2017

Smoke and Silver: Money, Credit, and the Failure of Economic Diversification in the Seventeenth Century Virgina

Christopher Calton
calton@marshall.edu

SMOKE AND SILVER: MONEY, CREDIT, AND THE FAILURE OF ECONOMIC DIVERSIFICATION IN SEVENTEENTH CENTURY VIRGINA

A thesis submitted to
the Graduate College of
Marshall University
In partial fulfillment of
the requirements for the degree of
Master of Arts
In
History
by
Christopher Calton
Approved by
Dr. Robert Deal, Committee Chairperson
Dr. Phillip Rutherford
Dr. Robin McCutcheon

Marshall University
May 2017

APPROVAL OF THESIS

We, the faculty supervising the work of Christopher Calton, affirm that the thesis, *Smoke and Silver: Money, Credit, and the Failure of Economic Diversification in Seventeenth Century Virginia,* meets the high academic standards for original scholarship and creative work established by the Master of Arts and the Department of History. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.

Dr. Robert Deal, Department of History	Committee Chairperson	12 April 2017 Date
Dr. Phillip Rutherford, Department of History	Committee Member	4/12/17 Date
Dr. Robin McCutcheon, Department of Economics	Committee Member	April 12, 2017 Date

ACKNOWLEDGEMENTS

Each member of my thesis committee was invaluable during the completion of my thesis, and I would like to thank each of them for the help they provided along the way.

TABLE OF CONTENTS

LIST OF FIGURES

ABSTRACT

Historians have long been perplexed by Virginia's dependency on tobacco in the seventeenth century. Despite continual efforts by both the Virginia and British governments, the small planters in the colony continued to overproduce tobacco, seemingly to their own detriment. This thesis argues that the failures of economic diversification are best understood when the advantages of tobacco are broken down into natural, artificial, and monetary factors. Tobacco enjoyed many natural advantages of alternative crops, and these advantages were buttressed by artificial advantages created by legislation that either directly or indirectly incentivized tobacco production. The most prominent of these are the legal tender laws for tobacco which, due to the compulsory acceptance stipulation and fixed exchange rates, created a distorted credit system in the economy that made tobacco production benefit small planters at the expense of the large planters.

INTRODUCTION

In 1903, the American anthropologist William Henry Furness III visited the small Caroline Island of Yap. This island is most famous for its unique form of currency, known as *fei,* which consists of donut-shaped stones. The larger stones carried more value, and many of them stood as high as twelve feet tall. Furness related a particularly interesting story from generations before his visit in which a man was transferring one of these giant stones between two islands after an exchange among wealthy families. While crossing the water in his canoe with the stone attached to a raft, he got caught in a storm and cut the raft loose in order to save himself. The valuable stone sunk to the ocean floor where it could not be retrieved. The loss of the stone changed little for the primitive economy of Yap, though. When the man gave his testimony about the size and value of the stone, he was never questioned. Title to the great stone at the bottom of the sea was accepted and continued to be exchanged even though it was no longer able to change hands.[1] This anecdote illustrates some of the important characteristics of money beyond being just a medium of exchange and serves as a reminder that money need not physically change hands to function. This function and many other aspects of a money seem obvious at face-value, but they are important and often overlooked in economic history, including the history of seventeenth century Virginia. In Virginia, such details are lost as the monetary system is reduced to an oversimplified explanation that "tobacco was money." While this claim is true, it ignores the finer points of Virginia's early economy that, upon a deeper examination, help answer historic questions, particularly regarding a century of failed attempts at economic diversification.

[1] Peter L. Bernstein, *The Power of Gold: The History of an Obsession*, (New York: Wiley, 2004), 26-27.

The colony of Jamestown was established in May of 1607 by the London Company of Virginia. Led by Captain Christopher Newport, 104 colonists explored and found a suitable site to build fortifications and establish their small settlement. By the fall, only thirty of the original colonists were still alive. For the first several years of the Jamestown colony, the population puttered on only through the consistent resupply of new settlers, as the mortality rate remained incredibly high due to starvation and disease.[2]

The early economic policies of the colony were essentially communistic. Everything produced by the colonists was moved to a common storehouse from which provisions were equitably doled out. As with any communist economy, the redistributive environment had a negative impact on worker incentive. When Captain John Smith took charge of the settlement after Newport's departure back to England in 1608, he rebuked the laziness of the laborers and imposed strict military discipline.[3] Smith is often credited with good management of the settlement during his short tenure, but the colonists were constantly on the brink of starvation. Rats infested the corn being preserved in the common storehouse, and survival largely persisted on the foraging for supplemental food such as wild berries, which was a harshly punished violation of Smith's orders, which stipulated that only those who worked would be allowed to eat.[4]

---

[2] Murray N. Rothbard, *Conceived in Liberty* (Auburn, AL: Ludwig von Mises Institute, 2011), 47-48; Warren M. Billings, *Jamestown and the Founding of the Nation* (Gettysburg, PA: Thomas Publications, 1991), 38-39; Camilla Townsend, *Pocahontas and the Powhatan Dilemma, An American Portrait* (New York: Hill and Wang, 2004).
[3] Billings, *Jamestown*, 40-41.
[4] John Smith, *The Journals of Captain John Smith: A Jamestown Biography*, ed. John M. Thompson, National Geographic Adventure Classics (Washington, D.C.: National Geographic Society, 2007), 135.

The winter after Smith led the colony in 1609 is known as "The Starving Time," during which the already struggling settlers were besieged by the Powhatan Indians. The siege would last for the next four years. The population was temporarily resupplied in May of 1610 by Sir Thomas Gates and the other colonists including John Rolfe, who would later come up with the strain of tobacco upon which the Virginia economy was established. Gates immediately established martial law, but lacking supplies, he led the settlers to abandon Jamestown only a month later.[5]

Gates and the remaining settlers were cut off by the fortuitous arrival of Lord de la Warr and another group of new settlers. Both groups of settlers reestablished the Jamestown settlement, and now-Governor de la Warr reinstated a strict work regimen. In 1611, de la Warr returned to England with troubling reports of the dismal prospects of the colony, but determined to continue with the Virginia investment, the company sent once again Sir Thomas Gates (who had returned to England during de la Warr's tenure) and, with him, Sir Thomas Dale who would serve in the newly created office of marshal. In June of 1611, Dale increased the severity of the laws and enforced them with great aplomb. These laws came to be infamously known as "Dales Laws."[6]

Sixteen-fourteen proved to be the pivotal turning point in the early Jamestown economy for three reasons. The most well-known is the first shipment of John Rolfe's new strain of tobacco to England. In Virginia, he experimented with West Indies tobacco seeds until he found

---

[5] Billings, *Jamestown,* 44.
[6] After their 1612 publication by William Strachey, they became *The Lawes Divine, Morall, and Martiall.* William Strachey, *For the Colony in Virginia Britannia (1612)* (Whitefish, MT: Kessinger Publishing, LLC, 2010); Peter Force, *Tracts and other papers relating principally to the origin, settlement, and progress of the colonies in North America from the discovery of the country to the year 1776*, (Washington, Printed by P. Force, 1836) Online Text, Retrieved from the Library of Congress, https://www.loc.gov/item/04027018/. (Accessed February 03, 2017.)

a strain that would grow well in Virginia while also being of good enough quality to satisfy the European palate.[7]

The second major reason for Jamestown's turnaround was the peace made with the Powhatan Indians, thus ending the four-year siege. John Rolfe's marriage to Powhatan's daughter Pocahontas in 1614 helped end the conflict. Likely as part of the peace treaty between the colonists and the Powhatan tribe, Pocahontas converted to Christianity and took the English name Rebecca. Peace would remain long enough for Jamestown to finally establish itself as a stable settlement.[8]

The third and often overlooked reason for Jamestown's economic upturn is the first step in the liberalization of the economy. Despite Dale's harsh governance, his "major constructive act was to begin slightly the process of dissolution of communism in the Virginia colony" by granting "three acres of land, and the fruits thereof, to each of the old settlers."[9] Liberalization continued under the governance of Sir George Yeardley. In 1618 he expanded property rights entitlement to fifty acres of land as well as the institution of his "Great Charter," which replaced Dale's Laws with far less draconian codes and allowed the creation of the colonial assembly, which met for the first time on July 30, 1619.[10]

In 1616, the Virginia Company established its subsidiary company, the "Society of Particular Adventurers for the Traffic with the People of Virginia in Joint Stock," or the "Magazine," at Jamestown which supplied the planters with basic necessities in exchange for

---

[7] Billings, *Jamestown*, 46.
[8] Townsend, *Pocahontas*, 124.
[9] Referring to the economic environment of early Jamestown as "communism" might be anachronistic. Murray Rothbard, being an economist, is applying the term to the command-control policies of research allocation in Jamestown during these years. Rothbard, *Conceived in Liberty,* 50.
[10] Billings, *Jamestown,* 49.

tobacco. The Magazine itself was nearly entirely independent of the Virginia Company, taking investments from private individuals and paying out shares of profit in proportion to the money invested. The Company could invest in the Magazine as well, with the returns accounting for some of the Company's income. The Magazine sent ships loaded with essentials that the planters could only get from England. The first ship, the *Susan,* for example, carried clothing, which was always in short supply in the colony.[11]

The fact that the barter with the Magazine ships consisted almost solely of tobacco on the side of the planters allowed for the rapid emergence of tobacco as the medium of exchange. In 1618, it was provided that the Magazine would accept tobacco at a fixed rate of three shillings per pound of the higher grade of tobacco and eighteen pence for the lower grade.[12] This rate was set as a statute in the following year as one of the first acts of the initial assembly, with the consent of the cape merchant (the supply officer for the Magazine) Abraham Piersey who was ordered to appear before them. Bills of exchange were available to the planters, as well, but they rarely accepted the bills as they preferred immediate provisions of Magazine wares.[13]

The rapid increase in the supply of tobacco quickly made it unprofitable for the Magazine to purchase tobacco at the fixed rates, and the cape merchant began to raise the prices of its supplies in order to establish a market clearing rate for tobacco. These price increases naturally created discontent among the planters who felt entitled to the fixed prices for their tobacco. Adding to this controversy, the planters subverted the Magazine’s trade monopoly by selling tobacco to the Dutch. They also cheated the Cape Merchants by concealing hogsheads of lower-

[11] Phillip Alexander Bruce, *Economic History of Virginia in the Seventeenth Century,* Volume II, (New York: The MacMillan Company, 1935), 279-81.
[12] *Colonial Records of Virginia, (*Richmond, VA: R. F. Walker, Superintendent Public Printing, 1874), 23.
[13] Bruce, *Economic History of Virginia,* Volume II, 286.

grade tobacco under a top layer of high-grade leaf. Furthermore, the planters "considered it entirely proper to purchase these supplies on long credits, but never failed to demand cash when they disposed of their crops to the Company," which led the company to assert in 1621 that it "would not furnish any supplies to the planters in exchange."[14]

The Virginia Council was caught between the interests of the Company, which it believed was entitled to make a profit off its trade, and the planters, whose well-being also had to be considered. The result was a decree allowing the Magazines to purchase tobacco at lower rates than those established in the early statutes, although colonist tax payments were still set at the originally established rates. However, the Governor and Council compelled the Company to exchange wares for tobacco bonds that would be redeemable in the next season.[15] In this manner, credit had been fully established as a means of exchange.

The trade with the Dutch greatly inhibited the ability of the Company to profit from what would have otherwise been monopoly privileges on Virginian tobacco. The planters continued trading their tobacco to the Dutch directly, but this meant they were unable to make good on debts due to the Cape Merchant for past wares. Adding to its troubles, in 1622 Opechancanough, the new leader of the Powhatan Indians, led his tribe to attack the settlement and destroyed what supplies they could not steal.[16] In addition to the property destruction, one third of the colonists were killed, and the resulting famine in 1623 obliged the Company to fund a bailout (in modern terms) to the tune of a ten shillings per share minimum from stockholders.[17] The cape merchant

---

[14] Ibid., 289-90.
[15] Edward D. Neill, *History of the Virginia Company of London: Letters to and from the First Colony Never Before Printed* (Luxembourg: CreateSpace Independent Publishing Platform, 2012), 277.
[16] Billings, *Jamestown,* 53.
[17] Conway Robinson, *Abstract of the Proceedings of the Virginia Company of London, 1619-1624,* (Richmond, VA: Virginia Historical Society, 1889), 227.

in charge of overseeing the distribution of these emergency provisions was accused with exploiting the significant need for the articles on hand and charging excessive prices for them. The planters were outraged at the failure of the Company's treasurer Sir Edwin Sandys to protect them from the natives by not procuring assistance from the Company. Meanwhile, the Virginia Company was in bad standing in England for failing to turn a profit. As a result, in 1623 King James had his Attorney-General sue the Company "upon a writ of *quo warranto* to show cause why it should not lose its charter."[18] Unsurprisingly, the Court of the King's Bench ruled in favor of the Crown and the charter was revoked. In 1625, the King proclaimed Virginia to be a Royal Colony.

The dissolution of the Virginia Company was not the defining event of the economic history of Virginia during the seventeenth century. The establishment of tobacco as money in 1619 was the vital element on the market side of the analysis. On the government side was the push for economic diversification. The so-called "Diversification Problem" persisted throughout the seventeenth century as planters continued to focus solely on tobacco cultivation despite continued attempts to shift production into other areas by the various governors and assemblies. As treasurer for the Virginia Company, Edwin Sandys sought diversification as a strategy for increasing profits. He encouraged the planters to "applie themselves . . . to the pursuinge of those staple and solide Comodities of Corn Wyne, Silke, Iron Silkegrasse Hempe and flax Boorde and Tymber and other the like and not onely or chiefly to Tobacco."[19] His plan, of course, did not succeed in saving the Company from failure.

---

[18] Billings, *Jamestown,* 54.
[19] *The Records of the Virginia Company of London,* Volume III, (Washington D.C.: United States Government Printing Office, 1933), 628.

After Virginia was proclaimed a Royal Colony, economic diversification became an agenda set by the British Crown. King James in particular disliked tobacco and wanted to see the colonists produce other commodities, but he died shortly after the revocation of the Virginia Company charter. His successor, Charles I, was friendlier to tobacco and enjoyed the revenues that it accrued for the crown from the customs duties imposed on tobacco imports. Nonetheless, he "urged [the colonists] to develop the resources of the country in tar and pitch, soap and pot ashes, salt, iron, timber, and lastly in vines."[20] The development of other industries became the official goal for each governor appointed throughout the remainder of the century.

William Berkeley was not only the governor to hold the office for the longest period of time (his first term lasted from 1642 until 1650, and his second term was from 1660 until 1677), but he was also the most committed to the diversification of the Virginia economy. In 1663, he laid out his plan for diversification in his *A Discourse and View of Virginia.* In it, he claimed that the previous governors of the colony "laid the Foundation of our wealth and industry on the vices of men," and implied that it was the corrupt desire for "great wealth" that led previous administrations to profit from the "vicious habit of taking *Tobacco*" that "possesse[d] the English Nation."[21] In this work, he named many of the same alternative commodities referred to in other diversification plans, gave his assessment as to why these commodities were neglected, and put forth his plan for finally achieving economic diversification. Like the Governors before and after him, he failed.

The reasons for this failure of diversification have vexed colonial historians. Warren Billings offers the most focused effort at answering why the diversification efforts failed. He

---

[20] Bruce, *Economic History of Virginia,* Volume I, 285.
[21] William Berkeley, *A Discourse and View of Virginia,* (London, 1663), 5.

looked specifically at Governor Berkeley's diversification schemes in the article "Sir William Berkeley and the Diversification of the Virginia Economy." He attributes Berkeley's failures to a number of factors. He first cites the "bad luck" that "trailed Berkeley throughout his final fifteen years as governor."[22] In this category, Billings refers to "the loss of the Dutch trade," "the breakdown of peace with the Indians," and Berkeley's personal decline as a leader that came with age.[23] He then claims that Berkeley's free trade ideas were in conflict with the imperialistic goals of the Stuarts. In examining his "legislative record," Billings suggests that Berkeley missed opportunities in the grain and sugar trades.[24] Finally, Billings asserts that the planters simply lacked the belief in diversification that would have compelled them to "follow where Berkeley chose to lead them."[25] Each of these explanations seems unsatisfactory in explaining the colony's persistent tobacco cultivation. The explanations appear to presume that there were more profitable opportunities elsewhere, but the planters were unable or unwilling to shift their labor to these more gainful areas of employment.

On the history of seventeenth century Virginia as a general topic, Billings remains the predominant historian. His three most important works for this era are *Colonial Virginia: A History*, *Sir William Berkeley and the Forging of Colonial Virginia*, and *A Little Parliament: The Virginia General Assembly in the Seventeenth Century.* In *Sir William Berkeley and the Forging of Colonial Virginia,* Billings discusses in depth Berkeley's personal experimentation with alternative commodities on his Green Springs plantation, as well as his continued attempts at the

[22] Warren M. Billings, "Sir William Berkeley and the Diversification of the Virginia Economy," *The Virginia Magazine of History and Biography* 104, no. 4 (Autumn 1996), 450
[23] Ibid., 450-51.
[24] Ibid., 453.
[25] Ibid.

suppression of tobacco cultivation, which was a significant (and unsuccessful) element of his diversification scheme.[26]

There has been far more research done regarding the use of tobacco as money and the tobacco economy in general, but these analyses have remained separate from the diversification question. Philip Alexander Bruce's two-volume *Economic history of Virginia in the Seventeenth Century* remains the only large examination of the economy of Virginia in this time period.[27] Originally published in 1895, it remains the most important source for the economic history of the Virginia colony, but it lacks modern insights into economic theory.

The most significant compilation of statistical data on the tobacco economy has been undertaken by John J. McCusker and Russell R. Menard, co-authors of *The Economy of British America: 1607-1789*, which contains some relevant information, but expands beyond the seventeenth century and the colony of Virginia. Both historians have helpful articles on the subject, though, as well. McCusker contributed a chapter in the fifth volume of *Historical Statistics of the United States: Earliest Times to the Present* entitled "English Colonial Tobacco Imported into England: 1615-1701. Menard's most useful article on this topic is "The Tobacco Industry in the Chesapeake Colonies, 1617-1730: An Interpretation."[28]

---

[26] Warren M. Billings, John E. Selby, and Thad W. Tate, *Colonial Virginia: A History*, A History of the American Colonies (White Plains, N.Y.: KTO Press, 1986); Warren M. Billings, *A Little Parliament: The Virginia General Assembly in the Seventeenth Century* (Richmond, VA: Library of Virginia, 2004); Warren M. Billings, *Sir William Berkeley and the Forging of Colonial Virginia*, Southern Biography Series (Baton Rouge: Louisiana State University Press, 2010).

[27] Bruce, *Economic History of Virginia,* 2 vols.

[28] John J. McCusker and Russell R. Menard, *The Economy of British America, 1607-1789*, Needs and Opportunities for Study Series (Chapel Hill: Published for the Institute of Early American History and Culture by the University of North Carolina Press, 1985); Susan B. Carter, *Historical Statistics of the United States: Earliest Times to the Present*, millennial ed. (New York: Cambridge University Press, 2006); Russell R. Menard, "The Tobacco Industry in the Chesapeake Colonies, 1617-1730: An Interpretation," *Research in Economic History* 5 (1980): 109-177.

There are two broader works that serve as useful references for the economic history of the colonies up through the American Revolution. The first is the copiously researched *Taxation in Colonial America* by Alvin Rabushka.[29] Any analysis of the economy of the colonies would be incomplete without taking into account Rabushka's research on colonial taxation, though only a small section of the book applies to the much narrower topic of seventeenth century Virginia. The second broad work is the first volume of *Conceived in Liberty* by the economist Murray Rothbard.[30] The complete four-volume work is among the most thorough histories of the British colonies in America, and although it is written to be more than merely an economic history, it does benefit from offering the perspective of a trained economist.

Older materials include William Ripley's *The Financial History of Virginia, 1609-1776* and Robert Beverley's *The History and Present State of Virginia.* For a detailed account of the structure of the tobacco economy, William Tatham's *An Historical and Practical Essay on the Culture and Commerce of Tobacco* is very useful. Of particular interest regarding the topic of tobacco money are the sections on curing tobacco for the better preservation and rating of tobacco to establish which grade it would be accounted as. This work details every intricate step of the tobacco trade in colonial Virginia, from the moment it was planted until it arrived in London for sale. One other useful addition is a 1943 article by Mrs. Philip Wallace Hiden entitled "The Money of Colonial Virginia" which is a helpful resource despite Hiden devoting most of her analysis to the eighteenth century. [31]

---

[29] Alvin Rabushka, *Taxation in Colonial America* (Princeton: Princeton University Press, 2008).
[30] Murray N. Rothbard, *Conceived in Liberty* (Auburn, AL: Ludwig von Mises Institute, 2011).
[31] William Z. Ripley, *The Financial History of Virginia, 1609-1776* (Farmington Hills, MI: Gale ECCO, Making Of Mode, 2010; Robert Beverley, *The History & Present State of Virginia,* ed. David Freeman Hawke (New York: The Bobbs-Merrill Company, Inc, 1971); William Tatham, *An Historical and Practical Essay On the Culture and Commerce of Tobacco* (Farmington Hills, MI: Gale ECCO, Print Editions, 2010); Mrs. Philip Wallace Hiden, "The

The most important original sources regarding tobacco money remain William Hening's thirteen volume collection *The Statutes at Large: Being a Collection of All the Laws of Virginia, from the First Session of the Legislature, in the year 1619,* of which the first three volumes cover the entirety of the seventeenth century. There also remain fragmented records of the *Minutes of the Virginia Colonial Council*, *Colonial Records of Virginia*, and various *Narratives of Early Virginia*. The early history is well preserved in the *Records of the Virginia Company of London,* but these are of little use to the larger topic of Virginia's tobacco money and diversification schemes because there are only a few years of overlap of the use of tobacco as money and the Company's control of the colony. For the topic of diversification, William Berkeley's *A Discourse and View of Virginia* is invaluable. Each of these records is accessible online. Because the seventeenth century predated the accumulation of economic statistics by three centuries, any documentary analysis of monetary history outside of government regulation must be inferred from the fragmented records of the individuals participating in the economy, such as wills, account books, and personal diaries.[32]

What is perhaps most lacking in the historiography of seventeenth century Virginia is a refined monetary analysis. This paper intends to examine the economy of colonial Virginia through the theoretical lens of Ludwig von Mises' 1912 work *The Theory of Money and Credit,*

Money of Colonial Virginia," *The Virginia Magazine of History and Biography* 51, no. 1 (January 1943): 36-54.

[32] William W. Hening, ed., *The Statutes at Large: Being a Collection of All the Laws of Virginia* (Richmond, 1809-23), 13 vols.; H.R. McIlwaine, ed., *Minutes of the Council and General Court of Colonial Virginia,* (Richmond, VA: The Colonial Press, 1924); *Colonial Records of Virginia,* (Richmond, VA: R.F. Walker, Superintendent Public Printing, 1874); Lyon Gardiner Tyler, *Narratives of Early Virginia: 1606-1625* (New York: C. Scribner's Sons, 1930); *The Records of the Virginia Company of London,* (Washington D.C.: United States Government Printing Office, 1933), 4 vols.; Berkeley, *Discourse.*

which remains to this day the most thorough and sophisticated work on monetary theory.[33] In it, Mises illuminated many important intricacies regarding monetary exchange that are overlooked in the historical analysis of the American colonies. With an understanding of these more modern concepts, the analysis of Virginia's economy will take a new form.

In this thesis, I will demonstrate how government intervention into the primitive money market of Virginia artificially boosted the planter focus on tobacco. The first chapter will take an in-depth look at the money of Virginia in the seventeenth century to illustrate how the usage of tobacco as legal tender created credit distortions and how this affected Virginia's economy. The second chapter will examine the characteristics and functions of money by focusing on the efforts made by the Virginia assembly to legislate these characteristics into existence for tobacco. The third chapter will apply the previous analyses to the problem of diversification. Here, it will become apparent that the monetary system, once all its intricate elements are factored in, is the primary reason why tobacco remained the staple crop for Virginia even in times of economic depression. This chapter will also address the factors that hindered diversification independently of the monetary system. Government's policies on tobacco, it will be clear, made any diversification efforts futile.

---

[33] Ludwig Von Mises, *The Theory of Money and Credit*, new ed., trans. Harold E. Batson (New York: Skyhorse Publishing, 2013).

CHAPTER 1

APPLYING THE REGRESSION THEOREM TO COLONIAL VIRGINIA

In January 2009, the first bitcoins were "mined."[34] Since then, bitcoin has become the most widely used of the various digital currencies established in the last decade. It has become increasingly accepted by online merchants and, in some countries, even has its own ATMs. Bitcoin and other so-called "cryptocurrencies" have been established as an alternative media of exchange to government monies, and as they become more widely accepted, they edge ever closer to the economic definition of money, that is a medium of exchange generally accepted in a given market. Bitcoins are, of course, incorporeal. They exist as a collection of zeros and ones stored on the owner's hard drive and exchanged through the internet over a peer-to-peer network; there is no central server handling these transactions. Even without government backing or a basis in any physical commodity, bitcoin has been used to facilitate an ever-increasing number of trades. People are therefore able to conduct economic calculation in their transactions so that they can practice exchange in a complex economy. Exchange and calculation are made possible with no physical substance changing hands except for the goods and services desired for consumption. Colonists in early Virginia traded in a similar manner. Bitcoin facilitates exchange purely through its role as a unit of account, not unlike the British merchant books used to log tobacco sales in units of British sterling. Colonists longed for a tangible money, which was necessary for local exchange, and tobacco filled this void, albeit imperfectly. But money does not always need to be tangible in order to function. Invisible currencies, like bitcoins and seventeenth century book credits, are easy to dismiss as insignificant. In the case of early

[34] Benjamin Wallace, "The Rise and Fall of Bitcoin," Wired, last modified November 23, 2011, accessed April 12, 2017, http://www.wired.com:80/magazine/2011/11/mf_bitcoin.

Virginia, the way that British coin functioned in the colony is not only crucial in understanding the economy of the time, it is perhaps even more important *because* of its physical absence and the implications this had on the credit system. This chapter will demonstrate that the system of credit in seventeenth century Virginia created an accounting distortion between debt noted in British sterling and debt noted in tobacco.

According to Ludwig von Mises' Regression Theorem, primitive economies naturally begin trade without money.[35] Instead of currency, barter serves as a sufficient means of exchange in nascent economies that would only consist of a few simple goods. Barter creates complications due to what is known as the "double coincidence of wants." The parties to an exchange must each want what the other possesses; an exchange of a bushel of apples for a pair of shoes, for example, requires that the apple owner wants the shoes *and* the shoemaker wants the apples.[36] Over time, the economy will become more complex, and as new goods are introduced, indirect exchange takes place. It may no longer be enough to simply trade a bushel of apples for a pair of shoes. If the shoemaker has no desire for apples but he does have a desire for a belt, the owner of the apples may trade his apples for the belt only to then trade the belt for a pair of shoes. Such is how a barter system can move toward indirect exchange, and in this case, the belt serves as the medium.

The values of these media of exchange are originally derived from the subjective use-value they offer in direct consumption. In this early economic stage, a good will have value in

---

[35] Mises, *The Theory of Money and Credit.*

[36] "The first difficulty in barter is to find two persons whose disposable possessions mutually suit each other's wants. There may be many people wanting, and many possessing those things wanted; but to allow of an act of barter, there must be a double coincidence." William Stanley Jevons, *Money and the Mechanism of Exchange* (New York: D. Appleton and Company, 1896), 3-4.

exchange only if it offers some direct use-value for somebody else. Value in use yields greater exchange-value to more marketable goods. The more marketable the good, the fewer indirect exchanges one has to make to obtain the desired consumption good. Eventually, the rejection of the less marketable goods in favor of more marketable goods will lead to a single commodity - the most liquid good - emerging as the sole medium of exchange.[37] Once a medium of exchange gains general acceptance in an economy, it is considered a money.

Several media of indirect exchange appeared in early Virginia. Beaver skins were a popular commodity during the middle of the seventeenth century after beaver fur hats came into fashion in Europe. This fad generated a high enough value for beaver fur that the skins were traded indirectly. Other forms of animal skins were less useful in exchange due to a statute passed in 1632 stipulating that "no cow hides, oxe hides, bull hides, goats skins, deare skins, or other hides or skins whatsoever shall be carryed out of this colony" but allowing that "Beaver skins, otter skins and all sorts of furrs excepted."[38] In 1653, Nathaniel Battson was placed in "the custody of the sheriff of James City until he hath satisfied" a debt of "eight beaver skins and an otter skin for a gun which he bought a board the ship *Duke Byren*."[39] A 1646 treaty with "Necotowance King of the Indians" required payment "unto the King's Govern'r. the number of twenty beaver skins" every year.[40] The use of beaver fur continued through much of the seventeenth century, though it appears to have never gained the widespread acceptance that would grant it the classification of a money.

[37] Mises, *The Theory of Money and Credit*, 30-34.
[38] Hening, *Statutes at Large,* Vol. I, 198-199.
[39] Ibid., 383-384.
[40] Ibid., 323.

Another medium of exchange was wampum,[41] the currency adopted from trade with the Indians. Wampum consisted of beads made of quahog shells strung together and measured by arms length, with two arms length estimated as a fathom, or roughly six feet. John Smith mentioned this in his *Generall Historie, Book IV,* writing of an interaction with an Indian guide, who said that "for my daughter, I have sold her within this few daies to a great Werowance, for two bushels of Rawrenoke."[42] Disputes involving this medium are also present in the Minutes of the Virginia Council. On December 8, 1624, Robert Poole faced a dispute with his employer Mr. Threfurer. He purchased a "tubb of Corne" with "ten [?] armes length of some beads, and thirteen armes le[ngth] of some beades for Another Tubb." He also claimed to purchase a "great Canoe" for "10000 blew beades" and hired "the great man of *Potuxsone*" as a guide for "6 or 800 of blue bead."[43] The color of the beads dictated their value. Dark beads exchanged at a ratio of three beads per pence, while six of the less valuable white beads exchanged for one pence.[44] Although it was more commonly used in the New England colonies, wampum continued to circulate in Virginia as late as 1690.[45]

These items were useful as media of exchange, but were insufficiently circulated to obtain the classification of monies in the technical sense. The ephemeral value of beaver skins precipitated by the changes in European fashion made this commodity's liquidity short-lived. Wampum was more persistently useful in trade with the Indians, but it had no marketable value to English merchants, and proscriptions against trading with the Indians dampened the exchange-

---

[41] Also referred to as roanoke, rawrenoke, or wampumpeke.
[42] Tyler, *Narratives of Early Virginia*, 314-315.
[43] McIlwaine, *Minutes of the Council,* 29-30.
[44] Joseph Coffin, *Our American Money: A Collector's Story* (New York: Coward-McCann, 1940), 5.
[45] Hiden, "The Money of Colonial Virginia."

value of wampum as an inter-colonial currency. During the seventeenth century, though, most exchange took place between the planters and English merchants, rather than between the colonists themselves. Although furs and wampum are historically interesting, these goods never gained the status of money, so their impact on the Virginia economy was therefore negligible.

Once a good is established as money, it can be classified into one of three discrete categories. Commodity money, as Mises defines it, is "that sort of money that is at the same time a commercial commodity." Silver is history's most common tenderable good, and the tobacco of the Virginia colony is another prominent example. Fiat money, by contrast, is that which "comprises things with a special legal qualification." [46] In the emerging stage of commodity money, which constitutes most of human history, stamped coins were the primary example of this second category. Governments affixed their stamp on a coin in part for the purpose of establishing a consistent weight and grade of a metal, but also to fix exchange rations and establish legal tender laws compelling acceptance for debts. In both cases, government fiat either enhanced or diluted the value of the coin.[47] It is important to note that stamped coinage must precede unbacked paper notes, such as those of modern economies. For paper money to circulate in the economy, the notes must, according to theory, have first circulated as a substitute for a redeemable commodity. Government fiat may enhance the value of a circulating money, but no mere decree is sufficient for creating the exchange value that is originally derived from a

[46] Mises, *The Theory of Money and Credit*, 61.

[47] Legal tender laws necessarily add fiat value to money by making acceptance compulsory. The fixing of exchange ratios necessarily enhances the value of one coin while diluting the value of another in the given jurisdiction. As logic would dictate, governments have been historically more prone to overvaluing their own coins compared to those of another country, though in bimetallic systems of money, the exchange ratios between gold, silver, and copper can only ever be arbitrary, thus making the relative valuations unpredictable and ever-changing according to the supply and demand of the given commodities.

commodity's use-value. If a government attempts to prematurely insert a paper money into an economy, the bills will exchange at a significantly discounted value, circulating only from their fiat value for tax liabilities, rather than their subjective exchange-value.[48]

The third classification for money, which is crucial in understanding the early Virginia colony, is credit money. Mises defines this as money that "constitutes a claim against any physical or legal person" but cannot be "both payable on demand and absolutely secure" for there would then be "no difference between [the credited value] and that of the sum of money to which they referred."[49] Colonial historians are aware of the system of credit employed in the Virginia economy, but the importance of these economic classifications are understated in the historical analyses.

In the seventeenth century, British merchants wanted Virginian tobacco, but leaf was never a money in external trade. Philip Alexander Bruce writes:

> In the beginning, there was no need for a medium of exchange. It was the exchange only which was wanted. Virginia raised tobacco to barter for English clothing, tools, utensils, and implements that were indispensable to the people . . . The buyer and the seller simply exchanged articles. The buyer was a seller and the seller a buyer at the same moment. There was no occasion for the passage of a single coin from one to the other.[50]

---

[48] Colonial emissions of Bills of Credit had this problem, perplexing some historians regarding the immediate exchange discount of paper bills. In 1897, B. Wafford Wait published an article on the South Carolina bills, observing:

> From 1703 to 1712 the credit of paper money was undiminished, — exchange being repeatedly quoted at fifty per cent. advance. Why this discount took effect from the beginning does not appear from any of the sources consulted.

Of course, this mystery is explained through the Regression Theorem; the value of the money had no traceable connection to a usable commodity. B. Wofford Wait, "Paper Currency in Colonial South Carolina," *The Sewanee Review* 5, no. 3 (1897): 277-89.
[49] Mises, *The Theory of Money and Credit,* 61.
[50] Bruce, *Economic History of Virginia,* Vol. II, 496.

In a sense, Bruce is correct. The only items that changed hands were the British manufactures and the planters' crops, which were exclusively tobacco and sassafras since these were the only profitable crops for the English merchants.[51] However, barter was not the form of these exchanges. The merchant calculations were noted in units of British sterling, and the medium of exchange was credit.[52]

Bruce is describing the "Magazine" established in 1616 as a subsidiary of the Virginia Company that allowed private individuals to invest in trade with the Virginia planters. The investors sent British goods to the colony on the ship *Susan* captained by the Cape Merchant Abraham Piersey.[53] He was to exchange the goods at predetermined rates for tobacco and sassafras. The Company intended to maintain a monopoly on trade through the Magazine, but Deputy Governor Samuel Argall undermined its ambitions by allowing other merchants to trade for the Virginia crops.[54] Because Argall opened the market to other buyers of Virginia tobacco, the prices the planters charged were higher than the Company would have seen with a properly

---

[51] There were also bills of exchange traded in the early years when tobacco prices were high and the planters were in the rare position of creditors. Bruce writes that in 1619, "A large sum in the shape of bills of exchange up on the Company was also brought back, apparently indicating that the Magazine had fallen short in quantity of goods, of the demand in the colony, so that the Cape Merchant was forced to pay in this form for a part of the tobacco bought." The roles of creditors and debtors quickly reversed, though, as tobacco prices fell, so bills of exchange did not exchange heavily in seventeenth century. Ibid., 285.

[52] In a technical sense, for exchanges of crops for manufactures that took place on the spot, the medium of exchange used was simply British sterling. Even though no coin changed hands, this was the unit in which merchant calculations were tabulated so as to avoid the multiple price problem of barter economies. However, the rapidly falling tobacco prices quickly led to a system of perpetual debt that ensured the nearly universal use of credit in external trade.

[53] Bruce, *Economic History of Virginia,* Volume II, 281.

[54] The Virginia Company admonished Argall in a letter, writing that "Tobacco and sassafras only, for just causes, are restrained at reasonable rates to the magazine, and you being Governor restrain no man, but passengers, masters and mariners bring the greatest part of tobacco and all the sassafras for themselves." *Abstracts of Proceedings of the Virginia Company of London, 1619-1624,* Vol. II, (Richmond, VA: Virginia historical Society, 1888), 32.

enforced monopoly.[55] The competitive advantage initially enjoyed by the planters explains the large sums of bills of exchange obtained by the planters in 1619.[56] Shortly thereafter, despite Piercey's recommendation that the Company reject price fixing and allow him to trade for whatever rates he could negotiate, the first assembly of Virginia was given instructions to set the rate of exchange for tobacco at three shillings per pound of the highest grade of tobacco and eighteen pence for the lower grade.[57] The law also made tobacco legal tender within the colony to be accepted for debts and taxes at these fixed values.

The legally established rate appears to have been the market rate for both grades of tobacco at the time. John Smith's account from Sir Thomas Smith in 1618 evinces this. He wrote of trade with the Magazine ship *George,* in which the colonists "gathered and made up our Tobacco, the best at three shillings the pound, the rest at eighteene pence."[58] As the production of tobacco increased, the market rate for tobacco rapidly decreased, but the Virginia assembly was slow to adjust the legal exchange rate. The lag in adjustment created distortion in trade that because of the compulsory acceptance of tobacco at these prices, proved to the advantage of the debtors within the colony, usually the small planters, at the expense of the big planters who were

---

[55] "Monopoly" is the term historians will use to describe the Virginia Company, but it may be more accurate to look at the Company as a monopsony in this context, in that it was trying to maintain its position as the only *buyer* of Virginia tobacco and sassafras, as much as it was trying to be the only *seller* of British wares. Because the exchange took place via credit with individual merchants and planters, it could only have been *both* a monopoly and a monopsony, or *neither*; separating the two would require a circulating, physical money. Therefore, the application of the term "monopoly" is still generally accurate, but it only paints a partial picture of the Company's economic hegemony over the planters.

[56] See footnote 19.

[57] *Colonial Records of Virginia,*18.

[58] John Smith, *Travels and Works of Captain John Smith: President of Virginia and Admiral of New England, 1580-1631,* ed. Edward Arber and A. G. Bradley (Edinburgh: John Grant, 1910) 536.

typically creditors. Credit distortion is crucial in understanding the persistence of inflationary tobacco cultivation discussed in Chapter 3.

Between 1619 and 1620, the total supply of tobacco more than doubled from 22,834 to 59,510.5 pounds, and the average market price for each pound of tobacco, as a consequence, dropped from 27d to 12d.[59] Unsurprisingly, the planters had to resort to purchasing British wares on credit, beginning the cycle of credit that would persist throughout the colonial era. The plummeting price of tobacco also put constraints on the Virginia Company. Its investors expected to see a profit, but the planters were passing inferior tobacco off as prime leaf by putting a layer of high-grade tobacco at the very top of the hogsheads to conceal the cheaper tobacco inside. Between the duplicity of the planters and the credit they required to purchase British wares, the Company was becoming a financial black hole. By 1623, the Company had expended £100,000 without any return.[60] The next year the Company's charter was revoked.[61]

By 1619, tobacco had achieved the status of money for intracolony trade. Extending the theory further can help underscore how the Regression Theorem helps to refine the understanding of Virginia's early economy. Economic theory makes distinctions between money

---

[59] Menard, "The Tobacco Industry."

[60] Bruce, *Economic History of Virginia,* Vol. II, 293.

[61] There were multiple reasons for the revocation of the charter beyond the financial straits the Virginia Company was facing. Disputes between Edwin Sandys and other members of the company and criticisms of Sandys' tobacco contract brought inquiries commissioned by the Crown. Additionally, the Indian massacre of 1622 ended the peace between the natives and the colonists that had been established in 1614 through the marriage between Pocahontas and John Rolfe. The financial troubles the company was in were related to the loss of the charter, but not the direct cause. Max Savelle and Robert Middlekauff, *A History of Colonial America*, (Austin, TX: Holt, Rinehart and Winston, Inc., 1964), 89-90; Lyon Gardiner Tyler, *England in America, 1580-1652*, (New York: Harper & Brothers Publishers, 1904), 85-88. Also see: Edmund S. Morgan, *American Slavery, American Freedom*, (New York: W.W. Norton & Company, 1975); Warren M. Billings, John E. Selby, and Thad W. Tate, *Colonial Virginia: A History*, (White Plains, N.Y.: KTO Press, 1986).

and money substitutes. Although money substitutes were not commonly used until the 18th century in the Virginia colony, understanding their function is still important to avoid equivocation when talking about money. Money substitutes are "those objects that are employed like money in commerce but consist in perfectly secure and immediately convertible claims to money." Legally, substitutes are often classified as money, but economically they function differently, so the distinctions between money proper and money substitutes do matter.[62]

Substitutes for money can also be divided into three different categories. The first classification is token money, which in a specie-based money system were coins minted in cheaper metals and given redeemable exchange values for silver or gold. By affixing exchange rates to stamps on the coins, governments were creating substitutes rather than money because the coins circulated at values equal to their legal equivalent in unadulterated specie rather than their unstamped value in exchange. Token money comes as an attempt to "remedy deficiencies in the existing monetary system,"[63] such as the need for smaller units of money or the scarcity of precious metals.[64]

The category of money certificates is similar to token money. Bank notes, as they are often called, are paper notes that are redeemable on demand for a certain amount of the

[62] Mises wrote that "Economic discussion about money must be based solely on economic considerations and may take legal distinctions into account only in so far as they are significant from the economic point of view also." It is not implausible for the historian to use the legal definitions of money rather than the economic definitions, which can distort interpretations. Mises, *The Theory of Money and Credit*, 52-54.
[63] Ibid., 57.
[64] In Maryland, Cecil Calvert, Lord Baltimore, did attempt to mint coins in silver denominations of 4d., 6d., and 1s., which he attempted to put into circulation through a 1661 law mandating that every household give sixty pounds of tobacco for 10s. in the new coin. However, there were not enough coins minted to replace tobacco as money, despite minting the coins with 20-25% less silver than the standard for their English denominations. "Lord Baltimore Coinage, 1658-1659: Introduction," Notre Dame University, last modified March 18, 2004. Accessed April 12, 2017. http://www.coins.nd.edu.

commodity money. Bank notes arise, though, in a different manner than token coins. Token coins are established through legislative fiat while paper notes may be established through private institutions, as with early goldsmiths and bankers. The important aspect for this economic definition is that money certificates are not issued in excess to the reserves of the commodity held by the banker. In the Virginia colony, tobacco notes came about in the early 18th century, which were made legal tender in 1727. Although money certificates of this sort did not play a significant role in the seventeenth century Virginia economy, the century-long gap between tobacco money and tobacco notes underscores the secondary status of tobacco as money during this time period.

The third category of money substitutes is bank notes issued in excess of the reserves held of the commodity; in other words, these are the product of fractional reserve banking. These also did not play any real role in the Virginia economy during the seventeenth century, but the insolvency of the credit system employed is not entirely unlike excessive paper issues in that both involve the over-issuing of credit. Both token money and unbacked bank notes are categorized as fiduciary media. Figure 1 is a simple diagram highlighting the distinctions between the different categories of money and money substitutes for clarity.

The early records make it difficult to pinpoint the exact time in which the credit and debt system was established in colonial Virginia, but it appears to have been in place at least by the time Virginia was proclaimed a Royal Colony in 1625. Aubrey C. Land explains the system well: "Put schematically, A, the English merchant or investor, extended credit to B, a colonial

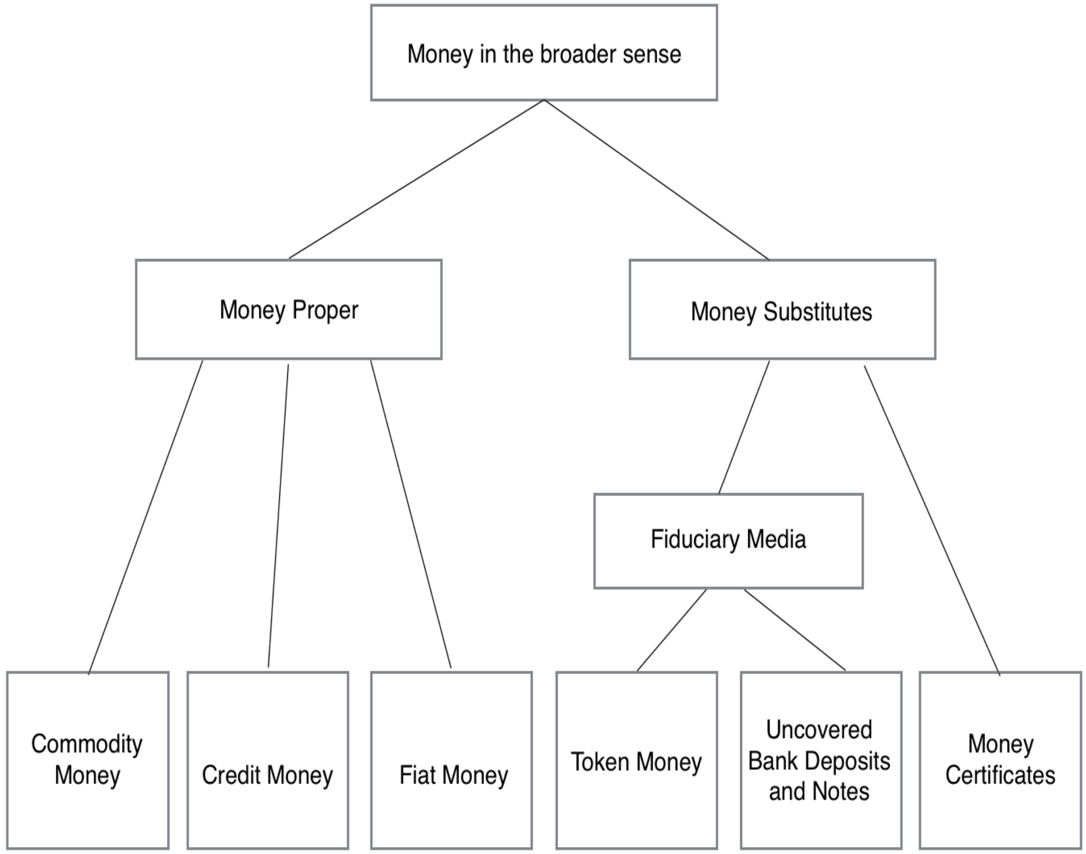

Figure 1. Categories of Money. Adapted from Mises, *The Theory of Money and Credit*, 483.

storekeeper or planter, who further gave credit to X, Y, and Z in his neighborhood."[65] Land is referring to the eighteenth century system of credit, but his explanation is representative of the seventeenth century as well, though not on as great a scale.

The primary function of money is, of course, to serve as a medium of exchange. The secondary functions can be derived from this cardinal function, but the functions of money as a standard of deferred payment and a transmitter of value over time and space have little significance in the early Virginia economy because of the absence of actual physical coin. Money as a "medium of payment" is a function of money that is created through legal tender

[65] Aubrey C. Land, "Economic Behaviors in a Planting Society: The Eighteenth-Century Chesapeake," *Journal of Southern History,* XXXIII (1967), 469-85.

laws. Such tender laws, examined in Chapter 2, were addressed by the colonial assembly throughout the seventeenth century. For understanding the importance of credit in early Virginia, the function of money as a unit of account is of paramount importance. Economists often refer to this function as “a measure of value,” which is a fallacious definition because value, being subjective, cannot be objectively measured. However, following the Regression Theorem, money clearly arises first from the subjective-use value of a commodity, which leads to its subjective value in exchange, and once this commodity has become generally accepted (allowing it to be technically classified as a “money”), it allows goods to have an “objective exchange-value.” In simpler terms, money becomes the common unit for the expression of prices. Having a uniform basis for prices is important because the “whole structure of calculations of the entrepreneur and the consumer rests on the process of valuing commodities in money.”[66] Economic calculations are necessary for market participants to assess profits and loss and make effective, rational exchanges in a complex economy. In the early Virginia economy, the function of money as a unit of account is vital to understanding the exchange patterns of the time.

The early Virginia laws regarding tobacco money expose the issue of the unit of account, which is a factor in this system of credit that Land does not address. Debt owed to the English merchants was calculated in units of British sterling, but debt owed by the small planters to the big planters would have been noted in pounds of tobacco *at the legislated exchange rate;* the debt structure from the small planter to the English merchant was distorted by the fixed exchange rate within the colony. The implications of this point are enormous. Monetary inflation favors the debtor at the expense of the creditor. By inflating the money supply, the relative amount of debt decreases because the money paid back will purchase less than the money originally borrowed.

[66] Mises, *The Theory of Money and Credit,* 48-49.

Because small planters were obliged to pay their debt in terms of tobacco, an incentive to grow tobacco rather than alternative crops was built into the planter economy, even if other crops were otherwise marketable goods. The large planters, on the other hand, benefited from tobacco deflation because their debt was calculated in British sterling. By raising the price of tobacco, they would necessarily have been lowering the *relative* value of the British pound. Thus, tobacco inflation had the effect of increasing their debt burden to British merchants, and the colonial legal tender laws mandated the acceptance of inflated tobacco at fixed rates for debt and taxes. Figure 2 illustrates the pattern of debt under this system. Virginia legal tender laws naturally created consequences that worked against the diversification schemes attempted throughout the century, which will be expanded upon in Chapter 3.

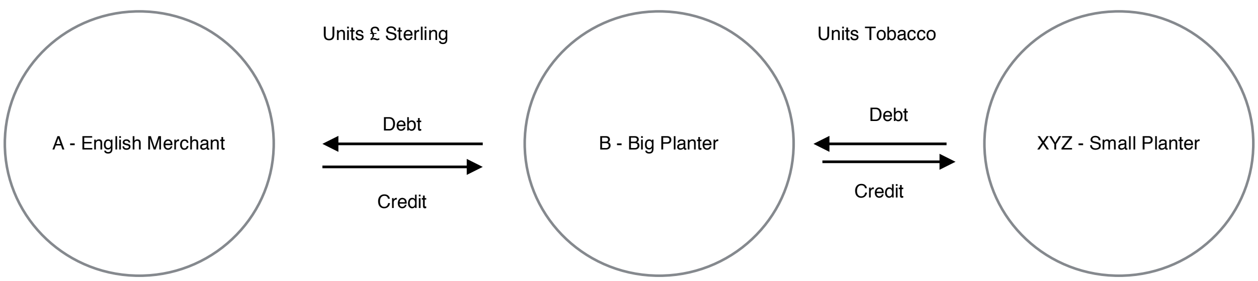

Figure 2: Distorted pattern of credit.

The debt system does not seem to have always been this simple. Various records of debt disputes show instances of somebody holding debt in both sterling and tobacco. Thomas Prettyman's account in 1660 showed debts owed to "Mr. David Fox for a horse" of £15, as well as various other debts owed in British denominations, while other debts were listed in terms of tobacco to different men. He owed a total of £28 20s in British sterling along with 2,012 pounds of tobacco. Many debts were tabulated exclusively in terms of tobacco owed. Minor Minson's estate in 1659 was valued at 2,534 pounds of tobacco, and he owed 3,875 pounds. None of his assets or liabilities were listed in terms of British sterling.[67] However, in the aggregate, the illustration of the credit system represented in Figure 2 remains accurate overall, as shown in the more interesting accounts of the wealthier merchant planters within the colony. Sam Griffin is demonstrative of this. His estate noted "A list of several bills recd of Mr. Sam Griffin made in the name of Mr. Miles Dixon and others" that show credit in terms of a total of 8,747 pounds of tobacco, but he also held debt with other men totaling £82 30s 6d.[68] Numerous estate appraisals list debt liabilities in a column on the left in terms of British coin and credit assets on the right hand in terms of tobacco. The lack of a uniform unit combined with legally fixed exchange rates made it necessarily impossible for these assets and liabilities to balance for the large planters.

The consequences of this system spilled over into legislation as the colonial assembly tried to keep up with the changing market price for tobacco. In 1632, estates were mandated to be appraised "after the rate of money and not in tobacco as has been the custom heretofore."[69] At this time, the legal rate of tobacco was still fixed at 3s for the higher grade and 18d for the lower grade, so by listing estate values in terms of tobacco, estates were becoming increasingly overvalued in terms of British sterling. On January 14, 1639, the assembly adjusted the exchange rate of the lower grade of tobacco, establishing that "debts are to be satisfied in tobacco at 3d. per pound" and limiting the amount of credit merchants could advance on their goods to thirty percent.[70] Perhaps the most direct attack on this system of credit came in 1642 when it was enacted that "monie debts . . . shall not be pleadable or recoverable in any court of justice under

[67] Beverley Fleet, *Virginia Colonial Abstracts*, Vol. I, (Baltimore: Genealogical Pub. Co., 1988), 119.
[68] Ibid., 144.
[69] Hening, *Statutes,* Vol. I, 201.
[70] Ibid., 225.

this government."[71] This act was unequivocally in the interest of the large planters who owed debts in terms of British coin, while still allowing them to seek recovery of outstanding debts owed to them in terms of tobacco. In 1662, Governor William Berkeley encouraged the assembly to make a law prohibiting any debts made in terms of tobacco for four years and instead promote debts in terms of coin, corn, livestock, silk, flax, and hemp.[72] Along with various similar acts, each of these laws represent reactions to the system of credit and its distortion between the two different units of account.

The purpose of the unit of account as a function of money is helpful in understanding the secondary status of tobacco as a medium of exchange in the seventeenth century. For economic calculation to take place, a relatively stable unit of account is imperative. Technical calculation is possible without a monetary unit of account, in that given any set number of resources, it is possible to calculate the units of inputs required to make a given output (e.g. 2,000 bricks required to make one house). What technical calculation does not allow, though, is the ability to allocate any bundle of scarce resources adequately between their alternative uses in any given economy with thousands of goods. For a rational allocation of resources, money prices are necessary. The British pound clearly persisted as the natural unit of account throughout the seventeenth century in Virginia, despite the lack of circulating coin. External debts were calculated in British denominations, and legal tender laws merely stipulated exchange rates for pounds of tobacco in terms of shillings and pence. Intercolonial transactions took place in terms of tobacco, but were always calculable in terms of British coin because of these fixed ratios. The laws proved to do little more than create an extra step in the process of economic calculation for

---

[71] Ibid., 262.
[72] Warren M. Billings, *Sir William Berkeley and the Forging of Colonial Virginia,* (Baton Rouge: Louisiana State University Press, 2010), 148.

intercolonial exchange, which likely helps explain certain failures in Jamestown planning that occurred before Virginia's capital was moved to Williamsburg in 1699. For example, William Berkeley spearheaded a statute in 1662 that attempted to establish thirty-two brick houses in Jamestown, with monetary allocations for this plan set in terms of tobacco. Less than half of these houses were successfully built.[73] The colonial assembly was only able to make technical allocations of tobacco to these projects, but the market was still subject to the fluctuations of the market rate of tobacco that distorted their calculations. Thus, the assembly was constantly bouncing between mandates that attempted to support tobacco as a colonial money, while altering accounting practices that reverted back to the British pound to alleviate these distortions, such as the laws requiring estate appraisal in money terms.

The challenge of establishing tobacco as a functional money would plague the Virginia assembly throughout the seventeenth century. The distortion in the credit system only enhanced the dependency of the Virginia planters on tobacco as an extension of their debt to the large planters. The members of the assembly, along with the governors who had their own instructions from the King of England throughout the century, saw this dependency as something that needed to be remedied through economic diversification. As a result, they would expend a great deal of effort attempting to make tobacco conform to the qualities of good money through legal fiat, as will be explored in the following chapter.

[73] Bruce, *Economic History of Virginia,* Vol. II, 540-45.

CHAPTER 2

THE CHARACTERISTICS OF TOBACCO MONEY

The Regression Theorem tells us that money develops from a commodity through indirect exchange until one good becomes generally accepted and is, therefore, used as the common unit for economic calculation. The emergence of one good as "the most liquid good" is not arbitrary, though. The most liquid good develops due to characteristics that these goods hold that allow it to function as a money, and to the degree that the money item does not exhibit these characteristics, it cannot effectively function.

The primary function of money is to act as a medium of exchange. Any physical commodity can be used as a medium of exchange, even if it does not have the characteristics to make it a good money. A *good* money must also act secondarily as a store of value and finally as a unit of account. Tobacco may have been able to serve these functions, but it was not able to do so very well. As discussed in the previous chapter, the inability to act as an effective unit of account led to distortions in the credit system. By making tobacco *legal* currency in 1619, the colonial assembly effectively stymied the ability for the market to continue producing more liquid goods – or, those goods that would better exhibit the necessary properties of an effective money. This chapter will show how the Virginia legislature spent the seventeenth century trying to make tobacco conform to the necessary characteristics of money through legislative fiat.

The Quality Theory of Money

Perhaps the most significant oversight in Mises' *The Theory of Money and Credit* is his neglect of the characteristics of money. He offhandedly mentions the "technical conditions that make any particular good suitable for use as money," naming "relative scarcity . . . divisibility,

[its] malleability, and [its] powers of resistance to destructive external influences."[74] He does not elaborate on these characteristics or their influence on the functions of money. Mises' protégé Murray Rothbard devotes an early section of his work *The Mystery of Banking* to discussing the "proper qualities of money," in which he names high demand, divisibility, portability, durability, and relative scarcity.[75]

Many economic textbooks fail to even mention qualities of functional money. The most widely-used textbook is Paul Samuelson and William Nordhaus, in which they tacitly acknowledge the qualities of money when discussing historic currencies: "Cattle are not divisible into small change. Beer does not improve with keeping, although wine may. Olive oil provides a nice liquid currency that is as minutely divisible as one wishes, but it is rather messy to handle."[76] However, they do not detail any explicit characteristics of money or tie these characteristics into its function.

Where the characteristics of money are mentioned, there is never any consensus on the particular qualities. Philip Bagus offers the most thorough account of the qualities of money and writes that "one of the most important properties for the quality of money is the existence of a non-monetary demand" for it, which Mises refers to as simply "use-value." Additional properties that Bagus mentions are "low storage and transportation costs, easy handling, durability, divisibility, resistance to tarnish, homogeneity and recognizability."[77] Although his account in this article is the best overview regarding the relationship between the qualities and money and

---

[74] Mises, *The Theory of Money and Credit,* 99.
[75] Murray N. Rothbard, *The Mystery of Banking*, 2nd ed. (Auburn, AL: Ludwig von Mises Institute, 2008), 6-7.
[76] Paul A. Samuelson and William D. Nordhaus, *Macroeconomics*, 19th ed., The Mcgraw-Hill Series Economics (Boston: McGraw-Hill Irwin, 2010), 175.
[77] Phillip Bagus, "The Quality of Money," *The Quarterly Journal of Austrian Economics* 12, No. 4 (2009): 22-45.

its functions, his analysis of the properties still appears to be insufficient. Resistance to tarnish, for example, seems to be a metal-specific derivative of durability, which means that it is of little use in analyzing tobacco. For these reasons, I have found it necessary to briefly offer a refined overview of the qualities of money and their relation to the functions of money.

To be a medium of exchange, something must have both a use-value and be physically material. A massage may have value to the person receiving it, but it is not a material good, so it cannot be exchanged indirectly. However, there are certain specific physical properties of a good that relate to its efficacy as a functioning money. The primary properties of money are homogeneity, divisibility, scarcity, durability, verifiability, and non-reproducibility. From homogeneity and durability, a money can be fungible, and if it is fungible and sufficiently scarce, then it will be portable. Thus, it is these characteristics combined with its use-value that allows money to serve its secondary function as a store of wealth. Through the properties of verifiability and non-reproducibility, in addition to its function as a store of wealth, money can function as a standard of payment, which is what allows it to be used as a unit of account. The good that best serves these functions, which means that it is the good that best exhibits the combination of these properties, emerges as money. Figure 3 illustrates these connections.

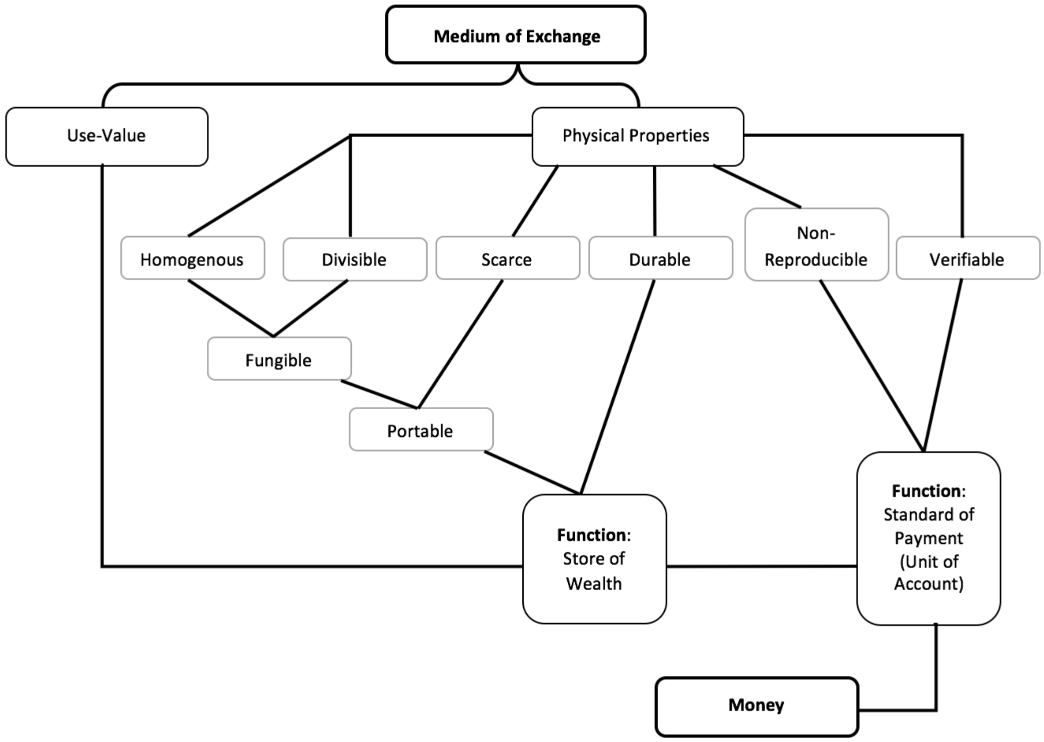

Figure 3: The Properties of Money Flow Chart

It is also worth stressing that none of these properties are *absolute,* but rather, they are *relative* in comparison with other goods. Scarcity, for example, cannot be absolute because if something is *absolutely scarce* it cannot serve as a money, while if a good is *absolutely non-scarce,* it can also not serve as a money. There is only one Mona Lisa in the world, and because this is a product that has both use-value (for its aesthetic appeal) and physical properties, it can conceivably be used in indirect exchange. But because there is only one, and it cannot be divided without altering the good itself, prices cannot be calculated in "units of Mona Lisas." It cannot function as a money. Likewise, air is too abundant to be used as money because it is absolutely non-scarce. Related to this issue of scarcity is the relative property of "non-reproducibility." This is a relative property because it really represents the cost of production. As a good becomes money, its total value increases as a result of its increasing exchange value. This increase in value will entice people to produce more of this good, so an item with a high cost of production (or an inelastic supply curve) is best fit to serve as a money. If the money-commodity can be produced at a low cost, such as was the case for tobacco, then it functions poorly as a unit of account because its supply elasticity will allow for greater fluctuations in its price, making calculation more difficult. This is the problem that was identified in the previous chapter.

This concept of the relativity of properties applies to any of the characteristics of money. For any commodity to emerge as “the most liquid good,” it need not *perfectly* exhibit these characteristics, as long as it best exhibits them *relative* to all other available goods. Over time, though, more liquid goods would emerge as economic conditions change, but by making tobacco legal tender through government fiat in 1619, the colonial assembly of Virginia interrupted this process. The result, as will be shown, was a poorly functioning money and a legislature that spent the seventeenth century trying to legislate the desirable characteristics of money into existence for tobacco.

Chasing Scarcity

The issue of scarcity was the most glaring problem of a tobacco currency. Many of the laws passed against the growing of tobacco are seen as part of a desire to diversify the economy in order to establish a modicum of self-sufficiency within the colony. There is certainly some truth to this, but the early laws against growing excess tobacco crops appear to be directed more to the protection of tobacco's integrity as a functioning money.

Tobacco’s low cost of production was persistently problematic in regards to Virginia’s money. The production costs played directly into the accounting problem identified in the previous chapter. When the supply of a good can fluctuate dramatically, its objective exchange-value, which is to say its price, is less stable over time. Calculation regarding the future, as is necessary when dealing with credit, is consequently much more difficult. Even if the legislature had not set the exchange rate between tobacco and British coin, any debts made payable in units of tobacco would be devalued to an unpredictable degree. Since the members of the colonial assembly were usually the same people who served as creditors within the colonies, legislative reaction to this problem dominates the early Virginia statutes.

In the 1620s, there was little incentive to curtail the production of tobacco because of the economic boom that was taking place from the relatively new trade. During the early twenties, the price and production of tobacco fluctuated, but it remained respectably high until the end of the decade. By 1632, the average price had dropped from 27d per pound to 2.9d, although it would level off at about 5d for the next few years.[78] Regulations began during this descent. In 1628, stipulations were enacted to ensure that tobacco plants must be planted at least "four feet and a half apart" and that planters could only "gather 12 leaves from a plant, instead of 25 or 30 as heretofore." This was done to reduce "the quantity to be planted as low as they well could . . . having a due regard to the culture of a sufficiency of corn."[79]

The first legal stint was enacted on October 5, 1629. This law mandated that "noe persons working, which are all to be tithable, should plant above 3000 plants uppon a head." For women and children, who were not tax liabilities (i.e. tithables), the stint was limited to "1000 plants."[80] For this first stint, which was only to be enforced for one year, newcomers were excepted so as to allow them to establish themselves inside the colony, and the governor maintained the right to grant exceptions to families who proved to be sufficiently constrained by this limitation.

[78] Menard, "Tobacco Industry," 157.
[79] Hening, *Statutes,* Vol. I, 135.
[80] Ibid., 142.

The stint was continually renewed, though, and only grew tighter. In March of the next year, the crop limitation was changed to 2,000 plants per person.[81] Another year later, this was renewed, but new qualifications were added to it. The limit of harvesting twelve leaves per plant was lowered to nine, and only fourteen leaves were allowed to be tended. Regulations aimed at the number of leaves per plant was a dictate as to how the tobacco plant was to be tended. Farmers would "top" the plant by "pinching off with the thumb nail the leading stem or sprout of the plant" to prevent it from growing and taking "nutritive juices" from the leaves at the bottom. This would render the harvested leaves "more weighty, thick, and fit for market."[82] The enforcement of this regulation meant higher grade leaves as well as a lower production of tobacco overall.

Planters were also no longer able to sell the rights to plant their share of tobacco to another planter. Incidentally, this prohibition likely had a deleterious effect on diversification, as doing so would have allowed somebody to pursue other crops while compensating for the transaction cost of not growing his own money with the income gained by selling his crop rights. Finally, the assembly mandated that no tobacco would be counted after November.[83] In February of 1633, the limitation was dropped to 1,500 plants per taxable person. This limit is the one that predominantly remained throughout the seventeenth century.[84]

Once William Berkeley was appointed as governor in 1641, the priority shifted fully to plans for economic diversification, which included a legally imposed stint with Maryland (the subject of the next chapter). By this time, tobacco was selling for an average of about 2d per

---

[81] Ibid., 152.
[82] Tatham, *An Historical and Practical Essay,* 18-19.
[83] Hening, *Statutes,* Vol. I, 164.
[84] Ibid., 205.

pound in any given year (in 1642 it jumped up to 4.2d, but prices plummeted to 1.8d in 1643).[85] It is difficult to ascertain from the records how effectively these regulations were enforced, but it is entirely clear that Britain's imports of tobacco increased nearly every year for which there are records.[86]

Chasing Consistency

The lack of homogeneity of tobacco is a less obvious but equally problematic factor of tobacco money. Good money must be fungible - which is to say that it remains fundamentally the same product when it is divided or combined – and verifiable. The quality of being divisible is important for good money as well, but because of the overabundance of tobacco, its imperfect divisibility was not an issue since it had to be measured in pounds, so a "partial unit" of a leaf was too small to ever be necessary for even the tiniest of transactions. However, the fact remained that even intact tobacco crops varied in quality, which meant trouble for the settling of debts. After the laws limiting tobacco production, the statutes enacted to attempt to legislate verifiable consistency of tobacco are the next most abundant tobacco regulations, but they are somewhat harder to identify.

On August 2, 1619, the first rules regarding the inspection of the quality of tobacco were set in place through the London Company of Virginia when it fixed the exchange rates at 3s per pound of the higher grade tobacco and 18d for the lower grade.[87] In March of 1624, these rules were renewed, but the London Company was no longer involved in the inspection, as the

---

[85] Menard, "Tobacco Industry," 158.

[86] There is a gap in the records between 1640 and 1669 that left insufficient data for Menard to construct any estimates about the poundage of tobacco imported, but the total imports in that nearly thirty-year timespan jumped from just over 1 million pounds to more than 15 million, while the taxable population in Virginia and Maryland less than quadrupled. Ibid., 158-159.

[87] *Colonial Records of Virginia,* 23-24.

assembly now stipulated that "there be some men in every plantation to censure the tobacco."[88] These statutes are often interpreted as a way that the colonial assembly attempted to retain the "brand," so to speak, of Virginia tobacco. L.C. Gray cites these regulations as progress being "made in the marketing of tobacco along the lines of more complete commercial organization."[89] Gray's claim is undoubtedly true to a certain extent, but it does not seem to be the entire basis for the regulations regarding the quality and uniformity of tobacco.

Were these regulations only meant to support the commercial integrity of the Virginia Colony, there would have been no reason to enact other statutes regarding the settling of debts. Once the tobacco was graded by inspectors, creditors were legally obligated to accept all "good and marchantable" tobacco at the legislated rates. In September of 1632, it was declared that if a merchant contested the quality of the tobacco, two men would be appointed to "further censure" the crop, and if the merchant refused to accept this decision, the debt was to be cancelled.[90] A uniform consistency could not be verified, so the standard had to be imposed not just on the planter – which would be the case if the only goal was to establish a commercial reputation – but also on the creditor, to try to force tobacco to function as a standard of payment.

Because tobacco was stored in hogsheads, there emerged the tendency to pass off cheaper tobacco mixed in with higher quality leaf. Inspections meant to curtail this practice as well. By the end of the 1620s, tobacco contracts required the leaves to be made up in "rolls," rather than binding the leaves in layered bundles. The practice of bundling the leaves meant that they were bound together with one leaf on top of another, thus making it easy to identify the consistency of

---

[88] Hening, *Statutes,* Vol. I, 126.
[89] L.C. Gray, "The Market Surplus Problems of Colonial Tobacco," *Agricultural History* 2 No. 1 (1928): 34.
[90] Hening, *Statutes,* Vol. I, 165.

the leaves. “Rolling” meant packing the leaves as the name describes inside hogsheads that were easier to transport in large quantities, but this made it possible to conceal the first leaves under several layers of other leaves. To verify the quality and consistency of the leaves inside meant actually breaking apart the entire roll for inspection and repacking them after verification. Inspection was a laborious task. Debtors made a habit of concealing lower quality leaves with a “wrapper” of high-grade leaf when passing off their rolls, especially as a way to cheat taxes.[91] This practice led merchants simply to bid lower prices for rolls of tobacco, knowing that they could not trust the quality of the product, which only created incentive for planters to focus their efforts on producing high-yield crops at the expense of quality. In March of 1658, the assembly also addressed the problem of mixing good tobacco with “anie ground leaves.” For planters who violated this policy by packing “anie ground leaves to the quantity of five pounds in a hogshead, among his top tobacco . . . It shall be lawfull for the said [commissioner] to give order for the burning it.” Because hogsheads with ground leaves had previously been passed as merchantable, the legislature simply fixed the exchange rate for hogsheads containing tobacco mixed with ground leaves so that “300 lbs. of tobacco, without ground leaves” would be “equal to 400 with them” in payment of debt. This stipulation obligated creditors as well. If a creditor was unwilling to accept “merchantable tobacco, haveing the ground leaves therein and so proportionably . . . the debt shall bee paied him with ground leaves.”[92]

Another factor that diminished the uniformity of quality in the tobacco is that of the “suckers.” William Tatham, in his 1800 publication of *An Historical and Practical Essay on the Culture and Commerce of Tobacco*, described this as a “superfluous sprout” of the tobacco plant

[91] Alvin Rabushka, *Taxation in Colonial America* (Princeton: Princeton University Press, 2008), 235.
[92] Hening, *Statutes,* Vol. I, 487-488.

"which is wont to make its appearance and shoot forth from the stem or stalk, near to the junction of the leaves with the stem." The colonial assembly referred to these sprouts as "seconds" or "slipps." Tatham explains that "if these suckers are permitted to grow, they injure the marketable quality of the tobacco by compelling a division of its nutriment during the act of maturation." To properly maintain the tobacco crop, planters typically grew their thumbnail long and hardened it in the flame of a candle for the purpose of "topping" the plant. With their hardened thumbnail, they would pinch off the sucker so that it would not take nutrients from the rest of the plant, thus preventing the dilution of the quality of the leaves.[93]

By leaving these secondary stalks, a planter could increase his tobacco yield at the expense of the quality of the leaf. The assembly first addressed this practice in September of 1632. It ordered that "no person or persons shall tend or cause to be tended any slipps of old stalkes of tobacco, or any of the second cropps uppon the forfeiture of his whole cropp of tobacco, whereof one halfe to be to the informer that shall sue for the same in any cort within this colony."[94] This statute was both a very severe penalty and a strong incentive for planters to enforce this rule against each other. However, it is impossible from the surviving documents to ascertain how prevalent such suits were because the records of the Minutes of the Council are missing the entire period between February of 1632 and April of 1670.

This statute is nonetheless very telling about the practices in Virginia at the time. Because there were already laws restricting the number of leaves that could be tended and harvested, there should have been a strong incentive for the planter to cultivate the plant in a way that would maximize the quality of the harvested leaves. Thus, if this law was followed, no statute should

[93] Tatham, *An Historical and Practical Essay,* 18-19.
[94] Hening, *Statutes,* 190.

have been needed to force the planter to remove the suckers. It can consequently be inferred that the small planters not only ignored this law, but they also saw a benefit to growing large quantities of lower grade leaves. This phenomenon can possibly be explained by the consignment system, in which planters bore the risk of transporting the tobacco to England where the merchant would attempt to sell it on commission; a larger product meant a diversified risk, not unlike the strategy of modern drug traffickers in shipping superfluous quantities of narcotics with the understanding that a certain percentage will be seized. However, other economic concepts suggest that the planters would have a greater incentive to increase the quality of the plants. The Alchian-Allen theorem suggests that fixed per-unit costs, such as transportation costs, will reduce the relative cost of higher quality goods.[95] According to this theory, there should have been a strong counter-incentive to tend the tobacco crop for higher quality leaf because the difference in marketability between the varying grades would be more significant in Britain. The credit system, though, seems to offer a more complete explanation as to the incentive for cultivating the suckers.

Because creditors were obliged to accept merchantable tobacco at fixed rates, debtors – being small planters – had an incentive to grow as much tobacco as possible to service their liabilities. By combining this with the previously mentioned systems of defrauding their creditors, the planters were making the rational choice to sacrifice potential *future* income in favor of lowering *current* debts. Naturally, this would only serve to frustrate the creditor-legislators who saw themselves as being cheated of their dues by being left with a supply of

[95] Jason Potts, "The Alchian-Allen Theorem and the Economics of Internet Animals," *M/C Journal* 17 Number 2 (2014).

tobacco that would fetch a lower price on consignment.[96] This frustration created a strong incentive for the establishment of public warehouses, which will be discussed later, but the practice of tending these secondary stalks of the tobacco plant would persist.[97]

The final way that the assembly attempted to establish a consistent quality of tobacco was to mandate the strain of tobacco to be planted. In 1633, the legislature stipulated that "as neere as may be the planters shall endeavor themselves to plant and sowe these kindes of tobacco which are of the longe sortes, and all other sorts the next year shall be quite left of, and given over."[98] This statue refers to Oronoco tobacco, which was the strain discovered by John Rolfe in 1612. Most likely, this rule was aimed at new planters who would have obtained their tobacco seeds in England before immigrating to Virginia. Established planters would have had a natural incentive to grow the more marketable Oronoco tobacco, which was generally considered superior to the English leaf. This law also coincided with the establishment of the first public warehouses which employed book credits to track the ownership of tobacco, so varying strains would diminish the monetary integrity of the tobacco accounted therein.

Chasing Portability and Durability

Because of tobacco's great abundance, payments in tobacco meant the transfer of large quantities. Transporting it within the colony for this purpose incurred great transportation costs.

---

[96] Gresham's Law, which asserts that bad money (in this case lower grade tobacco) will drive good money (higher grade tobacco) out of circulation, would also likely have been observed here. Planters certainly had every incentive to save any high-grade leaves they harvested for direct trade with British merchants, while they would undoubtedly have wanted to service tax and debt liabilities in the cheaper tobacco. It is the latter category, though, that is reflected in the records, so the extent to which this phenomenon manifested is difficult to verify.
[97] In March of 1656, the assembly reaffirmed this law after "serious consideration and debate for the bettering of our indeed onely commoditie of tobacco for the benefit, both of the planter and merchant." Hening, *Statutes,* Vol. I, 399, 478.
[98] Ibid. 205.

Even the arrogance of legislatures was not so great as to let men believe that this characteristic of money could be decreed into existence. The best that could be done was to offer planters a discount for transporting their taxes themselves, which saved the money of paying sheriffs a percentage of the quitrent.[99] Tobacco notes would later alleviate this problem, but not until the eighteenth century.

Durability, to maintain the fresh quality of a plant purchased for its flavor, was similarly perplexing. When tobacco was first made legal tender, the only method for curing tobacco was to throw the leaves into a heap of hay to dry them. In 1619, "a Mr. Lambert introduced the plan of stringing the leaves upon lines." This was the first step toward the innovation of the "tobacco stick," which was the means of drying leaves by hanging them upside down on rows of sticks suspended between beams in a tobacco house.[100] As curing and rolling methods became more advanced, the survivability of harvested tobacco did increase, but there always existed a possibility of being paid in good tobacco that would become bad by the time it was to be sold. Incidentally, this was also certain to have a negative effect on the prices of tobacco, since planters were forced to be price takers in the monopsonistic economy, with no ability to hold onto their crop until prices improved.

The best way the colonial government could address these issues was through the credit system and the erection of public warehouses. These were first established in 1633, and they were to be built at "James Citty, at Shirley Hund. Iland, Denbeigh, Southampton river in Elizabeth Citty, and Kiskyake."[101] Tobacco warehouses meant a more formal and centralized

---

[99] Rabushka, *Taxation in Colonial America,* 235.
[100] Bruce, *Economic History of Virginia,* Vol. I, 253; Tatham, *Culture and Commerce of Tobacco,* 33-34.
[101] Hening, *Statutes,* Vol. I, 204-205.

process of tobacco inspection, which would help enforce the statutes aimed at the other characteristics of tobacco, but it would also allow the government to see that planters were curing and rolling their tobacco according to the most effective methods for preserving the crops. This act further stipulated that tobacco could not be received as payment until it had been inspected by the appointed commissioners, and all non-merchantable tobacco was separated and burned. Store keepers were to be paid "1 per cent, for theire care in keepinge accounts of the severall parcells of tobacco receaved into these stores."[102]

One of the most important aspects of these warehouses was the institution of account books to document the holdings of the planters. Account books lowered transportation costs of tobacco by allowing many of the inter-colony transfer payments to take place simply by documenting payments in the colonists' accounts. The assembly mandated that "all payments of debts, shall be made a done at the sayd stores, with the privitie and in the presence of the store keepers." This attempt to centralize trade included a provision that required all goods to "be landed at James Citty . . . And all contracts, bargaines, and exchanges in tobacco for any part of the sayd goods shall be there only made and done, with the privitie of such store keepers as shall be appointed at James Citty, uppon penaltie of the forfeiture of the sayd goods and tobacco."[103] This provision was difficult to enforce as the early planters farmed along the James River, and it was not possible for the assembly to effectively prevent private merchants from sailing up the river to barter with planters directly.

By August of 1632, though, it seems clear that the credit distortion was not being curtailed by any of the legislative efforts. One year later, the assembly decreed that although

[102] Ibid., 221.
[103] Ibid., 205.

> it hath beene the usuall custome of marchants and others dealing intermutually in this colony to make all bargaines, contracts, and to keep all accounts in tobacco and not in money . . . *It is thought fitt by the governor and Counsell and the Burgisses of this Grand Assembly*, That all accounts and contracts, be usually made and kept in money and not in tobacco. *It is also thought fitt,* That all please and actions of debt or respass be commensed and sett downe in lawfull money of England onlie, and in no other comoditie (emphasis in original).[104]

It was possible for the assembly to change the documented unit of account to the British standard, but there still remained the legislated exchange rate of tobacco. Because there was still an absence of specie within the colony, this decree meant very little. The fees for government offices, such as the secretaries and marshals were also to be listed in British currency, and tobacco and corn could only be accepted "according as the rate then goeth."[105] Tobacco would have to continue to be used for the payment of salaries and debts, and even if it was translated into terms of British sterling, the exchange rate could never reflect the market price of tobacco.[106] Salaries of government employees were switched back to tobacco in 1643.[107]

These acts only created more problems. Although the court records do not exist for this time period, it appears that creditors were demanding British money for their debts as the law allowed. In 1643, "monie debts" were no longer "pleadable or recoverable in any court of justice." Most significantly, this statute took specific aim at merchants, mandating "that a coppie of this act . . . be fixed on the mastes of all shipps upon their arrival within the government." This fact is vital to understanding the credit distortion discussed in the previous chapter. Accounts in

---

[104] Hening, *Statutes,* Vol. I, 216.
[105] Ibid., 220.
[106] Even without a fixed exchange rate, the market price of tobacco would not have been effectively calculated in terms of British coin. Because tobacco was sold on consignment, it could take as long as two years to find out how much the last batch of tobacco was sold for, so the latency in price adjustment and market equilibration was debilitating within the Virginia credit economy.
[107] Hening, *Statutes,* Vol. I, 266.

the Virginia Colony were traditionally made in units of tobacco, prior to the 1633 mandate, while accounts kept by British merchants were always made in units of sterling. As tobacco was grown in increasing abundance, the balance between assets and liabilities of the Virginian merchant-planters continually shifted in a way that increased the relative liabilities that these men owed to British merchants in comparison to the assets they were owed by the small planters. The reaction was to simply prohibit merchants from suing for their dues. The assembly also took a swipe at the creditors who were suing debtors "for sundry and sinister malicious ends" by declaring that plaintiffs were obligated to "make sufficient and legal proofes" of their demands, or they would be forced to pay penalty fees for having "unnecessarily troubled their debtors." In 1645, the assembly also placed a statute of limitations on pleading book debts of only nine months. If any suits were brought after this nine-month period against a debtor, the debt was cancelled.[108]

The most effective way the colony was able to adapt to the non-durability of tobacco was through the credit system. Because tobacco was perishable, the idea of holding tobacco as a store of wealth was untenable. But tobacco was grown continuously, and the crop cycles were predictable. Therefore, debts to the colonial government were typically levied against future harvests. This practice was established before Virginia became a Royal Colony. In 1624, for example, the Council ordered that for defaming the minister David Sandys, Thomas Alnet "shall ask forgevenes before this board, & shall likewyse pay 100 [pounds] of Tobacco, towards [repairs] of the church in James Citey; at the next crope."[109] This practice replaced the need for a more durable money with a system of continual debt and, as will be illustrated in the next chapter, would only strengthen the incentive to overproduce tobacco within the colony.

---

[108] Hening, *Statutes,* Vol. I, 262-264, 301.
[109] McIlwaine, *Minutes of the Council*, 18.

In 1645, the legislature tried to replace tobacco money with coin. The Spanish piece of eight had started to circulate in the North American colonies.[110] The originally established exchange rate for a piece of eight was set at six shillings, and it was lowered to five shillings in 1656.[111] Because a British shilling consisted of 86 grains of silver (a grain being the measurement of pure silver in terms of the weight of grains of wheat according to the traditional system used in Troyes, France during the Middle Ages), while a Spanish piece of eight consisted of 387 grains of silver, the market exchange rate would have been 4s 6d.[112] The piece of eight was overvalued, which was most likely done to attract specie into the colony. However, the result was that merchants would refuse the Spanish coin when they were owed shillings. In 1658, the legislature decreed that it was unlawful to refuse payment in Spanish coin. They also imposed a penalty for the exportation of more than forty shillings.[113] The premium that Virginia was willing to pay for silver may have drawn some of it into the colony, but it made it difficult to circulate where acceptance was not compulsory.

In 1645, the assembly also attempted to establish a mint. This act hoped to alleviate "the great wants and miseries which do daily happen unto [the Grand Assembly] by the sole

[110] The Spanish piece of eight, sometimes referred to as the "Spanish Milled Dollar," was the most popular coin in the North American colonies and later became the basis for the United States dollar. It circulated widely in the eighteenth century and continued to circulate until the passage of the Legal Tender Act of 1862. It was popular because it was milled by a machine, rather than hammered by hand, giving it a more uniform shape than British coins and a ridged edge that made it easy to detect if somebody was shaving off pieces of the metal because it would smooth the edges of the coin. The integrity of the Spanish coin was therefore more consistent than British coins which were not consistently milled by machines until the 1660s. Murray Rothbard, *A History of Money and Banking in the United States: The Colonial Era to World War II* (Auburn, AL: Ludwig von Mises Institute, 2002), 49-50.
[111] Hening, *Statutes,* Vol. I, 308, 397.
[112] Rothbard, *A History of Money and Banking*, 50.
[113] Hening, *Statutes,* Vol. I, 493.

dependency upon tob'o."[114] The plan was to import 10,000 pounds of copper to establish their own coins in British denominations. To pay for this, which they calculated would require 120,000 pounds of tobacco, the legislature imposed a tax of twenty-four pounds of tobacco per tithable in the colony. They then intended to mint 20s per pound of copper, which would necessarily have grossly inflated the actual value of the copper.[115] This mint project was the most ambitious attempt to move the Virginia Colony away from a dependency on tobacco money, but it was never successfully carried out.[116] Tobacco would remain the standard currency in Virginia despite all of the assembly's efforts to break away from it.

The use of tobacco as money was continually troublesome for early Virginians. The assembly made constant attempts to legislate away the problems with tobacco in what can predominantly be identified as monetary laws, rather than commercial regulations. At best, these statutes had no impact on the Virginia economy, and at worst, they did more harm than good. Even when the assembly made a concerted effort to replace tobacco with coin in the 1640s, their efforts appear to have most likely done more to drive metallic monies out of the colonies by effectively legislating rates of loss for anybody accepting the foreign coin. Even the plan to import copper was to be paid for by levying a tax on every citizen, payable in tobacco, thus reaffirming the need for the citizens to grow tobacco to cover this new liability.

During the first few decades of the colony, there were some statutes put into place to move Virginia toward a more diversified economy. When William Berkeley was made governor in 1642, he resolved to tackle the diversification problem with gusto. Unfortunately, his efforts

---

[114] Ibid., 308.

[115] Had these coins been minted, they would have fallen under the category of "token money" as money substitutes, according to Mises' analysis.

[116] Ripley, *Financial History of Virginia,* 114.

were to be constantly undermined by the then well-established system of money and credit that would make any diversification scheme an uphill battle. As will be shown in the next chapter, his plan itself would have had little effect even without this handicap, but the issues of the tobacco currency, counterintuitive monetary policies, and Berkeley's ill-conceived economic plans combined into an utterly futile attempt to create a self-sustaining commercial economy.

CHAPTER 3

ON THE DIVERSIFICATION PROBLEM

In the late sixteenth century, Spain introduced Europe to the potato, a New World crop. Much of Europe was suspicious of the new plant - after all, potatoes were never mentioned in the Bible, and learned people knew that they caused leprosy. The Irish were the exception to the European fear of potatoes, embracing them as an easy means of subsistence that would feed them for centuries. The high calorie content and easy cultivation of the potato offered great advantages over wheat, the staple crop of Britain, and the Irish became dependent not just on potatoes, but on a specific type of potato: the Lumper. Unlike other strains of potato, the Lumper was vulnerable to *Phytophthora infestans,* a fungus that blighted the Irish potatoes in 1846, bringing about the Irish Potato Famine. By contrast, the Incans, another potato-dependent culture, grew various strains of potatoes. Their potato polyculture meant that any such blight affecting one strain of potatoes would be incapable of destroying their entire food supply. The fungus that made the Irish starve would have been easily weathered by the Incans. Michael Pollen says that "monoculture is where the logic of nature collides with the logic of economics."[117] This belief appears to have been at least tacitly held by the governing bodies in early Colonial Virginia. A dependency on tobacco - a luxury crop, unlike the potato - held the Virginia economy hostage to the vicissitudes of nature and markets. Economic diversification meant more than just the ability for Virginia to provide other commodities to England; it meant self-sustaining stability for the colony itself. It was a sensible goal. Unfortunately, despite century-long efforts by the governments of both Great Britain and Virginia, economic diversification would remain elusive

---

[117] Michael Pollan, *The Botany of Desire: A Plant's Eye View of the World* (New York: Random House, 2001), 198-202, 229-231.

as the planters persisted in large-scale tobacco cultivation even when it seemed to be to their own detriment. This chapter seeks to understand why this was the case and how legislative actions affected this goal.

The London Company's Diversification Efforts

Referring to the direction of the Virginia Company as "diversification efforts" is probably misleading. Before its dissolution, it was nothing more than a company seeking profits. Nonetheless, the pursuit of profits coincided with a desire for a more diverse economy. The colony was a financial drain on the investors, partly because the settlers did not find the resources that England was hoping for - chiefly, gold and silver - but primarily because they were in constant need of provisions provided by the company at great cost. The company's goal was to get Virginia to the point at which it could sustain itself so that the profits that came from the commodities it could advantageously provide, being initially only tobacco and sassafras, would not be consumed by constant investment into the subsistence of the citizens. Thus, the company's early diversification efforts were based on two different ambitions. First, they wanted to find profitable goods for English import, and secondly the company wanted to ween the colonists off dependency on England.

The first few years of the colony were blighted by compulsory communal living and conflicts with the Indians. In 1614, the economy picked up when small acreages of land were privatized and a temporary peace was made with the natives. In the years immediately following, eleven commodities were sent to England. Sir Thomas Dale, upon returning home to England in 1616, wrote to Sir Ralfe Wynwood that his "ship hath brought hom exceedinge good tobaco, sasafrix pych, potashes Sturgyon & cavyarye & other such lyke commodytyes as yet that countrye yeldes."[118] His optimistic boast was clearly intended to convince the investors of the soundness of the Virginia Colony as a profitable venture, but it nonetheless illustrates that the Virginians did produce a variety of commodities.

In 1610, George Yeardley took over as governor and upon arriving granted freedom and land patents to several indentured servants, fulfilling the contract made with a previous governor three years prior. The company put its own indentured servants to work cultivating grain, and they harvested enough to fill a newly erected granary. Both the granary and the grain farming took place on company land in Charles Hundred, referred to as the "common garden," that produced both grain and tobacco. In 1617, the London Company enjoyed a sizeable profit of £300, but these profits were almost entirely from the sale of tobacco. The grain was used for local consumption to sustain the indentures and supply new arrivals.[119]

When Samuel Argall took over as governor in 1617, grain was abundantly stored in both the public granary and private plantation stocks. He dictatorially took ownership of the granary, diverted the use of it solely to supporting his personal servants, storing the rest to maintain animals during the winter, and forced laborers who had fulfilled their term of indenture to remain "in the common service, their freedome not beinge to be obtained without extradorinary payment."[120] He also slaughtered public cattle to personally profit off their hides, and his central management of the common gardens led to a poor harvest despite an expansion of the acreage devoted to grain. To the great frustration of the company, he also opened trade to all merchants. Although he did this only to enrich himself further off the tobacco that he was able to control

---

[118] Not all of the eleven commodities are specified in the records. Alexander Brown, *Genesis of the United States,* Vol. II, (Cambridge, MA: The Riverside Press, 1891).
[119] Bruce, *Economic History of Virginia,* Vol. I, 220-222.
[120] *Colonial Records,* 78.

through his tight rule, the opening of trade may have been the one thing that allowed the colonists to survive during Argall's terrible reign. With trade expanding, the planters were now shipping exclusively tobacco and sassafras, the only commodities the private traders could profit from in exchange for the provisions they supplied the planters. By 1619, Argall's neglect had reduced the common gardens to an abysmal state, and no workers remained working this common property. The remaining public stock of animals was a paltry six goats. The colonists survived by importing food in exchange for tobacco. In 1617, Argall instituted the first price floors for tobacco, artificially propping up its price two years before the legal tender laws would set exchange rates. Tobacco was now the dominant staple of Virginia, at least partly due to the poor stewardship of Governor Argall.[121]

Yeardley took over once again in 1619 and ended Argall's terroristic tenure. The right to private property was extended to all of the so-called "ancient planters," referring to those who had come to the colony prior to Governor Dale's 1616 departure for England. He established the first legislative body in the colony and among its first acts was the granting of legal tender status to tobacco. There were still some attempts at cultivating other products, particularly silk. In 1621, two regulations regarding the mulberry trees, whose leaves were the only source of food for the silkworm, were enacted. One required the planting of a certain number of mulberry trees, and the other made it illegal to destroy these trees when clearing lands for farming.[122] Tenant rents were also changed to require the annual payment of "20 bushells of corne; 60 waight of good leaf tobacco, and one pound of Silke."[123] New land grants were accompanied by the stipulation that the recipients could not focus their efforts primarily on tobacco, and they must

[121] Bruce, *Economic History of Virgina,* Vol. I, 223-226.
[122] Hening, *Statutes,* Vol. I, 119.
[123] Neill, *History,* 330.

divert efforts to growing "corn, silk codds, silk grass, hemp, flax, and such other staple commodities." This provision had a deeper effect on planters who commanded enough wealth to purchase servants because the company further stipulated that indentures could only be paid for in these goods. These efforts were primarily aimed at finding new revenue streams for the company, as the colonists had predominantly become individually self-sufficient. Edwin Sandys also proposed the appointment of "a committee of merchants, skilful in these particular commodities . . . to set such indifferent good rates and prices upon them" that the planters would be encouraged to raise their production of these items.[124] The hope was that by scheduling set prices, tobacco and sassafras would no longer be the only two items accepted by the director of the Magazine.

To maintain economic independence and sustainability, the first assembly summoned by Yeardley mandated that "yeare by yeare all & every householder and householders have in store for every servant he or they shall keep, and also for his or their owne persons . . . one spare barrell of corne." Early statutes would also require that a certain acreage of land be devoted to the cultivation of corn, but the specific requirement changed from time to time. In 1619, the company sent wheat and barley as well as fruit seeds in the hopes of bringing about cultivation of these crops. The assembly also mandated that one hundred flax plants must be tended by every family.[125]

Regarding the early economic development of Colonial Virginia, many diversification efforts - particularly those aimed at producing salable commodities for exportation - were futile under any conditions. There were many variables that made tobacco the sensible cash crop of the

---

[124] Ibid.
[125] *Colonial Records,* 21.

colony, most of which were not artificially imposed by the government. We would lump these factors into the economic classification of “comparative advantage,” being those variables which allowed Virginia to produce something that was more beneficial for England to import than to produce locally, since English tobacco was considered to be inferior in quality.

The first and most well-acknowledged of these is the particular strain of tobacco that John Rolfe developed. Spanish tobacco was considered to be the highest quality leaf in Europe, and British tobacco was a cheaper alternative. The Virginia strain was esteemed closer, but not quite equal, to the Spanish leaf. Because of its high quality, Virginia tobacco enjoyed a differentiator from the British alternative that did not exist with other crops; silkworms in Virginia, for example, produced the same substance as silkworms in Britain, so the primary difference in silk was the cost of transportation.

The agricultural environment was also not ideal for wheat cultivation for a number of reasons. The virgin soil in the colony was actually too rich to cultivate quality wheat with the primitive tools the planters had available. The wheat grew with incredible rapidity, but the process of cutting the crop was time consuming and many of the stalks became overripe and fell to the ground before they could be harvested. The quality of the grain, then, was quite high, but the lack of implements hindered its economic viability.[126] The rapid growth also meant that the nutrient-hungry crop depleted the soil much too quickly. In Britain, soil depletion was remedied with manure, but the scarcity of manure actually made it less costly to clear new patches of the abundant land rather than to manure an old field. By more rapidly depleting the soil, surplus wheat cultivation would necessarily mean the more rapid deforestation - a labor intensive task -

[126] Plows were in short supply in Virginia, but even what plows they did have were limited by the unavailability of livestock to drive them. The shortage of cattle at this time was the residual effect of Argall's irresponsible slaughtering of the public livestock.

than the less demanding tobacco. Finally, wheat was heavier than tobacco and thus incurred greater transportation costs. Grain simply was not fit for export.[127]

Maize saw similar barriers. In contrast to wheat, it represented a potentially new product for European consumption. However, in addition to being another nutrient-hungry staple with high transportation costs, it was also more labor intensive to grow. The plow would have helped service this problem, but that was a costly import. Not only was the tool itself in short supply, but it required animals capable of pulling it and men skilled enough to drive it. Grain was thus cultivated almost exclusively for direct consumption by the planters.[128]

Other disadvantages would plague alternative commodities. Silk seemed promising in the final years of the Virginia Company, but the Indian massacre of 1622 destroyed the infant silk industry. Regardless, it is doubtful that silk would have become otherwise prevalent. Even though raw silk commanded an attractive price in England, it required a much longer production process than small planters were willing to undertake. The majority of Virginia's population preferred to devote their labors to the construction of tobacco houses and the more immediate reward of tobacco sales.[129]

The natural presence of grapevines in the colony encouraged the assembly to pass a law mandating the cultivation of vines for the production of wine. Wine was successfully produced, but by the time it reached England, it was reported to be of such poor quality that the vinedressers were accused of a scandal for supposedly hiding their knowledge in retribution for

[127] Bruce, *Economic History of Virginia,* Vol. I, 257-258.
[128] Ibid, 259.
[129] Ibid., 243-244.

being forced to labor slavishly. In 1623, the company issued a new mandate for the cultivation of vines. They saw no more success than before.[130]

Each crop attempted - rice, indigo, flax, and hemp - met with similar problems. If it could be grown, it was of lesser quality than the English alternative. Or perhaps, the cost of production made it simply comparatively disadvantageous. Even sassafras, which was originally the only other profitable commodity in the colony, had dropped so drastically in price by 1620 that Edwin Sandys recommended that its production be curtailed. Virginia tobacco was a distinct and superior product compared to its British competitor, it cost less to produce and transport than any alternative, and it fetched a hefty profit - at least in the early years. The market for tobacco was also wider than the other crops, which naturally relates to the premium price that tobacco enjoyed. The Dutch were eager purchasers of Virginia tobacco, but they produced their own grain sufficiently enough to provide no market in Holland. All natural factors lent to the emergence of tobacco as the principle product.

These natural factors both led to and were buttressed by the artificial factors in Virginia's devotion to tobacco. The most significant of these variables is likely the establishment of tobacco as legal tender, which could only have come about through its initial demand for direct consumption, as was detailed in Chapter 1. The legal tender laws set in motion the credit distortion that only further incentivized planters to grow tobacco as abundantly as possible to service their debts to the large planters and, in the best of years, to afford amenities, which they could not produce on their predominantly self-sustaining farms. Thus, planters committed themselves to tobacco out of the rational self-interest of individual actors, while the assembly was tackling the problem (if not in their own self-interest as debtor-creditors who suffered losses

[130] Ibid., 245-246.

from the credit distortions) as a social problem to be solved by sweeping regulations aimed at solving aggregate problems. Their solutions could only be effective with the collective cooperation of planters working against their own individual interests.

During the economic boom that lasted into 1622, planters were so focused on tobacco cultivation that they actually armed the Indians and hired them for the hunting of game. In retrospect, it seems unsurprising that the Indians turned these weapons on the colonists in March of 1622, before the tobacco planting season had begun. The settlement was devastated - not just in terms of lives lost, but also in livestock - and the surviving planters devoted a greater portion of their land to growing maize so as to relieve themselves of any dependency on the once-again-hostile Indians. Revenge would be delayed until stability could be regained. The massacre was the catalyst for a year-long recession within the colony that was worse than any since the Starving Time that nearly wiped out the settlement more than a decade prior. Although the surviving yeoman were able to subsist on their own production, many tenant farmers were unable to meet their obligations for rent and either perished or absconded to search for wild game. The price of grain and corn skyrocketed within the colony, so tobacco remained the priority export as well as the standard for whatever exchange took place. In 1623, the colony rebounded from a new supply of provisions from England. These supplies were transferred on credit to be paid in future harvests of tobacco, so that is understandably what the colonists planted.[131]

---

[131] The company records make it appear as if these emergency provisions were gifted to the struggling colonists after the massacre. It seems that these provisions were extended on credit in the same manner as any other exchanges. The best evidence of this is found in the combination of two sources. In the *Calendar of State Papers,* George Harrison sent a request to his brother John Harrison to send supplies to the colony on the account of a Mr. Bennett. Six weeks later, the same names show up in the *Minutes of the Virginia Council* in the settling of Mr. Bennett's debts in quantities of tobacco, providing no opportunity for the colonists to detach themselves

Diversification was not helped by the protectionist policies put in place directly after the dissolution of the Virginia Company. Even though this came after the revocation of the company charter, the effort was pioneered by the stockholders as a last ditch effort to save their investment. Restrictions on Spanish tobacco imports to only sixty thousand pounds and a ban on English cultivation were put in place by King James I before revoking the charter, but it was coupled with a costly import duty and a mandate that all Virginia exports must land first at an English harbor so the duty could be extracted before being shipped to other countries. Both the English cultivation ban and the British import mandate were widely evaded, but the policy was still sufficiently problematic for the colonists that it was repealed after a year. This policy would be more advantageously reinstated in 1625 by King Charles I after the death of his father.[132]

Although 1623 saw some continued effort for grain and maize production in the form of laws mandating the former and deregulating the latter, tobacco was by this point too heavily ensconced in the Virginia economy. By 1625, the stockholders of the former Virginia Company were no longer in the position to directly invest in the production of other potential commodities, although they continued investing in merchant ships sent to the colonies. Tobacco retained its natural comparative advantages in the Virginia economy, but its dominance was clearly maintained through the unnatural status as legal money for the payment of debt. By the time Virginia was proclaimed a Royal Colony, the credit system was fully established and the assembly saw no solution other than to try futilely to make tobacco conform to the proper functions of money through legislative fiat, as Chapter 2 has already demonstrated. Now

---

from dependency on the crop. *Calendar of State Papers, Colonial Series: 1574-1660,* Vol. I (London: Longman, Green, Longman, & Roberts, 1860), 36; McIlwaine, *Minutes,* 13.

[132] Bruce, *Economic History of Virginia,* Vol. 2, 277.

beholden only to the Royal Government in England, each governor would attempt to bring about the diversification of the economy for new reasons.

Diversification Efforts Before William Berkeley

By 1627, Charles I was "much troubled" by "how little account can be given of any substantial commodity from the colony" and believed it shameful "that this plantation is wholly built upon smoke, tobacco being the only means it hath produced." He thus sent instructions to Governor Yeardley "to take especial care in the making of pitch, tar, pipe staves, soap-ashes and potashes, iron and bay salt; to search for rich mines and to plant vines."[133] Yeardley died shortly after these instructions were issued, and they were passed forward to his successor.

In conflict with these diversification plans were the petitions for favorable interventions to support the tobacco market. The government of Virginia sent a letter to the King hoping to convince him to guarantee a buyout of 500,000 pounds of tobacco at the above-market price of 3s 6d per pound. At this time, the estimated total production of Virginia was only 412,500 pounds of tobacco. The King consented. This was meant to remedy "evil effects of former [tobacco] contracts; the very name a terror and discouragement to the colony, which has for six years past 'laboured in the confused paths of those labyrinths.'" He also prohibited Spanish tobacco entirely, declining even to import a small quantity for "royal use," as had been done in the past. Along with this petition were assurances that diversification efforts were successful:

> Materials in plenty for making pitch and tar . . . Many hundred casks of their timber now exported from all parts of the country. Iron from the mine has been sent home . . . Great hopes of gold, silver, and copper mines. Some of them, 19 years ago, received "certain assurance" of a silver mine, four days' journey above the falls of the river. Planting of vines likely to be a beneficial and profitable commodity.[134]

---

[133] *Calendar,* Vol. I, 86.
[134] Ibid., 89.

These were empty promises, and it is doubtful that members of the Virginia government believed them. But these men knew what the King wanted to hear, and it was enough to convince him to prop-up the tobacco industry through government subsidies and protections. Three years later, Charles added a prohibition against English tobacco cultivation, though this was undoubtedly done to protect the lucrative revenue raised from customs on Virginia imports.

These protections meant heavier regulation within the colony. Dutch merchants were still buying Virginia tobacco. English law mandated that they dock in England before Holland to prevent skirting the duties. The Crown also forbade unlicensed British merchants from trading with the Virginians. It appears that Governor John Harvey of Virginia was unwilling to enforce these rules, as the colonists wanted as complete a freedom to trade as they could obtain. These laws were therefore poorly enforced and quickly repealed.[135]

Natural economic factors still played a role in the dominance of tobacco in the Virginia economy. Pitch and tar production, for instance, was hindered by a scarcity of horses, so the planters could not effectively transport the wood to the kilns.[136] Diversification efforts by the government never appear to have been successful, and the evidence implies that the support of tobacco did more to impede diversification than any efforts to promote it. These failures are most apparent when looking at periods in which planters did make moves toward diversification.

In 1630, the price of tobacco plummeted, bringing about another recessionary period in

---

[135] Bruce, *Economic History of Virginia,* Vol. I, 290-291.

[136] The tar produced in Virginia was made by burning pinewood slowly over kilns to produce a sticky resin that was used primarily to hold in place ship masts and manufacture soaps. Pitch was produced by boiling tar so that it could be pasted over the sides and bottoms of wooden ships to make them water tight. Much like the hemp production that was encouraged in the eighteenth century for the manufacturing of British military uniforms, pitch and tar was a favored commodity for building and maintaining Britain's dominant navy. Paul Hudson, *A Pictorial Booklet on Early Jamestown Commodities and Industries* (Williamsburg, VA.: Virginia 350th Anniversary Celebration Corporation, 1957).

the colony. As Phillip Alexander Bruce writes, "there was now for the first time in the history of the Colony a voluntary disposition among the people to devote some attention to other commodities that had hitherto aroused but little interest."[137] There was little division of labor within the colony, as most planters grew enough wheat or corn to maintain their households, and nearly every planter owned a handful of domesticated pigs and chickens. This depression of tobacco prices, though, brought about some efforts by planters to produce other staples for sale to fellow colonists. Abraham Piersey was ahead of the curve on the cultivation of grain. Despite the trouble that many planters had with it, he was able to grow enough wheat to feed roughly sixty people.[138] Because tobacco was still the medium of exchange in the colony, the incentive for diversification was still stymied, but intracolony exchange was becoming more prominent, meaning that some planters found it more lucrative to grow crops to trade for tobacco. Although there is no explicit link made, this is likely an important factor in the 1633 law mandating the erection of public warehouses, tobacco inspections (which had never really been enforced in the decade prior, despite being on the books), and warehouse account books to document credit exchanges within the colony; with tobacco being increasingly used for indirect exchange, transactions needed to be recorded. Although tobacco had been instituted as legal tender in 1619, it was only now starting to become a regularly used medium of local exchange between planters.

The phenomenon of natural diversification taking place went unnoticed by the governments, both in Virginia and England. John Harvey, like the governors before him, was sent instructions from the Crown to pursue the diversification of the colony. Upon arriving in 1629, he "found the people miserably perplexed for want of corn, which they had generally

[137] Bruce, *Economic History of Virginia,* Vol. I, 301.
[138] John Smith, *Travels and Works,* 885.

neglected to plant." This negligence led to the statute "passed to augment the quantity of corn, and restrain the excess of tobacco." Additionally, "propositions were made for setting forward divers[e] staple commodities" which he hoped "next year to give good account of."[139] Even though diversification was taking place to some extent, the overwhelming focus on tobacco production and its increases as the population grew overshadowed these behaviors.

Sixteen thirty-four proved to be a pivotal year in the Virginia economy when the northern areas separated to form the colony of Maryland. Like Virginia, their trade would be tobacco-centered, and the crop would serve as their medium of exchange. However, they did not declare tobacco to be legal tender, which meant that exchange rates fluctuated more freely and acceptance of tobacco was never compulsory as it was in the Virginia Colony. As much of the legislative effort was focused on limiting the production of tobacco, Maryland would make the enforcement of such laws self-defeating. In later decades, the Virginia assembly would make a number of attempts to get the government of Maryland to agree to a joint tobacco stint, though this would never come to pass.

By the late 1630s, Charles reprimanded Governor Harvey for "how little advance has been made in staple commodities" in Virginia. The devotion to tobacco was partly blamed on the Indians and the Dutch, who "make a prey of the tobacco and crop of the plantations to the prejudice of the King's just duties and profits." In other words, the Virginia market was being supported by other merchants who were avoiding the British import tax and supplying the colonists with non-British manufactures. Charles pointed to the "Caribbee Islands" as an example of more successful diversification to demonstrate the falsity of any claim that the Virginians would be unable to survive if they abandoned tobacco. In a contradictory letter to the

---

[139] Corn in this document most likely refers specifically to grain. *Calendar,* Vol. I, 113.

governors of these islands, Charles offered similar reprimands regarding the habit by the inhabitants to focus on tobacco "to the neglect of cotton, wools, and other useful commodities . . . which compels them to receive supplies from the Dutch and other strangers." He included instructions for the curtailment of tobacco and the prohibition of foreign trade in these areas as well.[140]

Diversification did occur in the British Caribbean colonies in the 1640s, though, but not because of legislative efforts by the King or governors. The tobacco exported from these islands was considered to be an inferior product to the Chesapeake crop, and the abundant supply from Virginia and Maryland came at the expense of the market for Caribbean tobacco. The planters there naturally shifted to other crops, finding success in planting primarily sugar, but also indigo, ginger, and oranges. Their movement away from tobacco appears to have been the result of market, rather than legislative, forces.[141] The diversification into various crops was helped by the free-floating money market. The Bermuda Islands - when they were still known as the Sommers Isles - minted token coins known as "hogge money" in 1615, named for the depiction of a hog on the face of the coin because of the large population of wild hogs on the islands. This money did not circulate heavily, but as the inhabitants settled, they used a mixture of tobacco and sterling for exchange, with no set rates. By the time of this diversification toward various crops, the Spanish Piece of Eight was widely circulated in the Caribbean. The exchange rate for the coin circulated on par with England until the colonial government finally fixed an above-market

---

[140] *Calendar,* Vol. I, 250-251.
[141] Bruce, *Economic History of Virginia,* Vol. I, 320.

exchange rate in 1658. Nonetheless, the colony's free money market helped it to avoid some of the problems inhibiting economic diversification in Virginia.[142]

The efforts in 1637 to reduce tobacco production through legal restrictions had deleterious effects on the Virginia economy. As previously mentioned, the scarcity of manure and abundance of land meant that it was often cheaper to abandon property in search of virgin soil.[143] Now that limitations to tobacco production were being more strictly enforced, planters had a greater incentive to pursue quality tobacco harvests, rather than higher quantities of lower grades. The planters pursued this by leaving their property and clearing new lands where the soil was nutrient rich and would produce better crops of tobacco. Preparing virgin soil also meant a less efficient use of labor. The extension of the Virginia settlement that came out of this search for virgin grounds made the colonists more vulnerable to Indian attacks. To defend themselves, roughly one out of every three working men served as guards to protect the other two laborers. The need for defense meant that colonists were expending less effort in building permanent domiciles, translating into less motivation to fence in cattle, lay orchards, or to plant corn. The net result of this act was to remove labor otherwise devoted to self-sustaining work, such as tending to corn and livestock, to instead act as guards so that farmers could adhere to the restriction against a crop they remained dependent on. This law shows the increasing desperation

[142] John J. McCusker, *Money and Exchange in Europe and America, 1600-1775: A Handbook* (Chapel Hill, NC: The University of North Carolina Press, 1992), 276.
[143] Previously, the scarcity of manure was the product of a shortage of livestock. The population of livestock had increased significantly over the years since the Indian massacre of 1622, but animals were rarely fenced in, so droppings were scattered and time consuming to gather. Some planters did try fencing in their cows to plant their tobacco in the cow pens, but this apparently produced rank tobacco. Bruce, *Economic History of Virginia,* Vol. I, 322-323.

of the assembly to curtail tobacco production while maintaining tobacco's status as money, and its effect on the prosperity of the economy was palpable.[144]

The suffering economy led to desperate interventions that only created more problems to be solved with more ill-conceived interventions. In 1639, the assembly mandated that after inspection, not only was the "rotten and unmerchantable" tobacco to be burned, but so was "half the good."[145] This is probably the most blatant attempt at monetary tightening for the benefit of the merchant-planters passed by the assembly. By burning half of the good crop, small planters retained their incentive to devote as much labor as possible to tobacco cultivation in order to service their debts. The end result would simply be that the income of the small planters would be sliced in half; this effectively meant an income tax of fifty percent, in addition to the quitrents already being levied. The merchant-planters who acted as creditors to the yeoman farmers benefited by being paid in leaves that would now be valued more highly than they would with an inflated crop. This law appears to have been well-enforced. The assembly mandated the appointment of three inspectors per district, and they even allowed the inspectors to break down the door of any building that they believed might be storing illegal stocks of tobacco. With the stricter inspection standards, some crops would fail to meet the minimum quality, and this planter's labor would eventually have been rendered wasted as his entire produce was destroyed.[146] Consequently, British imports fell from 2.369 million pounds of tobacco in 1638, to only 1.093 million and 1.044 million in 1639 and 1640 respectively. The price was almost

144 Ibid.
145 Hening, *Statutes,* Vol. I, 225.
146 Bruce, *Economic History of Virginia,* Vol. I, 326.

entirely unaffected, though. It went from 2.8d per pound to only 3d, and then it dropped to 2.5d in 1640.[147]

The government's intervention was economically devastating to the small planters of Virginia, and it launched the colony into another severe depression. Like the previous two depressions, the calamity incentivized farmers to again shift towards other forms of produce. Wheat was adopted by the planters in such a large degree that by the early 1640s, it had finally become an exportable commodity. Its earlier disadvantages appear to have been overcome by the increased presence of plows and cattle. Both wheat and maize were also traded to colonists in Maryland, Manhattan, and Carolina. Economic diversification did seem to be the natural trend of the Virginia economy any time tobacco prices fell too low, but in this case, it was achieved only through costly economic interventions. As a result, the beneficiaries of these statutes were the wealthy planters who typically held a seat on the Virginia Council and were far less dependent on tobacco except as a means of purchasing English luxury items, while the small planter's livelihood was decimated. In 1642, William Berkeley took the seat of governor, and he was determined to do better.

William Berkeley's Diversification Schemes

As soon as Berkeley took office, he led the Virginia Council in a petition to free up trade in Virginia. In his initial declaration as governor, he railed against the impositions of the government on behalf of the Old Company (the former stockholders of the Virginia Company who still maintained investments in Virginia): "We find the whole trade of the colony to the general grievance and complaint of the inhabitants . . . it was not free for him to carry with him the fruits of his labour for his own comfort and relief but was forced to bring it to the magazine

[147] Menard, "The Tobacco Industry," 157-158.

of the company and there to exchange it for useless and unprofitable wares." Berkeley was careful to direct his blame primarily against the former members of the Virginia Company who lobbied for such privileges and not against the King, but he was not soft in his reproach. "We conceive by admission to a company," he asserted, "the freedom of our trade (which is the blood and life of a commonwealth) is impeached." Implying that the dissolution of the company had effectively never taken place, he continued to argue that "they pretend to submit the government to the King yet they reserve to the corporation propriety to the land and power of managing the trade." He accused the investors of monopolizing the Virginia market so "that all the commodities raised in the colony shall be parted with, exchanged or vended at such rates and prises as they shall import or be disposed into their magazine or such bottoms as shall from time to time be licenses or ordered by them." He acerbically implied that the mandates of the company were arbitrary. The "word managing in any sence taken we can no way interpret," and the reasons behind "their sole guidance governing and managing . . . we leave to the world to judge." He ended his lengthy declaration by calling for the broad repeal of the destructive regulations and monopoly privileges passed in the several years prior, and affirmed that the Virginia government under his watch would "never admit the restoring of the said company," and resolved

> that what person or persons soever either is or hereafter shall be any planter or adventurer shall go about by any way or means either directly or indirectly to sue for advice, assist, abet countenance or contrive the reducing of this colony to a company or corporation or to introduce a contract or monopoly upon our persons, lands or comodities . . . shall be held and deemed an enemy to the colony and shall forfeit his or their whole estate or estates.[148]

[148] Hening, *Statutes,* Vol. I, 233-235.

Berkeley took office fully determined to institute free trade under his reign, and he pursued this goal with vigor.

His dedication to free trade - at least during his first term as governor - was directly connected to his ambitions for a diverse economy. Productive industries needed markets, and British monopolies cut off potential foreign buyers, such as the Dutch. In March of 1643, the Virginia legislature declared “that it shall be free and lawfull for any merchant, factors or others of the Dutch nation to import wares and marchandizes and to trade or traffique for the commoditys of the collony in any shipp or shipps of their owne or belonging to the Netherlands.”[149] In June, an agreement was made with Maryland's governor to make it “free and lawfull for the said inhabitants [of Virginia] to trade and barter within the Colony [of Maryland] for all manner of commodities.”[150]

With more open markets, Berkeley intended to prove the efficacy of his free trade policies through his own industry. Berkeley imported servants into the colony, and through the headright system, he was able to claim fifty acres of land for each servant he brought in at his own expense.[151] With this land, he established the Green Spring plantation. The first crops he farmed were tobacco, cotton, flax, and hemp, but he moved to other forms of produce as he used his plantation for his experiments in other potential commodities. He grew rice and pumpkins, and maintained an orchard of around fifteen hundred trees, growing peaches, apricots, quince,

---

[149] Ibid., 258.
[150] Ibid., 276.
[151] Anybody willing to fund the passage of an indentured servant or African slave into the colony was permitted to claim a “headright” of fifty acres of land per servant. The headright system was the primary means for wealthy planters to build large plantations, known as “Particular Plantations.” Warren M. Billings, John E. Selby, and Thad W. Tate, *Colonial Virginia: A History*, A History of the American Colonies (White Plains, N.Y.: KTO Press, 1986), 41.

and various other fruits. Berkeley's most hopeful experiments were most likely those aiming at finally establishing a silk trade in the colony. Despite past failures in silk, there were a few colonists who were producing and exporting profitable quantities of silk, and this encouraged Berkeley's efforts.[152]

Berkeley's primary oversight in his ambitions for other trades was the fact that his livelihood was supported generously by the government. Mulberry trees take as long as five years to cultivate, and many small planters burdened by debt simply did not command the capital to survive long enough to undertake such a long production process. Berkeley, by contrast, was granted an “accomodation” by the assembly, funded through a tax levied for “2 shillings a head for every tithable person in the colony,” payable in various crops at set rates. A barrel of maize was accepted for 10s, a bushell of wheat for 4s, as well as meat and livestock, malt, butter, and cheese at various rates.[153] Berkeley was also able to support himself by leasing significant tracts of land to other wealthy planters. Through his special grants and privileges as governor, Berkeley was able to sustain himself and accumulate valuable tracts of land.[154] His plantation experiments aiming to establish new industries in Virginia were only afforded at the expense of planters whose livelihoods still depended on tobacco.

The opening of markets and deregulation of the strictly enforced rules from the late 1630s did have a salubrious effect on Virginia's economy. During the 1640s, Virginian farmers were profiting from more than just tobacco. Livestock was particularly profitable in sale to the newly opened markets with northern colonies. Production of wheat, oats, barley and maize grew as exchange commodities rather than merely for personal consumption. Some farmers were

[152] Billings, “Sir William Berkeley and Diversification” 441-443.
[153] Hening, *Statutes,* Vol. I, 281.
[154] Billings, *Sir William Berkeley,* 58-59.

growing rice, and indigo was so promising that Virginians were seeking seeds to expand this crop as a staple export to Europe. Gardens now saw a variety of vegetables. The adoption of the more labor efficient Dutch plough lowered the cost of alternative areas of production.[155] But the new markets also meant a rebounding of the tobacco trade, which remained the predominant medium of exchange. The labor of a single man growing tobacco could at this time generate a dependable income of between twenty to twenty-five pounds sterling. Although diversification was taking place with the expansion of markets, tobacco was unseated as the comparatively most advantageous crop.[156]

The 1650s would see an end to this progress. Although the free trade policies increased the prosperity in the colonies, they were detrimental to English tax revenues because goods were being exported directly to foreign powers. In 1651, the crown passed the First Navigation Act, mandating that all goods must be shipped to England first for the collection of duties before being transported to other countries. Not only would this law have increased the cost of trade as similar laws had in the past, but it incensed the Dutch government. The Navigation Act led to the First Anglo-Dutch War (1652-1654) that further interrupted Virginia's economic progress.[157]

Virginia's economy during the 1650s was collateral damage in a religious dispute taking place in the home country. Charles I, to whom Berkeley was loyal, was beheaded in 1649 after lengthy conflicts regarding royal prerogatives and religious impositions on the Church of

---

[155] The Dutch plough introduced Britain to the moldboard plough, which required only one or two animals to pull it, and it could be manned by a single person. Traditional ploughs required at least six plough-animals and two workers, one to pull the plough and another to steer it. By adopting the Dutch innovations on the plough, one Virginia laborer was able to plough a field while other workers built fences, which greatly improved the economic efficiency within the colony. Bruce, *Economic History of Virginia,* Vol. I, 341.
[156] Ibid., 334-337.
[157] Ibid., 348-350.

Scotland. After his death, Charles II would have been the presumptive heir to the throne, but Parliament declared England to be a republican Commonwealth and refused his succession. Berkeley was loyal to the monarchy, so Parliament forced him into retirement in 1652. By 1660, the monarchy was restored with Charles II at its head, and Berkeley was reinstated as governor of Virginia.[158]

Berkeley resumed his position as governor in 1660, the same year that the Second Navigation Act was passed reestablishing the English monopoly on colonial products. Berkeley was tempered in his desire to achieve free trade legislation, and his plans for diversification took a more legislative approach. Faced with the overproduction of tobacco, his efforts were directed to reducing its cultivation rather than the pursuit of profitable alternatives. In March of 1660, he convinced the assembly to pass a tax of 10s per hogshead of tobacco that was not bound for England.[159] Berkeley also made efforts to enforce limitations on the growth of tobacco, much like the statutes passed in the early years of the colony, but these laws would be impeded by Maryland's refusal to limit its own tobacco production.

In August of 1661, Berkeley arrived in England to seek Royal support for his plans for a tobacco stint. He stayed there for a year arguing that England would benefit from the commodities Virginia could produce (despite the many failures of the past) if the King would offer his support. Charles was convinced, but he refused Berkeley a subsidy and instead empowered him to tax the colonists for the purpose of redirecting resources into the desired areas of production. Further, he expected the Virginia government to negotiate with Maryland to see

---

[158] Billings, *Sir William Berkeley,* 113-122.
[159] Hening, *Statutes,* Vol. 1, 536-637.

that some restraint was put on the cultivation of tobacco. He also emphatically instructed Berkeley to see to the strict enforcement of the Second Navigation Act.[160]

Berkeley spent the 1660s trying to carry out this plan, but he would never succeed. In 1663, he negotiated a statute with Governor Charles Calvert of Maryland that would have prohibited the planting of tobacco by either colony after 1664.[161] Maryland rejected the plan. Calvert argued to King Charles that the only result that would come from such a stint would be the reduction of British customs revenues, and the King withdrew his support. The price of tobacco had dropped so low by the middle of the decade that large supplies of tobacco were left unsold. The Virginia assembly attempted to impose a stint once again, this time without the support of the Crown. This attempt was nearly successful, with Maryland agreeing to halt the production of tobacco from February of 1666 to February of 1667.[162] Calvert vetoed the agreement, though, and it fell apart. Tobacco production continued as a means for small planters to service their debts, and in 1667, tobacco was selling for half a penny per pound.[163] Berkeley's diversification schemes, like those before him, had failed.

---

[160] Billings, "Sir William Berkeley and Diversification," 449.
[161] Hening, *Statutes,* Vol. II, 200.
[162] Ibid., 225.
[163] Bruce, *Economic History of Virginia,* Vol. I, 394.

CONCLUSION

Why Diversification Failed

It is difficult to say exactly why diversification was so unsuccessful in the Virginia Colony. Doing so necessarily indicates speculative analysis of what might have been had different things been done. However, by looking at the trends of the Virginia economy through 1670 and properly applying economic theory to historical analysis, certain conclusions can be drawn.

First, it is important to understand that to some degree, diversification did occur throughout the seventeenth century; it simply did not occur to the desired extent or in the desired industries. As capital goods increased in Virginia, certain commodities became viable exports, such as grain and maize, where they had previously been grown only for direct consumption. When tobacco prices or production costs of other commodities fell, shifts to other goods by planters were logical. Tobacco enjoyed a natural comparative advantage over other commodities, but as the economy evolved, the disparities between tobacco and its alternatives narrowed. The real question is why did tobacco remain the dominant crop for so many years, even when it was clearly unprofitable to produce?

Warren Billings offers a few possible explanations as to why Berkeley's diversification efforts were unsuccessful. Berkeley's free trade ideas, Billings suggests, were not compatible with the imperialistic philosophy of Charles II. There is likely some truth in this claim, as the British Crown was constantly torn between a desire for the lucrative revenues raised by British tobacco imports and the conflicting desire to see a more diversified Virginia. Billings also correctly notes that only the wealthiest planters could imitate Berkeley's personal successes with diversification at Green Springs. His solutions required capital that small planters simply did not have.[164]

The rest of Billings' arguments are less convincing. He suggests that had the legislature made efforts to promote the grain trade, it could have potentially supplanted tobacco, much as sugar did in the West Indies. Billings overlooks the factors that went into the higher cost of producing grain in Virginia, the narrower market for a commodity that the colony's export countries produced themselves, and naively assumes that legislative impositions could have established grain as a tobacco replacement, ignoring the past failures at government direction toward such ends. Billings thus incorrectly assumes that the legislative efforts prior to Berkeley's tenure failed because they simply targeted the wrong goods.[165]

The worst of Billings' explanations is the idea that the colonists were simply too stubborn to follow Berkeley's sagacious leadership, choosing to stick with a crop they were already familiar with. This argument patently ignores the ready diversion of labor into other commodities that took place without any central urging in times when the comparative benefit of other commodities started to outweigh that of tobacco.[166]

What Billings fails to consider is the very obvious factor of tobacco's status as money. Other writers acknowledge the incentive for planters to grow their own money, but they understate the significant corollaries of a tobacco money. As was shown in chapter 1, inflation benefits debtors, and the credit system employed in Virginia meant that small planters remained perpetually in debt to the large planters. Tobacco was not grown only to earn an income; it was grown to service debt. This interpretation provides a much stronger explanation as to why

[164] Billings, "Sir William Berkeley and Diversification," 451-452.
[165] Ibid.
[166] Ibid.

tobacco cultivation increased when it seemed to be to the detriment of the people who grew it; they were operating under the incentives created by a credit economy. By establishing tobacco as legal tender and accounting for debt liabilities in pounds of tobacco, the Virginia government was directly contributing to the dominance of tobacco.

The dependency of Virginia on tobacco was thus the product of three factors. The first is the natural factor of comparative advantage. Virginia tobacco was preferable to English tobacco and provided the colonists with a good that offered distinct advantages on the open market, despite the cost of transportation. It was also better suited for the conditions in Virginia. The new colony was abundant in rich soil but suffered a paucity of farming implements. Tobacco grew well and quickly, and it required a comparatively small amount of labor to cultivate and harvest with only simple tools. Thus, in the primitive Virginia economy, this was the product that provided the highest profit for the least amount of labor, allowing it to emerge as the staple crop of the new colony.

The other two factors in tobacco's stubborn prominence as Virginia's staple commodity were artificial. Britain's desire to import tobacco from Virginia provided the Royal Government an avenue to extract new tax revenues. The British government imposed protectionist policies to limit the local production of English tobacco and Spanish tobacco importation. Spanish tobacco was considered to be a superior product, and English tobacco was inferior but benefited from lower transaction costs since it was locally grown. By forbidding these two sources of tobacco, Virginia's market for tobacco was artificially expanded, while the market for other commodities remained untouched.

Because of tobacco's emergence as the staple crop, it was highly valued and - consistent with the Ludwig von Mises' Regression Theorem - became the most generally accepted medium of exchange. Tobacco's early demand produced the third variable in tobacco's prevalence throughout the decades: the artificial factor of designating tobacco legal tender. By doing this, the colony calculated debts within the colony in units of tobacco, despite the continuing employment of British coin as the unit for calculating external debt. Legal tender status served to increase the exchange value of the crop through legislative fiat. Once tobacco was deemed acceptable for payments of debts and taxes, there was an incentive to grow it even if it was not directly profitable. Where another crop may potentially have been more profitable to cultivate, this extra profit would have come at the expense of a higher cost in servicing debt. Natural incentives to diversify were consequently curtailed. The assembly's reaction to this was to try to limit tobacco production. These attempts are often viewed as diversification schemes, but they appear to be better viewed as monetary policies. The assembly consisted largely of the merchant-planters who were hurt by the credit distortion created by the use of tobacco as a local unit of account. Laws such as the 1639 statute mandating that half of the good crop of tobacco be destroyed fail to even superficially resemble diversification policies, but the motivation behind this law is clear if it is seen as a monetary policy. Other laws that mandate that accounts be kept in units of British coin cannot be explained by diversification, but they help illuminate how the problem of tobacco money affected diversification beyond the true yet simplistic explanation that planters could grow their own money.

Because of the first factor in tobacco's prominence - its comparative advantage - it cannot be said that an absence of government intervention would have led to a diverse economy. All this historical analysis can tell us is what the economic variables were, but it cannot determine the weight that each variable carried. What can be said is that had the legislature in Virginia not established money as legal tender with fixed exchange rates, and had the British government not involved itself in commercial markets, there would have been *less* incentive to focus so heavily on tobacco than there was. In summation, the efforts of the governments in Virginia and Britain did more to stymie economic diversification than it did to advance it. Because we do see a shift toward diversification during certain periods that appear to have occurred independently of the deliberate diversification efforts, it is entirely plausible that Virginia's economy would have become more diverse more quickly, even if tobacco would still have been the largest export commodity.

Bibliography

Primary Sources

Abstracts of Proceedings of the Virginia Company of London, 1619-1624. 2 vols. Richmond, VA: Virginia historical Society, 1888.

Berkeley, William. *A Discourse and View of Virginia.* London: 1663.

Beverley, Robert. *The History & Present State of Virginia,* ed. David Freeman Hawke. New York: The Bobbs-Merrill Company, Inc, 1971.

Brown, Alexander. *Genesis of the United States.* 2 vols. Cambridge, MA: The Riverside Press, 1891.

Calendar of State Papers, Colonial Series: 1574-1660. Vol. 1. London: Longman, Green, Longman, & Roberts, 1860.

Colonial Records of Virginia. Richmond, VA: R.F. Walker, Superintendent Public Printing, 1874.

Fleet, Beverley. *Virginia Colonial Abstracts*. Vol. 1. Baltimore: Genealogical Pub. Co., 1988.

Force, Peter. *Tracts and other papers relating principally to the origin, settlement, and progress of the colonies in North America from the discovery of the country to the year 1776*. Washington, Printed by P. Force, 1836. Online Text, Retrieved from the Library of Congress, https://www.loc.gov/item/04027018/. Accessed February 03, 2017.

Hening, William W. ed., *The Statutes at Large: Being a Collection of All the Laws of Virginia.* 13 vols. Richmond, 1809-23.

McIlwaine, H.R. ed., *Minutes of the Council and General Court of Colonial Virginia.* Richmond, VA: The Colonial Press, 1924.

Neill, Edward D. *History of the Virginia Company of London: Letters to and from the First Colony Never Before Printed*. Luxembourg: CreateSpace Independent Publishing Platform, 2012.

Ripley, William Z. *The Financial History of Virginia, 1609-1776*. Farmington Hills, MI: Gale ECCO, Making Of Mode, 2010.

Robinson, Conway. *Abstract of the Proceedings of the Virginia Company of London, 1619-1624.* Richmond, VA: Virginia Historical Society, 1889.

Smith, John. *The Journals of Captain John Smith: A Jamestown Biography,* ed. John M Thompson. National Geographic Adventure Classics. Washington, D.C.: National Geographic Society, 2007.

Smith, John. *Travels and Works of Captain John Smith: President of Virginia and Admiral of New England, 1580-1631.* Edited by Edward Arber and A. G. Bradley. Edinburgh: John Grant, 1910.

Strachey, William. *For the Colony in Virginia Britannia (1612)*. Whitefish, MT: Kessinger Publishing, LLC, 2010.

Tatham, William. *An Historical and Practical Essay On the Culture and Commerce of Tobacco.* Farmington Hills, MI: Gale ECCO, Print Editions, 2010.

The Records of the Virginia Company of London. 4 vols. Washington D.C.: United States Government Printing Office, 1933.

Tyler, Lyon Gardiner. *Narratives of Early Virginia: 1606-1625*. New York: C. Scribner's Sons, 1930.

Books

Beer, George Louis. *The Origins of the British Colonial System, 1578-1660.* Gloucester, MA: The Macmillan Company, 1959.

Bernstein, Peter L. *The Power of Gold: The History of an Obsession*. New York: Wiley, 2004.

Billings, Warren M. *A Little Parliament: The Virginia General Assembly in the Seventeenth Century*. Richmond, VA: Library of Virginia, 2004.

Billings, Warren M. *Jamestown and the Founding of the Nation*. Gettysburg, PA: Thomas Publications, 1991.

Billings, Warren M. *Sir William Berkeley and the Forging of Colonial Virginia,* Southern Biography Series. Baton Rouge: Louisiana State University Press, 2010.

Billings, Warren M., John E. Selby, and Thad W. Tate. *Colonial Virginia: A History of the American Colonies.* White Plains, N.Y.: KTO Press, 1986.

Brown, Kathleen M. *Good Wives, Nasty Wenches, and Anxious Patriarchs: Gender, Race, and Power in Colonial Virginia*. Chapel Hill: Published for the Institute of Early American History and Culture by the University of North Carolina Press, 1996.

Bruce, Phillip Alexander. *Economic History of Virginia in the Seventeenth Century.* 2 vols. New York: The MacMillan Company, 1935.

Carter, Susan B., *Historical Statistics of the United States: Earliest Times to the Present*, millennial ed. New York: Cambridge University Press, 2006.

Coffin, Joseph. *Our American Money: A Collector's Story*. New York: Coward-McCann, 1940.

Hudson, Paul. *A Pictorial Booklet on Early Jamestown Commodities and Industries.* Williamsburg, VA.: Virginia 350th Anniversary Celebration Corporation, 1957.

Jevons, William Stanley *Money and the Mechanism of Exchange*. New York: D. Appleton and Company, 1896.

McCusker, John J. *Money and Exchange in Europe and America, 1600-1775: A Handbook*. Chapel Hill, NC: The University of North Carolina Press, 1992.

McCusker, John J., and Russell R. Menard. *The Economy of British America, 1607-1789*. Needs and Opportunities for Study Series. Chapel Hill: Published for the Institute of Early American History and Culture by the University of North Carolina Press, 1985.

Mises, Ludwig von. *The Theory of Money and Credit*. new ed. Translated by Harold E. Batson. New York: Skyhorse Publishing, 2013.

Morgan, Edmund S. *American Slavery, American Freedom*. New York: W.W. Norton & Company, 1975.

Osgood, Herbert L. *The American Colonies in the Seventeenth Century.* 3 vols. New York: The Macmillan Company, 1904.

Perkins, Edwin J. *The Economy of Colonial America*. 2nd ed. New York: Columbia University Press, 1988.

Pollan, Michael *The Botany of Desire: A Plant's Eye View of the World*. New York: Random House, 2001.

Price, Jacob M. *Capital and Credit in the British Overseas Trade: The View from the Chesapeake, 1700-1776.* Cambridge, MA: Harvard University Press, 1980.

Rabushka, Alvin. *Taxation in Colonial America.* Princeton: Princeton University Press, 2008.

Rothbard, Murray N. *Conceived in Liberty*. Auburn, AL: Ludwig von Mises Institute, 2011.

Rothbard, Murray N. *A History of Money and Banking in the United States: The Colonial Era to World War II.* Auburn, AL: Ludwig von Mises Institute, 2002.

Rothbard, Murray N. *The Mystery of Banking*, 2nd ed. Auburn, AL: Ludwig von Mises Institute, 2008.

Samuelson, Paul A. and William D. Nordhaus, *Macroeconomics*, 19th ed. The Mcgraw-Hill Series Economics. Boston: McGraw-Hill Irwin, 2010.

Savelle, Max and Robert Middlekauff. *A History of Colonial America*. Austin, TX: Holt, Rinehart and Winston, Inc., 1964.

Townsend, Camilla. *Pocahontas and the Powhatan Dilemma*, *An American Portrait*. New York: Hill and Wang, 2004.

Tyler, Lyon Gardiner. *England in America, 1580-1652*. New York: Harper & Brothers Publishers, 1904.

Journal Articles

Bagus, Phillip. "The Quality of Money." *The Quarterly Journal of Austrian Economics* 12, No. 4 (2009): 22-45.

Billings, Warren M. "Sir William Berkeley and the Diversification of the Virginia Economy." *The Virginia Magazine of History and Biography* 104, no. 4 (Autumn 1996): 433-454.

Gray, L.C. “The Market Surplus Problems of Colonial Tobacco.” *Agricultural History* 2 No. 1 (1928): 1-34.

Hiden, Mrs. Philip Wallace. “The Money of Colonial Virginia.” *The Virginia Magazine of History and Biography* 51, no. 1 (January 1943): 36-54.

Land, Aubrey C. “Economic Behaviors in a Planting Society: The Eighteenth-Century Chesapeake.” *Journal of Southern History,* XXXIII (1967): 469-85.

Menard, Russell R. “The Tobacco Industry in the Chesapeake Colonies, 1617-1730: An Interpretation.” *Research in Economic History* 5 (1980): 109-177.

Pecquet, Gary M. “British Mercantilism and Crop Controls in the Tobacco Colonies: A Study of Rent-Seeking Costs.” *Cato Journal* 22, no. 3 (Winter 2003): 467-484.

Potts, Jason. “The Alchian-Allen Theorem and the Economics of Internet Animals.” *M/C Journal* [Online] 17 Number 2 (18 February 2014). Accessed December 19, 2016. http://journal.media-culture.org.au/index.php/mcjournal/article/view/779.

Rosenblatt, Samuel M. “The Significance of Credit in the Tobacco Consignment Trade: A Study of John Norton and Sons, 1768-1775.” *The William and Mary Quarterly* 19, No. 3 (July 1962): 383-399.

Wait, B. Wofford. “Paper Currency in Colonial South Carolina.” *The Sewanee Review* 5, no. 3 (1897): 277-89.

Other

Wallace, Benjamin. “The Rise and Fall of Bitcoin.” Wired. Last modified November 23, 2011. Accessed April 12, 2017. http://www.wired.com:80/magazine/2011/11/mf_bitcoin.

“Lord Baltimore Coinage, 1658-1659: Introduction.” University of Notre Dame. Last modified March 18, 2004. Accessed April 12, 2017. http://www.coins.nd.edu.

APPENDIX A: APPROVAL LETTER

MARSHALL UNIVERSITY.
www.marshall.edu

Office of Research Integrity

March 31, 2017

Chris Calton
5919 Mahood Dr., Apt 7
Huntington, WV 25705

Dear Mr. Calton:

This letter is in response to the submitted thesis abstract entitled *"Smoke and Silver: Money, Credit, and the Failure of Economic Diversification in Seventeenth Century Virginia."* After assessing the abstract it has been deemed not to be human subject research and therefore exempt from oversight of the Marshall University Institutional Review Board (IRB). The Code of Federal Regulations (45CFR46) has set forth the criteria utilized in making this determination. Since the information in this study does not involve human subjects as defined in the above referenced instruction it is not considered human subject research. If there are any changes to the abstract you provided then you would need to resubmit that information to the Office of Research Integrity for review and a determination.

I appreciate your willingness to submit the abstract for determination. Please feel free to contact the Office of Research Integrity if you have any questions regarding future protocols that may require IRB review.

Sincerely,

Bruce F. Day

Bruce F. Day, ThD, CIP
Director

WE ARE... MARSHALL.

One John Marshall Drive • Huntington, West Virginia 25755 • Tel 304/696-4303
A State University of West Virginia • An Affirmative Action/Equal Opportunity Employer