

THE MONETARY HISTORY OF AMERICA TO 1789: A HISTORIOGRAPHICAL ESSAY

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In no other field is the crucial importance of theory to history more obvious than in the field of economic history. One's knowledge of the concrete historical events may remain unchanged, but if the economic theory applied to those events is altered, then one's entire historical interpretation will of necessity be modified. A historical account can be factually accurate and yet, if the informing economic theory is faulty, give a totally false interpretation. Furthermore, the validity of the theory, in economics at least, is often decided *a priori* to history, on some other basis. This procedure is not objectionable if the historian's theoretical paradigm is explicit. However, it makes the task of historiography more complex. One must not only consider the overt interpretations and explanations offered by different historians; one must also determine each historian's theoretical framework, whether explicit or implicit, and subject it to theoretical criticism.

The monetary history of the British colonies in America and of the United States prior to the adoption of the Constitution in 1789 is extremely varied. Many different monetary experiments were tried by colonial and state governments. Unfortunately, the monetary theory used by current historians is flawed and, consequently, their rendering of the period is unsatisfactory. In this paper, I will first describe how changing monetary theories have been reflected in the historical accounts. Then I will criticize the current accounts and, using the monetary theory developed by Austrian economists,⁽¹⁾ offer a more accurate reinterpretation of the monetary history of the period.

I

Before proceeding to an examination of

specific historians, it is necessary to understand a few key concepts and to be familiar with a general overview of the specific events. The monetary history of America to 1789 can be conveniently divided into three periods: the colonial period (up to 1775), the revolutionary period (1775-1781), and the confederation period (1781-1789). Each period is distinctive, and while some historians have treated all three, many have confined themselves to one or the other.

The colonial period contained the greatest variety of monetary practices, but these can be roughly divided into three categories.

(1) *Manipulation of the unit of account*

The monetary standard for accounting purposes in the colonies was the English pound, shilling, and pence. However, most of the coins in the colonies were Spanish or Portuguese. The standard Spanish dollar contained 387 grains of silver, while the English silver shilling weighed 86 grains. Therefore a dollar should have been worth four shillings and six pence. The colonies, in the hope of attracting foreign coin and specie, arbitrarily overvalued the dollar in terms of shillings, or in other words, devalued the unit of account. This technique was first adopted in 1642 when Massachusetts declared the Spanish dollar equal to five shillings. Other methods used to attain the same results were, instead of devaluing the shilling in terms of dollars, to devalue the shilling in terms of silver or gold. Either way, the process led to competing devaluations, as high as seven shillings and six pence to the dollar, and different monetary standards in each colony. Another expedient employed to hold coins by the colonies was to forbid their export.

(2) *Bills of credit*

Bills of credit were simply fiat paper money. They were issued in one of two ways. One way was for the government to print the money and then spend it to cover expenditures, usually the financing of a war effort. Future taxes would be pledged towards retiring the bills. The bills would be withdrawn from circulation by being paid directly as taxes or by being redeemed in specie that had been collected through taxes. Often, however, when the pledged taxes came due, the bills would be reissued rather than withdrawn. This type of currency finance was first employed in Massachusetts in 1690 and eventually embraced at one time or another by all the colonies.^[2]

The other way of issuing bills of credit was through land banks. Instead of spending the money directly, the issuer would loan the money out at interest with land as security. When the principal on the loan was repaid, the bills might either be reloaned or retired. The issuer could be a group of private individuals or the government. Although private land banks were frequently proposed, they only operated briefly during the 1740s in Massachusetts.^[3] Government land banks appeared in all the colonies.

It should be noted that the term "bills of credit" is used here in the generic sense, including both types of paper money. Sometimes the term is used to refer only to paper money paid out directly to cover government expenses. The term is a misnomer, anyway, because in neither case was the bill of credit a credit instrument. It did not represent borrowings of the government repayable in money at some future date; it was money. This was true despite the fact that bills of credit sometimes paid interest. Colonial governments also engaged in actual borrowing. For this they issued treasury notes comparable to private bills of exchange, and these, of course, were credit instruments and not money. Unfortunately, the colonial governments blurred the distinction between credit transactions (involving the exchange of a present good for a claim to a future good) and current transactions (involving the exchange of a present good for a present good) not only by paying interest on some bills of credit but also

by issuing so-called "treasury notes" that were, in fact, paper money.

(3) *Legal tender*

Although often treated in conjunction with bills of credit, the practice of legal tender is conceptually distinct. Legal tender could be of two types. Public legal tender established what would be accepted as money for payment of taxes, quit-rents, and other public levies. By declaring something public legal tender, the government obviously helped foster its use as money. Private legal tender decreed what the government would permit to be used in the payment of debts and the fulfillment of contracts. It had the effect of fixing the value of the monetary good in terms of the unit of account. For instance, when tobacco was declared legal tender, it had to be set at a certain rate of pounds of tobacco to shillings. This fixed rate was either set by statute or left up to the courts. If two or more goods were legal tender, then the exchange rate between them was officially fixed. Exchange rates set by statute never coincided with market exchange rates; exchange rates set on an *ad hoc* basis by the courts might possibly do so. The discrepancy between legal and market rates of exchange was the source of perennial complaints by creditors, because it allowed debtors to pay their debts with overvalued money. Private legal tender at different times was used to fix the exchange rates between quite a variety of goods: wampum and specie, tobacco and specie, heavy coins and light coins, paper money and specie, gold and silver, etc. Paper money was frequently, but not always, declared private legal tender by the issuing colony. *De facto*, paper money was always public legal tender (if only at the loan bank that had issued it or for the taxes pledged toward its redemption), although Parliamentary restrictions prevented this from always being formally admitted.

Other monetary experiments of limited scope and less interest include Massachusetts' successful but temporary running of a mint between 1652 and 1684^[4] and Virginia's system of tobacco warehouses with fully backed warehouse receipts circulating as money substitutes.

Great Britain also had an impact on its colonies' monetary practices. Throughout the colonial period, Britain prohibited the export of English coins to the colonies and forbade the establishment of colonial mints. Too much, however, has been made of these restrictions. The ban on exports applied only to British coins, and not to specie, which could be freely exported. Thus, British coins could be melted down and exported without hindrance. Also, the restriction did not apply to foreign coins.

England looked askance at the colonies' competitive devaluations of their units of account, and in 1704, the Crown proclaimed that six shillings to the dollar was the maximum devaluation permitted. Because of widespread evasion, Parliament enacted this proclamation into law in 1707.

The British government was particularly unhappy with colonial bills of credit. At first it attempted to restrain the colonies through instructions to the royal governors and suspension clauses. When this proved ineffective, Parliament passed the Currency Act of 1751. This act applied only to New England. It confined the issue of paper money solely to important government expenses, it placed limits on the quantity issued and the period of redemption, and it barred making paper money private legal tender. The Currency Act of 1764 covered the rest of the colonies, and it prohibited making bills of credit legal tender, public or private.

During the revolutionary period, the Continental and state governments financed the war effort through massive emissions of bills of credit. A serious hyperinflation resulted. All states made the bills of credit legal tender, and most of them instituted formal price fixing. Eventually, the paper money became worthless. At the end of the revolutionary period, the Bank of North America was founded. It was a nationally chartered bank which loaned out paper money bank notes. It operated with a fractional specie reserve, and most of its loans were made to the government. The remainder were made to private individuals against various forms of security.

With the confederation period, not only had the emission of Continental paper money ceas-

ed, but the Bank of North America lost its national charter and became a state chartered institution. National coinage legislation was discussed, but nothing was enacted. Many of the states returned to the issue of bills of credit. Three states chartered banks.

II

During the colonial period, monetary policy was an important and controversial issue. The debate was recorded in a rich pamphlet literature. On the hard-money side, the leading partisan was Dr. William Douglass, a Scottish physician and scientist who had settled in Boston. His most famous pamphlet, "A Discourse Concerning the Currencies of the British Plantations in America", was published in 1740. In it, he contended that "There can therefore be no other proper *Medium* of Trade, but Silver, or Bills of Exchange and Notes of Hand payable in Silver at a certain *U'sos* or Period, which by a currant Discount are reducible to Silver ready Money, at any Time." He held paper money in scorn. "To make a Bill or Note bearing no Interest and not payable till after a dozen or score of Years, a legal Tender . . . in Payment of Debts, is the highest of *despotick* and arbitrary Government."¹⁹ Douglass felt that increasing the quantity of money only depreciated the value of each monetary unit and caused price inflation. Inflation hurt creditors, laborers, and those living on fixed incomes, and represented an insidious form of taxation. Legal tender laws coupled with paper money drove specie out of circulation, increased the foreign exchange rate, and brought about an unfavorable balance of trade. Only a specie currency could maintain stable prices, attract specie, and balance foreign trade. If banks issued paper money, it must be backed by a fractional specie reserve.

Douglass' most formidable opponent was Benjamin Franklin. His "Modest Enquiry into the Nature and Necessity of a Paper-Currency" appeared in Philadelphia in 1729 and has become a classic. Franklin argued that "There is a certain proportionate Quantity of Money requisite to carry on the Trade of Country freely and currently; More than which would be of no Advantage in Trade, and Less, if much less, ex-

ceedingly detrimental to it."¹⁶) The colonies suffered from a scarcity of money, brought on by an unfavorable balance of trade, and this scarcity depressed the economy. Issuing paper money brought economic prosperity and, if done in moderation, could avoid depreciation. In addition, since paper money was cheaper, it provided the benefits of a medium of exchange at far less cost than specie.

The pamphlets of Franklin and Douglass show the emergence of two opposing schools: the advocates of hard (metallic) money and the advocates of managed money. Without too much simplification, most historians treating this question fall into one of these two schools. Variations exist within each position, but most of the arguments that historians subsequently adopted were anticipated by Douglass or Franklin.

III

The hard-money school's interpretation developed earliest. Its theoretical underpinning was the quantity theory of money, which states that the value of money depends upon the supply of money and the demand for it. If the supply decreases, other things remaining equal, the value of money will go up and the price of goods will fall. Conversely, if the quantity of money is increased, the value of money will fall and prices rise. Modern writers often accuse the old hard-money advocates of using a crude quantity theory in which the demand for money is ignored. This is untrue; even the earliest statements of the quantity theory make explicit the *ceteris paribus* assumption on which they are based. The old hard-money theoreticians did not ignore the demand for money; they merely thought that it was fairly stable in the short-term, a question which economists still argue over.

The hard-money school's policy goal was money that maintained a stable value. Whether this goal was achieved could be measured in two ways, by the stability of the exchange rate between colonial monies and English money or by the stability of prices. Hard-money writers usually focused on one or the other, although a few considered both. The policy prescription most likely to achieve this goal, according to

these writers, was the adoption of the precious metals, gold or silver, as the monetary standard. If governments were permitted to print money, they would inevitably print too much and cause depreciation. Only specie could be relied upon to provide stability.

William M. Gouge, the Jacksonian economist, was the first hard-money theoretician to write a monetary history of the United States. Published in 1833, it was entitled *A Short History of Paper Money and Banking in the United States*.¹⁷ Gouge's initial four chapters are on colonial commodity money, colonial paper money, Continental paper money, and the Bank of North America, respectively. Although now outdated, Gouge's historical research was impressive for the time. He condemned legal tender laws, devaluations of the unit of account, and bills of credit. He included tables showing the depreciation of both colonial and Continental paper money. He even attacked the Bank of North America. In that respect he went much further than Douglass before him or most hard-money writers afterwards by consistently opposing all paper money, even when issued by banks with specie reserves.

Despite its pioneering research, Gouge's work was primarily polemical. Following it, however, came several works devoted solely to historical scholarship. In 1839 Joseph B. Felt, a clergyman working in the Massachusetts archives, wrote *An Historical Account of Massachusetts Currency*.¹⁸ Henry Bronson examined the monetary records of Connecticut and published the results in the *Papers* of the New Haven Colony Historical Society in 1865.¹⁹ The next year, John H. Hickcox's *A History of the Bills of Credit or Paper Money Issued by New York from 1709 to 1789*^[10] appeared. At the same time, Henry Phillips compiled the two volume *Historical Sketches of Paper Currency of the American Colonies Prior to the Adoption of the Federal Constitution*.^[11] In his first volume, Phillips reprinted an 1837 pamphlet on Rhode Island by Elisha R. Potter,^[12] and included essays of his own on Pennsylvania, New Jersey, and Virginia, with a two page discussion of Vermont's paper-money issue of 1781. The second volume he devoted to

Continental money.

Because these works were scholarly efforts and, more importantly, because they were less concerned with the economic impact of paper money than with the details of when bills were emitted and how many, their theoretical bias was not pronounced. Nevertheless, Felt, Bronson and Potter can be placed without reservation in the hard-money camp. Phillips and Hickcox are not as easy to position. Phillips did condemn as harmful the issues of Virginia, New Jersey, and the Continental Congress, but with Pennsylvania, a colony noted for the restraint of its policies and the relative lack of depreciation by its currency, he concluded that the issue of fiat money was prudent and successful. Hickcox reached a similar conclusion with regard to New York.

In 1874, William Graham Sumner made a brief monetary survey of the period prior to 1789 in *A History of American Currency*.^[17] This work, as Sumner himself admitted, was sketchy and rough, merely pointing the direction toward further research. Its treatment of both the colonial and confederation periods focused mostly on New England and took a hard-money attitude. One of Sumner's contentions was that the unfavorable balance of trade of the colonies was due to a preference for foreign goods and capital over specie on the part of the colonists. The first edition of Albert S. Bolles' *The Financial History of the United States*^[14] was published also in 1874. Bolles dismissed the colonial experience with the statement: "Paper money had been tried in all the Colonies, and nowhere had the experiment worked satisfactorily, save in Pennsylvania."^[15] His first volume, based on much new research, covered national finance during the revolutionary and confederation periods and confirmed the hard-money position. Sumner examined the same territory in even greater detail in his two volume *The Financier and Finances of the American Revolution*.^[18] These volumes, unlike his previous work, were scholarly and authoritative. The book combined a financial history of the American Revolution with a biography of Robert Morris. In it emerged what has become the standard interpretation.

The Continental paper money used to finance the Revolution was seriously over-issued and generated a hyperinflation. Sumner denounced paper money for causing a "social palsy".^[17] He took a favorable view of Morris and approved of the Bank of North America as a sound financial scheme. Charles J. Bullock took nearly the identical stance in his work on the same topic, *The Finances of the United States from 1775 to 1789, With Especial Reference to the Budget*.^[18] His work only differed from Sumner's in that it was an institutional rather than a political history. Another institutional history relating to national finance published at this time was Lawrence Lewis, Jr.'s brief *History of the Bank of North America: The First Bank Chartered in the United States*.^[19] Lewis viewed his subject positively.

While Bolles, Sumner, and Bullock were working out the hard-money position on national finance, a number of studies bolstered the hard-money case at the state and colonial level. Charles H. J. Douglas' *The Financial History of Massachusetts from the Organization of the Massachusetts Bay Colony to the American Revolution*^[20] gave extensive space to monetary affairs. Douglas blamed Massachusetts' paper-money policies on the masses of impoverished debtors. William Zebina Ripley's *The Financial History of Virginia, 1609-1776*^[21] devoted two chapters to monetary issues. Ripley praised Virginia, the last colony to issue bills of credit, for avoiding the temptation for so long. C. W. Macfarlane, in his article on "Pennsylvania Paper Currency",^[22] presented extensive price series for many commodities. Macfarlane's price information was taken from colonial newspapers and was amazingly complete. Although a hard-money advocate, Macfarlane was forced to admit that bills of credit had suffered little depreciation in Pennsylvania. "The most strenuous opponents of paper money will hardly deny, that under such circumstances [as prevailed in Pennsylvania] the value of almost any currency might be maintained. The difficulty is, that few legislative bodies are likely to be as wise as the Assembly of Pennsylvania seems to have been during this period."^[23]

Frank Fenwick McLeod wrote "The History of Fiat Money and Currency Inflation in New England from 1620 to 1789".^[24] He found that the "fluctuating and complicated currency retarded business and crippled commerce. . . . Inflation was triumphant, business paralyzed".^[25] Charles Bullock gathered together three of his studies in his *Essays on the Monetary History of the United States*.^[26] Two of them gave the history of paper money in states that had not previously been treated, North Carolina and New Hampshire. The third, "Three Centuries of Cheap Money in the United States", was a general commentary.

The culmination of these colony and state studies, and perhaps the premier work of the hard-money school, was the massive two volume *Currency and Banking in the Province of Massachusetts Bay* by Andrew McFarland Davis.^[27] Imposingly researched, it examined in detail the political struggles surrounding Massachusetts' currency and banking legislation through the Parliamentary ban of 1751. It also surveyed policies in other New England colonies. It analyzed the economic consequences of the various policies, blaming the bills of credit for driving specie out of circulation and raising exchange rates. Davis' researches led to his editing, in four volumes under the title of *Colonial Currency Reprints, 1682 - 1751*,^[28] the colonial pamphlet literature on money.

Eventually, the hard-money position found its way into more general secondary works and texts. One of the most popular of these was Horace White's *Money and Banking: Illustrated by American History*.^[29] White devoted several chapters to colonial commodity money, legal tender, bills of credit, colonial banking, and the Bank of North America. "The pamphlets and records of the colonial period are filled with accounts of the distress and demoralization caused by depreciated paper made legal tender", he wrote; "the emission of bills of credit on loan was, in effect, a conspiracy of needy landowners against the rest of the community."^[30] Later editions of A. Barton Hepburn's *A History of Currency in the United States*^[31] also included chapters presenting the hard-money line on colonial and Con-

tinental paper money. Hepburn even denounced the practices of Pennsylvania. Finally, the hard-money case was cautiously but ably defended in Davis Rich Dewey's *Financial History of the United States*.^[32]

One notion that has often been attributed to the hard-money school is that paper money was always instituted at the behest of poor, agrarian debtors. The hard-money school did recognize that depreciating money helped debtors and hurt creditors, giving debtors an incentive for supporting paper money, but they did not necessarily equate debtor interests with agrarian or lower-class interests. Only Douglass, Bullock, and White hinted at such an explanation, and none of them developed it at any length. If the poor-agrarian-debtor thesis came to dominate historical interpretations, the hard-money school is not responsible. The responsibility really belongs to the historians of the progressive school, none of whom wrote specifically on money.

IV

After the turn of the century, the hard-money school began to lose its prominence. This was in part due to the increasing popularity of the ideas of managed money. Even before the Keynesian revolution, economists were concluding that government management of the money supply would be much more efficient than reliance upon the precious metals. The first signs of a shift in historical interpretation came with the publication of several new colony studies. Clarence P. Gould's *Money and Transportation in Maryland, 1720 - 1765*^[33] appeared in 1915, and in 1923 Kathryn L. Behrens published her *Paper Money in Maryland, 1727 - 1789*.^[34] Gould, who devoted only one chapter to transportation, was almost ecstatic over Maryland's paper-money policy. "Considering the peculiar benefits to grain and tobacco culture, the conveniences offered to trade, the exceptionally high exchange that the bills maintained throughout most of their life, and the faithful redemption of every shilling at face value, it is hardly too much to say that this was the most successful paper money issued by any of the colonies."^[35] Behrens, whose study

extended into the revolutionary period, was only slightly less enthusiastic, and she agreed that "As a colony Maryland had solved the problem of paper currency."^[36] Although not as substantial as the studies of Gould and Behrens, Richard S. Rodney's *Colonial Finances in Delaware*^[37] also saw paper money as necessary and beneficial. Another state study published about the same time was William Estill Heath's article, "The Early Colonial Money System of Georgia", a purely descriptive account that took no position on the desirability of paper money.^[38]

In 1934 Curtis Putnam Nettels applied the new interpretation foreshadowed in the works of Gould and Behrens to all the colonies. His book, *The Money Supply of the American Colonies Before 1720*,^[39] was the first general treatment from the managed-money school. Actually, over half the book discussed not the colonial money supply but the colonial balance of payments. Nettels' consideration of this issue, however, provided the groundwork for his argument that the unfavorable balance of payments caused a chronic shortage of money in the colonies:

The colonies — as a debtor region — were confronted with a continuous adverse balance of payments, and their available specie was repeatedly drawn away to creditors in Europe. The scarcity of specie in America gave birth to a widespread belief that prices of colonial products were ruinously low because money was wanting. . . One solution of these difficulties appeared to be an enlargement of the volume of currency.^[40]

On this basis, Nettels justified all of the colonial monetary experiments: the making of commodity money legal tender, the devaluation of the unit of account, and the issue of bills of credit. All of them were efforts by the colonists to attain some economic independence.

Even more outspoken in his defense of colonial monetary practices was the economist Richard A. Lester. In his book, *Monetary Experiments: Early American and Recent Scandinavian*,^[41] he refined Nettels' argument about the shortage of money. Precious metals were too expensive a form of money for the colonies. By using cheaper paper money, the colonists were conserving resources and making themselves wealthier. Previous historians had

distorted the colonial experience by ignoring the middle colonies. "Since there was relatively little depreciation in the middle colonies, most of the writers have played up the experience of the New England colonies. There the depreciation of the currency was more extreme." This was due to "a peculiar currency arrangement" in which "the paper money of each New England colony was freely accepted without discount in the other New England colonies".^[42] Thus, each colony had a built-in incentive to issue bills of credit without restraint. The middle colonies, on the other hand, particularly Pennsylvania, used sound money management to avoid depressions and stimulate the economy. Lester argued that without currency emissions, prices would have fallen and depression would have resulted. In short, "our colonial forefathers were much more intelligent on money matters than hitherto they have been given credit for being".^[43]

Although he provided a strong theoretical justification for the managed-money school, Lester's research was limited. The work that finally nailed down the managed-money interpretation historically was Leslie Van Horn Brock's dissertation, "The Currency of the American Colonies, 1700–1764: A Study in Colonial Finance and Imperial Relations".^[44] Overlapping and bringing forward Nettels' account through the Currency Act of 1764, it was thoroughly researched and has become the standard treatment of the subject. It gave a history of the monetary policies in each colony, in the process confirming the conclusion that on the whole paper money was salutary. Because of the specie drain, it was needed, and most colonies issued it with enough restraint to be successful.

Although the managed-money triumvirate of Nettels, Lester, and Brock has supplanted the hard-money school, both groups share certain principles. Both accept the quantity theory of money, and both have, at least implicitly, stability of purchasing power as their policy objective. They differ as to the most efficient means of attaining that objective. Even on the historical record, their differences are not as great as at first they might seem. The hard-money advocates freely admitted that the

monetary policy of Pennsylvania resulted in relatively less depreciation. As Gouge put it, "All things go by comparison. The credit bills of Pennsylvania were so much better than those of the other Governments, . . . but it was not a fact that they never sunk below the value of the gold and silver which was current in the colony before the first emission of its paper."^[46] For the hard-money school, Pennsylvania's experience was exceptional; the prevailing tendency was toward massive depreciation. The managed-money school, on the other hand, admitted that even in Pennsylvania some fall in exchange rates took place — just not enough to be concerned about. They also agreed that in New England and during the Revolution too much money did result in serious inflation. For them, however, these cases were aberrations explained by extenuating circumstances (war, for instance); Pennsylvania's experience was typical.

While Nettels, Lester, and Brock were revising the interpretation of colonial finance, a few historians were doing additional research on the revolutionary period. Ralph V. Harlow's "Some Aspects of Revolutionary Finance"^[46] gave a broad overview of the issue of paper money by the Continental Congress and the various states. William B. Norton, in "Paper Currency in Massachusetts during the Revolution",^[47] noted the relative conservatism of Massachusetts' monetary policies during the Revolution. Massachusetts placed greater reliance on borrowing than on bills of credit and attempted scrupulously to repay creditors. Neither of these works attempted to revise the previous negative historical verdict on revolutionary bills of credit. Also important was Anne Bezanson's *Prices and Inflation During the American Revolution*,^[48] which provided incredibly complete price series for the period. Earlier Bezanson had coauthored with Robert D. Gray and Miriam Hussey a similar book about *Prices in Colonial Pennsylvania*.^[49] The Bezanson-Gray-Hussey series were those used by Lester in his study of Pennsylvania currency. William I. Davisson's "Essex County Price Trends: Money and Markets in 17th Century Massachusetts",^[50] gave colonial price statistics for a different area and an earlier cen-

tury. Davisson's figures only went up to 1685, before the first paper-money emission, but they covered the years during which the Massachusetts mint operated, which Davisson felt had had a stabilizing influence on prices. The most recent study of colonial prices is John J. McCusker's *Money and Exchange in Europe and America, 1600–1775: A Handbook*.^[51] This monumental work of research gives series on the exchange rates between all the colonies and London, painstakingly pieced together from a huge array of contemporary quotations.

Most of the research done after Nettels, Lester, and Brock has built upon or refined their approach. Theodore Thayer's general commentary on "The Land-Bank System in the American Colonies",^[52] was not totally uncritical. He felt that land banks had failed in New England, both because they over-issued money and because the security they required was inadequate. "Nevertheless, in four colonies — Pennsylvania, New Jersey, New York, and Maryland — the system was on the whole successful and is deserving of more attention than it has been given."^[53] E. James Ferguson, in his "Currency Finance: An Interpretation of Colonial Monetary Practices",^[54] ostensibly dealt with both the land bank and "currency finance" methods of emitting bills of credit, although he gave greater consideration to the latter. He surveyed the historical literature and did battle, again, with the hard-money school. "An effort will be made to show that in the middle colonies, from New York to Maryland, paper money was successful. Secondly, it will be argued that except in New England and the Carolinas, paper money did not engender any great conflict between broad classes of the population."^[55] Ferguson later reworked his article and made it the first chapter of his book, *The Power of the Purse: A History of American Public Finance, 1776–1790*.^[56] The book was a welcome addition to the literature on finance during the revolutionary and confederation periods, but its analysis of the Continental inflation was quite standard. Ferguson's real contribution was his coverage of the debt and taxation questions. He also painted a less favorable picture of Robert Mor-

ris than had Sumner. Bray Hammond's highly overrated *Banks and Politics in America: From the Revolution to the Civil War*^[57] addressed its first two chapters to pre-1789 monetary history. Predictably, Hammond thought highly of the Bank of North America. He, alone among historians, even praised Rhode Island's emissions of paper money. His main purpose, however, was to discredit the myth that paper money was supported by poor, agrarian debtors. On the contrary, the demand for paper money, claimed Hammond, whether bills of credit, Continentals, or bank notes, came from sophisticated merchants and commercial interests.

Of the few state studies done after 1941 when Brock wrote his dissertation, the only one not holding to the managed-money line was Donald L. Kemmerer's "Paper Money in New Jersey, 1668–1775".^[58] Kemmerer, in fact, found a boom–bust cycle accompanying New Jersey's paper money policies. When new paper-money was injected into the economy, an inflationary boom would result. When the money was redeemed, a deflationary depression followed. Kemmerer concluded that "the method of suddenly expanding and gradually contracting the paper-money supply was largely responsible for both evils".^[59] Peter E. Ellertsen, on the other hand, thought much more highly of New Jersey's policies in his article, "Prosperity and Paper Money: The Loan Office Act of 1723".^[60] Looking at a shorter time span, he decided that the loan office was responsible for New Jersey's great prosperity. Richard M. Jellison's "Paper Currency in Colonial South Carolina: A Reappraisal"^[61] was also favorable. "The first period, from 1703 to 1731, was one of much experimentation and may be characterized by depreciation. The years following 1731 witnessed not only complete acceptance of the medium but also stability in its value."^[62] Jellison's conclusions were significant because managed-money historians had usually conceded that South Carolina's paper-money policies were as bad as those in New England.^[63]

Bray Hammond was probably the most vocal in his efforts to debunk the poor-agrarian-debtor thesis, but he was not the most per-

suasive. Ten years earlier, Joseph Dorfman, in his examination of the colonial monetary debate in *The Economic Mind in American Civilization*, discovered that "Contrary to the tradition that historians have perpetuated, a critical analysis of the contemporary literature indicates that the proponents as well as the critics [of paper money] were not poor debtors or agrarians, but for the most part officials, ministers, merchants, and men of substance and learning in general".^[64] Dorfman's conclusion was confirmed by George Athan Billias. In *The Massachusetts Land Bankers of 1740*,^[65] Billias systematically investigated the proponents and opponents of Massachusetts' 1740 land-bank scheme and found that the poor-agrarian-debtor thesis did not hold. Herman J. Belz, in two journal articles,^[66] extended the description of political forces battling over paper money in Massachusetts both forward and backward from 1740. Although he found some agrarian support for paper money schemes, Belz agreed that the most significant support came from merchant groups.

Along with the political forces within the colonies fighting over monetary policy, historians have explored the implications of the money issue for the colonial relationship with Great Britain. Some argue that the colonists' frustrations with British monetary restrictions contributed to the Revolution. Robert M. Weir found in his article, "North Carolina's Reaction to the Currency Act of 1764,"^[67] that this was true in North Carolina. Jack P. Greene and Richard J. Jellison, in "The Currency Act of 1764 in Imperial–Colonial Relations, 1764–1776",^[68] examined the various evasions of the Currency Act that occurred in all the colonies outside of New England and the colonial effort to get the act reinterpreted, modified, or repealed. They decided that the act was an important psychological irritant in British–American relations. Lawrence H. Gipson's "Virginia Planter Debts before the American Revolution"^[69] described the genesis of the Currency Act of 1764 and showed how it originated from the desire of British creditors to protect themselves from Virginia's monetary legislation. Jack M. Sosin's discussion of the Currency Act and the colonial reaction to it in

“Imperial Regulation of Colonial Paper Money, 1764–1773”^[70] treated in less detail the material covered by Gipson and Greene and Jellison and reached the same conclusion.

One area of monetary history that has captured the interest of at least one historian is counterfeiting. Counterfeiting was endemic in colonial and revolutionary America, and at times caused very serious problems for the colonies’ paper money issues. The counterfeiting of Continentals was especially serious. Kenneth Scott investigated this topic in his book, *Counterfeiting in Colonial America*,^[71] and in numerous articles and monographs on individual colonies.^[72]

Many of Scott’s contributions appeared in numismatic journals, which have a special interest in counterfeiting. Although largely ignored by mainstream historians, the numismatic discussions of colonial money are excellent references. Often they are more comprehensive and thorough with regard to such matters as the dates, the quantities, and the denominations of paper money emissions. Eric P. Newman’s *The Early Paper Money of America* is the standard numismatic guide, superseding all previous catalogues and providing extensive bibliographical references to the remainder of the numismatic literature.^[73]

V

The writings on the political ramifications of monetary policy so far discussed — those of Billias, Greene and Jellison, Sosin, and the others — if not directly reinforcing the managed-money school’s interpretation, are at least consistent with it. Only a few recent writings have contradicted the managed-money orthodoxy in any fashion. The first of these, M. L. Burstein’s “Colonial Currency and Contemporary Monetary Theory: A Review Article”,^[74] was highly technical and not based on a wide range of secondary material (let alone primary sources), but it did contain some thoughtful theorizing. Burstein compared figures on Pennsylvania’s money supply with data on prices in Pennsylvania and England, the exchange rate, and interest rates. His conclusion was that “reasonably long-run

elasticities of liquidity preference [were] very high indeed”.^[75] What that means is that changes in the money supply did not matter. In the long-run, prices in Pennsylvania were comparable to those in London and the exchange rate was stable regardless of what happened to the quantity of money. By reaching this conclusion, Burstein struck at the heart of both the hard-money and managed-money schools. In effect, the demand for money was so flexible that the colonists could absorb into their cash balances as much money as was printed *and* the much touted money shortage was a mirage. This premise, that money does not matter, is such an important feature of modern Keynesian economics that it is a wonder that no one before had applied it to the colonial experience. Unfortunately, even if one accepted Burstein’s theoretical premise, his use of limited data made his conclusions highly tentative.

Another author who questioned the whole quantity-theory framework was Joseph Albert Ernst. One of Ernst’s early contributions, an article entitled “Colonial Currency: A Modest Inquiry into the Uses of the Easy Chair and the Meaning of the Colonial System of Freely Floating International Exchange”,^[76] was a reply to Burstein. Ernst expanded the article into a chapter of his book, *Money and Politics in America, 1755–1775: A Study in the Currency Act of 1764 and the Political Economy of Revolution*.^[77] Like Burstein, Ernst contended that the quantity of money did not really matter internationally for the determination of exchange rates. Exchange rates were governed by changes in the balance of payments, which in turn were determined by the sale of colonial exports, the purchase of imports by colonists, and the inflow of English capital. Unlike Burstein, Ernst inconsistently maintained that the quantity of money did matter domestically, and he accepted the managed-money school’s position on the necessity of printing money to alleviate the specie shortage. The rest of his book was a discussion of the politics surrounding the Currency Act of 1764 in which Ernst argued for a new economic interpretation of the Revolution.^[78] He covered much the same territory as Weir, Greene and Jellison, Gipson, and Sosin, but in doing so he presented an ac-

count of colonial monetary practices that started in 1764, where Brock leaves off.

While Burstein and Ernst both attacked the quantity-theory framework used by the hard-money and managed-money schools, their policy recommendations were more congenial with managed money. In Ernst's case this followed from his acceptance of the domestic importance of the money supply. In Burstein's case, since the quantity of money does not matter, there could be no serious objection to increasing it through the printing press. Only one recent writer has disputed the managed-money school's policy recommendations: Roger W. Weiss, in his article, "The Issue of Paper Money in the American Colonies, 1720-1774".¹⁷⁹ Weiss argued that the colonies suffered from no real scarcity of specie. Using data from Pennsylvania and Boston, he attempted to demonstrate that even without the emission of paper money, prices would have risen rather than fallen.¹⁸⁰ Colonial money issues were not well managed anyway; "Their volume changed erratically and with a large amplitude." This was due to the fact that "the issues were made to meet the needs of the colonial treasuries and these needs rose greatly in times of war".¹⁸¹ He adds that "it should be clear that a monetary system, the changes in whose issues of paper money depend on the erratic fiscal needs of government, will not very well serve the need for maintaining a stable money supply or of balancing the international movements of specie".¹⁸² By casting doubt on the government's ability to manage the money and by denying the colonial shortage of specie, Weiss is resurrecting the hard-money approach. More recently, Weiss has bolstered his conclusions with a study of "The Colonial Monetary Standard of Massachusetts".¹⁸³

IV

In appraising the state of historical research on money in America before 1789, one glaring deficiency is immediately obvious. There is no general overall treatment of the monetary practices in the states during the confederation period. Despite the seeming importance of this period toward influencing the monetary ar-

rangements in the Constitution, it is usually treated as an addendum to the revolutionary or colonial period. Some, though not all, of the state studies go through to 1789.¹⁸⁴

The revolutionary period is adequately covered by both general and specific works, but they all share a common interpretation. All agree that bills of credit issued by the Continental and state governments resulted in a serious hyperinflation. Some controversy exists over the Bank of North America, the character of Robert Morris, and the necessity of bills of credit for the war effort, but the really interesting questions in this period seem to lie outside the field of monetary history.

In contrast to the two later periods, the colonial period has both an extensive literature and rousing controversy. The main problem is that the older works of the hard-money school are, for the most part, theoretically superior to the newer treatments by the managed-money school, but the newer treatments are historically sounder than the older, out of date works. To get a completely accurate picture of the colonial monetary experience, one must consult the newer works for data and the older works for theory.

Consider some of the justifications for the colonial monetary policies that have graced the writings, from Franklin to Ferguson, of the managed-money school. By the far the most pervasive is the claim that due to an unfavorable balance of trade, the colonies suffered from a chronic shortage of money. The best rejoinder to that claim is still the one given by Adam Smith: "No complaint, however, is more common than that of a scarcity of money. Money, like wine, must always be scarce with those who have neither wherewithal to buy it, nor credit to borrow it."¹⁸⁵

Money is a medium of exchange. When a good is used as money, it is desired so that it can be exchanged for other goods. It is not used up in consumption or production. Therefore, any stock of the monetary good, within certain very wide physical limits, can perform the monetary function with equal facility. There is no optimal supply of money. Increases in the stock of money confer no social benefit; decreases cause no harm. A smaller stock of

money simply requires that a given monetary unit have greater purchasing power or, in other words, that prices be lower.

Most writers, even Sumner, White, and some of the other members of the hard-money school, have denigrated the colonial use of tobacco, wampum, and other commodities as money. They ignore that fact that all money, even gold and silver, emerges on the market when some commodity previously only used for consumption or production is employed as a medium of exchange because of its wide marketability. Gold and silver are more durable, portable, and divisible than other commodity monies, but the colonial use of their staples and other less satisfactory commodities as monies befitted their low level of economic development. The colonial domestic economy was just not that complex.

The colonial trade with England and other areas, in contrast, was highly developed, and here it is argued that the colonists' unfavorable balance of trade drained away their specie. However, regional trade balances are merely aggregations of individual trade balances. Every individual has his own balance of payments for any given period, during which he will add to, subtract from, or leave unchanged his own cash holdings. Any net flows of money in regional balances of payment result solely from changes in the demand for money. Specie and foreign coins were readily available, and all that colonists had to do was to trade for them. The balance of trade was not an exogeneous condition foisted by circumstances upon the colonists; it resulted from their own market preferences. "The colonists evidently preferred to import British goods rather than invest in an improved domestic monetary system", point out James Shepherd and Gary Walton. "Their preference was to substitute other forms of media for specie, rather than to manage with less British and European manufactured goods."^[86] The lament that the colonists could not pay their debts to English merchants because an unfavorable balance of trade had drained off all their specie is no more valid than the excuse given by an individual debtor that he cannot repay the money he owes to a bank because he had an unfavorable balance of

payments that month.^[87]

Another argument cites as evidence of a shortage of money the fact that interest rates were too high or that money was too "tight". This argument confuses a shortage of money with the scarcity of capital. The interest rate is not the price for money; rather it is the price in the time market. All individuals discount the future against the present, but different individuals do so at different rates. The interest rate is the premium received by savers for foregoing present consumption. Savings must occur for capital to accumulate, and high interest rates indicate that immediate consumption is more important to the economy than capital accumulation. The high interest rates in colonial America reflected the scarcity of capital. Usury laws probably converted the capital scarcity into a shortage, making savings unavailable at the legal rate. The way to alleviate the scarcity was — as happened through time — to save more capital.^[88]

Printing new money can seemingly alleviate the scarcity of capital if it is injected through the loan market, as in the case of colonial land banks. The supply of loanable funds increases and the interest rate falls. However, this fall in interest is not matched by an increase in real saving. No one has foregone present consumption. Therefore, the investments induced by the fall in interest rates are really malinvestments, misallocating resources. This generates a boom — bust trade cycle. The new money enters the loan market, interest rates fall, and investments are induced. As the new money circulates throughout the economy, the new investments turn out to be malinvestments and they suffer losses; a depression results.^[89]

This explains the apparent prosperity that followed the first emission of new money, and the boom — bust cycle noted by Kemmerer in New Jersey. It also exposes the fallacy in Lester's defense of managed money for preventing depressions. Lester equates falling prices with depression. Actually, during several historical periods, secularly falling prices and economic prosperity have existed simultaneously. A depression is a cluster of business failures caused by the distortion of interest rates that accompanies the injection of new money in the

loan market. The prosperity of the boom phase of the cycle is merely an illusion.

In one sense, however, the clamor over the shortage of money in the colonies was valid. Colonial *governments* were continuously experiencing such a shortage. To finance a war through taxes collected in the form of tobacco or wampum was inconvenient and difficult. To require citizens who did not ordinarily use specie to pay taxes in that form was burdensome. The connection between the colonial wars and the issue of paper money was no coincidence, nor was the connection between overdue tax debts and paper money in Shays' rebellion. Paper money was often demanded because it would make tax payments easier. In the case of the revolutionary bills of credit, paper money was issued in lieu of taxes altogether.

When managed-money advocates argue that paper money is less expensive than specie, they are thinking in terms of macro-economic aggregates that never influence people's economic actions. No one ever decides on the basis of the overall cost to society to use a paper shilling rather than a silver shilling. Individuals only act according to the specific array of costs and prices facing them, and if the prices they pay and earn are the same in both paper and silver shillings, then it will be a matter of indifference to them which they use. The important economic fact is that paper money is less expensive to the person or institution issuing it. Specie can only be acquired by trading something that was produced for it. Paper money can just be created and spent. Consequently, the issuing of paper money redistributes wealth and income. Economically, it is no different from counterfeiting.

The hard-money school was correct in noting that paper money depreciates. The quantity theory of money holds true to the extent that prices are always higher after the issue of new money than they otherwise *would have been*. The price level, however, might not change dramatically because other factors go into its determination. By resting the case against paper money solely on depreciation, they left themselves open in those cases, like Pennsylvania, where the depreciation was relatively

limited. Even if there is no depreciation, the printing of paper money always has distribution effects. It always shifts resources from producers to the non-producing issuers and their privileged favorites. This makes paper money objectionable even when there is little depreciation.

The first gainer is the issuer of paper money, who spends it for something he wants. Since he has produced nothing in exchange for the purchased good, someone else must lose. This is accomplished either through a rise in prices, to the extent that the new money circulates, or a decrease in current consumption, to the extent that the new money is held in cash balances. In one case the new money creates a hidden tax on cash holdings; in the other, a forcible loan at zero interest. In addition to the first issuer, those whose incomes rise before the prices they pay also benefit. Those who are hurt the most are those facing prices that go up before their incomes. Individuals on fixed incomes lose. Debtors gain at the expense of creditors. Debtors, furthermore, are not always poor, and quite often during the colonial period they were wealthy merchants and landowners. Merchants may be debtors and creditors both, and they may shift back and forth. If the new money is injected through the loan market, it temporarily lowers interest rates which benefits merchants and businessmen who wish to expand their operations. The price of durable goods, like land, is very sensitive to interest rates. A fall in interest tends to raise the price of land, so landowners also benefit.^[90] Land speculators who are also debtors doubly benefit. Thus, the political revisionism of the managed-money school is the one area where their reinterpretation of events has merit. The support of wealthy merchants and landowners for paper money makes theoretical sense.

A corollary of the quantity theory of money is the purchasing power parity theory, which claims that the exchange rate between coexisting monies will tend to equate to their purchasing power. If dollars can buy five times more than shillings, then the exchange rate will tend to be five shillings per dollar. This theory allowed the hard-money school to measure the depreciation of paper money through the fall in

its exchange rate with English sterling. Ernst argued that the purchasing power parity theory is oversimplified; that exchange rates between London and America were determined by the value of imports bought, and the value of exports sold, and the value of capital flows. Ernst's argument is a *non sequitur*. No purchasing power parity theorist has ignored the operation of supply and demand in the determination of exchange rates. These very forces are the ones that bring about purchasing power parity.^[91]

For example, if a colony should increase its money supply, the price of its domestic products will rise. This makes foreign goods relatively cheaper. Imports will increase, and exports will decrease. These factors combined will drive up the exchange rate until the point is reached where purchasing power parity is restored. If the exchange rate is not at parity, if for instance the dollar will buy only five times more than a shilling, but the exchange rate is six shillings per dollar, then individuals can profit by trading dollars for shillings and buying products. This lowers the shilling demand for dollars and products that can be bought with dollars and raises the dollar demand for shillings and products that can be bought with shillings. This will drive down the exchange rate toward five shillings per dollar.^[92]

The purchasing power parity theory holds whether the monies coexist in the same geographical area or are employed mainly in different areas. Government fixing of the exchange rate is totally unnecessary. When the government does fix the exchange rate, it never fixes it at the market parity rate. As a consequence, one of the monies is overvalued while the other is undervalued. In the example above, if the government fixed the rate at six shillings per dollar, shillings are artificially undervalued and dollars are artificially overvalued. Individuals will increase their demand for shillings and decrease their demand for dollars. Any price denominated at the fixed rate of six shillings to the dollar when the market rate is five shillings to the dollar will be paid in dollars. Since the exchange rate cannot adjust, a surplus of dollars and a shortage of shillings will emerge. This result is a classic illustration of

Gresham's Law; bad money has driven out good, or more precisely stated, money artificially overvalued by government has driven out of circulation money artificially undervalued.

The monetary history of the colonies offers many demonstrations of the operation of Gresham's Law. Through legal tender laws the exchange rate between different monies was fixed. Usually specie was artificially undervalued. Tobacco drove out specie, or paper money drove out specie, or light coins drove out heavy coins. The colonial juggling of the unit of account was a special kind of rate fixing. It did not usually fix the exchange rate between two different monies, because the colonial shillings were allowed to float in terms of British shillings, but merely changed the denomination of the existing money. Suddenly, a coin that was previously worth five shillings was now worth six shillings. This encouraged the importation of coins, gave a boost to exports, and discouraged imports. The effect was temporary, however as prices would immediately rise in terms of the new unit of account so that the same coin would purchase the same quantity of goods as before.

In short, the hard-money school was basically correct. The colonial — and revolutionary — monetary experience was a continuous stream of government failures. There was no shortage of money. That complaint provided the excuse for governments and special interests to plunder the economy through the printing of paper money. In the New England colonies, the depreciation was so severe that the monetary system was nearly wrecked, as it finally was throughout America during the Revolution. Even though depreciation was more mild in the middle colonies, the printing of money still had distribution effects. In all the colonies, the monetary policies were erratic and subservient to the fiscal appetite of governments. When bills of credit were emitted through land banks, they had the further undesirable effect of distorting interest rates. Paper money did not generate prosperity, it generated the boom — bust trade cycle. At the same time, legal tender laws drove specie out of circulation. On the whole, it was an abysmal record.

NOTES

1. The seminal work on Austrian monetary theory is Ludwig von Mises, *The Theory of Money and Credit*, new enl. ed., (1953; reprint ed., New York, 1971). See also the appropriate sections of Mises, *Human Action*, 3rd rev. ed., (Chicago, 1966), and Murray Rothbard, *Man, Economy, and State*, 2 v., (Princeton, 1962). Rothbard's *What has Government Done to Our Money?*, (Santa Ana, 1964), is a good, brief introduction to Austrian monetary theory. Rothbard has applied Austrian theory to the colonial experience in the second volume of his history of the American Revolution, *Conceived in Liberty II* (New Rochelle, 1975), pp. 123–140. Rothbard provides one of the best short surveys of colonial monetary policies, and I have relied on it heavily in this paper.
2. In Maryland in 1733, bills of credit, in addition to being used to finance government expenditures, were passed out to all the inhabitants as compensation for the tobacco destroyed in Maryland's price-support program. Economists are fond of abstracting from the distribution effects of increases in the money supply by considering the case where a helicopter flies over and evenly distributes the new money among the people. This is the only case, as far as I know, where the helicopter effect has actually been approximated in practice.
3. Sometimes private land bank proposals envisioned loans on personal property as well as land. Usually there was no provision for any specie reserve fund to redeem notes, but a private specie bank did operate briefly also in Massachusetts.
4. Virginia unsuccessfully tried to mint copper coins. Maryland's attempt to establish a mint proved unsuccessful. A numismatic history of these early mints is Sylvester S. Crosby, *The Early Coins of America and the Laws Governing Their Issue* (1875; reprint ed., New York, 1970).
5. Andrew McFarland Davis, ed., *Colonial Currency Reprints, 1682–1751*, III, (1911; reprint ed., New York, 1964), pp. 309, 326. Davis' four volume work is a compilation of most of the pamphlet literature on colonial money with an excellent introductory essay. Douglass' pamphlet was also reprinted in American Economic Association, *Economic Studies*, 2 (1897), no. 5, with a biographical essay by Charles J. Bullock. Joseph Dorfman, *The Economic Mind in American Civilization, 1606–1865*, also covers the monetary debate, although he does not do justice to Douglass. See also Harry E. Miller, *Banking Theories in the United States before 1860*, (Cambridge, 1927).
6. Davis, *Colonial Currency Reprints*, II, p. 336. Franklin's pamphlet can also be found in Jared Sparks, ed., *The Works of Benjamin Franklin*, II, (Boston, 1836), pp. 254–277. Franklin's advocacy of paper money was not without ulterior motives. As he so charmingly put it in his *Autobiography*, (reprint ed., New York, 1940), p. 82:

It [the pamphlet] was well receiv'd by the common people in general; but the rich men dislik'd it, for it increas'd and strengthen'd the clamor for more money, and they happening to have no writers among them that were able to answer it, their opposition slaken'd, and the point was carried by a majority in the House. My friends there, who conceiv'd I had been of some service, thought it fit to reward me by employing me in printing the money; a very profitable jobb and a great help to me.
7. (1833; reprint ed., New York, 1968). The full title was *A Short History of Paper Money and Banking in the United States, Including an Account of Provincial and Continental Paper Money. To Which is Prefixed an Inquiry into the Principles of the System, with Considerations of its Effects on Morals and Happiness. The Whole Intended as a Plain Exposition of the Way in which Paper Money and Money Corporations, Affect the Interests of Different Portions of the Community*. The reprint edition includes an introductory essay by Joseph Dorfman.
8. (Boston, 1839).
9. "A Historical Account of Connecticut Currency, Continental Money, and the Finances of Revolution," New Haven Colony Historical Society, *Papers*, I (1865), pp. 1–192.
10. *With a Description of the Bills, and Catalogue of the Various Issues*, (1866; reprint ed., New York, 1969).
11. (1865, 1866; reprint ed., New York, 1972).
12. "A Brief Account of the Emissions of Paper Money Made by the Colony of Rhode Island" (Providence, 1837). Potter's pamphlet was also reprinted later by Sidney S. Rider under the title "Some Account of Bills of Credit or Paper Money of Rhode Island from the First Issues in 1710 to the Final Issue in 1786", *Rhode Island Historical Tracts*, no. 8, (1880).
13. (1874; reprint ed., New York, 1968).
14. 3 v. All references are to the 4th ed., (1884; reprint ed., New York, 1896).
15. *Ibid.*, I, p. 29.
16. (1891; reprint ed., New York, 1968). See also Sumner's *A History of Banking in the United States*, (New York, 1896).
17. *Ibid.*, I, p. 60.
18. University of Wisconsin, *Bulletin: Economic, Political Science, and History Series*, 1, no. 2, (Madison, 1895).
19. (Philadelphia, 1882).
20. Columbia University, *Studies in History, Economics and Public Law*, 2nd ed., 1, no. 44, (New York, 1897). The first edition was published in 1892.
21. Columbia College, *Studies in History, Economics and Public Law*, 4, no. 1, (New York, 1893).
22. American Academy of Political and Social Science, *Annals*, 8 (July, 1896), pp. 50–126.
23. *Ibid.*, p 74.
24. American Academy of Political and Social Science, *Annals*, 12 (Sep, 1898), pp. 229–249.
25. *Ibid.*, p. 245.
26. (New York, 1900).
27. American Economic Association, *Publications*, 3rd ser., 1, no. 4; 2, no. 2, (New York, 1900, 1901).
28. *op. cit.*
29. 5th ed., (Boston, 1911). The first edition of this work was published in 1896. White also wrote "New York's Colonial Currency", *Sound Currency*, 5 (1 Mar, 1898), pp. 50–64.
30. *Ibid.*, pp. 86–87.
31. Rev. and enl. ed., (1924; reprint ed., New York, 1967). The first edition, *History of the Coinage and Currency in the United States and the Perennial Contest for Sound Money*, (1903; reprint ed., New York, 1968), omitted mention of colonial and revolutionary monetary policies.

extended into the revolutionary period, was only slightly less enthusiastic, and she agreed that "As a colony Maryland had solved the problem of paper currency."^[36] Although not as substantial as the studies of Gould and Behrens, Richard S. Rodney's *Colonial Finances in Delaware*^[37] also saw paper money as necessary and beneficial. Another state study published about the same time was William Estill Heath's article, "The Early Colonial Money System of Georgia", a purely descriptive account that took no position on the desirability of paper money.^[38]

In 1934 Curtis Putnam Nettels applied the new interpretation foreshadowed in the works of Gould and Behrens to all the colonies. His book, *The Money Supply of the American Colonies Before 1720*,^[39] was the first general treatment from the managed-money school. Actually, over half the book discussed not the colonial money supply but the colonial balance of payments. Nettels' consideration of this issue, however, provided the groundwork for his argument that the unfavorable balance of payments caused a chronic shortage of money in the colonies:

The colonies — as a debtor region — were confronted with a continuous adverse balance of payments, and their available specie was repeatedly drawn away to creditors in Europe. The scarcity of specie in America gave birth to a widespread belief that prices of colonial products were ruinously low because money was wanting. . . One solution of these difficulties appeared to be an enlargement of the volume of currency.^[40]

On this basis, Nettels justified all of the colonial monetary experiments: the making of commodity money legal tender, the devaluation of the unit of account, and the issue of bills of credit. All of them were efforts by the colonists to attain some economic independence.

Even more outspoken in his defense of colonial monetary practices was the economist Richard A. Lester. In his book, *Monetary Experiments: Early American and Recent Scandinavian*,^[41] he refined Nettels' argument about the shortage of money. Precious metals were too expensive a form of money for the colonies. By using cheaper paper money, the colonists were conserving resources and making themselves wealthier. Previous historians had

distorted the colonial experience by ignoring the middle colonies. "Since there was relatively little depreciation in the middle colonies, most of the writers have played up the experience of the New England colonies. There the depreciation of the currency was more extreme." This was due to "a peculiar currency arrangement" in which "the paper money of each New England colony was freely accepted without discount in the other New England colonies".^[42] Thus, each colony had a built-in incentive to issue bills of credit without restraint. The middle colonies, on the other hand, particularly Pennsylvania, used sound money management to avoid depressions and stimulate the economy. Lester argued that without currency emissions, prices would have fallen and depression would have resulted. In short, "our colonial forefathers were much more intelligent on money matters than hitherto they have been given credit for being".^[43]

Although he provided a strong theoretical justification for the managed-money school, Lester's research was limited. The work that finally nailed down the managed-money interpretation historically was Leslie Van Horn Brock's dissertation, "The Currency of the American Colonies, 1700–1764: A Study in Colonial Finance and Imperial Relations".^[44] Overlapping and bringing forward Nettels' account through the Currency Act of 1764, it was thoroughly researched and has become the standard treatment of the subject. It gave a history of the monetary policies in each colony, in the process confirming the conclusion that on the whole paper money was salutary. Because of the specie drain, it was needed, and most colonies issued it with enough restraint to be successful.

Although the managed-money triumvirate of Nettels, Lester, and Brock has supplanted the hard-money school, both groups share certain principles. Both accept the quantity theory of money, and both have, at least implicitly, stability of purchasing power as their policy objective. They differ as to the most efficient means of attaining that objective. Even on the historical record, their differences are not as great as at first they might seem. The hard-money advocates freely admitted that the

monetary policy of Pennsylvania resulted in relatively less depreciation. As Gouge put it, "All things go by comparison. The credit bills of Pennsylvania were so much better than those of the other Governments, . . . but it was not a fact that they never sunk below the value of the gold and silver which was current in the colony before the first emission of its paper."^[46] For the hard-money school, Pennsylvania's experience was exceptional; the prevailing tendency was toward massive depreciation. The managed-money school, on the other hand, admitted that even in Pennsylvania some fall in exchange rates took place — just not enough to be concerned about. They also agreed that in New England and during the Revolution too much money did result in serious inflation. For them, however, these cases were aberrations explained by extenuating circumstances (war, for instance); Pennsylvania's experience was typical.

While Nettels, Lester, and Brock were revising the interpretation of colonial finance, a few historians were doing additional research on the revolutionary period. Ralph V. Harlow's "Some Aspects of Revolutionary Finance"^[46] gave a broad overview of the issue of paper money by the Continental Congress and the various states. William B. Norton, in "Paper Currency in Massachusetts during the Revolution",^[47] noted the relative conservatism of Massachusetts' monetary policies during the Revolution. Massachusetts placed greater reliance on borrowing than on bills of credit and attempted scrupulously to repay creditors. Neither of these works attempted to revise the previous negative historical verdict on revolutionary bills of credit. Also important was Anne Bezanson's *Prices and Inflation During the American Revolution*,^[48] which provided incredibly complete price series for the period. Earlier Bezanson had coauthored with Robert D. Gray and Miriam Hussey a similar book about *Prices in Colonial Pennsylvania*.^[49] The Bezanson-Gray-Hussey series were those used by Lester in his study of Pennsylvania currency. William I. Davisson's "Essex County Price Trends: Money and Markets in 17th Century Massachusetts",^[50] gave colonial price statistics for a different area and an earlier cen-

tury. Davisson's figures only went up to 1685, before the first paper-money emission, but they covered the years during which the Massachusetts mint operated, which Davisson felt had had a stabilizing influence on prices. The most recent study of colonial prices is John J. McCusker's *Money and Exchange in Europe and America, 1600–1775: A Handbook*.^[51] This monumental work of research gives series on the exchange rates between all the colonies and London, painstakingly pieced together from a huge array of contemporary quotations.

Most of the research done after Nettels, Lester, and Brock has built upon or refined their approach. Theodore Thayer's general commentary on "The Land-Bank System in the American Colonies",^[52] was not totally uncritical. He felt that land banks had failed in New England, both because they over-issued money and because the security they required was inadequate. "Nevertheless, in four colonies — Pennsylvania, New Jersey, New York, and Maryland — the system was on the whole successful and is deserving of more attention than it has been given."^[53] E. James Ferguson, in his "Currency Finance: An Interpretation of Colonial Monetary Practices",^[54] ostensibly dealt with both the land bank and "currency finance" methods of emitting bills of credit, although he gave greater consideration to the latter. He surveyed the historical literature and did battle, again, with the hard-money school. "An effort will be made to show that in the middle colonies, from New York to Maryland, paper money was successful. Secondly, it will be argued that except in New England and the Carolinas, paper money did not engender any great conflict between broad classes of the population."^[55] Ferguson later reworked his article and made it the first chapter of his book, *The Power of the Purse: A History of American Public Finance, 1776–1790*.^[56] The book was a welcome addition to the literature on finance during the revolutionary and confederation periods, but its analysis of the Continental inflation was quite standard. Ferguson's real contribution was his coverage of the debt and taxation questions. He also painted a less favorable picture of Robert Mor-

ris than had Sumner. Bray Hammond's highly overrated *Banks and Politics in America: From the Revolution to the Civil War*^[57] addressed its first two chapters to pre-1789 monetary history. Predictably, Hammond thought highly of the Bank of North America. He, alone among historians, even praised Rhode Island's emissions of paper money. His main purpose, however, was to discredit the myth that paper money was supported by poor, agrarian debtors. On the contrary, the demand for paper money, claimed Hammond, whether bills of credit, Continentals, or bank notes, came from sophisticated merchants and commercial interests.

Of the few state studies done after 1941 when Brock wrote his dissertation, the only one not holding to the managed-money line was Donald L. Kemmerer's "Paper Money in New Jersey, 1668–1775".^[58] Kemmerer, in fact, found a boom–bust cycle accompanying New Jersey's paper money policies. When new paper-money was injected into the economy, an inflationary boom would result. When the money was redeemed, a deflationary depression followed. Kemmerer concluded that "the method of suddenly expanding and gradually contracting the paper-money supply was largely responsible for both evils".^[59] Peter E. Ellertsen, on the other hand, thought much more highly of New Jersey's policies in his article, "Prosperity and Paper Money: The Loan Office Act of 1723".^[60] Looking at a shorter time span, he decided that the loan office was responsible for New Jersey's great prosperity. Richard M. Jellison's "Paper Currency in Colonial South Carolina: A Reappraisal"^[61] was also favorable. "The first period, from 1703 to 1731, was one of much experimentation and may be characterized by depreciation. The years following 1731 witnessed not only complete acceptance of the medium but also stability in its value."^[62] Jellison's conclusions were significant because managed-money historians had usually conceded that South Carolina's paper-money policies were as bad as those in New England.^[63]

Bray Hammond was probably the most vocal in his efforts to debunk the poor-agrarian-debtor thesis, but he was not the most per-

suasive. Ten years earlier, Joseph Dorfman, in his examination of the colonial monetary debate in *The Economic Mind in American Civilization*, discovered that "Contrary to the tradition that historians have perpetuated, a critical analysis of the contemporary literature indicates that the proponents as well as the critics [of paper money] were not poor debtors or agrarians, but for the most part officials, ministers, merchants, and men of substance and learning in general".^[64] Dorfman's conclusion was confirmed by George Athan Billias. In *The Massachusetts Land Bankers of 1740*,^[65] Billias systematically investigated the proponents and opponents of Massachusetts' 1740 land-bank scheme and found that the poor-agrarian-debtor thesis did not hold. Herman J. Belz, in two journal articles,^[66] extended the description of political forces battling over paper money in Massachusetts both forward and backward from 1740. Although he found some agrarian support for paper money schemes, Belz agreed that the most significant support came from merchant groups.

Along with the political forces within the colonies fighting over monetary policy, historians have explored the implications of the money issue for the colonial relationship with Great Britain. Some argue that the colonists' frustrations with British monetary restrictions contributed to the Revolution. Robert M. Weir found in his article, "North Carolina's Reaction to the Currency Act of 1764,"^[67] that this was true in North Carolina. Jack P. Greene and Richard J. Jellison, in "The Currency Act of 1764 in Imperial–Colonial Relations, 1764–1776",^[68] examined the various evasions of the Currency Act that occurred in all the colonies outside of New England and the colonial effort to get the act reinterpreted, modified, or repealed. They decided that the act was an important psychological irritant in British–American relations. Lawrence H. Gipson's "Virginia Planter Debts before the American Revolution"^[69] described the genesis of the Currency Act of 1764 and showed how it originated from the desire of British creditors to protect themselves from Virginia's monetary legislation. Jack M. Sosin's discussion of the Currency Act and the colonial reaction to it in

“Imperial Regulation of Colonial Paper Money, 1764–1773”^[70] treated in less detail the material covered by Gipson and Greene and Jellison and reached the same conclusion.

One area of monetary history that has captured the interest of at least one historian is counterfeiting. Counterfeiting was endemic in colonial and revolutionary America, and at times caused very serious problems for the colonies’ paper money issues. The counterfeiting of Continentals was especially serious. Kenneth Scott investigated this topic in his book, *Counterfeiting in Colonial America*,^[71] and in numerous articles and monographs on individual colonies.^[72]

Many of Scott’s contributions appeared in numismatic journals, which have a special interest in counterfeiting. Although largely ignored by mainstream historians, the numismatic discussions of colonial money are excellent references. Often they are more comprehensive and thorough with regard to such matters as the dates, the quantities, and the denominations of paper money emissions. Eric P. Newman’s *The Early Paper Money of America* is the standard numismatic guide, superseding all previous catalogues and providing extensive bibliographical references to the remainder of the numismatic literature.^[73]

V

The writings on the political ramifications of monetary policy so far discussed — those of Billias, Greene and Jellison, Sosin, and the others — if not directly reinforcing the managed-money school’s interpretation, are at least consistent with it. Only a few recent writings have contradicted the managed-money orthodoxy in any fashion. The first of these, M. L. Burstein’s “Colonial Currency and Contemporary Monetary Theory: A Review Article”,^[74] was highly technical and not based on a wide range of secondary material (let alone primary sources), but it did contain some thoughtful theorizing. Burstein compared figures on Pennsylvania’s money supply with data on prices in Pennsylvania and England, the exchange rate, and interest rates. His conclusion was that “reasonably long-run

elasticities of liquidity preference [were] very high indeed”.^[75] What that means is that changes in the money supply did not matter. In the long-run, prices in Pennsylvania were comparable to those in London and the exchange rate was stable regardless of what happened to the quantity of money. By reaching this conclusion, Burstein struck at the heart of both the hard-money and managed-money schools. In effect, the demand for money was so flexible that the colonists could absorb into their cash balances as much money as was printed *and* the much touted money shortage was a mirage. This premise, that money does not matter, is such an important feature of modern Keynesian economics that it is a wonder that no one before had applied it to the colonial experience. Unfortunately, even if one accepted Burstein’s theoretical premise, his use of limited data made his conclusions highly tentative.

Another author who questioned the whole quantity-theory framework was Joseph Albert Ernst. One of Ernst’s early contributions, an article entitled “Colonial Currency: A Modest Inquiry into the Uses of the Easy Chair and the Meaning of the Colonial System of Freely Floating International Exchange”,^[76] was a reply to Burstein. Ernst expanded the article into a chapter of his book, *Money and Politics in America, 1755–1775: A Study in the Currency Act of 1764 and the Political Economy of Revolution*.^[77] Like Burstein, Ernst contended that the quantity of money did not really matter internationally for the determination of exchange rates. Exchange rates were governed by changes in the balance of payments, which in turn were determined by the sale of colonial exports, the purchase of imports by colonists, and the inflow of English capital. Unlike Burstein, Ernst inconsistently maintained that the quantity of money did matter domestically, and he accepted the managed-money school’s position on the necessity of printing money to alleviate the specie shortage. The rest of his book was a discussion of the politics surrounding the Currency Act of 1764 in which Ernst argued for a new economic interpretation of the Revolution.^[78] He covered much the same territory as Weir, Greene and Jellison, Gipson, and Sosin, but in doing so he presented an ac-

count of colonial monetary practices that started in 1764, where Brock leaves off.

While Burstein and Ernst both attacked the quantity-theory framework used by the hard-money and managed-money schools, their policy recommendations were more congenial with managed money. In Ernst's case this followed from his acceptance of the domestic importance of the money supply. In Burstein's case, since the quantity of money does not matter, there could be no serious objection to increasing it through the printing press. Only one recent writer has disputed the managed-money school's policy recommendations: Roger W. Weiss, in his article, "The Issue of Paper Money in the American Colonies, 1720-1774".¹⁷⁹ Weiss argued that the colonies suffered from no real scarcity of specie. Using data from Pennsylvania and Boston, he attempted to demonstrate that even without the emission of paper money, prices would have risen rather than fallen.¹⁸⁰ Colonial money issues were not well managed anyway; "Their volume changed erratically and with a large amplitude." This was due to the fact that "the issues were made to meet the needs of the colonial treasuries and these needs rose greatly in times of war".¹⁸¹ He adds that "it should be clear that a monetary system, the changes in whose issues of paper money depend on the erratic fiscal needs of government, will not very well serve the need for maintaining a stable money supply or of balancing the international movements of specie".¹⁸² By casting doubt on the government's ability to manage the money and by denying the colonial shortage of specie, Weiss is resurrecting the hard-money approach. More recently, Weiss has bolstered his conclusions with a study of "The Colonial Monetary Standard of Massachusetts".¹⁸³

IV

In appraising the state of historical research on money in America before 1789, one glaring deficiency is immediately obvious. There is no general overall treatment of the monetary practices in the states during the confederation period. Despite the seeming importance of this period toward influencing the monetary ar-

rangements in the Constitution, it is usually treated as an addendum to the revolutionary or colonial period. Some, though not all, of the state studies go through to 1789.¹⁸⁴

The revolutionary period is adequately covered by both general and specific works, but they all share a common interpretation. All agree that bills of credit issued by the Continental and state governments resulted in a serious hyperinflation. Some controversy exists over the Bank of North America, the character of Robert Morris, and the necessity of bills of credit for the war effort, but the really interesting questions in this period seem to lie outside the field of monetary history.

In contrast to the two later periods, the colonial period has both an extensive literature and rousing controversy. The main problem is that the older works of the hard-money school are, for the most part, theoretically superior to the newer treatments by the managed-money school, but the newer treatments are historically sounder than the older, out of date works. To get a completely accurate picture of the colonial monetary experience, one must consult the newer works for data and the older works for theory.

Consider some of the justifications for the colonial monetary policies that have graced the writings, from Franklin to Ferguson, of the managed-money school. By the far the most pervasive is the claim that due to an unfavorable balance of trade, the colonies suffered from a chronic shortage of money. The best rejoinder to that claim is still the one given by Adam Smith: "No complaint, however, is more common than that of a scarcity of money. Money, like wine, must always be scarce with those who have neither wherewithal to buy it, nor credit to borrow it."¹⁸⁵

Money is a medium of exchange. When a good is used as money, it is desired so that it can be exchanged for other goods. It is not used up in consumption or production. Therefore, any stock of the monetary good, within certain very wide physical limits, can perform the monetary function with equal facility. There is no optimal supply of money. Increases in the stock of money confer no social benefit; decreases cause no harm. A smaller stock of

money simply requires that a given monetary unit have greater purchasing power or, in other words, that prices be lower.

Most writers, even Sumner, White, and some of the other members of the hard-money school, have denigrated the colonial use of tobacco, wampum, and other commodities as money. They ignore that fact that all money, even gold and silver, emerges on the market when some commodity previously only used for consumption or production is employed as a medium of exchange because of its wide marketability. Gold and silver are more durable, portable, and divisible than other commodity monies, but the colonial use of their staples and other less satisfactory commodities as monies befitted their low level of economic development. The colonial domestic economy was just not that complex.

The colonial trade with England and other areas, in contrast, was highly developed, and here it is argued that the colonists' unfavorable balance of trade drained away their specie. However, regional trade balances are merely aggregations of individual trade balances. Every individual has his own balance of payments for any given period, during which he will add to, subtract from, or leave unchanged his own cash holdings. Any net flows of money in regional balances of payment result solely from changes in the demand for money. Specie and foreign coins were readily available, and all that colonists had to do was to trade for them. The balance of trade was not an exogeneous condition foisted by circumstances upon the colonists; it resulted from their own market preferences. "The colonists evidently preferred to import British goods rather than invest in an improved domestic monetary system", point out James Shepherd and Gary Walton. "Their preference was to substitute other forms of media for specie, rather than to manage with less British and European manufactured goods."^[86] The lament that the colonists could not pay their debts to English merchants because an unfavorable balance of trade had drained off all their specie is no more valid than the excuse given by an individual debtor that he cannot repay the money he owes to a bank because he had an unfavorable balance of

payments that month.^[87]

Another argument cites as evidence of a shortage of money the fact that interest rates were too high or that money was too "tight". This argument confuses a shortage of money with the scarcity of capital. The interest rate is not the price for money; rather it is the price in the time market. All individuals discount the future against the present, but different individuals do so at different rates. The interest rate is the premium received by savers for foregoing present consumption. Savings must occur for capital to accumulate, and high interest rates indicate that immediate consumption is more important to the economy than capital accumulation. The high interest rates in colonial America reflected the scarcity of capital. Usury laws probably converted the capital scarcity into a shortage, making savings unavailable at the legal rate. The way to alleviate the scarcity was — as happened through time — to save more capital.^[88]

Printing new money can seemingly alleviate the scarcity of capital if it is injected through the loan market, as in the case of colonial land banks. The supply of loanable funds increases and the interest rate falls. However, this fall in interest is not matched by an increase in real saving. No one has foregone present consumption. Therefore, the investments induced by the fall in interest rates are really malinvestments, misallocating resources. This generates a boom — bust trade cycle. The new money enters the loan market, interest rates fall, and investments are induced. As the new money circulates throughout the economy, the new investments turn out to be malinvestments and they suffer losses; a depression results.^[89]

This explains the apparent prosperity that followed the first emission of new money, and the boom — bust cycle noted by Kemmerer in New Jersey. It also exposes the fallacy in Lester's defense of managed money for preventing depressions. Lester equates falling prices with depression. Actually, during several historical periods, secularly falling prices and economic prosperity have existed simultaneously. A depression is a cluster of business failures caused by the distortion of interest rates that accompanies the injection of new money in the

loan market. The prosperity of the boom phase of the cycle is merely an illusion.

In one sense, however, the clamor over the shortage of money in the colonies was valid. Colonial *governments* were continuously experiencing such a shortage. To finance a war through taxes collected in the form of tobacco or wampum was inconvenient and difficult. To require citizens who did not ordinarily use specie to pay taxes in that form was burdensome. The connection between the colonial wars and the issue of paper money was no coincidence, nor was the connection between overdue tax debts and paper money in Shays' rebellion. Paper money was often demanded because it would make tax payments easier. In the case of the revolutionary bills of credit, paper money was issued in lieu of taxes altogether.

When managed-money advocates argue that paper money is less expensive than specie, they are thinking in terms of macro-economic aggregates that never influence people's economic actions. No one ever decides on the basis of the overall cost to society to use a paper shilling rather than a silver shilling. Individuals only act according to the specific array of costs and prices facing them, and if the prices they pay and earn are the same in both paper and silver shillings, then it will be a matter of indifference to them which they use. The important economic fact is that paper money is less expensive to the person or institution issuing it. Specie can only be acquired by trading something that was produced for it. Paper money can just be created and spent. Consequently, the issuing of paper money redistributes wealth and income. Economically, it is no different from counterfeiting.

The hard-money school was correct in noting that paper money depreciates. The quantity theory of money holds true to the extent that prices are always higher after the issue of new money than they otherwise *would have been*. The price level, however, might not change dramatically because other factors go into its determination. By resting the case against paper money solely on depreciation, they left themselves open in those cases, like Pennsylvania, where the depreciation was relatively

limited. Even if there is no depreciation, the printing of paper money always has distribution effects. It always shifts resources from producers to the non-producing issuers and their privileged favorites. This makes paper money objectionable even when there is little depreciation.

The first gainer is the issuer of paper money, who spends it for something he wants. Since he has produced nothing in exchange for the purchased good, someone else must lose. This is accomplished either through a rise in prices, to the extent that the new money circulates, or a decrease in current consumption, to the extent that the new money is held in cash balances. In one case the new money creates a hidden tax on cash holdings; in the other, a forcible loan at zero interest. In addition to the first issuer, those whose incomes rise before the prices they pay also benefit. Those who are hurt the most are those facing prices that go up before their incomes. Individuals on fixed incomes lose. Debtors gain at the expense of creditors. Debtors, furthermore, are not always poor, and quite often during the colonial period they were wealthy merchants and landowners. Merchants may be debtors and creditors both, and they may shift back and forth. If the new money is injected through the loan market, it temporarily lowers interest rates which benefits merchants and businessmen who wish to expand their operations. The price of durable goods, like land, is very sensitive to interest rates. A fall in interest tends to raise the price of land, so landowners also benefit.¹⁰⁰ Land speculators who are also debtors doubly benefit. Thus, the political revisionism of the managed-money school is the one area where their reinterpretation of events has merit. The support of wealthy merchants and landowners for paper money makes theoretical sense.

A corollary of the quantity theory of money is the purchasing power parity theory, which claims that the exchange rate between coexisting monies will tend to equate to their purchasing power. If dollars can buy five times more than shillings, then the exchange rate will tend to be five shillings per dollar. This theory allowed the hard-money school to measure the depreciation of paper money through the fall in

its exchange rate with English sterling. Ernst argued that the purchasing power parity theory is oversimplified; that exchange rates between London and America were determined by the value of imports bought, and the value of exports sold, and the value of capital flows. Ernst's argument is a *non sequitur*. No purchasing power parity theorist has ignored the operation of supply and demand in the determination of exchange rates. These very forces are the ones that bring about purchasing power parity.^[91]

For example, if a colony should increase its money supply, the price of its domestic products will rise. This makes foreign goods relatively cheaper. Imports will increase, and exports will decrease. These factors combined will drive up the exchange rate until the point is reached where purchasing power parity is restored. If the exchange rate is not at parity, if for instance the dollar will buy only five times more than a shilling, but the exchange rate is six shillings per dollar, then individuals can profit by trading dollars for shillings and buying products. This lowers the shilling demand for dollars and products that can be bought with dollars and raises the dollar demand for shillings and products that can be bought with shillings. This will drive down the exchange rate toward five shillings per dollar.^[92]

The purchasing power parity theory holds whether the monies coexist in the same geographical area or are employed mainly in different areas. Government fixing of the exchange rate is totally unnecessary. When the government does fix the exchange rate, it never fixes it at the market parity rate. As a consequence, one of the monies is overvalued while the other is undervalued. In the example above, if the government fixed the rate at six shillings per dollar, shillings are artificially undervalued and dollars are artificially overvalued. Individuals will increase their demand for shillings and decrease their demand for dollars. Any price denominated at the fixed rate of six shillings to the dollar when the market rate is five shillings to the dollar will be paid in dollars. Since the exchange rate cannot adjust, a surplus of dollars and a shortage of shillings will emerge. This result is a classic illustration of

Gresham's Law; bad money has driven out good, or more precisely stated, money artificially overvalued by government has driven out of circulation money artificially undervalued.

The monetary history of the colonies offers many demonstrations of the operation of Gresham's Law. Through legal tender laws the exchange rate between different monies was fixed. Usually specie was artificially undervalued. Tobacco drove out specie, or paper money drove out specie, or light coins drove out heavy coins. The colonial juggling of the unit of account was a special kind of rate fixing. It did not usually fix the exchange rate between two different monies, because the colonial shillings were allowed to float in terms of British shillings, but merely changed the denomination of the existing money. Suddenly, a coin that was previously worth five shillings was now worth six shillings. This encouraged the importation of coins, gave a boost to exports, and discouraged imports. The effect was temporary, however as prices would immediately rise in terms of the new unit of account so that the same coin would purchase the same quantity of goods as before.

In short, the hard-money school was basically correct. The colonial — and revolutionary — monetary experience was a continuous stream of government failures. There was no shortage of money. That complaint provided the excuse for governments and special interests to plunder the economy through the printing of paper money. In the New England colonies, the depreciation was so severe that the monetary system was nearly wrecked, as it finally was throughout America during the Revolution. Even though depreciation was more mild in the middle colonies, the printing of money still had distribution effects. In all the colonies, the monetary policies were erratic and subservient to the fiscal appetite of governments. When bills of credit were emitted through land banks, they had the further undesirable effect of distorting interest rates. Paper money did not generate prosperity, it generated the boom — bust trade cycle. At the same time, legal tender laws drove specie out of circulation. On the whole, it was an abysmal record.

NOTES

1. The seminal work on Austrian monetary theory is Ludwig von Mises, *The Theory of Money and Credit*, new ed., (1953; reprint ed., New York, 1971). See also the appropriate sections of Mises, *Human Action*, 3rd rev. ed., (Chicago, 1966), and Murray Rothbard, *Man, Economy, and State*, 2 v., (Princeton, 1962). Rothbard's *What has Government Done to Our Money?*, (Santa Ana, 1964), is a good, brief introduction to Austrian monetary theory. Rothbard has applied Austrian theory to the colonial experience in the second volume of his history of the American Revolution, *Conceived in Liberty II* (New Rochelle, 1975), pp. 123–140. Rothbard provides one of the best short surveys of colonial monetary policies, and I have relied on it heavily in this paper.
2. In Maryland in 1733, bills of credit, in addition to being used to finance government expenditures, were passed out to all the inhabitants as compensation for the tobacco destroyed in Maryland's price-support program. Economists are fond of abstracting from the distribution effects of increases in the money supply by considering the case where a helicopter flies over and evenly distributes the new money among the people. This is the only case, as far as I know, where the helicopter effect has actually been approximated in practice.
3. Sometimes private land bank proposals envisioned loans on personal property as well as land. Usually there was no provision for any specie reserve fund to redeem notes, but a private specie bank did operate briefly also in Massachusetts.
4. Virginia unsuccessfully tried to mint copper coins. Maryland's attempt to establish a mint proved unsuccessful. A numismatic history of these early mints is Sylvester S. Crosby, *The Early Coins of America and the Laws Governing Their Issue* (1875; reprint ed., New York, 1970).
5. Andrew McFarland Davis, ed., *Colonial Currency Reprints, 1682–1751*, III, (1911; reprint ed., New York, 1964), pp. 309, 326. Davis' four volume work is a compilation of most of the pamphlet literature on colonial money with an excellent introductory essay. Douglass' pamphlet was also reprinted in American Economic Association, *Economic Studies*, 2 (1897), no. 5, with a biographical essay by Charles J. Bullock. Joseph Dorfman, *The Economic Mind in American Civilization, 1606–1865*, also covers the monetary debate, although he does not do justice to Douglass. See also Harry E. Miller, *Banking Theories in the United States before 1860*, (Cambridge, 1927).
6. Davis, *Colonial Currency Reprints*, II, p. 336. Franklin's pamphlet can also be found in Jared Sparks, ed., *The Works of Benjamin Franklin*, II, (Boston, 1836), pp. 254–277. Franklin's advocacy of paper money was not without ulterior motives. As he so charmingly put it in his *Autobiography*, (reprint ed., New York, 1940), p. 82:

It [the pamphlet] was well receiv'd by the common people in general; but the rich men dislik'd it, for it increas'd and strengthen'd the clamor for more money, and they happening to have no writers among them that were able to answer it, their opposition slaken'd, and the point was carried by a majority in the House. My friends there, who conceiv'd I had been of some service, thought it fit to reward me by employing me in printing the money; a very profitable jobb and a great help to me.
7. (1833; reprint ed., New York, 1968). The full title was *A Short History of Paper Money and Banking in the United States, Including an Account of Provincial and Continental Paper Money. To Which is Prefixed an Inquiry into the Principles of the System, with Considerations of its Effects on Morals and Happiness. The Whole Intended as a Plain Exposition of the Way in which Paper Money and Money Corporations, Affect the Interests of Different Portions of the Community*. The reprint edition includes an introductory essay by Joseph Dorfman.
8. (Boston, 1839).
9. "A Historical Account of Connecticut Currency, Continental Money, and the Finances of Revolution," New Haven Colony Historical Society, *Papers*, 1 (1865), pp. 1–192.
10. *With a Description of the Bills, and Catalogue of the Various Issues*, (1866; reprint ed., New York, 1969).
11. (1865, 1866; reprint ed., New York, 1972).
12. "A Brief Account of the Emissions of Paper Money Made by the Colony of Rhode Island" (Providence, 1837). Potter's pamphlet was also reprinted later by Sidney S. Rider under the title "Some Account of Bills of Credit or Paper Money of Rhode Island from the First Issues in 1710 to the Final Issue in 1786", *Rhode Island Historical Tracts*, no. 8, (1880).
13. (1874; reprint ed., New York, 1968).
14. 3 v. All references are to the 4th ed., (1884; reprint ed., New York, 1896).
15. *Ibid.*, I, p. 29.
16. (1891; reprint ed., New York, 1968). See also Sumner's *A History of Banking in the United States*, (New York, 1896).
17. *Ibid.*, I, p. 60.
18. University of Wisconsin, *Bulletin: Economic, Political Science, and History Series*, 1, no. 2, (Madison, 1895).
19. (Philadelphia, 1882).
20. Columbia University, *Studies in History, Economics and Public Law*, 2nd ed., 1, no. 44, (New York, 1897). The first edition was published in 1892.
21. Columbia College, *Studies in History, Economics and Public Law*, 4, no. 1, (New York, 1893).
22. American Academy of Political and Social Science, *Annals*, 8 (July, 1896), pp. 50–126.
23. *Ibid.*, p. 74.
24. American Academy of Political and Social Science, *Annals*, 12 (Sep, 1898), pp. 229–249.
25. *Ibid.*, p. 245.
26. (New York, 1900).
27. American Economic Association, *Publications*, 3rd ser., 1, no. 4; 2, no. 2, (New York, 1900, 1901).
28. *op. cit.*
29. 5th ed., (Boston, 1911). The first edition of this work was published in 1896. White also wrote "New York's Colonial Currency", *Sound Currency*, 5 (1 Mar, 1898), pp. 50–64.
30. *Ibid.*, pp. 86–87.
31. Rev. and enl. ed., (1924; reprint ed., New York, 1967). The first edition, *History of the Coinage and Currency in the United States and the Perennial Contest for Sound Money*, (1903; reprint ed., New York, 1968), omitted mention of colonial and revolutionary monetary policies.

32. 12th ed., (1934; reprint ed., New York, 1962). The first edition came out in 1903.
33. Johns Hopkins University, *Studies in Historical and Political Science*, 33, no. 1, (Baltimore, 1915).
34. Johns Hopkins University, *Studies in Historical and Political Science*, 41, no. 1, (Baltimore, 1923).
35. Gould, *Money and Transportation in Maryland*, p. 11.
36. Behrens, *Paper Money in Maryland*, p. 58.
37. (Wilmington, 1928). The word "finances" in the title is misleading. This short book deals exclusively with Delaware's paper money from 1723 through the Revolution.
38. *Georgia Historical Quarterly*, 19 (June, 1935), pp. 145-160.
39. University of Wisconsin, *Studies in the Social Sciences and History*, no. 20, (Madison, 1934). Much of the contents of this book had already appeared in previous journal articles. Nettels included within his compass the British sugar islands.
40. *Ibid.*, p. 8.
41. (Princeton, 1939). The bulk of Lester's work on America was contained in two previous articles, "Currency Issues to Overcome Depressions in Pennsylvania, 1732 and 1729", *Journal of Political Economy*, 46 (June, 1938), pp. 324-375, and "Currency Issues to Overcome Depressions in Delaware, New Jersey, New York, and Maryland, 1715-1737", *Journal of Political Economy*, 47, (April, 1939), pp. 182-217.
42. *Ibid.*, p. 7.
43. *Ibid.*, p. ix.
44. (Ph.D. dissertation, University of Michigan, 1941). Brock's dissertation has been published by Arno Press (New York, 1971).
45. Gouge, *A Short History of Paper Money*, pt. 2, pp. 8-9.
46. *American Historical Review*, 35 (October, 1929), pp. 46-68.
47. *New England Quarterly*, 7 (March, 1934), pp. 43-69.
48. Industrial Research Department, Wharton School of Finance and Commerce, *Research Studies*, no. 35, (Philadelphia, 1951). A much earlier study that gave some prices for the same period was Arthur Harrison Cole, *Wholesale Commodity Prices in the United States, 1700-1861* (Cambridge, 1938). Before the publication of her book, Bezanson wrote an article, "Inflation and Controls, Pennsylvania, 1774-1779", *Journal of Economic History*, 8 (sup. 1948), pp. 1-20, that is the only piece that I have seen that even begins to consider the distribution effects of the Revolutionary hyperinflation.
49. Industrial Research Department, Wharton School of Finance and Commerce, *Research Studies*, no. 26, (Philadelphia, 1935).
50. Essex Institute, *Historical Collections*, 103 (April, 1967), pp. 144-185.
51. (Chapel Hill, N.C., 1978). McCusker also includes series between London and other European centers of trade.
52. *Journal of Economic History*, 13 (Spring, 1953), pp. 145-155.
53. *Ibid.*, p. 145.
54. *William and Mary Quarterly*, 3rd ser., 10 (April, 1953), pp. 153-180.
55. *Ibid.*, p. 157.
56. (Chapel Hill, N.C., 1961).
57. (Princeton, 1957).
58. New Jersey Historical Society, *Proceedings*, 74 (April, 1956), pp. 107-144.
59. *Ibid.*, p. 144.
60. *New Jersey History*, 85 (Spring, 1967), pp. 47-57.
61. *South Carolina Historical Magazine*, 62 (July, 1961), pp. 134-148. This article was based on Jellison's dissertation, "Paper Currency in Colonial South Carolina, 1703-1764", (unpublished Ph.D. dissertation, Indiana University, 1952), which I have not seen.
62. *Ibid.*, p. 134.
63. Another state study that would not be worth mentioning except for the fact that it is the only treatment of North Carolina outside of Bullock's is Mattie Erma Parker's very short pamphlet (14 p.), *Money Problems of Early Tar Heels* (Raleigh, N.C., 1942). Unpublished state studies that I have not examined are Paton Yoder, "Paper Currency in Colonial Pennsylvania", (unpublished Ph.D. dissertation, Indiana University, 1941); Blanchard MacInnes, "Rhode Island Bills of Credit, 1710-1755", 2 v. (unpublished Ph.D. dissertation, Brown University, 1952). and Donald B. Scheick, "The Regulation of Commodity Currency in Colonial Virginia", (unpublished Ph.D. dissertation, Indiana University, 1954).
64. Dorfman, *The Economic Mind*, p. 142.
65. University of Maine, *Studies*, 2nd ser., no. 74 (Orono, 1959).
66. "Paper Money in Colonial Massachusetts", Essex Institute, *Historical Collections*, 101 (April, 1965), pp. 149-163, and "Currency Reform in Colonial Massachusetts, 1749-1750", Essex Institute *Historical Collections*, 103 (Jan, 1967), pp. 66-84.
67. *North Carolina Historical Review*, 40 (Spring, 1953), pp. 183-199.
68. *William and Mary Quarterly*, 3rd ser., 18 (October, 1961), pp. 485-518.
69. *Virginia Magazine of History and Biography*, 69 (July, 1961), pp. 259-277. Gipson argued further that the desire to evade their debts was a powerful motivation among Virginia planters propelling them toward revolution. Emory G. Evans, "Planter Indebtedness and the Coming of the Revolution in Virginia", *William and Mary Quarterly*, 3rd ser., 19 (October, 1962), pp. 511-535, disputes that thesis, but nothing he says detracts from Gipson's account of the genesis of the Currency Act. On the issue of planter indebtedness, see also James F. Shepherd and Gary M. Walton, *Shipping, Maritime Trade, and the Economic Development of Colonial North America* (Cambridge, 1972), pp. 137-155.
70. *Pennsylvania Magazine of History and Biography*, 88 (April, 1964), pp. 174-198.
71. (New York, 1957).
72. "Counterfeiting in Colonial New York", in *Numismatic Notes and Monographs*, no. 127, (New York, 1953); "Counterfeiting in Colonial Virginia", *Virginia Magazine of History and Biography*, 61 (January, 1953), pp. 3-33; "Counterfeiting in Colonial Pennsylvania", in *Numismatic Notes and Monographs*, no. 132, (New York, 1955); "Counterfeiting in Colonial Maryland", *Maryland Historical Magazine*, 51 (June, 1956), pp. 81-100; "Counterfeiting in Colonial New Jersey", New Jersey Historical Society, *Proceedings*, 75 (July, 1957), pp. 170-179; "The Great Epidemic of Coining in the Jerseys", New Jersey Historical Society, *Proceedings*, 75

- (April, 1957), 112–127; “Earliest Counterfeiting in New Jersey”, New Jersey Historical Society, *Proceedings*, 75 (January, 1957), pp. 18–34; “Counterfeiting in Colonial North Carolina”, *North Carolina Historical Review*, 34 (October, 1957), pp. 467–482; “Counterfeiting in Colonial Connecticut”, in *Numismatic Notes and Monographs*, no. 140, (New York, 1957); *Counterfeiting in Colonial Rhode Island*, (Providence, 1960). An earlier work by a different author is Harold Gillingham, “Counterfeiting in Colonial Pennsylvania”, in *Numismatic Notes and Monographs*, no. 86, (New York, 1939).
73. (Racine, 1967). See also Eric P. Newman and Richard G. Doty, eds., *Studies on Money in Early America* (New York, 1976).
74. *Explorations in Entrepreneurial History*, 3 (Spring-Summer, 1966), pp. 220–233.
75. *Ibid.*, p. 221.
76. *Explorations in Entrepreneurial History*, 2nd ser., 6 (Winter, 1969). Ernst was primarily upset at Burstein’s shoddy research. However, it is not at all clear that Ernst really understood that he and Burstein reached essentially the same conclusion. In general, Ernst is a contentious writer, disparaging of all previous contributions to the field. Furthermore, his theoretical forays are at least as shoddy, in their own way, as Burstein’s research. For a brief theoretical critique of Ernst, see the review of his book by Gary M. Walton, *Business History Review*, 48 (Summer, 1974), pp. 245–246.
77. (Chapel Hill, 1973). Other previous articles by Ernst that were incorporated into his book were “Genesis of the Currency Act of 1764: Virginia Paper Money and the Protection of British Investments”, *William and Mary Quarterly*, 3rd Ser., 22 (January, 1965), pp. 33–74; “The Currency Act Repeal Movement: A Study of Imperial Politics and Revolutionary Crisis, 1764–1767”, *William and Mary Quarterly*, 3rd ser., 25 (April, 1968), pp. 117–211; “The Robinsion Scandal Redivivus — Money, Debts, and Politics in Revolutionary Virginia”, *Virginia Magazine of History and Biography*, 77 (April, 1969), pp. 146–173.
78. Ernst’s political thesis relies heavily on Richard Sheridan, “The British Credit Crisis of 1772 and the American Colonies”, *Journal of Economic History*, 20 (June, 1960), pp. 161–168.
79. *Journal of Economic History*, 30 (December, 1970), pp. 770–784.
80. This directly contradicts Lester, *Monetary Experiments*, p. 106. Amazingly, both Lester and Weiss use the same price series for Pennsylvania (those in Bezanson, Gray, and Hussey, *Prices in Colonial Pennsylvania*), and both calculate what prices would have been by the same method (divide the commodity price index by the exchange rate index for the same year and multiply by 100). Their differences arise because they are considering different time periods. Lester’s hypothetical price level is drawn only for 1720 through 1745, even though his graph goes up to 1774. If he had continued his hypothetical price level to the end of the graph, he would have reached the same conclusion as Weiss. Weiss admits that between 1720 and 1739 prices would have fallen by 20 per cent, but for the period 1720 to 1774, they would have gone up 24 per cent.
81. Weiss, “The Issue of Paper Money”, pp. 782–783.
82. *Ibid.*, p. 775.
83. *Economic History Review*, 2nd ser., 27 (November, 1974), pp. 577–592
84. Specifically: Felt, *An Historical Account of Massachusetts Currency*; Hickcox, *A History of the Bills of Credit or Paper Money Issued by New York*; Phillips, *Historical Sketches of Paper Currency*; McLeod, “The History of Fiat Money and Currency Inflation in New England”; Bullock, *Essays on the Monetary History of the United States*; and Behrens, *Paper Money in Maryland*. Of course, general state histories will also contain material, but I have not surveyed them for this paper.
85. *The Wealth of Nations*, (1776; reprint ed., New York, 1937), p. 407.
86. *Economic Development of Colonial North America*, p. 166. Shepherd and Walton find that the colonial balance of trade was not even all that unfavorable and that most of the capital within the colonies at the time of the Revolution had been accumulated through domestic saving rather than borrowed from abroad. Furthermore, the deficits were higher in New England than in the South. The literature on the colonial balance of payments begins with Nettels, *The Money Supply of the American Colonies*. Also of interest is Sheridan, “The British Credit Crisis of 1772”.
87. Weiss, “The Issue of Paper Money”, pp. 774–775, makes almost the same point.
88. Burstein, “Colonial Currency”, p. 222, points out the confusion between shortages in the “stock of transactions balances” of money and high interest rates. He also mentions the deleterious effects of usury laws. They discourage capital accumulation through borrowing, encourage forms of business organization that internalize profits, and, most importantly, encourage banks and other financial intermediaries to over-issue their liabilities. Sumner, *A History of American Currency*, p. 125, makes note of this last impact. Despite the importance of usury laws under pre-industrial conditions when market rates of interest were high, very few economic historians have considered them.
89. This, greatly simplified, is the Austrian business cycle theory, first developed by Mises. It is discussed in the works noted in note 1 above. Friedrich A. von Hayek refined the theory in *Monetary Theory and the Trade Cycle* (New York, 1933); *Prices and Production*, 2nd ed. (London, 1935); and *The Pure Theory of Capital*, (Chicago, 1941).
90. The price of a durable good is the discounted value of its expected future returns. For instance, given a machine that lasts two years and earns \$10 per year, if the interest rate is 5 per cent per year, the machine will sell for $\$10 + \9.52 . ($\$9.52$ invested at 5 per cent will yield \$10 in a year, so the value of \$10 one year from now is \$9.52.) This total is what economists call capitalized value. For a permanently durable good, like land, the formula for calculating capitalized value works out to $P = A/i$, where P is the present capitalized value (price) of the land, A is its future annual rents, assuming that they are expected to remain constant through time, and i is the annual rate of interest. You can see that if the rate of interest falls by one half, the price of land will double!
91. Walton makes this criticism in his review of Ernst’s book, *op. cit.*
92. I have simplified the analysis by ignoring capital flows. Their inclusion makes the analysis more complex but does not materially alter the basic conclusion.

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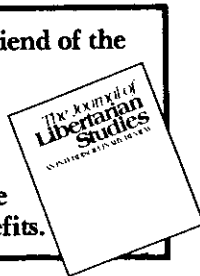
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