. By failing to account for regional and local differences, these studies provide a false aggregate for the postwar economy.

Historians have traditionally framed the debate over the postwar economy as a struggle between debtor and creditor interests without considering the importance of regional and local economic conditions. Many historians emphasize that some farmers profited while others lost, with some scholars arguing that taxation amounted to a form of expropriation that favored creditor interests.[150] Such interpretations frequently side with William Allason, a merchant and contemporary observer, who noted that the Revolution "occasioned great changes in peoples circumstances, as many before it had had no Credit or property, are now most oppulent, and others who were in good credit, have lost that as well as their Subject; such changes and alterations I say are numerous here."[151] Yet the fortunes of everyday Virginians were more affected by changes in local prices, taxes, and crop yields than by the whims of their creditors

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Abernethy, 152-170; Charles A. Beard, *An Economic Interpretation of the Constitution of the United States* (1913; rpt. New York: Free Press, 1986).

[149] For instances of popular and individual resistance in Virginia, see Holton, *Unruly Americans and the Origins of the Constitution*, 10-12, 145-147; Bouton, *Taming Democracy*, 145-167; McDonnell, *The Politics of War;* Holton, *Forced Founders;* Roger H. Brown, *Redeeming the Republic: Federalists, Taxation, and the Origins of the Constitution* (Baltimore and London: The Johns Hopkins University Press, 1993), 130; Freeman H. Hart, *The Valley of Virginia in the American Revolution 1763-1789* (Chapel Hill: University of North Carolina Press, 1942), 125-126.

[150] For the argument that taxation represented expropriation, see Woody Holton, "Did Democracy Cause the Recession That Led to the Constitution?" *Journal of American History* 92, no. 2 (September 2005), 446-447; T.H. Breen, *Tobacco Culture: The Mentality of the Great Tidewater Planters on the Eve of Revolution* (Princeton: Princeton University Press, 1985), 204-205; Herbert E. Sloan, *Principle and Interest: Thomas Jefferson and the Problem of Debt* (Charlottesville: University of Virginia Press, 1995), 28, 262n; W.A Low, "The Farmer in Post-Revolutionary Virginia, 1783-1789," *Agricultural History* 25, no. 3 (July, 1951): 122-127.

[151] William Allason to David Allason, May 18, 1785, Allason Letter Books, 1770-1789, Microfilm, Library of Virginia, Richmond. Miscellaneous Reel 389, page 483.

during this period. Although historians of the Chesapeake School have described regional economies extensively, the challenging nature of the sources surrounding indebtedness has limited a comprehensive quantitative analysis. The complexities of eighteenth-century credit arrangements complicate any study of indebtedness, as credit flowed from a multitude of sources. An examination of tax insolvency remedies these problems.[152] Because *all* Virginia property holders found themselves indebted to the state, an examination of tax records from the period provides a more accurate portrait of the post-war economy.

Our understanding of the postwar economy requires further modification to explain how the recession affected different classes. Nearly all of the sources from this time period are biased towards wealthy gentleman in Northern Virginia and in the Northern Neck. As a result, many historians have been quick to argue that "economic hardship touched all levels," without describing which classes were most or least affected.[153] The tendency to overemphasize the gentry, which constituted only a small percentage of Virginia society, has obscured our understanding of the postwar economy. But despite the comparative lack of correspondence from the middle and lower classes, a multitude of aggregate data exists in the form of tax, census, and

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[152] Unless otherwise noted, all references to *insolvency* in this paper refer to tax-based insolvency. Bruce Mann defines insolvency as "an imprecise state … [that] can mean that one's liabilities exceed one's assets or, more narrowly, that the assets legally available to creditors are insufficient to pay one's debts. Or it can mean simply the inability to repay debts as they become due." In the period before 1800, when Congress passed the nation's first bankruptcy law, individuals who failed to pay their debts were referred to as insolvent. In the context of taxation, insolvency refers to the inability to pay one's taxes. Individuals could appear on the list of delinquent and insolvent taxpayers if they failed to pay one or more of the state's taxes. For example, in Culpepper County in 1782, several individuals were listed as "paid his specie," but had not paid the certificate tax for that year. Bruce H. Mann, *Republic of Debtors: Bankruptcy in the Age of American Independence* (Cambridge, MA: Harvard University Press, 2002), 45; Virginia Auditor of Public Accounts (1776-1928), Delinquent and Insolvent Taxpayers, 1781-1830, Library of Virginia, Richmond, VA, APA 427. Box 1217, Culpepper County 1783-1785 Folder.

[153] Louis Magazin, "Economic Depression in Maryland and Virginia, 1783-1787" (PhD diss., Georgetown University, 1967), iv, 171; Myra L. Rich, "Speculations on the Significance of Debt: *Virginia 1787-1789*" *The Virginia Magazine of History and Biography* 76, no. 3 (July, 1968): 301-317; Historians have only recently begun to challenge this interpretation. Terry Bouton, in emphasizing post-war Pennsylvania has observed that "although the crisis hurt some gentleman, most of the pain was borne by those in the middling and lower sorts." Bouton, *Taming Democracy*, 100.

probate records. It is the magnitude of un-tabulated aggregate data, however, that has prevented social and economic historians from studying variations in the Chesapeake economy systematically.[154] Tax-based insolvency presents a manageable alternative. Because all white males over the age of twenty one had to pay a poll tax, in addition to land and other personal property taxes, an examination of tax-based insolvency would include even some property-less segments of the Virginia population. Through studying those individuals most affected by the tax burden, a better understanding of the magnitude of economic distress may be obtained.

Early American tax collectors recorded lists of insolvent and delinquent taxpayers annually to identify individuals had failed to pay their taxes. I have counted the number of insolvent taxpayers from each of the lists to calculate an insolvency rate for each county. To calculate each county's insolvency rate I have simply divided the number of insolvent taxpayers by the number of taxpayers found in that county's assessment lists. The insolvency rates help to quantify the level of distress in the confederation economy by providing an objective measure of the indebtedness in each county and by facilitating comparisons between regions and over time. Just like a modern unemployment rate or bankruptcy rate, the rate of insolvency provides a measure of economic performance that helps us to understand how taxpayers fared in a period for which there are few reliable economic indicators. Although a natural rate of unemployment or bankruptcy exists even in prosperous times, a shift of only a few percentage points can signal a crisis and send ripple effects through the larger economy. Even though the vast majority of Virginians did pay their taxes during the 1780s, the proportion of taxpayers who were unable to pay their debts to the state reveals a great deal about the postwar economy. Following the

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[154] Lorena S. Walsh notes that "Good tax lists are available for all counties for the 1780s. The problem stems simply from the amount of time required to extract the requisite information county by county; so far no one has done so systematically." Lorena S. Walsh, "Summing the Parts: Implications for Estimating Chesapeake Output and Income Subregionally" *The William and Mary Quarterly* Third Series 56, no. 1 (January, 1999), 84n.

fluctuations in insolvency over the course of the decade allows us to track macroeconomic changes as they developed during the critical period.

While tax lists from the 1780s include a larger segment of the population than would probate inventories or personal letters, analyzing the tax records presents several challenges for analyzing and interpreting these sources. Sheriffs and county clerks made numerous drafts of each tax list in an effort to correct errors, alphabetize, and collate taxpayers from multiple tax districts.[155] In many cases, the returns from only a few districts or precincts survive, and it would be nearly impossible to tell how many districts existed originally in each county or to collate the more than 25,000 taxpayers listed as insolvent among almost 800 tax lists.[156] To account for the differing survival rates among the county data, I have taken the highest number of insolvents recorded among each of the surviving lists. I have combined the number of taxpayers when they are recorded on the same list, or when it can be proven that the two lists represent separate districts of the same tax administration.[157] Although this method understates the true number of insolvents, it is more accurate than measuring the total number of insolvents found in each tax

155 Ascertaining the date in which a list was collected presents a challenge for historians. The lists sometimes fail to mention the tax year for which it was compiled, instead listing the date in which it was submitted to the court. As a result, I have ignored list fragments that fail to mention a county name or year. When presented with only one date, the date in which the list was submitted to the county court, I have assumed that it came from the previous tax year. This assumption follows for virtually all lists and is supported by the archivists who organized the collection. For example, a folder for Shenandoah County is labeled "c. 1787" because the list refers to the taxes for the year 1786. See Delinquent and Insolvent Taxpayers, 1781-1830, Box 1218, Shenandoah County, c. 1787 Folder.

156 Because sheriffs and their deputies divided each county into tax districts at the start of each tax year, the lists often give little indication as to the geographic limits of each sheriff's jurisdiction or to the number of districts that existed. While some sheriffs separated their county into eastern and western or northern and southern districts, most sheriffs divided the county informally among their deputies. As a result, most tax lists refer only to the deputy that compiled the list, such as "District of Joseph Bell." Virginia Auditor of Public Accounts (1776-1928), Delinquent and Insolvent Taxpayers, 1781-1830, Library of Virginia, Richmond, VA, Boxes 1219, Augusta County Folder.

157 The following counties recorded the returns from two deputy sheriffs on the same tax lists: Albemarle County (1784), Northampton County (1787), Nansemond County (1783), Pittsylvania County (1784, 1785), Prince George County (1785, 1786), Sussex County (1788). The upper and lower districts of Middlesex County (1784, 1787) and York County (1789) have been combined. The parishes in Fairfax County (1784, 1787, 1788), and Southampton County (1785) have been combined. Loudoun County listed the individuals who removed from the county on a separate list for 1784, and these taxpayers have been added to the lists of insolvents. Three lists from Augusta County in 1782 and two lists from Pittsylvania County for 1783 have different names and have been combined.

list because the total number would overstate the number of insolvents by counting overlapping taxpayer names multiple times. Estimating the taxpaying population presents another challenge, as the Census of 1790 lists only adult white males over the age of fifteen. While the Census provides a rough approximation of the taxpaying population, estimates derived from the tax lists allow for greater precision.[158] The insolvency figures have been calculated by dividing the number of insolvent taxpayers by the population estimates for each county.

Another challenge results from the fact that the lists record both *insolvent* and *delinquent* taxpayers, and it is possible that some debtors were merely late in making their payment. In analyzing the tax records, every effort has been made to separate those who could not pay from those who were simply delinquent. Fortunately, nearly all sheriffs accounted for delinquent taxpayers by making notations in the margins of their tax lists, and delinquent taxpayers have been excluded.[159] The lists also include individuals who "Removed of the County" before taxes could be collected. Their removal could be read as a sign of tax evasion or as evidence of geographic mobility during this time. Although their mobility does not necessarily attest to their

158 See Methodology Appendix.

159 The standard practice among sheriffs during this period was to cross off names of delinquent taxpayers after receiving their payment. Other sheriffs made a notation next to the taxpayer's name indicating that the delinquent tax had been paid. I have not included these individuals when counting the number of insolvent taxpayers for each list. When the lists include corrections for previous errors or exemptions, such as individuals listed as "supernumeraries of Tax," "errors," "by mistake," "twice returned," "twice charged," or "tax free," I have eliminated them from my count. Because insolvent and delinquent debtors remained liable for unpaid debts in perpetuity, sheriffs and county clerks continued to update lists to correct errors and account for taxpayers who made payments. The fact that nearly all of the lists dated from 1791 and 1792 record lists of insolvents from earlier tax years suggests that county clerks continued to keep the lists up to date even years later. I have not included lists of insolvent nonresidents, as these lists would not be complete or reflective of the economic situation within the county. For example, George Washington was listed as a delinquent nonresident for Amelia County in 1782. This entry may refer to George Augustine Washington, as neither George nor Martha Washington owned land in Amelia County. It is also possible that George Washington paid the tax on behalf of one of his friends or relatives. See, Delinquent and Insolvent Taxpayers, 1781-1830, Box 1217, Amelia County.

insolvency, it is clear that many of these taxpayers left the county temporarily to avoid taxation, and their removal should be read as a sign of economic distress.[160]

It is worth emphasizing that the tax records do not claim to include *all* insolvent citizens. The lists leave out some individuals who were either able to pay or were exempted from taxation, but would have otherwise been responsible for private debts.[161] Because sheriffs in the

[160] The large numbers of debtors recorded as "moved away," "ran away," "rem[d]," or "gone" suggests enormous geographic mobility. Considering that taxes were collected within weeks of the tax list being prepared, it is highly improbable that these individuals left the county for reasons other than taxation and that much of the migration was seasonal for the purposes of tax evasion. Examining the tax records from Maine, Alan Taylor also described migration as a sign of economic distress, noting that "[t]ax lists confirm that poorer, younger men tended to flee Palermo, leaving their more prosperous parents behind" and emphasizing that the nearby town of Jefferson, which did not face proprietary land payments, "was better able to retain its inhabitants." In some Virginia counties, as many as seventy five percent of those listed as insolvent or delinquent had removed from the county. And in Charlotte County, the rate of removal surpassed five percent of its 1790 adult white male population (Table 2.1). The phrase "rem[d]" could not have meant "exempt" or "remove permanently from the tax list," as individuals who were listed as overcharged, exempt, or dead did not receive this notation. Alan Taylor, *Liberty Men and Great Proprietors: The Revolutionary Settlement on the Maine Frontier, 1760-1820* (Chapel Hill and London: Omohundro Institute for Early American History and Culture, 1990), 362.

Table 2.1: *Insolvent and Delinquent Debtors who Removed from Charlotte County and Left No Property, 1783-1786*

Tax Year	Number of Insolvents and Delinquents	Number Removed	Percentage Listed as Removed
1783	214	69	32.22%
1784	225	54	24.00%
1785	242	61	25.20%
1786	274	62	22.62%

Sources: Virginia Auditor of Public Accounts (1776-1928), Delinquent and Insolvent Taxpayers, 1781-1830, Library of Virginia, Richmond, VA, Boxes 1216-1218; "Summary of Population of Virginia, by Counties: 1790, Free White Males of 16 Years and Upwards," in *Heads of Families At The First Census of the United States Taken in the Year 1790, Records of the State Enumerations: 1782-1785, Virginia* (Washington: Government Printing Office, 1908; rpt. Baltimore: Genealogical Publishing Company, 1970), 9.

[161] Clergymen, Revolutionary War veterans, college professors, elected officials, noncitizens, and ferrymen were all exempted from the poll tax levied on adult white males. County courts could also exempt from taxation those individuals who were considered "too poor," and routinely provided exemptions to the poll tax or slave tax if it could be proved that the individual suffered from "old age or infirmities." Although the courts did not adopt a uniform standard for determining which individuals were "too poor," these individuals usually held no property and were deemed too poor to pay the poll tax levied on adult white males. Steven Sarson notes that tax collectors in Maryland made similar provisions for taxpayers considered too poor, and found that these individuals typically owned less than $40 in taxable wealth in 1800, at a time when the average small yeoman in Prince George's County had more than $800. William W. Hening, *The Statues at Large: Being a Collection of All of the Laws of Virginia from the first session of the Legislature, in the year 1619* Thirteen Volumes (Richmond, Philadelphia, and New York, 1809-1823), 10:12; Netti Schreiner-Yantis and Florene Speakman Love, *The 1787 Census of Virginia* (Springfield, VA: Genealogical Books in Print, 1987), 1:xiv; Steven James Sarson, "Wealth, Poverty and Labor in the Tobacco Plantation South: Prince George's County, Maryland in the Early National Era" (PhD Diss: Johns Hopkins University, 1998), 37; Steven Sarson, "Yeoman Farmers in a Planters' Republic: Socioeconomic

1780s collected taxes on property that was employed primarily in agriculture, merchants and individuals engaged in household manufactures would have been less likely to appear on lists of tax insolvents. It should also be noted that tax insolvents were not necessarily the same individuals who declared insolvency for private debts. Strict penalties for failing to pay taxes ensured that taxpayers generally paid the tax collector before they paid their creditors, and some debtors might have had only enough to settle their debts with the state. This point serves to reinforce the case for tax-based insolvency, as Virginia's courts were closed to British creditors during this period, making the number of tax insolvents particularly significant, and these data should be taken as a measure of the lower limit of distress in the economy.[162]

A familiarity with the tax assessment and collection practices in the postwar period is necessary for interpreting the insolvency records and understanding how state legislators responded to the crises of the Confederation. Although some historians have argued that early American taxes were "corrupt" or "primitive," an examination of the assessment and tax collection process in Virginia reveals a legislature responding proactively in a period of crisis to compromise with its indebted constituents.[163] The General Assembly worked actively to reform the state's tax code both to mitigate financial hardship and to meet the requisitions of the Confederation Congress. During the Revolution, existing tax policies had proved inefficient in meeting wartime needs and remained vulnerable to corruption from local sheriffs who had

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Conditions and Relations in Early National Prince George's County, Maryland" *Journal of the Early Republic* 29 (spring, 2009), 72.

[162] These lists also typically ignore local taxes that existed in some counties and independent cities, which presented an additional burden for some taxpayers. For a discussion of local taxation, see Max Edling and Mark D. Kaplanoff, "Alexander Hamilton's Fiscal Reform: Transforming the Structure of Taxation in the Early Republic" *The William and Mary Quarterly* Third Series 61, no. 4 (October, 2004), 718n.

[163] Robin Einhorn, *American Taxation, American Slavery* (Chicago and London: The University of Chicago Press, 2006), chapter 1, especially 29, 34-36, and 52.

discretion in assessing the value of taxable property.[164] To remedy these inefficiencies, legislators pursued policies that led to the standardization of tax collection and provided incentives to deter corruption. At the same time, legislators shifted the burden of taxation from small farmers to wealthy consumers by exhibiting a preference for indirect taxation. Virginia's legislators did not hesitate to experiment with the tax policy when faced with changing economic circumstances and amid the impending transfer of power to the federal government following the ratification of the Constitution.

Taxes in Virginia continued to involve local justices, sheriffs, deputies, and state-appointed commissioners at every step. Beginning in 1781, the state legislature specified that counties would be divided into precincts by 10 April of each year, and ordered the justices to post notices at "the most public places" instructing heads of household to present the county clerk with lists of their taxable persons and property by 1 June.[165] The justices would then compile three "fair alphabetical list[s]" of all free males, property holders, and "enumerated articles" within the county and present one copy to the sheriff by 10 June. The clerk would also send one copy of the list to the Auditors of Public Accounts in Richmond, and another to the county court house.[166] Sheriffs frequently hired clerks to assist in making copies of lists, and deputies to aid in tax collection. These individuals were typically paid by the day, in the case of

[164] Robert A. Becker, *Revolution, Reform, and the Politics of American Taxation, 1763-1783* (Baton Rouge and London: Louisiana State University Press, 1980), 197, 198; for the history of taxation under British rule, see John Brewer, *The Sinews of Power: War, Money and the English state, 1688-1783* (London: Unwin Hyman, 1989), 165-251.
[165] Hening, *The Statues at Large*, 10:504-508.
[166] The General Assembly established a board of three auditors of public accounts on October 7, 1776 to manage the state's finances during the war. Over the course war, the Assembly repeatedly clarified and expanded the auditors' duties, and appointed a solicitor general in 1785 to oversee and settle Virginia's accounts with the Continental Congress. In November 1791, according to John S. Salmon and J. Christian Kolbe, "the General Assembly passed an act that combined the duties of the board of auditors and the solicitor general, and assigned them to a single auditor of public accounts effective January 1, 1792. The auditor soon became the most powerful fiscal officer in the state." John S. Salmon and J. Christian Kolbe, *Auditor of Public Accounts Inventory* (Richmond: Virginia State Library and Archives, 1992), xi; Frederick Tilden Neely, "The Development of Virginia Taxation: 1775 to 1860" (PhD diss.: University of Virginia, 1956), 7-15.

deputies, or by the number of "good" or "fair" lists produced in the case of county clerks.[167] Taxpayers had from 10 June to 1 July to make payment to the sheriff. After 1 July, sheriffs had the power to "distrain," or requisition, property from delinquent debtors and to sell the seized property at public auction. To limit the potential for corruption, the law required sheriffs to give the public six days' notice, and to sell only the minimum number of acres necessary to absolve the debtor of delinquent taxes. For their services, sheriffs received a five percent commission on taxes collected, providing them with the incentive to ensure efficient collection.

Although the commission paid to county sheriffs may appear generous to modern readers, it should be noted that tax collectors were held *personally* liable for uncollected taxes. Sheriffs could be forced to remit their *own* funds to the treasury if their collections came up short, and justices faced steep fines or imprisonment for discrepancies in their tax lists.[168] Tax laws also mandated that sheriffs swear out a bond that would be forfeited if they refused to serve as tax collector or if they failed to remit the collected taxes to the state. In times of economic distress, few Virginians stepped forward to serve as tax collector, and sheriffs from more than forty counties petitioned to be relieved from their duties between 1782 and 1787.[169] In the event that sheriff's accounts became delinquent to the state, the solicitor could and did initiate legal action against sheriffs' property. The solicitor commenced legal action against thirty-two delinquent sheriffs in the spring of 1787 and obtained warrants to seize and sell their property at

[167] Fifteen shillings per day appears to have been the prevailing wage for sheriffs' deputies in the early 1780s based on receipts found in the lists of delinquent and insolvent taxpayers. Hening, *The Statues at Large,* 11:112-129; Delinquent and Insolvent Taxpayers, Box 1216.
[168] Because sheriffs were more concerned with the amount of delinquent taxes than the number of individuals unable to pay, some tax collectors recorded only the amounts without listing the taxpayers' names. Some sheriffs and county clerks occasionally recorded lists "of delinquent horses" and cattle instead of recording the names of delinquent taxpayers. For tax collectors, recording the names of insolvent taxpayers provided proof of their effort to make collections. I have excluded lists of taxpayers that do not contain names or descriptions that verify that the list contains insolvents from my sample, as sheriffs sometimes drafted "lists of errors" separately from the lists of insolvents and these lists are included in the same collection. Hening, *The Statues at Large,* 12:93-96.
[169] Neely, "The Development of Virginia Taxation: 1775 to 1860," 15-16.

public auction. Although many of the sheriffs successfully forestalled the sale of the property, others were not so fortunate.[170] The threat of having their *own* property seized for the failure of their neighbors to make payment on taxes due was a real concern for sheriffs appointed during the Confederation period.

Tax collectors could, however, submit lists of insolvent and delinquent debtors as a way of writing off taxes due from uncollectable sources. Sheriffs compiled these lists annually at the end of each tax season to account for individuals within their county who could not make payments. Although clerks and sheriffs initially received little guidance on the form that these lists should take, the General Assembly clarified and standardized the procedure in an act passed in October 1786.[171] The General Assembly required county commissioners to certify these lists of insolvents to confirm that tax collectors had made every effort to collect from these individuals.[172] The Governor had the power to absolve these "delinquent sheriffs" of uncollected

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[170] Brown, *Redeeming the Republic,* 130.

[171] Hening, *The Statues at Large,* 12:253-254.

[172] I have only encountered one accusation of impropriety on the part of Virginia sheriffs or commissioners during this period. The scandal came to light in 1792, after the General Assembly consolidated the office of the Auditor of Public Accounts, and the Auditor ordered the review of all lists of insolvents and delinquents from the previous decade to facilitate the settlement of the state's accounts. Based on only a few surviving letters, it appears that Anthony Mustoe, William Bowyer, and William Chambers were accused of falsifying lists of delinquents and insolvent taxpayers for Augusta County for the years 1784-1786. The three were indicted in 1792, but, before the case could be heard, the evidence against them disappeared from the county clerk's office and the charges were dismissed. John Pendleton Jr., the Auditor of Public Accounts assembled a committee to look into the failed prosecutions. The committee cleared the clerk of any wrongdoing but found that the sheriff and deputies had inserted names and taxable property that did not appear in the original lists for 1783, and noted that by what "artifice, collusion or what slight of hands men took the papers out of the office; is a matter which must grow into opinion, from the dark combining circumstances it relates to." One of the conspirators, William Bowyer, attempted to clear his name in a letter to Archibald Blair, clerk of the privy council, noting that "[i]t is with the utmost abhorrence & detestation that I have viewed the abuses committed in the collector's department, and Justice I have thought called aloud for my interference to put a check to them." After comparing the commissioners' remarks with the tax lists kept at the auditor's office, the committee was able to reconstruct the falsified lists. On April 7, 1796, the governor ordered that the corrected lists of delinquents should "be printed & distributed in the said County of Augusta, as tending either to criminate or acquit to persons who have been publically accused of fraudulent practices as public officers." Virginia. Auditor of Public Accounts. Delinquent Taxes. Augusta County. APA 421a; William P. Palmer, ed. *Calendar of Virginia State Papers and Other Manuscripts from January 1, 1785 to July 2, 1789 Presented in the Capitol at Richmond* (Richmond, 1884; rpt. New York: Kraus Reprint Corporation, 1964), V, 470-471, VI, 50-52, 690-691, 710-712.

debts, and he typically did so, unless it could be proven that the sheriff had not shown due diligence in the collection of taxes. In many cases, sheriffs included annotations next to the names of delinquent individuals to explain why the tax could not be collected.[173] Reasons included “Removed of the County & left no property,” “no effects Debt,” “Insolvent too poor,” and “don’t know where he lives at.”[174] Sheriffs added these descriptions and others in hopes of convincing the executive to absolve them of their liabilities. After compiling a particularly thorough set of annotations to accompany his list of insolvents, one sheriff emphasized his inability to collect by noting that he “he hath not received any part of the above sums and that many of the People is removed out of the County and others not able to pay.”[175] Once submitted, the Auditor of Public Accounts would determine the legitimacy of taxpayers’ individual requests for exemption and credit payment to the sheriff and county clerk.[176]

Despite legislators’ attempts to make taxation more efficient, tax collection in Virginia was problematic from the start, as evidenced by the numerous changes made to the State’s tax laws. Like many states, Virginia never came close to fulfilling its requisitions to the Confederation Congress. The problem stemmed from legislators’ desire to retire the state’s

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[173] A 1789 letter from the Auditor of Public Accounts to the Commissioner of Tax for Westmoreland County instructed the commissioner to make corrections to his lists of insolvents, noting “[t]he Commissioner of the County should certifie this fact & the place to wch the above persons have removed should also be expressed.” By the mid-1780s it was common practice for commissioners to provide annotations accounting for each insolvent taxpayer. Delinquent and Insolvent Taxpayers, Box 1219, Westmoreland County 1789 Folder.

[174] Delinquent and Insolvent Taxpayers, Boxes 1216, 1218, New Kent and Loudoun Counties.

[175] Delinquent and Insolvent Taxpayers, Box 1216, Berkeley County, 1783 Folder.

[176] County courts also had the authority to interpret tax law and exercise discretion when the laws were unclear. For example, the law concerning the tax on billiard tables did not specify whether the billiard table had to be in use or if the simple possession of a billiard table justified the tax. The Northampton County court ruled on July 9, 1788 that “[i]t having been proved to the satisfaction of the court that a billiard table the property of Walter Hyslop and another the property of Michael Dunton had been listed in the year 1786 before they were set up, it is ordered that the same be certified to the Auditor of Public Accounts in order that they may be reimbursed the taxes thereon.” In another instance, a court in Hanover County exempted William Pollard Jr after finding “that it be certified that it appears to the court that there was a phaeton listed last year as belonging to the said Pollard and that the large wheels which were to the said phaeton had been taken off before the ninth day of March 1787 and before that day fixed to a cart and applied to the purposes of agriculture, and that they have not been used since that time in any other manner.” Delinquent and Insolvent Taxpayers, Box 1219, Northampton County, 1788 Folder. Box 1222, Hanover County, 1789-1790 Folder.

Revolutionary War debts immediately. Virginians were accustomed to enduring short periods of elevated taxation levels, rather than tolerating the public debt to accumulate interest. This strategy had been employed successfully after the French and Indian War, and Virginians hoped that a similar policy could be implemented after the Revolution. Legislators, however, did not take into consideration that the debts from the Revolution were more than twenty-times larger than those from the French and Indian War.[177] By 1784, according to one estimate, this meant that approximately eighty percent of Virginia's revenues were appropriated for debt servicing.[178] The problems associated with tax collection forced legislators to modify their revenue strategy by compromising with delinquent taxpayers over the methods of tax collection. Desperate for revenue during the Revolution, legislators experimented with a number of policies to maximize tax collection efforts. Starting in October 1779, taxpayers could pay in excess of their taxes due and receive certificates that paid 6% interest that could be used to pay for future taxes.[179] The state also began accepting a variety of commodities in lieu of specie. Although personal property tax laws initially specified that taxes could be paid only in specie, taxpayers could make payments using eleven mediums of exchange by October 1783.[180] By establishing a fixed price for some commodities, legislators encouraged delinquents to make payments, often with inferior goods.[181]

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[177] Edwin J. Perkins, *American Public Finance and Financial Services 1700-1815* (Columbus: Ohio State University Press, 1994), 94.

[178] Edling and Kaplanoff, "Alexander Hamilton's Fiscal Reform," 735n.

[179] The legislature repealed the act in May 1780. Hening, *The Statutes at Large*, 10:190, 271.

[180] In addition to gold and silver, Virginians could also pay their taxes using tobacco, hemp, flour, deer skins, negroes, "inspectors receipts or notes for good merchantable crop tobacco," "transfer receipts or notes for tobacco," "inspectors receipts or notes for sound, clean and merchantable hemp," and notes issued during the Revolution to enlisted soldiers as legal tender for tax obligations. Hening, *The Statutes at Large*, 11:112-129, 176-180.

[181] Taxpayers could make payments in tobacco at twenty shillings per hundred pounds in the early 1780s. The General Assembly raised the acceptance price in October 1787, and established a system that valued tobacco between twenty-two and thirty shillings per hundred pounds, depending on where the tobacco was inspected. These valuations approximated the market price for tobacco in each region. It is clear from the tax laws that taxpayers took advantage of the favorable rates offered for their commodities, and that many taxpayers submitted inferior quality goods to the state. A law passed in May 1783 noted that, "great loss has been incurred by the state from the receipt

Legislators also compromised on the date that taxes were collected. The General Assembly moved to delay taxes eleven times between 1782 and 1786, acting both to minimize hardship and to facilitate tax collection. Acts delaying the collection of taxes often noted the difficulties taxpayers faced, including the "late invasion, and the ravages committed by the British army," the "inclemency of the season," or the inability of taxpayers to meet their tax liabilities.[182] Starting in 1784, the Governor obtained the power to "direct the solicitor general to suspend execution upon any such judgment, for any time that may to him, with advice aforesaid, seem reasonable, not exceeding three months after such judgment is obtained."[183] Under this provision, sheriffs could petition the governor to delay payment to the treasury for up to three months interest free to provide additional time to collect from delinquent taxpayers. Some sheriffs invoked this provision repeatedly, submitting annual petitions requesting relief.[184] Changes to the tax laws over the course of the decade also offered taxpayers a greater window of time in which they could make payments. For the 1782 tax year, taxpayers had only twenty days to make payments to their local tax collectors. By 1787, however, taxpayers were allowed two full months to remit their taxes to the sheriff.[185] As distress gripped the economy, legislators found it in their best interest to accommodate delinquent debtors, even as the state struggled to meet its requisitions to the Continental Congress.

Changes made to Virginia's tax code served to mitigate the burden of taxation while encouraging revenue collection. Starting in October 1777, the General Assembly introduced a

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of the articles made commutable" in lieu of specie, and another act passed December 22, 1788 emphasized that "the frequent impositions which have been practised [*sic*] on the citizens of this commonwealth, in the collection of the taxes, have rendered it necessary to confine the payment thereof to specie … in proportion to the losses sustained by the public, by receiving tobacco at prices exceeding the real value" Hening, *The Statutes at Large,* 11:112-129, 289, 12:455-457, 707-708.

[182] Hening, *The Statutes at Large*, 10:292-293, 494-495, 12:93-96.

[183] Ibid, 11:540-543.

[184] Palmer, ed. *Calendar of Virginia State Papers,* IV, 94, 121, 168, 185, 221-222, 270.

[185] Hening, *The Statutes at Large,* 11:112-129, 12:93-96.

system of assessing land based on value, seeking to tax all property at an equal rate of ten shillings for every hundred pounds value. By October 1782, however, the General Assembly had found sheriffs' valuations "to be very unequal," and restructured the land tax by grouping all of the states' counties into districts "whose soil and situation are nearly similar."[186] The law created four tax districts running east to west, with those in the westernmost counties paying the least. The act also appointed two commissioners to examine the previous year's valuations and find the average price per acre in each district rounded up to the nearest penny, and this measure provided the basis for future land tax valuations.[187] The Assembly also reduced personal property taxes to accommodate delinquent debtors. A law passed in May 1782 specified a tax of ten shillings for each adult white male or slave, two shillings for "every horse, mare, colt and mule, except covering horses," and three pence per head of cattle. In addition, the legislature instituted several taxes on luxury goods, including a five shilling tax per wheel on coaches and carriages, a £15 tax on billiard tables, and a £4 tax for every ordinary license.[188] Although legislators increased indirect taxes on imports, luxury goods, licenses, and inspection fees over the course of the decade, direct taxes on personal property were reduced or even eliminated in the years following the signing of the Constitution. The Assembly repealed the tax on adult white males, slaves under the age of twelve, and cattle in October 1787, noting that these taxes "have been found very burthensome, and the situation of the public revenues will justify a remission of the said taxes" [189] Because these taxes disproportionately affected the state's poorest taxpayers, their repeal would have been welcomed by indebted smallholders as a much needed form of debtor

[186] Ibid, 9:349-351, 11:140-142.
[187] The act specified a tax of ten shillings per acre in the first district, seven shillings six pence in the second, five shillings six pence in the third, and three shillings per acre in the fourth district. Ibid, 11:140-142.
[188] Ibid, 11:93-95.
[189] Ibid, 11:112-129, 12:412-432.

relief. In an effort to encourage taxpayers to remit payments in specie, legislators went a step further in December 1788 by reducing all personal property taxes by one third but requiring future payments to be made in hard money.[190] The General Assembly acted again, in November 1789, this time lowering the tax rate across the board by another twenty five percent.[191] Taken together, these last two acts cut the effective personal property tax rate in half, and provided significant relief for indebted taxpayers.[192] That legislators chose to repeal taxes that disproportionally affected smallholders as revenues increased reveals both the growing importance of western interests and a change in the state's philosophy of taxation towards a preference for indirect taxes. Given that the General Assembly chose to repeal direct taxes following the Ratification of the Constitution, these changes can also be viewed as a preemptive transfer of taxing authority to the federal government in anticipation of a federal tariff.[193] Indirect taxes proved preferable for taxpayers in an economy pressed for specie, and the changes ultimately yielded greater revenue returns for the state treasury. At the same time, the state's efforts to mitigate the plight of indebted farmers make the elevated insolvency figures during this time particularly remarkable.

[190] The reduction in taxes specified in this act as well as the one passed the following year did not apply to billiard tables, ordinary licenses, marriage licenses, tobacco inspections and storage fees, or to the import tariff. Ibid, 12:707-708.
[191] Ibid, 13:29-30.
[192] The reduction in taxes would have been even greater for poor and landless taxpayers, as the repeal of the tax on cattle would have benefitted smallholders disproportionately. Because cattle accounted for a much greater share of smallholders' wealth and tax liability, especially when compared with their wealthier neighbors who often owned larger tracts of land and slaves, the repeal of the tax on cattle would have been particularly welcomed by smallholders.
[193] Edling and Kaplanoff, "Alexander Hamilton's Fiscal Reform."

Table 2.2: *Virginia Revenues by Source, 1785-1789*

Years	Tonnage & Customs	Tobacco	Personal Property and Land Taxes	Fees	Total	Proportion of Revenues Derived from Imports and Tobacco	Proportion of Revenues Derived from Personal Property and Land
1785-1786	£ 40,783	£ 27,638	£ 256,326	£ 16,772	£ 341,519	20%	75%
1786-1787	£ 59,732	£ 28,146	£ 305,242	£ 15,458	£ 408,578	22%	75%
1787-1788	£ 74,029	£ 24,238	£ 184,665	£ 22,317	£ 305,249	32%	60%
1788-1789	£ 85,430	£ 23,165	£ 155,184	£ 33,027	£ 296,806	37%	52%

Note: all figures are rounded to the nearest pound sterling.

Source: W.F. Dodd, "The Effect of the Adoption of the Constitution upon the Finances of Virginia." *The Virginia Magazine of History and Biography* 10, no. 4 (April, 1903): 366.

In contrast to British tax policies, which often exempted wealthy taxpayers from taxation, Virginia's revenue strategy targeted wealthy consumers to the benefit of small landowners. Wealthy consumers, according to this philosophy, were the individuals most likely to have the specie necessary to solve the state's revenue crisis. Given the difficulties that tax collectors faced, legislators hoped that taxes on tobacco inspection, shipping, and imports would provide a more reliable source of revenue. In 1781, legislators increased state-mandated tobacco inspection and storage fees and required that they be paid in specie.[194] Because most property taxes in the 1780s targeted property employed in agriculture, legislators enacted additional taxes on merchants and physicians, emphasizing "that the burden of taxes may be as equally borne, as well by the merchants and dealers, as the planters and farmers."[195] To bring in additional revenues during the Revolution, the General Assembly even implemented fees for the use of Virginia's courts, including taxes on "every original writ in any action or suit at common law, and subpœna or subpœnas in chancery in the general court, and for every summons or petition

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[194] Hening, *The Statutes at Large*, 10:355-357, 474-478.
[195] Ibid 10:168-169, 12:285-287.

for lapsed lands, and for every caveat entered in the secretary's office … every such writ or subpœna issued from the county or other inferiour courts." These acts specified that the tax would be paid by the plaintiff to the clerk of the court "before such process shall be issued, or caveat entered, and taxed in the bill of cost."[196] These fees were raised and restructured numerous times during the 1780s, provided an additional stream of revenue to meet the state's fiscal crises.[197]

Hoping to capitalize on the growing post-war trade in imported goods, legislators also enacted taxes on shipping and imports. Ship captains paid a one shilling and three pence tax per ton on their ships and vessels, and merchants collected a one percent tax ad valorem on all imported goods, and higher duties on imported spirits, wine, coffee, and sugar.[198] The General Assembly raised the tax on non-enumerated imports in May 1784 to 1.5%, and again in October 1786, this time imposing an additional duty of two percent ad valorem, raising the total duty on imported goods to 3.5%.[199] Legislators supplemented the increased tariff by expanding the number of enumerated goods subject to additional taxation, and the list of imported goods subject to higher rates grew to include more than forty different products.[200] By shifting its revenue strategy from direct to indirect taxation, the legislators foreshadowed policies that would later be adopted by the federal government under the Constitution. Indirect taxation allowed legislators to meet the state's revenue need while minimizing the number of individuals responsible for remitting specie to the state. While many other states increased pressure on delinquent debtors during this time, Virginia's legislators were able to expand tax collection

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[196] Ibid, 9:65-67.
[197] Ibid, 10:485, 11:90, 377-379, 12:730-763.
[198] Ibid, 11:112-129.
[199] Ibid, 12:290-291.
[200] Ibid, 12:412-432.

efforts by minimizing the burden on indebted farmers. Moreover, legislators' successes in raising tax revenues are evident in the state's contributions to the federal treasury during this time. In 1784, John Francis Mercer, a Virginia delegate to the Continental Congress, could write to James Madison that "Mr. Morriss tells me that the Contributions of Virginia alone have kept the wheels of Government in motion."[201]

Given that the state's tax laws applied to all taxpayers equally, we would expect to find similar patterns of insolvency developing across the state. The fact that we do not only underscores the argument that each region operated as distinct economic unit. For taxpayers in the 1780s, geography forged common cultures and patterns of economic development within each sub-region. The mix of crops cultivated in each region, differences in local prices, and disruptions in trade networks shaped how each region fared in the postwar period, and the number of delinquent and insolvent debtors in the 1780s varied greatly from county to county. The average insolvency rate across the state hovered around five percent for much of the decade, with a median rate of 4.5%. The proportion of insolvents rose steadily between 1782 and 1786 before declining substantially in the years that followed. In interpreting the figures that follow, insolvency rates greater than six percent should be considered high, while rates below three percent should be considered low for this period.[202] Given that the insolvency rate likely lingered around three percent under normal economic conditions, changes of only a few percentage points would have indicated significant levels of distress and would have sent shocks through the local economy.

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[201] James Monroe, Rufus King, and William Grayson made similar observations in the years that followed. John Francis Mercer to James Madison, November 12, 1784 in Edmund C. Burnett ed. *Letters of Members of the Continental Congress* (Washington, D.C.: Carnegie Institution of Washington, 1934; rpt. Gloucester, MA: Peter Smith, 1963), 7:610, 8:145, 479, 581.
[202] These last two figures approximate the seventy-fifth and twenty-fifth percentile for all counties.

From the relative completeness of the surviving records and the standard deviation, we can estimate the margin of error to be very low when analyzing the state and regional results. Consequently, even changes of less than one percent should be considered significant when analyzing the regional aggregates.[203] The results are also significant when evaluated against similar records from other states during the same period. From the limited surviving records from North Carolina, it appears that insolvency rates may have been significantly higher in Virginia. The median insolvency rate for the nine North Carolina counties with surviving records was 2.8% in the 1780s, and the average rate was roughly twenty percent lower than the average for Virginia.[204] A sample of several Maine towns provides further corroboration, as the insolvency rates for these towns were considerably less than those found in Virginia. A thorough

[203] See Methodology Appendix.
[204] Using the same methodology for North Carolina as for Virginia, the insolvency rates for the surviving North Carolina counties are as follows:

Table 2.3: *Tax Insolvency in North Carolina by County, 1780-1790*

	1780	1781	1782	1783	1784	1785	1786	1787	1788	1789	1790
Chowan*	17.4	5.6					4.4	0.8	2.9		2.1
Franklin							0.9				0.5
Granville			0.6		0.9	0.9	0.6	1.2	3.4	1.8	4.1
Hyde							6.4		7.9	6.6	
Onslow						2.0		11.5		6.5	
Randolph							1.8	1.8	0.6	2.0	
Sampson									5.5	2.8	
Warren	8.6										
Wayne									8.3	9.1	
Whole State	11.9	5.6	0.6		0.9	1.3	2.2	3.2	3.9	4.2	2.5

* Includes the town of Edenton

Sources: North Carolina County Records. North Carolina State Archives. Raleigh, North Carolina. Chowan County, Tax and Fiscal Records, Insolvents, 1754-1818, Box 024.701.10. Franklin County, Tax and Fiscal Records, Insolvents 1790-1836, Box 039.703.1. Granville County, Tax and Fiscal Records, Insolvents 1772-1887, Box 044.703.1. Hyde County, Tax and Fiscal Records, Insolvents 1772-1895, Box 053.701.1. Onslow County, Tax and Fiscal Records, Microfilm, Reel C.072.70001. Randolph County, Tax and Fiscal Records, Insolvents, Box 081.703.1. Sampson County, Tax and Fiscal Records, 1789-1922, Miscellaneous, Box 087.701.1. Warren County, Tax and Fiscal Records, Insolvents 1780-1849, Box 100.703.6. Wayne County, Tax and Fiscal Records, Insolvents, Box 103.703.4. Census of 1790.

examination of the fragmentary records from other states provides additional confirmation that insolvency rates in Virginia were elevated for much of the 1780s.[205]

Insolvency records provide clear evidence that allow us to reject one of the leading interpretations of the postwar Chesapeake economy. Some scholars argue that the depression occurred suddenly in 1786, after the actions of the French tobacco monopoly gave tobacco merchants coercive purchasing power. Jacob Price has provided the most comprehensive study of the monopoly, known as the farmers-general or *les fermiers généraux*, using export data and manuscripts from numerous French, British, and American archives.[206] In an effort to rein in British dominance in Atlantic shipping, the French government prevented the monopoly from purchasing tobacco from Britain after the American Revolution. The French government's policy forced the monopoly to contract direct purchases from the United States, or settle for inferior quality European tobacco. To take advantage of the insatiable European demand for Chesapeake tobacco, the farmers-general contracted in 1783 with William Alexander, a former banker and purchasing agent for the monopoly in Scotland, to coordinate tobacco purchases at predetermined prices. The farmers-general grew dissatisfied with the contract, however, as Alexander was regularly unable to meet the monopoly's demands under the meager price quotas specified in the agreement. As a result, the monopoly negotiated a new contract in 1785 with Robert Morris. Morris agreed to deliver twenty-two million pounds of tobacco to the farmers-

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[205] Only the Library of Virginia has organized its lists of insolvent and delinquent taxpayers into a separate collection. Although records have survived for a number of counties and towns for other states during this period, they are often poorly organized and interspersed with tax assessment lists, making them difficult to analyze systemically as I have for Virginia. From the surviving lists of insolvents it appears that insolvency rates were significantly higher in Virginia than in other states, with the possible exception of Massachusetts.

[206] Although Price acknowledges that the farmers-general did not have the price setting capabilities, he notes several instances where the organization attempted to manipulate the tobacco trade to its advantage. Allan Schaffer give the monopoly more credit, arguing that the organization exerted monopsony control for a brief period of time. Price, *France and the Chesapeake,* 2:728-787; Schaffer, "Virginia's 'Critical Period'" in Rutman ed. *The Old Dominion: Essays for Thomas Perkins Abernethy,* 164-166; Frederick L. Nussbaum, "American Tobacco and French Politics 1783-1789" *Political Science Quarterly* 40 no. 4 (December 1925), 497-516.

general annually, with additional purchases to be made at the monopoly's request. In exchange, the farmers-general agreed to advance Morris one million Livres, and agreed to give him a monopoly over French purchases in the United States. To depress tobacco prices, and thereby increase his profit margin, Morris colluded secretly with British merchants to fix prices and flooded the financial markets with his own privately issued bank notes.[207] Like Alexander before him, Morris experienced difficulties in meeting the monopoly's demands, and the farmers-general declined to renew Morris's contract when it expired in 1787.[208]

As tax-insolvency records indicate, however, there is little evidence to support the French monopoly argument. Of the counties for which data survive for both 1785 and 1786, eighteen saw their rates of insolvency increase more than ten percent, while eight counties reported fewer insolvents, and three counties experienced changes of less than three tenths of a percent. A disruption in the tobacco market could not have accounted for these changes, as only a handful cultivated tobacco as their primary crop, and many of those counties that reported fewer insolvents were important tobacco producers. The argument also exaggerates the monopoly's role in the economy by describing it as a price setter. Although the farmers-general was the largest single purchaser of tobacco in the Chesapeake, the company was only one of many firms competing for tobacco in the region. French purchases accounted for only about ten percent of the American tobacco exports, while British firms controlled around two thirds of the market.[209] For Morris to have exerted monopsony control, moreover, he would have had to collude

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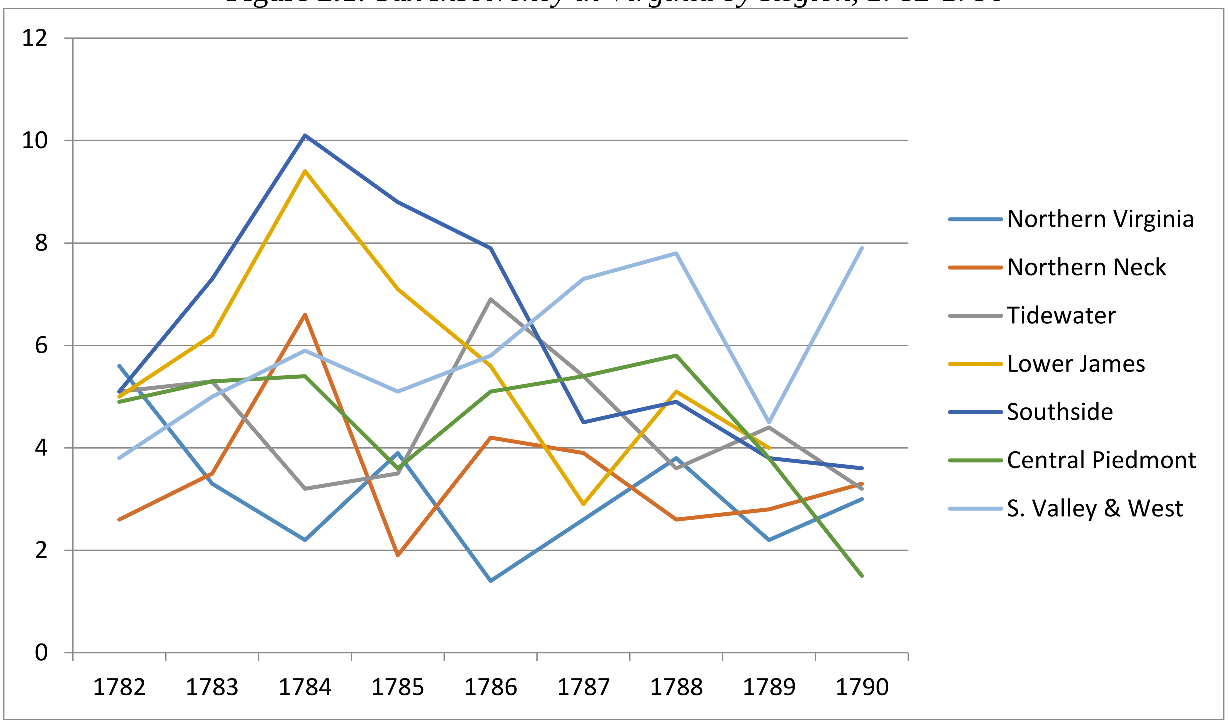
[207] Morris believed that high postwar tobacco prices were a result of merchants' continued preference for tobacco for use in international exchange. During the Revolution, many merchants preferred to remit payments in tobacco rather than obtain costly bills of exchange. Morris believed that an increase in the money supply, through the issuance of private bank notes, would serve to reduce demand for tobacco and to depress Chesapeake tobacco prices. See Price, *France and the Chesapeake*, 2:755.
[208] Price, *France and the Chesapeake*, 2:738-755; Schaffer, "Virginia's 'Critical Period'" in Rutman ed. *The Old Dominion: Essays for Thomas Perkins Abernethy*, 164-166; Jensen, *The New Nation*, 238.
[209] Price, *France and the Chesapeake*, 2:732.

successfully with other merchants in the industry. There is little evidence to suggest that a collusive agreement was enforced, as indicated by the fact that Morris struggled to meet the monopoly's demand for tobacco and that the contract was not renewed when it expired in 1787.[210] Rather than responding to a single external force, Virginians responded to a multitude of changes in local prices over the course of the decade.

Figure 2.1: *Tax Insolvency in Virginia by Region, 1782-1790*



	1782	1783	1784	1785	1786	1787	1788	1789	1790
Northern Virginia	5.6	3.3	2.2	3.9	1.4	2.6	3.8	2.2	3
Northern Neck	2.6	3.5	6.6	1.9	4.2	3.9	2.6	2.8	3.3
Tidewater	5.1	5.3	3.2	3.5	6.9	5.4	3.6	4.4	3.2
Lower James	5	6.2	9.4	7.1	5.6	2.9	5.1	4	
Southside	5.1	7.3	10.1	8.8	7.9	4.5	4.9	3.8	3.6
Central Piedmont	4.9	5.3	5.4	3.6	5.1	5.4	5.8	3.8	1.5
S. Valley & West	3.8	5	5.9	5.1	5.8	7.3	7.8	4.5	7.9
Eastern Shore			14.5	5.8	24.4	5.7	4.3	3.3	1

[210] Myra Rich argued that, under the Morris contract, the tobacco market was "in effect cornered." To support this claim, Rich provided evidence that Morris contracted with fourteen agents to assist him in manipulating Chesapeake tobacco prices. In a market that consisted of hundreds of tobacco purchasers, however, it is unlikely that these arrangements could have wielded enough purchasing power to constitute monopsony control. Myra Lakoff Rich, "The Experimental Years: Virginia, 1781-1789" (PhD diss.: Yale University, 1966), 181-210, quotation 182.

Whole State	4.7	5.3	6.1	5.3	6.3	5	5.1	3.6	3.3

Note: See text and accompanying footnotes for a description of how the data are calculated.

Sources: Virginia Auditor of Public Accounts (1776-1928), Delinquent and Insolvent Taxpayers, 1781-1830, Library of Virginia, Richmond, VA, Boxes 1216-1220; "Summary of Population of Virginia, by Counties: 1790, Free White Males of 16 Years and Upwards," in *Heads of Families At The First Census of the United States Taken in the Year 1790, Records of the State Enumerations: 1782-1785, Virginia* (Washington: Government Printing Office, 1908; rpt. Baltimore: Genealogical Publishing Company, 1970), 9; Virginia Auditor of Public Accounts (1776-1928). Personal Property Tax Records, 1782-1921. Microfilm. Library of Virginia, Richmond, VA. Reels 1, 5, 15, 18, 23, 34, 40, 56, 60, 78, 80, 84, 89, 93, 101, 103, 106, 110, 118, 120, 124, 132, 136, 141, 147, 153, 159, 163, 167, 171, 175, 178, 183, 192, 196, 200, 207, 213, 217, 230, 235, 247, 254, 256, 262, 271, 277, 281, 283, 286, 296, 299, 304, 315, 320, 325, 327, 329, 344, and 353.

The counties in Northern Virginia and the Northern Neck experienced comparatively low rates of insolvency for much of the decade, with rates at roughly half of the state average. Although Stafford, Prince William, and Fairfax County continued to grow significant amounts of tobacco, most farmers in the northern counties had effectively abandoned tobacco in favor of grain cultivation. The transition to wheat accelerated after the war, and export records show that tobacco production declined precipitously in Northern Virginia counties in the years after 1785.[211] Abundant river access and close proximity roads leading to Baltimore and other developing milling centers made these counties perfectly situated to make the switch to grain. High wheat and corn prices along the Potomac River ensured low rates of insolvency for Northern Virginia, and rising corn and wheat prices in the Rappahannock River Basin had the same effect for the Northern Neck.[212] The sharp spike in insolvency rates in the Northern Neck in 1784 may be attributed to low corn prices along the Rappahannock River that year. The growing prosperity found in both regions can be further observed in the growth of Alexandria, as

[211] This and all references to tobacco production figures are drawn from, Virginia Auditor of Public Accounts (1776-1928). Tobacco Exported from Virginia Warehouses, 1782-1810. Library of Virginia. Richmond. APA 648; I would like to thank Lorena Walsh for tabulating these figures and sharing them with me.

[212] For corn and wheat prices, see John J. McCusker, "Wholesale wheat prices in Virginia and Maryland, by region: 1750–1820 [Virginia currency]" Table Eg292-298 in Carter et al. ed. *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition;* McCusker, "Wholesale corn prices in Virginia and Maryland, by region: 1750–1820 [Virginia currency]." Table Eg285-291 in Carter et al. ed. *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition.*

it emerged as a preeminent port city in Virginia during this time. It is in Northern Virginia and the Northern Neck that historians have found their phoenix rising from the ashes.[213]

Although both Northern Virginia and the Northern Neck were very wealthy compared to the rest of the state, the wealth in these counties was very unequally distributed. Gentleman in these regions controlled perhaps the most disproportionate share of the land and slaves in the state. Despite their similarities in crops planted and concentration of wealth, however, the two regions differed significantly in their labor source. Due to a long history of land speculation in Northern Virginia, a small number of wealthy landowners controlled vast landholdings that sometimes stretched for thousands of acres. These landowners contracted with dozens of landless tenants, providing them with short-term leases on small plots of land in exchange for annual rents.[214] Because tenants typically farmed plots of less than one hundred acres, these counties experienced higher population densities than other regions of Virginia.[215] Like Northern Virginia, land ownership in the Northern Neck was concentrated among the wealthy gentlemen, but slaves constituted the majority of the labor force in this region. The counties in the Northern Neck contained some of the highest concentrations of slaveholding and some of the largest landholdings in the Chesapeake. The significant outmigration from the Northern Neck and the

[213] It should be noted that historians who emphasize postwar prosperity frequently buttress their arguments with letters from prominent gentleman, such as George Washington and George Mason. Because many of these individuals resided in the northern counties of the state, their accounts would be more likely to present a positive view of the economy.

[214] Tenants had the option of paying the land tax and reducing the amount paid from their annual rent. Individuals who rented town lots did not have this option, as the tax levied on town lots specified that the tax would be paid by the tenant. Despite this exemption, tenants remained responsible for paying the poll tax and taxes on any other taxable property they possessed.

[215] Thomas J. Humphrey, "Conflicting Independence: Land Tenancy in the American Revolution" *Journal of the Early Republic* 28 (September 2008), 180. Jackson Turner Main, "The Distribution of Property in Post-Revolutionary Virginia" *The Mississippi Valley Historical Review* 41, no. 2 (September 1954), 245-248; Jackson Turner Main, "Sections and Politics in Virginia, 1781-1787," *The William and Mary Quarterly*, Third Series, 12, no. 1 (January 1955), 96-112; Allan Kulikoff, *Tobacco and Slaves: The Development of Southern Cultures in the Chesapeake, 1680-1800* (Chapel Hill and London: Published for the Institute for Early American History and Culture by the University of North Carolina Press, 1986), 134-135, 141-148; Risjord, *Chesapeake Politics*, 21-27.

declining slave population found in the Federal Census records has led many historians to describe the postwar period as a time of declining prosperity and economic stagnation.[216] Norman Risjord argued that the Northern Neck "[t]hough once an extremely wealthy region … had clearly reached its peak by the time of the Revolution."[217] Although economic opportunities for smallholders may have receded in the decades that followed, insolvency records challenge this assessment, and it is clear that both regions were largely free of economic distress in the 1780s. The declining slave population, moreover, may be attributed to the transition from labor-intensive tobacco to wheat production, which required fewer laborers to farm the same acreage.

Insolvency rates in the Central Piedmont remained around five percent for much of the postwar period, mirroring the statewide average, but declined considerably after 1788. This region included the counties around, and west of, Richmond, and farmers in this region cultivated a diverse mix of crops. Although these counties exported twice as much tobacco as Northern Virginia with only a slightly larger taxpaying population, wheat and corn were also important staples, particularly in the counties situated closer to the Shenandoah Valley. Tobacco prices were comparatively high in the Central Piedmont, and although prices declined consistently from year to year after 1784, high corn prices shielded farmers from the grips of insolvency. The counties surrounding Richmond appear to have fared much better than those counties in the northern and western parts of the region such as Orange or Albemarle. Tax records from the Richmond show rising wealth levels and widespread slave ownership, indicative of the 1.6% rate of insolvency for the city. At the other extreme, insolvency in Orange County remained persistently high throughout the decade, while data from the surrounding

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[216] Albert H. Tilson Jr., *Accommodating Revolutions: Virginia's Northern Neck in an Era of Transformations, 1760-1810* (Charlottesville: University of Virginia Press, 2010), 275-276; Risjord, *Chesapeake Politics,* 21-27.
[217] Risjord, *Chesapeake Politics,* 24.

counties suggest signs of improvement. Higher transportation costs may account for the persistently elevated insolvency rates in some counties.

Consisting of the counties on Virginia's middle peninsula, situated between the Rappahannock and York Rivers, counties in the Tidewater exported very little tobacco in the 1780s. Farmers in this region tended to cultivate the more expensive, milder strain of sweet-scented tobacco that was prized for its use in snuff, rather than the coarser, stronger-flavored, Oronoco variety. Sweet-scented tobacco was prevalent along the northern shore of the James River, as well as the York and Rappahannock River basins, while Oronoco tobacco dominated along the Potomac River, Southside, and western counties.[218] Tobacco and wheat prices were very high in the Tidewater along the York River Basin, but tobacco prices were collapsing over the course of the decade. Corn prices were low at the start of the decade but rose quickly, peaking in 1784 and declining for the rest of the decade. The Tidewater, by most accounts, was already in decline by the time of the Revolution.[219] Insolvency records do not fully support this assessment, as the region exhibited low or average rates of insolvency for much of the decade, and the data suggest signs of improvement by the late 1780s. Although the data for the Tidewater are comparatively less complete than the other regions, insolvency rates in the Tidewater reflected the state average until 1784 when insolvency appears to have declined significantly. The economic situation changed in the Tidewater in 1786, when insolvency rates spiked tremendously in several counties as average wholesale tobacco prices along the York River Basin contracted by more than thirty-five percent.

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[218] Walsh, "Summing the Parts: Implications for Estimating Chesapeake Output and Income Subregionally," 53-56, 87-94.
[219] Kulikoff, *Tobacco and Slaves*, 131-141, Risjord, *Chesapeake Politics*, 41-44.

Economic distress gripped Southside and the Lower James at the start of the decade, as insolvency rates reached crisis levels in the majority of counties. Insolvency rates doubled in both regions between 1782 and 1784, before declining substantially in the years that followed. Taxpayers in Southside were likely the most indebted in the state, as many farmers borrowed money from British creditors on the eve of the Revolution to acquire slaves and land, and some continued to borrow after the war to finance additional slave purchases.[220] Transportation costs were higher for some counties in Southside, except for those who had ready access to the James or Roanoke Rivers, or who could easily transport their goods by road to Petersburg. The Lower James was also devastated by the Revolution. Invading British armies burned Norfolk along with hundreds of hogsheads of tobacco, and allowed hundreds of slaves to escape to freedom.[221] Tobacco production cannot account for the similarities between the two regions, however. Other than the areas around Petersburg, counties in the Lower James had almost entirely abandoned tobacco by the 1780s.[222] Southside, on the other hand, remained one of the state's most important tobacco producing regions. Declining corn prices and low wheat prices provided the most important link between the two regions as cause of insolvency, as both regions exported corn and wheat to other states, southern Europe, and the West Indies as part of the provisioning trade. The disruption of trade with the West Indies affected both regions deeply in the early postwar years,

[220] Holton, *Forced Founders*, 70, 90; Emory Evans, "Private Indebtedness and the Revolution in Virginia, 1776 to 1796." *The William and Mary Quarterly* Third Series 28, No. 3 (1971): 368-369. Kulikoff, *Tobacco and Slaves: The Development of Southern Cultures in the Chesapeake 1680-1800*, 131.

[221] Although many sources cite Thomas Jefferson's estimate that 30,000 slaves escaped from Virginia, Cassandra Pybus has revised these estimates, noting that [p]robably no more than two thousand survived to gain freedom" in Virginia. Cassandra Pybus, "Jefferson's Faulty Math: The Question of Slave Defections in the American Revolution" *The William and Mary Quarterly* 62, no. 2 (April 2005), 261; John E. Selby, *The Revolution in Virginia, 1775-1783,* Second Edition (Williamsburg: Colonial Williamsburg Foundation, 2007), 84; Philip George Swan, "To Separate the Tares from the Corn: Debts and Slaves in Post-Revolutionary Virginia." (M.A Thesis., College of William and Mary, 1993), 39-40; Risjord, *Chesapeake Politics*, 49.

[222] Because no insolvency records survive from Petersburg or Dinwiddie County, where the vast majority of tobacco was exported from the Lower James, the surviving records reflect disproportionately those counties that had almost completely abandoned tobacco production by the time of the Revolution.

and crisis subsided only when farmers in both regions expanded production and adjusted their mix of crops planted. Farmers in Southside responded to lower prices by growing more tobacco, achieving prewar levels by 1785 and expanding production in the years that followed. Likewise, counties in the Lower James diversified their crop mix and expanded production to include more wheat.

Because counties in Southside grew rapidly in the second half of the eighteenth century, and many areas were still frontier settlements before the Revolution, historians have debated whether the region remained the "best poor man's country" after the Revolution.[223] Southside had experienced significant in-migration from the Tidewater and the Lower James in the 1760s, from those hoping to take advantage of cheap lands and fertile soil. Although some newcomers worked as laborers upon arrival, nearly all recent migrants were able to obtain land within a few years. Southside was also home to a small, but rapidly growing, slave population. Although few Southside residents could claim to own one slave in the 1760s, approximately sixty percent of landowners owned human property two decades later.[224] Most of these farmers in Southside, according to Allan Kulikoff, owned five chattels, "working three adults in their tobacco fields."[225] Although the regions faced significant disruptions in the first half of the decade, insolvency records from the 1780s indicate that the region did continue to provide opportunities for smallholders. Tax records reveal a rapidly declining insolvency rate and a rising slave population, signaling a renewed interest in tobacco that would define the region for the next generation.

[223] Kulikoff, *Tobacco and Slaves*, 148-157; Richard R. Beeman, *The Evolution of the Southern Backcountry: A Case Study of Lunenburg County, Virginia 1746-1832* (Philadelphia: University of Pennsylvania Press, 1984), 161-185.
[224] Kulikoff, *Tobacco and Slaves*, 149-153.
[225] Ibid, 149-153, quotation, 153.

Like the Lower James, counties on the Eastern Shore also participated in the provisioning trade, producing wheat, corn, and livestock for plantations in the West Indies. Although the data from these two counties are extremely limited, the data suggest that insolvency rates for both Eastern Shore counties were among the highest in Virginia in immediate postwar years. This incongruity is striking, considering that these counties are typically described with Northern Virginia and the Northern Neck as having transitioned to wheat production before the Revolution and as sharing a similar social structure and rates of property ownership.[226] These data suggest that the Eastern Shore may have shared more in common with the counties in the Lower James than with those along the Potomac, and that disruptions in Chesapeake trading networks were particularly damaging for farmers on the Eastern Shore. Both counties exhibited signs of recovery by the end of the decade, however, as more taxpayers cultivated wheat and as farmers adjusted their expectations to the realities of postwar trade.

The map depicting insolvency rates in Virginia in 1787 is striking. Signs of recession had largely dissipated from the eastern and southern parts of the state, but the Shenandoah Valley and West reveal an economy in distress. Insolvency rates were typical immediately following the Revolution, but the number of insolvents increased steadily with each successive year. Although some counties showed signs of improvement in the years following the Constitution's ratification, insolvency rates remained precariously high in most counties. In contrast to the wealthy elites and large slaveholders of many eastern counties, western farmers worked small plots of land with few slaves and negligible debts to British creditors. Counties in the Shenandoah Valley, such as Berkeley, Frederick, and Shenandoah, emerged as major wheat producers, shipping overland to flour centers in Baltimore and Alexandria. Hampshire, Hardy,

[226] Risjord, *Chesapeake Politics 1781-1800,* 11.

and other western counties raised large numbers of cattle and horses, and grew hemp for eastern markets.[227] Other counties such as Rockingham remained isolated, poor, and underdeveloped with few means of transportation linking them to commercial centers. The tax on cattle would have been particularly burdensome for western smallholders, and it is likely agitation from legislators in western counties that ushered the repeal of this tax in 1787.

The burden of debt left a lasting legacy for Virginians in the early republic. As Woody Holton notes, "[d]ebt destroyed not only lives and families but the personal independence that free Virginians cherished."[228] Given the Revolutionary rhetoric surrounding debt and dependency, the distress of the 1780s must have dealt a swift blow to those unable to pay their taxes. The General Assembly's aggressive efforts to reduce the postwar debt in the first half of the decade bore heavily on indebted farmers, particularly when their productive capacity did not reach prewar levels in most counties until 1785.[229] Productivity and the technology employed remained relatively constant throughout the period, and indebted farmers could only hope to plant more the following year to pay their way out of debt. High marginal tax rates, that frequently exceeded ten percent in bad years, also cut into taxpayers' profits.[230] For smallholders,

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[227] Risjord, *Chesapeake Politics 1781-1800,* 32-45.
[228] Woody Holton, *Forced Founders,* 44.
[229] As Lorena Walsh notes, "by the late 1780s, revenues per laborer on the best-managed tidewater plantations were again equaling those of the early 1760s." Walsh, *Motives of Honor, Pleasure,* and *Profit: Plantation Management in the Colonial Chesapeake, 1607-1763,* (Chapel Hill and London: Omohundro Institute for Early American History and Culture by the University of North Carolina Press 2010), 635.
[230] The ten percent figure was calculated using the minimum annual average wholesale price of 1.80 pence per pound, assuming that an "average" farmer might own one slave and produce two hogsheads of tobacco. Using this price, the farmer would expect to receive £8.5.0 per hogshead. The farmer would incur at least thirty four shillings in taxes (five shillings for tobacco inspection, two shillings for tobacco storage, and a ten shilling tax per worker). Tobacco farmers also faced a three percent duty ad valorem on imported goods if the hogsheads were consigned to a British merchant for sale. Taken together, these taxes would represent a marginal tax rate of nearly thirteen percent. This figure does not include additional taxes that farmers would have incurred on land, livestock, or luxury purchases, local taxes, or taxes on shipping that would have been passed on to the consumer. See McCusker, "Wholesale tobacco prices in Virginia and Maryland, by region: 1647–1820" Table Eg275-284 in Carter et al. ed. *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition*; Hening, *The Statutes at Large,* 10:474-478, 11:112-129, 12:290-291.

taxes would have been very high indeed, and John Francis Mercer believed that Virginians paid "greater Taxes than any people under the sun."[231] It is perhaps understandable then that Virginia legislators chose to reduce marginal tax rates in 1787 and 1788, despite the fact that the state had been unable to meet its requisition quota from the Continental Congress. Rising post-war shipping prices and an imbalance with Britain in the terms of trade exacerbated the plight of tobacco farmers, leading many to agree with James Madison in arguing that Virginia's trade "was never more completely monopolized by G.B … than it is at this moment."[232]

Understanding how Virginians dealt with insolvency in the 1780s is important because the regional insolvency patterns are indicative of developments in other states and are symptomatic of larger trends in the national economy. Each state faced a crisis of taxation under the Articles of Confederation. As the states struggled to meet their requisitions to the Continental Congress, many legislators responded by compromising with indebted taxpayers and delinquent sheriffs. Robert Becker notes that in May of 1781 there were so many Rhode Island tax collectors "in jail for failing to collect their quotas that the assembly released them all to give them a chance to make collections, an expedient it had to adopt several times during the war."[233] In Virginia and elsewhere hard times pressed most heavily on indebted smallholders, who often sought to evade taxation by moving west. A Connecticut merchant, Peter Colt, observed that many of his fellow taxpayers were leaving the state to move to New York or Vermont "where the taxes are said to be one-tenth what they are here."[234] Tax records reveal that the crises of the

[231] John Francis Mercer to James Madison, November 12, 1784 in Burnett ed. *Letters of Members of the Continental Congress,* 7:610; high taxes would have been even more distressing to free blacks, who could be hired out by the state if they failed to pay their taxes. Hening, *The Statues at Large,* 11:40.
[232] James Madison quoted in Alan Schaffer, "Virginia's Critical Period" in Darrett B. Rutman ed. *The Old Dominion: Essays for Thomas Perkins Abernethy*, 160-161.
[233] Becker, *Revolution, Reform, and the Politics of American Taxation, 1763-1783*, 140.
[234] Quoted in Brown, *Redeeming the Republic,* 303.

Confederation had a disproportionate effect on certain regions, and identifying regional insolvency trends helps to reconcile the starkly divergent portrayals of the postwar economy.

The crisis was perhaps most severe in Western Massachusetts, where Daniel Shays led a rebellion against the state's tax collection efforts. Although the insolvency records from Massachusetts are fragmentary and interspersed within the state's assessment lists, numerous sources describe insolvent taxpayers fleeing the state to escape unpaid taxes. One observer in Massachusetts argued that if the legislature did not act, "the government will drive more than half of the inhabitants of many country towns into other states."[235] Petitioners in Greenwich explained that "[m]any have fled others wishing to flee to the State of New york or some other State," and a petition from Bernardston emphasized that without relief from the legislature, "[m]any of us must fly to unknown climes or kingdoms for existance."[236] As late as 1790, observers noted the exodus of taxpayers from Massachusetts. While serving as Chief Justice of the Supreme Court, John Jay recorded in his diary that he met a man from Berkshire who informed him of the "great emigrations into the State of N. York to avoid taxes." A contributor to the Stockbridge *Western Star* echoed Jay's remarks. After noting the stark differences in tax rates between Massachusetts and New York, the editorialist emphasized that the disparity would provide "an irresistible energy to a spirit of emigration, and will also depreciate the real property of the commonwealth."[237]

The level of economic distress can also be traced through the growing opposition to property seizures among taxpayers in indebted regions. Property seizures threatened taxpayers'

[235] Quoted in Ferguson, *Power of the Purse,* 247.
[236] Quoted in Brown, *Redeeming the Republic,* 112.
[237] John Jay Circuit Court Diary, 16 April 1790 - 4 August 1792, John Jay Papers, Box 11, Rare Book and Manuscript Library , Columbia University Library; *Western Star,* Stockbridge, Massachusetts, 1 June 1790, page 4. Thanks to Robb Haberman at the Papers of John Jay for drawing my attention to these two citations.

livelihoods because they deprived individuals of the assets most needed for production. Taxpayers were particularly concerned that depressed auction prices would mean that their property would not absolve them of their debts. As a result, opposition to property seizures sparked collective resistance in counties that experienced significant spikes in insolvency rates. When sheriffs sold seized property at auction, their neighbors frequently refused to bid.[238] In Louisa County, taxpayers organized to retrieve their confiscated property. The sheriff noted that "several people … came in the night time and carried off their slaves, Horses, & c."[239] They did so not because "they were opposed to the payment of Taxes," but because they "could not suffer their property to sell for a trifle."[240] Louisa County stands out from the Central Piedmont in having elevated insolvency figures for each of the years for which records survive, so it is perhaps not surprising that taxpayers in that county reacted so vigilantly. Terry Bouton describes similar phenomena occurring in rural Pennsylvania, where indebted taxpayers organized to close roads in protest of local economic conditions.[241] Just as smallholders has organized themselves in the Revolutionary years to protest British commercial policies, smallholders in indebted regions banded together to protect their neighbors' property.[242] As property seizures increased, taxpayers channeled their resistance into calls for the issuance of paper money and the establishment of minimum auction prices to provide relief for indebted farmers.

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[238] See for example the 1786-1787 petitions of Albemarle, Caroline, Chesterfield, Hanover, Louisa, Nansemond, Powhatan, and Princess Anne Counties. Palmer, ed. *Calendar of Virginia State Papers*, IV: 94, 121, 168, 185, 221-222, 270.
[239] Ibid, IV, 82; Woody Holton notes that it was not uncommon in the Revolutionary War years for debtors to take back their property after sheriffs had seized it. Holton, *Forced Founders,* 98.
[240] Palmer, ed. *Calendar of Virginia State Papers*, IV, 82.
[241] Terry Bouton, "A Road Closed: Rural Insurgency in Post-Independence Pennsylvania" *Journal of American History* 87, no. 3 (December 2000), 855-887.
[242] Woody Holton notes that a "striking feature" of the non-exportation agreements in Revolutionary Virginia "is that it appears to have been adopted almost exclusively by smallholders. Surviving correspondence of traders and factors does not mention the names of any gentleman that orchestrated the strategy or even employed it." Holton, *Forced Founders,* 110; McDonnell, *The Politics of War.*

Other taxpayers responded violently. Woody Holton notes that "[t]he domestic conflicts of the 1780s were considerably more intense than those of the 1760s."[243] Sheriffs sometimes received threats of violence from enraged taxpayers who opposed property seizures, which were sometimes conducted at night and without sufficient notification of the property holder.[244] Resistance was particularly strong in western counties, where insolvency rates were among the highest in the state, and where sheriffs were sometimes threatened with "firearms, clubs, axes, drawn swords, and 'fixed' bayonets."[245] State property also became the target of taxpayer militancy. In the summer of 1787, the courthouses in New Kent and King William Counties burned mysteriously before the opening of the county court. The fires destroyed "all the papers and records" of taxpayers in the area, absolving many indebted farmers.[246] Although the fire in King William County was never explained, John Price Posey was quickly arrested for his involvement in the New Kent County arson. Posey had served previously in the House of Delegates and had been imprisoned for assaulting the county sheriff in the days before the arson. Posey escaped three days before, however, during a prison break with the assistance of Thomas Green, a laborer. On the night of the arson, Posey arrived at Green's house on horseback with two slaves, Sawney and Hercules. From the surviving testimony, it is clear that Posey ordered the slaves to commit the arsons to protest property seizures made by the sheriff.[247] Similar depredations against state property occurred in other counties and in other states, as indebted taxpayers blamed state authorities for their hardship, providing their own extrajudicial form of tax relief.[248]

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243 Holton, *Forced Founders,* 218.
244 Hart, *Valley of Virginia,* 125; Palmer, ed. *Calendar of Virginia State Papers,* IV, 82.
245 Hart, *Valley of Virginia,* 125.
246 Palmer, ed. *Calendar of Virginia State Papers*, IV, 321.
247 Myra L. Rich, "Speculations on the Significance of Debt: Virginia 1787-1789," 306, 306n; Palmer, ed. *Calendar of Virginia State Papers*, IV, 321, 329-330, 367, 376.
248 Holton, *Unruly Americans and the Origin of the Constitution*; Bouton, *Taming Democracy*.

Taxpayer resistance and violence under the Articles of Confederation is consistent with regional insolvency patterns. When compared to the Southern and Western parts of the state, comparatively few instances of taxpayer resistance can be found in Northern Virginia or the Northern Neck. These regions fared well during the critical period and taxpayers in these counties generally encountered low rates of insolvency. While taxpayers in other parts of the state organized collectively to resist property seizures and tax collection efforts, landowners in Northern Virginia and the Northern Neck wrote enthusiastically of rising grain prices and newfound economic opportunities. James Madison wrote to Thomas Jefferson in 1784 that "[n]otwithstanding the languor of our direct trade with Europe, this country has indirectly tasted some of the fruits of independence. The price of our latest crop … has brought more specie into the Country than it ever before contained at one time."[249] The regional insolvency figures provide context for Madison's observations. Despite pockets of unrest in other parts of the state, wealthy landowners and taxpayers living in regions that benefitted from rising prices experienced rising profits and expanding economic possibilities.

Examining regional insolvency patterns in Virginia also illuminates the state ratification debates by accounting for federalist and Anti-Federalist support in each region. Historians familiar with the ratification debates consistently observe that many rural middle and lower class Americans opposed ratification.[250] The Anti-Federalists believed that state governments ultimately provided them with better protections against onerous taxes than they might receive

[249] James Madison to Thomas Jefferson, August 20, 1784, in William T. Hutchinson ed., *Papers of James Madison*, Congressional Series (Chicago: University of Chicago Press, 1973), 8:100.
[250] Jürgen Heideking, *The Constitution Before the Judgement Seat: The Prehistory and Ratification of the American Constitution, 1787-1791* ed. John P. Kaminski and Richard Leffler (Berlin: Walter de Gruyter GmbH & Co., 1988; Charlottesville and London: University of Virginia Press, 2012), 249-250; Brown, *Redeeming the Republic*, 208-214; Risjord, *Chesapeake Politics*, 23-27, 327-328; Van Beck Hall, *Politics Without Parties: Massachusetts 1780-1791* (Pittsburgh: University of Pittsburgh Press, 1972), 286-293; Jackson Turner Main, *Political Parties Before the Constitution* (Williamsburg and Chapel Hill: Institute of Early American History and Culture, 1973), 244-267.

under the federal government proposed by the Constitution. These taxpayers had witnessed their state legislatures respond proactively to taxpayers' grievances and watched their tax collectors compromise with insolvent debtors. For many smallholders, the tax collection under the Confederation demonstrated that their elected officials would be responsive to their interests the next time hard times imperiled them.

Compared to their counterparts in New England, Virginia legislators were "attentive to the ease and convenience of their constituents."[251] The General Assembly's efforts to mitigate the burden of taxation may have contributed to the narrow vote in favor of ratification in Virginia. The final vote of 89 to 79 exhibits marked similarities with the rates of insolvency found in each district in the preceding years, with those counties showing persistently high rates of insolvency largely voting against ratification. Anti-Federalist sentiment was strongest in Patrick Henry's Southside, which experienced among the highest rates of tax insolvency in the years before the Constitutional Convention. Although insufficient records survive from other states to provide a comparative study, the available evidence suggest that votes on ratification in other states were likely influenced by postwar economic conditions and legislators' responsiveness to financial hardship. Western Massachusetts and Southwestern Pennsylvania were strongly Anti-Federalist, while those regions least affected by the postwar recession generally voted in favor of ratification. Tax records can also provide insight into anomalies in voting patterns in the state conventions. In St. Bartholomew's Parish, South Carolina, the only low-country district to vote against the Constitution, more than twenty-seven percent of the taxpaying population had been listed as insolvent in 1787.[252]

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[251] *Virginia Gazette*, May 31, 1783.
[252] Brown, *Redeeming the Republic*, 71.

In a sense, previous historians have viewed the Virginia economy from the perspective of the blind men who encountered the elephant in John Godfrey Saxe's classic retelling of the Hindu fable.[253] The story describes six blind men who approach an elephant from different sides and attempt to reach a consensus of their experience. Unable to find common ground for comparison, each of the men concludes that their portion of the elephant is representative of the whole. Similarly, the lack of adequate sources for comparison has prevented historians of the 1780s from assessing economic trends across regions. As a result, these historians have tended to describe localized phenomena as representative of the whole economy. In fact, several regional trends underlie the Virginia economy, explaining the prevalence of conflicting interpretations. When these trends are plotted on a map, it is clear that Northern Virginia and the Northern Neck exhibited generally low insolvency rates. These counties benefitted from rising local wheat and corn prices and contributed to the development of Alexandria as a regional milling center. Counties in the Tidewater and the Central Piedmont experienced relatively stable insolvency figures for much of the decade. A severe depression swept over the Lower James and Southside in the immediate postwar years, but dissipated quickly in the years that followed. Insolvency rates rose consistently from year to year for many counties in the Shenandoah Valley and West.

Following the Ratification of the Constitution, state governments were able to dramatically reduce their marginal tax rates, forestalling the potential for future social unrest. For many farmers, recovery came only after state-sponsored initiatives provided widespread tax relief. By granting Congress the exclusive power to regulate foreign commerce, the Constitution provided Virginia lawmakers with both a measure of tax relief and a scapegoat in the form of British creditors. As legislators shifted the tax burden from property holders to wealthy

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[253] John Godfrey Saxe, "The Blind Men and the Elephant: A Hindoo Fable" in *The Poetical Works of John Godfrey Saxe* (Boston and New York: Houghton, Mifflen, and Company, 1889), 135-136.

consumers through the use of the tariff, Virginians could no longer blame the state for depressed economic circumstances. Instead, taxpayers targeted British merchants, accusing them of fixing prices through the consignment system. Although the state's involvement was quickly forgotten by contemporaries, the struggles over debt during this period would influence the policymaking decisions of Virginians for more than a generation.[254]

[254] For the legacy of debt in Virginia in the nineteenth century, see Herbert Sloan's arguments in *Principle and Interest: Thomas Jefferson and the Problem of Debt.*

Methodology Appendix to Chapter 2

Early American tax collectors recorded lists of insolvent and delinquent taxpayers annually to identify individuals had failed to pay their taxes. I have counted the number of insolvent taxpayers from each of the lists to calculate an insolvency rate for each county. To calculate each county's insolvency rate I have simply divided the number of insolvent taxpayers by the number of taxpayers found in that county's assessment lists. The insolvency rates help to quantify the level of distress in the confederation economy by providing an objective measure of the indebtedness in each county and by facilitating comparisons between regions and over time. Just like a modern unemployment rate or bankruptcy rate, the rate of insolvency provides a measure of economic performance that helps us to understand how taxpayers fared in a period for which there are few reliable economic indicators. Although a natural rate of unemployment or bankruptcy exists even in prosperous times, a shift of only a few percentage points can signal a crisis and send ripple effects through the larger economy. Even though the vast majority of Virginians did pay their taxes during the 1780s, the proportion of taxpayers who were unable to pay their debts to the state reveals a great deal about the postwar economy. Following the fluctuations in insolvency over the course of the decade allows us to track macroeconomic changes as they developed during the critical period.

Eighteenth century tax collectors recorded the number of insolvent taxpayers on several lists and made numerous copies of each list as they aggregated and collated the number of insolvent taxpayers from each district. Although the records from Virginia are the most complete of any state for this period, not all of the lists have survived, and the lists do not indicate whether they served as a final tabulation or if they were superseded by a later draft. In most cases, only district counts survive showing the number of insolvents in one part of the county, but these lists are rife with duplicated names of insolvent taxpayers. Given that nearly eight hundred lists recording more than twenty-five thousand insolvent taxpayers survive, it would be extremely difficult to collate the names of insolvent taxpayers from every district to guard against the possibility of duplicated names. It would also be impossible to match up the district counts from each year, as the tax collectors rarely defined the geographical limits of the districts within the county, and the preferred method was to describe the districts informally such as the "District of Joseph Bell."[255] Moreover, in the absence of bankruptcy laws, debts accrued during the tax collection process remained in perpetuity, and tax collectors rewrote the lists constantly to make corrections and to remove the names of taxpayers who had made full or partial payment. In counting the number of insolvent taxpayers, I have elected to use the highest number of insolvent taxpayers found among any of the surviving lists, as this method provides the most accurate measurement of the number of insolvent taxpayers found in each county.

Measuring the total number of insolvent taxpayers from all lists or taking the average number taxpayers from the lists for each year would not produce an accurate count of the number of insolvent taxpayers. Survival rates for the tax records vary from county to county and over the course of the decade. Totaling the number of insolvents found in all of the lists for a given year would overstate the level of distress considerably. Such a method would bias the results in favor of counties with a greater number of surviving lists, and would exaggerate the insolvency figures by counting many of the insolvent taxpayers more than once. The insolvency rates for every county would be significantly higher if this method were employed, particularly in counties where many lists survive. On the other hand, taking the average number of insolvents from each list would understate the level of insolvency, as this method would approximate the average

[255] Virginia Auditor of Public Accounts (1776-1928), Delinquent and Insolvent Taxpayers, 1781-1830, Library of Virginia, Richmond, VA, Boxes 1219, Augusta County Folder.

number of insolvents per tax district and not the total for the county. Although the results do not differ significantly from taking the highest number of insolvents for most counties, averaging the tax lists distorts the insolvency rate for counties that have a greater variance in tax district population. Measuring the highest number of insolvents found on each surviving list has the effect of approximating the number of insolvents in the largest tax district for each year, and provides the most accurate measurement of the number of insolvents for each county.

A hypothetical example will help to illustrate the differences between the three methods. Let us assume that a particular county has five surviving lists of insolvent taxpayers for a particular year. The lists contain 96, 54, 47, 41, and 12 insolvents respectively, and do not indicate how the tax collectors divided the districts within the county, or if one draft supersedes the others. If we were to take the average number of insolvents (50), we would find that this figure understates the number of insolvents because we know that the first list contained ninety-six insolvent taxpayers. If we were to use the total number of insolvents from all five lists (250), the figure would be very likely to be overstating the true number since the shorter lists may have been earlier drafts of the larger lists and these lists would have been more likely to contain duplicated names. Only the third method, taking the highest number of insolvent taxpayers found among the surviving lists (96) presents an accurate method for counting the number of insolvent taxpayers. Although this method may understate the level of insolvency by ignoring the number of non-duplicated names found in other lists, this method is the most accurate given the nature of the sources and is the only method that facilitates comparisons between counties with different rates of surviving records. As a result, the figures presented should be interpreted as the lower limit of economic distress in the Chesapeake economy.

Finding accurate estimates for the taxpaying population of each county presented another methodological challenge. To estimate the taxpaying population, I sampled the number of taxpayers found in the personal property tax books from fifty-six counties, counting the number of taxpayers on every fifth page of the personal property tax lists in 1782 and 1787.[256] After finding the average number of taxpayers on each full page, I multiplied the average by the number of pages in the tax book to estimate the total number of taxpayers. I then compared these figures to the number of adult white males listed in the 1790 census. The population figures have been estimated by taking the average proportion of taxpayers found in the tax books compared to the number of adult white males in the 1790 Census (54.73% for 1782 and 62% for 1787) and multiplying this proportion by the number of adult white males found in the 1790 Census to obtain estimates for the taxpaying population in 1782 and 1787. These coefficients reflect the ratio of taxpayers to the number of adult white males in the 1790 census for nearly all counties in which data were obtained, thus providing a measure of average property ownership across the state. The population estimates for the remaining years has been estimated using a simple natural-log growth formula.[257] To test the accuracy of this sampling technique, I also took a sample of the number of white tithables for several counties in which the total number of white tithables was known. The sampling technique produced a standard error of between one and three percent.

The margin of error for a sample mean can be estimated using the formula $(t * s)/\sqrt{n}$ where *t* is the critical value *t*-score, *s* is the standard deviation of the sample mean, and *n* is the

[256] The personal property tax rolls provide a more reliable measure of the number of taxpayers in each county than would land tax records or the 1790 census. When records for 1782 or 1787 were unavailable, data from 1783, 1786, or 1788 have been substituted.

[257] The growth rate formula can be expressed as:

$$population(year_x) = e^{\ln\left(\frac{1787population}{1782population}\right) * \frac{year_x - 1782}{5}} * 1782population$$

size of the sample. I have taken the margin of error of the number of insolvents found in each tax list, and divided this number by population to express the margin of error in percent terms. If the sample size increases, the margin of error declines if the standard deviation remains constant. As a result, the margins of error are higher in regions where fewer records have survived and in regions with fewer counties to sample such as the Eastern Shore, Northern Neck, and the Tidewater. The margins of error are also higher for individual regions than for the whole state because the sample sizes are smaller for the regional figures. This formula produces a margin of error of 2.4 insolvents for the whole state, and approximately three insolvents for most regions. After dividing the margins of error by population, the errors for all regions except the Eastern Shore average less than three tenths of one percent. The margin of error for the Eastern Shore is an outlier because few records have survived and the standard deviation between tax lists is very high. As a result, the margin of error for this region is approximately 3.9%. I have estimated the each margin of error using a ninety-five percent confidence interval. The margin of error for individual counties is assumed to be significantly higher than the regional data, as is the variance in errors from county to county, due to differences in data survival. There is no evidence to suggest that any systemic biases are present in the surviving records, however, and the errors are believed to be randomly distributed.

Chapter 3

Measures of Wealth: Understanding and Interpreting Early American Wealth

Two of the most important studies of early American wealth include Alice Hanson Jones's analysis of probate inventories for 1774 and Lee Soltow's investigation of the 1798 federal direct tax.[258] Jones used an unbiased sample of probate inventories to sample the 919 wealth holders to provide a comprehensive estimate of American wealth holding on the eve of the Revolution. Soltow used aggregates from the 1798 Direct Tax along with samples from the surviving returns to examine the wealth of 25,975 taxpayers.[259] Unfortunately Soltow could not obtain an unbiased sample because relatively few of the 1798 returns have survived.[260] As a result, his sample is biased towards urban populations, and Soltow relied on the aggregate totals rather than individual records for several states.[261] Because the direct tax assessors recorded each type of property on a separate list, Soltow chose to use only the lists of real estate valued less

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[258] Alice Hanson Jones, *American Colonial Wealth: Documents and Methods* Three Volumes (New York: Arno Press, 1977); Alice Hanson Jones, *Wealth of a Nation to Be: The American Colonies on the Eve of the Revolution* (New York: Colombia University Press, 1980); Lee Soltow, *Distribution of Wealth and Income in the United States in 1798* (Pittsburgh: University of Pittsburgh Press, 1989)

[259] Soltow sampled the individual records from sixty-two of the surviving counties. The author also constructed a second dataset from the 574 known aggregates from seventeen states, "plus allocated aggregates for the 113 counties in the three states where there is incomplete detail." Those three states were North Carolina, South Carolina, and Georgia. Since Soltow completed his study, additional returns relating to the 1798 Direct Tax have surfaced. A few typographical uncertainties in Soltow's work have left some confusion as to the number of records sampled. Soltow mentions 359 counties on page 3, but notes that there were 357 counties in existence on page 37. Soltow notes that his sample included 25,975 taxpayers and 43,245 properties on page 37 and 39. On pages 38 and 40, however, Soltow reports a sample of 45,400 properties and 28,044 owners. Additionally, Soltow mentions 40,000 property owners and 60,000 properties on page 3. Soltow, *Distribution of Wealth and Income in the United States in 1798*, 3, 37-40, 295n, quotation 37.

[260] For an overview of the surviving 1798 lists and their location, including records discovered after Soltow published his study, see Judith Green Watson, "A Discovery: 1798 Federal Direct Tax Returns for Connecticut," *Prologue* 39, no. 1 (spring 2007), online [accessed 18 February 2016] http://www.archives.gov/publications/prologue/2007/spring /tax-lists.html

[261] Soltow notes that "[m]y samples had to be drawn from those extant sets I was able to find in various archives; to be sure, I do not claim that the data are representative of the country as a whole, particularly since they tend to overrepresent urban areas." Soltow grouped the surviving records into seven regions and then took the weighted average of the results for each region to produce estimates for the whole country. Soltow, *Distribution of Wealth and Income in the United States in 1798,* 262-264, quotation 262.

than $100.[262] State property tax records are more comprehensive and hold clear advantages over traditional sources. Jones and Soltow took more than a decade to complete their projects using punch cards and tabulating the data by hand.[263] State property tax records have survived with greater completeness than the federal direct tax returns, and are easier to tabulate than probate inventories. Although both Jones and Soltow's studies provide accurate national wealth estimates for select years, the studies have a number of limitations that prevent their use in examining regional variation and changes in wealth holding patterns over time.

Table 3.1: *Counties Sampled by Alice Hanson Jones*

	Number of Counties	Number of Probate Inventories Sampled
Massachusetts	5	313
Connecticut	2	68
New York	*	23
Pennsylvania	3	163
New Jersey	1	25
Delaware	1	29
Maryland	2	65
Virginia	8[1]	78
North Carolina	2	71
South Carolina	1	84
Total	25	919

Source: Jones, *Wealth of a Nation to Be,* xviii-xx; Jones, *American Colonial Wealth,* 1:55-65.

[*] Very few probate inventories for New York have survived from the 1770s. As a result, Jones treated New York as a single group of counties, and extended her search to include all surviving probate inventories for the province. Jones, *Wealth of a Nation to Be,* 402n.

[1]Jones grouped the eight counties into three clusters of equal population when analyzing the results.

Both Jones and Soltow designed their studies with the intention of producing data significant at the national level, with little concern for fluctuations among the state or county

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[262] Soltow did not include slaves in his inequality estimates, but noted that slaves accounted for approximately twenty percent of the value of real estate. Housing valued at $100 or more accounted for 23% of total wealth in 1798. Soltow, *Distribution of Wealth and Income in the United States in 1798,* 44; Soltow, "Wealth Inequality in the United States in 1798 and 1860" *Review of Economics and Statistics* 66, no. 3 (August 1984), 446n.

[263] Jones had to find population figures, age distributions, exchange rates, mortality rates, and prices for Charleston and North Carolina before analyzing her sample. To collect the records, Jones had to visit county courthouses and correspond with probate judges in each county. Jones had to make a number of adjustments to her sample and introduce weights to estimate the wealth of the living, and she employed regression analysis to estimate certain wealth items for inventories that were less complete.

data.[264] Neither author designed their study to develop regional estimates or to measure intergenerational wealth. As a result, neither study can be easily disaggregated to show variation beyond the national level, and their projects minimize regional complexity and experience difficulty in accounting for regional economic growth. Although Soltow attempted to draw regional comparisons between the rural and urban areas by grouping his results into categories such as the "Rural South" or "Urban North," the problems associated with using Soltow's results for regional comparison become clear when one examines the sources behind the large, amorphous categories he employed.[265] Soltow constructed his wealth distribution for the "Rural South" using the individual enumerations from Georgia, North Carolina, and Tennessee coupled with the aggregate returns for other states. His estimates constructed for the "Urban South" relied on only the "complete enumeration of collated inventories for Baltimore."[266] Soltow later referred to his study of American wealth in 1798 by suggesting the potential for future research, noting that "[t]here was large regional variation and, indeed, variation between townships and counties … and averages or aggregates shown in national accounts seem far removed from reality for most individuals."[267] Consequently, this project uses a sampling technique that not only produces representative data at the national level, but also facilitates comparisons between individual states, regions, and counties.

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[264] This is not to say that either study provides an inaccurate picture of the national economy. Both authors carefully considered the range of errors yielded by their dataset, and adjusted their conclusions accordingly. Neither author, however, designed their data collection procedures with the intention of producing regional or local data. As a result, neither study can be disaggregated to show variation beyond the macro level.

[265] Soltow described his process for determining urban and rural districts by noting that "[f]ifty of the 687 tax districts were classified as urban because they clearly were cities or parts of cities such as Philadelphia or New York; others were classified as urban because the reported number of privately owned acres per adult free male was relatively small." Soltow, *Distribution of Wealth and Income in the United States in 1798*, 52, see page 262 for Soltow's method of determining distance to cities.

[266] Soltow, *Distribution of Wealth and Income in the United States in 1798*, 38-42, 44, quotation 38; Soltow, "Wealth Inequality in the United States in 1798 and 1860," 446.

[267] Lee Soltow, "Inequalities in the Standard of Living in the United States, 1798-1875" in Robert E. Gallman and John Joseph Wallis ed., *American Economic Growth and Standards of Living Before the Civil War* (Chicago: University of Chicago Press, 1992), 131.

Table 3.2: *Counties Sampled by Lee Soltow*

	Number of Counties	Number of Taxpayers Sampled
Maine	6	1,393
Massachusetts	10	4,836
Connecticut	5	2,429
New York	1	839
Pennsylvania	24	4,898
Maryland	12	12,159
North Carolina	1	478
Georgia	2	470
Tennessee	1	542
Total	62	28,044

Source: Soltow, *Distribution of Wealth and Income in the United States in 1798*, 40.

In a recent series of articles and working papers, Peter Lindert and Jeffrey Williamson have investigated early American wealth levels and distribution and attempted to reconcile Jones and Soltow's interpretations. The authors compare measurements from Jones, Soltow, and others for the years 1774 and 1800, and conclude that per capita incomes exhibited only modest growth, and possibly negative rates of growth in the South, despite the fact that most scholars point to the 1790s as a period of significant economic growth. The authors also suggest, in an earlier version of the paper, that inter-regional inequality "demands further scrutiny."[268] While Lindert and Williamson use new data on employment to compare existing data on wealth inequality, this dissertation presents a new, larger, and more-representative dataset that facilitates comparisons of wealth levels and inequality across time and region in the early republic.

Methodology

To complete this research I have transcribed and tabulated the taxable wealth of more than 80,000 taxpayers from the ten most populous states and territories between 1785 and

[268] Peter H. Lindert and Jeffrey G. Williamson, "American Colonial Incomes, 1650-1774" NBER Working Paper 19861 (January 2014); Lindert and Williamson, "American Incomes Before and After the Revolution" *Journal of Economic History* 73, no. 3 (September 2013), 725-765; Lindert and Williamson, "American Incomes Before and After the Revolution." NBER Working Paper 17211 (July 2011), 30.

1815.[269] The tax records have generally survived intact in various state archives and historical societies, and record the taxable property of all inhabitants of the county or town. I have modeled my sampling technique on Alice Hanson Jones' method, and designed the sample to produce results that are significant at the 95% confidence level with a 5% confidence interval. The sample has been constructed at ten year intervals between 1785 and 1815 to include a representative sample of 2.5% of the potential taxpaying population in 1815.[270] Sampling the tax records at ten-year intervals facilitates the study of change over time and follows American wealth ownership at a critical period in American history. The Early American Republic marked both the rise of a national economy and the development of distinct regional production networks. Over the course of fifty years, the American economy transformed from a loose collection of colonies to a unified nation capable of financing a second war with Great Britain. The period was also characterized by intense western migration and the emergence of a dual economy, dominated by agriculture, but supported by nascent manufacturing and industrial sectors.

The process for constructing the sample and gathering the tax data can be summarized in three stages. First, the ideal sample size for the study was determined by conducting pilot samples from tax records in Virginia to estimate the variance of the population. After producing population estimates for each county, the ideal sample size for the study could be established by

[269] The ten most populous states and territories in 1815 were, in order of population, New York, Pennsylvania, Virginia, Massachusetts, North Carolina, Kentucky, Ohio, Connecticut, Maryland, and Maine.

[270] Alice Hanson Jones notes that "[m]any people unfamiliar with sampling theory have an intuitive feeling that a larger sample, no matter how composed, is better than a small sample." Likewise, these individuals often assume that a sample that measures only a small fraction of a large population cannot possibly meet the standards for statistical significance. Both suppositions are mistaken. The number of observations necessary for a sample to meet tests for significance tests is entirely dependent on the variance of the population. Populations with greater variance necessitate larger sample sizes, and populations with little variance require substantially fewer observation points. To provide an extreme example, if all Americans in the early republic possessed equal wealth, only one taxpayer's wealth would need to be sampled to identify average wealth. Alice Hanson Jones, *Wealth of a Nation to Be: The American Colonies on the Eve of the Revolution* (New York: Colombia University Press, 1980), 404n.

calculating the minimum number of taxpayers needed from each state to meet the standard for statistical significance. Secondly, a representative sample was constructed by organizing counties and towns into contiguous clusters of approximately equal population, and sampling these clusters randomly within each state. The counties were grouped into clusters to account for population differences from region to region and to ensure that every potential wealth holder had the same probability of being included in the sample. Finally, after selecting the geographical units to be included in the sample, the data were collected from the tax records by sampling every fifth page in each tax book for every county in the sample. By sampling one-eighth of the county clusters, and transcribing and tabulating every fifth page of the tax lists, a 2.5% representative sample has been obtained.

I have selected the years 1785, 1795, 1805, and 1815 for several reasons. After constructing a pilot sample that examined Virginia tax records at five-year intervals, I determined that ten-year intervals were most effective for examining changes in wealth levels and wealth distribution. Beginning the study in 1785 allows the data to provide a measure of American wealth under the Articles of Confederation and critical period without the uncertainties and trade disruptions brought about during the Revolution. By the mid-1780s, nearly all of the newly-formed states had developed the taxing infrastructure that would define their collection efforts for much of the antebellum period. The 1795 and 1805 observation points, moreover, avoid disruptions during the Panics of 1791 and 1792, as well as the embargo and subsequent trade disturbances in 1807 and 1808. Ending the dissertation in 1815 avoids much of the upheaval during the War of 1812, and allows the study to take advantage of the standardized tax lists that states produced for the 1815 federal direct tax. Sampling the records at ten year intervals also facilitate comparisons with Jones' study of American wealth in 1774 and Soltow's estimates for 1798.

The population of the United States grew at a tremendous pace after the American Revolution. The number of inhabitants more than doubled between the first census and the Treaty of Ghent. Approximately one out of every six Americans would have been likely to appear among the tax rolls.[271] Taxpayers would register with the tax assessor if they owned any one or more of the various forms of taxable property, including land, slaves, livestock, or various luxury items. Most states also levied an additional tax on every white male age twenty-one or older, regardless of whether or not they owned property. Out of a total population of more than eight million, we can estimate the number of potential wealth holders in 1815 to have been 1,348,619, a proportion that is in line with the estimates produced by previous scholars. The ten most populous states account for 1,046,351 of the potential wealth holders, which was slightly more than three quarters of the estimated wealth holding population. Although the population remained overwhelmingly centered along the coast, the Census of 1810 reported that the center of population had moved to Loudoun County, Virginia, forty miles west and north of the nation's capital. By 1820 the center of population would move further, to what is now Hardy County, West Virginia. Significant western migration especially benefitted the recently created states of Ohio and Kentucky, and both states were among the ten most populous in 1815.

The number of potential wealth holders in the sample design is not the same as the actual number of individuals found in the tax lists. Rather, the figure represents an estimate of the

[271] Jones estimated that 18.5% of Americans were potential wealth holders in her study of 1774. Similarly, Lee Soltow and Kenneth Keller found that the taxpaying population in Pennsylvania in 1800 was approximately 18.8% of the total population. Soltow surveyed thirty tax lists from ten states for the years 1760 to 1830 and found that the ratio of taxable persons to the total population ranged from 13.9% to 19.8%. Jones, *American Colonial Wealth,* 3:1787; Lee Soltow and Kenneth Keller, "Rural Pennsylvania in 1800: A Portrait from the Septennial Census" Pennsylvania History 49 (1982), 27; Soltow, *Distribution of Wealth and Income in the United States in 1798,* 178.

number of individuals who could have *potentially* appeared in the tax lists based on the Census. Tax records measure household wealth because assessors typically included the assets of adult sons living in the same household together in the same tax entry. Assessors frequently included property owned by women in the household in the same entry as the head of household. There is reason to expect the relationship between the potential and actual number of wealth holders to be consistent between states. Taxpayers in each state faced similar forms of property taxes and there is little evidence to suggest that the social structure of the population changed significantly over the course of the period.

Changes in the composition of the household could affect inequality measures, as larger families might imply greater household wealth without a corresponding increase in per capita wealth. There is little reason to suspect that the composition of the average household changed significantly, however, as fertility rates and average household size declined only slightly, and the available evidence suggests that the median age of first marriage remained consistent in the early republic.[272] Differences in the age distribution could also affect the inequality measures, as individuals tend to accumulate wealth over the course of their lifetimes. The age distribution of the United States exhibited almost no variation between 1800 and 1820, and there is no reason to suggest that it witnessed significant change in the years following the American Revolution.[273] The age distribution exhibits little variance from region to region, but the proportion of potential

[272] The white fertility rate declined only slightly from 1800 to 1820, from 7,040 to 6,370 live births per 1,000 people, a decline of a little more than four percent. The composition of the average household size remained largely unchanged from 1790 to 1850. See Michael R. Haines, "Total fertility rate and birth rate, by race and age: 1800–1998." Table Ab52-117 in *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition,* edited by Susan B. Carter, Scott Sigmund Gartner, Michael R. Haines, Alan L. Olmstead, Richard Sutch, and Gavin Wright (New York: Cambridge University Press, 2006), 1:401-408; Susan Brower and Steven Ruggles, "Population in households, by household size: 1790–1990" Table Ae85-96 in *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition,* 1:668.

[273] Michael R. Haines, "White population, by sex and age: 1790–1990." Table Aa287-364 in *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition,* 1:57-60.

wealth holders was higher in states that had abolished slavery and slightly lower in states with large slave populations.

The process for determining the number of potential wealth holders in this study differs slightly from Alice Hanson Jones' method. Jones estimated the number of wealth holders in 1774 using the colonial population schedules from *Historical Statistics of the United States* along with the demographic data from the Census of 1800 to approximate the sex and age structure. Jones counted the number of men and women aged twenty-one and older, and calculated her population estimates using 100% of the free male population (both white and black), 10% of the free female population (white and black) in the North, and 10% of the free white female population in the South. Jones believed that these figures best approximated the number of possible wealth holders who might have had their property probated.[274]

Jones' assumptions about early-American wealth holding do not apply to tax records, however, as women and free blacks were significantly less likely than white men to appear as taxpayers. Women are overrepresented in probate inventories due to the number of estates bequeathed to widows of the deceased.[275] Although it was not uncommon for widows to pay taxes on their husbands' estate, or for female property owners or free blacks to appear in the tax lists, 10% of the female population and 100% of the free black male population are both far too high for estimating the taxpaying population. Jones based her 10% widow estimate on the

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[274] For Jones' methodology, see *Wealth of a Nation to Be,* 43, 410n; *American Colonial Wealth*, 3:1803-1804.

[275] Jones found one widow for every eleven sample cases. Jones also found several cases of probate inventories completed after the death of an orphaned child who owned land or other property in the care of a guardian. Jones excluded orphans from her sample. Tax lists in the early republic often recorded assessed taxes on the estates of recently deceased property owners or for land or slaves owned by orphans and entrusted in the care of relatives or guardians. I have included these taxpayers in my sample, as there is no way to distinguish between taxpayers who died during the tax collection period and estates that had already been distributed to the deceased taxpayer's heirs. In both cases, moreover, their property would have been reflective of the level and concentration of wealth in the taxpayer's county or town. Jones, "Questions for Fienberg-Larntz," April 10, 1970, Alice Hanson Jones Papers, Box 2, Folder "Fienberg-Larntz Correspondence Regarding New Sample Statistical Consultation." Jones, *American Colonial Wealth*, 1:6-7.

number of widows listed in the census records between 1890 and 1940, and from a 1774 tax list from Philadelphia. Jones herself noted in a letter to Gary Nash that the basis for the 10% estimate for the number of potential female wealth holders was "admittedly very sketchy." Using tax records from Philadelphia, Nash found that only 5.3% of wealth holders were women in 1767 and 6.4% in 1769.[276] More recently, Peter Lindert and Jeffrey Williamson assume that only one-sixth of the free black population consisted of household heads when estimating the number of potential wealth holders for their study of American wealth.[277]

Women appear to have been even more underrepresented in state tax lists after the Revolution. Lee Soltow and Kenneth Keller found that only 2% of Pennsylvania taxpayers were widows or spinsters in 1800. The authors noted that free blacks appeared less frequently than widows in the tax lists, and estimated that the free black taxpaying population was likely less than one percent.[278] This study assumes that the number of free blacks and women that appear in the tax lists would roughly approximate the number of white men who were exempted from taxation for their military service, old age, or from extreme poverty. Lindert and Williamson apply this assumption when considering the number of free white females who might have served as heads of household.[279]

Estimates for the taxpaying population have been calculated from the number of white males aged twenty-one and older found in the Census records. Because all free white males aged twenty-one and older were required to pay taxes in nearly every state during this period, this

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[276] Alice Hanson Jones to Gary Nash, February 4, 1972, and Nash to Jones, December 16, 1971, Alice Hanson Jones Papers, Columbia University Rare Book and Manuscript Library, Box 1, Folder "Comparisons."
[277] Peter H. Lindert and Jeffrey G. Williamson, *Unequal Gains: American Growth and Inequality Since 1700* (Princeton: Princeton University Press, 2016), 21.
[278] Soltow and Keller, "Rural Pennsylvania in 1800: A Portrait from the Septennial Census," 26-27.
[279] Lindert and Williamson, *Unequal Gains: American Growth and Inequality Since* 1700, 21.

measure most accurately reflects the number of taxpayers found in the tax lists.[280] Population estimates for 1815 have been generated by applying a growth rate formula the population schedules in the 1810 and 1820 Censuses for each county.[281] Jones employed a similar growth rate formula to extrapolate population figures for 1774 from the decennial population figures found in *Historical Statistics of the United States.*[282] To account for counties created between the two Censuses, I have grouped newly-formed counties and towns together with the county or counties that ceded land for their formation.[283] In some cases, states attached newly-created

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[280] The Censuses of 1800, 1810, and 1820 each list white males under the age of ten, along with ages ten to fifteen, sixteen to twenty-five, twenty-six to forty-four, and forty-five and older. To find the number of white males age twenty-one or older, I have divided the number of white males aged sixteen to twenty-five in half and added this figure to the number of white males age twenty-six to forty-four and forty-five and older. Lee Soltow and Kenneth Keller used the same method to find the number of white males age twenty-one and older in an article examining Pennsylvania wealth in 1800. Soltow and Keller, "Rural Pennsylvania in 1800: A Portrait from the Septennial Census," 27.

[281] The growth rate formula provides an estimate of the taxpaying population in 1815 and accounts for regions where the population grew rapidly between the 1810 and 1820 Censes. Although the midpoint between the two Censuses would provide similar results for many counties, using the midpoint would be less accurate for counties whose population grew or shrank substantially over the course of the decade. The growth rate formula uses the annualized growth rate to calculate the predicted population in 1815 if there was a constant rate of growth between 1810 and 1820. As a result, the estimate will be lower than the midpoint if the population grew between the Censuses, and the formula will produce an estimate above the midpoint if the county population declined between 1810 and 1820. The growth rate formula can be expressed as:

$$1815population = e^{\ln(\frac{1820population}{1810population})/2} * 1810population$$

[282] Jones employed a growth rate to estimate population figures for New England, New York, and the Southern Colonies. Jones, *American Colonial Wealth*, 3:1817-1818, 1827.

[283] To identify and collate counties and towns created between the two Censuses, and to construct the maps for this project, I have relied on a number of sources including the historical county atlases produced by the Newberry Library, as well as state-specific reference work, historical atlases, and county histories. See John H. Long et. al. ed., "Atlas of Historical County Boundaries," available online at http://publications.newberry.org/ahcbp/; William Francis Galvin, *Historical Data Relating to Counties, Cities, and Towns in Massachusetts* (Boston: The New England Historic Genealogical Society, 1997); The Maine Historical Records Survey Project, *Counties, Cities, Towns and Plantations of Maine: A Handbook of Incorporations, Dissolutions and Boundary Changes* (1940; rpt. Augusta, ME: Maine State Archives, 1982); Michael F. Doran, *Atlas of County Boundary Changes in Virginia, 1634-1895* (Athens, GA: Iberian Publishing Co., 1987); Randolph C. Downes, *Evolution of Ohio County Boundaries* (1927; rpt. Columbus, OH: The Ohio Historical Society, 1970); Mathew Carey, *Carey's General Atlas, Improved And Enlarged; Being A Collection Of Maps Of The World And Quarters, Their Principal Empires, Kingdoms, &c.* (Philadelphia: Mathew Carey, 1814), available online through the David Rumsey Map Collection, item number 4577.00; H.C. Carey, *A Complete Historical, Chronological, And Geographical American Atlas, Being A Guide To The History Of North And South America, And The West Indies ... To The Year 1822*. (Philadelphia: H.C. Carey And I. Lea, Chestnut Street. 1822), available online through the David Rumsey Map Collection, item number 0122.000.

counties to a neighboring county for administration purposes until the new-created county could organize its own local government. In such cases, the new-formed county has been grouped together with the county administrating it."[284] The population estimates for each of the ten most populous states, together with the corresponding number of county clusters sampled from each state are as follows:

Table 3.3: *Potential Wealth Holder Estimates for the Ten Most Populous States in 1815*

State	Potential Wealth Holders	Number of County Clusters Sampled
New York	234,295	6
Pennsylvania	186,517	5
Virginia	119,440	3
Massachusetts	119,347	3
North Carolina	77,110	2
Kentucky	72,146	2
Ohio	71,657	2
Connecticut	58,204	2
Maryland	54,830	1
Maine	52,804	1
Total	1,046,351	27

Sources: 1810 and 1820 Census population schedules.

To determine the minimum sample size needed to meet the threshold for statistical significance, I first completed a pilot sample of the personal property tax records from eighteen Virginia counties and two independent cities. I then estimated the target sample size using the results from the pilot sample, and the formulas described by R.S. Schofield in his "Sampling in Historical Research."[285] This study follows Jones in employing a 95% confidence level and a 5%

[284] For example, the Ohio legislature created Coshocton County from Muskingum and Tuscarawas Counties in 1810. Following its formation, Coshocton County remained attached to Muskingum County until 1811. As a result, Coshocton County's population would have been recorded with Muskingum's in the 1810 Census, and the two counties have been grouped together before applying the growth rate formula. For Ohio County boundaries, see Peggy Tuck Sinko *Ohio: Atlas of Historical County Boundaries,* John H. Long ed. (New York: Charles Scribner's Sons: 1998), 51.

[285] R.S. Schofield, "Sampling in Historical Research" in E.A. Wrigley ed. *Nineteenth-Century Society: Essays in the Use of Quantitative Methods for the Study of Social Data* (Cambridge: Cambridge University Press, 1972), 146-190.

confidence interval.[286] Because one of the stated aims of the survey was to produce results that could examine regional distinctiveness, the sampling method employs a proportional, stratified approach. Rather than sample all of the county clusters randomly, as Jones did, this approach treats each state as a distinct geographical unit. The proportional stratified sample ensures geographical diversity in record selection. If the tax districts were sampled randomly, without regard to political boundaries or regional distinctiveness, the resulting sample might favor particular states or regions but be otherwise representative for constructing national estimates. Sampling the tax districts *proportionally* means that the number of tax districts sampled from each state is based on population. A *stratified* sample means that the methodology treats each state as a separate entity to ensure that at least one cluster would be selected from each of the ten most populous states.[287]

The formula yields an ideal sample size of at least 104,107 taxpayers, which means that a sample approaching 2.5% of the potential taxpaying population will be required to meet the test for statistical significance. After determining the necessary sample size, the sample was constructed in a two-stage process. First, the counties and towns from each state were grouped

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[286] The central limit theorem applies to this sample because it is sufficiently large. As a result, we can assume that the distribution of alternative sample means to be approximately normal. Jones, *American Colonial Wealth,* 3:1853-1858.

[287] The sample size of a proportional stratified sample can be estimated for each of L strata using the formula

$$n_0 = \frac{\sum_{h=1}^{L}(W_h S_h^2)}{V}$$

Where W_h is the proportion of the items in the population falling in the stratum, S_h^2 is the variance of the items in the population in each stratum, and V is the desired sample variance. The desired sample variance can be expressed as

$$V = \frac{d^2}{t^2}$$

where d is half the desired confidence interval (i.e. $\pm d$), and t is the corresponding normal deviate. Due to the difficulty in estimating the variance of taxpayer wealth from each state before gathering and analyzing the tax records for the formal sample, the variance of each strata was assumed to follow the results from the pilot sample. Schofield, “Sampling in Historical Research,” 172, 161.

into contiguous clusters of roughly-equal population, and one-eighth of them were sampled randomly within each state, for a total of twenty-seven county clusters. Next, the tax records from each county and town were sampled by recording every fifth page from the tax books of the counties and towns in the sampled county clusters. Sampling one-eighth of the tax districts and one-fifth of the pages found in the tax rolls means that the resulting sample includes 2.5% of the taxpaying population. The resulting sample represents 104,635 potential wealth holders, and is large enough to produce statistically significant results at the national, state, regional, and county-levels.[288]

Just as it is important to ensure that the sample is large enough to produce reasonable confidence intervals, it is equally important to guarantee that the sample is unbiased. Each county and every taxpayer must have an equal chance of being selected for inclusion in the sample. Because the population size of individual counties varied dramatically, the counties (towns in the case of New England) have been grouped into contiguous clusters of roughly equal population based on the methodology Alice Hanson Jones employed for her study of American wealth in 1774. Jones found that the counties in the Northern colonies were much more populated than those in the South. As a result, Jones grouped counties in the Southern counties into clusters that approximated the average number of white wealth holders for counties in New England.[289] Using this method, Jones sampled individual counties in the North and compared them to clusters of counties in the Southern colonies. Jones' logic remained valid for the early republic, as the counties in New York and Pennsylvania continued to be vastly more populated

[288] Sampling one-eighth of the county clusters yields a population of 130,794 adult white males. After tabulating the records from every fifth page of the tax books, this figure includes 26,159 taxpayers for each year in the sample. Because the study examines records at four observation points (1785, 1795, 1805, and 1815), these figures suggest a total sample of approximately 104,635 taxpayers.

[289] Jones grouped her counties into clusters of approximately 4,716 white wealth holders, as this figure approximated the average for counties in New England. Jones, *American Colonial Wealth*, 3:1840-1841.

than those in the South in 1815. The average taxpaying population for counties in New York and Pennsylvania was almost three times the average taxpaying population for counties in the South and West.[290] This study bases county cluster size on the average taxpaying population for New York and Pennsylvania counties in 1815. The clusters represent populations of approximately 4,657 white males over the age of twenty-one as recorded in the Census.[291] Grouping the counties and towns into clusters facilitates regional comparison and ensures that all taxpayers have an equal chance of being included in the sample.

Neither Jones nor Soltow had to contend with the issue of changing political boundaries or migration, as their studies sampled wealth holders from a single year. Although Jones indicated that arraying the counties into geographic contiguous clusters would have been ideal, she ultimately arranged and stratified her clusters by population size alone. In a letter to Kinley Larntz, Jones noted that "inclusion or exclusion within a cluster or stratum was determined solely by the rule you gave, that the cumulative number came the closest possible to the target cluster size."[292] County boundaries shifted dramatically in the four decades following the American Revolution. Kentucky had only four counties in 1785, but the state had sixty-seven in 1820. As the center of population moved west, state legislatures created new counties from the amorphous districts along the frontier. In constructing the sample, care has been taken to

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[290] The average county in Maryland, Virginia, North Carolina, Ohio, and Kentucky had only 1,685 taxpayers compared to 4,657 taxpayers in New York and Pennsylvania.

[291] The cluster size would not differ significantly if it were based only on counties in Pennsylvania. The average taxpaying population for counties in New York and Pennsylvania was 4,656.933, compared to 4,147.585 for Pennsylvania alone. Neither figure includes New York City or the city of Philadelphia in the average. Both figures include counties grouped together due to discrepancies between the 1810 and 1820 Censuses.

[292] Stephen Fienberg, who served as a statistical consultant for Jones as she developed her methodology, described the process as follows: "Let me clarify the use of geographical contiquity [sic] in setting up strata. The main idea is still to stratify by population size. If there are several counties of roughly the same size, then I suggest re-ordering them so that you can group together those which are geographically contiguous. This goes for both large and small counties. To properly stratify both by population size <u>and</u> geographic contiguity will be much too troublesome." Stephen E. Fienberg to Alice Hanson Jones, June 12, 1969, Alice Hanson Jones Papers, Box 2, Folder "Fienberg-Larntz Correspondence Regarding New Sample Statistical Consultation."; Jones to F. Kinley Larntz Jr., July 7, 1969, Alice Hanson Jones Papers, Box 6, Folder "Correspondence 1969-1970."

facilitate comparisons over time and ensure that the same geographical boundaries have been sampled at each observation point. The county clusters have been arranged to account for changes in county borders between 1785 and 1815. If a county split into two or more separate entities, these counties have been paired together when possible. Counties whose boundaries shifted by more than ten percent of their total area between observation points have been grouped with other counties to minimize the effects of the boundary change. In extreme cases, when the population of a particular region expanded exponentially over a short period, state legislatures responded by completely redrawing the county boundaries of the region. To address this challenge, neighboring counties have been arranged together to form county clusters significantly larger than the average. Large clusters have been formed in three areas, including parts of upstate New York, western Kentucky, and southern and western Ohio.

After accounting for boundary changes over the course of the period, the counties have been grouped as closely as possible into clusters of 4,657 taxpayers. The clusters have been formed following Alice Hanson Jones' method. Jones arranged her counties "as if an imaginary string were laid on a map" moving from one side of the state to the other and back again.[293] Accounting for changes in county boundaries presents a deviation from Jones' method, as Jones constructed her sample independently of political boundaries. Jones also designed her county clusters to be independent of state boundaries, a rule I have not followed due to differences in tax law between states. While Jones' "imaginary string" moved back and forth across each state or region, the county clusters in this study have been arranged moving from west to east, as most

[293] Jones designed her sample clusters without regard to state boundaries. For her pilot sample, which served as the basis for her sample of the Middle Colonies, Jones also ignored regional distinctions. Instead, she arrayed the counties in her pilot sample by population and sampled them randomly. For the formal sample, Jones grouped the counties into contiguous clusters of equal population and arranged them by alternating from west to east for counties in New England. Jones generally moved from east to west for other states. See Jones, *Wealth of a Nation to Be,* 403n; Jones, *American Colonial Wealth*, 3:1829-1830, 1836-1837, quotation 1836.

states experienced the most dramatic boundary changes at their westernmost points, and it was necessary to begin with these counties to ensure that boundary changes were taken into account. Moving west to east, the clusters have been roughly arranged from north to south to remain consistent from state to state.[294] In each state the clusters have been formed such that no two counties could be swapped to make the population any closer to the target population of 4,657 without disrupting those counties already grouped together due to boundary changes.

The clusters have been numbered from west to east and north to south, and sampled randomly to determine which clusters would be included in the sample. Clusters with populations that were significantly larger or smaller than the 4,657 average were assigned greater or lesser representation in the lottery in proportion to their population to ensure that every taxpayer maintained an equal chance of being selected for the sample.[295] Because larger-than-average county clusters serve as proxies for multiple county clusters, the tax records from the counties in these clusters have been under-sampled in proportion to the population of the county cluster.[296] The county clusters were sampled randomly by rolling dice, and alternate clusters were drawn for each state to be substituted in the event that surviving records could not be located for more than fifty percent of the counties or towns in the cluster by population.[297]

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[294] Jones arrayed her clusters from South to North in New England and in New York, and from North to South for the Southern colonies. Jones, *American Colonial Wealth,* 3:1836-1837.

[295] For example, New York City and County had an estimated wealth holding population of 23,402 adult white males in 1815. To ensure that the taxpayers in New York City and County has an equal chance of being sampled as those in less populated clusters, the New York City and County cluster has been assigned five chances of being selected in the lottery instead of the usual one. Likewise, clusters representing fewer than 3,493 taxpayers were sampled at half the rate of the average county cluster, and clusters with populations of more than 5,821 were sampled at a rate greater than one in proportion to their population.

[296] For example, New York City and County had a population five times the size of the average county cluster, and was five times as likely to be selected for inclusion in the sample as a result. Once selected, the records for New York City and County have been tabulated on every twenty-fifth page, instead of every fifth page, to account for the difference in county cluster size.

[297] Jones randomized the selection of alternate counties in her revised sampling plan by ordering and selecting the stratum that showed the least derivation from the average stratum size. Jones, Research Notes, June 28, 1969, Alice Hanson Jones Papers, Box 2, Folder "Fienberg-Larntz Correspondence Regarding New Sample Statistical Consultation."

Selecting alternate counties allows the sample to account for disparities in record survival rates.[298] The sampling technique for the county clusters has been designed to ensure that each county has an equal chance of selection in the formal sample, and to facilitate comparisons between counties of different populations.

Finally, after randomly selecting the county clusters to be included in the formal sample, the tax records were collected systematically by tabulating the wealth information from every fifth page of each tax list.[299] I based my decision to sample every fifth page on the results from my pilot sample, and from Lee Soltow's method of sampling every tenth or twentieth page for many of the tax lists employed in his study.[300] If the records did not survive for a particular year, tax lists from the year before or the year after have been substituted (1804 or 1806 instead of 1805, for example).[301] In sampling the tax records, I first rolled a die to determine which of the first five pages of the tax list would be included, and then transcribed the information from the

[298] This technique has proven useful for states were the records have survived for only select counties. For example, Alice Hanson Jones assumed that the survival rate for probate inventories would be roughly the same across the country. Her assumption did not prove to be correct, and, as a result, Jones revised her methodology to provide for alternate counties when she extended her sample beyond the middle colonies. Jones, *Wealth of a Nation to Be,* 345.

[299] R.S. Schofield notes that a "systematic sample is most like a random sample when the population to be sampled is listed in a random order. This can effectively be so for the purposes of the sample when the items are ordered by some characteristic, say alphabetically by surname, which has no relation to the characteristics under investigation in the sample. In this case systematic sampling is virtually equivalent to random sampling, and the estimates from systematic samples will be about as precise as those obtained from random samples of the same size. Unfortunately there is at present no way of estimating the precision of systematic samples, and in practice this is estimated *as if* the sample had been drawn randomly." Schofield, "Sampling in Historical Research," 151-154, quotation, 153-154.

[300] Soltow used 10% and 20% samples for the records in Maine, Massachusetts, Connecticut, and Pennsylvania, as the 1798 Direct Tax returns are much more complete for these states. To these samples, Soltow added the complete enumerations from the surviving records in the other states. Taken together, Soltow sampled approximately 7% of the taxpayers found in the housing returns for 1798. Soltow employed a similar sampling technique for his study of American wealth from 1850 to 1870, and the accuracy of his methodology has been confirmed now that the mid-nineteenth century Census returns have been digitized. Soltow*, Distribution of Wealth and Income in the United States in 1798,* 38. Lee Soltow, "The Distribution of Income in the United States in 1798: Estimates Based on the Federal Housing Inventory" *Review of Economics and Statistics* 69, no. 1 (February 1987), 181.

[301] Jones followed a similar method, including some probate inventories from 1773 and 1775 in her sample for 1774. In extreme cases, I have used a tax list from two years before or after the sample year (1803 or 1807 for 1805, for example). The land tax lists for some counties record only alterations in landholdings from the previous year, making it difficult to trace changes in the distribution of landownership for these counties. In such cases, an alternate year closest to that originally selected has been substituted. Given the choice between two tax lists, the list that appears more complete has been included in the sample. If both lists appear equally intact, I have flipped a coin to determine which tax book has been tabulated. Jones, *Wealth of a Nation to Be,* 405n.

tax book on every fifth page beginning with this page number.[302] To account for fluctuations in the number of taxpayers recorded from page to page, the number of partially completed pages in each tax list was noted and the total number added to the number of pages in the tax list.[303] If a tax list contains enough partially complete pages to merit sampling an additional page, additional pages were tabulated from the front of the tax list as though the tax list were connected from end to end.[304] Some tax assessors wrote lists on particularly wide pages with names written in two columns on either side of the page. In such cases, each side of the sheet has been counted as a separate page to facilitate efficient data collection. Small counties have been occasionally oversampled by using these techniques, particularly when the tax list contains less than five pages. As a result, all of the records have been weighted to ensure that the results from all counties contribute equally towards the national and regional estimates.

The actual number of taxpayers included in the sample is less than anticipated for several reasons. Despite the strong correlation between the number of adult white males listed in the Census records and the number of taxpayers found among the tax lists, the two sources are not perfect proxies for one another. Although a majority of the potential wealth holders represented in the Census records would have appeared in the tax rolls, some of the young, single men would

[302] The tax records for some of the Virginia counties were gathered when the pilot sample was undertaken. The pilot sample did not make use of this rule, and, as a result, a disproportionate number of the Virginia tax records begin sampling on page two of the tax book.

[303] Many tax lists contain partially completed pages as a result of the way tax collectors organized their tax books. For many counties, the first page of the tax list contains a large heading describing the authority granted to the tax collector. Similarly, many tax lists contain a letter from the tax collector to the state auditor or treasurer on the last page of the tax list certifying that the taxes for his district had been completed. In other cases, county clerks alphabetized the lists of taxpayers by beginning a new page in the ledger for each letter of the alphabet. As a result, many of the pages in these tax lists are only partially complete and the number of taxpayers per page can sometimes vary considerably.

[304] Consider, for example, a tax list containing thirty-eight pages, including two partially completed pages, and sampled on every fifth page beginning with page five. The second page of the tax list would be added to the sample as though it were page forty. If there were seven partially completed pages instead of two, then the second and seventh page of the tax list would be added to the sample as though they were pages forty and forty-five respectively.

have been working on a parent or close relative's farm and would have been included with that household for tax purposes. A tiny fraction of potential wealth holders would have been exempted from taxation, or would have been too poor to pay the poll tax. Differences in population growth rates between counties could also affect the number of taxpayers included in the sample from earlier years. Because the county clusters were constructed using population estimates for 1815, the number of taxpayers sampled is lower for counties and towns that experienced rapid population growth in the 1810s but exhibited significantly smaller populations in previous decades.

The varying rates of record survival, however, account for most of the disparity between estimated and actual wealth holders. After transcribing and tabulating the tax records, we find that roughly sixty percent of the adult white males recorded in the Census appear as taxpayers. The total number of taxpayers sampled is roughly proportional to the estimated wealth holding population of each state, with a few exceptions. Many of the tax lists for Pennsylvania are incomplete, and all are difficult to transcribe. Tax lists for several towns in New England are missing for certain years or altogether, and records from Massachusetts survive for only three years instead of four. Very few tax records from Ohio have survived from the period before 1810, and no lists exist before the nineteenth century since the state entered the Union in 1803. Likewise, the records for Maryland are incomplete for several counties. Maine presents an unusual case of oversampling. Maine's population grew rapidly between the 1810 and 1820 Census, with numerous towns splitting or shifting their borders to form new entities. The mutability of Maine's tax jurisdictions made it impossible to accurately account for each of the numerous boundary changes necessary to form the towns into contiguous clusters. As a result, I elected to sample Maine's counties instead of using the town clusters employed in the rest of

New England. Consequently, the number of Maine taxpayers included in the sample is greater than would be expected otherwise. Differences between the estimated and actual number of taxpayers included in the sample does not affect the accuracy of the results, however, as the sample size estimation selected geographic units to include in the sample without knowing the survival rate of the tax lists within each tax administration. Because correcting for population growth and record survival would be impossible before undertaking the survey, weighting techniques provide the best method for adjusting the data.

New York presents a special case. Tax records for New York could only be located for the years 1799-1804 except in a few cases.[305] New York relied on an unusual method of assessment that may explain why few tax lists have survived in the State Archives. The New York state legislature apportioned tax quotas to the supervisors of each county, who apportioned quotas to each town and ultimately to individual assessors. It is likely that other tax lists survive in county or town archives, or in private collections. Moreover, the sample construction was complicated by the fact that the boundaries for nearly all New York counties shifted dramatically in the early-nineteenth century, making it impossible to apply county clusters from 1815 to the county borders in 1800. As a result, the New York clusters have been formed with a goal of replicating the county boundaries as they appeared in the 1800 Census. Because the New York tax lists survive for only a few years, the records provide only one observation point for the sample instead of four.

Table 3.4: *Predicted, Estimated, and Actual Number of Tax Records in Sample by State*

	Predicted[1]	Estimated[2]	Actual	Percent of Estimated	Percent of Predicted
New York	23,429	114,004	3,454	3%	15%
Pennsylvania	18,652	32,026	9,375	29%	50%

305 Jones encountered similar problems with record survival for New York. As a result, Jones treated New York as a single group of counties, and extended her search to include all surviving probate inventories for the province. Jones, *Wealth of a Nation to Be,* 402n.

Virginia	11,944	12,194	9,536	78%	80%
Massachusetts	11,935	13,703	8,736	64%	73%
North Carolina	7,711	8,641	5,138	59%	67%
Kentucky	7,215	10,686	6,481	61%	90%
Ohio	7,166	11,175	3,372	30%	47%
Connecticut	5,820	8,512	3,996	47%	69%
Maryland	5,483	3,707	1,580	43%	29%
Maine	5,280	9,699	9,105	94%	172%
Total / Average	104,635	224,347	60,773	51%	69%

[1] Number of taxpayers predicted by the sample design.
[2] Estimated population of the cluster(s) of counties and towns sampled in 1815. Because the counties in New York and Pennsylvania had larger populations than the rest of the country, the estimated population figures are much higher for these states.

After collecting and tabulating the data, I have weighted the results from each county cluster before preparing regional or national estimates. Summing or averaging the clusters together would not provide an unbiased estimate of mean wealth levels at the state and national levels. Although each cluster represents an approximately equal population of potential wealth holders, the tax lists have not all survived in the same proportion. Even though every effort has been made to randomly select taxpayers from the tax lists in proportion to each county's contribution to the sample, such variation in sampling is inevitable. Equalizing the contribution of each county cluster accounts for this variation and ensures that the sample produces an unbiased estimate of average wealth for the regional and national figures.

The question of how to weight each county within the sample stratum was a cause of much consternation for Alice Hanson Jones. Jones first considered Bernard Lazerwitz's recommendation of weighing counties based on population, as population provided the basis for each county's inclusion in the sample. The problem with this method, however, is the differences in survival rates between counties. Jones recognized the unevenness of record survival among her probate inventories, and realized that this variation could allow some counties to become overrepresented in the sample. For example, Jones found that probate inventories in sparselypopulated Kent County, Delaware had a much greater chance of being recorded and of surviving than those in the rest of the sample cluster, including those from Philadelphia. Although the population of Philadelphia was considerably larger than Kent County in 1774, Jones found that Kent County accounted for 40.8% of the surviving inventories for the cluster, compared to only 27.2% for Philadelphia.[306] Weighing clusters by population would have created the same problem in reverse, as the few surviving records from Philadelphia would have been inflated to stand in for the missing records from the surrounding counties. Jones noted that the weights were "appropriate because of the sample design, where each cluster was to represent an equal part of the total universe sampled."[307]

After consulting with a number of statisticians, who provided several possible weighting alternatives, Jones decided to weigh each county equally within the stratum.[308] Weighing the counties equally accounts for possible variation in the ratio of decedents to the living population, and makes an adjustment for any differences in the ratio of surviving inventories from county to county. Moreover, assigning equal weights provides an unbiased estimate of the average wealth holder's assets. Although the probability of a taxpayer being recorded in an annual tax assessment list would have been much more certain than the probability of a particular wealth

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[306] Jones, "Some Questions of Interpretation of Weighted Decedent Wealth from 5-County Sample and Background Facts," April 4, 1969, Alice Hanson Jones Papers, Box 2, Folder "Fienberg-Larntz Correspondence Regarding New Sample Statistical Consultation."; Jones, *Wealth of a Nation to Be,* 346-347, 411n; Jones, *American Colonial Wealth,* 3:1873.

[307] Jones, *Wealth of a Nation to Be,* 346.

[308] Jones called these weights "County" or "c" weights. In justifying her decision to use 1/5 weights for a sample cluster containing five counties, Jones noted that "Since we are confronted with the uncertainty as the reliability of the living population figures which were the original basis of the chance a county be included … and since I have no great confidence in the estate of deaths or of the count of total probates … the development of actual weighting factors whose values depend on such numbers seems to imply greater precision than the data warrant. It was for such practical reasons … that I concluded my most reasonable course was to use an equal weight of 1/5, applied to sample averages or per cents." Jones later modified her weights for Pennsylvania, New Jersey, and Delaware after revising her population figures for these colonies. Jones, "Some Questions of Interpretation of Weighted Decedent Wealth from 5-County Sample and Background Facts," April 4, 1969, Alice Hanson Jones Papers, Box 2, Folder "Fienberg-Larntz Correspondence Regarding New Sample Statistical Consultation."; Jones, *Wealth of a Nation to Be,* 346-347, 411n; Jones, *American Colonial Wealth,* 3:1873-1878.

holder's estate being inventoried in probate, Jones' assumptions still apply to the tax records. Like Jones' probate inventories, the tax lists are vulnerable to variation in the ratio of the taxpaying population to the population estimates derived from the census records. The tax records are also subject to the same uncertainties regarding record survival. As a result, I have followed Jones' weighing procedure within county clusters.

While the tax lists record accurate measures of taxpayers' physical wealth, the records rarely disclose liabilities, and therefore net worth cannot be calculated without substantial effort. Jones accounted for decedents' outstanding debts by searching newspaper records for each of the 919 probated individuals in her sample and using regression analysis to reconstruct missing information. Because the sample employed in this study is much larger than Jones', and because the taxpayers' liabilities would have fluctuated over the course of the year (unlike the recently deceased individuals covered in probate), it would be impossible to identify the outstanding debts of each individual in the study. As a result, wealth figures in this study should be understood to refer to total physical wealth, not net worth.[309]

Although state governments implemented similar tax collection procedures in the years following the American Revolution, a few eccentricities of the records themselves must be addressed in collecting and tabulating the tax returns. In Maryland and Virginia, tax collectors recorded land and personal property taxes on separate lists. I have collated the names found in the lists for each county after sampling records from the personal property tax returns.[310] In nearly all cases, taxpayers paid the tax in their county of residence. As a result, it is not necessary

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[309] Jones makes an important distinction between the various types of wealth estimates. Jones, *Wealth of a Nation to Be,* xxvii, xxxi-xxxiv, 405n.

[310] I have drawn my sample from the personal property tax lists because these records are much more representative of the sample population. Not all taxpayers owned land, but nearly all paid the poll tax and most owned some form of personal property. It is very unlikely that a taxpayer would have appeared on the land tax rolls but paid no personal property tax.

to match up landholders for landholdings in other counties. Because county clerks compiled assessment lists from multiple sources, it is not uncommon for the lists to contain multiple entries for the same taxpayer that refer to different tracts of land.[311] In collating the lists, I have matched identical names that refer to the same taxpayer.[312] Most land tax records provide a detailed description of the property including its relation to surrounding properties, and the lists often specify the exact location of the property within the county or note the approximate distance from property to the county courthouse. In nearly all cases, the lands held by individuals with duplicate entries in the land tax were either adjacent or very close to one another, providing further confirmation that the two entries likely referred to tracts of land owned by the same taxpayer. Every effort was made to ensure accuracy in transcribing the tax lists, however, it should be noted that the numbers are more accurate than the names. Many of the tax lists provide a total at the bottom of the page that was not provided to the research assistants. The totals could be used to double check the accuracy of each page. Unfortunately, no such method exists for double checking the names.[313]

[311] I found that fewer than 3% of landowners had a duplicate entry in the land tax lists. For several counties, there were not any taxpayers with duplicate entries. Slightly more than 30% of taxpayers in Virginia and nearly 25% of taxpayers in Maryland owned land. These figures are comparable, but slightly lower than those found by Lee Soltow. Soltow found that 47.8% of taxpayers in eastern Tennessee owned land. Lee Soltow, "Land Inequality on the Frontier: The Distribution of Land in East Tennessee at the Beginning of the Nineteenth Century" Social Science History 5, no. 3 (summer 1981), 276.

[312] I have matched the names only if name provided in the land tax appears identical to the name given in the personal property tax list. For example, the land tax lists for Prince George's County, Maryland for 1815 record several listings for "John H. Beall" along with an entry for "Jonathan Beall" and "John Beall." I have only matched up the properties owned by John H. Beall, as this name matches the name given in the personal property tax list. Soltow employed a similar methodology for collating taxpayers' names between the 1810 and 1825 Ohio tax duplicates. Prince George's County. Assessment Record 1815. Commissioners of the Tax. Maryland State Archives. Annapolis, Maryland; Lee Soltow, "Progress and Mobility among Ohio Propertyholders, 1810-1825" *Social Science History* 7, no. 4 (autumn, 1983), 406-407.

[313] A few caveats are specific to individual tax lists. No land tax list survives for Prince George's County, Maryland for 1794, or for Bourbon and Fayette County, Kentucky for 1787. The tax list for Conestoga Township in Lancaster County, Pennsylvania does not record any land. The list for Surry County, North Carolina in 1795 records the total number of white and black polls (slaves). I have assumed that any polls above the first were slaves, as this assumption appears correct for neighboring counties. Several counties for Pennsylvania are missing valuations, including Bedford County (1785 and 1806), Fayette County (1785 and 1815), and Lancaster County (all years). The

Because not all states levied taxes on the same types of taxable property, adjustments have been made to account for the missing information. While officials in Massachusetts collected taxes on more than fifty classes of taxable items, tax collectors in Ohio assessed only land taxes. I have employed regression analysis to fill in some of the missing information when constructing national wealth estimates. Jones used regression analysis successfully through using probate inventories and tax records to reconstruct missing real estate information for New Jersey, Pennsylvania, and Delaware. To find missing land values, Jones followed F. Kinley Larntz's advice of running a regression on half of the data for a county that whose land assessments were complete to see how effective the coefficients were at predicting the land values of the other half of the dataset.[314] Jones employed a similar technique to find real estate values in the southern colonies.[315]

Valuations

Although some states, particularly those in New England had a long tradition of assessing property based on value, most states simply counted the number of acres of land along with the number of slaves, horse, cattle and other forms of taxable property without providing a valuation. Jones and Soltow generally relied on the valuations contained in the original records, but both scholars produced price estimates when contemporary appraisals were lacking. Jones used auction records from North Carolina to produce the missing valuations for that state. Soltow estimated average slave prices because the Direct Tax of 1798 assessed slaves at a fixed amount regardless of their valuation. I have estimated the valuation for each category of taxable property

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records for Bedford County (1796 and 1817) and Cumberland County (1814) record all valuations combined in a total value column.

314 F. Kinley Larntz Jr. to Alice Hanson Jones, May 21, 1970, Alice Hanson Jones Papers, Box 2, Folder "Fienberg-Larntz Correspondence Regarding New Sample Statistical Consultation."

315 Jones, *Wealth of a Nation to Be,* xxix-xxxi, 405n20, see xxix in for regression methodology; Jones, *American Colonial Wealth*, 3:1739-1759.

using a variety of sources.[316] In all cases, I have converted prices to real 1800 federal dollars using John J. McCusker's exchange rates and price indices.[317]

Land valuations have been derived from the 1798 federal direct tax.[318] Timothy Pitkin published aggregate acreage and valuation figures for each state, revealing and average price of $2.93 per acre.[319] Pitkin's report provides the most detailed land valuations in the early republic, and the report lists the average value of real estate in every county and town in the United States in 1798. The direct tax assessments are ideal for generating wealth estimates because the assessments approximated market valuations.[320] The Secretary of the Treasury, Oliver Wolcott Jr., compared the assessments to sale prices across Connecticut and found that the assessments deviated only slightly from recorded realizations. Wolcott reported that the assessments for Connecticut averaged around fifteen percent less than recent sale prices for the same properties.[321] Employing land valuations based on the direct tax, moreover, has the added

[316] For New York and Pennsylvania, I have sometimes been forced to rely on assessed values because tax collectors in these states did not always specify the amount of land or variety of personal property each taxpayer owned.
[317] John J. McCusker's *How Much is That in Real Money? A Historical Commodity Price Index For Use As A Deflator of Money Values in the Economy of the United States* second edition (Worchester, MA: American Antiquarian Society, 2001), 33-36, 83-85.
[318] For nearly all counties in New York, the assessors recorded only the value of the real estate (acreage, houses, and lots), but not the number of acres of land. Pennsylvania, Virginia, North Carolina, and Maryland recorded the number of acres of land and their value. Massachusetts, Maine, and Connecticut classified land into separate categories based on value and counted the total number of acres. Ohio and Kentucky recorded only the number of acres of first, second, and third class land without indicating their value.
[319] Timothy Pitkin, *A Statistical View of the Commerce of the United States* (1816; rpt. New York: Augustus Kelley, 1967), 377-378; Soltow, *Distribution of Wealth and Income in the United States in 1798,* 255.
[320] Soltow believed that the Pitkin and Samuel Blodgett's figures were very accurate, and Soltow located additional sources that corroborated their precision Soltow, *Distribution of Wealth and Income in the United States in 1798,* 260.
[321] Wolcott located 518 recent sales for Connecticut, and discovered that the valuations were 83.0% of the sale prices before the commissioners made adjustments to the assessments to equalize the rates between towns. Soltow reports the figure as 84.5% of the sale prices, as he rounded Wolcott's figures to two decimal places before averaging them. After equalizing the rates, the assessments were 85.1% of the sale prices and the standard deviation was 6.4%. If the sales are unweighted by the number of towns, the average is reduced to 82.0% of sales. A letter from Thaddaeus Leavitt to Andrew Kingsbury, the tax commissioner in Hartford, Connecticut, notes the difficulty of collecting sale prices to compare with the direct tax assessments, and especially the difficultly of separating land and dwelling-houses into separate assessments. Leavitt also complained of several examples of taxpayers assessed for valuations exceeding the purchase price of their lands before the equalization. See Oliver Wolcott, "Summary Abstract of the Lands in each Assessment District in the State of Connecticut, with their Average Price Per Acre, Exclusive of Houses & House Lots Exceeding in Value One Hundred Dollars." Oliver Wolcott Jr. Papers.

advantage of making my figures comparable to Soltow's, and avoids the difficulty of adjusting for any difference in assessment methods between states.

Uncertainty over how to interpret figures derived from the Direct Tax of 1798 stems from its unusual method of apportionment and assessment. Levying and collecting the direct tax involved several steps. First, Congress apportioned a share of the tax to each state based on total population, defined as the free population plus three-fifths of the slave population. States used their fiscal infrastructure to assess and collect the tax and the President appointed independent commissioners to oversee the assessment process. The tax assessors began by counting the number of slaves and collected a tax of fifty cents per slave aged twelve to fifty. The tax assessors then deducted the total amount of taxes collected on slave property from their state's quota. Next, the assessors assessed the value of each parcel of land and every dwelling house. For houses valued at more than one hundred dollars, Congress prescribed that the assessors classify each property into one of nine categories based on value. Congress stipulated a progressive rate structure that ranged from as little as 0.2% of the value of dwelling houses valued from \$100-\$500, and a maximum of 1.0% for houses valued at more than \$30,000. Tax collectors deducted the total amount of taxes collected on dwelling houses from the share of the tax assigned to their state. Finally, the tax collectors assessed a tax on land and all houses valued at one hundred dollars or less. The tax rate varied from state to state but applied equally to all properties based on value. Congress intended for the tax on land to cover the remaining balance owed to the federal government. Although Congress apportioned the tax based on population, the law did not require each state to pay the same marginal tax rate, and the per capita rates were not

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Connecticut Historical Society. Box 40. Treasury Papers, 1798-1799; Thaddaeus Leavitt to Andrew Kingsbury, 13 April 1799, Oliver Wolcott Jr. Papers, Connecticut Historical Society. Box 40. Treasury Papers, 1798-1799; Soltow, *Distribution of Wealth and Income in the United States in 1798*, 37, 256-257.

predetermined. Congress assigned the tax based on population, but collected based on valuation, and the burden of taxation varied dramatically from state to state. States with very large populations but comparatively inexpensive real estate and few slaves would have paid the highest marginal tax rates per capita. Conversely, states with small and wealthy populations would have paid the least amount of tax per capita.[322]

Peter Lindert and Jeffrey Williamson identify three clues that suggest that the Southern tax assessors under-assessed property at greater rates than their Northern counterparts. Firstly, the number of slaves reported in the 1798 Direct Tax is only a fraction of the number of slaves reported in the Census of 1800. While the law taxed only slaves aged twelve to fifty, and provided exemptions for disabled slaves and for all property exempted under each state's existing tax laws, it is clear that the slave totals do not provide an accurate representation of slave ownership in the early republic. The collectors found 86,840 slaves aged twelve to fifty and 323,905 slaves overall, compared to 513,905 slaves over the age of ten and 835,490 slaves of all ages reported in the Census of 1800. The slave counts provided by the direct tax returns seem implausible, and suggest an inconceivably low proportion of slaves of working age. The undercounting appears to have occurred with a roughly similar relative frequency in each state where slavery remained legal, but undercounting would have had a more noticeable effect in the South, where undercounting would have shifted the burden of taxation to poorer landholders. Fortunately, the discrepancy does not affect wealth estimates that employ the direct tax returns. The number of slaves omitted from the tax returns had no bearing on the assessments tax

[322] Robin Einhorn notes that "[d]ecisions about the design of apportioned direct taxes did not affect the distribution of burdens *between* states, since that was fixed in the Constitution. They determined the distribution of burdens *within* states." Robin Einhorn, *American Taxation, American Slavery* (Chicago and London: The University of Chicago Press, 2006), 157-199, quotation 184-185; *U.S. Statutes at Large*, ch. 70, July 9, 1798, 1:580-591, ch. 75, July 14, 1798, 1:597-604, especially page 598; for the political debates surrounding the direct clause in the Constitution, see also Bruce Ackerman, "Taxation and the Constitution" *Columbia Law Review* 99, no. 1 (January 1999), 1-58, especially 6-19.

collectors provided for land. Moreover, undercounting does not affect the slave valuations because neither this study nor Lindert and Williamson use the number of slaves recorded in the direct tax to produce wealth estimates.[323]

Secondly, Lindert and Williamson note that the valuation suggested by the tax collected on slaves was far below market value. Slave taxes accounted for 21% of taxes collected under the direct tax, while slaves accounted for 58.1% of the value of slaves and real estate in 1774.[324] We should not expect the tax valuation to be reflective of slave prices, however, as the tax law specified that tax collectors would assess each slave at fifty cents per head regardless of value. Although historians have described the 1798 Direct Tax as the nation's first progressive tax, its progressive nature did not extend to taxes on slaves. Slaveholders paid considerably lower marginal tax rates than they would have if their human property had been assessed based on value.[325] Although the low proportion to tax revenues raised from taxes on slaves underscores the extent to which tax collectors undercounted the number of slaves, and the tax abatement that Congress provided for slave owners, the undercounting does not affect wealth estimates derived from the direct tax returns.

Finally, Lindert and Williamson emphasize that the Southern states paid 38.1% of the tax on real estate in 1798, even though the Southern states owned 57.7% of real estate wealth in 1774.[326] Lindert and Williamson interpret these figures as indicating that either Southerners under-assessed real estate or Southern real estate values fell dramatically during or after the Revolution. Because the authors find no evidence to suggest that Southern real estate prices

[323] Peter H. Lindert and Jeffrey G. Williamson, "American Incomes Before and After the Revolution" *Journal of Economic History* 73, no. 3 (September 2013), 739-741, and Appendix 3b.
[324] Ibid, Appendix 3b.
[325] Lee Soltow, "America's First Progressive Tax" *National Tax Journal* 30, no. 1 (March 1977), 53-58; Robin Einhorn, *American Taxation, American Slavery* (Chicago and London: The University of Chicago Press, 2006), 157-199.
[326] Lindert and Williamson, "American Incomes Before and After the Revolution," Appendix 3b.

collapsed to the extent implied by these shares, they conclude that Southern tax assessors significantly under-valued their real estate. Yet, there is no evidence to suggest that tax collectors underreported the number of acres of land. Oliver Wolcott submitted a report to congress in 1796, as Congress began considering the possibility of a direct tax, detailing the taxes collected in each state in the preceding years. In every instance, the states reported more taxable acres in 1798 than in their own tax collectors had found for the preceding years.[327] The observations of Alexander Hamilton provide some evidence for falling land values in the South. In his first Report on Public Credit, issued in January 1790, Hamilton noted that the "value of cultivated lands, in most of the states, has fallen since the revolution from 25 to 50 per cent. In those farthest south, the decrease is still more considerable."[328] Hamilton attributed the decline in land values to the scarcity of money, and emphasized that a funded public debt would facilitate the restoration of land prices.

Federal apportionment skewed the distribution of taxation, moreover, as Congress distributed the tax based on population rather than property valuations. The incidence of taxation does not provide the best measure of whether the Southern states under assessed their real estate. Because Congress apportioned each state's quota based on population, the Southern states would have paid the same proportion of the tax regardless of how they valued their land. If the direct tax had been levied on land alone, South Carolina would have likely paid the lowest marginal rates, despite being one of the wealthiest states, as a result of their low population. Additionally, taxes on slaves contributed to each state's quota, and we would expect land to have accounted for a lower proportion of taxes collected in the South as a result of their larger slave populations.

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[327] Oliver Wolcott Jr., "Direct Taxes," December 14, 1796 in Walter Lowrie and Matthew St. Clair Clark, comps., *American State Papers: Documents, Legislative and Executive, of the Congress of the United States,* 10 vols. (Washington, 1832-1861), 3rd Series, *Finance,* 1:442-465.

[328] Alexander Hamilton, "First Report on Public Credit," *Papers of Alexander Hamilton,* 6:72.

Finally, Southern real estate might have occupied a smaller share of total wealth in 1798 as a result of the growing wealth found in northern cities, or due to the expanding population along the frontier.

Congress designed a process of tax assessment and collection that would have made underassessment or undervaluation difficult. Printed circulars instructed tax assessors to base their valuations on market prices using recent land sales to serve as a standard for their estimations. The commissioners further instructed the assessors to avoid considering the "speculative discussions and opinions relative to the operation of the act" and how federal apportionment might influence the distribution of the tax burden.[329] Although underassessment within districts might have privileged some property holders over others, widespread underassessment would have been counterproductive. Congress required the assessors to publish their assessments in at least four public places so that taxpayers could observe the assessments on their property and those of their neighbors.[330] There were 687 tax districts in 1798, and most districts consisted of only one county or a small cluster of several contiguous towns. Taxpayers could appeal the assessments, and it is unlikely that taxpayers would have tolerated an unequal application of the tax within counties or within districts.[331] Tax assessors may have believed that a comprehensive system of undervaluation in their district would shift the burden of taxation onto taxpayers in other parts of the state, but underassessment would have done nothing to alter

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[329] Andrew Kingsbury, "Circular," 28 September 1798, Oliver Wolcott Jr. Papers. Connecticut Historical Society. Box 40, Folder 9.
[330] *U.S. Statutes at Large*, ch. 70, July 9, 1798, 1:588.
[331] As Albert Gallatin argued during the debates over the direct tax, "t]here can be no doubt but the assessors in each place will do relative justice to the citizens in their own district, but no one can say that, in different places, they will adopt the same ideas as to the value of the property. On this account, it had always been found necessary in all the State laws upon this subject, to give a power to the Commissioners to regulate any variations in this respect." *Annals of Congress*, 5th Congress, 2nd Session, pp. 1837-1838.

the tax quota Congress assigned to each state.[332] Moreover, Congress authorized the President to appoint independent commissioners for each state to evaluate the assessments made in each district and to equalize any disparities before levying the tax on land. The commissioners had the power to appoint tax assessors and were required to compare the tax collectors' returns with market valuations in the respective districts and to equalize the rates between districts accordingly.[333]

If instead the assessors somehow managed to collude together and return equally low valuations in every district, the effect would have again proved counterproductive. Because the state's tax quota would have remained unchanged, the undervaluation would have resulted only in higher marginal tax rates to raise the necessary revenue. The system for reconciling assessments between districts ensured that tax collectors applied the same assessment standards across the state, but did not necessarily guarantee that the valuations approached market values evenly between states. The relationship between assessed valuations and market values likely varied from state to state, but evidence from Connecticut suggests that the valuations approached market values. Oliver Wolcott Jr. examined properties that had sold in the months surrounding the assessment of the direct tax and found that the valuations in Connecticut approached 85% of their market value. Although the scarcity of surviving records prevents us from perfectly reconstructing the relationship between assessments and market valuations in each state, several clues suggest that the assessments provide a reliable approximation of market land values.

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[332] Lindert and Williamson note that the "[g]reater underassessment of Southern real estate and slaves probably did not reduce the South's share of the total revenue. As Professor Robin Einhorn has noted, states were obligated to deliver revenue quotas in proportion to their populations in the 1790 census. Extra evasion of taxes by Southern realty owners and slaveholders would have shifted tax burdens toward Southerners holding less valuable real estate, not toward the Northern states." Lindert and Williamson, "American Incomes Before and After the Revolution," Appendix 3, Property Totals 1798-1800.

[333] For additional details on the process of assessing and collecting the 1798 Direct Tax, see Judith Green Watson, "The Implementation of the Federal 1798 Direct Tax in Connecticut" *Connecticut History* 44, no. 1 (spring 2005), 229-242, especially 231-235.

Density of settlement was the driving factor behind land price disparities. Land prices were higher in New England than in the South because states like Rhode Island and Connecticut were thickly settled compared to states further south with few major towns and large rural areas. An acre of land in a city was considerably more valuable than an acre of land along the frontier, and taxpayers in urban areas were more likely to own valuable dwelling houses. Although tax collectors assessed houses valued more than $100 separately, they included less expensive houses together with their valuations for land. It is not surprising, therefore, that more densely populated states report higher average valuations per acre. Debates in Congress over the proposed direct tax emphasized repeatedly that urban taxpayers would pay a larger share of each state's tax quota by population. Although nearly all in Congress agreed that wealthier taxpayers should contribute in proportion to their ability to pay, some objected to the progressive nature of the tax and its disproportionate effect on taxpayers residing in cities. Samuel Smith, a Democratic-Republican congressman from Maryland, argued that the direct tax "ought to be entitled 'An act to prevent the further growth of cities, town, and villages, in the United States of America,' for this certainly must be the effect."[334] The effect of population density on land valuations is clear. Comparing similarly populated counties in the North and South reveals that more populated districts showed significantly higher average valuations per acre.

Regression analysis confirms that population density was the most important factor contributing to the average valuation per acre in each tax district. Using the average land values and acreage reported in the 1798 Direct Tax, and total population figures from the Census of 1800, we can calculate population density and measure its effect on land values. The model reveals an extremely strong connection between population density and average land values.

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[334] *Annals of Congress*, 5th Congress, 2nd Session, 2049-2050.

From the state averages we can estimate with a high degree of confidence that density of settlement accounted for 85% of the differences in land values between states. Data from the individual tax districts reveal an even stronger connection, with 92% of the variation explained by the density of settlement. Plotting the residuals from both regressions reveals tight groupings around the line of best fit, indicating that the model explains the relationship between density of settlement and average land values per acre accurately. Because population density explains nearly all of the variation between districts, it is unlikely that the direct tax returns suffer from any systemic biases. If tax assessors had undervalued land in the Southern states, the connection between density and land values would not have been nearly as strong. Consequently, the valuations described in the direct tax returns provide a very good indication of the relative value of land in each tax district.

Table 3.5: *The Effect of Density of Settlement on Land Values, 1798*

Variables (Dependent Variable: Average Land Values per Acre)	(1) State Returns	(2) County and Town Data
Density	139.831 (8.97)***	75.119 (72.26)***
Constant	-1.649 (1.87)	-17.695 (0.42)
R-Squared	0.85	0.92
N	16	472

Sources: The independent variable, Density, has been calculated by dividing the total population figures from the Census of 1800 by the number of acres taxed in 1798. The dependent variable is the average land value per acre recorded by Oliver Wolcott in the 1798 Direct Tax returns.

Absolute value of t-statistics in parenthesis

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Contemporary observations provide further support for the accuracy of the land valuations. Nineteenth century political economists believed that the assessments approximated market values. Timothy Pitkin included the land values from the 1798 Direct Tax in his statistical compendium, and Samuel Blodgett employed the direct tax figures to produce wealth estimates for 1805.[335] Ezra Seaman analyzed the 1798 returns and compared them to similar taxes levied in 1813 and 1815. Seaman noted that a "comparison of the valuations … induces the belief, that property was generally estimated at its full cash value in 1813, and but little under its cash value in 1798."[336] The valuations produced by the 1798 assessors are also quite close to average price per acre estimates produced by historians. Although there are few comparable figures for land values for this period, Alice Hanson Jones constructed estimates for several counties in North Carolina for 1774. Jones' figures are very close to the average price per acre for the same counties in 1798 once exchange rates and price indices are taken into account.[337]

One problem in using the 1798 Direct Tax assessments to provide land valuations is that the records are incomplete for North Carolina and nonexistent for Ohio. Only the aggregate returns for North Carolina have survived, revealing an average valuation of $1.33 per acre of land. I have applied the state average for my calculations for North Carolina. Determining land valuations for Ohio is particularly difficult because the Constitution specifies that direct taxes must be apportioned "among the several States." Consequently, Congress did not apportion a direct tax quota for the Northwest Territory or for the District of Columbia in 1798.[338] Ohio

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[335] In the 1835 edition of his *Statistical View*, however, Pitken noted that it "is believed that the valuations made in most of the states, particularly those at the South, in 1799, were considerably under their real value." Timothy Pitkin, *A Statistical View of the Commerce of the United States* (1816; rpt. New York: Augustus Kelley, 1967), 377-378; Pitkin, *A Statistical View of the Commerce of the United States* (New Haven: Durrie and Peck, 1835), 313; Samuel Blodgett, *Economica: A Statistical Manual for the United States* (Washington, D.C.: 1806), 196.

[336] Ezra C. Seaman, *Essays on the Progress of Nations, In Civilization, Productive Industry, Wealth and Population* (New York: Charles Scribner, 1852), 619.

[337] Jones, *American Colonial Wealth*, 3:1750.

[338] Congress continued this practice for the Direct Tax of 1813, but did apportion a quota for the District of Columbia in the 1815 Direct Tax. In both cases, Congress continued its practice of exempting federal territories from apportionment. The Supreme Court affirmed Congressional authority to levy direct taxes on the District of Columbia in a unanimous decision in *Loughborough v. Blake* (1820). Congress included all states, territories, and the District of Columbia in its apportionment of the Direct Tax of 1861. U.S. Constitution, Article 1, Section 2, Clause 3; Albert H. Howe comp., U.S. House of Representatives, 56th Congress, 2nd Session, Document no. 509 *The Insular Cases: Comprising the Records, Briefs, and Arguments of Council in the Insular Cases of the October Term, 1900, in the Supreme Court of the United States, Including the Appendices Thereto* (Washington, D.C.: Government Printing Office, 1901), 678-679. Exemption from federal taxation may have encouraged some territories to delay application for statehood. See, Donald F. Carmony, "Fiscal Objection to Statehood in Indiana" *Indiana Magazine of History* 42, no. 4 (December 1946), 311-321.

assumed its portion of the Direct Tax of 1813, and therefore Congress produced no assessments for that state until 1815. For Ohio, I have divided the total valuation of houses and land in the state under the Direct Tax of 1815 (in real 1800 dollars) by the number of acres of land in the state's contemporary boundaries.[339] This calculation yields an average price of $1.91 per acre, which is quite close to the $2.00 per acre the federal government charged for federal land purchases in that state. For counties created after 1798 in other states, I have used the valuation for the county or counties that ceded land to form that district. The lack of a long-run price series for land values over the course of the period limits our ability to measure changes in wealth over time, as land values are a reflection of productivity, which likely changed over the course of the early republic as settlers moved west and regional markets became better integrated. The problem is particularly acute for counties that saw rapid population growth after 1798, such as those in western Kentucky and upstate New York. Although average land prices for a single year are less than ideal, the 1798 Direct Tax returns provide the most detailed and comprehensive source available for objectively identifying land values for the whole country.

The averages provided by the direct tax returns provide us with the best indication of land values in the early republic, but offer little assistance when measuring land of different qualities. Several states accounted for differences in land quality by classifying each tract of land into one of several categories based on its characteristics. Although the tax assessors based the classifications on valuation, they did not provide independent valuations for each tract. Ohio and Kentucky separated land into first, second, and third class acreage with different tax rates for each. The New England states were even more sophisticated in their assessments. Connecticut

[339] The value of all houses and lands in Ohio amounted to $61,347,215 under the Direct Tax of 1815. There were 40,228 square miles of territory in Ohio in 1800, equal to 25,745,920 acres. Pitkin, *A Statistical View of the Commerce of the United States* (New Haven: Durrie and Peck, 1835), 313.

classified each acre of land into one of six categories based on whether the land could be described as plow land, fresh meadow, upland mowing and clear pasture, bog meadow, bog meadow not mowed, or bush pasture, along with three classifications of unimproved land. Massachusetts and Maine implemented twelve categories for assessing land, and even included the number of bushels of wheat, rye, oats, corn, barley, peas and beans, tons of hay, pounds of hops, and barrels of cider produced on each tract of land.

To derive valuations for each of the land classifications, I first found the average tax rate per acre in each of the five states that assessed land based on quality.[340] Because the valuations in the 1798 Direct Tax report the average value of all land in each county or town, comparing the tax rate on each category to the average tax rate provides an approximation of the extent to which each category deviated from the mean land valuation.[341] After finding the average tax rate per acre, I have divided the tax rate for each category by the average to determine its deviation from the average and multiplied this deviation by the land prices found in the 1798 Direct Tax.[342] Although this method is less than ideal, it follows the logic that state legislatures correlated tax rates with the value of land in each category. Legislators in New England took great care to ensure that the tax rates were calibrated appropriately, and the deviations between the tax rates for land of varying qualities remained remarkably consistent over the course of the period. Ohio

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[340] Ohio, Kentucky, Connecticut, Massachusetts, and Maine.

[341] States applied higher tax rates on more valuable acreage, and lower tax rates on unimproved land. While the states intended for the tax rates to represent differences in market prices, the deviations are likely inexact. These figures are not perfect and could be improved by finding the average tax per acre in each of the counties and towns rather than relying on state aggregates, but in the absence of more accurate statistics these numbers are the best we have.

[342] For example, the 1810 tax returns for Ohio reveal that there were 101,480 acres of first class land, 2,036,778 acres of second class land, and 1,879,709 acres of third class land in the whole state. The tax rates in Ohio were $1.25 per hundred acres of first class land, $1.00 per hundred acres of second class, and $0.65 per hundred acres of third class land. The weighted average reveals and average assessment per acre of slightly more than $0.84 per hundred acres of land. When each of the tax rates are divided by the weighted average, we find that the 1798 Direct Tax valuations should be multiplied by 1.48 to find the value of first class land, 1.19 to determine the value of second class land, and 0.77 to estimate the value of third class land.

and Kentucky made similar efforts to guarantee that differences in tax rates reflected differences in market valuations. If the tax rates on land were subject to political manipulation, we would expect greater revisions to have occurred between the various classifications. The results from Ohio were further complicated because the transcriptions of the tax lists record only the total number of acres and the tax assessed. I have derived the number of acres in each category using a two-step system of equations method.[343] In the absence of better measures to account for variation in land quality expressed in the tax lists, these methods are the best we have.

For slave prices, I have utilized an ICPSR dataset produced by Robert Fogel and Stanley Engerman.[344] The data include more than 76,000 slave sales and appraisals from 1775 to 1865. While tax assessors in Maryland and Pennsylvania recorded valuations for slaves listed in the tax records, assessors in Virginia, North Carolina, and Kentucky did not. After first converting Fogel and Engerman's appraisal values to real 1800 dollars, I narrowed my search to include only those slaves who would have likely appeared in the tax lists found in my sample.[345] I have included only those slaves who would have been old enough to have appeared in the tax lists, and I have eliminated those slaves who would have likely been exempted for age or infirmities.[346] For the

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[343] In the case of Ohio, Gerald Petty transcribed the surviving tax lists for 1810 for the entire state. Petty, however, only published the taxpayers' total acreage without identifying whether the tracts of land were first class, second class, or third class land. Fortunately, Petty also recorded the amount of tax paid by each taxpayer. From the acreage and the tax rate, we can derive the number of acres of each class of land using a two-step system of equations method. First, any taxpayer who owned only first class or third class land can be removed from the system of equations. Next, we can use a system of equations to solve for those taxpayers who paid an average rate higher than that of the rate on second class land by assuming that these taxpayers owned only first and second class land. Finally, we can use a second system of equations to solve for taxpayers owning second and third class land by assuming that these taxpayers did not own any first class land. The results have been rounded to the nearest quarter acre. Gerald M. Petty, *Ohio 1810 Tax Duplicate: Arranged in a State-Wide Alphabetical List of Names of Taxpayers with an Index of Names of Original Entries* (Columbus, Ohio: Gerald M. Petty, 1976).

[344] Robert W. Fogel and Stanley L. Engerman, "Slave Sales and Appraisals, 1775-1865" ICPSR Data Series 7421, National Science Foundation: Economics of American Negro Slavery Series, 1976 (updated 2006).

[345] I have considered only those slaves with an appraised value recorded in dollars from Maryland or Virginia for the years 1782-1817. The vast majority of the observations come from Maryland, particularly Queen Anne's and Ann Arundel Counties. Of the 2,614 slave appraisals that meet my criteria, 2,542 of them were recorded in Maryland.

[346] The tax lists for Virginia from 1785 include slaves under the age of sixteen in a separate category from those over the age of sixteen. In 1787, the state legislature modified the tax code, repealing the tax on slaves under the age of twelve, but maintaining the levy for slaves age twelve to sixteen. In constructing my slave price estimates, I have

period 1782-1817, the data yield an average price of $178.51 for slaves over the age of sixteen, and $162.95 for slaves between the ages of twelve and sixteen.[347] These estimates are based on 2,614 slave appraisals. I have assumed that slaves over the age of seventy would have been exempted from taxation due to age, and I have included only healthy slaves in my construction of the price estimates.

Table 3.6: *Slave Prices by Classification, 1782-1817*

	Valuation	Observations	Source
Slaves age 16-70 in Virginia, Maryland, and North Carolina	$178.51	2,097	Slave Appraisals
Slaves age 12-16 in Virginia, Maryland, and North Carolina	$162.95	517	Slave Appraisals
Average value of slaves in Pennsylvania	$222.81	75	Tax Lists
Slaves under the age of 8 in Maryland	$33.34	675	Tax Lists
Slaves age 8-14 in Maryland	$88.69	638	Tax Lists
Male slaves age 14-45 in Maryland	$269.65	660	Tax Lists
Female slaves age 14-36 in Maryland	$181.66	682	Tax Lists
Male slaves age 45+ and female slaves age 36+ in Maryland	$105.77	452	Tax Lists

Sources: Fogel and Engerman, "Slave Sales and Appraisals, 1775-1865" ICPSR Data Series 7421.

Although these data have the benefit of providing multiple observation points from which to examine slave prices, and provide contemporary market valuations, my estimates differ from those employed in previous studies. Soltow used $350 in his estimation of average national slave prices in 1798, citing a South Carolina tax law that fixed slave valuations for assessment purposes.[348] Jones found an average price of £34.0 sterling ($235.23 in 1800 federal dollars) for

used the figure for slaves aged twelve to sixteen both because of the paucity of price estimates for younger slaves and to remain consistent with data from other years. William W. Hening, *The Statues at Large: Being a Collection of All of the Laws of Virginia from the first session of the Legislature, in the year 1619* (Richmond, Philadelphia, and New York, 1809-1823), 12:431.

[347] The figures would have been $235.42 and $187.74 respectively if the 541 observations from South Carolina, Georgia, Tennessee, Mississippi, and Louisiana had been included in the average. Although taxpayers in Connecticut, New York, Pennsylvania, North Carolina, and Kentucky reported owning slaves, Fogel and Engerman do not record any slave sales or appraisals from these states for the early republic. Fogel and Engerman, "Slave Sales and Appraisals, 1775-1865" ICPSR Data Series 7421.

[348] Soltow based his slave price estimates on a South Carolina tax law that valued slaves at $150 from 1794 to 1798, and $200 from 1799 to 1800. Soltow believed that these figures were "very close to market value because of

slaves of all ages in the thirteen colonies for 1774.[349] Regional prices ranged as low as £18.0 ($120.54) in New Haven, Connecticut, and as high as £45.8 ($316.88) in the Charleston District, South Carolina.[350] Other scholars have found slightly different estimates. Using tax records from Prince George's County, Maryland, Steven Sarson found valuations ranging from £15 Maryland currency for "older children" ($62.27) to £45 ($186.80) for "prime-aged men." Sarson, however, argued that these assessments were well below market values for the period.[351] Differences in price estimates influence the way inequality measures are constructed. Because the distribution of slave property was unequal in the early republic, wealth estimates using alternative price figures likely understate or exaggerate the level of inequality in proportion to their deviation from comparable estimates.

Determining the valuations for livestock has proved a significant challenge. There are no annual price series statistics for horses, cattle, mules, pigs, or sheep in the early republic. Scholars have provided very few indications of livestock valuations for the early republic aside

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perceived economic disparities between regions." Soltow decided to double the $175 valuation for slaves aged twelve to fifty, although his reasons for doing so are not clear. In an earlier article that used Kentucky tax records to measure wealth at the end of the eighteenth century Soltow used $200 as his estimate for average slave prices. Soltow cited a sample of probate inventories in Fayette County, Kentucky, and noted that Samuel Blodgett used the same figure in his report on American wealth. Soltow, *Distribution of Wealth and Income in the United States in 1798*, 259, 268; Lee Soltow, "Kentucky Wealth at the End of the Eighteenth Century" *The Journal of Economic History* 43, no. 3 (September 1983), 629-630.

349 Jones' figure is almost identical to the $235.42 average for slaves age sixteen to seventy for the years 1782-1817 revealed in Fogel and Engerman's dataset. Fogel and Engerman, "Slave Sales and Appraisals, 1775-1865" ICPSR Data Series 7421.

350 Jones weighted her Southern slave prices in proportion to the total slave population of each province. The weights were necessary to prevent the large number of slaves in the Charleston District from dominating the average. Before applying the weights, Jones found an average of £72 per slave ($498.14 in 1800), which she believed to be far too high. In a letter to Theodore Bergstrom, Jones noted that the figure "seems much too high. It is high not only by comparison with quotations by other scholars on average values at which slaves were sold. It is also too high compared with internal data from my own documents." I have used the dollar pound exchange rate of $4.44/£1 from 1766-1772 and McCusker's commodity price index to convert Jones' figures to 1800 federal dollars. Alice Hanson Jones to Theodore Bergstrom, April 28, 1977, Alice Hanson Jones Papers, Box 7, Folder "Correspondence July 1976 – July 1977."; Jones, *Wealth of a Nation to Be*, 114, 352-362; McCusker, *How Much is That in Real Money?*, 35, 52-53.

351 Sarson, "Wealth, Poverty and Labor in the Tobacco Plantation South: Prince George's County, Maryland in the Early National Era," 38.

from traveler's accounts. The valuations provided in most sources are inconsistent across time and place, and the range of figures reveal tremendous variation. The tax lists for most Pennsylvania counties provide valuations for livestock, which can serve as an indication of horse and cattle prices in the other states. Tax collectors in Pennsylvania the valuations for horses and cattle in a combined entry, but the prices can be isolated through regression analysis. The regression reveals an average price of $37.17 per horse and $6.33 per head of cattle (Table 3.7). Tax assessors recorded oxen and stud horses separately, and the records suggest an average price of $32.84 per ox and a median price of $50 per stud horse. In the absence of valuations for sheep, hogs, and mules, travel accounts can provide some indication. In his study of Southern agriculture before 1860, Lewis Cecil Gray surveyed travel accounts and local prices and noted that mules frequently sold for the same prices as horses, and that hogs and sheep regularly sold for $2 each in the antebellum period.[352]

Table 3.7: *Regression Results for Livestock Valuation in Pennsylvania*

Variables (Dependent Variable: Livestock Valuation)	(1)
Horses	37.17 (44.99)***
Cattle	6.33 (11.05)***
Constant	6.64 (3.59)***
R-Squared	0.47
N	3,229

Source: Regression analysis of tax sample for Pennsylvania
Absolute value of t-statistics in parenthesis
*** p<0.01, ** p<0.05, * p<0.1

These prices can substitute for missing valuations in other states and are comparable to those found by other scholars and identified by contemporaries. Jones analyzed accounts of sales from two North Carolina counties to find prices to substitute for the missing valuations in the

[352] Lewis Cecil Gray, *History of Agriculture in the Southern United States to 1860*, Two Volumes (Washington: Carnegie Institution of Washington, 1933), 1:542.

probate inventories for those counties.[353] The data reveal an average price of £19.17.7 North Carolina money per horse ($77.70 in 1800 federal dollars), and £1.13.11 ($6.63) for cattle.[354] Prices in these counties were likely comparable to the national average in 1774, as slave prices in both counties were only slightly higher than average.[355] Although Soltow did not include livestock in his wealth estimates for 1798, he did note in an earlier article on Kentucky wealth at the end of the eighteenth century that tax lists in that state suggested an average valuation of $48 per horse.[356] A November 1791 letter from David Stuart to George Washington provides additional evidence for horse and cattle price estimates. Stuart was a former delegate to the Virginia General Assembly who frequently corresponded with Washington. The letter reports prices current from Loudoun and Berkeley counties for a variety of agricultural goods. Stuart's descriptions suggest an average of approximately £12 to £20 ($76.61 to $127.70 in 1800 federal dollars) for horses of middling quality.[357] Stuart notes a typical price of £2.10 to £3 per head of middling cattle ($15.96 to $19.15 in 1800). Although the letter provides only one assessment of contemporary prices, in the absence of official statistics these descriptions are more reliable than most travelers' accounts because Stuart lived nearby and corresponded frequently with Washington regarding agricultural prices.

Table 3.8: *Average Value of Lots, Buildings, and Dwelling Houses by Asset Category*

[353] Jones tabulated the results from the sale of thirty-nine public sales in Halifax and Orange Counties. Jones, *American Colonial Wealth*, 3:1691-1702.
[354] Jones' data include thirty-eight horses and 125 head of cattle. Jones, *American Colonial Wealth*, 3:1692.
[355] The average slave price for the two counties was £37.76 ($261.25), compared to £34 ($235.23) for the thirteen colonies as a whole. Jones, *American Colonial Wealth*, 3:1692.
[356] Soltow, "Kentucky Wealth at the End of the Eighteenth Century," 629.
[357] Tax collectors in Virginia assessed taxpayers for "every horse, mare, colt and mule except covering horses." Although Stuart's letter does not list prices for mules, Stuart observed that the "[b]est horses from £20 to £25 … 2nd rate from £12 to £20 … small horses may be bought much lower." I arrived at the £15 figure by assuming that colts, small horses, and mules would have lowered the average price. Stuart noted that oxen sold "from £8 to £15 a pair … steers unbroke at £2-10 to £3 … best milch cows at £5 … 2[d] rate at about £2-10 to £3." Tax collectors assessed "every head of cattle." I arrived at the £3 figure by assuming that a greater number of second rate cattle and calves would have lowered the average price. See Gertrude R.B. Richards, "Dr. David Stuart's Report to President Washington on Agricultural Conditions in Northern Virginia" *The Virginia Magazine of History and Biography* 61, no. 3 (July 1953), 283-291.

	Average Value
Town Lots	$1,180.18
Dwelling Houses	$291.50
House and Lot	$331.46
Adjoining Lot	$45.23
Barns	$80.54
Shops Lots	$48.89
Stores	$507.70
Vacant Lots	$41.51

Source: Regression analysis of tax sample

Tax assessors also recorded a number of items without providing an assessed valuation. In some cases, states assessed certain categories of property at a flat rate, regardless of valuation, which obviated the need for local officials to ascertain market prices. Occasionally state legislatures suggested an average valuation, based on market prices, and assessed all property in that category at the same rate. In a few cases, assessors simply forgot to record a valuation in the tax lists or the valuation became illegible. Estimating the missing valuations for town lots, dwelling houses, outbuildings, luxury goods, and licenses recorded in the tax lists provides a significant challenge. In addition to land, slaves, and livestock, taxpayers in the early republic paid taxes on an assortment of luxury goods and on licenses for many types of businesses. The variety of taxes levied is striking. Tax collectors in various states assessed taxpayers for a multitude of assets including saw mills, grist mills, slaughterhouses, coaches, carriages, chariots, gold and silver plate, ships and other vessels, silver shoe buckles, fireplaces, clocks, mirrors and furniture. Tavern operators, merchants, and medical doctors paid license fees in most states. In New England, states also levied taxes on certain crops based on production. In nearly all cases, tax collectors assessed these items based on their market valuation or by an indication of their profitability. The vast array of unusual assets found in each state's tax lists complicates any effort to produce price estimates. Fortunately, tax assessors recorded valuations for most taxpayers, and regression analysis can reveal the relationship between each type of asset and its assessed valuation. These estimates can substitute for the missing valuations. Although the valuations would have likely varied tremendously from place to place, the sample is large enough to produce estimates that approximate a national average for each type of property and the estimates appear to be in line with valuations generated by previous scholars. [358]

Table 3.9: *Average Value of Luxury Goods by Asset Category*

	Average Value
Ordinary License	$333.12
Billiard Tables	$42.00
Carriage Wheels	$54.59
Ounces of Silver Plate	$0.82
Clocks and Watches	$217.86

Source: Regression analysis of tax sample

Table 3.10: *Average Value of Manufacturing Enterprises by Asset Category*

	Average Value
Grist Mills	$411.90
Fulling Mills	$155.73
Other Mills	$238.14
Tan Yards	$486.53
Sawmills	$28.82
Carding Machines	$200.00
Distilleries	$118.16
Stills	$46.57
Hemp Mills	$202.09
Oil Mills	$407.77
Dealers in Merchandise	$358.28
Small Furnaces	$1,488.73
Ferry & Toll Bridge Operators	$144.31

Source: Regression analysis of tax sample

The accuracy of the wealth estimates depends most importantly on the validity of the sample design. Each stage of the project involved difficult choices and decisions to ensure that the sample was unbiased with a minimum level of caveats and assumptions. Previous scholarship provides not only a framework for designing the methodology, but also affords a check for

[358] Soltow produced estimates that were significantly higher in his study of Kentucky wealth. Soltow suggests a valuation of $1,000 per retail license, $500 for each tavern, and $400 for every carriage. Soltow, “Kentucky Wealth at the End of the Eighteenth Century,” 629.

interpreting the results and examining the internal consistency of the data. The fact that my estimates closely approximate the national averages by previous studies suggests a high degree of congruence and indicates that the sample provides a close approximation of the true wealth of the population. The wealth estimates are a sum of the value of all land, slaves, livestock, lots, buildings, and dwelling houses, luxuries, and business interests owned by each taxpayer.[359] Tax records present a unique opportunity to study patterns of wealth holding across time and space in the early republic. The records overcome many of the challenges of traditional sources and allow for a much larger sample with which to examine wealth. Every effort has been made to ensure that the sample is unbiased, and that the records have been transcribed, tabulated, and analyzed accurately. As a result, the wealth estimates produced in this study are comparable to those produced by previous scholars and present the largest study of American wealth before 1850.

In comparing the shares of the wealth distribution, we should be careful to avoid normative judgements regarding what the relative wealth shares for each group *should* be. While we might associate unequal concentrations of wealth with declining economic prospects, the two phenomena may have no relation to one another. Examining the proportion of wealth held by each decile allows us to examine the composition of American wealth holding, and provides an indication of the social structure. Representing each group's wealth as a proportion of total wealth helps to normalize the results and draw comparisons between wealth holders. At the same time, the proportions present wealth as a zero sum game, where one individual's prosperity comes at a cost to other individuals. Wealth holders at the bottom end of the distribution can only improve their share in the distribution if their wealth grows faster than the distribution as a whole. To say that the relative shares of wealth remained consistent does not imply economic

[359] $Wealth = Land + Slaves + Livestock + Buildings + Luxuries + Business\ Interests$

stagnation, as the distribution has nothing to say about wealth levels. Poor taxpayers in the early republic did not accumulate wealth faster than their wealthier neighbors, but they did experience real improvements in their standards of living.

Chapter 4

Wealth and Economic Growth the Early American Republic

Compared to other periods of American history, our understanding of wealth levels and distributions in the early republic is incomplete. As Cathy Matson observes, "in the face of mounting evidence that standards of living rose during the colonial era, we still do not know much about who enjoyed the benefits of economic maturation or how the rates of growth compared from place to place."[360] Two of the important studies of wealth distribution include Alice Hanson Jones's work on probate inventories for 1774 and Lee Soltow's investigation of the 1798 Direct Tax. Both projects took more than a decade to complete using punch cards and tabulating the data painstakingly by hand.[361] Peter Lindert and Jeffrey Williamson have recently reexamined early American wealth levels and distribution and attempted to reconcile Jones and Soltow's interpretations. The authors compare measurements from Jones, Soltow, and others for the years 1774 and 1800, and have used their wealth estimates to construct income figures for the early national period. Lindert and Williamson conclude that per capita incomes exhibited only modest growth, and possibly negative rates of growth in the South, despite the fact that most scholars point to the 1790s as a period of significant economic growth. The authors also suggest that inter-regional inequality "demands further scrutiny."[362] While Lindert and Williamson use

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[360] Cathy Matson, "A House of Many Mansions: Some Thoughts on the Field of Economic History" in Cathy Matson ed. *The Economy of Early America: Historical Perspectives & New Directions* (University Park, PA: Pennsylvania State University Press, 2006), 19.

[361] Alice Hanson Jones, *American Colonial Wealth: Documents and Methods* Three Volumes (New York: Arno Press, 1977); Alice Hanson Jones, *Wealth of a Nation to Be: The American Colonies on the Eve of the Revolution* (New York: Colombia University Press, 1980); Lee Soltow, *Distribution of Wealth and Income in the United States in 1798* (Pittsburgh: University of Pittsburgh Press, 1989)

[362] Peter H. Lindert and Jeffrey G. Williamson, *Unequal Gains: American Growth and Inequality Since 1700* (Princeton: Princeton University Press, 2016); Peter H. Lindert and Jeffrey G. Williamson, "American Colonial Incomes, 1650-1774" NBER Working Paper 19861 (January 2014); Lindert and Williamson, "American Incomes Before and After the Revolution" *Journal of Economic History* 73, no. 3 (September 2013), 725-765; Lindert and Williamson, "American Incomes Before and After the Revolution." NBER Working Paper 17211 (July 2011), 30.

new data on employment to compare existing data on wealth inequality, this chapter presents a new, larger, and more-representative dataset that facilitates comparisons of wealth levels and inequality across time and region in the early republic.

Table 4.1: *Wealth Estimates for Select Countries per Wealth Holder*

	Pounds Sterling	1800 $
American Colonies (1774)	£252	$1,743.33
British West Indies (1774)	£1,042.5	$7,211.99
England (1803)	£142.25	$701.88
Wales (1803)	£121.5	$599.50
Scotland (1803)	£89.25	$440.37
France (1800)	—	$475.06
Netherlands (1800)	—	$763.48
Sweden (1800)	—	$283.10
Norway (1789)	—	$273.53
Finland (1800)	—	$136.06
Denmark (1789)	—	$453.30
Scandinavia Average (1800)	—	$302.85

Notes: Soltow valued the pound sterling at four dollars in tabulating his figures. I have converted them back to pounds and used McCusker's price index to convert them to 1800 dollars. The Scandinavian prices are in riksdaler banco, which Soltow notes were roughly equivalent to the U.S. dollar and exchanged at a rate of 4.05 to one pound sterling. I have converted Soltow's prices to pounds and then to U.S. dollars using McCusker's index, as the conversion seems more exact.

Sources: Jones, *Wealth of a Nation to Be,* 289; T.G. Burnard, "'Prodigious Riches': The Wealth of Jamaica before the American Revolution" *The Economic History Review* 54, no. 3 (August 2001), 520; Soltow, *Distribution of Wealth and Income in the United States in 1798,* 138; Soltow, "The Swedish Census of Wealth at the Beginning of the 19th Century" *The Scandinavian Economic History Review* 33, no. 1 (1985), 10; for France and the Netherlands, see Ezra C. Seaman, *Essays on the Progress of Nations, In Civilization, Productive Industry, Wealth and Population* (New York: Charles Scribner, 1852), 445; John J. McCusker's *How Much is That in Real Money? A Historical Commodity Price Index For Use As A Deflator of Money Values in the Economy of the United States* second edition (Worchester, MA: American Antiquarian Society, 2001), 33-36, 83-85.

American wealth levels were higher than virtually anywhere else in the world in the early republic. Previous scholars have emphasized the extent of American abundance, and noted that even American households in the colonial period had higher incomes and wealth levels than much of Europe.[363] Alice Hanson Jones found that average physical wealth among wealth holders was £252 ($1,743.33in 1800 dollars) in 1774, with a median value of £108.7 ($751.98). Jones disaggregated her figures by region and revealed that average wealth per wealth holder

[363] Lindert and Williamson, *Unequal Gains,* 39; Jones, *Wealth of a Nation to Be,* 66-69, 262-265, 302-303.

was £161.2 in New England ($1,115.18), £189.2 in the middle colonies ($1,308.88), and £394.7 in the South ($2,730.53). The Southern colonies were significantly wealthier than their Northern neighbors on the eve of the Revolution. Even if slaves are excluded from Jones' calculations, the average Southerner possessed nearly twice the wealth of the average New Englander and one and a half times the average wealth of those in the Middle Colonies.[364] Compared to Europe and much of the rest of the world, however, even the northern colonies were quite affluent. Comparable contemporary estimates suggest that American wealth levels were more than double the most prosperous nations in Europe, and more than five times the best estimates for Scandinavia. Only the opulence of the British West Indies appears to have outshined the riches found in the early United States.

Lee Soltow produced wealth estimates for 1798 using the real estate valuations from the federal direct tax. He found that the average adult white male owned $708 worth of land, buildings, and dwelling houses. Soltow also disaggregated his figures to reveal average wealth in the North and South, and for urban and rural wealth holders. Urban Northerners were significantly wealthier than the national average, with an average of $1,103 worth of real estate for those within eighty miles of a major city, and $778 for those outside of this radius. Urban Southerners had even larger fortunes, with an average of $1,247, although Soltow's data for the urban South was limited to the direct tax returns from Baltimore. The real estate holdings for rural Northerners averaged $832 for taxpayers within eighty miles of a major metropolis, and $595 for those outside of one. Rural Southerners were the least wealthy, with an average of $728 for those within range of a major city, and $514 for those distant major urban centers. While Soltow's figures include only real estate, he also estimated average national family wealth to

[364] Jones produced a slightly lower average for the middle colonies using a different set of weights, see Jones, *Wealth of a Nation to Be,* 58-59, 165, 289.

have been $1,061 per household if slaves were added to average wealth, and found a median valuation of $292.[365]

The challenge facing economic historians interested in following economic growth in the early republic is one of filling in the missing data. In locating a midpoint between Jones' estimates for 1774 and the more plentiful information on national income starting in 1840, economic historians have explored a number of controlled conjectures. Most scholars have worked backwards, using estimates from 1840 to extrapolate national income and growth rates for the earlier years. A larger estimate of national income around 1800 would suggest that growth in the eighteenth century was rapid and that development in the early-nineteenth century was sluggish. A smaller estimate of national income around 1800 would yield the opposite conclusions. Robert Martin initiated the debate by arguing that national income grew rapidly from 1776-1807 before stagnating for the next thirty years.[366] Douglass North followed Martin in using export figures to estimate national incomes before the Civil War. North argued that the early republic was integral in shaping the American economy and that the period between 1793 and 1808 was one of "unparalleled prosperity."[367] For both historians, the embargo marked a defining moment. The embargo stifled American foreign trade and seemed to separate two periods of growth and inactivity.

A second group of economic historians challenged this view, arguing that economic growth accelerated in the nineteenth century despite the effects of the embargo. Marvin Towne and Wayne Rasmussen emphasized the role of western expansion in depressing agricultural labor productivity, which caused per capita incomes to fall until the 1820s. The authors reasoned that

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[365] Soltow, *Distribution of Wealth and Income in the United States in 1798*, 47, 172.
[366] Robert F. Martin, *National income in the United States, 1799-1938*, (New York: National Industrial Conference Board, 1939).
[367] Douglass North, *The Economic Growth of the United States 1790-1860* (New York: W.W. Norton, 1961), 53.

if productivity was constrained in the early decades, growth toward midcentury must have been much more rapid.[368] W.W. Rostow offered a different challenge to North. Rostow contended that economic growth in the early decades of the nineteenth century was insignificant before the economy witnessed a "take off" after 1840. For Rostow the railroads served as a leading sector, driving economic growth through a doubling in the savings rate and a sharp rise in capital intensity. Although the early decades of the nineteenth century provided some of the preconditions for the take-off, Rostow argued that growth in the early United States was paltry compared to the midcentury transition to industrialism.[369]

George Rogers Taylor and Paul David questioned whether a pivotal turning point existed in the antebellum period. Taylor attempted to synthesize the competing interpretations by arguing that national income vacillated between 1774 and 1840. He suggested that the American Revolution was devastating, but that the economy showed signs of recovery by 1789. The Napoleonic Wars stimulated trade and caused per capita incomes to rise. As a result of the intense fluctuations in American economic prospects, Taylor posited that long-run growth rates in the early United States were insignificant.[370] Paul David likewise maintained that economic growth in the nineteenth century did not witness a decisive break from the past. David disaggregated national income into its component parts and studied each sector to produce index figures and growth rates. But while Taylor found little or no growth in the early republic, David

[368] Marvin W. Towne and Wayne D. Rasmussen, "Farm Gross Product and Gross Investment in the Nineteenth Century" in *Trends on the American Economy in the Nineteenth Century* NBER Conference on Research in Income and Wealth (Princeton: Princeton University Press, 1960), 255-316.
[369] W.W. Rostow, *The Stages of Economic Growth: A Non-Communist Manifesto* Second Edition (1960; rpt., Cambridge: Cambridge University Press, 1971), 36-40.
[370] George Rogers Taylor, "American Economic Growth Before 1840: An Exploratory Essay" *The Journal of Economic History* 24, no. 4 (December 1964), 427-444.

argued that sustained economic growth was the norm, and that national income declined only marginally between the embargo and the War of 1812 as a result of disruptions in trade.[371]

A number of economic historians have worked to rectify issues with the fragile data employed by previous scholars, and most interpretations argue that David's growth estimates are likely too high. Robert Gallman questioned whether David's estimates overstates the rate of economic growth in a series of articles that examined agricultural productivity. He argued that growth rates were modest in the early decades of the nineteenth century but accelerated gradually as the Civil War approached.[372] Diane Lindstrom revised David's estimates using new data on commodity output. Like Gallman, she amended David's figures downward to reflect a lower income elasticity of demand. Both Lindstrom and Gallman suggested that the actual rate of growth before 1840 was slightly less than one percent per annum.[373] Claudia Goldin and Frank Lewis examined export statistics and found a per capita income growth rate of 1.08% between 1793 and 1805.[374] Thomas Berry found even higher rates of growth for the same period, although some scholars have argued that his low starting estimate for national product in 1790 overstates the growth rate in the intervening years.[375] John McCusker reviewed the relevant

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[371] Paul A. David, "The Growth of Real Product in the United States Before 1840: New Evidence, Controlled Conjectures" *The Journal of Economic History* 27, no. 2 (June 1967), 151-197; Paul A. David, "New Light on a Statistical Dark Age: U.S. Real Product Growth Before 1840" *The American Economic Review* 57, no. 2 (May 1967), 294-306.

[372] Robert E. Gallman, "The Pace and Pattern of American Economic Growth" in *American Economic Growth: An Economist's History of the United States* ed. Lance E. Davis, et. al., (New York: Harper & Row, 1972), 21-29; Robert Gallman, "The Agricultural Sector and the Pace of Economic Growth: U.S. Experience in the Nineteenth Century," in David C. Klingaman and Richard K. Vedder eds., *Essays in Nineteenth-Century Economic History: The Old Northwest* (Athens, Ohio: Ohio University Press, 1975), 51-54; Robert Gallman, "American Economic Growth Before the Civil War: The Testimony of the Capital Stock Estimates" in Robert E. Gallman and John Joseph Wallis, eds., *American Economic Growth and Standards of Living before the Civil War* (Chicago: University of Chicago Press, 1992), 19-75, 79-115.

[373] Diane Lindstrom, "Macroeconomic Growth: The United States in the Nineteenth Century" *The Journal of Interdisciplinary History* 13, no. 4 (Spring 1983), 679-705; Diane Lindstrom, "American Economic Growth before 1840: New Evidence and New Directions" *The Journal of Economic History* 39, no. 1 (March 1979), 289-301.

[374] Claudia D. Goldin and Frank D. Lewis, "The Role of Exports in American Economic Growth during the Napoleonic Wars, 1793 to 1807," *Explorations in Economic History*, 27, no. 1 (1980), 6-25.

[375] Thomas Senior Berry, *Production and Population Since 1789: Revised GNP Series in Constant Dollars* (Richmond, VA: Bostwick Press, 1988); McCusker and Menard, *The Economy of British America, 1607-1789*, 374.

literature and found evidence to support North's conclusion that the Napoleonic Wars stimulated American economic growth.[376] Thomas Weiss argued that previous scholars had overstated growth levels to an extent greater than commonly suggested. Weiss made revisions to Towne and Rasmussen's data and discovered that agricultural output per worker was essentially unchanged between 1800 and 1840. As a result, Weiss found a growth rate of only 0.3% for the two opening decades of the nineteenth century.[377]

More recently, a growing consensus has suggested that the American Revolution and its aftermath had devastating consequences for the American economy. As Peter Lindert and Jeffrey Williamson have emphasized, comparisons between Jones' wealth estimates for 1774 and wealth estimates for 1800 indicate that American wealth levels plummeted in the last quarter of the eighteenth century.[378] A casual examination of Jones and Soltow's estimates suggests that American wealth fell by more than 30% in nominal terms in less than three decades. Given that most historians have pointed to the 1790s as a time of economic prosperity and rising growth rates, the disparity between the two figures is striking. Even after inflating Soltow's estimates to account for types of personal property missing from his study but included in Jones' sample, the numbers imply that real wealth fell by more than 16.2%. Lindert and Williamson found more substantial economic growth between 1800 and 1840. The authors argued that growth rates were 2.3% to 2.4% per annum in New England, 1.6% to 1.8% in the Middle Atlantic, and 0.5% to 0.7% in the South. The national average was an impressive 1.4% to 1.6% per year.[379] Data from

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[376] John J. McCusker, "Estimating Early American Gross Domestic Product" *Historical Methods* 33, no. 3 (Summer 2000), 155-162.

[377] Thomas Weiss, "U.S. Labor Force Estimates and Economic Growth, 1800-1860," in Robert E. Gallman and John Joseph Wallis, eds., *American Economic Growth and Standards of Living before the Civil War* (Chicago: University of Chicago Press, 1992), 19-75, especially 29-36; Peter C. Mancall and Thomas Weiss, "Was Economic Growth Likely in Colonial British North America?" *The Journal of Economic History* 59, no. 1 (March 1999), 17-40, especially 18.

[378] Lindert and Williamson, *Unequal Gains*, 10, 77-95.

[379] Lindert and Williamson, *Unequal Gains*, 91-92.

the tax lists indicate that growth estimates for the early republic might be overly optimistic. That wealth levels continued to fall into the nineteenth century suggests that average incomes may have been lower than previous economic historians have predicted.

Given the multitude of problems facing the American economy, it seems intuitive that the Revolution was costly in economic terms, yet historians have only recently begun to examine and quantify the pecuniary costs of the war. While many scholars have studied the loans contracted during the war, few historians have considered the effects of wartime disruptions on living standards.[380] Early on, Stanley Engerman and Robert Gallman speculated that something "truly disastrous" might have happened to the American economy in the last quarter of the eighteenth century.[381] In synthesizing the existing literature, John McCusker and Russell Menard reached a similar conclusion, noting that the "colonists paid a high cost for their freedom."[382]

More recently, Peter Lindert and Jeffrey Williamson provide evidence that supports a growing consensus that the American Revolution and its aftermath had a devastating effect on the American economy.[383] To establish which causal factors were most important, however, we would need to know when exactly American wealth levels began to fall and which regions were most affected. Fortunately, the wealth estimates produced for this study allow us to examine American wealth at ten year intervals. The empirical data confirm the suspicions of previous scholars, and the results suggest that national wealth continued to fall in the early republic.

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[380] Alexander Hamilton, "First Report on Public Credit," *Papers of Alexander Hamilton,* 6:69.
[381] Stanley L. Engerman and Robert E. Gallman, "U.S. Economic Growth, 1783-1860" in *Research in Economic History: A Research Annual* 8 (1983), 19.
[382] John J. McCusker and Russell R. Menard, *The Economy of British America, 1607-1789* (Chapel Hill and London: Omohundro Institute of Early American History and Culture, 1985), 374.
[383] Lindert and Williamson, *Unequal Gains,* 10; Allan Kulikoff, "Such Things Ought Not to Be: The American Revolution and the First National Great Depression" in Andrew Shankman ed. *The World of the Revolutionary American Republic: Land, Labor, and the Conflict for a Continent* (New York: Routledge, 2014), 134-164.

There are a number of reasons to suspect that American incomes might have declined and to explain why Americans might have been less wealthy in the decades following the Revolution. The war was destructive. Armies consumed livestock and Lindert and Williamson note that battlefield casualties might have caused the free labor force to shrink by as much as five percent. Thousands of slaves escaped to British lines, limiting plantations' productive capacity once the war ended. The war also interrupted traditional trade routes. When hostilities concluded, a backlog of harvested crops reached export centers all at once, driving down the prices for many agricultural products. Postwar trade remained disrupted and the value of American exports collapsed. The British severed direct American trade with the West Indies, and American trade with England in 1791 was less than half of what it had been in 1771. Americans no longer enjoyed the protections or the subsidies that came with being a part of the British Empire. Many farmers complained of poor harvests in the immediate postwar years as a result of weather. Onerous taxes and persistent deflation only added to the economic burdens facing the American economy in the 1780s.[384]

Table 4.2: *Average Wealth by State and Year (Weighted in Real 1800 Dollars)*

	1785	1795	1805	1815
United States	$1,302.83	$1,269.37	$916.02	$821.10
New York	$4,317.27[1]	$2,668.54[1]	$947.68	—
Pennsylvania	$849.42	$952.96	$909.89	$675.75
Virginia	$1,552.76	$943.16	$872.64	$1,081.33
Massachusetts	$1,922.14	$1,278.83	—	$1,050.62
North Carolina	$698.42	$722.52	$670.96	$608.41
Kentucky	$309.41[2]	$3,340.66	$1,124.97	$880.17
Ohio	—	—	$890.49	$633.42
Connecticut	—	$973.75	$845.72	$1,110.40
Maryland	—	$625.99	$1,387.21	$1,415.33
Maine	$895.79	$719.92	$646.94	$881.44

[1] The figures from New York for 1785 and 1795 include only New York City, which was among the wealthiest counties in the country. Unfortunately, records from other New York counties have not survived.

[384] Lindert and Williamson, *Unequal Gains*, 87-90.

[2] The surviving tax lists from Kentucky for 1785 do not include land, which accounted for more than 67.3% of the wealth in that state for the years 1795-1815.

The data suggest that economic growth was uneven in the early republic, and indicate that national growth rates were possibly negative. All the of observations suggest lower averages than the one reported by Jones, but the records for 1795 suggest an average wealth level that is very close to Soltow's estimate for 1798. Average wealth fell by nearly 1.3% per annum between 1774 and 1815. Taxpayers in nearly every state reported owning fewer assets on average in 1815 than they had forty years before. The most dramatic drops in real wealth occurred between 1774 and 1795 when wealth levels fell by more than twenty percent for two successive decades. The data suggest that both the American Revolution *and* the postwar years under the Articles of Confederation were incredibly disruptive for the American economy. That the averages continued to fall into the nineteenth century is remarkable. Nearly all economic historians point to the 1790s and especially the early-nineteenth century as a time of economic prosperity and rising living standards.[385] Unlike the economy in the late-eighteenth century, the early-nineteenth century has faced closer scrutiny by economic historians interested in uncovering the timing for industrialization.

It should be noted that the figures for New York for 1785 and 1795 include only the surviving records for New York City. Because taxpayers in New York City were much wealthier than their neighbors in the upstate counties, the figures for early New York do not provide a complete picture of eighteenth century wealth holding for that state. The records for Kentucky

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[385] Louis D. Johnston and Samuel H. Williamson, "What Was the U.S. GDP Then?" Measuring Worth (2017), https://www.measuringworth.com/usgdp/ (Accessed June 5, 2017); Richard Sutch, "Gross domestic product: 1790–2002," Table Ca9-19 in *Historical Statistics of the United States, Earliest Times to the Present: Millennial Edition*, edited by Susan B. Carter, Scott Sigmund Gartner, Michael R. Haines, Alan L. Olmstead, Richard Sutch, and Gavin Wright (New York: Cambridge University Press, 2006), 3:23, 3:27-28; Joseph H. Davis, "An Annual Index of U.S. Industrial Production, 1790-1915" *Quarterly Journal of Economics* 119, no. 4 (November 2004), 1177-1215.

for 1785 present another anomaly in that the surviving tax lists do not record land, which would have been the most important asset in determining taxpayer wealth. If these three observations are excluded from our analysis, the national averages rise slightly to $1,390.54 for 1785 and fall to $1,083.91 for 1795. The adjusted estimates suggests that an even greater share of the decline in real wealth took place between 1785 and 1795 as a consequence of the tumultuous post-revolutionary years.

Examining the state returns on a case by case basis reveals a variety of experiences. Average wealth in Pennsylvania improved between 1785 and 1795 before declining steadily in the nineteenth century. North Carolina was the poorest state included in the sample, and the state's average followed a similar trajectory to Pennsylvania. Taxpayers in Virginia witnessed a substantial drop in real wealth between 1785 and 1795 with average fortunes plummeting by nearly 40%. Wealth levels continued to fall between 1795 and 1805 before showing signs of recovery in 1815. Taxpayers in Maine experienced a similar phenomenon, with average wealth falling gradually until 1815. Massachusetts appears to have been the wealthiest state in the early republic, but households there encountered declining wealth averages in every decade. In Kentucky average wealth dropped substantially between 1795 and 1815. Average wealth in Ohio tumbled by nearly 29% between 1805 and 1815. Maryland deviates from the experiences of the other states. The average wealth holder in Maryland experienced rising economic prospects and wealth levels continued to rise with each successive decade. Maryland was the poorest state in the sample in 1795, but emerged as the wealthiest state in the union by 1815. In Connecticut, average wealth fell between 1795 and 1805 but rose substantially in the following decade.

Table 4.3: *Average Components of Physical Wealth by Year (Weighted in Real 1800 Dollars)*[*]

	1774	1785	1795	1805	1815
Land	$958.14	$941.09	$679.40	$283.84	$501.05
Slaves	$341.75	$186.24	$124.50	$78.91	$149.66

Livestock	$161.19	$118.40	$87.53	$27.58	$61.57
Lots, Buildings, and Dwelling Houses	1	$84.90	$46.59	$21.83	$69.53
Luxuries	2	$24.69	$37.91	$14.63	$34.12
Business Interests	2	$9.61	$4.14	$1.98	$5.17
Total Wealth*	$1,461.08	$1,302.83	$1,269.37	$916.02	$821.10

* Each category has been independently weighted to produce unbiased estimates. A few counties neglected to include land in their tax lists. The records for New York City list the total value of all real estate and personal property. As a result of these irregularities, slight differences exist between the wealth totals and the sums of the components.
1 Jones combined the value of land, buildings, and dwelling houses into a single category for real estate.
2 Jones' estimates for luxuries and business capital are more comprehensive than those represented in the tax lists. A comparison between them would provide a misleading appraisal.

Note: the category "Luxuries" includes not only extravagant items like silver spoons, billiard tables, coaches, and carriages, but also the value of financial instruments such as shares of stock, money on hand, and money lent at interest. The "Business Interests" category includes the value of gristmills, sawmills, tan yards, forges and furnaces, merchant inventories, textile mills, cotton gins, and other capital employed by merchants and artisans.

Sources: Jones, *Wealth of a Nation to Be*, 98; data from tax sample.

What could be causing average wealth levels to fall? Every component of physical wealth declined consistently from decade to decade. Because many of the valuations have been generalized from average market prices, the data do not suggest a collapse in valuations. Instead, the average taxpayer owned fewer acres of valuable land, fewer expensive slaves, and fewer costly livestock and other assets than their counterparts in the previous decade. The data do not point to any sources of bias that could influence our results. If anything the tax lists from the nineteenth century provide a more comprehensive portrait of wealth holding than the earlier records, as those tax lists frequently included financial assets and a greater variety of luxury goods. While one could speculate that Jones' estimate for 1774 is too high, her sample design and estimates have stood up to intense scrutiny, and many historians have argued that Jones produced wealth figures that may have been too low.[386] If we limit Jones' estimate of physical wealth to the categories of assets most commonly included in the tax lists the decline in average

[386] McCusker notes that "a surprising consensus exists among the more tenable 1774 estimates." McCusker, "Estimating Early American Gross Domestic Product," 158; McCusker and Menard, *The Economy of British America, 1607-1789,* 374.

wealth appears less dramatic. The revised growth rates from the period reveal that average wealth declined by 1.07% per annum. Using this new estimate as a baseline, the data make clear that the most important decline in real wealth occurred as a result of the postwar depression in the 1780s. The Revolution was a devastating war, but the depression that followed wiped out American fortunes at a rate that was more than four times faster. Of the nearly 26% of real wealth lost between 1774 and 1795, more than eighty percent of the loss occurred between 1785 and 1795.

Table 4.4: *Revised Average Wealth Estimates with Corresponding Growth Rates*

	1774	1785	1795	1805	1815
Revised Wealth Estimates	$1,461.08	$1,390.54	$1,083.91	$916.02	$821.10
Change in Real Wealth	—	-4.8%	-22.1%	-15.5%	-10.4%
Suggested Annual Growth Rate	—	-0.4%	-2.2%	-1.6%	-1.0%

Source: Derived from data in tax sample. Jones' estimate for 1774 has been revised downward to reflect average total physical wealth. The estimates for 1785 and 1795 have been revised to exclude the records for New York City and Kentucky. See Jones, *Wealth of a Nation to Be*, 98.

But why would wealth levels continue to fall in the nineteenth century, even after the ratification of the Constitution and the creation of the republic had solved the crises of the Confederation? After all, nearly all economic historians point to at least some growth in the 1790s. It seems especially odd then that average wealth levels would fall between 1795 and 1805. Trade with the West Indies resumed in 1794. Hamilton's assumption plan relieved states of their tax burdens. Wars in Europe stimulated demand for American agricultural products. Instability between 1805 and 1815 is less surprising. The disruptions of the embargo and the War of 1812 may have been more significant than previous historians have realized. Although the years selected in the sample design were chosen to avoid the upheaval of the War of 1812, it appears that the economic consequences of that war may have been just as severe as the Revolution. Average real wealth fell by ten percent between 1805 and 1815. While the embargo might have influenced some American fortunes, the war's devastation seems to be a more likely culprit.

Table 4.5: *Median Wealth by State and Year (Weighted in Real 1800 Dollars)*

	1785	1795	1805	1815
United States	$372.04	$475.32	$375.00	$323.55
New York	$3,311.74[1]	$1,433.10[1]	$416.00	—
Pennsylvania	$251.00	$415.17	$464.17	$331.46
Virginia	$428.46	$252.85	$215.68	$184.84
Massachusetts	$696.61	$448.89	—	$815.37
North Carolina	$266.00	$266.00	$285.95	$200.83
Kentucky	$155.82[2]	$322.68	$297.36	$293.15
Ohio	—	—	$288.26	$286.39
Connecticut	—	$486.12	$152.68	$435.72
Maryland	—	$197.05	$384.75	$299.15
Maine	$727.67	$536.63	$508.10	$528.47

[1] The figures from New York for 1785 and 1795 include only New York City, which was among the wealthiest counties in the country. Unfortunately, records from other New York counties have not survived.
[2] The surviving tax lists from Kentucky for 1785 do not include land, which accounted for more than 67.3% of the wealth in that state for the years 1795-1815.

Curiously, the median wealth levels do not reveal the same dramatic drop as the average valuations. If the incomplete figures from New York and Kentucky are excluded from our analysis, the median for the whole country moves to $421.00 for 1785 and falls to $367.35 for 1795. Evidence from the tax records indicates that median wealth was much lower than Jones' reported median of $751.98 for 1774, but all are higher than Soltow's estimate of $292 for 1798. Median wealth for most Americans was fairly stable in the early republic. Wealth levels fell, but not as dramatically as the averages would suggest. What's more, the medians indicate that the more devastating setback to real wealth came immediately after the Revolution. Median wealth fell by 44% between 1774 and 1785, and by another 12.7% before 1795. By 1795 median wealth was less than half of what it had been in 1774. The adjusted medians also report a miniscule rise in real wealth between 1795 and 1805, before falling again by 13.7% between 1805 and 1815. The figures for median wealth suggest that the averages present an incomplete portrait of the

American economy. The discrepancies between mean and median wealth prove that much of the instability in wealth levels occurred at the tails of the distribution and that economic upheavals had less of an effect on taxpayers at the middle of the distribution. A few states even report rising median wealth holding despite their falling averages. Median wealth in New England and the Mid-Atlantic remained consistently above the national estimates owing to the more egalitarian distribution of wealth in that part of the country. The median taxpayer in the Chesapeake and West were typically poorer than their northern neighbors.

Decomposing the national figures into the state returns reveals a variety of experiences in the early republic. The records for New York do not lend themselves to longitudinal analysis as the only data that survive from the eighteenth century are those from New York City. Median wealth in Pennsylvania grew every year until experiencing a significant drop in 1815. In Massachusetts the median taxpayer's assets fluctuated tremendously, falling between 1785 and 1795 but emerging with the highest median among the states in 1815. The records from Maine reveal a similar story with median wealth falling after the Revolution but remaining stable in the decades that followed. Median wealth appears to have collapsed in Connecticut in 1805 but recovered much like Massachusetts by 1815. The Chesapeake presents a muddled interpretation. The median for Maryland nearly doubled between 1795 and 1805 before falling 22% between 1805 and 1815. In Virginia, median wealth collapsed. By 1815 the median wealth holder owned less than half of the taxable property that his counterpart possessed in 1785. Median wealth in North Carolina was more stable, but declined by nearly thirty percent in 1815. Median wealth in the West appears to have been remarkably consistent, particularly in Ohio. The typical taxpayer in both states possessed wealth that was well below the median for the country as a whole. The median declined slightly in Kentucky, but fell by only 9% over the course of two decades.

The data point to significant volatility for the fortunes of the wealthiest Americans. Lindert and Williamson describe this phenomenon as "a crisis at the top." The authors argue that wealthy and more established port cities were most deeply affected by trade shocks and the disruptive effects on the labor market.[387] Trade interruptions and wartime instability would have understandably affected wealthier merchants and planters at greater rates than their poorer neighbors, but the economic effects appear to have been more widespread than Lindert and Williamson suggest. If worsening economic conditions affected all classes equally, we might expect the number of taxpayers with zero wealth to be rising. A rising proportion of property less taxpayers could explain why average wealth levels fell so dramatically while median wealth remained stable. The proportion of taxpayers without any taxable assets does not appear to have risen significantly. Only 12.4% of taxpayers had zero assets in 1785, compared to 15.4% in 1795 and 1805, and 14.5% in 1815. Instead, average wealth levels declined in the early republic primarily because taxpayers with large fortunes experienced tremendous volatility in their portfolios. The nineteenth century historian, Richard Hildreth, described the economic upheaval of the Revolution by noting that a "large portion of the wealthy men of colonial times had been expatriated, and another part had been impoverished … in their place a new moneyed class had sprung up."[388]

Westward expansion diluted the importance of eastern fortunes in the national wealth aggregates. Data from a greater number of counties survive from the early nineteenth century, especially from counties in Kentucky and Ohio that barely existed in the late eighteenth century. The introduction of these taxpayers into the sample further reduces national wealth estimates.

[387] Lindert and Williamson, *Unequal Gains*, 89-90.
[388] Richard Hildreth, *The History of the United States of America* (New York: Harper & Brothers Publishers, 1849-1852), 3:465-466.

Land in the east was much more valuable than comparable tillage along the frontier. Eastern merchants and planters controlled a disproportionate portion of the country's wealth, particularly when comparing the number of slaves and the amount of mercantile, financial, and industrial assets owned by easterners. Eastern merchants and land agents were also active in acquiring land in the west. The wealthiest individual included in the sample is the estate of Samuel and Robert Purviance, who together owned 8,000 acres of second class land, and 63,053 acres of third class land in Fayette County, Kentucky in 1795. The estate appears in the tax list with a valuation of $221,348.40.[389] The two brothers had emigrated from Ireland shortly before the Revolution and quickly established themselves as prominent shipping merchants in Baltimore. Samuel was captured and believed to have been killed by Indians on his journey down the Ohio River in 1788, and in his absence his share of the land speculation venture transferred to Robert and several other heirs.[390] If the western states are excluded from the national averages, and we consider the portfolios of taxpayers located in the area of the original thirteen colonies only, the decline in real wealth appears much more gradual. Average wealth levels would have been $981.56 in 1795. Eastern taxpayers reported owning an average of $907.26 in 1805, a decline of nearly 7.6% from the previous decade. Wealth levels in 1815 were higher in the Eastern states than for the country as a whole, but the average continued to fall by 4.7% for an average portfolio of $864.18.[391]

Table 4.6: *Panel Regression of Lagged Wealth on Wealth (Weighted)*

Variables	(1) Lagged Wealth	(2) Lagged Mean Wealth	(3) Lagged Wealth Fixed Effects	(4) Lagged Mean Wealth Fixed Effects
Independent Variable	0.46 (20.76)***	0.65 (24.14)***	-0.28 (8.27)***	-.05 (1.13)

[389] The tax assessors in Kentucky did not record valuations. The valuation has been derived from market prices using the methodology described in Chapter 3.
[390] James F. Hopkins and Mary W.M. Hargreaves ed., *The Papers of Henry Clay* (Lexington, KY: University of Kentucky Press, 1959), 1:494.
[391] I have excluded New York from the 1795 figure since the only tax lists that survive are the records from New York City.

Constant	1,162.06 (13.35)***	1.07 (11.93)***	2,162.94 (39.02)***	1.88 (29.07)***
Fixed Effects	No	No	Yes	Yes
R-Squared	0.14	0.18	0.15	0.22
N	2,599	2,599	2,599	2,599

Notes: The variables for mean and median wealth have been normalized by dividing each taxpayer's wealth by the weighted mean or median wealth for each of the four observation years in the sample (1785, 1795, 1805, and 1815).
Absolute value of t-statistics in parenthesis
*** p<0.01, ** p<0.05, * p<0.1

The wealth data allow us to study social mobility by linking the fortunes of individual taxpayers over the course of the period. The sample includes 2,599 taxpayers whose exact name matches for two or more years in the same county. Regression analysis allows us to test whether or not the circumstances of the linked taxpayers improved or worsened with time. We might expect taxpayers to have accumulated wealth over the course of their lifetimes. It is also possible that economic instability forced some taxpayers to liquidate their portfolios in times of crisis. The panel data in the second and fourth regression models have been normalized by dividing each taxpayer's wealth by the weighted mean for each of the four years in the sample. Normalizing the data facilitates interpreting the coefficients of the regression. A number greater than one signifies that taxpayers held assets above the mean wealth for that year, and a coefficient above one would imply that the linked taxpayers in the aggregate improved their material circumstances with respect to the national average. The third and fourth models apply a fixed effects technique to hold constant any unobserved variation that might influence the coefficients. The regressions measure whether or not wealth held in the previous decade was a good predictor of wealth in the following decade. The coefficients signal that wealth levels fell by roughly twenty-eight percent among the taxpayers whose exact name appears more than once in the tax records for the same county. Introducing indicators for year, state, and county yield regression coefficients that are almost identical to those reported in the table, suggesting that the models adequately account for between-group variation in the sample.

Table 4.7: *Number and Proportion of Taxpayers by Change in Wealth Level*

	1785-1795	1795-1805	1805-1815
Wealth Increased	397 (58.6%)	648 (58.6%)	974 (62.2%)
Wealth Remained Constant	26 (3.8%)	79 (7.1%)	79 (5.0%)
Wealth Decreased	255 (37.6%)	378 (34.2%)	513 (32.7%)
Total	678	1,105	1,566

Source: Derived from the tax sample

While the regression results point to declining prospects for our matched taxpayers, the tax records themselves reveal significant upward mobility and expanding economic opportunities in the early republic. Average wealth levels among the matched taxpayers in the sample did fall as the regressions predicted from $2,034.93 in 1795 to $1,542.55 in 1815. It is not surprising that the average wealth among the taxpayers uncovered in the matched sample is higher than the national average for each year. Those who owned property were at lower risk of becoming too poor to appear in the tax rolls. The decline in average wealth levels for the matched sample appears in line with the results from the larger population. What is surprising, however, is that a significant majority of the taxpayers in the matched sample improved their material circumstances from one decade to the next. The likelihood of a taxpayer improving or maintaining their standard of living actually increased slightly over time. Roughly sixty percent of the taxpayers in the matched sample experiencing rising economic prospects. The magnitude of these gains was significant. The median taxpayer in the matched sample increased the size of their portfolio by 4.2% between 1785 and 1795. Growth rates surged the following decade and the sampled taxpayers increased their wealth by 11.0%. Wealth levels for these taxpayers continued to improve between 1805 and 1815, with the median taxpayer improving their conditions by 9.9%. From the matched taxpayers we can extrapolate average annual growth rates ranging from 0.4% for the decade after the Revolution to 1.1% per year for the 1790s.

Table 4.8: *Average Number of Acres of Land by Region (Weighted)*

	1785	1795	1805	1815

New England	43.3	47.3	56.3	60.8
Mid-Atlantic[1]	110.2	134.2	140.4	109.6[2]
Chesapeake	230.8	153.2	181.5	163.2
West	—	660.4	430.3	424.6
United States	106.4	119.9	194.1	213.4

[1] The tax records from New York do not always record the number of acres of land. Most lists record only a valuation for real property. As a result, I have excluded New York from the Mid-Atlantic and national figures for this table.
[2] Several towns in Lancaster County, Pennsylvania for 1815 do not record the number of acres of land and instead include a total valuation for all real property. I have excluded these towns when calculating the Mid-Atlantic results for 1815.

Source: Derived from data in tax sample.

An examination of the assets that appear in the tax lists provides further confirmation that the standard of living improved for most taxpayers in the early republic. The average number of acres held by taxpayers continued to rise with each decade. By the early nineteenth century the average American farm size began to approach Jefferson's agrarian vision. Average acreage was smallest in New England, where many taxpayers worked outside of agriculture, but this region witnessed the most substantial gains. Landholdings were larger in Pennsylvania and in the Chesapeake, and both regions generally experienced growing farm sizes. Taxpayers owned the largest tracts of land in the West, where land was cheapest and many speculators rushed to purchase land after the Revolution. The average number of acres held by taxpayers in the West appears to have declined between 1795 and 1805 due to variation among several large land speculators who dispersed their holdings in the previous decade, and from the growing number of taxpayers appearing on the tax rolls in the West. The data for slaves, horses, and cattle exhibit similar trends and point to expanding economic opportunities for most taxpayers.

How can we reconcile the falling wealth levels for the population and the corresponding regression coefficients with the expanding economic opportunities presented in the matched sample? The discrepancy can be explained by a high degree of variance among the top wealth holders and by stabilizing prospects for those at the middle and bottom of the wealth distribution.

Average wealth fell because of instability among the wealthiest taxpayers. While most taxpayers increased their wealth slowly and steadily, those at the top of the wealth distribution often experienced unparalleled windfalls and misfortunes. Among the wealthiest taxpayers whose names appear two or more times in the sample, nearly all of them repeat at the top of the list of taxpayers whose wealth improved or worsened by the greatest amount from one decade to the next. At the same time, considerable evidence points to greater economic stability for those of middle and lower wealth. To be sure, taxpayers in the top wealth deciles improved their wealth much more quickly than those at the bottom of the distribution, but the data suggest that United States remained the "best poor man's country."

Evidence from the wealthiest taxpayers suggests tremendous economic mobility in the early republic. If we confine our regression analysis to the top ten percent of wealth holders, the coefficients of the regressions are even lower, suggesting that the wealthiest taxpayers struggled even harder than the rest of the population to maintain their portfolios. Table 4.9 contains the wealth information for the twenty wealthiest taxpayers in the sample whose assets can be traced for more than one year. The table presents a window into the lives of some of the wealthiest American households, and illustrates the life cycle of American wealth. Edward H. Robbins served as Massachusetts Speaker of the House and as Lieutenant Governor. Robbins appears in the 1784 tax list for Milton, Massachusetts at the age of twenty-six owning twenty three acres of land, one horse, and £4,398.34 loaned at interest. His investments had paid off handsomely eight years later. In the tax list for 1792 Robbins was thirty-four years old and reported owning 487 acres of land, three dwelling houses, ships and vessels weighing eighty three tons, four horses, six oxen, forty head of cattle, and sixteen hogs. His lands produced 250 bushels of corn, 150 bushels of barley, sixty-eight tons of hay, and forty-five barrels of cider. The following year he would become Speaker of the Massachusetts House of Representatives.

Table 4.9: *The Twenty Wealthiest Taxpayers with Multiple Observations in the Sample*[1]

	1785	1795	1805	1815
Robert Carter (Westmoreland Co., Virginia)	$107,071.80	$12,062.53	—	—
John Breckenridge (Fayette Co., Kentucky)	—	—	$67,707.15	$82,602.80
John Bradford (Fayette Co., Kentucky)	—	$65,291.36	$42,189.84	—
John Kinsman (Trumbull Co., Ohio)	—	—	$12,774.50	$63,422.46
John Carter (Fayette Co., Kentucky)	—	$3,833.99	—	$56,000.00
Henry Payne (Fayette Co., Kentucky)	—	$44,800.00	—	$21,385.39
Elias Perkins (New London, Connecticut)	—	—	$2,564.76	$44,408.70
William Davis (Bourbon Co., Kentucky)	—	$111.51	$40,880.00	—
William Kenyon (New York, New York)	—	$2,484.04	$39,683.00	—
Daniel Wadsworth (Hartford, Connecticut)	—	$551.23	$32,280.29	—
Calvin Austin (Trumbull Co., Ohio)	—	—	$1,988.19	$30,099.35
Edward H. Robbins (Milton, Massachusetts)	$4,558.52	$27,900.97	—	—
Moore Fauntleroy (Richmond Co., Virginia)	$26,820.99	$6,276.17	—	—
John Russ (Hartford, Connecticut)	—	—	$217.86	$25,999.04
Judson Canfield (Trumbull Co., Ohio)	—	—	$22,813.50	$20,654.51
Elisha Berry (Prince George's Co., Maryland)	—	$2,156.65	$22,383.63	—
John Jones (New York, New York)	—	$14,331.00	$22,300.00	—
William Robinson (Westmoreland Co., Virginia)	—	$20,862.61	$7,421.20	$639.97
Peter Stuyvesant (New York, New York)	—	$20,063.40	$7,750.00	—
Edward Chambers (Lunenburg Co., Virginia)	—	—	$13,068.96	$18,911.51

[1] The taxpayers listed in the table are not the wealthiest taxpayers in the sample, but they are the wealthiest for which we have more than one observation point. I have omitted taxpayers for which the only duplicate observation was from Kentucky for 1787, as the tax records for this year understate wealth by failing to include land.

Robert Carter III was a wealthy planter on Virginia's Northern Neck. We might expect Carter's wealth to have declined from his decision in 1791 that he would begin manumitting his 450 slaves, however, the tax list for 1795 reveals that his plantation continued to retain a large number of slaves. Instead, Carter's wealth declined from the sale of land. Carter owned 31,580 acres of land in 1785, but only 2,227 acres in Westmoreland County in 1795. Carter had removed to Baltimore in 1793 in response to numerous threats and harassments from his neighbors, which may explain his decision to liquidate some of his acreage.[392] The entries in the tax records for Robert Carter reveal one of the limitations of using tax records to examine the wealth of individual taxpayers. Although the sale of land is reflected in the tax lists, the money Carter received for the transaction is not. A landowner who sold acreage at a profit might appear to have lost wealth in the tax records. Such transactions would balance out in the aggregate, however, as the taxpayer who purchased Carter's tracts would appear in the tax records, but the money used for the purchase price would not.

Many of the other taxpayers among the top wealth holders rose to national or regional prominence. John Breckenridge served in the state legislatures of both Virginia and Kentucky, as a U.S. Senator, and as Attorney General in Thomas Jefferson's cabinet. He owned sixty seven slaves and 10,800 acres of land in 1805. Breckenridge died in 1806 and the entry in the tax lists for 1815 likely refers to his son by the same name.[393] John Bradford was an early settler and printer who founded the *Kentucky Gazette* in 1787.[394] John Kinsman and Judson Canfield each purchased land in Ohio from the Connecticut Land Company and founded the towns of Kinsman and Canfield respectively. Elias Perkins and John Russ each served in the Connecticut state legislature and in the House of Representatives.

If Americans experienced rising standards of living in the early republic, how can we characterize this economic growth? Taxpayers could have increased their wealth through *extensive* growth by acquiring additional land or other resources to extend their productive capacity. It is also possible that taxpayers grew their portfolios through *intensive* growth.

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[392] Andrew Levy, *The First Emancipator: The Forgotten Story of Robert Carter, the Founding Father Who Freed His Slaves* (New York: Random House, 2005), xi; Louis Morton, *Robert Carter of Nomini Hall: A Virginia Tobacco Planter of the Eighteenth Century* (Charlottesville: University Press of Virginia, 1941).
[393] Lowell H. Harrison, *John Breckinridge: Jeffersonian Republican* (Louisville, KY: The Filson Club, 1969), 132.
[394] Thomas D. Clark ed., *The Voice of the Frontier: John Bradford's Notes on Kentucky* (Lexington, KY: University Press of Kentucky, 1993), ix-xv.

Farmers could have improved their existing acreage or channeled their energies toward existing resources to become more productive. The tax records from New England provide a way of answering this question by offering an indication of land use and agricultural productivity for select years. These states classified land into one of more than a dozen categories based on the land's use and estimated value. Massachusetts and Maine also reported the number of bushels of each crop produced on each taxpayer's acreage. The records allow us to test whether farmers in New England became wealthy by turning woodland and unimproved land into more productive tillage and fresh pasture, or if their wealth improved simply by increasing the size of their farm.

Table 4.10: *Average Land Allocation for New England Taxpayers*[1]

	1785	1795	1805	1815
Acres of Tillage / Plow Land	2.3	3.6	1.0	3.1
Acres of Upland Mowing	3.6	8.5	3.9	6.1
Acres of Fresh Meadow	1.6	1.4	0.5	1.9
Acres of Bog Meadow, Mowed	—	1.3	0.4	0.3
Acres of Bog Meadow, Not Mowed	—	0.1	0.1	5.2
Acres of Salt Marsh	0.9	0.3	0.2	0.1
Acres of Clear Pasture	6.8	6.6	4.4	9.6
Acres of Woodland	8.0	6.1	30.1	13.1
Acres of Bush Pasture	—	15.0	2.5	21.5
Acres of Unimproved Land	15.6	24.7	33.4	26.7
Acres of Land Un-Improvable	4.6	5.3	10.6	11.8
Acres of Land Owned by the Town	—	0.0	0.3	0.1
Acres of Land Owned by Other Proprietors	—	5.5	6.1	1.2
Acres of Land Covered by Roads	—	0.5	0.5	1.5
Acres of Land Covered by Water	—	0.4	0.3	0.3

[1] The totals number of acres from this table does not match the results from Table due to the weights applied to each category. Because Massachusetts and Maine used different categories than Connecticut in their tax lists, the denominators for each row vary depending on whether the land category was used in one state, two states, or all three.

The tax records indicate that almost all of the growth experienced in the early republic was extensive, but that some productivity enhancements did occur. Average farm size in New England expanded from 43.3 acres per taxpayer in 1785 to 60.8 acres per taxpayer in 1815.[395]

[395] See Table 4.8 and 4.10 and accompanying notes.

The proportion of improved land such as tillage, mowing, meadow, and clear pasture declined with each decade, rising slightly in 1815 as farmers made efforts to bring additional acres under cultivation. Most of the growth in acreage was in less productive land, however, particularly in the number of acres of woodland, bush pasture, unimproved land, and land un-improvable. Estimates from the taxpayers in the matched sample report similar results. The tax lists also point to a greater number of taxpayers owning their own land rather than renting from their neighbors, as the proportion of land owned by other proprietors shrank significantly between 1805 and 1815. Road construction in Maine caused the proportion of land covered by roads to triple. At the same time, average annual crop yields per acre were rising. The figures suggest significant intensive growth that complemented the dominant extensive growth. While the tons of hay produced on each acre appear constant, the number of bushels per acre of tillage improved by more than fifty percent. Farmers shifted production away from barley and hops in favor of planting more wheat, rye, oats, and corn. These figures suggest that New England farmers were becoming more productive at the same time that they were expanding their productive capacity.

Table 4.11: *Average Crop Yield per Acre of Land in Massachusetts and Maine (Weighted)*

	1795	1805	1815
Total Bushels per Acre of Tillage	8.0	12.7	12.8
Bushels of Wheat	0.5	0.6	1.3
Bushels of Rye	1.0	1.1	1.8
Bushels of Oats	0.5	0.3	2.2
Bushels of Corn	7.1	9.5	8.1
Bushels of Barley	1.6	1.4	0.5
Bushels of Peas and Beans	0.3	0.4	0.3
Pounds of Hops	—	0.1	0.0[1]
Tons of Hay per Acre of Upland Mowing	0.9	1.0	1.0
Tons of Hay per Acre of Fresh Meadow	0.8	1.0	0.9
Tons of Hay per Acre of Salt Marsh	0.8	1.0	0.9

[1] Less than 0.1.

How did these taxpayers' wealth compare to their incomes? Because wealth is a reflection of past income and reveals the benefits of economic growth, we can use information from the tax records to produce income estimates. Wealth data from the early republic provide an indication of the level of capital stock, which can be converted to income estimates after first determining the appropriate capital to output ratio for the period. The capital output ratio is the relationship between the durable goods used in production (buildings, factories, slaves, and other components of the means of production in the early republic) and the value of all goods and services produced in a single year (national income). Lance Davis and Stanley Engerman note that because capital and wealth are less susceptible to erratic fluctuations, they are often more reliable than measuring output to construct income estimates.[396] Lee Soltow used a different method to construct income estimates for 1798. Because Soltow sampled housing valuations from the federal direct tax, he converted his valuations to income estimates using nineteenth century estimates of the elasticity of housing values with respect to income.[397] Because the state property tax records provide a more comprehensive picture of American wealth than Soltow's housing data, capital-output ratios provide the best method for converting taxable wealth into income.

Economic historians have produced a range of estimates for early American capital-output ratios. It is important to find a precise measure for the period because capital-output ratios can vary dramatically over time and from country to country. Thomas Piketty notes that American wealth was only slightly more than three years of national income for the period 1770-1810.[398] Jones considered a range of ratios for non-human wealth to income but suggested that the true figure was likely three to three and a half to one.[399] Thomas Weiss revisited Jones'

[396] Lance Davis and Stanley Engerman, "The Economy of British North America: Miles Travelled, Miles Still to Go" *The William and Mary Quarterly* Third Series 56, no. 1 (January 1999), 10.
[397] Soltow, *Distribution of Wealth and Income in the United States in 1798,* 56-57.
[398] Piketty, *Capital in the Twenty-First Century,* 150.
[399] Jones, *Wealth of a Nation to Be,* 62.

calculations and determined that her estimate of 3.5 to one was reasonable.[400] Lois Green Carr, Russell Menard, and Lorena Walsh used records from Robert Cole's plantation to measure wealth to income ratios over the course of the seventeenth century. The authors found ratios ranging from 2.4 to 4.3 to one. Cole's wealth to income ratio increased over the course of his lifetime as we would expect, but the midpoint of 3.4 to one approximates the estimates produced by Jones and Weiss.[401] Lindert and Williamson find an even narrower ratio of 1.89 between net worth and national income in 1774, and that authors decompose their estimates into regional estimates of 0.96 for New England, 1.80 for the Middle colonies, and 2.25 for the South.[402] Given the popularity of Jones' estimate, her figure of 3.5 to one appears to be the most useful measure for converting wealth valuations to income. Applying Lindert and Williamson's ratio could cause the figures presented in Table 4.12 to be 85.2% higher.

Table 4.12: *Estimated Average Annual Income per Wealth Holder*

	1774 (Jones)	1785	1795	1805	1815
United States	498.09	397.30	306.69	261.72	234.60
New England	318.62	—	—	208.82	297.90
Mid-Atlantic	373.97	276.81	504.34	268.66	193.07
Chesapeake	780.15	383.45	229.37	250.25	269.70
West	—	—	—	286.40	208.50

Notes: Weighted in real 1800 dollars. Missing records from Connecticut and Ohio limit the usefulness of constructing estimates for New England and the West for 1785 and 1795. I have omitted the data for New York for 1785 and 1795 and for Kentucky for 1785 in the national averages. The figures from New York for 1785 and 1795 include only New York City, which was among the wealthiest counties in the country. Unfortunately, records from other New York counties have not survived. The surviving tax lists from Kentucky for 1785 do not include land, which accounted for more than 67.3% of the wealth in that state for the years 1795-1815.

Source: Jones, *Wealth of a Nation to Be,* 58 column 3 in Table 3.7 converted to real 1800 dollars; estimates for 1785-1815 derived from the tax sample.

400 Weiss, "U.S. Labor Force Estimates and Economic Growth, 1800-1860," 26.
401 Lois Green Carr, Russell R. Menard, and Lorena S. Walsh, *Robert Cole's World: Agriculture and Society in Early Maryland* (Chapel Hill: University of North Carolina Press, 1991), 89-90; Russell R. Menard, Lois Green Carr, and Lorena S. Walsh, "A Small Planter's Profits: The Cole Estate and the Growth of the Early Chesapeake Economy" *William and Mary Quarterly* 3d ser., 40, no. 2 (April 1983), 195n; John J. McCusker, "Estimating Early American Gross Domestic Product" *Historical Methods* 33, no. 3 (Summer 2000), 157-158.
402 Lindert and Williamson, *Unequal Gains,* 33 and 33n.

The capital-output ratios allow us to convert the wealth valuations to estimate income in the early republic. The estimates are approximations only, as they are derived from the wealth valuations not from actual payroll receipts. Using the ratio of 3.5 to one recommended by Jones and others, we find that American incomes were higher than those produced by Soltow or by Lindert and Williamson. Soltow estimated family income to have been $211.00 in 1798, and noted that it could have been as high as $427 if the elasticity of housing with respect to income had been higher.[403] Lindert and Williamson identified comparable figures with an average annual household income of $219.82 for 1800.[404] The income estimates from the tax sample can be converted to dollars from the year 2000 using John J. McCusker's historical price deflator. American incomes per taxpayer in the early republic ranged from $5,417.49 in 1785 and $3,198.95 in 1815.[405] Estimates from the International Monetary Fund indicate that average American incomes in 1815 were comparable to per capita incomes in Lithuania and the Dominican Republic in the year 2000.[406] Although the estimates derived from the tax records are per taxpayer and not per capita, the tax records suggest that Americans were already wealthier in the eighteenth century than much of the developing world today.

At the same time, Jones' estimates are significantly higher as they overlook individuals with zero wealth who presumably would have had some income. Even individuals who did not report any wealth in Jones' sample would have maintained at least some minimum level of consumption. Several techniques exist to account for reconciling these numbers. The income estimates derived from the tax lists can be inflated by substituting taxpayers with zero wealth for

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[403] Soltow, *Distribution of Wealth and Income in the United States in 1798*, 247.
[404] Lindert and Williamson, *Unequal Gains*, 80.
[405] The price index according to McCusker was 2,059 in the year 2000 and 151 in 1800. To convert the income figures to real 2000 dollars, multiply the estimate by the ratio of 2,059/151.
[406] International Monetary Fund (IMF), World Economic Outlook (WEO) Database, October 2016 edition, gross domestic product (nominal) per capita, current prices, (millions of) U.S. dollars, available online at http://www.imf.org/external/pubs/ft/weo/2016/02/weodata/index.aspx (accessed June 29, 2017).

some minimal amount to approximate that taxpayer's level of consumption. An alternate method would be to deflate Jones' estimates by introducing individuals with a minimum level of income into her average. In attempting to estimate household incomes for rural, tax-exempt poor free households in the South for 1774, Lindert and Williamson suggest an average annual income of $40 per household. The authors note that this figure approximates the annual incomes of New Englanders who possessed zero wealth.[407] When converted to real 1800 dollars, this figure yields a minimum income of $62.27. This figure appears in line with comparable estimates for minimum levels of consumption in the early republic. Lindert and Williamson extrapolate from data collected by Peter Mancall, Joshua Rosenbloom, and Thomas Weiss to estimate levels of slave consumption in 1800. The authors find average consumption levels ranging from $43.64 to $61.97 for 1800.[408] If assume that roughly one sixth of the population had zero wealth, and substitute a minimum income for those with zero wealth, Jones' estimates appear much closer to those generated from the tax lists.

Table 4.13: *Adjusted Average Annual Income per Free Population (Weighted in Real 1800 $)*

	1774 (Jones)	1785	1795	1805	1815
United States	421.74	414.19	328.60	276.92	251.92
New England	272.18	—	—	230.20	311.13
Mid-Atlantic	318.31	297.58	515.42	281.68	213.68
Chesapeake	656.79	401.37	251.64	271.93	293.49
West	—	—	—	298.76	220.67

Notes: Missing records from Connecticut and Ohio limit the usefulness of constructing estimates for New England and the West for 1785 and 1795. I have omitted the data for New York for 1785 and 1795 and for Kentucky for 1785 in the national averages. The figures from New York for 1785 and 1795 include only New York City, which was among the wealthiest counties in the country. Unfortunately, records from other New York counties have not survived. The surviving tax lists from Kentucky for 1785 do not include land, which accounted for more than 67.3% of the wealth in that state for the years 1795-1815.

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[407] Lindert and Williamson, *Unequal Gains,* 36.

[408] Peter C. Mancall, Joshua L. Rosenbloom, and Thomas Weiss, "Conjectural Estimates of Economic Growth in the Lower South, 1720 to 1800" in William Sundstrom and Timothy Guinnane ed. *History Matters: Economic Growth, Technology, and Population* (Stanford: Stanford University Press, 2003), 389-424; Lindert and Williamson, *Unequal Gains*, 298-299.

Although average wealth levels declined with each successive decade in the early republic, the fortunes of most taxpayers were rising. Despite the spectacular material devastation of the Revolution and the trade disruptions in the decades that followed, the United States was among the wealthiest nations in the world. The realignment of American trade in the aftermath of the Revolution initiated a crisis at the top that affected wealthy taxpayers disproportionately. For taxpayers whose names can be linked from more than one tax list, the records indicate that American portfolios grew by a rate of 0.4% per annum between 1785 and 1795. Growth rates accelerated to 1.1% between 1795 and 1805, and remained high at 1.0% per year until 1815. For economic historians, growth rates above one percent for any prolonged period time mark a sharp contrast with much of early modern history where growth rates were stagnant at or slightly above subsistence levels. Given what we know about American wealth levels in the mid-nineteenth century, growth rates were even higher as the Civil War approached. If we carry our estimates forward, we find that growth rates between 1815 and 1860 may have exceeded 4.7%.[409] In the next chapter will study the distribution of wealth more closely to examine how wealth levels compared between regions, across states, and within individual counties.

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[409] For wealth in 1860, see Lee Soltow, *Men and Wealth in the United States, 1850-1870* (New Haven and London: Yale University Press, 1975), 77.

Chapter 5

Inequality and Social Mobility in the Early American Republic

An understanding of the distribution of wealth is inextricably linked to any examination of how wealth levels changed over time. Wealth levels reveal economic growth, while the distribution uncovers who benefited. Perhaps most importantly, the distribution of wealth is useful in explaining why wealth levels changed by isolating which groups were most affected. If the benefits of economic growth accrued only among the wealthiest taxpayers then national estimates might present a misleading portrait of the American economy. If the benefits were diffused more broadly the data disclose a very different story. This chapter will examine the tax data more closely to understand how wealth levels changed from place to place, and study the distribution to uncover how economic fluctuations affected difference classes. Tremendous variation exists in the data. The economic realities for taxpayers in New York City were very far removed from those along the frontier. While the records provide a good indication of the national economic outlook, the data are even more telling when disaggregated to reveal the outcomes of individual counties and taxpayers. The results reveal that American wealth was more unequally distributed than previous historians have acknowledged. While the level of inequality did not change significantly over time in the aggregate, the records from the states and individual counties reveal a variety of experiences.

Simon Kuznets initiated a first wave of interest in income and wealth in the mid-twentieth century. Kuznets proposed in his 1955 presidential address to the American Economic Association that historical rates of inequality progressed on a bell curve distribution as economies grew and matured. After a period of rapidly rising inequality measures associated with industrialization, inequality levels would plateau and ultimately fall as the economy matured and a greater number of individuals participated in the benefits of economic growth. Kuznets believed that internal migration could explain movements in inequality measures, as migration to cities in search of better paying industrial and manufacturing work caused the level of inequality to rise. As an economy matured, per capita incomes would rise and the effects of industrialization would be democratized. Contemporaries dubbed Kuznets' thesis on inequality the "Kuznets Curve," and economists in the decades that followed sought to uncover universal laws that governed wealth and income distributions. It is important to consider that Kuznets formulated his theories at the height of the early Cold War, and his ideas can be compared to Walt Whitman Rostow's *Stages of Economic Growth*.[410] Kuznets and Rostow believed that nations that had industrialized early had pioneered a clear path to economic growth that other countries might follow. While the empirical work undergirding Kuznets' thesis has not stood the test of time, his theoretical insights have been influential in every major study of historical wealth.

More recently, Thomas Piketty has expanded upon Kuznets' work to identify the mechanism by which inequality levels change over time. Piketty proposes several universal laws of capitalism and argues that returns to capital have historically outpaced rates of economic growth. Capital accumulation concentrates wealth and causes inequality to rise in Piketty's model. While both Kuznets and Piketty describe movements in inequality measures as being governed by natural phenomena, Piketty argues that the economic maturation described in Kuznets' bell curve will never materialize. Because the value of capital increases faster than the value of everything else in the economy, rising inequality is inevitable unless political forces intervene. Piketty emphasizes that rising inequality leads to economic and social instability if left

[410] Nils Gilman, *Mandarins of the Future: Modernization Theory in Cold War America* (Baltimore: Johns Hopkins University Press, 2003), 161-163, 191-193.

unchecked, and proposes a global tax on wealth to restrain capital accumulation. Piketty follows Kuznets in arguing that industrialization coincided with surging inequality measures. When describing the social structure of early America, Piketty notes “here we can see at work the Jeffersonian ideal of a society of small landowners, free and equal.”[411]

To facilitate comparisons with existing studies, this chapter uses Gini coefficients to measure wealth inequality across regions and time.[412] Gini coefficients measure inequality using a staple for welfare economics, the Lorenz Curve. The Lorenz Curve charts the cumulative proportion of wealth against the cumulative proportion of population, ranked from smallest to largest, yielding a forty five degree line at perfect equality. Because Lorenz Curves often intersect, however, comparisons between them are difficult, and assessments vary depending on the biases of the observer.[413] Gini coefficients use ratio analysis to measure the area above the Lorenz Curve divided by the area under the line of perfect equality, providing a measure of statistical dispersion. The result is a value between zero and one, with zero representing perfect

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[411] Thomas Piketty, *Capital in the Twenty-First Century* translated by Arthur Goldhammer (Cambridge: Harvard University Press, 2014), 152.

[412] Although there are many ways to approximate or calculate Gini coefficients, depending on the limitations of the data or convenience of computation, this paper will use the following formula because the dataset contains wealth information for all wealth holders sampled and uses all data points in its calculation of the Lorenz Curve:

$$G_1 = 1 - \sum_{k=1}^{n} (X_k - X_{k-1})(Y_k + Y_{k-1})$$

Where X_k is the cumulative proportion of population, and Y_k is the cumulative proportion of wealth. For a general introduction to Gini coefficients, see A.B. Atkinson, *The Economics of Inequality* (Oxford: Clarendon Press, 1975), 45-49; for alternate measures of inequality, see Brenner, Kaelble, and Thomas, *Income Distribution in the Historical Perspective*, 28, 28n.

[413] George Deltas notes that Gini coefficients suffer from a significant small-sample bias, and that “removing, at random, members of a population will tend to decrease the estimated Gini coefficient of that population.” A.B Atkinson further notes that “the degree of inequality cannot, in general, be measured without introducing social judgments. By employing ratio analysis, Gini coefficients provide a better indication of the level of inequality among median wealth holders than of the inequality found at either end of the wealth spectrum. To confront these statistical biases, this study employs a twenty percent sample totaling more than twenty-two thousand wealth holders, significantly larger than many previous studies. See George Deltas, “The Small-Sample Bias of the Gini coefficient: Results and Implications for Empirical Research” *The Review of Economics and Statistics* 85, no. 1 (February 2003), 227; Atkinson, *The Economics of Inequality,* 47; Brenner, Kaelble, and Thomas, *Income Distribution in the Historical Perspective,* 28, 28n.

equality (no variance in ownership, all wealth holders are equal), and one representing perfect inequality (one individual owning all wealth in the economy). These values can then be compared across regions and time periods to access the concentration of wealth for taxpayers living in the early republic.

Thomas Piketty notes that in practice Gini coefficients typically range from approximately 0.2 to 0.4 for labor income, compared to 0.6 to 0.9 when measuring the distribution of capital (wealth) ownership. Overall income inequality has been observed around 0.3 and 0.5 for most modern societies.[414] In constructing historical Gini coefficients, however, the results have been considerably higher; due in part to the way the measurement is constructed, emphasizing capital ownership (land and slaves) over labor income. Since probate inventories and tax records only assessed certain types of wealth, the distribution measurements have typically skewed toward greater inequality. One should exercise caution, however, when comparing Gini coefficients without engaging other measurements of inequality, as the methods used to construct each dataset often introduces biases that make comparisons inexact.[415] As a result, it is typically most effective to make comparisons to similarly-constructed datasets. Gini coefficients derived from wealth are almost always higher than those measuring incomes. Inequality measures derived from real estate measures alone will naturally be higher than more comprehensive wealth estimates. Although Gini coefficients may be compared across time and region, the determinants of the coefficient hold important implications for the measure and should not be ignored.

[414] Piketty, *Capital in the Twenty-First Century*, 266.
[415] This is particularly true when comparing Gini coefficients of wealth to Gini coefficients of income. On this point, see Donald E. Ginter, "A Wealth of Problems with the Land Tax" *Economic History Review* 35, no. 3 (August 1982), 416-421.

Alice Hanson Jones found a Gini coefficient of .66 for the United States in 1774. Inequality was slightly higher in the South with a Gini of 0.67, slightly lower in New England with a Gini of 0.64, and substantially lower in the Middle Colonies with a Gini of 0.54.[416] Lee Soltow estimated a variety of inequality measures for taxpayers in urban and rural areas, and for the North and South, in his study of American wealth in 1798. In his estimation of family wealth, Soltow added slaves to his sample of real estate to produce a national Gini of 0.75. Wealth disparities were greater in urban areas with a Gini of 0.870 compared to 0.781 for rural wealth holders. When examining regional inequality, Soltow found Gini coefficients ranging from .503 for wealth holders in the rural North, to .674 for white males in the urban South. Significant intraregional inequality helps to explain why Soltow's inequality measures are lower for the individual regions than for the country as a whole.[417] Steven Sarson found even greater inequality in Prince George's County, Maryland in the first two decades of the nineteenth century, and reported figures ranging from .77 to .85 depending on the year and type of property assessed.[418] Recently, Lindert and Williamson have argued that American incomes were more equitably distributed, with a Gini coefficient of .441. The authors argue that "the early republic was probably an even more egalitarian place in 1800 than it was in 1774."[419]

The chapter also employs an Atkinson index, another measure of inequality used to understand changes in the distribution of the sample.[420] Inequality is multi-dimensional

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[416] Alice Hanson Jones, *Wealth of a Nation to Be: The American Colonies on the Eve of Revolution* (New York: Columbia University Press, 1980), 164, Table 6.2.
[417] Soltow, *Distribution of Wealth and Income in the United States in 1798*, 42, 47, 172.
[418] Sarson, "Distribution of Wealth in Prince George's County, Maryland, 1800-1820," 848-850, 853.
[419] Lindert and Williamson, *Unequal Gains*, 37-38, quotation 95.
[420] This paper uses the following formula:

$$Index_W = 1 - \sum_{i=1}^{n} [(\frac{w_i}{\mu})^{1-\epsilon} f(w_i)]^{1/_{1-\varepsilon}}$$

depending on the perspective and priorities of the observer, and therefore difficult to evaluate with a single statistic. While Gini coefficients provide an excellent measure of dispersion across a given sample, the coefficient cannot be decomposed to identify factors that might explain changes in the distribution. For example, consider two hypothetical populations. In the first population, declining economic prospects cause some taxpayers of middle wealth to fall into poverty or leave the county altogether to find better employment, widening the gap between the rich and poor. In the second population, new forms of employment allow some middling taxpayers to improve their circumstances, as workers shift to more productive forms of employment. The second example is analogous to the rising inequality Kuznets observed when examining early industrialism. The populations in both examples would exhibit increasing rates of dispersion, causing their Gini coefficients to rise, with no regard for differences in causality or changes in social structure. To remedy this consideration, the Atkinson index uses the parameter ϵ to represent the emphasis placed on inequality within the distribution. The parameter ranges from zero, meaning that the observer is indifferent to inequality, to infinity, implying that the observer is concerned only with the conditions of the poorest wealth holders. These values have the benefit of being infinitely decomposable, allowing observers to examine any number of subgroups. The resulting index produces a range of coefficients, ranging from zero to one, that describe the concentration of the sample with respect to inequality. While the Gini coefficient provides the best measure of inequality among those in the middle of the distribution, the Atkinson Index provides the best measurement of inequality among the poorest classes.

The Distribution of Wealth in the Early Republic

Where w_i is the wealth of person i, μ equals the average wealth of the sample, $f(w_i)$ is the proportion of the population that each wealth holder represents, and ϵ is a constant term used to determine the importance of wealth. See Anthony B. Atkinson, “On the Measurement of Inequality” *Journal of Economic Theory* 2, no. 2 (June 1970), 244-263; Atkinson, *The Economics of Inequality,* 48.

American wealth was more unequally distributed than we might expect in the early republic. Many historians have followed Alexis de Tocqueville in emphasizing the apparent equality of conditions in the early United States. Others have argued that the relative parity of American incomes caused the structure of American society to resemble Jefferson's ideal of the small yeoman farmer. Compared to other periods of history and other parts of the world, the share of wealth owned by the wealthiest taxpayers appears egalitarian. The share of wealth owned by the top one percent of households increased from 12.9% in 1774 to a high of 21.4% in 1805. These numbers pale in comparison to many European nations from the same period, as the percentage of wealth controlled by the top one percent of wealth holders could often approach 60% of total wealth in those countries. But while American wealth was not concentrated at the top like their European counterparts, significant inequality existed between those with and without property. If slaves and women were included in the tax lists, the per capita wealth disparities would be even greater. The data reveal expanding opportunities for those at the bottom of the wealth distribution, and the share of wealth controlled by the poorest taxpayers continued to increase. At the same time, declining fortunes among the wealthiest taxpayers pushed the country toward greater equality.

Disaggregating the component parts of the wealth distribution into deciles provides an indication of how various classes fared over the course of the early republic. It should be emphasized that Table 5.1 does not follow the fortunes of individual taxpayer, only the relative shares of wealth possessed by each decile. The table does not imply that those at the bottom of the wealth distribution withered in poverty. They may have improved their fortunes over the course of their lives. Likewise, the table does not prove that the wealthiest taxpayers preserved their fortunes. An individual taxpayer might have moved between several economic ranks over the course of his lifetime. Instead, the table reveals how the social structure changed over time and gives an indication of which classes were most affected by the vicissitudes of the American economy. The distributions produced by Jones and Soltow appear skewed toward the poorest and richest wealth holders respectively as a result of differences in their source base. Because Jones only sampled wealth holders from the probate inventories, her sample does not include individuals with zero assets. As a result, Jones' social table appears more equitably distributed. The figures from Soltow appear skewed toward the wealthiest taxpayers for a similar reason. Soltow included the value of all land and real estate in his sample, but not all taxpayers were landowners. Even landless taxpayers might have owned some livestock or other assets that might appear in state property tax records.

Table 5.1: *Value (Upper Bounds) and Percentage Share of Total Wealth, 1785-1815*

	1774 (Jones)[1]	1785	1795	1798 (Soltow)	1805	1815
Poorest 10%	70.49 (0.2)	0 (0)	0 (0)	— (0)	12.00 (0.02)	0 (0)
Second Decile	125.15 (0.6)	43.50 (0.19)	37.17 (0.12)	— (0)	60.00 (0.38)	43.50 (0.29)
Third Decile	217.16 (1.0)	117.29 (0.59)	133.00 (0.56)	— (0)	151.48 (1.15)	124.17 (0.92)
Fourth Decile	402.56 (1.8)	218.31 (1.25)	267.49 (1.62)	— (1)	252.85 (2.24)	210.31 (2.09)
Fifth Decile	765.06 (3.1)	372.04 (2.28)	475.32 (2.88)	— (2)	375.00 (3.41)	323.55 (3.11)
Sixth Decile	1,232.71 (5.9)	630.29 (3.77)	736.64 (4.68)	— (4)	543.00 (5.00)	458.07 (4.63)
Seventh Decile	1,672.01 (8.2)	1,075.80 (6.31)	1,092.67 (7.20)	— (7)	790.00 (7.16)	717.30 (7.06)
Eighth Decile	2,309.15 (11.3)	1,727.87 (10.55)	1,671.95 (10.93)	— (11)	1,141.00 (10.31)	1,090.14 (10.55)
Ninth Decile	4,215.75 (17.2)	3,430.11 (18.46)	2,866.20 (17.29)	— (16)	1,828.00 (15.84)	1,956.76 (17.60)
99th Percentile (Top 10%)	14,026.13 (50.7)	11,852.57 (56.61)	12,759.56 (54.72)	— (58)	9,633.00 (54.48)	8,212.63 (53.75)
Top 1%	12.9%	15.37%	20.03%	19%	21.40%	16.62%

Sources: Soltow did not record the valuations for each decile, and he rounded his figures to the nearest whole percent, see Jones, *Wealth of a Nation to Be,* 164-165; Soltow, *Distribution of Wealth and Income in the United States in 1798*, 172.

[1] Jones's valuations are for the lower bounds of each decile. I have calculated the upper bounds to match my data by subtracting 0.01 from the next decile for each of Jones' figures and converting her estimates to real 1800 dollars.

Declining real wealth levels disproportionately affected taxpayers in the top ten percent and presented new opportunities for individuals in the lower ranks of the distribution. Thomas Piketty made a similar case for American incomes in the mid-twentieth century, arguing that the Great Depression and the Second World War placed downward pressure on American incomes but exerted added influence on top earners. The consequences of the American Revolution and the War of 1812 appear to have most affected those in the top ten percent of wealth holders, and their share of total wealth eroded gradually over the course of the early republic. At the same time, the proportion of wealth controlled by taxpayers in the seventh, eighth, and ninth deciles appears remarkably consistent over the course of the period, suggesting that taxpayers with above average fortunes succeeded in securing their wealth. While trade disruptions and economic instability would have been precarious for the wealthiest merchants and land speculators at the top of the distribution, the established landholders that dominated the upper wealth brackets demonstrated greater stability. While the poorest decile showed no marked improvement, taxpayers with wealth levels below the median exhibited rising prospects. The proportion of wealth controlled by the bottom fifty percent of taxpayers increased by nearly fifty percent between 1785 and 1815. The data hint at greater economic mobility in the early republic than previous historians have suggested.

The level of inequality did not change significantly over time, confirming Lee Soltow's observation that American inequality remained relatively constant throughout the antebellum period. While the national figures reveal gradual steps toward greater equality, the difference between decades is miniscule and does not fully support Lindert and Williamson's argument that the United States was more egalitarian in 1800 than in 1774.[421] These Gini coefficients show greater concentrations of wealth than Lindert and Williamson found for income inequality in the same period, but the results are not far from the estimates produced by Jones and Soltow. The differences in measurements can be explained in part by the differences in types of property measured. Jones included the value of all household assets, while Soltow measured the value of all land, dwelling houses, and slaves, which were more unequally distributed in the eighteenth-century than other forms of property. Because these data measures the value of livestock, luxuries, and some business assets in addition to land and slaves, it is understandable that the Gini for total wealth is situated between Jones and Soltow's figures.

Table 5.2: *Gini Coefficients of Wealth by State and Year (Weighted)*

	1785	1795	1805	1815
United States	0.73	0.71	0.69	0.69
New York	0.38	0.57	0.66	—
Pennsylvania	0.71	0.65	0.65	0.66
Virginia	0.75	0.73	0.74	0.78
Massachusetts	0.67	0.72	—	0.51
North Carolina	0.75	0.74	0.67	0.72
Kentucky	0.60	0.86	0.76	0.71
Ohio	—	—	0.73	0.63
Connecticut	—	0.63	0.82	0.70
Maryland	—	0.74	0.79	0.78
Maine	0.40	0.53	0.53	0.62

Source: derived from the tax data.

Most states followed the national average in a trend towards greater equality. Inequality measures were highest in states with significant slave populations. Few taxpayers could afford to own slaves, and slave ownership became increasingly concentrated in the early decades of the nineteenth century. Growing investment in slave property helps to explain the elevated and rising Gini coefficients in Maryland, Virginia, North Carolina, and Kentucky. Rising inequality

[421] Lindert and Williamson, *Unequal Gains*, 95.

measures in New York chronical the rise of New York City as a burgeoning financial center and emphasizes the emerging importance of financial assets as a component of household wealth. Inequality was rising in Connecticut for many of the same reasons. The tax records from Connecticut underscore the growing proportion of wealth invested in manufacturing and in financial instruments. The distribution of wealth became more equal in Pennsylvania and Massachusetts. Growing and upwardly mobile populations likely diluted the influence of large fortunes in both states. Taxpayers located along the frontier in Ohio and Kentucky experienced concentrations of wealth similar to the large slaveholding states of the Chesapeake. Land speculators in both states dominated the wealth distribution in the early decades, and it was not uncommon for taxpayers to report owning more than ten thousand acres of land. The level of inequality fell consistently in both states as the region developed and the importance of land speculators diminished. Taxpayers in Maine experienced the most equitable distribution of wealth. There were few large landholders like the ones in Kentucky and Ohio, and the vast majority of settlers were of middling wealth. Inequality measures rose steadily, however, as the region developed and established settlers acquired greater wealth.

The tax records from five counties in Pennsylvania, along with the returns from Hartford, Connecticut for 1795, give an indication of the occupational structure. The occupation data are incomplete, but the tax lists include occupations for more than twenty five percent of the taxpayers in each county. It is likely that nearly all of those taxpayers with occupations not enumerated in the tax lists were farmers or laborers, particularly in Connecticut where those two occupations are conspicuously absent in the tax lists despite their prevalence in the Pennsylvania counties. The average taxpayer with no occupation listed in those counties held wealth averaging $968.47, which was higher than the average of $523.04 for those with an occupation specified.

This point provides further evidence that those taxpayers with no occupation recorded were likely farmers and landowners as they tended to have higher average wealth. It is not surprising that tradesmen would have appeared less wealthy than farmers in the tax lists, as craftsmen would have been less likely to own taxable assets such as land, slaves, and livestock. Artisan's tools, machinery, and other equipment was generally untaxed and the average wealth for these individuals is understated in the tax lists as a result. If we assume that all of the taxpayers without an occupation were farmers and agricultural laborers, the tax records suggest that roughly one in six households were employed in the non-agricultural sector.

The proportion of taxpayers employed outside of agriculture was growing in the early republic. Declining average wealth levels point to a crisis in agriculture, and it is not surprising that more and more taxpayers moved to towns to pursue work as artisans. The proportion of taxpayers employed outside of agriculture declined slightly in 1815 only because the number of taxpayers listed as laborers was rising. If laborers are excluded from the calculation, the proportion for that year rises to 23.3% of the workforce. The figures derived from the tax lists are comparable to those produced by Stanley Lebergott and revised by Thomas Weiss for the proportion of farm and nonfarm workers in the nineteenth century labor force.[422] The results reveal a rapidly changing workforce composition, and allude to trends that would continue over the course of the nineteenth century.

Table 5.3: *Proportion of Households in the Agricultural and Non-Agricultural Sectors by Year*

	1785	1795	1805	1815
Agriculture (farmers, laborers, all others not enumerated)	92.0%	85.8%	77.4%	80.4%
Non-Agriculture (all other trades enumerated)	8.0%	16.2%	22.6%	19.6%

Source: Derived from the tax lists from Beaver, Bedford, Cumberland, Fayette, and Lancaster County, Pennsylvania, along with the 1795 tax list from Hartford, Connecticut.

[422] Stanley Lebergott, "Labor Force and Employment, 1800-1960" in Dorothy S. Brady ed. *Output, Employment, and Productivity in the United States after 1800* (New York: National Bureau of Economic Research, 1966), 117-204, especially Table 2; Weiss, "U.S. Labor Force Estimates and Economic Growth, 1800-1860," in Gallman and Wallis, eds., *American Economic Growth and Standards of Living before the Civil War*, 22.

The most common occupations were, not surprisingly, farmers and labors, but there were also large numbers of blacksmiths, shoemakers, weavers, merchants, and carpenters. There were fewer blacksmiths and tanners and a greater number of merchants, innkeepers, and attorneys in Hartford, but the distribution of occupations and the average wealth enjoyed by members of each vocation did not otherwise vary significantly between Pennsylvania and Connecticut. The frequency of each occupation did not appear to change over time, other than a significant rise in the number of laborers listed in 1815, and farmers and laborers continued to dominate the top of the occupational distribution. The wealthiest tradesman were clockmakers, gunsmiths, distillers and brewers, tanners, innkeepers, doctors, merchants, storekeepers, butchers, and farmers. These occupations typically required considerable capital or specialized skills. Public officials such as judges, magistrates, and justices of the peace found themselves toward the top of the list along with high ranking military officers and those described as gentleman or landlords.

Table 5.4: *Average Wealth for the Most Common Occupations in Pennsylvania and Connecticut*

Occupation	Frequency	Average Wealth
Farmer / Yeoman	618	$740.29
Laborer	195	$95.54
Blacksmith / Smith	110	$375.99
Shoemaker / Cordwainer / Cobbler	100	$186.89
Weaver	88	$264.96
Merchant / Trader / Dealer	75	$879.29
Carpenter	63	$184.55
Tailor	57	$168.82
Innkeeper	47	$1,082.19
Cooper	44	$224.70
Mason	33	$382.70
Joiner	31	$298.03
Miller	30	$152.84
Wagon Maker / Chairmaker / Chaisemaker / Coachmaker	29	$258.33
Widow	27	$592.96
Doctor / Apothecary	25	$1,067.01
Saddler	22	$320.56
Tanner / Leather Dresser	22	$1,247.87
Hatter / Capsilk Maker	19	$595.32

Collier	17	$135.89
Tavern Keeper	16	$596.58
Attorney / Lawyer	13	$334.43
Potter	12	$227.35
Stiller	12	$109.91
Storekeeper	11	$836.97
Gentleman / Landlord	10	$1,258.36
Distiller / Brewer / Rum Maker	10	$1,539.86
Forgeman / Forge Carpenter	9	$58.54
Butcher	9	$760.56
Nailer	9	$111.50
Barber	8	$96.32
Tinsmith	8	$636.10
Schoolmaster / Tutor	8	$35.69
Judge / Magistrate / Justice of the Peace	7	$3,614.85
Baker	7	$704.06
Cabinetmaker	6	$283.92
Carder	6	$125.55
Clerk	6	$22.81
Printer	6	$726.42
Fuller	5	$214.17
Wheelwright / Wheelmaker	5	$272.43
Silversmith	5	$169.97
Brickmaker	4	$171.80
Coppersmith	4	$483.50
Millwright	4	$72.32
Ropemaker	4	$338.72
Gunsmith / Gunlocksmith	4	$2,394.40
Reverend / Minister	4	$356.11
Clockmaker / Watchmaker	4	$6,354.76
General / Captain / Brigade Inspector	4	$2,347.26
Average for Taxpayers with Occupations Enumerated	2,325	$523.04
Average for Taxpayers with no Occupation Recorded	6,258	$968.47

Notes: The table includes occupations that appear more than three times in the tax lists. The wealth valuations are in real 1800 dollars

The least wealthy trades among occupations that appear more than three times in the tax lists were clerks, schoolmasters, forgemen, millwrights, laborers, barbers, stillers, nailers, carders, and colliers. It is striking to consider that clerks and schoolmasters appear poorer than the average laborer in the tax lists. The average wealth maintained by each occupation does not appears to have varied substantially from decade to decade, but the level of inequality was significantly higher for artisans and tradesmen than among those in the agricultural sector. The Gini coefficient was 0.81 for taxpayers with an occupation specified and 0.67 for farmers, laborers, and those without an occupation listed. That the level of inequality was higher for artisans and tradesmen is not surprising given the variety of wealth levels reported in the various trades.

Table 5.5: *Average Wealth for Free Blacks, Women, and Estates (Unweighted)*

	Wealth	Number in Sample
Free Blacks	$112.32	28
Women	$1,229.63	433
Estates	$1,727.05	513
Gentleman / Esquire	$3,821.48	241

Source: Derived from the tax sample. Some of the tax lists, particularly those in New England include a designation "freeman" next to some taxpayer's names. While this designation may refer to free blacks living in the community, the term could also apply to unmarried men who were sometimes described as "single free men" and were subject to an additional tax in some states.

The names recorded in the tax lists provide additional clues to the taxpayers' social status, gender, or race. Tax assessors routinely indicated if the taxpayer was deceased or if the taxable property was part of an estate. The entry in the tax list might indicate the deceased taxpayer's heirs or the executor. Local officials similarly noted taxpayers of local prominence or importance by listing *Gentleman* or *Esquire* after their name. Not surprisingly, socially prominent and deceased taxpayers tended to be wealthier than their less distinguished and living neighbors. Deceased taxpayers would have been more likely to have been older and would have had a greater number of working years to accumulate wealth. Assessors also frequently made marginal notations to note the presence of women and free blacks among the tax rolls. Most women in the tax lists appear as widows, but the lists occasionally make reference to property owned by a wife or sister of another taxpayer. Women who appear in the tax lists were just above the national average in every year except 1815 when the figure dipped slightly below. Free blacks appear in the tax lists for every state in the sample except Kentucky and Maine. Some of the entries include very little information such as a "Negroman" who owned two acres of tillage in the 1784 tax list for Taunton, Massachusetts. Other entries were more detailed, providing the taxpayers first and last name or even the name of their former master. For example, "Negro Ned formerly the property of Isaac Lansdale" appears in the 1795 tax list for Montgomery County, Maryland owning no property. The tax lists demonstrate that free blacks were among the poorest members of American society in the early republic. Average wealth among free blacks was roughly one tenth of the average for white taxpayers, and eighteen of the twenty-eight free blacks in the sample owned no taxable property.

Regional and Local Variation in Wealth and Inequality

Table 5.6: *Average Wealth by Region (Weighted in Real 1800 Dollars)*

	1774 (Jones)	1785	1795	1805	1815
United States	$1,743.33	$1,302.83	$1,269.37	$916.02	$821.10
New England	$1,115.18	—	—	$730.88	$1,042.66
Mid-Atlantic	$1,308.88	$968.85	$1,772.19	$940.31	$675.75
Chesapeake	$2,730.53	$1,342.08	$802.79	$875.88	$943.95
West	—	—	—	$1,002.40	$729.74

Notes: Missing records from Connecticut and Ohio limit the usefulness of constructing estimates for New England and the West before 1805. New England includes tax records from Massachusetts, Connecticut, and Maine. The Mid-Atlantic figures include New York and Pennsylvania. The Chesapeake encompasses Maryland, Virginia, and North Carolina. Data from the West include records from Ohio and Kentucky.

Despite the consistently falling national averages, the regional aggregates indicate several emerging trends. Average wealth in New England appears to have improved substantially between 1805 and 1815, with an annual growth rate of nearly 4.3%. By 1815 taxpayers in New England could claim the highest average wealth levels in the country. Wealth levels in the Mid-Atlantic region appears to have fluctuated tremendously. Part of the fluctuation can be attributed to the inclusion of New York City in the sample, as taxpayers in this district were far wealthier than taxpayers in the rest of the country. If the tax lists from New York City are excluded, the averages for the rest of the Mid-Atlantic counties appear more stable, with wealth levels rising between 1785 and 1795 before declining gradually in the decades that followed. Tax records from Kentucky and Ohio suggest that real wealth declined in the West by 2.7% per year in the early-nineteenth century.

A comparison between New England and the Chesapeake suggests a dramatic reversal of fortune. The Chesapeake was the wealthiest region of the country in 1785. Taxpayers in New England that year possessed substantially lower average wealth. The data suggest that the average taxpayer in the Chesapeake lost more than 40% of their portfolio between 1785 and 1795, but that wealth levels grew at 0.9% per year for the next two decades. Historians often describe the early republic as a time of fading prospects for the Chesapeake. Other scholars have questioned whether or not the economic prospects of the South fell behind the North in the decades after the Revolution.[423] Many of the great planters struggled to transition out of tobacco and deal with the economic realities of the postwar world.[424] Although the Chesapeake never regained its former position in the early republic, average wealth continued to outpace the Mid-Atlantic and West and the tax records imply that opportunities remained for taxpayers in the region.

Table 5.7: *Average Number of Slaves per Taxpayer and per Slaveholder (Weighted)*

	1785	1795	1805	1815
Pennsylvania per Taxpayer	0.1	0.0	0.0	0.0
Pennsylvania per Slaveholder	1.4	1.3	1.1	2.0
Maryland per Taxpayer	—	4.6	5.7	6.6
Maryland per Slaveholder	—	7.8	8.6	9.6
Virginia per Taxpayer	4.5	2.7	2.5	2.9
Virginia per Slaveholder	8.5	5.3	5.6	6.9
North Carolina per Taxpayer	0.9	1.2	1.4	1.4
North Carolina per Slaveholder	4.1	4.6	3.8	4.5
Kentucky per Taxpayer	0.9	0.8	1.4	1.9
Kentucky per Slaveholder	3.0	3.3	4.5	4.9

Source: Derived from data in tax sample.

[423] Lindert and Williamson, *Unequal Gains*, 10.
[424] Emory G. Evans, *"A Toppling People" : The Rise and Decline of Virginia's Old Political Elite, 1680-1790* (Charlottesville: University of Virginia Press, 2009)

An examination of the assets owned by individual taxpayers reveals significant differences in wealth holding patterns. Although slavery remained legal in Connecticut and New York, both states had enacted gradual emancipation laws. The slave populations in both states were small, but neither state required slaveholders to pay a separate tax on their slave property. New York included slaves in the valuation for personal estate, but slaveholders in Connecticut paid no taxes on their slave property. Only the federal direct tax returns list the number of slaves in each state. Taxpayers in Connecticut owned 884 slaves, 653 of whom were between the ages of twelve and fifty and subject to taxation. New Yorkers reported owning 18,400 slaves, but only 10,026 were of taxable age.[425] If the slaves from New York and Connecticut had been included in Table 5.7, the averages per taxpayer would have been even lower than for Pennsylvania. In Pennsylvania the average number of slaves per slaveholder declined in the eighteenth century after the state passed a gradual emancipation act in 1780. The apparent concentration in slave ownership in 1815 is reflective of the declining number of slaveholders in Pennsylvania. While the sample for 1785 includes ninety-three slave owners, only four remained by 1815.

Slave ownership in the Chesapeake remained fairly consistent in the aggregate but presented significant transformations at the state and local levels. The average number of slaves per taxpayer and per slaveholder continued to rise in Maryland, driven primarily by growing wealth in Prince George's County. Maryland had the largest plantations in the region, with an average of nearly ten slaves per farm. In Virginia the averages declined by an almost equal percentage as the counties in Northern Virginia, where the region that was transitioning into less labor-intensive crops and sold their slave property elsewhere. A greater number of taxpayers in

[425] Connecticut Board of Commissioners Record Book, 1798-1799. Connecticut Historical Society. Manuscript Stacks. Page 48-49; Statements of the 1st Direct Tax of the United States from Valuations by the Commissions of States (1798) prepared by Daniel Sheldon, Esq. for Oliver Wolcott. Microfilm. Connecticut Historical Society. Transcribed by Peter Lindert and Nick Zolas.

North Carolina acquired slaves but the averages per slaveholder did not change markedly. The figures from Kentucky reveal a similar story of development. While the plantations in Kentucky did not match the larger enterprises in Maryland and Virginia, the slaveholding population more than doubled and average slaveholdings grew to match plantations in North Carolina.

Table 5.8: *Average Number of Horses and Cattle per Taxpayer by Region (Weighted)*

Region	Horses				Cattle			
	1785	1795	1805	1815	1785	1795	1805	1815
New England[1]	3.0	3.0	2.0	2.6	—	2.2	2.3	3.7
Per Property Owner	4.9	5.1	3.8	4.1	—	3.2	3.8	5.4
Mid-Atlantic[2]	1.3	1.4	0.8	1.0	1.5	2.2	1.2	1.2
Per Property Owner	2.0	2.3	2.1	2.2	2.3	2.8	2.4	2.4
Chesapeake[3]	2.7	1.2	1.1	0.8	7.5	—	—	5.3
Per Property Owner	4.3	3.3	3.5	3.3	11.3	—	—	9.4
West[4]	3.0	3.0	3.2	3.1	7.8	5.8	—	—
Per Property Owner	3.5	4.2	3.7	4.1	9.9	9.0	—	—
United States	2.5	2.2	1.4	1.6	4.2	2.5	1.7	1.6
Per Property Owner	3.8	4.1	3.2	3.3	7.0	3.5	2.9	4.6

[1] Connecticut did not tax cattle. I have excluded Connecticut from the figures in this table.
[2] The tax records from New York do not always record the number of horses or cattle. Most lists record only a valuation for personal property. As a result, I have excluded New York from this table.
[3] The figures for cattle from the Chesapeake are for Virginia. North Carolina and Maryland did not always record cattle in their tax lists.
[4] The tax records for Ohio do not include horses or cattle, and the tax lists from Kentucky do not always record them for 1805 and 1815. I have excluded the Ohio records from this table.

The average number of horses and cattle per farms displays similar regional differences. Table 5.8 reports the average number of horses and cattle owned by each taxpayer, and the average among each property owner who owned at least one horse or one head of cattle. Livestock ownership declined consistently in the early republic, although the average number of horses per property owner dipped only slightly. Horse and cattle ownership followed similar trends in each region. Rates of horse ownership were highest in New England, with an average of four to five horses per farm, and weakest in Pennsylvania where taxpayers reported only two per farm. Both regions possessed similar number of cattle, however, the herds were larger per farm in New England. A greater proportion of the taxpaying population in Pennsylvania worked outside of agriculture, which may explain the disparity between the two regions. Property owners in the Chesapeake and West owned a similar number of horses but rates of ownership declined substantially in the Chesapeake. While more than two thirds of taxpayers in the Chesapeake owned a horse in 1785, only one third owned a horse in 1815. The decline in cattle ownership in both regions was not as substantial. The collapse in horse ownership is reflected in the declining average wealth figures for the region, and the Chesapeake appears to have been the most economically distressed part of the country in the early republic.

Table 5.9: *Average Wealth of the Wealthiest Counties and Towns, 1785-1815*

	1785	1795	1805	1815
New York County, New York	4,317.27	2,668.54	4,068.31	—
Brookline, Massachusetts	4,223.33	—	—	—
Westmoreland County, Virginia	3,504.08	1,194.12	837.11	1,086.86
Lancaster County, Virginia	2,193.54	1,248.78	1,083.83	1,166.16
Richmond County, Virginia	2,123.40	1,063.60	920.97	883.10
Fayette County, Kentucky	—[1]	5,628.23	2,669.95	2,393.12
Bourbon County, Kentucky	—[1]	2,220.80	1,326.55	1,556.32
Roxbury, Massachusetts	2,111.24	2,217.82	—	—
Lancaster County, Pennsylvania	1,524.18	1,952.10	1,198.84	1,072.47
Trumbull County, Ohio	—	—	3,104.08	626.04
Prince George's County, Maryland	—	776.70	1,934.73	2,362.86
Mercer County, Pennsylvania	—	—	1,356.21	935.58
Lincolnville, Maine	—	—	—	2,387.33
King George County, Virginia	1,094.36	860.54	1,202.86	1,956.33
Deerfield, Massachusetts	—	1,416.51	—	1,775.23

Note: The table includes the five wealthiest counties from each of the four observation points. Because several counties remained at the top for consecutive decades, the list includes fifteen counties.

[1] The land tax lists for Fayette and Bourbon County are missing and the valuations are unreasonably low as a result.

The data from individual counties and towns reveal tremendous variation across the country. The data confirm many macroeconomic trends, and the records from the wealthiest and poorest counties and towns highlight the vast disparities in living standards between regions. Tables 9 and 10 include the average wealth levels of the five wealthiest and poorest counties for each year in the sample. While taxpayers in Brookline, Massachusetts just outside of Boston could claim an average wealth of $4,223.33, for example, residents of Cuyahoga County, Ohio owned an average of only $193.64 of taxable property. The wealthiest counties and towns tended to be located near bustling metropolises like New York City, or the towns surrounding Boston. Established counties with large landowners, such as Lancaster County, Virginia, and developing regions rife with land speculators also topped the list. Almost all of these municipalities experienced a dramatic loss of real wealth from one decade to the next. The economic fluctuations in the early republic proved most devastating for taxpayers in the wealthiest parts of the country, and the data provide further evidence to support Lindert and Williamson's claim that the postwar years witnessed a crisis at the top. The poorest counties and towns were almost exclusively on the frontier. The western counties in Pennsylvania, the more isolated towns in Maine, and most of Ohio and Kentucky dominated the list of poorest counties. Taxpayers in some of these jurisdictions improved their wealth as towns developed, but the counties in Western Pennsylvania show little signs of improvement.

Table 5.10: *Average Wealth of the Poorest Counties and Towns, 1785-1815*

	1785	1795	1805	1815
Bedford County, Pennsylvania	244.48	432.76	194.27	315.22
Surry County, North Carolina	283.52	302.23	345.03	370.79
Heath, Massachusetts	387.39	—	—	680.20
Charlemont, Massachusetts	476.72	—	—	687.60
Fayette County, Pennsylvania	546.93	357.90	427.12	373.83
Christian County, Kentucky	—	237.13	426.32	584.56
Islesboro, Maine		241.57	571.76	844.55
Bowdoin, Maine	—	306.84	318.36	619.54
Prospect, Maine	—	—	267.56	356.50
Belfast, Maine	—	—	330.87	397.38
Cayuga County, New York	—	—	336.76	—
Cuyahoga County, Ohio	—	—	—	193.64
Geauga County, Ohio	—	—	540.65	235.31
Ashtabula County, Ohio	—	—	—	320.12
Caldwell County, Kentucky	—	—	—	321.31

Note: The table includes the five wealthiest counties from each of the four observation points. Because several counties remained at the top for consecutive decades, the list includes fifteen counties. Bourbon and Fayette County, Kentucky have been excluded from this table as the tax lists from both counties are missing the land assessment for 1787. Alexandria, Virginia has been excluded from this table for the same reason.

Record survival among the tax lists for New York necessitated sampling the counties based on their county boundaries in 1800 instead of 1815.[426] The sampled counties encompass New York City along with an area stretching from Albany to Buffalo and comprising more than half of the upstate region that would later be defined by the Erie Canal. Taxpayers in New York City were vastly wealthier than the rest of the state. The data reveal a strong correlation between proximity to eastern markets and higher average wealth. The farthest west counties of Ontario and Cayuga owned wealth valued at less than half the state's average. The counties surrounding Albany were wealthier than those further north and west. Unfortunately, the tax records for New York only provide a total valuation for real estate and personal estate, prohibiting further investigation of the state's property holding patterns. Real estate was the dominant source of wealth. Land and dwelling houses provided more than eighty-seven percent of the total valuation for taxpayers in each decade. The level of inequality did not vary dramatically from county to county, with nearly all counties reporting Gini coefficients between 0.56 and 0.60. That the Gini coefficients are all below the state's average indicates that intraregional inequality was much more significant than the level of inequality within each county.

Table 5.11: *Average Wealth by County for New York, 1785-1815*

	1785	1795	1805	1815
Albany County	—	—	1,137.95	—
Cayuga County	—	—	336.76	—
Herkimer County	—	—	574.12	—
Montgomery County	—	—	1,031.18	—
New York County	4,317.27	2,668.54	4,068.31	—
Oneida County	—	—	653.00	—
Onondaga County	—	—	782.10	—
Ontario County	—	—	553.81	—
Otsego County	—	—	976.05	—

Source: Derived from the tax sample.

[426] See chapter 3 for an explanation of the record limitations for New York.

The counties sampled from Pennsylvania have been drawn from the southern and western parts of the state. The state's population was concentrated in the southern counties, particularly in the east around Philadelphia. Like New York, the counties in the western half of the state were generally much poorer than their eastern counterparts. Unlike Ohio and Kentucky, however, wealth was more equally distributed in the less populated western counties. The Gini coefficient for Beaver and Mercer Counties was only 0.54 and 0.43 respectively, compared to 0.70 in Lancaster. The level of inequality was also high in Fayette County with a Gini of 0.72 but this county had been established nearly two decades before and was much more populated. Average wealth declined in nearly every county, but the contraction was most severe in the wealthier counties like Lancaster, where average real wealth fell by nearly 50% between 1795 and 1815. The population grew rapidly in Lancaster, more than doubling between 1795 and 1815, which may explain why the average number of acres per taxpayer fell from 90.6 to 40.

Table 5.12: *Average Wealth by County for Pennsylvania, 1785-1815*

	1785	1795	1805	1815
Beaver County	—	—	702.45	535.76
Bedford County	244.48	432.76	194.27	315.22
Cumberland County	1,229.72	1,224.38	1,040.29	985.37
Fayette County	546.93	357.90	427.12	373.83
Lancaster County	1,524.18	1,952.10	1,198.84	1,072.47
Mercer County	—	—	1,356.21	935.58

Source: Derived from the tax sample.

Western Pennsylvania was the epicenter of the Whiskey Rebellion in 1794, and this fact is reflected in the tax lists. The four tax lists for Cumberland and Fayette Counties record eighty stills between them, the highest per capita in the country. The Whiskey Rebellion appears to have little effect on taxpayers' portfolios in 1795, but many whiskey producers in the region shuttered their operations temporarily. Only Fayette County reported a significant decline in real wealth from the previous decade. Taxpayers in Fayette and Cumberland Counties owned thirty stills in 1785, but only nineteen in 1795. Production resumed by 1805 with the counties reporting

31 stills in operation. Aside from whiskey production, Cumberland County was also emerging as a regional center for manufacturing. Taxpayers in Cumberland owned sixteen distilleries, fifteen sawmills, eight gristmills, five tan yards, two apothecary shops, two oil mills, one hemp mill, one plaster mill, and one carding machine in 1815.

Table 5.13: *Average Wealth by County for Virginia, 1785-1815*

	1785	1795	1805	1815
Alexandria[1]	188.63	164.72	30.28	21.52
Charlotte County	1,197.24	1,035.60	1,024.55	1,148.12
Fairfax County	1,754.71	869.81	786.57	1,707.68
King George County	1,094.36	860.54	1,202.86	1,956.33
Lancaster County	2,193.54	1,248.78	1,083.83	1,166.16
Loudoun County	853.58	686.19	672.07	1,072.73
Lunenburg County	1,610.91	963.55	1,194.15	1,761.08
Mecklenburg County	1,213.13	879.25	1,255.16	1,658.21
Northumberland County	1,057.10	978.22	793.56	923.09
Prince Edward County	1,336.54	1,445.88	1,103.36	1,655.26
Richmond County	2,123.40	1,063.60	920.97	883.10
Westmoreland County	3,504.08	1,194.12	837.11	1,086.86

Source: Derived from the tax sample.
[1] The land tax records for Alexandria have not survived and the wealth levels for that city are artificially low because they lack real estate valuations.

The tax sample from Virginia includes three clusters of counties. Loudoun and Fairfax were located in Northern Virginia. Both counties had been proprietary counties in the colonial period with large landlords leasing thousands of acres of land to landless tenants. King George, Lancaster, Northumberland, Richmond, and Westmoreland were located on the Northern Neck. These counties were older and among the wealthiest in the state. Charlotte, Lunenburg, Mecklenburg, and Prince Edward were located in Southside, a region that was traditionally poor and dominated by tobacco production. The counties in Northern Virginia experienced a devastating depression after 1785 but recovered completely by 1815. Although the population remained stable, average acreage per farm dropped by more than fifty percent between 1785 and 1795. The proportion of taxpayers who owned no taxable wealth exploded from 10.0% in 1785, to 19.1% in 1795, increasing further still to 27.0% in 1805 and 35.2% by 1815. Inequality was highest in this region with an average Gini of 0.83. The counties in the Northern Neck followed a similar trajectory to those in Northern Virginia. Several counties experienced a spectacular decline in real wealth between 1785 and 1795 but only King George County seems to have recovered by 1815. The counties in Southside appear more stable, and most counties show increasing wealth levels in the nineteenth century. The proportion of taxpayers who were without property was low, and wealth was much more equally distributed in the Southside with a Gini of 0.67. The Atkinson index for the Southside counties reveals that the distribution of wealth among the poorest taxpayers in the region was less than the state average for the whole population.[427]

Table 5.14: *Average Wealth by Town for Massachusetts, 1785-1815*

	1785	1795	1805	1815
Ashfield	—	—	—	721.95
Bernardston	—	—	—	1,408.60
Brookline	4,223.33	—	—	—
Buckland	—	—	—	997.90
Charlemont	476.72	—	—	687.60
Colrain	809.95	845.41	—	1,192.98
Conway	—	—	—	1,328.86
Deerfield	—	1,416.51	—	1,775.23
Easton	—	762.57	—	—
Gill	—	—	—	1,217.62
Greenfield	1,301.98	—	—	1,676.08
Hawley	—	—	—	631.82
Heath	387.39	—	—	680.20
Leyden	567.82	701.36	—	1,336.97
Mansfield	—	1,136.58	—	—
Milton	1,459.02	1,860.79	—	—
Montague	—	—	—	899.64
Rowe	—	—	—	693.53
Roxbury	2,111.24	2,217.82	—	—
Shelburne	745.52	—	—	1,197.38
Taunton	866.13	—	—	—
Watertown	2,118.75	1,632.61	—	—
Wendell	547.33	754.39	—	978.97
Whately	936.02	1,247.06	—	1,521.78

[427] The Southside counties had an Atkinson of 0.42 for epsilon 0.5, 0.50 for epsilon 1.0, and 0.69 for epsilon 1.5.

Note: No tax records survive for Attleboro, Berkeley, Brighton, Dighton, Dorchester, Erving's Grant, Newton, Northfield, Norton, Raynham, Rehoboth, or Seekonk.
Source: Derived from the tax sample.

The records for Massachusetts are sparse for many years but the surviving tax lists are detailed. The three clusters of towns include records from the towns surrounding Boston, a cluster in Bristol County bordering Rhode Island, and a collection of towns in Franklin County in Western Massachusetts. The post-revolutionary disruptions, the embargo, and the War of 1812 appear to have had little effect on the Massachusetts economy. Among the towns with surviving records for two or more years, nine of the eleven showed sustained improvement, and the two towns that saw their averages decline were among the wealthiest in the sample. The towns neighboring Boston were substantially wealthier than those in the rest of the state, but those in Bristol presented few differences from those in Franklin County. The tax records from Massachusetts record a variety of financial instruments in addition to the usual taxable property found in other states. The financial wealth of the state centered on Boston. More than ninety percent of the state's financial assets were held by taxpayers in those towns. The average taxpayer in the towns surrounding Boston owned $48.65 worth of bonds at various interest rates, $7.27 of money on hand, $28.68 of money loaned at interest, and $5.89 worth of bank stock. Taxpayers in Massachusetts were a relatively homogenous population. Inequality measures were low compared to other states, and much lower in the western towns with a Gini of 0.52.

Table 5.15: *Average Wealth by County for North Carolina, 1785-1815*

	1785	1795	1805	1815
Franklin County	—	—	858.15	977.51
Granville County	1,481.05	1,290.29	824.25	792.11
Stokes County	—	450.82	392.42	338.87
Surry County	283.52	302.23	345.03	370.79
Wake County (Including Raleigh)	841.79	1,246.75	759.65	980.45

Source: Derived from the tax sample.

The two clusters from North Carolina represent opposite extremes. Stokes and Surry County are located in the western part of the state. Both counties were very poor and consisted primarily of small landowners with few slaves. Franklin, Granville, and Wake were wealthy counties surrounding Raleigh, which became the state capital in 1788. The counties present a mixed record on economic progress. Franklin and Surry County demonstrated clear improvements, but Stokes and Granville saw their average wealth decline with every decade. Although taxpayers within the city were less wealthy than the counties that surrounded it, the region had one of the highest concentrations of slaveholding in the country. The plantations were not as large as those on the Northern Neck in Virginia or in southern Maryland, but the region was notable for the large proportion of taxpayers owning slaves. Only 13.9% of taxpayers owned a slave in Stokes or Surry compared to 45.8% in the counties around Raleigh. Inequality levels showed little variation between counties, ranging from 0.61 to 0.72, although the Gini coefficients were lower in the west.

Table 5.16: *Average Wealth by County for Kentucky, 1785-1815*

	1785	1795	1805	1815
Bourbon County	223.26[1]	2,220.80	1,326.55	1,556.32
Caldwell County	—	—	—	321.31
Christian County	—	237.13	426.32	584.56
Fayette County	345.62[1]	5,628.23	2,669.95	2,393.12
Henderson County	—	—	768.37	731.06
Hopkins County	—	—	498.17	579.66
Livingston County	—	—	544.00	450.45
Union County	—	—	—	783.64

Source: Derived from the tax sample.
[1] The land tax for Bourbon and Fayette Counties is missing for 1787 and the wealth estimates for 1785 are artificially low as a result.

The clusters from Kentucky present a story very similar to North Carolina. Bourbon and Fayette Counties surrounded Lexington while the other counties were situated in the westernmost point of the state. Although Frankfort was the capitol, Lexington was the most populated and wealthiest city in the commonwealth. The city was three times the size of

Louisville and four times the size of Frankfort. Compared to the western counties, those neighboring Lexington were three times as wealthy on average. Despite the extraordinary dissimilarities in average wealth, however, the two regions encountered almost identical median wealth levels. The median taxpayer in Bourbon and Fayette owned $254.71 of taxable assets, compared to $260.40 in the west. The difference in average wealth levels between the two regions can be explained by the preponderance of wealthy land owners and speculators in and around Lexington. Thomas Posey was the wealthiest taxpayer in the west. Posey owned 25,448 acres of land and twenty four slaves worth $21,281.89 in the 1805 tax list for Henderson County. Although Posey's fortune was nearly three times larger than the second-wealthiest landowner in the western counties, his portfolio would have only been the fifty-seventh largest if he had lived among the affluent taxpayers near Lexington. Taxpayers in the west were more likely to own property. Only 5.7% of taxpayers reported zero wealth in the western counties compared to 9.5% around Lexington. The high concentrations of wealth in Bourbon and Fayette are reflected in the inequality measures. In those counties the Gini coefficient was 0.82 compared to 0.64 in the west. Atkinson indices for both clusters provide further confirmation that the distribution of wealth among the poorest taxpayers was much more equitable in the west.

Table 5.17: *Average Wealth by County for Ohio, 1785-1815*

	1785	1795	1805	1815
Ashtabula County	—	—	—	320.12
Cuyahoga County	—	—	—	193.64
Geauga County	—	—	540.65	235.31
Huron County	—	—	—	831.65
Miami	—	—	—	615.43
Montgomery	—	—	502.23	884.84
Portage	—	—	—	882.98
Trumbull County	—	—	3,104.08	626.04

Note: No tax records survive for Darke, Medina, or Preble Counties.
Source: Derived from the tax sample.

Ohio entered the union in 1803 and few records survive from the early years of its formation. Miami and Montgomery County were located in the northwest corner of the state. The remaining counties formed part of the Connecticut Western Reserve, a portion of land that Connecticut ceded to the Northwest Territory after the Revolution. The Connecticut Land Company organized settlement within the region, which explains the importance of large landowners among the early settlements. The paucity of records makes any temporal comparisons tenuous. Trumbull County appears extremely wealthy in 1805 as a consequence of that county having relatively few settlers and several large landowners. The top ten percent of wealth holders in Trumbull owned 84.6% of the wealth in that county with an average of 17,609.8 acres of land apiece. The tax list for 1815 records fewer large landowners dominating the distribution. In that year the top ten percent controlled 72.6% of the county's wealth and owned an average of 3,078.7 acres of land each. Inequality levels in most Ohio counties were generally low, particularly in the poorer counties as there were few large landowners to skew the distribution. Cuyahoga County had the second lowest level of inequality among any county in the sample, with a Gini coefficient of 0.34. Unfortunately, the records from Ohio are the least detailed among the states, and the tax lists record only the number of acres of first, second, and third class land.

Table 5.18: *Average Wealth by Town for Connecticut, 1785-1815*

	1785	1795	1805	1815
Bolton	—	1,133.51	—	—
Hartford	—	863.02	1,131.53	1,699.07
Hebron	—	1,216.16	—	1,065.41
New London	—	397.68	365.90	855.93

Note: No tax records survive for Colchester, East Hartford, East Windsor, Ellington, Enfield, Glastonbury, Lyme, Marlborough, Montville, Somers, Vernon, or Waterford.
Source: Derived from the tax sample.

The tax sample for Connecticut includes clusters of towns situated around Hartford and New London. Unfortunately, few records survive from the surrounding towns, but the tax lists from these two cities provide a detailed survey of Connecticut wealth. Hartford and its neighboring towns were significantly wealthier on average than New London. Average wealth in both cities improved considerably over the course of the period, and wealth levels appear to have declined slightly in Hebron. Farms were small in Connecticut, averaging 30.2 acres per taxpayer across the state. Land ownership was less common in cities than in the rural hinterland, however, and taxpayers in Hebron and Bolton owned an average of 49.4 acres, compared to 11.0 acres in Hartford and New London. Like Massachusetts, the tax lists for Connecticut report financial assets. Taxpayers in New London were more likely than the other towns to have loaned money at interest or to have invested in bank stock. The average taxpayer in New London loaned $81.14 at interest and owned $270.56 worth of bank stock. The concentration of financial assets made the distribution of wealth less equitable in cities. The Gini coefficient for Hartford and New London were 0.81 and 0.80 respectively, compared to 0.52 and 0.56 for Bolton and Hebron.

Table 5.19: *Average Wealth by County for Maryland, 1785-1815*

	1785	1795	1805	1815
Montgomery County	—	505.92	668.82	391.95
Prince George's County	—	776.70	1,934.73	2,362.86

Source: Derived from the tax sample.

Together with the counties in Northern Virginia, the counties in Southern Maryland surround what became the District of Columbia. Prince George's County is among the most studied counties in the country as a result of its voluminous records at the Maryland State Archives. While taxpayers in Montgomery County experienced inconsistent growth, average wealth levels in Prince George's tripled over the course of two decades. The two counties had the highest concentration of slave ownership in the sample and some of the largest plantations in the country. More than 64.7% of taxpayers owned one or more slaves. The tax lists for Maryland are unique in providing the age of each slave within a range of years. The age distribution was almost identical between the two counties and shifted only slightly between decades. Examined in the aggregate, 30.4% of the slaves were under the age of eight, 16.5% were between the ages of eight and fourteen, 22.3% were men ages fourteen to forty-five, 17.5% were women ages fourteen to thirty-five, and 13.4% were men over the age of forty-five and women over the age of thirty-five. The average number of slaves per plantation increased even faster than the rate of slave ownership. Slaves per plantation in Prince George's County increased from 8.8 in 1795, to 9.7 in 1805, and 11.8 in 1815. The pervasiveness of slave-based agriculture contributed to the higher inequality measures for the region. The Gini coefficient for slaves held in states where slavery was taxed was 0.87, and inequality became more severe in Maryland as slave owners acquired additional slaves.

Table 5.20: *Average Wealth by Town for Maine, 1785-1815*

	1785	1795	1805	1815
Belfast	—	—	330.87	397.38
Boothbay	—	683.05	665.39	—
Bowdoin	—	306.84	318.36	619.54
Bowdoinham	—	—	474.76	—
Bristol	—	943.30	1,117.60	—
Camden	—	495.75	572.43	—
Cushing	—	—	670.72	691.85
Dresden	—	—	473.75	—
Edgecomb	—	611.21	739.88	—
Frankfort	—	1,115.02	411.39	539.28
Georgetown	—	793.46	703.95	727.83
Islesboro	—	241.57	571.76	844.55
Jefferson	—	—	—	594.08
Lincolnville	—	—	—	2,387.33
Meduncook	—	—	696.02	—
Newcastle	1,080.06	1,291.65	960.95	—
Nobleboro	—	—	702.09	—
Northport	—	—	418.70	641.99
Pownalborough	596.37	—	662.84	—
Prospect	—	—	267.56	356.50
Thomaston	760.93	—	—	—
Topsham	—	—	1,086.63	—
Union	—	—	379.43	—
Vinalhaven	—	—	435.76	546.01

Waldoboro	—	—	964.07	—
Walpole	1,073.66	—	—	—
Warren	—	667.95	659.42	667.59
Woolwich	1,056.21	964.91	1,020.75	—

Note: The towns listed in the table above include all of the surviving tax records for Lincoln County, Maine.
Source: Derived from the tax sample.

Although Maine did not enter the union as an independent state until 1820, the tax records from that state represent a distinct geographic unit from those in Massachusetts. The sampled towns comprise a one hundred percent sample of the surviving records from Lincoln County. The towns stretch across seventy-two miles of Maine coastline. The coastal towns further south like Topsham, Woolwich, Walpole, Bristol, and Newcastle tended to be wealthier than those further inland like Bowdoin, Bowdoinham, Dresden, Jefferson, and Belfast. Like much of Massachusetts, Maine taxpayers were a homogeneous population of small farmers. Their farms were larger than the average parcel in Massachusetts but the land was less valuable, and taxpayers in Maine owned significantly fewer luxuries. Alan Taylor notes that the "Eastern Country attracted the poor rather than the prosperous."[428] Tax assessors in Maine counted more gristmills, tan yards, bakehouses, warehouses, and feet of wharf than in Massachusetts, but the towns possessed fewer of every other kind of manufacturing enterprise. Although Mainers kept more money on hand than the average Massachusettsan ($25.29 compared to $13.83), taxpayers in Maine owned far fewer financial assets. Maine taxpayers owned an average of $4.24 of bonds and other securities, loaned $4.09 at interest, and owned $0.68 worth of bank and other stock. The averages were significantly higher in Massachusetts with $19.80 worth of bonds and securities, $12.97 loaned at interest, and $2.26 worth of bank and other stock per taxpayer. The

[428] It should be noted that the tax records for Maine do not always include non-resident taxpayers if they resided in other towns in Massachusetts. Alan Taylor describes the tensions that frequently arose between non-resident landowners and their poorer neighbors. Alan Taylor, *Liberty Men and Great Proprietors: The Revolutionary Settlement on the Maine Frontier, 1760-1820* (Chapel Hill and London: Omohundro Institute for Early American History and Culture, 1990), 63.

distribution of wealth in Maine was one of unparalleled equality. With no slaves, few large landowners, and hardly any families with concentrated wealth, Maine appears to have been an almost classless society. Bristol had the lowest level of inequality of any county or town in the sample with a Gini coefficient of 0.31. With an Atkinson index of 0.44 for an epsilon of 1.5, there was no better place in the country where a poor farmer could live among equals.

Taxable wealth was more unequally distributed than previous historians have suggested, but the records show signs of significant economic mobility. Instability in the fortunes of top wealth holders explains much of the variability in the national and state averages. The share of wealth controlled by the bottom fifty percent of taxpayers continued to rise suggesting that opportunities remained for poor taxpayers. Analysis of the regional and state trends makes clear that a variety of wealth holding patterns emerged in the early republic. The data reveal that much of the variation was interregional rather than intraregional. Gini coefficients at the national and state level are generally higher than for individual counties, indicating that American taxpayers frequently lived in homogenous communities albeit with few points in common with taxpayers hundreds of miles away. The enormous differences in property ownership and disparities in wealth between regions suggest that Jefferson's vision of an egalitarian country composed of independent smallholders may have been incongruent with the realities of many taxpayers in the early republic. The data also suggest that recent trends in the American wealth holding in the twentieth and twenty-first centuries may not be unprecedented. The top one-percent of Americans possessed approximately the same proportion of total wealth today as it did after the Revolution, although the rest of the wealth distribution bears little resemblance.

Conclusion

In 2013 President Barrack Obama described growing inequality and declining economic mobility as "the defining challenge of our time." He explained that the problem is more widespread and all-encompassing than previous efforts aimed at alleviating poverty. The President argued adamantly that the issue challenged the whole nation, and that inequality was not simply a problem for disadvantaged minorities. By hampering economic growth and restricting social mobility, the President argued that inequality threatened the American dream by creating a "deficit of opportunity."[429] In referencing the work of leading social scientists, the President followed Thomas Piketty, Joseph Stiglitz and others in emphasizing the far-reaching consequences of economic inequality and its effect on democracy. Connections between inequality and democracy can be traced to the founding generation. James L. Huston notes that "the topic of the distribution of wealth played an important role in public discourse because the goal of the American revolutionaries was to found a republic that preserved the equality of citizens and individual liberty. The goal demanded that the society possess a nearly equal distribution of wealth."[430] How did the distribution of wealth in the early republic live up to this democratic ideal?

At the conclusion of the early republic the United States appeared more democratic than ever before. State legislatures gradually loosened property qualifications for officeholders and suffrage restrictions for white males. Everyday Americans were less likely after the Revolution to show deference to elites than they had in the colonial period. The frontier appeared to offer boundless possibilities to those who ventured west in search of new opportunities. Alexis de

[429] Barrack Obama, "Remarks by the President on Economic Mobility," December 4, 2013, available online at https://obamawhitehouse.archives.gov/the-press-office/2013/12/04/remarks-president-economic-mobility
[430] James L. Huston, *Securing the Fruits of Labor: The American Concept of Wealth Distribution, 1765-1900* (Baton Rouge: Louisiana State University Press, 1998), xix.

Tocqueville remarked nearly two decades later that “among the novel objects that attracted my attention during my stay in the United States, noting struck me more forcibly than the general equality of condition among the people.” Compared with much of Western Europe, the distribution of wealth in the early United States would have appeared egalitarian to visiting Europeans, however, the economic realities were not as democratic as contemporaries suggested. The democratic impulses of the founding generation existed in tandem with striking disparities between those who held property and those who had yet to acquire wealth. If women and slaves are included in the summary statistics, the distribution appears even more unequal.

The tax records reveal that growth rates were lower than previous estimates and observations by contemporaries would suggest. Wealth levels were higher on the eve of the Revolution than they were decades later. Average wealth levels continued to collapse, and declined dramatically in the aftermath of the Revolution. Most of this change can be attributed to a crisis at the top. The wealthiest taxpayers in the sample often struggled to maintain their fortunes and the uncertainties of the postwar years affected these taxpayers disproportionately. Median wealth levels were more stable. The proportion of wealth controlled by taxpayers in many of bottom and middle deciles tended to increase over time. Inequality measures remained high throughout the early republic. The proportion of taxpayers with zero taxable wealth remained steady, but concentrated wealth at the top of the distribution caused the figures to remain elevated. The distribution of wealth appears closer to John Adam’s estimation than the happy mediocrity suggested by Madison’s assessment of the country’s social structure. At the same time, the tax lists indicate that the American economy was defined by significant economic mobility. The social structure was not permanent or stagnant. As old fortunes waned, new upstarts took their place atop the wealth distribution. Taxpayers who owned little wealth in one decade were more likely than not to see their wealth increase over the course of their lifetime. The American economy remained dynamic despite the economic upheaval of the Revolution.

Rather than emphasizing the national economy, however, we should consider the economic effect of the Revolution on individual states, counties, and towns. The data reveal few signs of convergence and little indication of an interconnected national economy. The most important source of inequality was interregional rather than intraregional. Taxpayers frequently had much in common with their neighbors but their portfolios had few similarities with Americans in other parts of the country. As the experiences of Virginia demonstrate, a single state could encounter a variety of economic experiences. The tax records allow us to pinpoint exactly which counties suffered from economic distress and which areas recovered quickly after the war ended. The American economy was no different. The variation uncovered in the Chesapeake mirrors the differences between regions for the economy as a whole. Economic phenomena rarely divide neatly into unambiguous national trends. Often the differences between regions are more revealing of the underlying economic causes. The analysis of the tax records make clear that any interpretation of the national data is incomplete without considering local and regional developments.

The tax data reveal several emerging regional trends that help to clarify the national developments. New England taxpayers emerged as the wealthiest region in the country and also the most equal. Taxpayers in the Chesapeake followed an opposite trajectory. What had once been the wealthiest region in the country fell to second place by 1815. The Chesapeake lost most of its standing in the decade immediately following the Revolution, when average fortunes declined by roughly forty percent. Inequality measures were always highest in the Chesapeake as a result of the larger slave populations in that region. The figures for the Mid-Atlantic region are skewed by the results from New York City but wealth levels appear stable if the rural counties are considered separately. Average wealth in these counties was lower than the other regions of the country, but several of these counties were witnessing the beginnings of early industrialization and experienced rising wealth levels as a result. The distribution of wealth in the Mid-Atlantic was on par with the results from the West; wealth was more equitably distributed than in the Chesapeake yet slightly more concentrated than in New England. Western taxpayers were not as wealthy as their eastern neighbors, and the distribution of wealth in some counties was extremely concentrated due to land speculators. The patterns of wealth holding in each region were defined by local prices and factor endowments. Taxpayers responded to local conditions and each of these regional trends help to shape our understanding of the country's economic outlook.

The Revolution unleashed a number of economic transformations that shaped economic growth in the decades that followed. While independence removed mercantile restrictions, the war had a devastating effect on trade. American exports remained crippled in the immediate aftermath after Britain closed the West Indies to American trade. The resumption of trade was short lived, moreover, as the Napoleonic War initiated a new series of retaliatory trade restrictions. Burdensome taxes further eroded American living standards under the Articles of Confederation, but the new national government brought widespread tax relief and allowed the states to significantly reduce their average tax rates. Tax records demonstrate conclusively that the Revolution was devastating in economic terms. While many areas showed signs of recovery by the early nineteenth century, the country as a whole was still largely grappling with economic shocks forty years later.

Independence also transformed the political economy of taxation. State legislators reformed their fiscal infrastructure to deal with the crises of the Articles of Confederation. Policymakers worked quickly to generate sufficient revenues for debt servicing without excessively burdening their constituents. The system that emerged provided the federal government with unlimited authority in the sphere of indirect taxes on imports but constrained Congressional power to collect direct taxes on property. State governments maintained their ability to collect property taxes but surrendered their power to collect indirect taxes. The compromises that emerged shaped American tax policy until the Civil War reoriented the relationship towards a stronger federal government with expanded tax powers. While the Confederate States pursued a tax strategy similar to the national government under the Articles of Confederation, the Union centralized its fiscal authority and experimented with new taxes on income.

State property taxes persist today in various forms. Although the taxable assets have little in common with their eighteenth century origins, many of the strong incentives introduced in the early republic remain. State governments worked to separate assessment and collection to prevent fraud and abuse on the part of tax collectors. Legislatures sought to make tax collectors accountable to the state by making them personally liable, and enacted harsh penalties for taxpayers who presented fraudulent returns of their taxable property. In states that assessed the value of taxable property, tax laws frequently required that commissioners meet to equilibrate the assessments between districts to ensure impartiality. Many states moved the dates of the assessment and collection process to coincide with harvests so that taxpayers would be better prepared to make payment on the taxes due. Americans in the early republic also worked to balance in incidence of taxation so that the burden fell equally on all classes of merchants, tradesmen, and farmers. The reforms introduced during and immediately following the Revolution had the effect of making taxes consistent, efficient, and exact. All of these initiatives improved the reliability and accuracy of record keeping, and had the unintended effect of making tax records an ideal source for measuring economic change.

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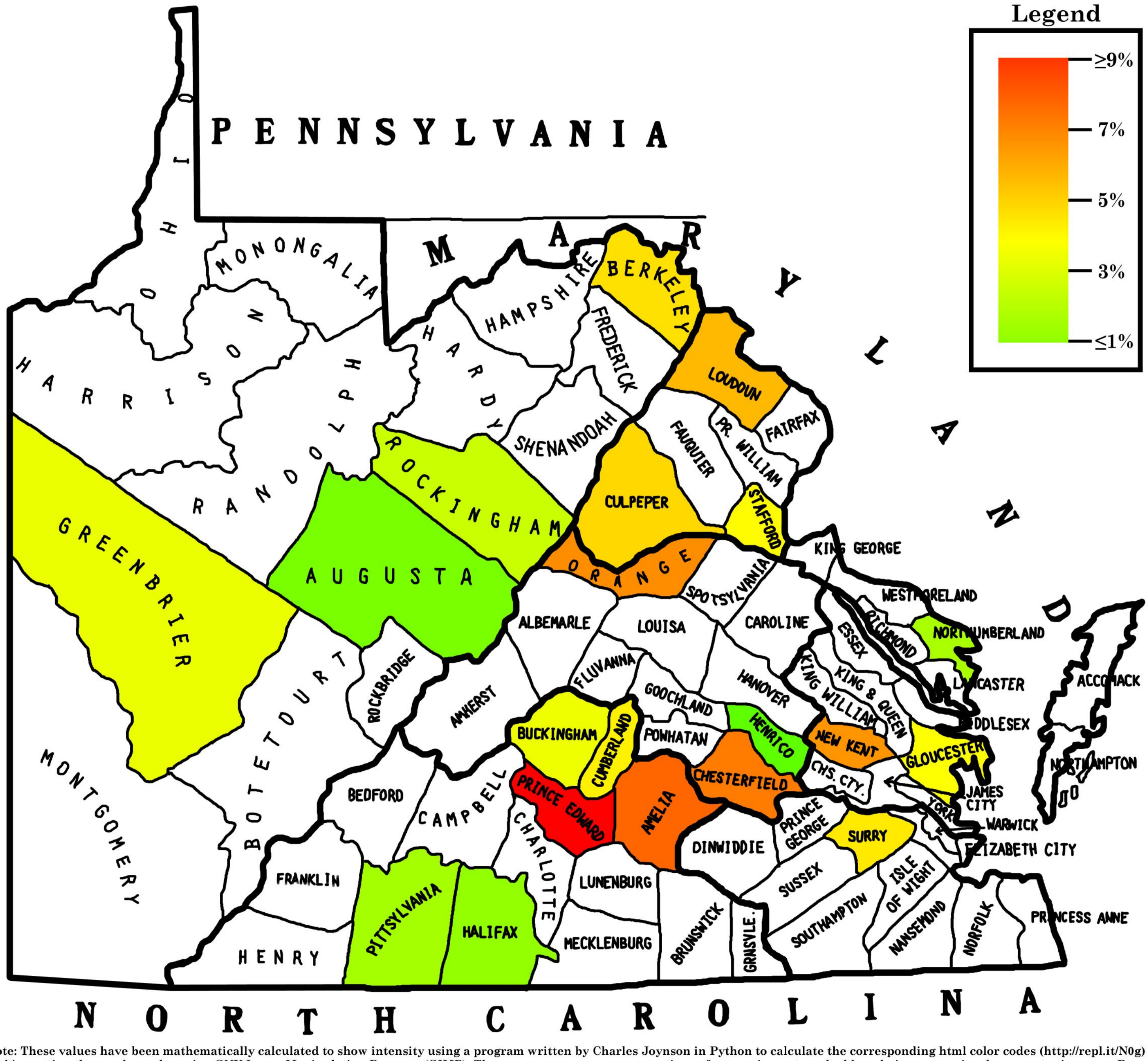
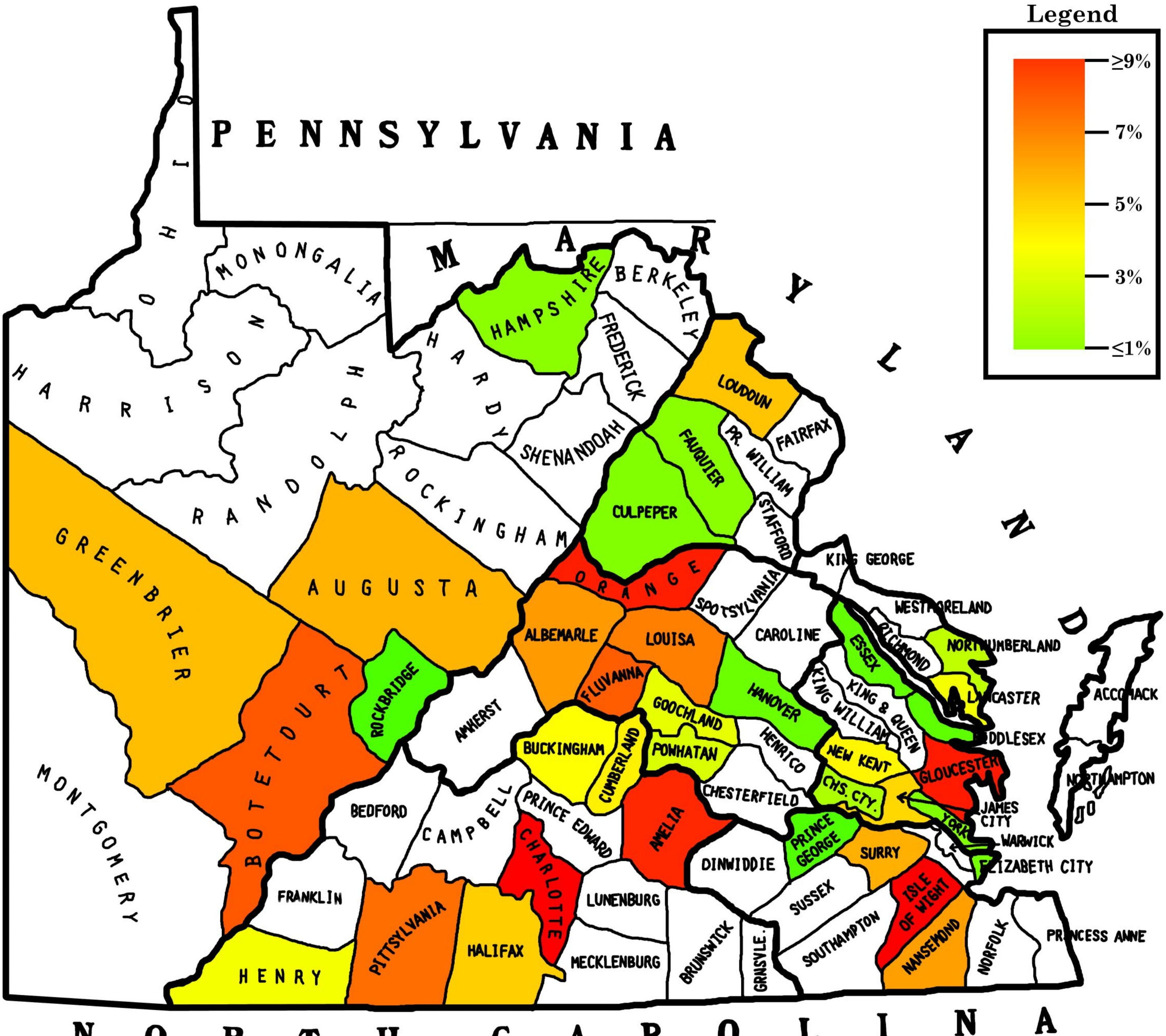
Map 1: ***Insolvency Rates in Virginia by County, 1782***



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

Adapted from: Netti Schreiner-Yantis, "A Bicentennial Map of Virginia, 1787-1987," in Schreiner-Yantis, Netti and Love, Florene Speakman ed. *The 1787 Census of Virginia: An Accounting of the Name of Every White Male Tithable Over 21 Years; the Number of White Males between 16 & 21 Years; the Number of Slaves Over 16 & those Under 16 Years; together with a Listing of their Horses, Cattle & Carriages; and also the Names of all Persons to whom Ordinary Licences and Physician's Licenses were Issued.* Three Volumes (Springfield, Virginia: Genealogical Books in Print, 1987), front matter; Map file created by Charles Joynson and Mitch Nuguit.

Map 2: *Insolvency Rates in Virginia by County, 1783*



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

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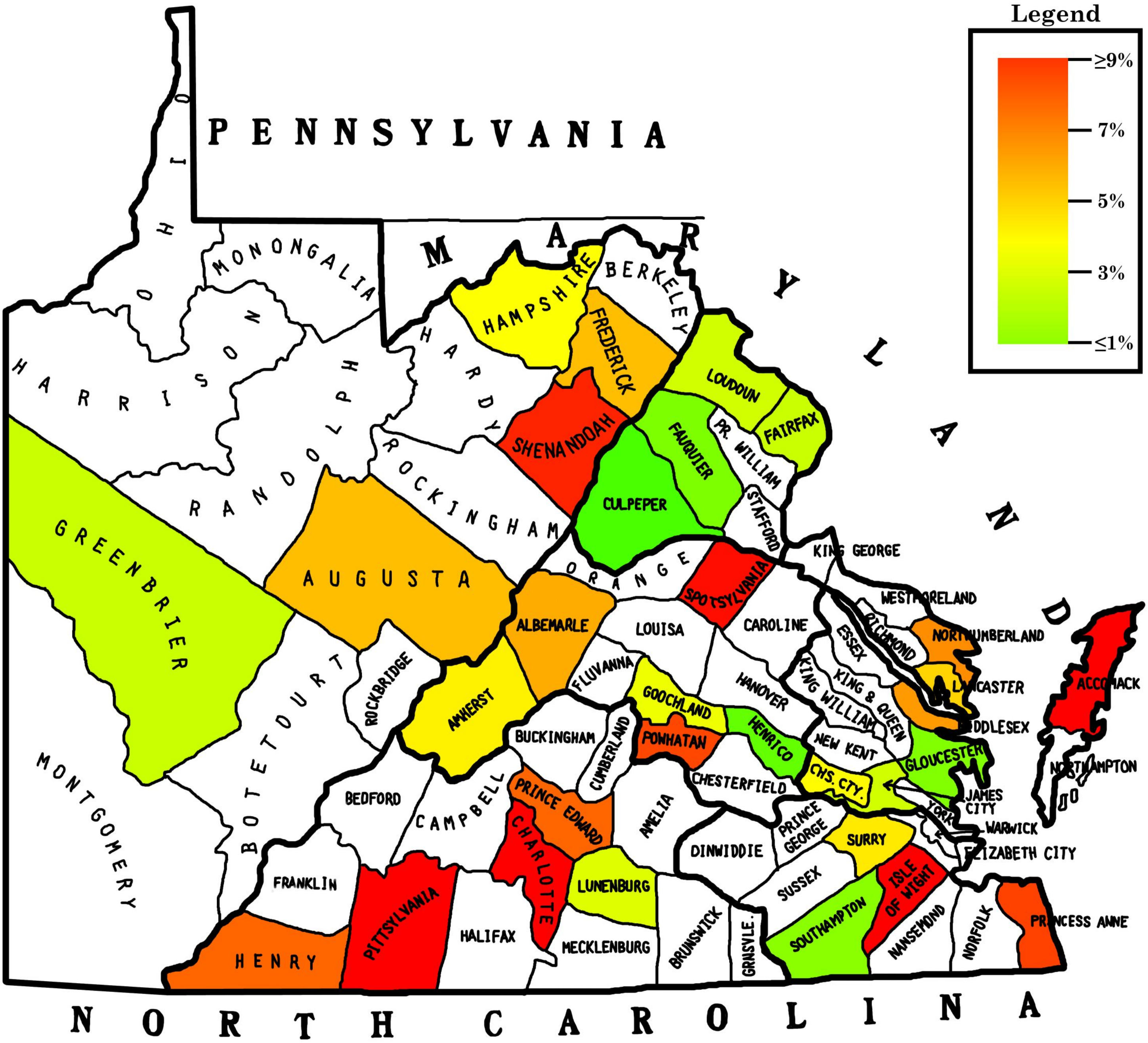
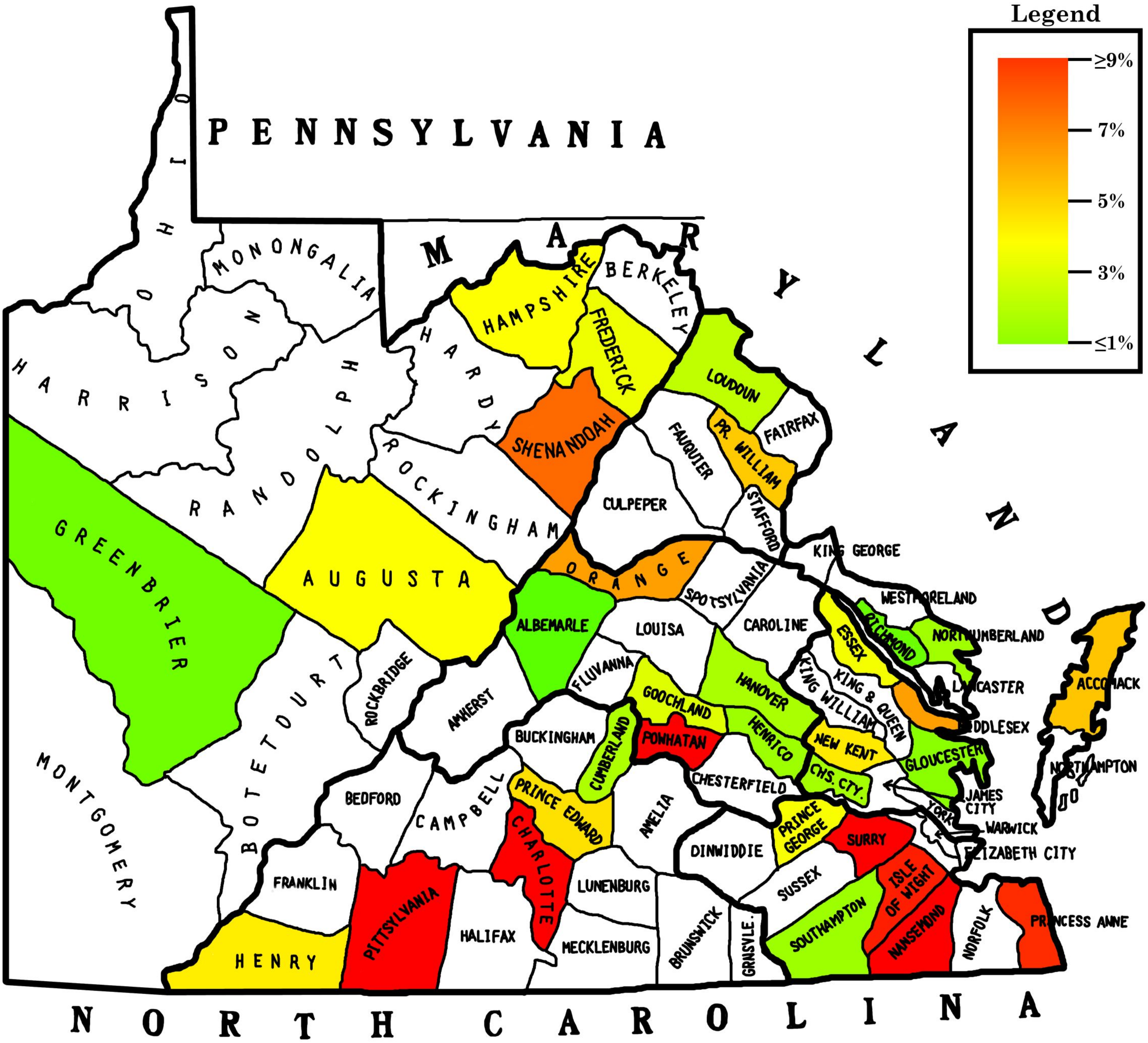
Map 3: *Insolvency Rates in Virginia by County, 1784*



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

Adapted from: Netti Schreiner-Yantis, "A Bicentennial Map of Virginia, 1787-1987," in Schreiner-Yantis, Netti and Love, Florene Speakman ed. *The 1787 Census of Virginia: An Accounting of the Name of Every White Male Tithable Over 21 Years; the Number of White Males between 16 & 21 Years; the Number of Slaves Over 16 & those Under 16 Years; together with a Listing of their Horses, Cattle & Carriages; and also the Names of all Persons to whom Ordinary Licences and Physician's Licenses were Issued.* Three Volumes (Springfield, Virginia: Genealogical Books in Print, 1987), front matter; Map file created by Charles Joynson and Mitch Nuguit.

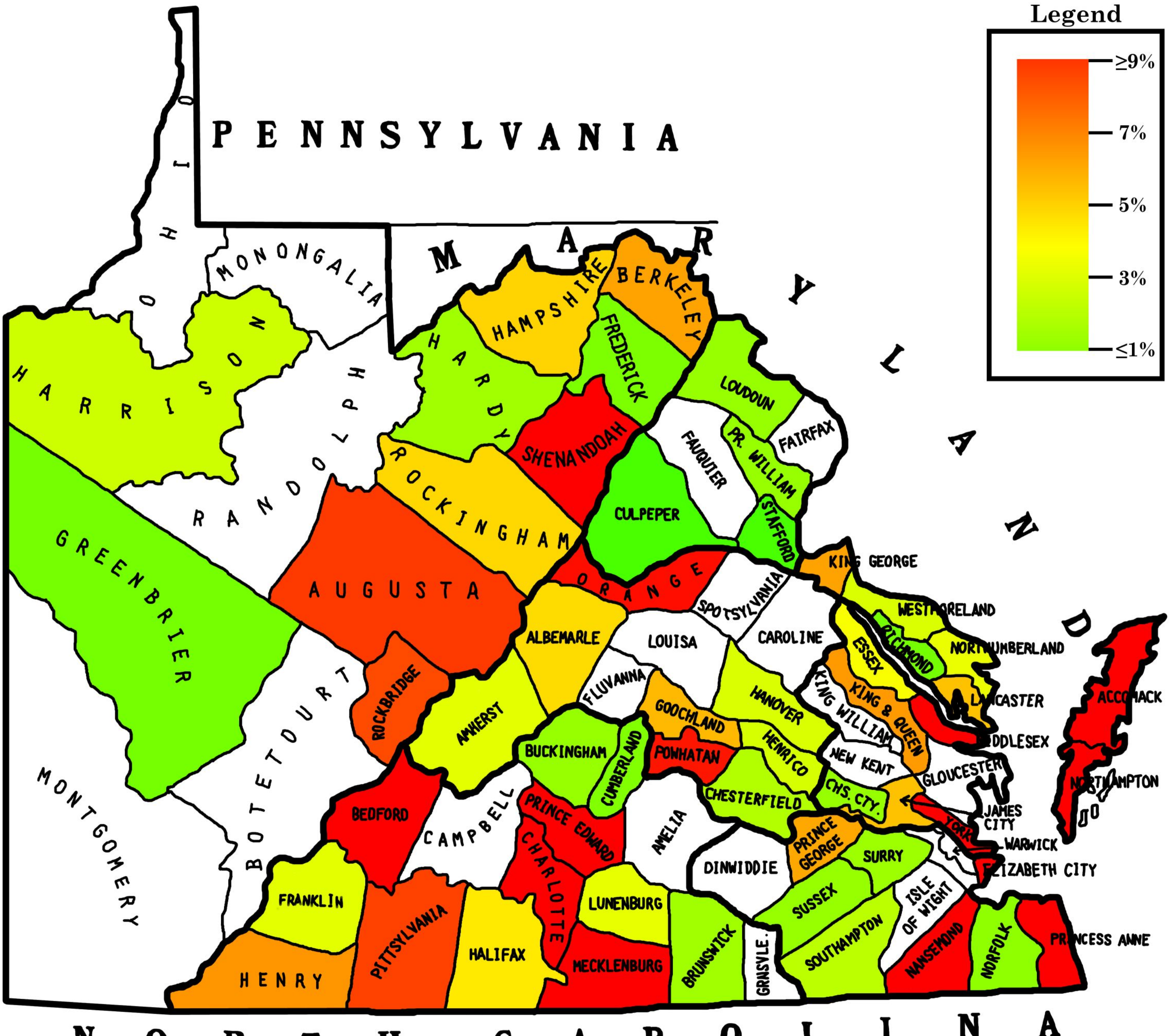
Map 4: *Insolvency Rates in Virginia by County, 1785*



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

Adapted from: Netti Schreiner-Yantis, "A Bicentennial Map of Virginia, 1787-1987," in Schreiner-Yantis, Netti and Love, Florene Speakman ed. *The 1787 Census of Virginia: An Accounting of the Name of Every White Male Tithable Over 21 Years; the Number of White Males between 16 & 21 Years; the Number of Slaves Over 16 & those Under 16 Years; together with a Listing of their Horses, Cattle & Carriages; and also the Names of all Persons to whom Ordinary Licences and Physician's Licenses were Issued.* Three Volumes (Springfield, Virginia: Genealogical Books in Print, 1987), front matter; Map file created by Charles Joynson and Mitch Nuguit.

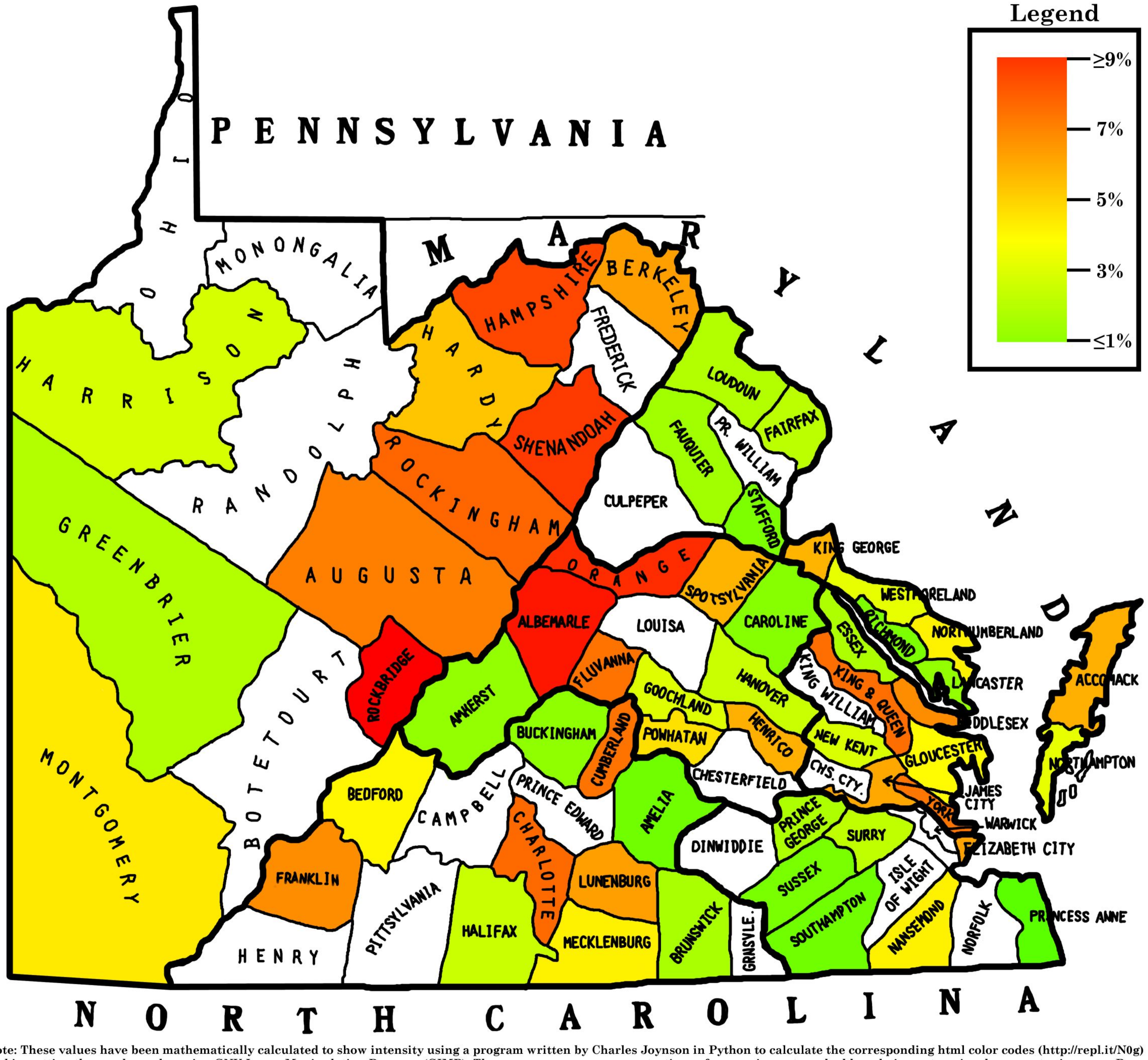
Map 5: *Insolvency Rates in Virginia by County, 1786*



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

Adapted from: Netti Schreiner-Yantis, "A Bicentennial Map of Virginia, 1787-1987," in Schreiner-Yantis, Netti and Love, Florene Speakman ed. *The 1787 Census of Virginia: An Accounting of the Name of Every White Male Tithable Over 21 Years; the Number of White Males between 16 & 21 Years; the Number of Slaves Over 16 & those Under 16 Years; together with a Listing of their Horses, Cattle & Carriages; and also the Names of all Persons to whom Ordinary Licences and Physician's Licenses were Issued.* Three Volumes (Springfield, Virginia: Genealogical Books in Print, 1987), front matter; Map file created by Charles Joynson and Mitch Nuguit.

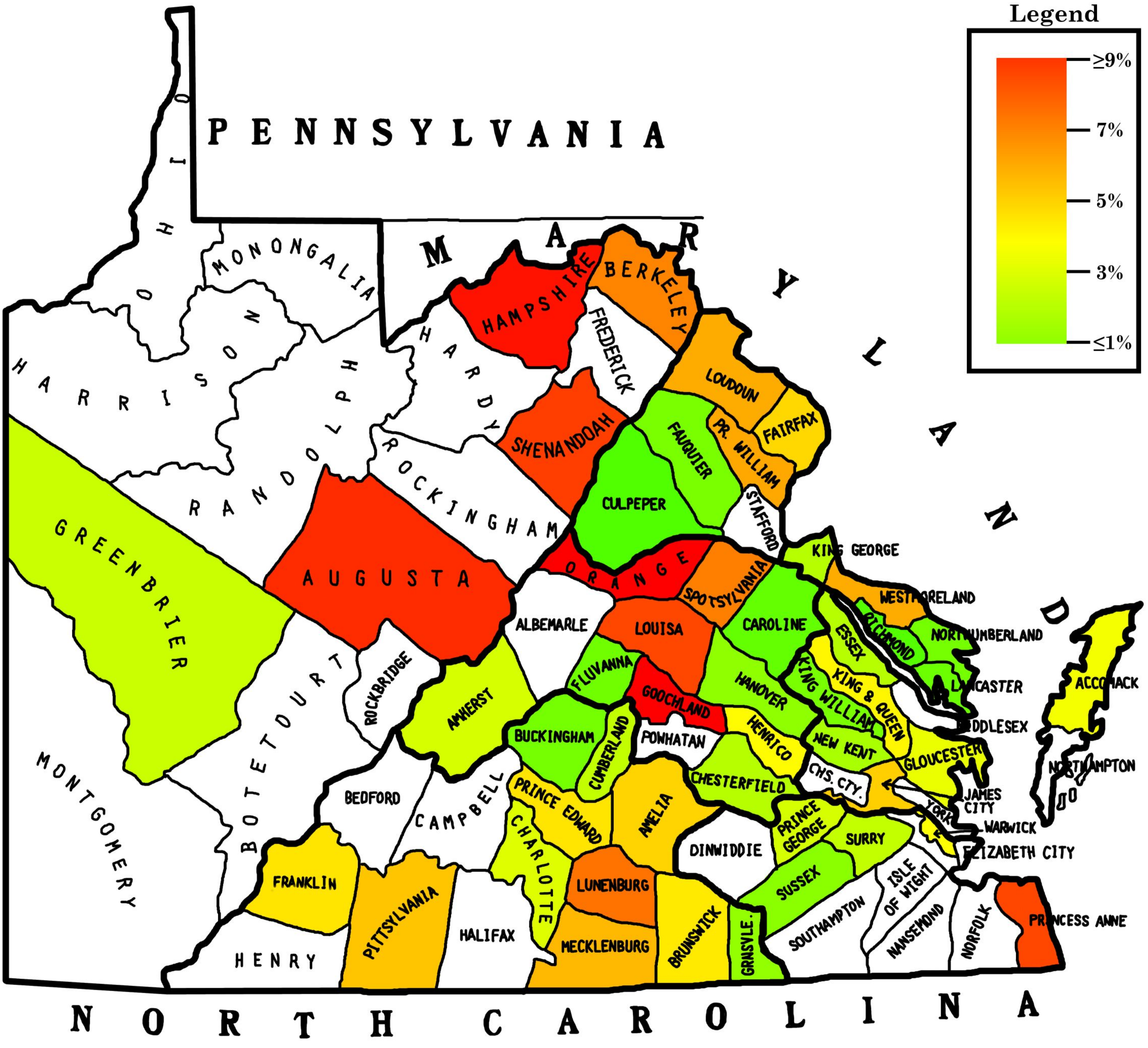
Map 6: *Insolvency Rates in Virginia by County, 1787*



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

Adapted from: Netti Schreiner-Yantis, "A Bicentennial Map of Virginia, 1787-1987," in Schreiner-Yantis, Netti and Love, Florene Speakman ed. *The 1787 Census of Virginia: An Accounting of the Name of Every White Male Tithable Over 21 Years; the Number of White Males between 16 & 21 Years; the Number of Slaves Over 16 & those Under 16 Years; together with a Listing of their Horses, Cattle & Carriages; and also the Names of all Persons to whom Ordinary Licences and Physician's Licenses were Issued.* Three Volumes (Springfield, Virginia: Genealogical Books in Print, 1987), front matter; Map file created by Charles Joynson and Mitch Nuguit.

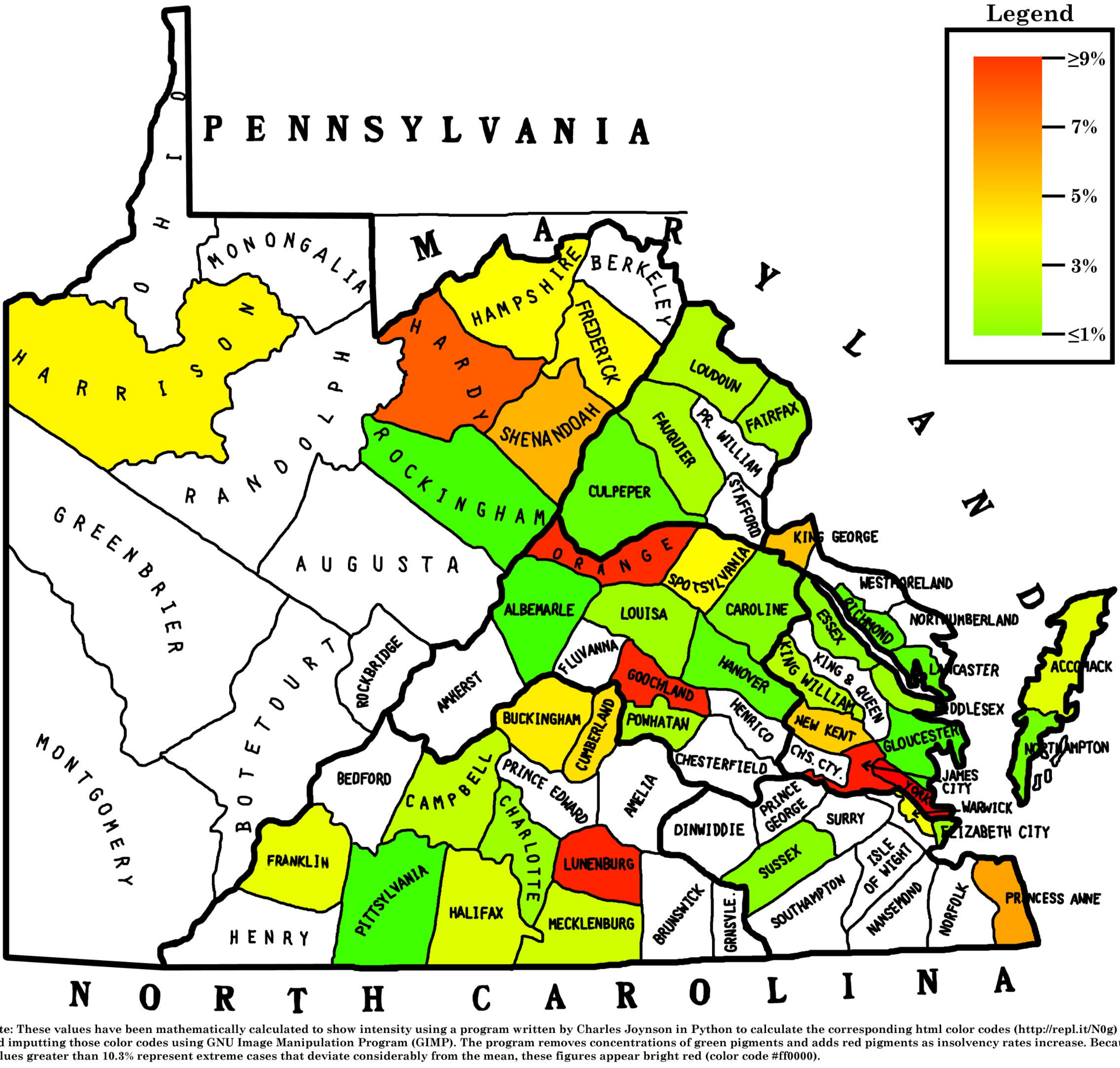
Map 7: *Insolvency Rates in Virginia by County, 1788*



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

Adapted from: Netti Schreiner-Yantis, "A Bicentennial Map of Virginia, 1787-1987," in Schreiner-Yantis, Netti and Love, Florene Speakman ed. *The 1787 Census of Virginia: An Accounting of the Name of Every White Male Tithable Over 21 Years; the Number of White Males between 16 & 21 Years; the Number of Slaves Over 16 & those Under 16 Years; together with a Listing of their Horses, Cattle & Carriages; and also the Names of all Persons to whom Ordinary Licences and Physician's Licenses were Issued.* Three Volumes (Springfield, Virginia: Genealogical Books in Print, 1987), front matter; Map file created by Charles Joynson and Mitch Nuguit.

Map 8: *Insolvency Rates in Virginia by County, 1789*



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

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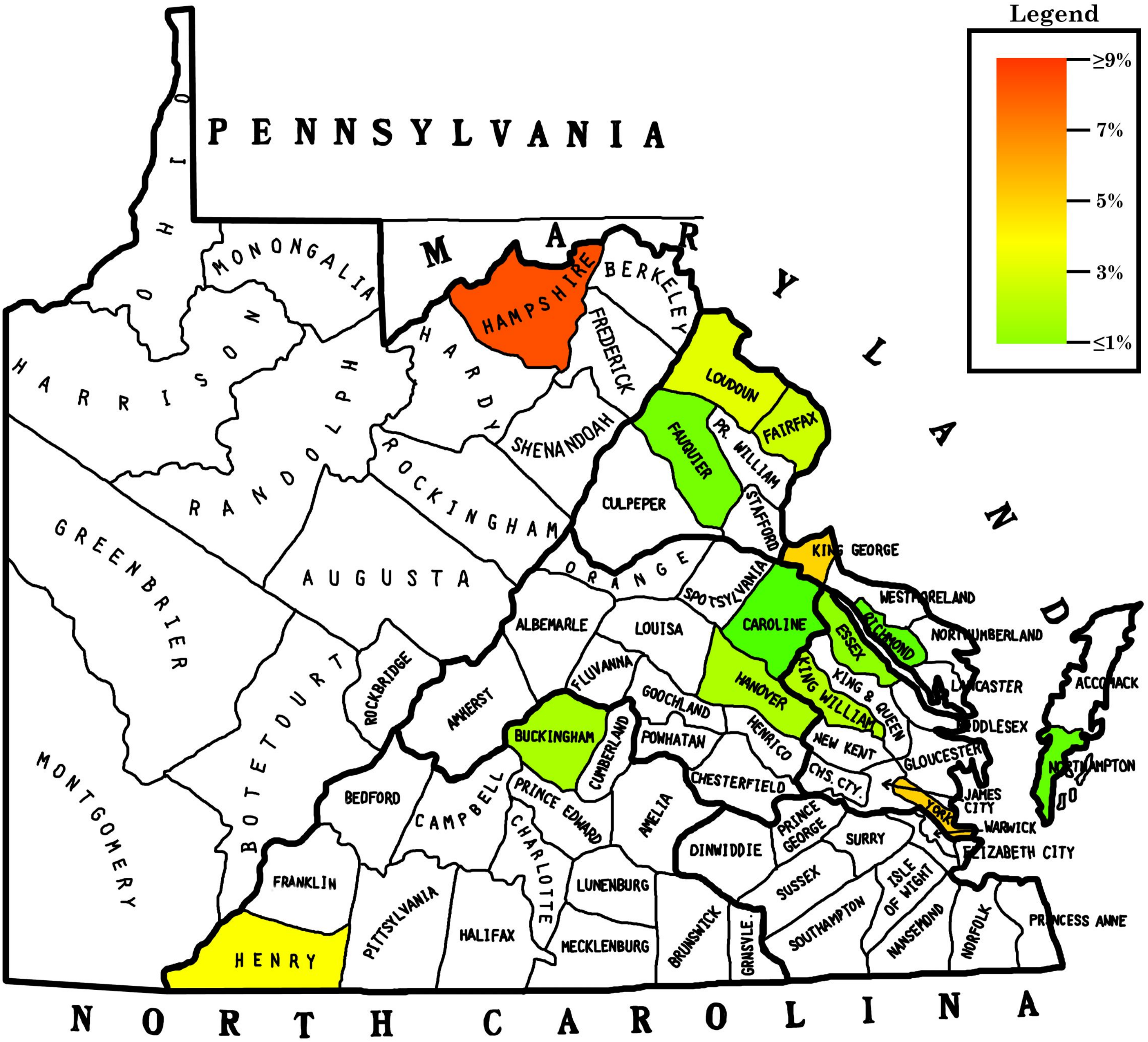
Map 9: *Insolvency Rates in Virginia by County, 1790*



Note: These values have been mathematically calculated to show intensity using a program written by Charles Joynson in Python to calculate the corresponding html color codes (http://repl.it/N0g) and imputting those color codes using GNU Image Manipulation Program (GIMP). The program removes concentrations of green pigments and adds red pigments as insolvency rates increase. Because values greater than 10.3% represent extreme cases that deviate considerably from the mean, these figures appear bright red (color code #ff0000).

Adapted from: Netti Schreiner-Yantis, "A Bicentennial Map of Virginia, 1787-1987," in Schreiner-Yantis, Netti and Love, Florene Speakman ed. *The 1787 Census of Virginia: An Accounting of the Name of Every White Male Tithable Over 21 Years; the Number of White Males between 16 & 21 Years; the Number of Slaves Over 16 & those Under 16 Years; together with a Listing of their Horses, Cattle & Carriages; and also the Names of all Persons to whom Ordinary Licences and Physician's Licenses were Issued.* Three Volumes (Springfield, Virginia: Genealogical Books in Print, 1987), front matter; Map file created by Charles Joynson and Mitch Nuguit.