

**The Quantity Theory versus the
Backing Theory in Colonial America**

Michael F. Sproul

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Abstract

Colonial American currency has been cited as an example of the failure of the quantity theory. A case has been made in favor of the 'backing theory', which holds that money's value is determined by its backing, rather than its quantity. Quantity theorists have countered that when the quantity of money is measured more carefully, the quantity theory fits the evidence better than the backing theory. Unfortunately, data from the colonial period are too sparse to give convincing support to either theory. In spite of this lack of data, I contend that the backing theory is the most plausible of the two theories, and I argue that the practice of rating paper money for the payment of taxes made colonial currency both backed and convertible.

I. Introduction

A recent controversy over the validity of the quantity theory concerns money and inflation in colonial America. In a series of articles, Bruce Smith (1985a, 1985b, 1988), found evidence from the colonial period in support of the theory that price levels are determined more by the backing of money than by its quantity.

When colonial currencies were carefully backed by future governmental surpluses, they held their value remarkably well. When such backing was not carefully provided, depreciation was the rule. The quantity of bills issued, on the other hand, bears little relation to currency values, or to colonial price levels. (Smith, 1985a, p. 156.)

Smith's conclusions were countered by McCallum (1992).¹

...the present discussion has featured nine episodes put forth by Smith as examples of the failure of classical monetary analysis. In each of these cases, large percentage increases in the stock of paper currency were followed by little or no response in price levels. Since the anticlassical position contends that specie supplies were minimal, it implies that large increases in real money balances occurred. The classical hypothesis, by contrast, is that outflows of specie (or commodity claims) occurred, with total real money balances remaining unchanged. The crucial implication is that, even at the episodes' peak years, colonies would be left with deflated levels of paper currency not significantly in excess of normal real money balances. (McCallum, 1992, p. 158.)

In this paper I raise two main issues pertaining to this debate:

1) The backing theory has been inadequately stated. Backing theorists have given only sketchy

¹Other participants in the debate include Weiss (1970), Ernst (1973), West (1978), Hanson (1979), Brock (1975), Wicker (1985), Bordo and Marcotte (1987), Laidler (1987), Michener (1987, 1988), Calomiris (1988), and Sumner (1993).

statements of what it means for money to be "backed by future governmental surpluses". The conventional understanding of backed money is that it gives its owner a claim to something of value: an ounce of gold, a bushel of wheat, an acre of land, etc. But colonial currencies were backed in a different way. Colonial governments universally *rated* their paper money for the payment of taxes, and this effectively made their currencies backed and convertible. A New York paper shilling, for example, was legally rated at 8 shillings to the ounce of silver from 1709-1718 (Brock, pp. 66-67.). Had these shillings been backed in the ordinary sense, a holder of 8 shillings could have claimed one ounce of silver from the colony. But the tax backing used by the colonies gave the holder of 8 shillings the right to discharge a tax (or other debt to the government) of one ounce of silver. Just as the value of conventionally backed money depends on its issuer's ability to *pay out* silver, the value of tax-backed money depends on its issuer's ability to *take away silver*. Thus, assuming a colony's note issue did not outrun its ability to collect taxes, colonists would value the paper money at the official rate. By extension, a colony's paper money would lose value if the issue of paper exceeded the colony's ability to collect taxes, just as money issued by a conventional bank would lose value if its issue exceeded the value of the backing held by the bank.

2) Colonial data are too sparse to give convincing support to either the backing theory or the quantity theory. For example, Smith cites several cases where colonies greatly increased the quantity of paper money without causing inflation. A quantity theorist could answer that the increase in the quantity of paper money must have been offset by corresponding outflows of currency from the colony. The lack of data on money outflows makes this answer impossible to confirm or refute.

Similarly, quantity theorists can cite several instances where the money supply increased and inflation resulted. Backing theorists could answer that the inflation resulted because the colony did not increase backing (i.e., tax collections) in step with the quantity of money. The lack of

data on the overall taxing ability of the colonies makes this answer impossible to test.

II. Conventional Backing and Tax Backing

An example of conventionally backed money is illustrated in Figure 1. The bank initially accepts 100 ounces of silver on deposit and issues 800 paper receipts ("shillings") in exchange. The shillings would normally be convertible for 1/8 ounce of silver upon presentation to the bank during business hours. (The notes would be inconvertible when the bank was closed.)

	<u>Assets</u>	<u>Liabilities</u>
(1)	100 oz. of silver	800 paper shillings
(2)	100 oz. of silver	800 paper shillings
(3)	IOU's worth 800 shillings	800 paper shillings

Figure 1

If the bank issued 800 additional shillings in exchange for 100 additional ounces of silver (line 2), then clearly the shilling would still be worth 1/8 ounce of silver in spite of the increase in the quantity of shillings. Line 3 shows another issue of 800 shillings, this time in exchange for IOU's with a present value of 800 shillings. Let P equal the value of a shilling, measured in ounces of silver. In order for assets (200 ounces of silver plus IOU's worth 800 shillings) to equal liabilities (2400 shillings) it must be true that $200 + 800P = 2400P$. Solving, we find $P = 1/8$. The value of the shilling is again unchanged in spite of the increase in their quantity. This is the fundamental proposition of the backing theory: The value of backed money depends only upon its backing-- not upon the quantity of money, the velocity of money, the demand for money, the quantity of

derivative moneys², fiscal policy, etc. When money is backed, inflation can only be caused by a reduction in the amount of backing per unit of money. This can result either from an increase in the quantity of money relative to backing, or from a loss of backing. For example, suppose the bank in Figure 1 issued an additional 800 shillings without acquiring any new assets. When we set assets equal to liabilities, we find $200+800P=3200P$, or $P=1/12$ --a 50% inflation.

Alternatively, suppose the bank's IOU's fell in value to 400 shillings, perhaps because of a default by their issuers. Then the same procedure as above yields $200+400P=2400P$, or $P=1/10$ --a 25% inflation.

Ronald Michener has observed that Smith's concept of tax backing is quite different from the conventional backing I have described above.

The question naturally arises: why should the New England colonies have experienced inflation when other colonies did not?

Smith (1984, 1985a, 1985b) argued that the answer lies in differences in the implicit backing of the paper money of different colonies. This is a more novel explanation than it first appears. Colonial currency was typically issued to finance government expenditures, or to make loans on land security through a loan office. In the first case, governments voted matching taxes to retire the bills in the future; in the second case, loan repayment theoretically accomplished the same end. The promises of future taxes and future loan repayment are the backing which Smith believes will secure the value of currency. "Just as the value of privately issued liabilities depends on the issuer's balance sheet," he writes, "the same is true for government liabilities. Thus issues of money which are accompanied by increases in the (expected) discounted present value of the government's revenues need not be inflationary" (Smith, 1985b, p. 1187). According to Smith's view, tax and loan repayment provisions (if faithfully adhered to) would create the necessary increase in the present value of government revenues; one would expect inflation only in those colonies which did not adhere to these provisions. This is starkly different from the traditional

² By derivative money, I mean money that is a claim to some other money, in the sense that a dollar in a checking account is a claim to a Federal Reserve note. By analogy, there are derivative shares of GM stock (options, warrants, hypothecated shares, etc.) that are claims to genuine GM stock. Just as the value of GM stock is unaffected by the issue of derivative shares, the value of backed money is unaffected by the quantity of derivative money.

- | | | |
|----|--|---------------------|
| 1) | Ability to collect 100 oz.
of silver in taxes | 800 shillings |
| 2) | Ability to collect 800
shillings in taxes | 800 paper shillings |

Figure 2

In line 2, another 800 paper shillings are issued, and a tax of 800 shillings is levied for the purpose of retiring those shillings at some future date. This tax backing is *nominal*, since it is denominated in shillings, not ounces of silver. In order for assets (taxing ability of 100 oz. of silver plus 800 shillings) to equal liabilities (1600 shillings), it must be true that $100+800P=1600P$, or $P=1/8$. The shilling continues to be worth 1/8 of an ounce of silver despite the fact that new shillings are issued with only nominal backing. Thus Laidler's concerns about the real/nominal distinction do not apply to backed money. Naturally, it remains true that if the issue of shillings outran the ability to collect taxes, then that issue would be inflationary. For example, if the colony in figure 2 issued 600 additional shillings, but could muster only 400 shillings worth of additional taxing ability, the same procedure as above yields $100+800P+400P=1600P+600P$, or $P=1/10$. (This example points again to the difficulty of empirically testing the backing theory, since a colony's ability to collect future taxes is seldom known with any accuracy.)

Ronald Michener has made a criticism similar to Laidler's.

Moreover, nothing in the working of the redemption provisions prevented a colony from issuing unlimited nominal quantities of money. To see why this is so, suppose a thousand pounds are issued in the first period, and a commitment is

made to retire this money in the third period. In the second period, another two thousand pounds are issued, and a commitment is made to retire that issue in the fourth period. In all later periods $(2)^{j-1}$ thousand pounds are issued in period j , while $(2)^{j-3}$ thousand pounds are retired as promised. By keeping new issues always ahead of retirements in this way, the money supply can be made to grow indefinitely despite the fact that redemption provisions are always honored. (Michener, 1987, p. 235.)

By claiming that a new issue of shillings is inflationary, Michener begs the question by assuming the correctness of the quantity theory. One could just as easily say that nothing prevents the imaginary bank in Figure 1 from issuing unlimited amounts of money. After all, if there were unlimited demand for the bank's money, it could indeed issue new shillings indefinitely. The point of the backing theory is that every new shilling is issued in exchange for a shilling's worth of assets, and as long as this is true each shilling will be worth 1/8 ounce of silver, whether the bank has 800 shillings laying claim to 100 ounces of silver, or 800 million shillings laying claim to one million ounces of silver.

Suppose that a colony actually tried to pursue the expansionary monetary policy described by Michener. In period 4, according to Michener's formula, the colony would collect taxes of 2000 pounds (presumably to be destroyed). In the same period it would issue 8000 new pounds (backed by a tax levy of 8000 pounds to be collected in period 6), and the total money supply would be 12,000 pounds. Assume that in this period each pound is worth one bushel of wheat. When period 5 arrives, the colony tries to issue 16,000 new pounds, while levying taxes of 16,000 pounds to be collected in period 7. If people expect the colony to be able, in period 7, to collect taxes with a real value of 16,000 bushels of wheat, then backing will have increased in step with the money supply and there will be no inflation. If the colony cannot collect sufficient taxes, and if it issues 16,000 new pounds anyway, then the money supply will have outrun its backing, and inflation will result.

In summary, the tax backing used by the colonies is potentially equivalent to conventional backing. As long as a colony is able to collect taxes sufficient to redeem the paper money it has

issued, the public will value the money as if future convertibility were expected.

III. Tax Backing in Practice

This section explains the workings of tax backing for several of the currencies of the colonial period. It is useful to begin by discussing some of the earliest issues of money, in order to see backing in its simplest form. Later currency issues added various complexities, which are discussed in turn.

The issuing of paper money in the colonies came as the culmination of financial practices long in vogue. From the earliest times the settlers made use of private credit. Men of property gave their promissory notes, and the laws of the colonies generally safeguarded the endorsements of such notes: the signer was obliged to pay the full sum to the individual to whom the note was finally endorsed. Hence a bill or note of a respected person might pass from hand to hand in a locality for several months, all the time serving as a substitute for money. Bills of exchange had the same effect. Most of the bills that circulated in the colonies were simply checks drawn on deposits lodged with English agents. Endorsed from person to person, they passed freely in public and private payments. (Nettels, 1934, p. 250.)

It is clear that *privately* issued money must be valued based on its backing, and not on its quantity. If this were not true, and individuals could circulate their own bills of credit without the obligation to pay them in full, then issuers of private money would earn a free lunch, the size of which would be limited only by their ability to add zeros to their bills of credit. It is reasonable to suppose then, that the earliest government paper moneys, being bills of credit themselves, and modeled on private bills of credit, would also be valued based on their backing. This, of course, is where quantity theorists and backing theorists part company.

Card Money

The French playing card money, generally considered the first quasi-public paper money of

the Americas, provides a good example of backed paper money.

In Canada in 1685, when the French military payroll was delayed, monnaie de carte, or card money, was introduced as a medium of exchange redeemable out of the first coin received from France. It consisted of handwritten denominations on quarter sections of playing cards duly signed and sealed by the intendant, Jacques Dumuelles. It was declared legal tender, protected by counterfeiting punishments, and was redeemed within three months (Newman, 1967, p. 7.)

The playing card money was issued with a promise of future convertibility into coin, and it actually was redeemed in coin. As long as the intendant issued only as much card money as could be paid in coin once the payroll arrived, the card money would maintain its value. If the intendant had issued more money than the payroll could redeem; if there had been counterfeiting; if the payroll had failed to arrive, then the card money would have fallen in value—exactly in accordance with the backing theory.

The playing card episode also shows in miniature the conditions that often led to the issue of paper money. The delay of the military payroll would have left soldiers unable to buy goods, while leaving local merchants suffering from poor sales. The lack of coin could have been remedied to some extent if the soldiers could have bought goods on credit, but with merchants having only limited means of judging the creditworthiness of a soldier, credit would have been a poor substitute for coin or paper money. Traders would have been reduced to barter, with all its well-known drawbacks (particularly for soldiers with no produce to barter). It is little wonder then, that the introduction of paper money would have revived trade.³

³ While the issue of new money often stimulated trade by alleviating the perennial money shortage of the colonies, the retiring of money just as often led to a return of money shortages, and to recession.

The retirement of a large proportion of the circulating medium through annual taxation, regularly produced a stringency from which the legislature sought relief through postponement of the retirements. If the bills were not called in according to the terms of the acts of issue, public faith in them would lessen, if called in there would be a disturbance of the currency. On these points there was a permanent disagreement between the governor and the representatives, discussions concerning which reveal themselves in 1715 and traces of which are frequently found after that date.

Massachusetts

In 1690, the Massachusetts Bay colony issued paper shillings to pay the expenses of a failed military expedition to Canada in King William's war. The paper shillings were declared acceptable for taxes, as is evident from their inscription:

This Indented Bill of Twenty shillings due from the Massachusetts Colony to the Possessor shall be in Value equal to Money and shall be Accordingly Accepted by the Treasurer, and Receivers subordinate to him in all Publick Payments, and for any stock at any time in the Treasury Boston in New England Decemr 10th 1690.
(Newman, 1967, p. 124.)

Cotton Mather described the importance of tax backing as follows:

Had the government been so settled, that there had not been any doubt of any obstruction, or diversion to be given to the prosecution of the tax-act, by a total change of affairs, then depending at White-Hall, 'tis very certain that the bills of credit had been better than so much ready silver; yea, the invention had been of more use to the New Englanders, than if all their copper mines had been opened, or the mountains of Peru had been removed into these parts of America. The Massachusetts bills of credit had been like bank bills of Venice, where, though there were not, perhaps, a ducat of money in the bank, yet the bills were esteemed more than twenty per cent. better than money among the body of the people, in all their dealings. But many people being afraid that the government would in half a year be so overturned as to convert their bills of credit altogether into waste paper, the credit of them was thereby very much impaired; and they who first received them could make them yield little more than fourteen or sixteen shillings in the pound; . . ." (Mather, p. 191.)

On backing theory principles, the Massachusetts bills were valued for the same reason as any other security: When the credit of the issuer was good, the bills maintained their value, and when the issuer suffered discredit, the bills suffered likewise.

Maryland

Maryland backed its bills more explicitly than any of the colonies. In fact, Ronald Michener plainly acknowledges the proposition that Maryland's currency was backed:

...it seems appropriate to disregard certain cases which Smith emphasizes, such as Maryland's paper money and Massachusetts Treasurer's Certificates (issued in 1751 and thereafter). Such securities were backed in an entirely orthodox manner; they promised particular quantities of specie at particular dates and would be treated not as money, but as bonds. Viewed as bonds, there is no dispute about how the value of these securities would be determined.⁴
(Michener, 1987, pp. 242-43.)

While the other colonies did not back their currency as explicitly as Maryland, they did nevertheless back their currency with taxes. Colonial currency was typically issued and backed in two ways: (1) Bills were printed and spent by the colony, with a promise that the colony would collect sufficient future taxes to retire the bills.⁵ (2) Bills were lent by colonial land banks. Customers would pledge land or plate as collateral and loan repayments would retire the bills. All colonies rated their bills in terms of commodities, specie, and most frequently, the Spanish dollar, or piece of eight.

⁴ Michener rejects the backing theory on the basis of several episodes where backing appeared to change drastically without producing the expected effect on prices. For example, Virginia had bills totaling 215,206 pounds outstanding in June 1766, when it was discovered that Virginia's Treasurer had embezzled and spent over 100,000 pounds. Following this discovery, Virginia's bills actually appreciated slightly. However, examination of Maryland shows several similar episodes. Maryland's currency depreciated 40% from 1735-36, even though there was no apparent loss of backing. From 1743-44, the currency appreciated 71%, followed by a 17% depreciation in the following year--again with no apparent change in backing. This is the currency that Michener *admits* was backed. No doubt similar stories could be told for various corporate stocks whose prices sometimes seem to move as if backing did not determine their value.

⁵ Modern central banks add an extra step to this process. Rather than directly dedicating backing new bills with future taxes, the central bank instead backs its bills with government bonds, which are in turn backed by future taxes.

By 1690 every colony had created a special currency of its own, called “current lawful money of the province.” This currency consisted of foreign coins (principally Spanish pieces of eight) which were valued by provincial law in terms of shillings...When bills of credit appeared, the colonial legislatures intended that such paper should be equal to current lawful money. A certain number of shillings in bills of credit were supposed to represent an ounce of silver, Mexico, pillar, or Seville, as valued by law. Although the earliest colonial acts authorizing the issue of paper did not define bills of credit as current lawful money, it was uniformly provided that such bills should be receivable as such in all public payments [e.g., taxes]. (Nettels, 1934, pp. 256-57.)(See also Brock, 1975, p. 386.)

Thus, if New York had a tax claim of 8 shillings against a colonist, and if silver were legally rated at 8s./oz., then the tax collector, who had always demanded 1 ounce of silver before the introduction of paper money, would thereafter accept either 1 ounce of silver or 8 shillings. Real backing would thus be established even if no colonial office existed where a colonist could bring 8 New York shillings and receive an ounce of silver in return.

IV. Some Disputed Episodes

As long as every shilling issued is matched by an equal increase in backing, money issue will not be inflationary. This explains why many colonies were able to increase or decrease their money supply dramatically without affecting prices. Colonies that fit this pattern are shown in Table 1, which reproduces McCallum’s Table 1 (1992. p. 146.)

Table 1
Disputed Episodes Involving Rapid Growth of Paper Currency

Dates	Ratio, Peak Year to Initial Year -----
	Price of

Smith Reference (1)	Colony (2)	Initial (3)	Peak (4)	Currency* (5)	Sterling (6)
1985a, pp. 544-45	Pennsylvania	1728	1729	1.68	.99
1985a, pp. 546-47	New York	1736	1737	3.10**	1.00
1985a, pp. 547-48	New Jersey	1730	1737	2.65	***
1985a, pp. 557-59	Massachusetts	1755	1761	9.80 ⁺	1.05
1985b, pp. 1188-92	South Carolina	1749	1760	4.19	.96
1985b, pp. 1194-95	North Carolina	1728	1729	4.20	***
1988, p. 24	Virginia	1755	1760	4.25 ⁺⁺	1.09
1988, p. 24-26	New York	1754	1759	3.09	.93
1988, pp. 25-27	Pennsylvania	1755	1760	3.75	.94

*The ratio of per capita values of paper currency in the peak year to the initial year, as listed.

**Based on currency figures reported by Smith.

***Initial figures unavailable; the ratio is presumably close to 1.0.

⁺ With 1754 as the initial date, the ratio is 27.2.

⁺⁺ With 1754 as the initial date, the ratio is infinity.

The table shows, for example, that between 1754 and 1759, New York increased the supply of paper currency by a factor of 3.09, while New York currency actually appreciated 7% against the British pound.

Two groups of colonies are of special interest: (1) Those listed in table 1, which had stable prices in spite of large changes in the quantity of paper money, and (2) Those which experienced high inflation along with rapid growth of the money supply. The second group includes the New England Colonies from 1720-50 (Smith, 1985a, pp. 543-44.), and South Carolina from 1703-26 (Smith, 1985b, pp. 1189-90.).

On its face, the evidence in table 1 is consistent with the backing theory proposition that the value of money will be stable as long as backing moves in step with the quantity of money. However, the data are not complete enough to contradict quantity theorists' assertions that the quantity of paper money might have misrepresented the *total* money supply.

The second group of colonies, those with rapid money growth and high inflation, are easily explained by the quantity theory, but the data cannot rule out the backing theory explanation,

which is that if pressing expenses induced the colony to issue and spend new bills, while future taxes were insufficient to retire the bills, then the colony would experience inflation accompanied by a visible increase in the quantity of bills.

Paper money issued by land banks also fits neatly into the model of the backing theory, the main difference being that loan repayments, which were in turn secured by land, would back the bills. As the backing theory predicts, Smith finds that when loan offices lent their bills prudently; for example, by lending no more than half the value of the property offered as security, then note values were stable. On the other hand, if the property accepted as security were not adequate to repay the loan, or if legislatures extended undue time to delinquents, then a colony's bills would fall in value.⁶

V. McCallum's Critique

In his critique of Smith's work, Bennett McCallum contends that most of the colonies that had stable prices in spite of large changes in the supply of *paper* money had in fact maintained stability of their *total* money supply. He concludes that evidence from the colonial period "is rather strongly supportive of the classical--often termed "quantity theory"--position". (McCallum, 1992, p. 158.) In fact, he repeatedly emphasizes that the quantity theory is not even the principal question in dispute.

⁶Smith falls into an error on what constituted leniency on the part of the legislature:

Rhode Island was even more lenient regarding security for loans. Borrowers from Rhode Island often relent to others in Massachusetts, so that Rhode Island officials were obviously not sure what the ultimate backing of a loan was. (Smith, 1985, p. 550.)

If Rhode Island's land bank lent 100 pounds to a Rhode Island resident who offered his land as security, and if he then relent the 100 pounds to someone in Massachusetts, the land bank's claim to the original borrower's land would not be compromised by the relending outside of Rhode Island.

A basic point is that the dispute between classical and anticlassical writers is not principally about the response of prices to money changes, but instead about the size of money stock changes associated with measures that pertain to paper currency alone. (McCallum, 1992, p. 157.)

There are two problems with McCallum's argument:

- 1) A stable money supply accompanied by stable prices (McCallum's finding) is consistent with both the quantity theory *and* the backing theory. The same is true of a rising money supply accompanied by rising prices. On the other hand, a volatile money supply accompanied by stable prices (Smith's finding) is consistent with the backing theory, but less so with the quantity theory.
- 2) The dispute is indeed about the response of prices to money changes. It is only because economists care about this issue that we are concerned about measurement of the money stock, currency flows, currency substitutes, etc. Just as McCallum takes it for granted that prices respond to changes in the money supply, a backing theorist could equally take it for granted that prices respond only to the backing of money, and assert that the dispute at hand is not principally about the response of prices to the backing of money, but about the amount of backing that paper currencies actually had.

VI. Competitive Money Issue

Data from the colonial period are too sparse to give us a clear reason to prefer the backing theory to the quantity theory, so we are left trying to decide which theory seems more reasonable, given what we know about the methods used to issue and redeem colonial currency. There is, however, one more fairly strong reason to prefer the backing theory to the quantity theory, and that is the competitive nature of money-issue in the colonies.

In Pennsylvania, New Jersey, and Delaware, the paper money of each colony

circulated generally in the other two because of their close economic ties. In the four New England colonies, a similar situation existed, but from time to time restrictions would be adopted by one colony to prevent the circulation of money of another. (Newman, 1967, p. 8.)

Given this competition between rival moneys, any money that acquired value in excess of its backing would create a free lunch for its issuer. This would encourage the issue of rival moneys, and the issue of those rival moneys would continue as long as any paper money had value in excess of its backing. For example, suppose that New York has the ability to collect only 100 ounces of silver in taxes, but no more. If New York prints and spends 800 paper shillings, and if those shillings have a market value of 1/8 oz., then each shilling is worth its backing, and there is no profit to the colony. But if the colony is then able to issue another 800 shillings, with no increase in taxing ability, and if those shillings still sell for 1/8 oz., then New York would have earned a free lunch of 100 ounces of silver or 800 shillings. This would attract rival colonies to issue and spend their own paper shillings in New York. Ultimately the oversupply of currency would force the value of the New York shilling down to 1/16 oz., at which point there would be no more attraction to rival moneys. Simple competition assures that the backing theory is correct, and that paper shillings must be worth no more or less than their backing.

VII. Conclusion

Two main results emerge from this study:

1) The evidence from the colonial period is consistent with both the quantity theory and the backing theory. If we observe periods of stable prices accompanied by changes in the quantity of paper money, a backing theorist could claim that backing had moved in step with the quantity of paper money. A quantity theorist could claim that changes in the quantity of paper money had been offset by changes in the quantities of other moneys. If we observe rising prices accompanied by increases in the quantity of paper money, then a backing theorist could claim

that the rising prices had resulted from a failure to properly back the newly issued money, and not from the simple increase in the quantity of money. Colonial data on backing and total money supplies are so sparse that none of these claims could be convincingly confirmed or denied.

2) We have two good reasons for a prior belief that colonial currency was both backed and convertible: (a) The system of rating colonial currencies for tax payments effectively made them convertible into specified quantities of commodities, Spanish dollars, etc.

(b) The competitive nature of money issue in the colonies would have forced paper money to be valued at no more or less than its backing.

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