NBER WORKING PAPER SERIES

CREATING MARYLAND'S PAPER MONEY ECONOMY, 1720-1739: THE ROLE OF POWER, PRINT, AND MARKETS

Farley Grubb

Working Paper 13974
http://www.nber.org/papers/w13974

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
May 2008

Helpful advice from Lorena Walsh, research assistance provided by Zachary Rose, and editorial assistance provided by Tracy McQueen are gratefully acknowledged. The views expressed herein are those of the author(s) and do not necessarily reflect the views of the National Bureau of Economic Research.

Creating Maryland's Paper Money Economy, 1720-1739: The Role of Power, Print, and Markets
Farley Grubb
NBER Working Paper No. 13974
April 2008
JEL No. E42,E51,H20,N11,N21,N41

ABSTRACT

The British North American colonies were the first western economies to rely on legislature-issued fiat paper money as their principal internal medium of exchange. This system arose piecemeal across the colonies making the paper money creation story for each colony unique. It was true monetary experimentation on a grand scale. The creation story for Maryland, perhaps the most unique among the colonies, is analyzed to evaluate how market forces, media influences, and the power of various constituents combined to shape its particular paper money system.

Farley Grubb
University of Delaware
Economics Department
Newark, DE 19716
and NBER
grubbf@lerner.udel.edu

Creating Maryland's Paper Money Economy, 1720-1739: The Role of Power, Print, and Markets*

The British North American colonies were the first western economies to rely on legislature-issued fiat paper money as their principal internal medium of exchange. This system arose piecemeal across the colonies making the paper money creation story for each colony unique. It was true monetary experimentation on a grand scale. The creation story for Maryland, perhaps the most unique among the colonies, is analyzed to evaluate how market forces, media influences, and the power of various constituents combined to shape its particular paper money system.

The British North American colonies were the first western economies to experiment with large scale reliance on legislature-issued fiat paper monies. These monetary experimentations were neither uniform nor coordinated across the colonies. They were instituted piecemeal—at different times with different motivations and goals. Their institutional structures and relative performances varied as well. While not consciously intended to be so, either by the colonies as a group or by the British Crown, this was monetary experimentation on a grand scale. To grasp the importance of these monetary experiments the individual creation stories need to be understood. No creation story is more unique than that for the Maryland paper pound.

Maryland was a relative late-comer to issuing its own paper money. Massachusetts was the first in 1690, followed by South Carolina in 1703, New York and New Jersey in 1709, Rhode Island in 1710, North Carolina in 1712, Pennsylvania in 1723, Maryland in 1733, and finally Virginia and Georgia in 1755 (Brock, 1975; Grubb, 2003, p. 1779). In the first six cases, paper money was created as a solution to the short-run fiscal crises caused by emergency military spending during King William's and Queen Anne's Wars, 1689-1697 and 1702-1713, respectively. Georgia and Virginia's initial creation of their paper monies was also induced by wartime emergency spending, in their case in reference to the Seven Year's War, 1755-1762. Paper money becoming a permanent medium of exchange in the peacetime economies of these colonies was not necessarily the motive behind these experiments in emergency wartime finance though for many colonies it evolved in that direction.

The first colony to issue paper money without it being motivated by some emergency wartime fiscal crisis was Pennsylvania in 1723. The goal was to ameliorate an economic crisis caused by a temporary depression in the colony's trade balance that arose in the aftermath of Queen Anne's War. This monetary experiment was also not necessarily intended to be permanent. The paper money issued was to be removed from circulation by the end of the decade—presumably once the trade depression had passed. No replacement paper money was automatically slated to take its place. In 1729, paper-money advocates in Pennsylvania, e.g. Benjamin Franklin, won the debate to renew and expand the paper money experiment and turn it into a more-or-less permanent feature of the peacetime economy of that colony (Brock, 1975; Grubb, 2006; Lester, 1938).

In 1733 Maryland became the second colony to initiate a paper money system that was not motivated by a wartime fiscal crisis. Maryland's initial authorization, 90,000 Maryland paper pounds, was also the largest in nominal terms of any of the initial authorizations among the colonies. From the beginning, Maryland's paper money experiment was intended to be a permanent restructuring of the medium of exchange within the colony. Its goal was tied to transforming the transatlantic tobacco trade which in turn required demonetarization of tobacco within the colony. The tobacco-market paper-money nexus was unique to Maryland. It produced an unusual and complex story for the creation of the Maryland paper pound in terms of the role of the print media in the monetary debate, the alignment of the pro- and anti-paper money constituents within the colony, the size of the initial authorization of paper money, and the resulting design and performance of Maryland's paper money system.

Unique Features of Maryland's Paper Money Story

Maryland was the second colony to initiate a paper money system in peacetime. As such, it had peacetime goals and peacetime problems to overcome. Maryland was also the first colony from the start to intend its paper money to be a permanent feature of its economy. Two-thirds of the paper money in its initial authorization was not required to be redeemed and removed from circulation for 30 years. Other colonies set the redemption of their initial issuances of paper money at shorter intervals, though the exigency of war often delayed that redemption. For example, New York's initial authorizations in 1709 were to be redeemed within 4 years, New Jersey's and Rhode Island's within 10 years, and Pennsylvania's within 8 years (Brock, 1975, pp. 38, 66, 78, 85, 101-102, 108, 116, 462).

Maryland's initial paper money authorization was the single largest in absolute nominal terms of any colony, see Table 1. While scholars have noted this large initial authorization and thought that it contributed to the early problems and loss of value of Maryland's paper money, the comparison is a bit deceptive. When converted into standardized units, namely into per capita amounts of a common currency such as pounds sterling, Maryland's initial amount of paper money authorized is about in the middle of the pack, just slightly above the 0.614 pounds sterling per capita average for the ten colonies listed in Table 1. Compared with Pennsylvania's initial authorizations in 1723-1724, i.e. compared with her closest sister colony in terms of geographic location, year of initial paper money emission, and peacetime motivations for the paper money emitted, Maryland authorized 15 percent less paper money value per capita. Considering that by 1736 Maryland had only actually emitted 58,000 of the 90,000 Maryland pounds authorized in 1733, for a 0.441 pounds sterling per capita equivalent, further reinforces the case that Maryland's initial paper money offering relative to other colonies was sensible, even cautious, and in no way extraordinarily large (Brock, 1975, pp. 104-105). Initial emission size *per se* was not an issue and so not a contributor to the depreciation that would soon follow relative to that experienced in other colonies (Gould, 1915, pp. 88-89).

Table 1 Initial Authorization of Paper Money in Each Colony

Colony	Year	Peace or War	Nominal Amount Authorized (in "pounds" of that colony)	Per-Capita Amount in *Pounds Sterling* Equivalents
Massachusetts	1690	War	7,000	0.108
South Carolina	1703	War	4,000	0.367
New York	1709	War	13,000	0.406
New Jersey	1709	War	3,000	0.101
Rhode Island	1710	War	40,000	1.979
North Carolina	1712-1713	War	4,000 plus 8,000	0.163 0.471
Pennsylvania	1723-1724	Peace	15,000 plus 30,000	0.287 0.801
Maryland	1733	Peace	90,000	0.685
Virginia	1755	War	20,000 plus 40,000	0.054 0.162
Georgia	1755	War	7,000 (*sterling*)	1.056

Notes and Sources: Population estimates are taken from *Historical Statistics* (1975, p. 1168) with linear interpolation between dates reported. Exchange rates to pounds sterling are taken from McCusker (1975) with Maryland's rate for 1733 being taken as the hard currency rate and Rhode Island's rate for 1715 being assumed to be the same as Massachusetts rate for 1718. Nominal amounts authorized are taken from Ernst (1973, pp. 47-48) and Brock (1975, pp. 21, 38, 66-73, 82-93, 100, 108, 462).

Maryland's method of backing or supporting the value of its paper money was unique. Other colonies supported the value of their paper monies by allowing the colony's taxes to be paid in that colony's paper money (a legal tender for public debts), by making it to some degree a legal tender within the colony for non-public debts, and by issuing it in the form of land-mortgage-backed loans to subjects within the colony. While employing these methods to some extent, Maryland also created a sinking fund out of which the paper money would be redeemed at par in sterling, one-third in 15 years and two-thirds in 30 years. The revenue for the sinking fund would come from a tax on tobacco exports that would be invested in Bank-of-England stock. At the same time, Maryland created a complex set of exceptions regarding which of its taxes could be paid in its paper money and when they could be paid in paper money as opposed to being paid in tobacco or sterling—a more complex set of exceptions than found in other colonies (Behrens, 1923, pp. 18-21, 29-45).

Maryland's method of injecting paper money into the economy from its initial authorization was also unique. While Maryland, like the other colonies, injected some of its paper money via land-mortgage-backed loans to its subjects and via direct spending by the legislature on building projects, etc., these methods represented relatively small injections for Maryland. Over half of Maryland's initial authorization was simply handed out to its subjects. The master of each family received 30 shillings of paper money for each adult person (taxable) in the family, ostensibly in exchange for burning 300 pounds of trash tobacco per taxable in the family. No other colony engaged in such a monetary injection method, basically giving money away in the hopes of crop control (Behrens, 1923, pp. 18-21, 29-45).

Finally, the political alignments that produced Maryland's initial paper money legislation were unique. The usual conflicts between the lower and upper classes (tradesmen and poor backcountry farmers versus wealthy landowners and merchants) and between the indigenous colony-rights party and the proprietor-rights party in terms of being pro- versus anti-paper money, respectively, were either absent in Maryland or greatly transformed from what existed in other colonies. During much of the paper money debates from 1727 through 1733 the governor of Maryland, Benedict Leonard Calvert, was the Lord Proprietor's brother. The disagreements and compromises between the upper and lower legislative houses of Maryland over the paper money bills do not follow the typical pro- versus anti-paper money lines seen elsewhere. The Proprietor himself, Lord Baltimore, was actually in the province and presided over the legislature when the final paper money bill was crafted and passed in 1733—agreed to by all parties (Behrens, 1923, pp. 9-28). How did such a complex consensus come about? The key to understanding the complexity and uniqueness of Maryland's paper money creation story lies in Maryland's role in the transatlantic tobacco trade and tobacco's role as money in the Maryland economy.

Maryland's Tobacco "Money" Economy

Maryland was a tobacco colony. From the 17th into the early 18th century it can even be characterized as having a tobacco monoculture particularly with regard to exports (McCusker and Menard, 1985, pp. 117-143; Schweitzer, 1980). Tobacco growing was so ubiquitous that pounds of tobacco became the universal measure for all other values, payments, wages, fees, taxes, court costs, fines, and so on within the province. While the Maryland government never declared tobacco to be the official money of the province, all parish, all county, and all provincial levies (taxes)—with the exception of customs duties, all fines and court charges, and all ecclesiastical and official fees were regularly assessed in tobacco. The ubiquitous poll tax was assessed in tobacco which affected all families within the colony. Tobacco was the de facto "money" of the colony as a measure of value, but also in a particular way as a medium of exchange (Gould, 1915, pp. 38-77).

Marylanders did not carry tobacco leaves around in their pockets as cash nor did they typically make payments directly with tobacco "product" for individual items they purchased in person. Tobacco was a fragile commodity that could easily deteriorate when excessively handled or improperly stored (Middleton, 1984, pp. 112-113). What were typically traded or used as the medium of exchange were claims on tobacco production or the credits arising from the sale of tobacco in England (Gould, 1915, pp. 38-77). Planters could acquire imported goods by directly trading tobacco for goods from vessels that arrived in the Chesapeake from Britain. They could also barter tobacco for local and/or imported goods from storekeeper-merchants often on credit, i.e. book credit. Typically these storekeeper-merchants were connected to tobacco shipping merchant-houses in Britain. At stores in the Chesapeake, goods would be priced in so many pounds of tobacco of the next harvest. After the next harvest the planter would deliver the tobacco to clear the book credit debt. To what extent book credits were traded to third parties and so could become a medium of exchange in tobacco credits is unclear. If it happened at all, it was not extensive. This book-credit style of tobacco money was barter using a commodity *numeraire* on a narrow trade-channel connecting tobacco growers to export/import merchants (Middleton, 1984, pp. 116-123; Price, 1980, pp. 16-17; Price, 1995, I, pp. 195-196, II, p. 509, IV, pp. 11-14, VII, p. 65).

Tobacco was principally exported to England. For local planters or merchant-shippers who consigned their tobacco to commission agents or factors in England for sale, the sale of their tobacco there gave rise to credits in pounds sterling that the planter or local merchant-shipper could draw on, via bills of exchange on their account in London, to purchase imports from

England or trade said bills in Maryland to purchase local goods, clear local debts, or pay local taxes, fees, and fines. These “tobacco” bills of exchange were like checks drawn on one’s “bank” in England (Middleton, 1984, p. 116-117). They could be used as a medium of exchange in Maryland, namely passed between parties to pay for goods or clear debts, like a third, fourth, fifth party check today.

Like a third party check, however, there was always some risk and transactions cost involved in their use. There was a chance that the bill would be protested and not honored by the account holder in England because of insufficient funds in the account of the party on whom the original bill was drawn. Such protests were not infrequent (Gould, 1915, p. 38). The more times a bill changed hands in Maryland and so the farther away from the original holder it got, the greater the uncertainty and so the greater the risk that the bill might be no good. Just the amount of time between tobacco planting, harvesting, packing, shipping, and sale in England, communication of the credits that arose from that sale, and then the return of a bill of exchange drawn in Maryland on those credits was lengthy enough to create uncertainty and so risk that a bill might be no good. On the other hand, the value of the reputation garnered by established planters engaging in repeat trade in tobacco to England in always having sufficient tobacco credits to support the bills drawn on them may have been strong enough to counter such risks—at least for the subset of bills drawn on these high-reputation planters (Middleton, 1984, pp. 118-119, 122).

The consignment system that generated these bills-of-exchange money, however, only accounted for maybe one-third of tobacco exports. It was concentrated among the large planters where scale economies made it practical, i.e. among planters who could produce a large number of hogsheads (barrels) of tobacco for export.[1] For small planters, many of whom produced under a hogshead of tobacco or at best not much more than one hogshead, the transaction costs were too high to make consignment arrangements worthwhile. If nothing else, someone else had to pack (prize) their tobacco into a hogshead before being exported. As such, small planters typically sold their tobacco outright directly to merchant-shippers or local large planters for goods, store credits, or to clear book-credit debts (Carr, 1988, pp. 342-388; Earle, 1975, pp. 26-28; Clemens, 1980, pp. 85-86, 172-173; Middleton, 1984, pp. 116-123; Price, 1973, pp. 658-659, 661-663; Price, 1980, pp. 6, 100-101, 121-122, 124-127, 130-132; Price, 1995, IV, pp. 11-14, 19-24, 29-31, VII, p. 65; Russo, 1988, pp. 389-432).

Bills of exchange drawn on accounts in England that arose from a large planter's sale of tobacco there on consignment were also typically issued in larger denominations. They were valuable for transacting large trades or paying large debts in Maryland, but they were costly to "make change" with or issue in small denominations. This was due, in part, to the transaction and risk costs of redeeming bills of exchange drawn in Maryland on accounts in England swamping the value of small denomination bills. As such, bills of exchange were not a ready medium of exchange for transacting most local trades within Maryland.[2]

The Maryland government collected its taxes, fees, and fines expressed in tobacco units through its county sheriffs. Because most taxes were small, well under a hogshead of tobacco, the tobacco taxes collected were in bundles or "hands" of loose leaf from each taxpayer. The sheriff of each district was responsible for collecting the taxes owed by each subject after that year's tobacco harvest. He was paid a percentage commission on the amount collected. Given that one of the significant taxes was a poll tax in tobacco units (a fixed amount per poll or adult) and thus a tax affecting every household head in the colony, using the local sheriff to collect taxes made cost-effective sense in terms of both collection costs and compliance monitoring. The sheriff deposited the collected tobacco with either the eastern or western shore treasurer for Maryland depending on each sheriff's jurisdiction (Owings, 1953, pp. 3, 59-61, 67-71).

From that point it is a little unclear what the colonial government did with its tobacco tax revenue. Individual subjects who were owed fees and fines in tobacco would presumably come to the public treasurer and claimed their loose hands of tobacco (*Archives of Maryland*, 35, pp. 233, 351). They would in turn presumably sell this tobacco outright directly for bills of exchange, goods, store credits, or to clear book credit debts to local planters or merchant-shippers, who would in turn pack the tobacco into hogsheads and have it shipped to England. Whether the government itself packed its own loose hands of tobacco into hogsheads and then sold it directly to merchant-shippers, local planters, or put it on consignment to English factors for bills of exchange, goods, or store credits is unclear. Likewise, whether the government paid for its purchases directly in its loose hands of tobacco revenue or sold its loose hands of tobacco to local planters or merchant-shippers for bills of exchange, goods, or store credits that were then transferred to the government's payee is also unclear. Compelling evidence of such has not been yet found. The government did have some truck with bills of exchange, but to what extent and how often is unclear (Gould, 1915, pp. 42-44, 62).

For subjects who owed taxes in tobacco units but grew no tobacco, they would have to acquire tobacco or tobacco credits of some type from someone with tobacco in the colony through barter for other goods, either a neighbor who still grew tobacco or a local store-merchant who still dealt in book credits cleared through payment in harvested tobacco. How exactly this was done by the typical non-tobacco grower is unclear. No compelling evidence has been found yet. It would seem that when a neighbor always grew tobacco or a local store dealt heavily in tobacco credits, such barter exchange may have been relatively low cost. But as the economy diversified and whole locales stopped growing tobacco, the transactions cost of finding someone with tobacco or a store-merchant dealing in tobacco credits with whom to barter goods in order to acquire the tobacco needed to pay one's taxes to the local sheriff got increasingly costly relative to just continuing to plant (inefficiently) a little (trash) tobacco—just enough to cover one's tobacco taxes. Some tobacco taxes could be paid in money, though as explained below specie was relatively hard to come by.

One aspect of tobacco as "money" is seldom discussed. Tobacco is not homogeneous. Besides differing qualities or grades of tobacco from trash to middling to good, tobacco also came in different varieties. There was "sweet-scent" grown mostly in Virginia that was preferred by the English consuming public. There was "Oronoco" grown principally in Maryland but also in substantial quantities in Virginia that was preferred by the French consuming public, and there was "bright-leaf" grown largely in Maryland and preferred in the Dutch market. The Oronoco variety also had distinctly recognizable sub-varieties—some a closer substitute for "sweet-scent" than others (Middleton, 1984, pp. 109-111; Price, 1973, pp. 651, 666-668; Price, 1995, II, p. 510). The different varieties with their different European market niches each with their different quality grades yielded considerable price variation among tobaccos. Yet Maryland governmental taxes, fines, fees, etc. and most private barter transactions were priced in just so many pounds of tobacco (sometimes in pounds of "good" tobacco), as though tobacco was a homogeneous good. As such, tobacco "money" had a hard time circulating as an efficient medium of exchange.

The tobacco monoculture and tobacco export trade to England also explains why specie, the international medium of exchange, tended to be scarce in Maryland, so much so that it could seldom function as an effective medium of exchange within the colony (*Archives of Maryland*, v. 36, pp. 469-470, v. 37, pp. 337-338). Maryland produced no gold or silver, so specie could only be acquired via trade. The export of tobacco to England on consignment did not yield payments in specie as specie exports from Britain were restricted. These tobacco sales in England only generated credits-on-account in London that could be drawn on. Typically British North American colonies could only acquire specie via trade surpluses with Spanish and/or Portuguese America. The nature of Maryland's tobacco export trade more or less ruled that out. Only with the rise of wheat culture and the provisioning trade in the later colonial period were there some trade surpluses generated with Spanish and Portuguese America that yielded increased specie pass through—imports of specie from trade surpluses with Spanish America being re-exported to England to pay for even more English imports. In the meantime, some specie could linger in the economy for a while before being exported and so served to some limited extent as an internal medium of exchange. Such a shift toward specie money would be hard to do as long as tobacco exports to England dominated the Maryland economy. Under such conditions, specie would remain scarce.[3]

In conclusion, tobacco "money" as a medium of exchange was a hybrid of book credit and contract commodity-money. As a barter economy, it was highly efficient within the narrow trade channel of tobacco planter/grower through export/import merchant. Outside that channel, the transactions cost of extended circulation of tobacco "money" to support internal exchange within the colony was high, and got higher as the chain of parties through which the tobacco "money" passed increased until being ultimately redeemed for the actual sterling credits accumulated in London or the imported good they represented.

In the end, what everyone in Maryland wanted—whether merchant, planter, storekeeper, churchman, or government official—were foreign trade credits. These were needed to acquire imports, and in a highly non-diversified monoculture economy such as Maryland, imports are what made life worth living. Thus, what anchored the end of the barter chain in tobacco and ultimately gave tobacco money a "currency" was that it led directly and ultimately to these foreign trade credits, namely to the imported goods themselves or to bills of exchange that could be drawn on British pound sterling credits in London.

Advocates for the Demonetarization of Tobacco in Maryland

There were three advocates of demonetarizing tobacco in Maryland. The first were smalltime planter/farmers and tradesmen who had shifted away from growing tobacco and found the transactions cost of acquiring tobacco to pay their provincial taxes burdensome. The second were large wealthy planter/merchants in the tobacco trade who wanted to drive up the price of tobacco. The third was the Proprietor/Maryland government who wanted to lower the cost of tax and quit-rent collection and increase the value of the revenues collected, by eliminating payment in trashy tobaccos. A coincidence of events brought these three constituencies together in the late 1720s and early 1730s.

a. The shift away from tobacco monoculture

By the early 18th century the transition from a tobacco monoculture to a more diversified agricultural economy was noticeably underway, especially on the eastern shore of the Chesapeake. Tobacco had exhausted soil fertility in many areas, particularly on the eastern shore. Wheat cultivation had profitably displaced tobacco in these areas. Transatlantic shipping disruptions caused by the almost constant warfare from King William's through Queen Anne's War (1689-1713) and the trade depression in the immediate aftermath of these wars obscured the impact of this transition on the internal trade structure of the colony. With the return of peacetime trade patterns by the 1720s and with the re-entry of French buyers into the British tobacco market, the strains to the old way of paying colonial taxes became apparent. Political redress by Maryland's non-tobacco planters was increasingly sought (Carr, 1988, pp. 342-388; Clemens, 1980; Middleton, 1984, pp. 135-136, 141-143; Price, 1973, pp. 268-301, 379, 509-530, 664, 671; Price, 1995, II, pp. 497-498, 510-511; Russo, 1988, pp. 389-432).

Between 1719 and 1725 petitions were received by the Maryland legislature complaining about paying taxes in tobacco, most notably from locations where relatively less tobacco culture was now present, such as from the city of Annapolis and the fringe eastern shore counties of Somerset and Cecil (Gould, 1915, p. 52). Only the petition from Somerset County on October 11, 1725, however, pointedly asked to substitute some other method for paying tobacco taxes. This request "that Somerset County and some others that cannot make any quantity of Tobacco or flax may have the Liberty of paying their publick dues in Country Commodities" appears to have been granted by both Maryland's lower and upper legislative houses, though whether it was approved by the governor is as yet unclear (*Archives of Maryland*, 33, pp. 398-399, 578; 34, p. 613; 35, pp. 313-315, 410).

With the exception noted above, these petitions were principally if not exclusively interested in manipulating the tobacco price of taxes. Tobacco taxes were typically expressed in so much current money or its tobacco equivalent with 10 shilling current money being rated by the legislature as the same as 100 pounds of tobacco. Current money was the Maryland pound which was purely a unit of account money—there was no physical Maryland pound yet. It was set at 1.333 Maryland pounds being equal to 1 pound sterling (McCusker, 1978, pp. 189-199). Given that 100 pounds of tobacco was sometimes worth more than 10 shilling current money and sometime less, in which unit to enforce the tax assessment—tobacco or current money—mattered. People naturally wanted to choose the unit that got them the most gain or the least tax payment.

When tobacco prices were high (above 10 shillings per 100 pounds) subjects wanted to pay their taxes as assessed in current money because it would require less tobacco than 100 pounds to satisfy a 10 shilling tax. Whereas, the sheriff wanted to assess and collect the tax in tobacco at 100 pounds per 10 shilling tax assessment because the tobacco could be sold for more than the current money tax assessment, perhaps with the sheriff pocketing the difference.

When tobacco prices were low (below 10 shillings per 100 pounds) subjects wanted to pay their taxes as assessed in tobacco at 100 pounds per 10 shillings tax assessment because they would be paying less value in tobacco than what the current money assessment indicated they owed. Whereas, the sheriff wanted to assess the tax in current money so as to be given more tobacco than 100 pounds per 10 shilling tax assessment in order to make up for the low market value of the tobacco.

Figure 1 shows the current money price of 100 pounds of tobacco. In 1719-1720 tobacco prices in current money were well above the 10 shillings per 100 pounds of tobacco. Sure enough, the May 25, 1719 petition from "several inhabitants" to the legislature asked that they be allowed to pay their taxes in "money"—meaning current money units of account. Similarly, the April 8, 1720 petition from "sundry inhabitants" also asked that they be allowed to pay their taxes in money. When tobacco prices were closer to the 10 shilling per 100 pounds of tobacco legal equivalent, i.e. in 1721, 1722, and 1724, no petitions asking to pay tobacco taxes as assessed in current money were submitted to the legislature. In 1723, however, when tobacco prices were again above the 10 shilling per 100 pounds of tobacco level, the City of Annapolis petitioned the legislature September 28, 1723 for "the Liberty of paying their Levies…" in the unit of their choice. All these petitions, or gaming of the tax system, were rejected by the legislature (*Archives of Maryland*, 34, p. 613; Gould, 1915, p. 52).

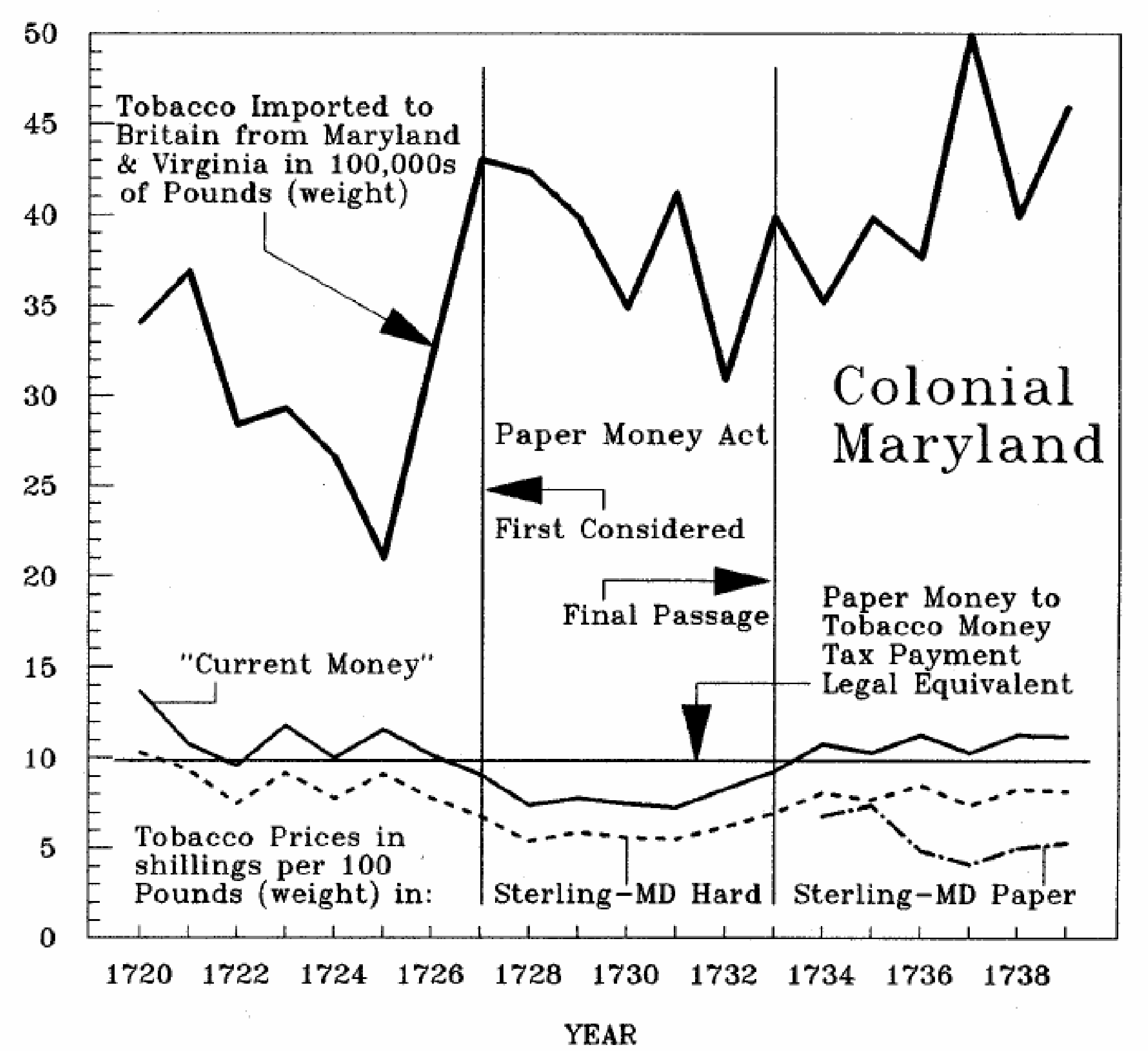

Figure 1 Colonial Maryland, 1720-1739: Tobacco Prices and Exports

Notes and Sources: Import numbers are taken from the *Historical Statistics* (1975, p. 1190). Tobacco prices are taken from Earle (1975, pp. 227-228) for Anne Arundel and Prince George's counties, Maryland. They were reported originally in "current money" units. Conversion to British Pounds Sterling uses the exchange rates reported in McCusker (1978, pp. 189-202). The Sterling-MD Hard is the sterling value of Maryland "current money" units-of-account as measured by the commercial bill-of-exchange rate between Maryland and London. This rate fluctuated around the "Proclamation Money" par of 1.3333 Maryland pound units-of-account being equivalent to one pound sterling. After 1733, "current money" meant Maryland's paper money with the conversion of prices using that exchange rate called Sterling-MD Paper in the figure. To ease comparison, all prices are converted to shillings per 100 pounds of tobacco (weight). See the text for discussion of the Paper Money to Tobacco Money Tax Payment Legal Equivalent and the timing of the Paper Money Act.

In 1725, tobacco prices once again rose from just below to substantially above the 10 shilling current money per 100 pounds of tobacco level. Not surprisingly then, another petition, this time from Cecil County on October 11, 1725, came to the legislature. It specifically complained that "officers fees are rated in tobacco, and that in scarce years they exact treble the value…whereas if officers fees and other public dues were rated in money to be paid at a price current in tobacco or wheat it would be reduced to a certainty." They went on to say that "ordinary keepers [sheriffs?] are left to their liberty to charge either in money or tobacco, so that when tobacco rises they charge in tobacco and thereby get double the price assessed by the justices." (*Archives of Maryland*, 35, pp. 315, 441) After 1725, when tobacco prices once again fell below the 10 shilling current money per 100 pounds of tobacco level, where it stayed until at least 1734, petitions stopped coming into the legislature asking to pay tobacco taxes as assessed in current money.

As far as can be told, the legislature, while rejecting petitions by subjects to game the tax system through being given the liberty to select in which unit to pay taxes, was sympathetic to, and moved to stop, the gaming of the system by the tax collectors (sheriffs). Tax collectors were no longer at liberty to price taxes in money or tobacco whichever got them the most value. The legislature moved to fix the tax assessment unit by reaffirming that 10 shillings current money in taxes was equal to 100 pounds of tobacco and by removing choice over which unit to assess value in—making tobacco at the price above the assessment unit unless specifically stated otherwise in law. This issue and how the legislatures dealt with it would have considerable impact on how Maryland's paper money system, initiated in 1733, would be structured and would subsequently perform.

Gould (1915, pp. 52, 70) argued that "The accumulation of these complaints was the chief reason for the issue of paper money in 1733." This seems hard to sustain in that these petitions never directly asked for the emission of paper money and only the 1725 Somerset County petition asked to pay tobacco taxes in some other medium, i.e. country commodities. These petitions mostly concerned fixing the tobacco price of taxes and shifting the barter cost of acquiring tobacco onto the tax receiver. Small planters and non-tobacco growers could always get tobacco to pay their taxes via barter with larger planters and other tobacco handlers. That these small planters and non-tobacco growers bore significant barter transactions costs in so obtaining the needed tobacco was likely of little concern to the colony's elite and large tobacco planters or even to the majority of its subjects.

As long as the colony's elite and large planters could prevent these small planters and non-tobacco growers from shifting the barter transactions cost of the tobacco tax onto them or onto the government, they were unlikely to demonetarize tobacco for they saw no benefit of such a change. As long as small planters and non-tobacco growers bore the barter transactions cost of the tobacco tax, however, they were a constituency that would not oppose the demonetarization of tobacco in the colony, particularly if such demonetarization would reduce their barter transactions cost in making tax payments. But even as a group, they were not influential enough to bring about or catalyze change away from tobacco money and toward a paper money system.

The first mention of a bill to emit paper money in the Maryland legislature was on October 26, 1727, two years after the last petition regarding how tobacco taxes were to be paid (discussed above) was submitted to the legislature. The substance of the paper money bill was not recorded nor was it acted on (*Archives of Maryland*, 36, p. 76; Behrens, 1923, p. 12). The next paper money bill to show up in the legislature was on October 15, 1728. The substance of this bill stated that it followed from “the present state of the staple [tobacco] of the province and the necessity of attempting to improve it… [through] …the proposed reduction of the quantity of tobacco to be made…” That “if people should be restrained the liberty of making as much tobacco as they can…” they must be given some other medium in which to pay their taxes (*Archives of Maryland*, 36, pp. 116-117; Behrens, 1923, p. 12).

The emphasis on the troubled state of the tobacco market and the need to reduce the quantity produced indicates that some other force was afoot. Requests by non-tobacco growers, marginal small-time farmers, and craftsmen to find alternative ways to pay their taxes was not enough by itself to lead the colonial government in Maryland to demonetarize tobacco. That does not mean they were not an issue. For example, when the Lord Proprietor was finally in the province in 1733, the freeholders of Dorchester country on the lower eastern shore directly addressed him, reprinted on March 20, 1733 in the *American Mercury*, pointing out that, “We confess, my Lord, that the decay of our trade, the lowness of our staple, and the difficulty of barter, have lately occasioned melancholy reflections…” This constituency would support change; they were just not strong or important enough by themselves to cause change without the support of other constituencies.

b. Manipulating the Transatlantic Tobacco Market

The transatlantic tobacco market experienced frequent and violent fluctuations in price and quantity (Gould, 1915, p. 62; Middleton, 1984, pp. 105-147; Price, 1973, pp. 268-301, 376-410, 509-530, 649-677; Schweitzer, 1980). The war period from 1689 through 1713 had restricted markets, raised shipping costs, and depressed production. With the return of peace, prospects improved. With the return of French buyers to the British tobacco market, the restoration of the French tobacco buying monopoly in 1721-1723, and the British government concession in 1723 to full rebates of tobacco import duties on tobacco re-exported to the Continent (to the French), the market not only revived but prospered unlike it had for a generation.

Tobacco prices were relatively high in the late 1710s and early 1720s. This encouraged production expansion. This expansion finally caught up to the market with a vengeance in 1727. British tobacco imports from the Chesapeake doubled between 1725 and 1727, going from approximately 2.1 million pounds in 1725 to 4.2 million pounds in 1727. Even compared to its previous high of 3.7 million in 1721, the amount imported in 1727 was still a sizable increase. The consequence was a marked fall in tobacco prices in Maryland. Between 1725 and 1727 tobacco prices fell approximately 25 percent and continued to fall, being 33 percent below their 1725 level by 1728—see Figure 1.

Large tobacco growers and shipping-merchants witnessed these events with alarm. Something needed to be done to stabilize and improve their tobacco prospects by raising the price of tobacco. Two ideas were current. First, tobacco prices could be raised by somehow reducing the quantity of tobacco grown. Maryland tobacco growers certainly felt the rise in quantity and fall in price of their staple between 1726 and 1728 and may have come to this conclusion both concurrently and independently from that reached by tobacco merchants in England. The paper money bill submitted to the Maryland legislature on October 15, 1728 referred to the "the present state of the staple [tobacco] of the province and the necessity of attempting to improve it… [through] …the proposed reduction of the quantity of tobacco to be made…" (*Archives of Maryland*, 36, pp. 116-117; Behrens, 1923, p. 12) October 15, 1728 was before the publication in Maryland of letters from London merchants advocating the same action (see below)—though such sentiments may have been communicated privately among large planters and merchants-shippers in Maryland before such was published in the newspaper.

The second idea was that the low price was the result of the French tobacco buying monopoly. This was particularly true for the Oronoco variety which was at this time principally/universally grown in Maryland, though substantial quantities were also grown in parts of Virginia. Oronoco tobacco was preferred by the French and eschewed by the English who preferred sweet-scent. The French purchased a dominant share of the Oronoco tobacco imported into England. Because they purchased as a single buyer, they could set or at least heavily influence the price they paid, particularly given that they faced numerous competitive sellers on the English side of the market. If the English merchant-shippers, with support of the large growers in the Chesapeake, could face the French with their own combination monopoly on the selling side, they could counteract the French buying monopoly power and force the price of tobacco back up (Middleton, 1984, pp. 143-145; Price, 1973, 1995).

This second idea required not only the cooperation of numerous growers and merchant-shippers both in the Chesapeake and in England, but presupposed that some effective way to reduce tobacco production could be implemented. Without controlling tobacco production it would be impossible to maintain voluntary cooperation among those in the sellers' monopoly. The incentives of individual sellers to break the monopoly and deal separately with the French would be too great. Better to sell all your tobacco at less than the sellers' monopoly price than risk being stuck with leftover tobacco that could not be sold at all given the high asking price of the sellers' monopoly.

Communication and coordination of such a scheme to manipulate the tobacco market required transatlantic channels of communication that would disseminate the ideas broadly across the many parties involved. This is where the power of the media enters the story. Before 1727 there was no newspaper published in Maryland. In 1727, William Parks established the *Maryland Gazette* and published it in Annapolis for eight years, until 1735 (Cook, 1913, pp. 152-153). During these years it played a critical role in Maryland's paper money creation story.

In late 1727 and 1728 a group of tobacco merchants in London met numerous times to consider what to do about the low state of the tobacco market and resolved to try and form a combination to counter the French monopoly buyer. Communication of this meeting and the views and designs of these merchants were communicated to Maryland planters to gain their cooperation. On February 4, 1729, the *Maryland Gazette* published a letter from Henry Darnall, who was present at the meetings of the London merchants but was now in Maryland. It was addressed to the inhabitants of Maryland describing the London merchants' concerns and plans. On March 4, 1729, the *Maryland Gazette* also advertised:

> *Lately Published*
> A Just and Impartial Account of the Transactions of the merchants in *London*, for the Advancement of the Price of TOBACCO. About the latter End of the Year 1727, and Beginning of 1728. By Henry Darnall. Who was present at most of them. na Letter from Him, to the Inhabitants of *Maryland*, Dated September 18, 1728. Printed and Sold by *W. Parks*. Pr. 1s. 6d.

On April 15, 1729, a letter from the merchants in London, dated November 7, 1728, was published in the *Maryland Gazette* which described in more detail their concerns, plans, and hopes for cooperation (Gould, 1915, p. 70). Within this letter, these London merchants explicitly appealed to Marylanders to reduce the quantity of tobacco grown—a necessary pillar to the success of any merchant sellers' monopoly facing the French. But they also recognized that doing such would be impossible as long as tobacco served as money within the province, particularly with regard to paying local taxes. The London merchants advised that if their scheme for reducing tobacco production

> …would be thought hard, in regard to those that are in debt for tobacco, and yet restrained from making enough to pay their debts, the only way we can think of to remove that difficulty is to turn all tobacco debts into money debts, and he that makes but 500lbs of tobacco, may chance to get as much money for it, as will discharge his debt for 1000lbs of tobacco originally. Indeed, we think it will be the interest of your province, that all debts be contracted in money, it is now time to leave off the old way of barter.

Finally, the London merchants published another letter to the inhabitants of Maryland in the *Maryland Gazette* on June 3, 1729. After again recounting the particular state of the trade and steps being taken to deal with it, they also asked cooperation from Maryland planters in not drawing bills of exchange on tobacco credits in London too quickly. This request may have been due to the efforts by London merchants to affect tobacco prices via the timing of sales to the French. In the end, the conspiracy of London tobacco merchants to form an effective sellers' monopoly with which to confront the French buyer's monopoly fell apart. It was done in, as are most monopoly collusion-cartel efforts, by individual merchants breaking ranks and selling outside the cartel price and by the inability to control tobacco trading in the English out-ports and Scottish ports, both of which undercut the London market pricing conspiracy (Price, 1973, pp. 651-655).

The failure of this selling cartel, however, did not lessen the relevance of the idea that if the quantity of tobacco could be reduced in the Chesapeake, that could still restore tobacco prices, avert the crisis in the tobacco industry, and so return the province to prosperity. It was even extolled in poetry. In the *Maryland Gazette* on December 30, 1729, and reprinted in the *American Weekly Mercury* on January 14, 1730 and in the *Pennsylvania Gazette* on January 13, 1730, was a long poem send to Mr. Samuel Hasting, a shipwright of Philadelphia, on the occasion of his launching of a merchant ship built in Annapolis. The poem ended with:

> Yet if my sons have courage left to thrive,
> If they their sinking staple would revive;
> Let the strictest bonds some merchant's faith secure

Whom from their native land they may procure;
For few, alas! Are found to keep their trust,
Unless their interest binds them to be just:
…
Let such who have the fortunes to be free,
Refuse to send their crops across the sea;
Let them in other works employ their hands,
Nor with tobacco vex their fertile lands;
'Till they've enjoyed a rest of one short year,
Then trade shall in a richer dress appear,
And with a higher price reward the Planter's care.

c. Whose Tobacco Production Should Be Cut?

Any cartel of colluding producers out to reduce output and so raise prices must decide on two things: First, whose output is to be cut, and second, how should those producers be compensated. Reducing the amount of tobacco grown and exported from Maryland was no different. An across-the-board percentage reduction in tobacco output by all producers would be the simplest to design. Each producer would then be compensated, more-or-less fairly across all producers, by the higher price earned on his/her remaining output. Such a design, however, would be highly inefficient—yielding relatively small profits for the province as a whole. To maximize producer profits as a group and so maximize the gains to the colony as a whole, the tobacco output of the least cost-efficient producers should be cut first. The most cost-efficient producers should not cut output at all. This design would maximize the gap between cost and price for the province as a whole.

The most efficient tobacco producers were relatively large planters who specialized in tobacco growing, who cured and prized their own tobacco, and often shipped on consignment. They enjoyed economies of scale and lower transactions costs compared with small growers. The least efficient tobacco producers were typically the small growers and farmers who produced just enough tobacco to directly pay their tobacco taxes—typically under a hogshead or two of tobacco who typically did not prize their own tobacco but had to sell it loose in “hands.” If large planters could get the small growers to bear all the tobacco output reduction, then the large planters would reap all the gains from the expected increase in the price of tobacco. Small growers, however, would not go along with this design unless they were compensated for their output reduction. The problem was how to design a way for the large planters to compensate the small growers for agreeing to this tobacco output reduction scheme.

Many small tobacco growers were planting just enough tobacco to meet their tobacco taxes because the barter transactions cost of acquiring tobacco in trade was higher. Thus, to get small growers to opt in to such a tobacco reduction scheme, they would have to be compensated by being offered a way to pay their taxes other than with tobacco that was less costly than trading for the tobacco needed, and was more cost-efficient for the small grower than growing the tobacco itself. Since such compensation was tied to the province’s tax structure, legislative action by the Maryland government would have to be involved in such a planter tobacco output reduction scheme.

Enter the provincial government and the Lord Proprietor. Tobacco taxes paid by small growers and non-tobacco growers were troublesome. Typically a farmer would use his worst tobacco or trashy tobacco to pay his taxes and sell the rest. Small growers who grew only enough to pay their tobacco taxes were also inefficient producers and so may have only produced trash tobacco. The transactions cost of tobacco tax collection, storage, and resale to those who would prize and ship it was not insignificant. This state of affairs lowered the value of the government’s and the Proprietor’s potential tax take, and the amount of trash tobacco in the market (in a world before inspection grading) lowered all tobacco prices.[4] Small growers, besides being inefficient growers cost-wise, were likely to be the source of relatively more of the trash tobacco. Thus, if the provincial legislature and Proprietor could find some other way for these small growers to pay their taxes other than with tobacco, that would be nominally equivalent but easier to collect cost-wise, they would come out ahead. If they could get the large planter to pay for this other method, that would be even better. Finally, eliminating some portion of trash tobacco from the market would also benefit the large growers. Not only would the average price of tobacco rise because the average quality of tobacco in the market was higher, but the price on high quality tobacco would rise even more because the buyer's risk compensation discount for the possibility of being stuck with trashy tobacco mixed in with the high quality was reduced.

Such interests can be seen in a letter addressed to the lower house of the Maryland legislature by the Proprietor, Lord Baltimore, on September 25, 1723 where he remarked,

> …and am pleased with the occasion you thereby give me in this Public Manner of Declaring how Acceptable Any thing is to me which you Apprehend may prove Advantageous to the Staple of Our Country.
>
> The great Quantity of Bad Tobacco lately given up to be burnt, whereby his Majesty has been so Considerable a Loser in his Customs Caused much Inquiry and Speculation, Until the Sight of your late Act…gave hopes that the like would not happen for the future which has Convinced me how much it is for your Advantage that I should be Assisted with men of knowledge and Interest in your Affairs in Order Either to preserve those privileges you now Enjoy, or in Obtaining Others as Occasion may offer (*Archives of Maryland*, 34, p. 601).

Thus the three major political constituents, the large tobacco planters, the non-tobacco and small tobacco growers, and the provincial government/Proprietor, were ripe for consensus on a paper money scheme as long as it achieved the following: 1) a reduction in the overall quantity of tobacco grown, 2) that reduction to come disproportionately from the output of trashy tobacco by small growers which was mostly used to pay taxes, 3) that small growers and non-tobacco growers be compensated by being given some less costly way to pay a given tax assessment than in tobacco, and 4) that large tobacco growers largely pay for this compensation out of their market gains from the output reduction scheme. The key to the creation of a paper money economy was replacing tobacco for the payment of taxes, especially among the small growers and non-tobacco growers. But that role was ancillary to the main purpose, which was the reduction of tobacco output, especially the amount of trash tobacco in the market.

Achieving a consensus on how to do this was not easy. As late as 1732, the legislative upper house in an address to Maryland Governor Samuel Ogle remarked that, "And, notwithstanding the disappointments, we have heretofore met with in our endeavors to raise the value of our staple, we are not without hopes that some expedient may yet be found to effect it." They also mentioned the problem of extra-legal actions taken by some to destroy tobacco and the need for a paper currency (reprinted in the *American Weekly Mercury*, July 27, 1732).

The Evolution of Maryland's Initial Paper Money Bill, 1727-1733

Efforts to enact a paper money bill finally came to fruition in the spring of 1733 when "An Act for Emitting and Making Current Ninety Thousand Pounds Current Money of Maryland in Bills of Credit" was passed. The preamble to the act stated:

> Whereas tobacco, the only staple of this province, and the principal dependence of its inhabitants, hath for several years past produced so little, that several of the people, not able to get the necessaries of life, by the fruits of their labor, have been obliged to desert their habitations…or be constrained to attempt some other way of living, less advantageous…than making tobacco…
>
> And whereas, the most probable means to enable the people to discharge their taxes, and other engagements now payable in tobacco, otherwise, and to destroy such ordinary and unmerchantable tobaccos, which serve only to clog the markets, and to depreciate the best sorts of that commodity, as well as to put the people in a condition to carry on the tobacco trade, to the advantage of Great Britain, and this Province, is to establish a paper currency, or bills of credit, upon a sinking fund: (*Archives of Maryland*, v. 39, p. 92; Behrens, 1923, pp. 18-19).

An example of the actual bills of credit or paper currency issued is reproduced in Figure 2.

Paper money bills had been proposed but not enacted in 1727, 1728, 1729, 1730, 1731, and 1732. Some of the details and differences in these bills and why they failed to get enacted are laid out in Behrens (1923, pp. 12-19) and will not be recounted in full detail here. Nothing is

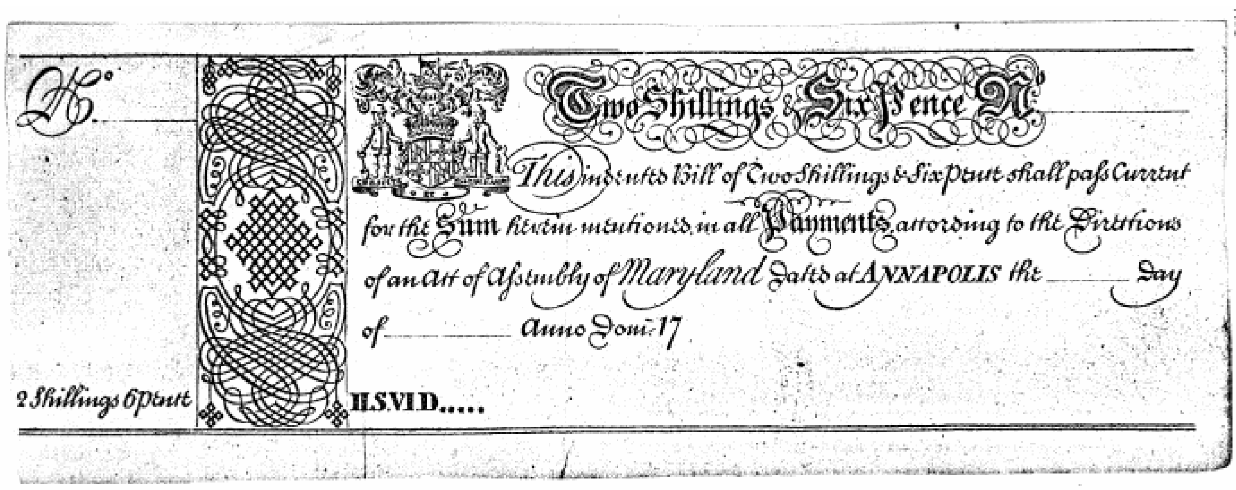

Figure 2 Maryland Bill of Credit (Paper Money): Initial Emission 1733

Source: Newman (1997, p. 164).

known about the 1727 bill other than such a bill existed. Some of the differences were seemingly uncontroversial, such as the 1728, 1729, and 1730 bills authorized the emission of 24,000 Maryland pounds, whereas the 1731 bill increased the authorization to 36,000, the 1732 bill to 72,000, and the final 1733 bill to 90,000 Maryland pounds. As shown in Table 1, even the 90,000 amount was not excessive on a per capita sterling equivalent basis relative to that of other colonies. In addition, changes in the particular mechanics of the bill, e.g. how the sinking-fund would be filled and how the bills would be distributed, also seem to be somewhat uncontroversial. These issues do not appear to be the reasons why passage was delayed from 1727 until 1733. Behrens (1923, p. 18) simply says that “When the assembly met in 1733 the Lord Proprietor was himself present in the Province, and a spirit of good feeling and conciliation was prevalent among the classes and between him and his tenants.”

The core substance and consensus part of the bills—expressed in the preamble to the 1733 bill quoted above—can be found in every bill going back to 1728. Namely, paper money emissions were inexorably intertwined with control of the tobacco market and they were to be a direct agent or vehicle for reducing tobacco output. In fact, more was often written on controlling the tobacco market in these bills than on the mechanics of creating a paper money economy. For example, the 1731 bill had the same payment-per-taxable clause for destroying trashy tobacco as the 1733 final bill, namely a rate of 15 shillings paid in paper money per 150 pounds of trashy tobacco destroyed. Finally, all variations of the bill from 1728 to 1733 contained some sinking fund provision for supporting the value of the paper money (*Archives of Maryland*, v. 36, 37, 39).

The points of disagreement that held up the passage between 1727 and 1733 dealt mostly with disagreements over political prerogatives and rents seeking (distribution of the costs and benefits among the various constituencies). The first political prerogative issue was over whether Maryland's legislative lower house would consent to the Proprietor's right to assent or dissent to the passage of their bills—an age-old struggle going on in most colonies in this era. It took a short while for the lower house to finally relent to the Proprietor's right. The second was over whether the upper or lower house had the right to appoint the commissioners and officer holders listed in the Paper Money Act responsible for carrying out the Act. These issues of political prerogatives were resolved by the time the final bill was passed in 1733 (*Archives of Maryland*, v. 37, pp. 503-504; Behrens, 1923, pp. 12-18). They are largely unimportant to the economic design and performance of Maryland's paper money economy.

Throughout the process and sequence of bills from 1727 to the final bill in 1733, paper money was set equal to current money with 10 shillings current money then also set equal to 100 pounds of tobacco for tax assessment purposes (as it had been before a paper money was considered). This meant that depending on whether the price of tobacco in the marketplace was expected to stay below the 10 shillings per 100 pounds or rise above it (see Figure 1) affected whether effective tax bills, and income earnings for those whose income was taken directly from tax payments, would be expected to be relatively higher or lower under the paper money scheme compared with before the scheme was adopted. If the scheme to reduce tobacco output was expected to push the price of tobacco above the 10 shilling per 100 pounds level, then taxpayers would want to pay their taxes in paper money rather than tobacco whereas those who directly received tax receipts as income wanted the taxes to be paid in tobacco, and vice versa if the scheme was not expected to push the price of tobacco above the 10 shilling per 100 pounds level. This condition set up considerable conflict between the three constituencies, the lower house, the upper house, and the Proprietor/government, over what taxes could and could not be paid with paper money and whether for taxes that could be paid in paper money choice would be granted to pay in tobacco instead (*Archives of Maryland*, v. 36, 37, 39; Behrens, 1923, pp. 12-26).

The outcome of these iterative negotiations was a final bill in 1733 that had a complex set of legal tender clauses with numerous exemptions and conditional choices. Paper money was to be a legal tender for all contracts for current money in the province after the passage of the act. It is important to note here the use of the term "for current money." As such, the legal tender clause did not interfere with or affect contracts written for payments in specie or sterling (*Archives of Maryland*, v. 39, pp. 92-113).

All provincial public charges—all levies, lawyers' fees, bounties, rewards, allowances, fines, forfeitures, penalties, rates, duties, and impositions assessed in tobacco—could now be paid in paper money, "Provided always, that no person shall be obliged to pay the said bills of credit…in lieu of tobacco; but that every person shall be at liberty to pay for the said levies, fees, penalties, as if this act had never been made." Again, it is important to note that choice of payment medium (paper money or tobacco) was granted. However, if said levies and lawyers' fee were not paid in paper money by the 10th day of April of that year, they could be required to be paid "in tobacco, as if this act had never been made…" Choice and constrained choice gave an opening for the tax system to be gamed by rent-seeking parties seeking the better payout—tobacco or paper money. Finally, certain public charges were excluded from the legal tender clause and so could be demanded by the receiving party to be paid in tobacco or specie rather than paid in paper money. The principal exceptions were for the 40-shilling ecclesiastical poll tax, duties on tobacco exports and ship tonnage, and all other non-penal-fine monies payable to the Lord Proprietor. Basically a complex dual currency of paper money and tobacco "money" was maintained. This would plague the economy and in part undermine the performance of Maryland's paper money (*Archives of Maryland*, v. 39, pp. 92-113; Behrens, 1923, pp. 12-26).

The Press Media and the Evolution of the Paper Money Bill

As the paper money bills seemed to constantly fail to finish their way to final enactment in each year from 1727 through 1732, and especially seemed to be languishing from inactivity in 1729, the press media weighed in to offer information that may have been influential in coaxing the process forward and shaping its content. For example, in 1728-1729 Pennsylvania was in the middle of its own debate over whether to re-emit paper money. On May 27, 1729 the *Maryland Gazette* published a speech by Pennsylvania Governor Patrick Gordon to the freemen of Pennsylvania where Gordon said, "I have openly declared myself a friend to our paper currency, and am desirous to promote an Addition to it, in such a manner as I can account for to his majesty, and my superiors." On June 10, 1729 the *Maryland Gazette* reprinted another speech by Gordon where he reiterated "…that no man in the province is more truly and sincerely a friend to this currency than I am," and that "I am now to pass the bill agreed on by us for the emission of thirty thousand pounds more of a paper currency." This example of Pennsylvania and especially the support and role played by the colony's governor may have influenced the reconciliation in Maryland toward a paper money bill, especially during 1730 to 1732 regarding both conflicts over political prerogatives and balancing the gains across constituencies (Behrens, 1923, pp. 16-18).

On the other side, however, the *Maryland Gazette* on October 28, 1729 also published (reprinted) an address by New Jersey Governor W. Burnet to his house of representatives saying, "But it would be well for you to remember, who made this province, that was once flourishing, to decline so much; even they, who have ruined the credit of it, by making a deluge of paper currency…" Paper money acts were not without their pitfalls. Care needed to be taken in devising them so as to support the paper currency's value. Taking the time to get it right perhaps was not so bad.

The *Maryland Gazette* on July 22, 1729 also published (re-published) Benjamin Franklin's *A Modest Enquiry into the Nature and Necessity of a Paper-Currency*. Franklin's pamphlet was a brilliant tour de force that effectively carried the day in the Pennsylvania paper money debate by extolling the benefits of a paper currency to the economy. It also debunked the arguments against a paper currency by the wealthy—showing that they were narrow and self-serving and detrimental to the common man and the province as a whole. In particular, Franklin championed a land-bank-mortgage method for emitting paper money as an important stabilizing structure to controlling paper money's value (Grubb, 2006, pp. 3-4; Labaree, 1959. v. 1, pp. 139-157; Lemay, 2006, pp. 397-413).

Interestingly, the Maryland paper money bills made no mention of a land-bank-mortgage method for emitting and redeeming paper money until after Franklin's essay was published.

Even through 1731, the only redemption method outside of paying taxes was the creation of a sinking fund. However, by 1732, with the formation of a joint committee of leading men of both houses and agents for the Proprietor composed of men like Daniel Dulany, who were cut from the same cloth as Franklin, did things change. The 1732 bill, while structurally the same as before, added a land-bank-mortgage component to the issue-redemption design of Maryland's paper money. This also probably explains the doubling of the nominal size of the authorized emission from 36,000 in the 1731 bill to 72,000 in the 1732 bill. The sinking fund component was also downplayed as a value-controlling factor—making it a conditional aid if it could be enacted. A land-bank-mortgage component of the paper money bill would be retained in the final 1733 bill passed (*Archives of Maryland*, v. 37, pp. 406-408; v. 39, pp. 92-113; Behrens, 1923, p. 16-18). Debates in the press over the particulars of how the money should be distributed and redeemed were also offered in the *Maryland Gazette* on July 15, 1729 where "P.Q." advocated a distribution of 10 shilling to each taxable in the province through the county sheriff—a variant of which found its way into the final 1733 bill but at a higher sum.

Finally, William Parks, publisher of the *Maryland Gazette*, also published a pamphlet in Annapolis in 1730 by Ebenezer Cook called *Sotwed Redivivus or the Planters Looking-Glass in Burlesque Verse*. In this lengthy poem, Cook appears to mock planters who opposed the paper money bill in Maryland—some of the relevant portions are (Cook, 1900, pp. 39-50):

> ...As shall in proper place be shewn;
> Reduced to penury indeed,
> By feeding on this *Indian* weed.
> For remedy, both houses join,
> To settle here a *current coin*,
> Without exception, such as may,
> Our *public dues* and *clergy pay*.
> Grown worldly wise, unwilling are
> …
> [To] Hold *Predial Tythes*, secure in bags,

Better than *paper* made of *rags*:
The *Scribes* likewise, and *Pharisees*,
Infected with the same disease,
On *paper money* look a squint,
Care not to be made fools in print.
Thus what is meant for public good,
I find misunderstood,
And taken in the worser sense,
By those, care not for *paper pence*.
And tho' this *scheme* should prove in vain,
The case to me seems very plain;
Said I to *planter* standing by,
And was for *paper currency*:
It's money, be it what it will,
In tan-pit coin'd, or paper-mill,
That must the hungry belly fill,
When summon'd to attend the Court,
Held at the magisterial port.
…
The leveling a standing coin,
It matters not what sort of mine
It issues from, since every thing
Is worth no more than it will bring.
…
To know the meaning of such clamor;
Says one, in drink, that made him stammer,
The reason's this, if you must know it,
The house divided is, old *poet*,
In voting for the *money bill*;
Which, tho' composed with wondrous skill,
Will never pass, I dare be bold,
A pipe of wine on it to hold.
…
His wise remarks began to make,
On the new plan for raising pence,
Protesting, tho' it was the sense
Of some, that sat in the wise * *mote*,
He could not safely give his vote,
For such an odd contrived intention,
As ever was laid before convention:
Alleging, *planters*, when in drink,
Would light their pipes with paper chink;
And knowing not to read, might be
Imposed on, by such currency.
These reasons, laughter did create;
The subject was of our debate;

…
So gravely fell to argument;
On the late act of parliament;
The growth of *sotweed* to prevent,
And give our staple freer vent.
…
The only way I know to heal
The lingering state of common-weal,
Is to ordain all taxes be,
As well the *priest*, as *lawyer's* fee,
Hereafter paid in *currency*;
Or with the produce of our grounds,
In *stinkbus* too much abounds;
Else, 'tis in vain for us to hope,
With our misfortunes long to cope.

What impact this had on the evolution and final consensus over a paper money bill is hard to say. But serious opposition seemed to have largely melted away between 1730 and the final 1733 bill hooray (Behrens, 1923, pp. 16-18).

The Perceived Distribution of Costs and Benefits in the Final 1733 Bill

Why did all three constituencies believe at this point that they would be net gainers with this bill? Why did they all finally opt in? What could have been their expectations?

a. Small and Marginal Tobacco Growers

Small farmers (represented mostly by the lower legislative house) would get, along with all other masters, 30 shillings of paper money per taxable under their control. In exchange, they had to destroy 300 pounds of tobacco per taxable (150 on or before the last day of July 1734 and 150 on or before the last day of July 1735). Thus, they were given the same rate as the 10 shillings per 100 pounds of tobacco tax assessment equivalent. If the tobacco was not destroyed then a fine of 20 shillings was assessed (*Archives of Maryland*, v. 39, pp. 110-111; Behrens, 1923, p. 21). These farmers could use the paper money given to them to pay most all taxes, fees, etc. Assuming that many of these small marginal farmers were only growing enough tobacco to pay the taxes which had to be paid in tobacco, these small growers gained savings on the barter transactions costs of paying taxes in tobacco versus currency. They could give up doing what they were relatively inefficient at and switch into more profitable crops instead.

This gain would be enhanced if they expected that the tobacco output reduction scheme would not successfully drive the price of tobacco back up over the 10 shillings per 100 pounds tax assessment equivalent level. Figure 1 shows that the price had been well below that level for the prior six years. Tobacco output reduction in Maryland could be offset by output expansion in Virginia and North Carolina or simply by expansion by greedy large growers in Maryland. The choice-clause for paying taxes in the Act meant that small growers could still pay their taxes in the tobacco which they had remaining post-destruction and hoard their higher-valued paper money as long as tobacco prices stayed below the 10 shillings per 100 pounds of tobacco tax assessment level.

This thinking may have also lead the lower house to insist on exempting the 40-shilling ecclesiastical poll tax from payment in paper money. The lower house did not like paying this tax to churchmen and had tried to get rid of it before, but without success. With the Paper Money Act, the lower house could substantially lower the income (taxes) paid to these churchmen by insisting that they be paid in tobacco rather than paper money, given that 100 pounds of tobacco was worth far less that 10 shilling current money at that time, see Figure 1. When the price of tobacco rose above that level after 1734, and the lower house complained that this ecclesiastical poll tax paid in tobacco was now, in value, above its 10 shillings of money equivalent, the governor reminded them that they were the ones who initially sought the exemption of this tax from being paid in paper money (Behrens, 1923, pp. 18-19).

Finally, for small growers who were basically moving out of producing tobacco, they bore no direct cost of this act given that the sinking fund to support the paper currency was to come from a tax of 15d sterling on every hogshead of tobacco exported. Larger growers had to pay that. The 1731 version of the bill had targeted the importation of slaves, Irish servants, and liquor for a tax to fill the sinking fund (*Archives of Maryland*, v. 37, p. 344). This funding method would have fallen more heavily on small growers and non-tobacco producers than on larger tobacco producers compared with the scheme adopted in the final 1733 bill. What debate took place between 1731 and 1733 that changed this method of filling the sinking fund is hard to say. But whatever it was small farmers and non-tobacco growers gained by this change.

b. Large Tobacco Growers

The large tobacco planters (mostly represented in the legislative upper house) gained a large reduction in the amount of tobacco in the market, disproportionately bore by small growers. They believed this output reduction would push up the price of tobacco on their remaining stocks, and push it up enough to more than compensate for any cost to them of paying for this scheme. This belief was manifested in numerous places. For example, on October 15, 1728 the legislature explicitly referred to the trade-off between a forced-reduction in the quantity of tobacco grown in Maryland and the advancement in its price (*Archives of Maryland*, v. 36, p. 117). The preambles to the paper money bills from 1728-1733 and the legislative debate over these issues made the same connection, e.g. see *Archives of Maryland* (v. 36, p. 253; v. 37, pp. 75, 338; v. 39, p. 92). This quantity-price connection for Maryland tobacco was also made in merchant letters, e.g. see the London merchant’s letter of November 7, 1728 published in the *Maryland Gazette* April 15, 1729 quoted above.

What large tobacco planters had to give up in exchange for this expected price rise was a tax of 15d sterling per every hogshead of tobacco exported to fund the paper money scheme through a the sinking fund.[5] They must have expected the price of tobacco to rise more than this tax—which it did though not due to the reduction in the quantity of Maryland tobacco. 15d per hogshead is £0.063 per hogshead. An average hogshead in the 1730s was 856 pounds of tobacco (*Historical Statistics of the United States*, 2006, p. 5-684). Thus, the tax was £0.007 per 100 pounds of tobacco exported or 0.14 shillings per 100 pounds of tobacco exported. The market price advanced 3 to 4 shillings per 100 pounds of tobacco between 1730 and 1734, see Figure 1. Large planters viewed this as a good tradeoff—even if the causal logic was erroneous.

c. The Lord Proprietor and the Maryland Government

In the final 1733 bill, the provincial government set aside 11 to 12 percent of the total amount of paper money authorized for its use to finance building projects. In addition, as much as £20,000 to £30,000 would be available to loan out at 4 percent interest, which would generate an income for the government. These sums that the provincial government would have use of represented the increases in the amounts authorized in the 1733 bill over those in the earlier 1730, 1731, and even 1732 versions of the bill. The government also expected to gain some from the reduced barter transactions cost of tax collection—at least for some taxes. Finally, the Lord Proprietor was able to protect himself from the risks of being paid in paper money by exempting most of his earning and rents from payment in paper money. If the scheme was successful in raising the price of tobacco above 10 shilling per 100 pounds or if paper money depreciated, he would come out ahead.

The Effect on the Tobacco Market of the 1733 Paper Money Act

The performance of Maryland's paper money was inexorably intertwined with how it directly affected tobacco production and prices and how the general performance of the tobacco market in turn affected paper money usage. Three hundred pounds of tobacco was to be destroyed over a two year period (half in 1734 and half in 1735) for every 30 shillings of paper money handed out. By 1735 some 48,000 Maryland paper pounds had been handed out for this purpose (see Table 3 below). In other words, 4.8 million pounds of tobacco was to be destroyed in 1734 and again in 1735 (48,000 Maryland paper pounds * 20/30 shillings *150 pounds of tobacco * 2 years = 9.6 million pounds of tobacco for 1734 plus 1735 destroyed).

Was it actually destroyed? Behrens (1923, p. 22) claims that "the £48,000 thus spent was practically wasted as it did not improve the tobacco trade. Trash tobacco continued to be put upon the market…" While tobacco production numbers just for Maryland do not exist, a sense of the change in tobacco exports can be estimated from the sinking-fund evidence. Marylanders were to pay 15d (sterling) for every hogshead of tobacco exported. This money was to be sent to England to be invested in Bank of England stock. Evidence for the face value of this stock can be taken from Price (1977) and Smith (1985, pp. 1,205-1,206). Converting the face value of that stock in the sinking fund back to sterling market value can be used to back out the amount of tobacco that must have been exported to generate this tax revenue, see Table 2. It will be assumed that it took two years to go from production to when tax revenue showed up as stock in the sinking fund. The estimate depends on whether the actual average weight or the legal-rated weight of a hogshead is used in the estimate. The legal weight seems to get a more reasonable estimate. While the level of implied tobacco exports from Maryland may be off for a number of reasons, the yearly direction of change in exports should nevertheless be a reasonable estimate.[6]

By this estimate tobacco exports from Maryland took a sizable dip in the years just following 1734-1735, the period of tobacco destruction. Based on the last estimate in Table 2, annual tobacco exports fell by 43 percent (were 10 million pounds lower) in 1736-1737 from what they were in 1734-1735. They then returned to 1734-1735 levels by the end of the 1730s. The magnitudes of the change, however, do not square exactly with the estimate above of the amount destroyed. So the scale in Table 2 cannot be relied on, only the sense of the direction of change can safely be used—and that was clearly to reduce exports for at least two years.

Table 2 Estimates of Tobacco Exports from Maryland, 1735-1739

Year	Face Value Of the Sinking Fund in Pounds Sterling [F]	*	Bank of England Share Price in Pounds Sterling [SP]	=	Market Value of of Sinking Fund in Pounds Sterling [VF]	Implied Tobacco Exports per Year in lbs. [ΔVF_{i-2} * 16 * 856]	Implied Tobacco Exports per Year in lbs. [ΔVF_{i-2} *16 * 400]	Percentage of all Chesapeake Tobacco Imported to England (the last estimate)
1734						40,841,472	19,084,800	54.2%
1735						39,074,688	18,259,200	45.9
1736	2,000	*	1.4045	=	2,982	[17,613,056]	[8,230,400]	21.8
1737	4,000	*	1.4588	=	5,835	[17,613,056]	[8,230,400]	16.5
1738					[7,121]	29,172,480	13,632,000	34.2
1739	6,000	*	1.4012	=	8,407	38,540,544	18,009,600	39.3
1740	7,500	*	1.4049	=	10,537			
1741	9,500	*	1.4054	=	13,351			

Notes and Sources: Brackets indicate interpolated values. The source for [SP] is Mirowski (1981, pp. 569-570); for [F] is Price (1977) and Smith (1985, pp. 1,204-1,205). Tobacco exports were taxed at 15d sterling per hogshead to be supplied to [VF]. Assuming production took two years before being realized as a value in the sinking fund gets [ΔVF_{i-2}]. 240d/15d = 16 converts pounds sterling into pence and then determines how many hogsheads must have been taxed at 15d to get [ΔVF]. Multiplying by 856 converts average hogshead weight into lbs of tobacco, see *Historical Statistics of the United States* (2006, pp. 5-684). The law, however, rated hogsheads at 400 pounds each for tax purposes (*Archives of Maryland*, v. 39, p. 105). Total tobacco imports to England from the Chesapeake (Virginia and Maryland) are taken from *Historical Statistics of the United States* (1975, p. 1190).

In addition, tobacco prices in Maryland were considerably higher in the period from 1734 through 1739 compared with 1728 through 1732, about 50 to 60 percent higher in current money, see Figure 1. Re-inflating the price of tobacco was the hallmark of success given the intention of the Paper Money Act. In fact, by 1734 the price of tobacco was for the first time since 1726 above the 10 shillings current money per 100 pounds of tobacco tax assessment level. This fact will be important below to understanding the performance of the paper money economy. The upward trend in tobacco prices, however, began in 1732 before the tobacco destruction would have had any effect. So it may be hard to ascribe the price rise solely to the impact of the 1733 Paper Money Act.

In addition, looking at the quantity of tobacco imported to England from the entire Chesapeake (both Virginia and Maryland) over this period, see Figure 1, it is hard to see any discernable impact. Between 1729 and 1736, the trend looks flat then it rises after 1736. The steepest reduction is in 1732 well before the Paper Money Act could have had any effect. The flat trend also makes the rise in price in Maryland seem puzzling.

The answer, while still somewhat speculative, would appear to be that any reduction of Maryland tobacco production in the mid-1730s was offset by expansion of Virginia tobacco production such that total tobacco imports to England stayed more or less constant. Now "all tobacco imports" included both sweet-scent which was not grown in Maryland and Oronoco which was grown exclusively in Maryland but also in substantial quantities in parts of Virginia. Whether the Virginia output expansion speculated above was in sweet-scent or Oronoco is unknown. If it was only in sweet-scent, then a net reduction in the Oronoco variety could account for the rise in price seen in Maryland tobacco after 1732.

Another factor, however, may have dominated this market in a way that explains why prices increased even with a flat trend in supply. That was the expansion of French demand in this period. Annual French tobacco purchases in the British tobacco market increased 57 percent between 1724-1729 and 1730-1736 and increased another 50 percent between 1730-1736 and 1737-1743 (Price, 1973, p. 380). This was all principally in Oronoco tobacco. French demand represented about a quarter of all British re-exports of tobacco imported from the Chesapeake (Middleton, 1984, p. 124; Price, 1995, II, p. 509). This substantial increase in French purchases (demand) in the face of a relatively flat trend in tobacco production led to the 50 to 60 percent rise in Maryland tobacco prices shown in Figure 1. It also explains why that rise in price started before the Paper Money Act was passed and the tobacco destruction part of the Act implemented. That the rise in French demand swamped the other effects in the market can be seen in the movement in Virginia tobacco prices. In all sub-regions of Virginia, for both sweet-scent and Oronoco, tobacco prices in Virginia currency rose substantially between 1728-1732 and 1733-1739—at least a 33 percent rise on average (*Historical Statistics of the United States,* 2006, p. 5-682).

The political debates in Maryland over whether to exempt what taxes from payment in paper money and require payment in tobacco can be understood in terms of what was expected to happen to tobacco prices as a result of the Paper Money Act. Some Marylanders may have considered French demand for their Oronoco tobacco to be highly elastic, despite the French being a buying monopoly, because the French could easily shift to Virginia Oronoco tobacco if Marylanders reduced their output and/or tried to raise their price. In this case, the Paper Money Act, even if it destroyed a lot of tobacco, would not raise the price from where it was circa 1730 well below the 10 shilling per 100 pounds of tobacco tax equivalent level. For these

Marylanders, they would have wanted to maintain the option at least to pay taxes in tobacco rather than in money, as they expected tobacco to be of less value. They also would want groups who received taxes, such as the clergy, whom they did not like to be required to continue to take their income in tobacco rather than money.

Alternatively, some Marylanders may have thought that French demand for their Oronoco tobacco was less elastic. A reduction in Maryland output would drive up the price. This could have been a reasonable expectation given that Virginia in 1730 had enacted a tobacco inspection system that could have inhibited their ability to expand production to compensate for any constriction in output achieved in Maryland (Middleton, 1984, pp. 132, 135-137). Under such a case, the price of tobacco in Maryland might be expected to rise, and rise above the 10 shilling per 100 pounds of tobacco tax assessment level, as a result of the 1733 Paper Money Act. These Marylanders would want to pay their taxes in money rather than tobacco, and those who received income tax receipts would want to receive tax income in tobacco rather than money.

These differing expectations and assumptions about the likely elasticity of French demand for Maryland Oronoco tobacco may explain some of the rather strange patchwork of exemptions and conditional exceptions to paying taxes in paper money versus tobacco “money” in the final 1733 Paper Money Act. In the end, the elasticity of French demand may not have mattered much as all groups may have unanticipated the net expansion in French demand. That expansion swamped everything and drove the price up. The resulting higher price of tobacco after 1733 and the patchwork of exemptions to paying taxes in paper money would be devastating to the performance of Maryland’s paper pound during its first decade.

The Performance of Maryland's Paper Money, 1734-1739

Table 3 reports the amounts of Maryland paper pounds outstanding and by what method they were emitted. Of the £90,000 authorized in the 1733 Act, £48,000 was distributed to the taxables of the province. This distribution appears to have mostly taken place in 1734 and 1735, though some may have waited until 1736 or 1737 to get into the hands of those designed to receive them (Gould, 1915, pp. 85-86). This was the distribution in exchange for burning 300 pounds of tobacco for each 30 shillings of paper money received. Some expenses of government were paid in paper money in 1735-1737, and several government building projects were to be funded with paper money in this period, with these government expenses totaling somewhere around 12,000 Maryland paper pounds. The rest, almost £20,000 by 1739 was loaned out to subjects of the province at 4 percent interest with the subject's land or silver plate pledged as security. By 1739, £80,000 of the £90,000 authorized had been emitted and was in circulation in the economy.

Maryland's paper money began to lose its value almost immediately after it was issued (distributed) within the province. Bills of exchange written in Maryland on sterling accounts in England more or less held their value at par to Maryland pounds units of account. But bills expressed in Maryland paper pounds lost their value quickly; see Figure 3. While the actual data points, or number of observations, are rather few, being only seven between 1734 and 1740, this quantitative data accords with the impressions given in the literary evidence from the period (Behrens, 1923, p. 22-23; Gould, 1915, pp. 87-89). With par being 133 Maryland paper pounds to 100 pounds sterling, the Maryland paper pound depreciated to around 150 to 100 pounds sterling in 1734-1735, and then to around 230 to 100 pounds sterling by 1736 through 1739—

with a lot of variance around these approximate averages, see Figure 3 (McCusker, 1978, pp. 189-204). Why did the value collapse so quickly and why so far?

Table 3 Maryland Paper Pounds (bills of credit) in Circulation 1734-1739

Year	Total Maryland Paper Pounds in Circulation	Bills Distributed to the Taxables of the Province Still Outstanding	Bill on Loan Still Outstanding	Annual Charges of Government	Residual
1734					
1735	56,595	47,924	7,374	3,108	-1,811
1736	57,864	47,924	11,198	3,108	-4,366
1737	69,856	47,924	16,160	3,108	2,664
1738	…	47,924	…		
1739	79,820	47,924	19,728		12,168

Notes and Sources: Behrens (1923, pp. 20-30); Brock (1975, pp. 100-105); Smith (1985, pp. 1,204-1,205). The annual charges of government or "journal expenses" as they were called amount to a total of 9,324 for the years 1735, 1736, and 1737. This sum was simply apportioned equally across these years in the table above. The residual captures the fact that the distribution of bills to the taxables of the province may not have been completed in 1735-1736 so that number may be lower than indicated, that the annual charges of government may not have been equally apportioned across the years indicated, and that the timing of the spending of certain special sums specifically appropriated in the Act to build a house for the governor (3,000), repair public buildings in Annapolis (500), and to be paid to each county to erect a prison therein (500 each) is not known. The high residual in 1739 may largely account for these last special sums. For example, Maryland has 14 countries (in 1750) * 500 + 3,000 + 500 = 10,500.

Some have attributed the early depreciation of the Maryland paper pound to the size of the emission and/or its manner of distribution. For example, the prominent Maryland lawyer Daniel Dulany wrote about the paper money that, "The old proverb, lightly come, lightly go, was strongly exemplified." But as shown in Table 1, the size was not excessive by colonial standards, and the manner of distribution was independent of its legislated legal uses and what supported its value (Gould, 1915, pp. 86, 88-89). Something else must have mattered.

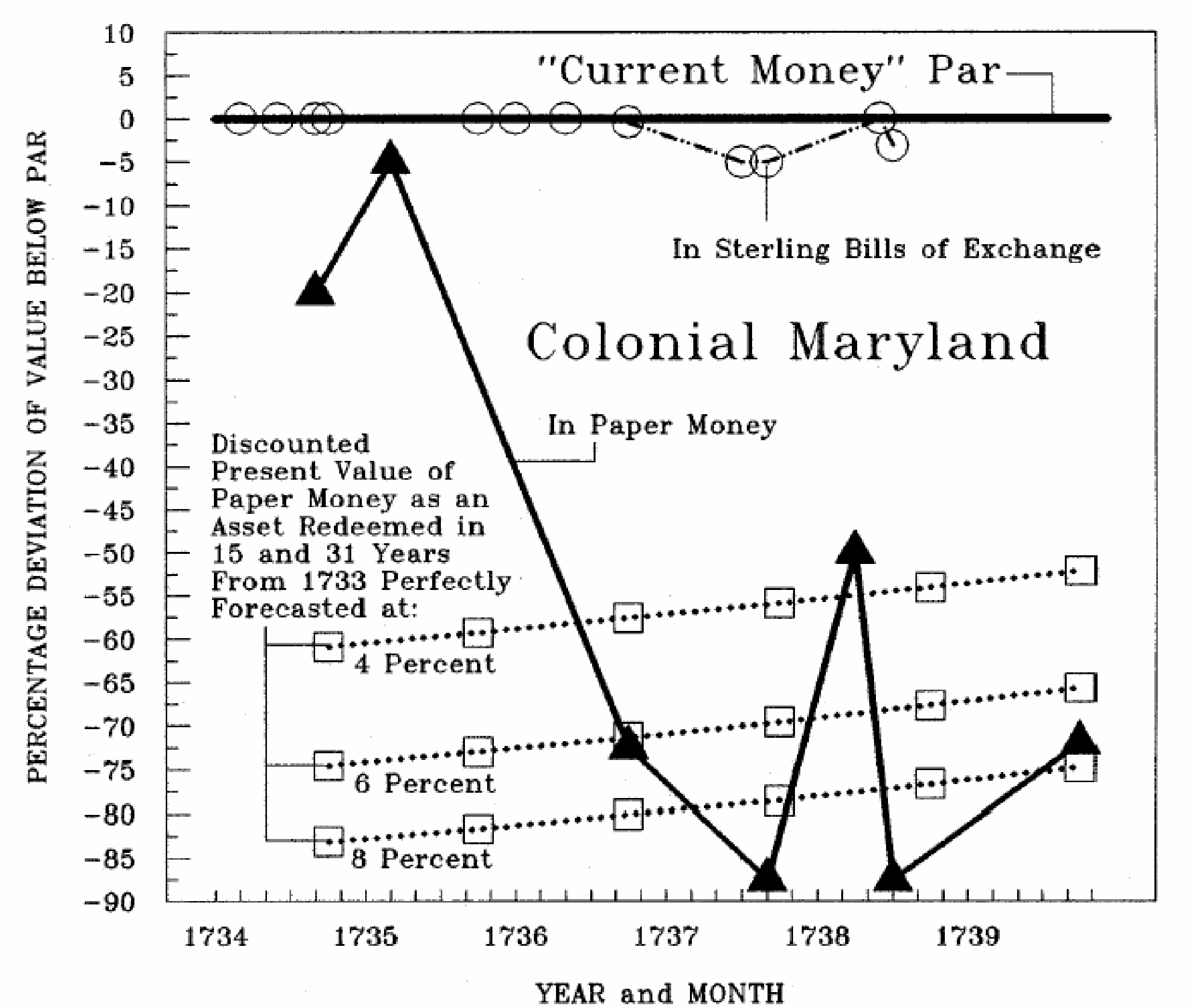

Figure 3 The Value of Paper Money Relative to Par, 1734-1739

Notes and Sources: Par equals 133.33 Maryland Pounds unit of account current money per 100 Pounds Sterling. "Current money," also known as "Proclamation money," is the Maryland pound unit of account as set in 1709-1753. The value of Maryland pound paper money and of sterling bills of exchange relative to par in current money is taken from McCusker (1978, pp. 189-204) with the circles and triangles being the discrete data points. One third of the paper money authorized in 1733 was to be redeemed at par in October of 1748 and two-thirds at par in October of 1764 in its sterling equivalent to current money (*Archives of Maryland*, v. 39, pp. 105-110). Present value calculations are weighted accordingly with the squares being simply the October to October year markers.

a. Expected Inadequacy of the Sinking Fund?

Smith (1985, pp. 1,199-1,208) argues that the early depreciation and below-par exchange rate for Maryland's paper money was caused by the relative small contemporaneous sums in the sinking fund. The fund was simply too small to inspire confidence that redemption as promised would happen. Smith, however, confuses current accumulated sums in the sinking fund, both theoretically and econometrically, for what the expected fund would have at the time redemption was to be executed. People knew that the fund was accumulating over time. They were not that myopic or stupid.

Smith (1985, pp. 1,199-1,208) also assumes that the full authorization of 90,000 Maryland paper pounds was to be redeemed via the sinking fund. This seems to be erroneous as the paper money circulated on loan was to be recouped as loan repayments in said money, and the annual charges of government were to be recouped through tax payment in said money (*Archives of Maryland*, v. 39, pp. 92-113; Behrens, 1923, pp.20-21; Brock, 1975, pp. 100-103; Gould, 1915, pp. 84-111). As such, the amounts that were potentially exposed to be redeemed via the sinking fund were only the bills of credit distributed to the province's taxables and those used on the building projects, which amounted to approximately 58,424 Maryland paper pounds not 90,000 Maryland paper pounds. In addition, some unknown portion of the 58,424 sum may have been or could have been recouped via tax payments before the redemption dates. As such, Smith seriously underestimates the perceived adequacy of the sinking fund.

From 1736 to 1740, the sinking fund was growing at an average rate of 1,889 pounds sterling in market value per year, see Table 2. If that rate was forecast to continue indefinitely, then by 1748 when one-third of the Maryland paper pounds outstanding would have to be redeemed at par in sterling, the sinking find would have 25,647 pounds sterling in it. This sum when exchanged at par converts to 34,195 Maryland paper pounds (at the par of 1.3333 Maryland pounds per pounds sterling). This in turn would be more than enough to meet the promised redemption in the 1733 Paper Money Act for 1748 (*Archives of Maryland*, v. 39, pp.

105-110). One-third of 58,424 would be 19,475 Maryland paper pounds that would be needed to be redeemed in 1748.[7] Even if we assume that people thought that one-third of the full £90,000 authorization was to be redeemed in 1748, there would be enough in the sinking fund to do that at the expected accumulation rate.

At the growth rate of the sinking fund from 1736-1740 of 1,889 pounds sterling per year, by 1764 the fund would have 55,873 in pounds sterling value in it (ignoring any payout in 1748). This amount at par converts to 74,495 Maryland paper pounds. Subtracting the 19,475 expected to be paid out in 1748 leaves 55,020 Maryland paper pounds that the fund was expected to be able to redeem at par in 1764. The amount that was expected to have to be redeemed in 1764 was two-thirds of 58,424 or 38,949. Thus, in 1739 Marylanders would have expected that there would be enough in the sinking fund by 1764 to fulfill the redemption as promised.[8]

Of course, this is the expectation from the viewpoint of the late 1730s. The beginning of hostilities in 1740 leading into the War of the Austrian Succession which lasted to 1748, and the Seven Years War from 1755-1762, altered trade, fiscal, and monetary realities—though it is unlikely that exactly how it would do so could have been forecasted in the 1730s. Even so, the sums estimated here as required to be redeem in 1748 and 1764 and the expected sums in the sinking fund are very close to the actually sums accumulated and redeemed.[9]

In short, the expected sinking fund, and as it turned out the actual sinking fund, was more than adequate for redeeming the Maryland paper pound as the 1733 Act promised. The inadequacy of the sinking fund was not the reason for the depreciation and loss of value of the Maryland paper pound in the late 1730s.

b. Inability to Use Paper Money as a Circulating Medium: Paper Money as an Asset Only

As the price of tobacco rose above the 10 shillings per 100 pounds of tobacco tax assessment equivalent after 1734, tax collectors and those whose income was derived from local taxes found ways to refuse accepting paper money for tax payments and instead insisted on being paid in tobacco. Since tobacco sold at above 10 shillings per 100 pounds, they earned more value on a 10 shilling tax assessment by taking 100 pounds of tobacco than 10 shillings of paper money. Certain taxes had been exempted in the 1733 Act from being paid in paper money, such as the 40 shilling ecclesiastical poll tax and payments to the Lord Proprietor. The incentive was for these exemptions to be strictly adhered to by the tax revenue receiver.

The most powerful tool of disruption, however, was in the hands of the local sheriff—the local tax collector. The 1733 Paper Money Act stated that taxes not paid by April 10th could be demanded in tobacco rather than in paper money. Sheriffs "used all sorts of artifices to keep away from the people who wished to pay their taxes in money…before April 10, and then, when this date was passed, they required a larger amount of money if they accepted it instead of tobacco." Interestingly, this problem was anticipated by a conference committee of the legislature in March of 1733 when reviewing the Paper Money Act shortly before it was passed. The committee opined "That should the option remain as in the bill of paying money or tobacco it would occasion almost endless disputes between officers lawyers and sheriffs and their sureties about paying money instead of tobacco, or tobacco instead of money…" (*Archives of Maryland*, v. 39, pp. 32, 95-96; Behrens, 1923, p. 23; Gould, 1915, pp. 89-91) Based on the estimates of total Maryland paper pounds outstanding, there also appears to have been little reduction in this total that could be ascribed to tax redemption and retirement of bills (Brock, 1975, pp. 104-105; Smith, 1985, pp. 1,204-1,205, and Table 3 above). In other words, what anchored the contemporaneous value of Maryland's paper money—its usefulness and certainty for paying current taxes—was lost.

If the paper money lost its usefulness as a circulating medium of exchange, then it reverted to being just a store of value, i.e. an asset. As an asset, it would be paid off or redeemed in real value (pounds sterling) only in the distant future, one-third in 1748 and two-thirds in 1764. It was like a zero-interest bond or zero-interest loan. Only the face-value principal would be paid at these future "maturity" dates. The contemporaneous value or price of such an asset at a given time is the discount present value of that future payoff. One hundred pounds in 30 years is not the same as 100 pounds today.

This asset pricing principal was clearly understood. In fact, Benjamin Franklin explained it well and in reference to understanding the early depreciation of the Maryland paper pound. On February 13, 1767 Franklin wrote (Labaree, 1970, v. 14, pp. 35-38):

> …a bill [paper money] promising payment at distant periods of time…depending solely on such distant payment for its value…is not and cannot possibly be of value equal to the sum expressed in it, but must suffer a discount in proportion to time. Hence the discount will be greatest soon after the bills are issued, that is, as soon as the nature of them begins to be understood; and, as the term of payment approaches, the discount will gradually become less till it amounts to nothing worth notice.

Franklin then directly noted that this was the case for Maryland's paper pound.

Figure 3 presents what the discounted present value of Maryland's paper pound would be, in terms of a percentage deviation below par, or full payoff value, at three different discount rates, namely at 4, 6, and 8 percent. Four percent was the rate that Maryland loaned paper money. This rate, however, seems to be a below-market rate. Six percent would seem closer to an average market rate. Finally, 8 percent might be considered reasonable if adding a little extra to the discount rate would be required to account for the likelihood of some unforecastable shock hitting the economy, such as wars or other trade and weather disasters that might interfere with the government's redemption abilities. While the data on the value of paper money is thin, after 1735 it does seem to fall around these discount rates, particularly the 6 to 8 percent rates for the period 1736-1739. So maybe Franklin was right! The current value of Maryland's paper pound perfectly reflected its present discounted value to redemption.

Conclusions

In the end, who really gained from this paper money scheme? While the answer is a bit speculative, assuming the analysis above is compelling then most likely no one gained. The province as a whole was a net loser. First, Marylanders were given paper money to destroy tobacco at a rate that perfectly offset the tobacco destroyed with regard to what was needed in paper money to pay taxes. But the tax system was designed in such a way as to inhibit using this paper money to pay taxes. Thus the paper money's value reverted to that of an asset or store of value to be paid off in the distant future. This was a net loss to anyone who burnt tobacco in exchange for paper money (over half of the total paper money authorized). It would be like agreeing to burn $5 today in exchange for being given $5 thirty years from now.

Second, the destruction of tobacco likely had no effect on tobacco prices. Reduction of output in Maryland was simply offset by replacement output expansion elsewhere, such as in Virginia and North Carolina. The rise in tobacco prices after 1733 was unrelated to Maryland's tobacco destruction, being due to the expansion of French demand in the market which would have happened anyway whether Maryland destroyed some of its tobacco or not. Marylanders threw away valuable, even if trashy, tobacco in exchange for nothing from the tobacco market.

Third, Maryland tobacco planter/exporters had to pay for this paper money scheme through a contemporaneous tax of 15d sterling per hogshead of tobacco exported. Assuming that French demand was relatively elastic due to their easy ability to substitute into Virginia Oronoco tobacco, Maryland planters had to eat most of this tax (bear most of its burden via reduced profits). These export tax monies were to cover the redemption of the paper money asset in the distant future. Maryland tobacco planter/exporters were net losers.

Finally, the provincial government may have been a small winner in that it did get to use some small portion of the paper money authorized (11 to 12 percent) to finance the building of public structures early on. These expenditures were likely to be paid eventually by the planters who paid the 15d sterling per hogshead tobacco export tax, by those who ended up holding the paper money as an asset for future redemption, and by anyone who happened to succeed in using the paper money to pay taxes. The government also earned some interest income on the sums loaned out at 4 percent—£5,663 on all loans from 1733 through 1748 (Gould, 1915, p. 93).

Maryland's paper money creation story is both complex and unique among the colonies, which explains the complex and less than stellar performance of its early paper money system. If there are lessons to be learned, it might be that creating a modern paper money economy should not be an afterthought or ancillary to manipulating a prime export market. In the process of creating a paper money economy as a vehicle to influence the tobacco trade, the balancing of the political constituencies that were needed to get a consensus lead to a dual currency system: paper money and tobacco "money." Such a dual currency system is unworkable for money used as a medium of exchange as long as the government fixes, but cannot defend, a payment exchange rate between these two monies that is different from the market exchange rate. Market forces pushed tobacco prices so that paper money became primarily a store of value—having little utility as a medium of exchange for those who controlled the tax collection system. As a store of value, paper money's contemporaneous value in the marketplace correctly reflected its present discounted "asset" value in reference to its distant future payoff date.

References

American Weekly Mercury. Various issues.

Archives of Maryland, Vols. 1-72. Baltimore, MD: Maryland Historical Society, 1883-1972.

Behrens, Kathryn L., "Paper Money in Maryland, 1727-1789." *Johns Hopkins University Studies in Historical and Political Science* 41 (1923), pp. 9-98.

Brock, Leslie V., *The Currency of the American Colonies, 1700-1764*. New York: Arno Press, 1975.

Carr, Lois Green, "Diversification in the Colonial Chesapeake: Somerset County, Maryland, in Comparative Perspective," in Lois Green Carr, Philip D. Morgan, and Jean B. Russo, eds., *Colonial Chesapeake Society* (Chapel Hill, NC: University of North Carolina Press, 1988), pp. 342-388.

Clemens, Paul G., *The Atlantic Economy and Colonial Maryland's Eastern Shore*. Ithaca, NY: Cornell University Press, 1980.

Cook, Ebenezer, *Sotweed Redivivus. Or the Planters Looking-Glass. In Burlesque Verse*. Annapolis, MD: William Parks Printer, 1730. Reprinted in *Maryland Historical Society* 36 (1900), pp. 33-52.

Cook, Elizabeth Christine, *Literary Influences in Colonial Newspapers, 1704-1750*. Port Washington, NY: Kennikat Press, 1912.

Earle, Carville V., *The Evolution of a Tidewater Settlement System: All Hallow's Parish, Maryland, 1650-1783*. Chicago: University of Chicago, Department of Geography, 1975.

Ernst, Joseph Albert, *Money and Politics in America, 1755-1775*. Chapel Hill, NC: University of North Carolina Press, 1973.

Gould, Clarence P., "Money and Transportation in Maryland, 1720-1765," *Johns Hopkins University Studies in Historical and Political Science* 32 (1915), pp. 9-176.

Grubb, Farley, "Creating the U.S.-Dollar Currency Union, 1748-1811: A Quest for Monetary Stability or a Usurpation of State Sovereignty for Personal Gain?" *American Economic Review* 93 (Dec. 2003), pp. 1778-1798.

Grubb, Farley, "The Circulating Medium of Exchange in Colonial Pennsylvania, 1729-1775: New Estimates of Monetary Composition, Performance, and Economic Growth." *Explorations in Economic History* 41 (Oct. 2004), pp. 329-360.

Grubb, Farley, *Benjamin Franklin and the Birth of a Paper Money Economy*. Philadelphia: Federal Reserve Bank of Philadelphia, 2006.
http://www.philadelphiafed.org/education/index.html#publications

Historical Statistics of the United States: Colonial Times to 1970: Part 2. Washington DC: U.S. Bureau of the Census, 1975.

Historical Statistics of the United States: Earliest Times to Present, Volume 5. New York: Cambridge University Press, 2006.

Labaree, Leonard W., *et al.*, ed., *The Papers of Benjamin Franklin, Vols. 1-38*. New Haven, CT: Yale University Press, 1959-2006.

Lemay, J. A. Leo, *The Life of Benjamin Franklin, Vol. 1: Journalist, 1706-1730*. Philadelphia: University of Pennsylvania Press, 2006.

Lester, Richard, "Currency Issues to Overcome Depression in Pennsylvania, 1723 and 1729." *Journal of Political Economy* 46 (June 1938), pp. 324-375.

Maryland Gazette. Various issues.

McCusker, John J., *Money and Exchange in Europe and America, 1600-1775*. Chapel Hill, NC: Univ. of North Carolina Press, 1978.

McCusker, John J., and Menard, Russell R., *The Economy of British America, 1607-1789*. Chapel Hill, NC: Univ. of North Carolina Press, 1985.

Middleton, Arthur Pierce, *Tobacco Coast: A Maritime History of Chesapeake Bay in the Colonial Era*. Baltimore: Johns Hopkins University Press, 1984.

Mirowski, Philip, "The Rise (and Retreat) of a Market: English Joint Stock Shares in the Eighteenth Century," *Journal of Economic History* 41 (Sept. 1981), pp. 559-577.

Newman, Eric P., *The Early Paper Money of America*. Iola, WI: Krause Publications, 1997 [4th edition].

Owings, Donnell M., *His Lordship's Patronage: Offices of Profit in Colonial Maryland*. Baltimore: Maryland Historical Society and J. H. Furst Company, 1953.

Pennsylvania Gazette. Various issues.

Price, Jacob M., *France and the Chesapeake: A History of the French Tobacco Monopoly, 1674-1791, and Its Relationship to the British and American Tobacco Trades, Volume 1*. Ann Arbor, MI: University of Michigan Press, 1973.

Price, Jacob M., “The Maryland Bank Stock Case: British-American Financial and Political Relations Before and After the American Revolution.” In Land, Aubrey C., Carr, Lois Green, and Papenfuse, Edward C., eds., *Law, Society, and Politics in Early Maryland*. Baltimore: Johns Hopkins Univ. Press, 1977. Pp. 3-40.

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

Price, Jacob M., *Tobacco in Atlantic Trade*. Brookfield, VT: Ashgate Publishing Co., 1995.

Russo, Jean B., “Self-Sufficiency and Local Exchange: Free Craftsmen in the Rural Chesapeake Economy,” in Lois Green Carr, Philip D. Morgan, and Jean B. Russo, eds., *Colonial Chesapeake Society* (Chapel Hill, NC: University of North Carolina Press, 1988), pp. 389-432.

Schweitzer, Mary McKinney, “Economic Regulation and the Colonial Economy: The Maryland Tobacco Inspection Act of 1747,” *Journal of Economic History* 40 (Sept. 1980), pp. 551-569.

Smith, Bruce, “Some Colonial Evidence on Two Theories of Money: Maryland and the Carolinas.” *Journal of Political Economy* 93 (Dec. 1985b), pp. 1178-1211.

Footnotes

[1] Tobacco was packed (prized) and then transported or shipped mostly in hogsheads or large wooden barrels (Middleton, 1984, pp. 112-116, 129-134). A typical hogshead of tobacco in the 1720s in Maryland averaged 780 pounds of tobacco (*Historical Statistics of the United States*, 2006, p. 5-684).

[2] Claims on tobacco production, namely contracts transferring the ownership of particular hogsheads of tobacco in designated planters' warehouses or barns that were awaiting export were also used to convey tobacco "money" as a medium-of-exchange. Such claims or contracts could pass through several hands before the actual tobacco was shipped, with the last claimant gaining the sterling credits in London from the sale of that tobacco. That claimant could then draw on those credits via bills of exchange. These "tobacco crop notes" and "tobacco transfer notes," however, only really came into use after the initiation of the public warehouse tobacco inspection system—after 1730 in Virginia and 1747 in Maryland. Given that this time period for Maryland is well after the initial creation of paper money in Maryland, this type of tobacco "money" is not an issue here (Middleton, 1984, pp. 137-141).

[3] Ebenezer Cook (1900, p. 49) explained this state of affairs in his poem published in Annapolis in 1730 by William Parks, the publisher of the *Maryland Gazette*, called *Sotweed Redivivus. Or the Planters Looking-Glass in Burlesque Verse*. Therein he writes:

> Bring hither, from the mines of *Spain*,
> *Moidores*, *Pistoles*, and *Cobbs*, full weight;
> The very best of *Spanish plate*.
> But whether, with us they would stay,
> Is a hard task for me to say;
> Since current coin, in every state,
> Invented was, to circulate:
> And to restrain it, is as hard,
> As *Luna*'s motion to retard,
> Unless, by act of limitation,

We could make *Maryland* its station:
Oblige it like the constant *sun*,
Beyond it *tropics* not to run,
Potomac river, (that's to say)
And *Delaware's* exuberant bay.
But *copper-coin*, like vagrant *cain*,
Would never wander into *Spain*,
Or long in misers bags remain.

[4] Tobacco was shipped and purchased in hogsheads. Hogsheads were quite large. It would have been easy to pack the top with high quality leaf and then fill the bulk with trash tobacco. Thus the more trash tobacco in the market as a portion of total tobacco, the greater the risk of a buyer getting stuck with excessive trash tobacco. Thus, buyers would discount the price of all tobaccos offered for purchase.

[5] The 1731 version of the bill had the revenue for the sinking fund coming from a tax on the importation of slaves, Irish servants, and liquor. This funding scheme would have been more slanted toward small farmers and the lower classes paying for the scheme since they were relative greater consumers of liquor and Irish servants (*Archives of Maryland*, v. 37, p. 344; Behrens, 1923, pp. 14-15).

[6] The scale or level of the estimate could be affected by the roughness and variation in the hogshead-to-pound (weight) conversion, whether the legal or the market average hogshead weight is used in the estimate, in the lag between production and stock investment, and by the fact that exports are not the same as imports for a number of reasons, such as smuggling leakage, shipping loss, etc.

[7] Between 1748 and 1749 the amount of Maryland paper pounds outstanding fell by 24,040 (from 86,040 to 62,000). This amount can be taken as the approximate amount redeemed through the sinking fund in late 1748. Derived from Brock (1975, pp. 104, 418); Smith (1985, pp. 1,204-

1,205). This estimated sum actually redeemed via the sinking fund is close to the £19,475 that was estimated as the sum to be redeemed in 1748 from the perspective of 1739.

[8] In 1764 the amount of Maryland paper pounds still outstanding that were redeemed was 41,295. This is close to the £38,949 estimated here as what was expected in 1739 that would need to be redeemed in 1764 and no where near the £60,000 implied by taking two-thirds of the £90,000 initial authorized amount as assumed by some (Smith, 1985, pp. 1,204-1,205).

[9] See footnotes 7 and 8.