

**The U.S. Panic of 1792:
Financial Crisis Management and the Lender of Last Resort**

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Abstract:

During the US financial panic of 1792, Wall Street's first crash, securities prices lost nearly a quarter of their value in two weeks. Nonetheless, the crisis, which came when the modern U.S. markets were less than two years old, is off the screens of most scholars, including even financial historians. In part that is because the crisis was managed incredibly well, mostly by Treasury Secretary Alexander Hamilton. Hence, there was almost no economic fallout for the US economy from the financial crisis. This makes the event worth studying. It is also worth studying because of the crisis management techniques Hamilton invented at the time, many of which later became theoretical and practical standards of central bank behavior in crises. Among other things, Hamilton invented and implemented "Bagehot's rules" for central-bank crisis management nine decades before Walter Bagehot wrote about them in *Lombard Street*.

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Introduction.

The U.S. financial crisis of 1792, which can be regarded as Wall Street's first crash, was a more important historical episode than one might gather from the inattention it has received from historians and economists. Although specialists in financial history have known of the 1792 panic for decades, at least since Davis (1917) explored it in some detail, it did not make a strong impression on others. The crisis did not make it into the long listing of major financial crises throughout the world dating back to Thirty Years War in an appendix to Kindleberger's *Manias, Panics and Crashes* until its fourth edition in 2000, and even then it was not discussed at any point in the text. This essay attempts to rescue the 1792 panic from oblivion and to establish it as an important historical event.¹

The panic of 1792 is important for two reasons, one a matter of history, and the other a matter of economic theory and policy. First, as an historical event, the panic did not derail the U.S. financial revolution taking place at the time, although it might have done so. During Alexander Hamilton's tour of duty as first U.S. Treasury Secretary from 1789 to 1795, and largely as a result of his strategies and tactics, the U.S. went through a successful financial revolution. By that we mean that in 1795, the United States had six key institutional components that characterize modern financial systems:

- Stable public finances and debt management
- Stable money
- An effective central bank
- A functioning banking system

¹ Joseph Stancliffe Davis, *Essays on the Earlier History of American Corporations* (Cambridge: Harvard University Press, 1917) in Essay II, "William Duer, Entrepreneur, 1747-1799," gives a rather full account of the panic and especially Duer's role in it, pp. 278-345. Also, Charles P. Kindleberger, *Manias, Panics and Crashes: A History of Financial Crises* (New York: Wiley, 2000). Davis summarizes the 1792 crisis as follows. "In short, here was a typical stock market and financial panic: violent over-speculation and over-extension of credit; failures of a few entailing failures of many and severe losses to more; a shock to business confidence affecting seriously mercantile activities themselves entirely unconnected with speculation; a tumble of prices not only of securities, but also of real estate and commodities; thoroughgoing confusion, uncertainty of mind on the part of the abler business men, and excitement and irritation on the part of the crowd; a temporary stoppage of building, improvements, and even of more essential economic activities,--a temporary derangement of the whole economic machinery" (Davis, pp. 307-08). Davis and Kindleberger may have regarded the crisis of 1792 as 'typical,' but in the U.S. at the time it was an essentially unprecedented event made possible by the new financial system of the Federalists.

- Active securities markets
- A growing number of business corporations, financial and non-financial.

In 1789, the new nation had none of the six components.

The panic of 1792, had it not been dealt with as effectively as it was, might have destroyed the financial revolution. That is what happened earlier in the 18th century when John Law after 1715 attempted something quite similar in France. Law's attempt ended with the collapse of France's Mississippi Bubble in 1720. It almost happened in the same year in England with the collapse of the related South Sea Bubble, but the English financial revolution was further along, having started in 1688, and so, although wounded, England's financial system survived. With a modern financial system, Great Britain went on to win all of its wars save one between 1688 and 1815, to have the first industrial revolution, to build a worldwide empire, and to preserve constitutional government.

Without a modern financial system, France lost its wars with England, had a different sort of revolution in the 1790s featuring regicide (as had England a one and one-half centuries earlier) and terror, and endured Bonaparte's dictatorship. The United States benefited from the last, of course, when Bonaparte in 1803 doubled the country's size by selling the Americans France's claims to North American territory in the celebrated Louisiana Purchase. Because of their successful financial revolution, the Americans were able to finance the Purchase with newly issued U.S. government bonds. Bonaparte quickly sold the bonds to European investors, mostly English, and then used the proceeds to make war on England.

In the United States, financial and economic wounds resulting from the crisis of 1792 healed quickly, but the same cannot be said of the political fallout. A Republican opposition led by Jefferson and Madison to the Federalist administration, which was led by Washington and Hamilton, had already formed by the time of the panic, and was emboldened by it. The Republicans would hound the two Federalist leaders to the ends of their days. When they assumed leadership of the U.S. government after 1800, the Republicans even undid elements of the Federalist financial revolution, only to come to regret the folly and to reinstitute what they had allowed to be undone.

Apart from the heated political fallout, the panic actually led to a strengthening of the financial revolution. Among other things, it led directly to a more effective securities

trading and clearing system, and the founding in 1792 of what would become the New York Stock Exchange. Further, because the panic was successfully contained, the U.S. financial system (especially the US Northeast, an entity more comparable to the UK or England in size and economic structure than the entire United States) continued to develop so rapidly that it would come to equal, even surpass, that of England in terms of product per person and financial development by the 1820s. Energized by the Federalists' financial revolution, the U.S. economy grew substantially faster than did that of the Mother Country from the 1790s to the 1830s.²

The second reason why the panic of 1792 should be viewed as an important event has to do with economic theory and policy. What should a responsible authority do in an asset bubble? Should the authority attempt to prick and slowly deflate the bubble before it becomes too large and bursts? Or, recognizing that bubbles may not be surely known and recognized until after they have burst, should the authority wait watchfully and then move quickly when the bubble bursts to contain and minimize the potentially bad economic effects that might ensue? Alan Greenspan as chairman of the Federal Reserve System was the responsible authority after the stock market crash of 1987 and after the internet and telecom market bubble collapsed beginning in 2000. Greenspan has argued for the latter view of watchful waiting and then pouncing to contain the fallout of a collapse. He could draw on a long history of central banking, crisis containment, and lender-of-last-resort theory, and he did so effectively to contain both crises.

Alexander Hamilton as Secretary of the Treasury was the responsible authority in 1792. The central bank he founded, but could only influence rather than control, had just opened when the 1792 crisis began, and had in its first weeks and months of operation probably acted to make the crisis inevitable. While watchfully waiting as the bubble grew, Hamilton tried to use his influence to have the nation's banks, few and mostly new, *gradually* restrain credit creation to contain the bubble before it burst. But instead of gradually restricting, the banks stepped on the brakes, precipitating a burst.

So Hamilton then moved quickly to minimize the economic fallout. Like Greenspan two centuries later, he was successful. But Hamilton, unlike Greenspan, had

² The financial and economic comparisons of the UK and USA are from Richard Sylla, "Comparing the UK and US Financial Systems, 1790-1830," Working Paper, 2006.

no history of central-bank crisis containment or lender-of-last-resort theory to guide him. Instead he invented them on the spot. Among other things Hamilton invented what in time would be termed Bagehot's rules for how a central bank should act in a crisis some nine decades before Bagehot rediscovered them. Bagehot and others, mostly in England, would claim to have uncovered the right courses of action for a central bank and theories of crisis containment. No doubt they were unaware of Hamilton's financial creativity in the winter and spring of 1792. Indeed, it has remained hidden for two centuries. Combining newly compiled data on early U.S. securities prices, government documents on U.S. sinking fund operations in 1791-1792, and the written correspondence of Hamilton and others (some of which has only recently become public), our paper documents how effectively and modernly Hamilton managed the crisis of 1792 so that it would not undo his larger plan to install in the U.S. a modern, state-of-the-art financial system.

Background.

Hamilton became the first Secretary of the Treasury in September 1789. In January 1790, he presented to Congress his first Report on Public Credit calling for funding the national government's domestic debts at par and commencing interest payments on them in 1791. It also called for assuming the War-of-Independence debts of the states on similar terms with interest to commence in 1792. Because Hamilton inherited an empty national treasury, he reduced the rate of interest paid on the restructured domestic national debt from 6 to 4 percent. In modern terminology, he gave debt holders a "haircut." But he proposed that U.S. debts to foreign nations (chiefly to France for funds borrowed during the War of Independence) be discharged according to the terms of the original debt contracts.

After six months of Congressional debates and political dealings behind the scenes, Congress adopted the essence of Hamilton's recommendations in July, 1790. Holders of old evidences of debt began voluntarily to exchange them for packages of new Treasury debt consisting of 6% bonds, 6% "deferred" bonds (interest at 6% would commence in 1801, so for ten years these were "zeros"), and for 3% bonds, all repayable

at the pleasure of the government, i.e., with no fixed maturities.³ It took some time for all of the conversions to be made: About 50 percent of the eventual total of \$64.5 million of domestic debt had been converted by September 30, 1791, 90 percent by the end of 1793, and 98 percent by the end of 1794.⁴ Nonetheless, active trading markets for the new issues emerged when they first appeared in Fall 1790 (see accompanying figures from Davis 1917 for old and new U.S. debt and Bank of the United States (BUS) scrips in the Boston and Philadelphia markets, and the Sylla-Wilson-Wright 2005 securities price database for prices of U.S. 6s BUS shares in these markets and New York).

A seemingly minor feature of Hamilton's plan for restructuring U.S. debts in fact played an important part in managing financial crises in 1791 and 1792. That was the sinking fund. The sinking fund ostensibly was meant to assure investors and the public in general that the new government was committed to redeeming its debts. To that end Hamilton had promised that the profits of the postal service would be committed to debt redemption. But he also proposed in his January 1790 Report on Public Credit that the sinking fund commissioners (later specified as the Vice President, the Secretaries of State and the Treasury, the Attorney General, and the Chief Justice of the United States) be authorized to borrow money to purchase public debt on the open market "while it continues below its true value." Hamilton anticipated as early as January, 1790, that financial crises would occur, and that mechanisms needed to be in place to allow liquidity injections through open market purchases. Such open market operations were the true purpose of his sinking fund plan, and within two years he would utilize them on several occasions.⁵

In December 1790, Hamilton, as promised in his first Report on Public Credit, delivered to Congress a Report on a National Bank. It called for Congress to incorporate

³ The precariousness of U.S. finances is most likely the reason for issuing bonds without fixed maturities. Leading European states tended to favor debt in the form of perpetuities that paid only interest and not principal. American opinion frowned on perpetual debt and strongly favored paying down and even eventually extinguishing public debt. That opinion increased the concern of investors that their bonds might be called by the government for payment at any time, a concern Hamilton and Congress met by stipulating that only a small percentage (2 percent) of the outstanding 6% bonds, the main issue, could be called in for repayment in any one year.

⁴ Rafael A. Bayley, "History of the National Loans of the United States from July 4, 1776 to June 30, 1880," in Tenth Census of the United States, vol. 7, p. 403.

⁵ For a full discussion of sinking funds in U.S. debt management, including Hamilton's initial provision for them, see Richard Sylla and Jack W. Wilson, "Sinking funds as credible commitments: two centuries of U.S. national-debt experience," *Japan and the World Economy* 11 (April 199), pp. 199-222.

a Bank of the United States (BUS) capitalized at \$10 million with 25 thousand shares of \$400 par value each, with provisions for the U.S. government to take a 20 percent ownership stake and for the remaining \$8 million of capital to be subscribed for by private investors. One quarter of the subscription price was to be in tendered in specie (gold or silver coins, bullion, or plate), and three quarters payable in the new U.S. debt securities. Both houses of Congress passed the Bank bill early in 1791. After a high-level debate involving the president and cabinet members on the constitutionality of the proposed action, and further backroom political dealing in Congress, Washington in late February signed the bill into law.

The Bank would have its headquarters in Philadelphia, then the seat of the federal government, and it could open branches throughout the United States. Four such branches, at Boston, New York, Baltimore, and Charleston, opened in 1792, and four more opened in and after 1800 in Norfolk, Washington DC, Savannah, and New Orleans.

The BUS IPO (initial public offering of securities) took place on July 4, 1791, and was heavily oversubscribed by would-be investors. At that time were issued subscription rights, or scrips, to buy a full share of stock, at a price of \$25 payable in specie. The possessor of a scrip then had to make additional payments of \$100, one quarter in specie and three quarters in U.S. debt on January 1 and July 1, 1792, and January 1, 1793, with a final payment of \$75 in U.S. debt due on July 1, 1793.⁶ The BUS was organized in the autumn of 1791, and its Philadelphia headquarters opened for business in December. Three of the first four branches opened in late March and early April of 1792, in the midst of the panic, followed by the Baltimore branch in June.

Creation of the BUS induced the states to incorporate more banks of their own for a variety of defensive and offensive reasons. Some did not want to cede the ground of banking entirely to the federal government, and others thought a state bank might help to attract a branch of the BUS. The BUS inducement to corporate chartering by the states extended beyond banking. State governments also began to charter more and more other types of business corporations. During the 1790s the states chartered more than ten times the number of businesses they had incorporated in the 1780s. Long before widespread

⁶ David Jack Cowen, *The Origins and Economic Impact of the First Bank of the United States, 1791-1797* (New York & London: Garland, 2000), Chap. II.

incorporation of businesses became common in other nations, it was firmly established in the United States.⁷

As Congress debated the Bank bill in January 1791, Hamilton delivered to it his Report on a Mint, which defined the new U.S. dollar in terms of weights of silver and gold in a ratio of 15 to 1. This defined as well the monetary base of the United States, into which the monetary liabilities of banks—their notes and deposits—were to be convertible. Although it was relatively non-controversial, Congress did not approve the Mint Report and establish a mint for another year.

In the interim Hamilton delivered to Congress in December 1791 his Report on Manufactures, the most visionary of his famous reports, but the one least related to the financial revolution. Although this report is often described as falling on deaf ears at the time it appeared, we now know that virtually all of its recommendations for increasing revenues were enacted within a few months.⁸ In time many other recommendations of the Report on Manufactures would become U.S. economic policy.

From this brief account of the events of 1790-1793, it is evident that all six key components of a modern financial system—effective public finances and debt management, a stable monetary unit, a central bank, a banking system, securities markets, and more accessible chartering provisions for business corporations--were put in place during those years. Neither before nor after those few years did any comparable period of such intense and far-reaching financial modernization occur anywhere else in the world.

The U.S. financial revolution most likely was a crucial factor in jump-starting the long and sustained expansion that in a century would give the United States the largest national economy, and after that would make it a world leader in other ways as well. The most recent evidence of a macroeconomic nature indicates that U.S. industrial production and GDP grew at high rates starting in 1790.⁹ From that year onwards, the U.S. economy was off and running at rates typical of modern economic growth. The recent evidence, perhaps surprisingly, gives almost no indication after 1790 of an industrial revolution or

⁷ See Richard Sylla, ‘Comparing the UK and US Financial Systems, 1790-1830,’ Working paper presented at the University of Illinois conference to honor Larry Neal, April 2006.

⁸ Douglas Irwin, recent JEH article.

⁹ Davis, Index of Industrial Production, QJE Nov 2004; Johnston and Williamson, GDP estimates, 1790- , EH.Net, 2005.

even gradual acceleration of growth. Fortified with modern financial arrangements, the U.S. economy grew at modern rates from the start.

But history might not have turned out that way, as the example of France under John Law reminds us, if the panic and crash of 1792 had nipped the U.S. financial revolution in the bud.

Securities Prices, 1790-1792.

Accompanying figures show the price patterns for a variety of securities in the years 1789-1792. One that perhaps shows the main contours is that titled “U.S. Sixes, “Boston, New York, and Philadelphia,” from the Sylla-Wilson-Wright database. The U.S. 6% bond was the main issue of the new national debt as restructured by Hamilton. It began to trade in several city securities markets by October 1790.

Visually, the three markets appear pretty well integrated. New York and Philadelphia prices track each other with some precision. They were the main markets, separated by about a day in the flow of information, and arbitrageurs were active. Boston, for which we have only monthly prices for most of the period, was several days to a week distant from New York in terms of information flows, and thus it is no surprise that Boston prices could differ some from prices prevailing in New York and Philadelphia at the same time.

U.S. sixes show three concentrated periods of rapid upward price movement—December 1790, July and early August 1791, and December 1791 to January 1792. The first of these rises requires little attention here; it appears to have been based on the realization of investors when the first new Hamiltonian issues appeared that his debt program really would fly, and that the new 6s would not only pay 6 percent interest starting in 1791, but also the knowledge, made public in the Bank Report of December 13, 1790, that the new bonds could also be used at par to subscribe for three-fourths of the cost of a share in the proposed BUS. At Philadelphia, the prices of 6s were 70 (percent of par) on December 9. The next quotes are 75 (December 15), 83.50 (December 18) and 90 (December 22). It did not take long for the markets to realize that Hamilton had designed the BUS to support the restoration of public credit, and restored public credit in turn to support the BUS.

The sharp run-ups of prices during July-August 1791 and December 1791-January 1792 are more interesting for present purposes, as they were followed by crashes. Worth noting also are rather wild price swings from January to March 1792 in New York, the center of speculative activity leading up the panic and crash of March-April 1792. Such swings are less evident in Philadelphia and Boston, due in part to less frequent data points. The period of steepest decline is of course the March-April 1792 panic-crash just noted, but there also a steep decline in mid-August 1791. This was a mini-panic that turns out to have been a trial run for the crisis-containment techniques Hamilton was to employ during the more serious price collapse in 1792.

Trial Run: The Bank Scrip Bubble and Collapse of August-September 1791.

The IPO of the BUS on July 4, 1791, gave rise to six weeks of heated financial speculation the likes of which had never been witnessed in America. Scrips purchased at 25 during the IPO quickly doubled in price and remained at that level for most of July. In early August they went through the roof, reaching 264 bid, 280 asked in New York on August 11, and more than 300 in Philadelphia the same evening. Then they tumbled, in Boston from 230 on August 12 to 112 on August 14, to 154-159 in New York on August 16, and to 125-137 in Philadelphia the same day, before rallying later that month (see Fig. 3 from Davis 1917).¹⁰

Public debt securities also rallied after the BUS IPO. The 6s rose from 90 at the time of the IPO to 112.50 in Philadelphia on August 13. Then they fell to 100 by August 17. That prompted Hamilton to swing into action. On August 17, he wrote Rufus King, U.S. senator and a director of the Bank of New York (BONY), who had written Hamilton on August 15 about the market collapse in New York, “a bubble connected with my operations is of all the enemies I have to fear, in my judgment the most formidable.” Hamilton had already witnessed the collapse in Philadelphia, and on August 15, the same day King wrote to him from New York, he had convened a meeting of the Commissioners of the Sinking Fund (himself, Jefferson, and Randolph--Adams and Jay

¹⁰ Davis, *Essays*, vol. 1, pp. 203-11.

being absent) and gotten them to authorize open market purchases of U.S. debt in amounts of \$300-400 thousand at Philadelphia and New York. Prices were not to exceed 100 (par) for 6s, 60 for 3s and 62.5 for deferreds. Jefferson signed the resolution.

To execute the open market purchases in New York, Hamilton relied on a private institution, the Bank of New York, that New York State had finally given a corporate charter earlier in 1791, after turning down several previous requests. Hamilton had helped found the BONY in 1784, and had written its charter. After becoming Treasury Secretary, he had asked the BONY to lend money to the new government, which it did in a relationship that continued. The Bank of the United States (BUS), the U.S. central bank, was in the process of being organized in the summer and fall of 1791. It would not open its main Philadelphia office until December of that year, and it would not open its branch office of discount and deposit in New York until April 1792. Hence, much of Hamilton's crisis-management activities in New York in 1791 and 1792 were implemented through the BONY, an institution with which Hamilton was instrumental in founding and whose officers he knew well from his ongoing personal and official relationships with them. Cooperation of private institutions with public authorities in financial crisis management was new in the United States of 1791, but would reappear many times in later U.S. history.

Hamilton immediately sent a copy of the resolution to William Seton, cashier of the BONY, authorizing Seton to purchase up to \$150 thousand (specie value) of public debt in New York, simultaneously requesting that the president and directors of BONY advance the funds to Seton, to be covered by Hamilton from government revenues or other sources after he had learned of the amounts actually employed in the operations. These were official communications of the Secretary of the Treasury. Hamilton also wrote privately to Seton on August 16:

And yet I do not know what effect the imprudent speculations in Bank Script may produce. A principal object with me is to keep the Stock from falling too low in case the embarrassments of the dealers should lead to sacrifices; whence you will infer that the purchases should not be below the prescribed limits. Yet if such should unfortunately be the state of the market it must of course govern....

You recollect that the [Sinking Fund] act requires that the purchase should be made openly. This has been construed to mean by a known agent for the public. When you make a purchase therefore, it will be proper that it should be understood that it is on account of the United States but this need not precede the

purchase, and it will be best that there should be no unnecessary demonstration lest it should raise hopes beyond what will be realised.¹¹

In short, Hamilton wanted it to be known that the Treasury was acting to alleviate financial distress by supporting the bond market, but, perhaps recognizing the moral hazard of a “Hamilton put,” he wanted the announcement to be muted rather than trumpeted.¹²

Seton began his purchases when he received Hamilton’s instructions, and by August 29, he wrote to Hamilton, “I expect in a day or two to complete the whole investiture of 150,000 Dollars.” On September 5, Seton reported to Hamilton officially that he had completed the purchases, but in a private letter said:

Great as the relief has been to the holders, it is far short of preventing that universal panic & want of money which now prevails. Deffered debt was actually sold under 12/ to day & Scrip at 150—merely to save credit. Was it possible to extend your purchase here to 150 M Dollars more ... it would be of immense consequence to this Community, & I believe would readily fill.¹³

Two days later, September 7, Hamilton sent Seton two official letters, one requesting the president and directors of BONY to furnish their cashier with a further \$50 thousand to purchase public debt and informed them he would the next day issue a warrant to cover the initial \$150 thousand already expended in the open market purchases. The other informed Seton of this. In a third letter, Hamilton wrote privately to Seton:

I regret though I am not surprised at what you disclose in your private letter of the 5th. I have for sometime foreseen the effects of a too sanguine disposition in the dealers of your City; particularly in relation to the Bank Scrip; and have anticipated that it would lead to a necessity of sacrifices injurious to the funds. We got beyond the force of our own capital & beyond the point to which foreigners *were yet* prepared to go.

I trust however the evil is temporary.... And the timid will soon rally.

You will find by the letters herewith that you are furnished with a further sum of 50000 Dollars for purchases....

You...may make it known the Treasurer is purchasing here.¹⁴

¹¹ Papers of Alexander Hamilton (PAH), IX, pp. 71-72.

¹² A “put” is an option to sell an asset at a price set earlier. If purchasers of assets believe that public authorities such as finance ministers or central bankers will not allow prices of assets to fall below some particular level, they might think they have such a put option and hence speculate more recklessly.

¹³ PAH, IX, pp. 122, 176.

¹⁴ PAH, IX, pp. 182, 184-85.

Hamilton thus wanted New Yorkers to know that Samuel Meredith, Treasurer of the United States, was making open market purchases in Philadelphia simultaneously with Seton's purchases in New York. The information and Seton's further purchases worked to calm the storm. Seton wrote Hamilton on September 12:

I had the pleasure to receive your Letter of the 7th.... The bearer of the Letter I apprehend know or conjectured at the Contents as it flew over the Town like Wildfire that I had orders to purchase, therefore before I got to the Coffee House at Noon, everyone was prepared, and no one would offer to supply at less than the former prices. I thought it prudent to accept at that, and to diffuse the benefit. I divided the purchases into 5000 Dollar Lots, and held them at that, so long as to give every one a chance, and be assured it has been a very great relief. Scrip since I wrote you last has been down to 110 and great sacrifices made, Saturday and today they have gone to 135 to 145 and rather bear the appearance of rising. They are now getting into the proper hands and I have no doubt will soon come up to their real value, if the price of the other funds can be now and then supported by your purchases. You have the blessings of thousands here, and I feel gratified more than I can express, at being the dispenser of your benevolence.¹⁵

The mini-panic of August-September 1791 had come to an end. An accompanying table from a Treasury document, No. 1 dated November 4, 1791, indicates the open market purchases orchestrated by Hamilton that ended it. At Philadelphia, U.S. Treasurer Samuel Meredith, Hamilton's subordinate, between August 17, 1791 (the 1790 in the four lines starting 1659, A., A., A. are typos) and September 19, 1791, expended \$148,984.71 on public debt purchases. At New York, William Seton of BONY on behalf of the Treasury had expended exactly \$200 thousand. Purchases of 6s were at or near par, but because 3s and deferreds were well below par, the total face value of the securities purchased in approximately one month came to more than \$560 thousand. That was about 2 percent of the 6s, 3s, and deferreds outstanding at the time. In terms of the national debt of 2006, that would correspond to an open market purchase in one month of some \$80-90 billion, a very large amount indeed.

With calmer markets Hamilton could devote the remaining months of 1791 to routine Treasury business and putting the finishing touches on the Report on Manufactures. It was submitted to Congress on December 5. In those same months the BUS was being organized and preparing to open in December.

¹⁵ PAH, IX, pp. 202-03.

The Bubble of 1792: Roles of the BUS and the Duer “Company”

The traditional account of the bubble and crash of the first months of 1792, ever since Davis wrote about it nine decades ago, focuses on William Duer, a New York speculator and well-connected businessman, and formerly a governmental official in both the old and new governments as well as a personal friend of Hamilton.¹⁶ Duer’s financial scheming and operations with other members of his speculative “company” (others in 1792 who knew of the speculative operations of Duer and his associates referred to them as “the company”) rapidly drove up securities prices to new highs early in the year. Then in March, when Duer could not repay the large amounts of money he had borrowed to implement his plans, the market crashed and panic ensued.¹⁷ The scheming involved an attempt in January to launch a large new bank in New York City in order to drive down the price of BONY stock and get control of it, and then to corner the market for U.S. 6s, which subscribers to the BUS would need to meet their future payments for BUS shares.

The traditional account is not incorrect, but it is incomplete. Other events were unfolding at the time that are ignored or slighted in the traditional account. Speculative bubbles typically require a lot of newly created credit to be launched and sustained. Because of their reputations, Duer and his fellow speculators in “the company” could raise credit locally in New York by issuing their own notes and mutually endorsing them. They did. But at the very end of 1791 a great new source of credit appeared on the scene, the first Bank of the United States, which was, and would be for the two decades it operated, by far the largest bank in the United States.

The BUS opened its headquarters in Philadelphia in December 1791. It started accepting deposits on the 12th of that month, and to make discounts on the 20th. By December 29, the BUS had issued \$1.10 million of monetary liabilities in the form of

¹⁶ Davis, *Essays*, essay II, “William Duer, Entrepreneur, 1747-99,” remains the fullest account of Duer’s life and business career.

¹⁷ Davis, *Essays*; also Cathy Matson, “Public Vices, Private Benefit: William Duer and His Circle, 1776-1792,” in William Pencak and Conrad Edick Wright, eds., *New York and the Rise of American Capitalism* (New York: New-York Historical Society, 1989), pp. 72-123; David Jack Cowen, *The Origins and Economic Impact of the First Bank of the United States, 1791-1797* (New York: Garland, 2000), Chap. III, and Cowen, “The First Bank of the United States and the Securities Market Crash of 1792,” *Journal of Economic History* 60 (Dec. 2000), pp. 1041-60.

notes and deposits, and had discounted bills to an amount of \$0.96 million.¹⁸ This was largely new money and credit. But that was only a start. A month later, on January 31, 1792, BUS monetary liabilities had nearly doubled to \$2.17 million and discounts had nearly trebled to \$2.68 million.¹⁹ For perspective, the open market purchases that had stopped the mini-panic a few months earlier involved the far smaller sum of not quite \$0.35 million.

As this was happening, prices of public debt securities rose sharply in Philadelphia and New York. U.S. 6s, for example, rose in New York from 110 (percent of par) in early December 1791 to 125 on January 16, 1792 (the only New York quote we have for January). In Philadelphia, 6s rose from 111 on December 3, to 128.75 on January 31.

Hamilton in Philadelphia observed the market behavior in both cities and the antics of the speculators in New York. He wrote Seton on January 18:

I have learnt with infinite pain the circumstance of a new Bank having started up in your City. Its effects cannot but be in every view pernicious. These extravagant sallies of speculation do injury to the Government and to the whole system of public Credit, by disgusting all sober Citizens and giving a wild air to everything....

I sincerely hope that the Bank of New York will listen to no coalition with this newly engendered Monster....

I express myself in these strong terms to you confidentially; not that I have any objection to my opinion being known as to the nature & tendency of the thing.²⁰

Seton responded from New York on January 22, making pretty clear that the expansion of credit of the BUS in Philadelphia was taken advantage of by the speculators in New York, and that large amounts of BUS notes quickly found their way to New York:

I had no doubt you would condemn the numerous carrying ons here in the Strongest terms. The folly & madness that rages at present is a disgrace to us. There is no say where it will end.... Be assured this Bank will never listen to a Coalition with these madmen. They have aimed too deep a strike at our existence to be forgot or forgiven; for had not the rapidity with which they wanted to carry on their plan defeated their own intentions there is no saying what the immediate consequences might have been to us—for in less than two hours we

¹⁸ David Jack Cowen, *Origins*, p. 93

¹⁹ Discounts could exceed monetary liabilities because the BUS lent some of its capital as well as lent by creating monetary liabilities.

²⁰ PAH, X, p. 525.

were called upon for upwards of 500 000 Dollars. Low [a director of BONY] would not permit them taking entirely in Specie, of course they took paper of every Kind and the largest proportion was that of the United States Bank. Their operations being delayed by the over eagerness of every body, as they brought the paper back & wished us to receive it again as a Deposit—self-preservation immediately pointed out the imprudence of our allowing these men to increase the balance of their accounts by our <receiving> it, which at any moment they might demand from us in actual Specie. We therefore were obliged to refuse it—not out of any evill intention to that Institution or with a design to affect its Operations you may believe. You will observe that the <funds of all> the large discounts drawn from their Men at Philadelphia, have been <received> by us in the Bank paper—from which & the liberal discounts drawn for them here they had accumulated such large balances (no doubt with a view to affect what they are now carrying on) that had they all drawn together they might have ruined us at once. Our refusing to take the paper (though we still have about 100,000 Dollars in hand) has raised a great clamour but I trust you will view the maneuver in a proper light & approve of it.²¹

Seton also expressed to Hamilton the worries of the BONY that the transfer of the government’s banking business from banks such as his to the BUS could weaken BONY by draining its specie.

Hamilton wrote back on January 24 to assuage Seton’s worries:

...I have explicitly directed the Treasurer to forbear drawing on the Bank of New York, without special direction from me. And my intention is to leave you in possession of all the money you have or may receive ‘till I am assured that the present storm is effectually weathered.

Every body here sees the propriety of your having refused the paper of the Bank of the United States in such a crisis in your affairs.

Be Confidential with me. If you are pressed, whatever support may be in my power shall be afforded. I consider the public interest as materially involved in aiding a valuable institution like yours to withstand the attacks of a confederated host of frantic and I fear, in too many instances, unprincipled gamblers.²²

Five days later Hamilton received a letter from his father-in-law, Philip Schuyler, in New York reporting, “The bank Mania has somewhat subsided,” and predicting (correctly, it turned out) that the legislature would not grant a corporate charter to the newly proposed bank.²³

²¹ PAH, X, pp. 528-29.

²² PAH, X, pp. 562-63.

²³ PAH, X, p. 580.

But neither Hamilton's letter nor what Schuyler described could fully calm Seton. He wrote to Hamilton again on February 6, to express his concern that if the BUS deposit balance in BONY (then \$176 thousand) and the Treasury balance of \$232 thousand were demanded in specie, it would strain BONY's specie reserves (then around \$600 thousand). But he also noted that BONY held \$230 thousand of BUS notes and expected to be paid \$205 thousand more when bills on Amsterdam the Treasury had lent to merchants were repaid.²⁴ "It is therefore of great consequence to us as well as to the Bank of US, that the paper we have of theirs should be set against what we owe them & the Public—that neither may be forced to an <interchange> of Specie."²⁵ Without such offsets, Seton intimated, a drain of specie might force the BONY to contract its lending.

Hamilton replied on February 10, further to assuage Seton's fears, but also implying that the BUS itself was facing some difficulties, and recommending that all banks ought gradually to begin tightening credit:

I am under a necessity of authorizing the Treasurer to draw upon you for One hundred thousand Dollars. It is a necessary aid to the Bank of the U States which feels more than you do the effects of certain machinations. *This* for your *own breast* exclusively. I advance it upon terms which will insure its restoration to you *in specie*, if a branch is established; so that it will not eventually affect your safety. I may be compelled to go further; but it will be on the same terms....

You appear to me to mistake a point, which is, that in the case of an establishment of a branch, you will have to pay the Bank of the U States the amount of their deposit in specie. They certainly cannot make a difficulty about receiving their own Notes. This idea I think you may safely proceed upon. At all events no distress will be permitted to arise to you on this account.

The state of things however requires unusual circumspection. Every existing bank ought within prudent limits to abridge its operations. The superstructure of Credit is now too vast for the foundation. It must be gradually brought within more reasonable dimensions or it will tumble.²⁶

²⁴ It is interesting that while the U.S. banking system was forming, Hamilton's Treasury lent its credit by drawing bills on its balances in Amsterdam (based on loans from Dutch bankers) and discounting them for American merchants needing European funds. When he reviewed the Treasury's operating arrangements with the new BUS on January 28, 1792, Hamilton referred to such credits and offered the BUS the opportunity to earn the return on provided it was willing as well to take on the risk: "It will be understood that in every instance, in which public bills or draughts are confided to the disposition of the Bank, the Credits allowed to be given will be at the risk of the Government; (unless where the Bank shall be willing to take that risk upon themselves for the benefit of the discounts as before intimated.*)" PAH, X, p. 574.

²⁵ PAH, XI, p. 18.

²⁶ PAH, XI, p. 28.

Hamilton clearly saw trouble brewing that involved more than just the wild speculations in New York. They involved his brainchild, the BUS, which had somewhat recklessly over-expanded its credit creation, feeding the securities market speculative rise, when it first opened. By February the BUS was suffering the consequences of that credit over-expansion as its liabilities were being returned for conversion to specie. We do not know exactly how much it was suffering at that point, but its balance sheet of March 9, 1792, contains some pertinent information on this. Its cash reserves had declined from \$706 thousand on December 29, to \$510 thousand on January 31, and then to \$244 thousand on March 9. In response to the drain, the BUS sharply (not gradually) contracted its discounts, which declined from \$2.68 million on January 31 to 2.05 million on March 9.²⁷

Between the two dates, BUS monetary liabilities declined less, from \$2.17 million to \$2.06 million, and its notes outstanding had actually risen by \$5 thousand. But that is misleading. Between January 31 and March 9, deposits at the BUS other than those of the U.S. government declined from \$0.81 million to \$0.57 million. The BUS was saved from even further distress with props from Hamilton, who as we have seen transferred public funds from the BONY to the BUS. Public deposits at the BUS actually rose from \$0.47 million on January 21 to \$0.60 million on March 9.²⁸

Still, the contraction of BUS discounts by \$0.62 million from January 31 to March 9 did severe damage to speculators such as Duer and “company,” who were longs in the public debt market, attempting to corner US 6s. The BUS credit expansion had fueled their speculations in January, but then the tables were turned. The BUS was saved, but the speculators and others went down in flames. U.S. 6s in New York fell from 125.83 on March 5 to 116.25 on March 8, the day before Duer stopped paying his debts. Duer’s default caused a contagion of further defaults as well as panic selling of

²⁷ Data from Cowen, *Origins*, p. 93.

²⁸ Data from Cowen, *Origins*, p. 93. Hamilton certainly had the Treasury draw on BONY for \$100 thousand in favor of the BUS by early March; see Hamilton to Kean (Cashier of the BUS), March 8, 1792, PAH, XI, pp. 112-13. He also told Kean, “It is to be understood that the Bank of the United States are to receive the amount in their own notes or in specie at the option of the Bank of New York.” From the record, it appears that this was the relief mentioned in Hamilton’s letter to Seaton on February 10. Given the three-plus weeks between February 10 and March 8, and Hamilton’s interest in not damaging the position of BONY, it might be that he waited until securities markets went into their tailspin before shoring up the BUS.

securities. US 6s fell further to 95 on March 20, a drop of 25 percent in two weeks. Philadelphia prices mirrored New York, but the chain of debt defaults there was not as great as in New York because the speculations on borrowed money had not been carried so far.

Crisis Containment: Hamilton Navigates the Panic

Duer, the leading speculator of 1792, as well as Hamilton's friend and one-time colleague in the first months of the new Treasury in 1789-1790, informed Hamilton by letter from New York of his default on March 11 or 12. He gave a sort of Enron explanation: "The Fact is that I have been compelled to do it, with Respect to a certain Description of Notes, which were issued by my agent during my absence from this City—the Circumstances are too long and too Painful to detail...." Hamilton wrote back briefly on March 14, advising Duer to "Act with *fortitude* and *honor*."²⁹

On March 19, Hamilton wrote to Seton to begin a series of lender-of-last resort operations that would last for several weeks as the panic went on:

It is strongly represented here, that you have restricted your operations so as absolutely to afford no accommodation in the present distress of the City.... I dare say there is much exaggeration.

This is therefore barely to observe, That as far as you may have been influenced by any apprehension of being distressed by establishment of the Bank of The U States and a want of *cooperation*, you may relinquish your apprehensions, as I have good evidence from a variety of conversations that it will be enjoined upon the Directors of the Branch to maintain the most perfect & confidential communication with your institution & to cooperate in mutual & general accommodation....

...I am far from wishing to encourage an imprudent extension of accommodation at such a crisis. Perhaps however it may be worth considering how much more can be done in favour of parties who can pledge *public Stock* as collateral security. This foundation of Credit you are sure is a good one.

The Merchants of New York have to pay considerable sums in duties in this and the next Month. You may boldly accommodate them under an assurance that the money shall in no event be drawn out of your hands in less than three Months, unless perfectly agreeable to you.

²⁹ PAH, XI, pp. 126, 131. A complication for Duer was that Hamilton's Treasury had almost simultaneously advised Duer that he needed to settle an old account dating from his term as Secretary of the old Board of the Treasury under the Confederation before 1789, or else a legal action would be instituted to recover the funds from him. This action may have been unrelated to the panic of 1792, which had already started. Or it may have been prompted by a sense at the Treasury that Duer was getting into trouble and the Treasury claim therefore had to be made with some dispatch.

You know the Collector will receive bank notes, which have thirty days to run. I send you inclosed a letter with the list of the names and sums of those who have bonds which will fall due to the end of April in order that you may if you please make a special operation for their accommodation, under the above assurance.³⁰

The same day, Hamilton reminded the BUS that the collector of customs duties in their district had been authorized to receive post-notes of the BUS with a maximum maturity of 30 days “upon equal terms with cash,” and encouraged the BUS “to make operations payable in such notes, which might not be convenient if payable immediately in specie or cash notes,” adding, “It has occurred that such an operation may have special reference to those who have payments to make, and it is particularly desirable, at the present crisis, that every reasonable accommodation should be afforded.”³¹

Also on March 19th, Robert Troup, an old friend of Hamilton, wrote from New York, “If your friends in Philadelphia view the subject in the light we do here, they will suppose that Duer’s total bankruptcy will affect the public interest by bringing the whole funding system into odium.... This letter is for your own eye only.”³² Hamilton hardly needed to be reminded of this. The panic threatened to undo the financial revolution he was directing. And he already was doing all he could to disarm the threat.

In addition to his directions to Seton, Hamilton acted on March 19 to initiate open market purchases once again. On March 20th, he wrote both Adams and Jefferson, fellow Sinking Fund commissioners, that they “may have heard that the Treasurer was in the Market last night and may be at a loss concerning his authority,” which, Hamilton explained, was the amount left unexpended from the previous summer’s authorization, which was a little over \$50 thousand. In a crisis, act first, explain later.

Hamilton also called the Sinking Fund commissioners (himself, Jefferson, Adams, Randolph, and Jay) to meet on March 21st to make further authorizations. Unfortunately for crisis control, member Jay was absent—performing his judicial duties in New York—and the other four divided evenly on a fine point of what the Sinking Fund law allowed. Adams and Hamilton favored action, while Jefferson and Randolph wanted to delay action until Chief Justice Jay, the fifth Sinking fund commissioner, would either come

³⁰ PAH, XI, p. 155.

³¹ PAH, XXVI, 651-52, a letter that surfaced after publication of PAH, XI in 1966.

³² PAH, XI, p. 157.

from New York to vote or at least to explain to the other commissioners what the law meant when it said purchases could be made at market prices “not exceeding the par or true value thereof.” Time was lost in conveying the question to Jay, who did not formally give his opinion that “true value” meant market price until March 31.³³

Informally, Jay wrote Hamilton from New York on March 23rd to ask for clarification of the issues and to report that Duer’s misfortunes “have affected all money operations here, and I believe it is still doubtful whether any favorable change *likely to last*, will soon take place.”³⁴ While waiting for Jay, Randolph joined Hamilton and Adams on March 26th in authorizing a further \$100 thousand of open market purchases of 6s at par because “it is necessary to operate immediately, if at all.”³⁵ It is likely that Hamilton had advised his fellow commissioners of the gravity of the situation, and persuaded Randolph to authorize the purchases.

Jefferson still objected, and would object again when the Sinking Fund commissioners on April 4, based on Jay’s opinion, authorized purchases of 3s at 60 percent of par and deferreds at 62.5 percent of par. Jefferson behaved irresponsibly and maliciously, according to Forrest Donald, who writes that Jefferson was “scarcely able to contain his glee over the catastrophe.” The political rivalry of Jefferson and Hamilton was a year old by the spring of 1792, and it would become much more intense over the next few months.³⁶ Jefferson wrote that his dissents from the Sinking Fund open-market purchase authorizations of March and April 1792 were based on his opinion that the “true values” of 3s and deferreds were lower than their market prices.³⁷ This was bad economics, but it may have been good politics. Delaying action to counter the financial crisis might have made it more embarrassing to Hamilton and the Federalist administration, thus promoting the interests of the opposition Republican political party that Jefferson and his allies were then forming. But Jefferson’s delaying tactics had little effect. While waiting for Jay’s opinion to convert Randolph to join the Sinking Fund

³³ PAH, XI, pp. 214-16.

³⁴ PAH, XI, pp. 172-73.

³⁵ PAH, XI, p. 193.

³⁶ PAH, XI, pp. 158-61, 172-75, 193-94; Forrest McDonald, *Alexander Hamilton: A Biography* (New York: W.W. Norton, 1979), pp. 244-49.

³⁷ PAH, XI, footnote 2, pp. 224-25.

commissioners' majority in favor of open-market purchases, Hamilton invented other ways to alleviate the crisis.

Even before the Sinking Fund commissioners began to dither, Seton responded to Hamilton's letter of March 19th on March 21st, denying—but really admitting—what Hamilton said he had heard, namely that BONY looked to protect itself in the crisis:

You may be assured that so far from restricting our operations so as not to offend any accommodation in the present distress, we have as far & perhaps farther than prudence would have dictated. It is true no new Loans have very lately been made, but the reductions required of the old, have been very trifling compared to the Security the Bank had a right to have in this time of suspension and distrust—had it not been for the great drain of Specie we have had, & the dread that it might be followed, by a further one from the captiousness of our dealers & the hint of opposition—no doubt we should have gone on loaning with the same confidence as we did but in this failure of our friend Duer so many were tainted it is next to impossible to say whom can be counted on again in advance....

...the State of credit is so deranged, and the evil resulting from the Creating of this Mass of artificial credit supported only by usurious Loans is so universal that there is no forming a judgment of the evil situation of individuals.... Stocks rose a little yesterday in consequence of the Intelligence of the Treasurer having entered the Market at Phila.—but today they are down again. Perhaps a purchase for the public if consistent with <policy> might be of good Consequence here....³⁸

Seton obviously was not aware of the snags that had arisen in the deliberations of the Sinking Fund commissioners.

Hamilton would have liked nothing more than once again, as in August-September 1791, to authorize Seton to enter the market and make purchases for the government in New York. But Jefferson and, at first, Randolph, had temporarily tied his hands. This is evident in a remarkable letter, not in the public domain until 2005, that Hamilton wrote to Seton on March 22nd.

It is in this letter that Hamilton formulates Bagehot's rules nine decades before Bagehot. Bagehot in Lombard Street (1873) had written:

And with the Bank of England, as with other Banks in the same case, these advances, if they are to be made at all, should be made so as if possible to obtain the object for which they are made. The end is to stay the panic; and the advances should, if possible, stay the panic. And for this purpose, there are two rules:-- First. That these loans should only be made at a very high rate of interest....

³⁸ PAH, XI, pp.163-64.

Secondly. That at this rate these advances should be made on all good banking securities, and as largely as the public ask for them. The reason is simple. The object is to stay the alarm, and nothing therefore should be done to cause alarm. But the way to cause alarm is to refuse some one who has good security to offer.... If it is known that the Bank of England is freely advancing on what in ordinary times is reckoned a good security—on what is then commonly pledged and easily convertible—the alarm of the solvent merchants and bankers will be stayed.³⁹

Here in part is what Hamilton wrote Seton, cashier of the BONY, on March 22, 1792:

I need not tell you how much I have participated in the distress of your City—how much I have felt for our unfortunate friend Duer—I should have come to your aid on the spot but for a difference of Opinion among the Trustees of the Sinking Fund. I am now in the market—and hope if necessary to be enabled to come into it with more power—Mr. Jay has been sent for—This rather in confidence or only for discreet communication.

If your distress continues would not the following plan be advisable for your institution?

Let deposits of Stock be received to an amount not exceeding a million—Six per Cents at *par* three per Cents at 10 shillings on the pound and deferred at 12 shillings—Let credits be passed on your books in favor of the Depositors for the amounts, according to those values, transferable at the Bank as in the case of deposits in the Bank of Amsterdam Let the terms of the deposit be that the Depositors may withdraw their Stock at any time paying in specie the sums credited whenever the Credits have been transferred—with a right to the Bank after six months to sell the Stock and pay them the overplus. Let the Bank engage at the end of six months to pay the amount of these Credits in Gold or Silver; for the undertaking which let them receive a compensation in Interest at the rate of 7 per Centum per annum.

I take it for granted in the prevailing disposition of your City, transfers of these Credits under the promise of the Bank to pay in Specie at the end of six months would operate as Cash in mutual payments between Individuals—while the Bank would be safe from the danger of a run & undoubtedly safe eventually.

To render the operation more perfectly safe to the Bank, I will engage at the expiration of six months to take off your hands at the rate specified to the amount of 500,000 Dollars—in case the parties should not redeem & there should be no adequate demand. Which however is not supposeable.

I have thought a good deal of this plan & I really believe it is a good one & will tend to obviate the necessity of ruinous sacrifice of the Public Stock by parties indebted—Such as it is however I give it to you. Perhaps a change in your affairs for the better may render it unnecessary.⁴⁰

³⁹ Walter Bagehot, *Lombard Street: A Description of the Money Market* (1873; Homewood, IL: Irwin, 1962), pp. 96-97.

⁴⁰ The original letter of Hamilton is owned by a mutual friend of ours, Mr. Ned Downing, a collector of scripophily and former stockbroker, who published it (with a typo—“? per Centum” instead of “7 per Centum”) in an appendix to a chapter he published in William N. Goetzmann and K. Geert Rauenhorst,

Here Hamilton exhibits financial creativity and an instinct for what needed to be done in a crisis of an uncommonly high order. Bagehot's two rules are contained in the third paragraph quoted above, namely lend on what in normal times is considered good security (U.S. government bonds), but at a "penalty rate" of 7 percent when the normal rate of discount for banks was 6 percent. It is true that Hamilton places a limit of \$1 million on these credits. But \$1 million was quite a large sum in 1792, and even the Bank of England in Bagehot's day, as well as before and after, did not have the capability of unlimited lending. Moreover, Hamilton realized that Seton and BONY would be reluctant to lend in the panic. So, after naming the prices of securities to be allowed in collateralizing bank loans, Hamilton combined his Bagehot-like plan with a repurchase agreement feature. Should the BONY for whatever reason get stuck with the collateral, the Secretary of the Treasury would take at least half of it off the BONY's hands at the prices he had named. But Hamilton thought that eventuality "not supposeable," or in other words, highly unlikely.

Hamilton had to ask the BONY to act as the lender of last resort in New York, the epicenter of the crisis, because the New York branch of the BUS had not yet opened. To alleviate any concerns the BONY might have about risking its own solvency by lending freely in the crisis, he added the repo-like feature. Hamilton named the prices at which U.S. bonds should be taken as collateral for loans, and then agreed to take those bonds off the hands of the BONY at the prices he had set in case the borrowers did not redeem their loans and take back the collateral.

Was Hamilton's creative plan implemented? There are several reasons for thinking it was. One is that Seton, cashier of a bank Hamilton had founded, almost always did what Hamilton told him to do, and there is no evidence that he balked at Hamilton's March 22nd plan. In fact, Seton reported to Hamilton on March 26th that "our Directors have given out that they will discount on a Deposit of Stock," and "The Large Dealers in Stock are to have a meeting this Evening and it is reported will enter into an absolute agreement not to draw out any Specie from the Banks for 3 Months to come— So that from tomorrow I hope the prospect will brighten." Seton also reported that he

eds., *The Origins of Value* (New York: Oxford University Press, 2005), pp. xxx-xxx. Mr. Downing shared a transcript of the letter with us several years ago, for which we thank him.

had publicized the new loan in Amsterdam to the United States government, which he had learned of in a letter from Hamilton dated March 25th (quoted below), and “it gives most universal satisfaction.”⁴¹

Even more conclusive proof that Hamilton’s plan was put into effect is a letter of March 27th to Hamilton from Philip Livingston, who seems to have been a trusted New York agent of the Treasury Secretary in Philadelphia. Livingston’s letter confirms that the meeting of bond dealers mentioned by Seton the day before had taken place, that the dealers would collateralize U.S. bonds at the prices Hamilton had set, and that they would cooperate in the crisis by not acting to drain specie from banks:

The Dealers last Night had a meeting & appointed a Committee, to confer with the Directors of the two Banks. The Propositions which they are to hold out I hear in general is to offer, funded debt, at your price as pledges for their discounts--& they are to sign an Agreement to bind themselves not to draw any Specie from the Banks, on account of the discounts which they shall obtain and giving checks to each other, if any one, shall part with the Check—except to those, who engage by the agreement, not to draw out Specie, he shall be deemed infamous--& held up--& that no one of the signers of the agreement will deal with him. This may last sometime, but the Banks cannot with any degree of certainty depend long upon it. If it shall answer, for a time, & not violently raise Stocks, beyond its real value, it will have the desired effect.⁴²

The other bank, besides the BONY, was the New York branch of the BUS, which was set to open on April 2nd. Shortly after it did, one businessman wrote another on April 5th that it too was discounting “pretty liberally,” which likely reduced the liquidity squeeze.⁴³

In the interim, Hamilton had written to Seton on March 25th giving orders for Seton to make open-market purchases for the Sinking Fund:

Private

If six per Cents should sink below par, you may purchase on account of the United States at par to the extent of Fifty thousand Dollars. You will not however declare on whose account you act, because tho there is, as to a purchase on that principle, no difference of opinion among the Trustees [of the Sinking Fund], the thing is not formally arranged and this is Sunday.

It will be very probably conjectured that you appear for the Public; and the conjecture may be left to have its course but without confession....

⁴¹ PAH, XI, pp. 194-95.

⁴² PAH, XXVI, p. 663, another letter that surfaced after PAH, XI, covering early 1792 was published in 1966.

⁴³ Davis, Essays, pp. 309-10.

I have just received a Letter from Mr. Short, our Minister Resident date Amsterdam 28th December, by which he informs me that he has effected a loan for Three Millions of Florins at 4 P Cent Interest on account of the United States. This may be announced; and as in the present moment of suspicion some minds may be disposed to consider the thing as a mere expedient to support the Stocks, I pledge my honor for its exact truth.

...Is the Treasury of Great Britain comparatively in so good a state? Is the Nation comparatively so equal to its debt? Why then is their so much depression? I shall be answered—the immediate necessity for Money. But if the Banks are forbearing as to the necessity of paying up—cannot the parties give each other *mutual credit* and avoid so great a press? If there a few *Harpies* who will not concur in the forbearance, let such be paid and execrated, and let others forbear. The necessity of great sacrifices among your Dealers cannot affect the Nation; but it may deeply wound the City of New York; by a transfer to Foreigners and Citizens of other States of a large Mass of property greatly below its value. The face of your affairs may undergo for a considerable time a serious change. Would not the plan I suggested to you in my last be a means of securing more effectually the debts due to the Bank—by accepting in part payment the *Credits on your Books*?⁴⁴

The next day, as noted earlier, the Sinking Fund commissioners, Jefferson dissenting—Randolph had joined Adams and Hamilton to form a majority—authorized purchases of \$100 thousand of public debt securities.

On March 28th Hamilton wrote to John Kean, cashier of the BUS, a one-sentence letter: “I request that you will not draw out from the Bank of N America any further *sum* without a previous communication to me.” Apparently the BUS was competing rather than cooperating with the other Philadelphia bank in the crisis, a definite no-no in the crisis, and Hamilton had to whip it into line.

The next day, March 29th, Hamilton wrote to the president and directors of the Bank of Maryland to request that they extend credit to merchants having duties to pay, and “to inform you that, if you should incline to make discounts for the importers, to enable them to pay the duties which have become due or which shall fall due before the 15th of April, I will leave a sum of money equal thereto in your hands, for sixty days after the dates of the notes.” In other words, Hamilton would have the U.S. Treasury deposit with the Bank of Maryland the money it would need to make loans to merchants to pay their duties into the Treasury. It was likely an offer the Bank of Maryland could not

⁴⁴ PAH, XI, pp. 190-92.

refuse. To make sure they got the message, he reiterated his proposal in another letter dated April 10th. He made a similar reiteration to the BUS on the same day.⁴⁵

On April 4th, Hamilton authorized Seton to make more open market purchases in New York:

You may apply another 50 000 Dollars to purchase at such times as you judge it can be rendered most useful....

I have doubt however whether it will be best to apply this immediately or wait the happening of the crisis which I fear is inevitable. If as is represented a pretty extensive explosion is to take place—the depression of the funds at such a moment will be in the extreme and then it may be more important than now to enter the market in force. I can in such case without difficulty add a hundred thousand Dollars probably a larger Sum. But you who are on the spot being best able to calculate consequences I leave the proper moment of operating to your judgment. To relieve the distressed and to support the funds are primary objects.

Seton responded on Monday, April 9th and again on April 11th to say “every thing is still going down Hill,” and

...I understand from everybody that this week will be the most distressing period of any. I therefore deemed it best agreeably to the latitude you give me, not to enter the Market to purchase till Wednesday...purchases afterwards will be a real relief, and as 50,000 would be but a small sum to invest I feel a hope from what you say that tomorrow I may receive orders from you to extend the purchases. The Bank continues to discount twice a week on a deposit of Stock & has very considerably by this means extended its loans—but so many failures are daily happening that I fear many of the loans are in jeopardy. (April 9th)

I find upon enquiry from those who are most conversant in the nature and extent of the Stock Contracts, that Monday the 15th of this month is the day which will probably produce the greatest distress, of course the day on which relief will be the most essential.... Therefore if it was possible that I could into the Market for you in force that day, and that it was known I should do so, it would in all probability save the City from utter ruin. Perhaps such a day may never occur again.⁴⁶ (April 11th)

The next day, April 12th, Hamilton wrote the president and directors of the Bank of New York, and also Seton with new authorizations to purchase and reiteration of still another of his tactics, one that apparently had not been implemented, for crisis containment:

(To BONY) Since my official letter to you authorizing an advance to your Cashier of Fifty Thousand Dollars to be applied to the purchase of public debt on

⁴⁵ PAH, XXVI, pp. 665-68; PAH, XI, p. 263.

⁴⁶ PAH, XI, pp. 225, 257-58, 263-64.

account of the United States I have authorized that Gentleman to apply another fifty thousand Dollars and to make the like use of it. I now confirm this direction and add my desire that he may be furnished with a further sum of fifty thousand Dollars, making in the whole One hundred and fifty thousand, the whole for the purpose above mentioned.

(To Seton) I have your letters of the 10th and 11th and more to my distress than surprise I learn by other letters a confirmation of what you apprehended namely Mr. Macombs failure. This misfortune I fear will have a long tail to it.

The enclosed you will perceive gives you additional latitude....

You must judge the best mode and manner of applying the sum. The operations here not being extensive, I have found it best to eke out my aid. I doubt whether this will answer with you. My reason was to keep up men's spirits by *appearing often* though not much at one time. All is left to you....

Some time since in a private letter I suggested a plan of relief [letter is missing] something like the following.

All parties concerned to agree to *liquidate* all contracts not executed by stating Stock at a liberal value say 22/6. for 6 P Cents 12/ for three's 13 for deferred—to adjust all differences according to the actual differences between these rates and the sums stipulated & to pay and receive those differences in Stock at the above prices.

Many good consequences would have arisen from such a plan. I think it might have parried misfortune. I fear it is now too late but something like it may perhaps break the force of the Evil.⁴⁷

Seton wrote again to Hamilton on April 16th to report that he had made all the purchases authorized, but there was supply beyond his demand, so he had allocated his purchases to accommodate “upwards of 80 persons, from which you may form a judgment that your orders for purchase were well timed—at the same time it is an evidence of the great and universal distress which prevails, I which I am sorry to say is such that it would be utterly impossible to make purchases equal to the relief.”

Seton was a faithful executor of Hamilton's orders, but in the hurly burly of Wall Street he seemed not to have Hamilton's ability to sense in the darkest hour before the dawn that the crisis was coming to a close. While Seton continued to fret and expect worse to come, Hamilton on the very same day wrote William Short, the U.S. government agent in Amsterdam that the panic of 1792 was about ended: “The specie is returning from the Country and the heaviest private engagements having now fallen due, the declension of Stock may be considered as arrested. There is little doubt that the

⁴⁷ PAH, XI, pp. 266, 272-73. The earlier “private letter” to which Hamilton refers is missing

difficulty for money among the dealers in the debt will be at no time so great as it has been, after the present week, and that changes of a favorable complexion are to be confidently expected. At first moderate perhaps, afterwards such as will carry the funds up to their due value.”⁴⁸ As usual, Hamilton was right. There is scarce a mention of market distress in any accounts of the panic after mid-April 1792.

The document labeled “C” in the appendix is Seton’s rendering of the securities dealers from whom he had made open market purchases, when, and in what forms. The purchases were executed between April 2nd and April 17th.

Document “E” in the appendix summarizes the open market purchases in both the Philadelphia and New York markets during the panic. Meredith, the U.S. Treasurer, had “eked out” on Hamilton’s behalf open market purchases of \$92 thousand (specie equivalent, for \$133 par value of securities) in Philadelphia between March 21st and April 25th. With Seton’s purchases in New York, total injections from purchases authorized by the Sinking Fund came to \$243 thousand in roughly a month.

The 1792-panic purchases turned out to be roughly \$100 thousand less than had been expended during the Bank-scrip crisis of 1791. The reason that smaller purchases could alleviate a larger panic in 1792 is that they were only one component of crisis containment. Hamilton had more tools at his disposal in 1792. He had more banks, including the BUS, to cajole into granting discounts to those who needed credit in various cities to pay, for example, customs duties falling due. He also had and used news of the new Dutch loan to the United States of \$3 million guilders at 4% to reassure the markets of the strength of the government’s finances and the more attractive yields available in domestic U.S. markets. And finally, while inventing Bagehot’s rules, he coordinated a clearing-house type of arrangement among New York securities dealers and bankers. The arrangement called for lender-of-last-resort loans to dealers on good security at a penalty rate. At the same time, the introducing agreement provided for economizing on the amount of bank specie reserves needed to support a given amount of credit and to impose sanctions on those who did not abide by the agreement. By employing all of these tools, more or less simultaneously, Hamilton was able to end the crisis in roughly one month.

⁴⁸ PAH, XI, pp. 288-91.

Fallout

For the U.S. economy, there appears to have been little or no economic fallout from the financial panic of 1792. Industrial production and GDP grew every year from 1790 to 1796.⁴⁹ Financial markets stabilized in April 1792. The United States did not have a bank failure until 1809, or another financial-systemic crisis until 1819, although banks outside of New England were forced by the War of 1812 to suspend convertibility of bank liabilities into specie from 1814 to 1817.

If Alan Greenspan was the central-bank “maestro” of recent decades by not allowing the crash of 1987, the collapse of the securities-market bubble after 1999, or the 9/11/2001 terrorist attacks to have any major negative effects for the US economy, Alexander Hamilton in 1791 and 1792 was even more a maestro. Unlike Greenspan, Hamilton did not have a history of financial crisis management to draw on, although he did know a lot of financial history. Hamilton therefore went about inventing crisis management tactics in what can only be regarded as a masterful way. In doing so with great success, he saved the financial revolution that was a component of his larger plan to enhance the economic and political power of the young United States.

At the same time, Hamilton’s crisis management in 1791 and 1792 may illustrate the moral-hazard problem that is ever present in financial crisis management. By coming to the aid of the markets in 1791, Hamilton may have encouraged the speculative bubble of 1792 by making market participants believe that there was something like a “Hamilton put” on the table. Two centuries later, it was said that Alan Greenspan’s similar actions in dealing with the Asian, Russian, and LTCM crises of the 1990s created the notion of a “Greenspan put” that fueled the so-called dot.com bubble of the late 1990s. Effective management of a financial crisis may sow the seeds of another one. There are no unmixed blessings in financial crisis management. But after 1792, the United States did not have another financial crisis until 1819, despite all the turmoil of the French-

⁴⁹ For industrial production, see Joseph H. Davis, “A Quantity-Based Annual Index of U.S. Industrial Production, 1790-1915,” *Quarterly Journal of Economics* 119 (Nov. 2004), pp. 1177-1215; for GDP, see Louis D. Johnston and Samuel H. Williamson, “The Annual Real and Nominal GDP for the United States, 1790-Present,” *Economic History Services* (2006), URL: <http://www.eh.net/hmit/gdp/>.

Revolutionary and Napoleonic-War eras. Evidently the moral hazards of Hamilton's interventions in 1791 and 1792 were not very important.

It is regrettable that Hamilton, who admittedly led a busy life and also a short one, never wrote down for the benefit of posterity a definitive account—based on his thinking, actions, and results of those actions—of how a responsible authority ought to act in a financial crisis. Or that someone else, such as Samuel Meredith or William Seton who knew much of what Hamilton was thinking, doing, and directing others to do, did not publish an account of what had happened in 1791 and 1792.

Since the Americans did not do that, central banking history credits Englishmen with developing central-bank crisis management theory. John Wood's recent history of central banking in Britain and the United States notes, as have others, that Sir Francis Baring, English merchant banker, applied the term "*dernier resort*" to the Bank of England. Baring in 1797 noted that "the Bank are not an intermediate body, or power; there is no resource on their refusal [to lend], for they are the *dernier resort*." A few years later, in 1802, English banker Henry Thornton, laid down a rule of behavior he thought proper for the Bank of England:

To limit the total amount of paper issued and to resort for this purpose, whenever the temptation to borrow is strong, to some effectual principle of restriction; in no case however, materially to diminish the sum in circulation, but to let it vibrate only within certain limits; to afford a slow and cautious extension of it, as the general trade of the kingdom enlarges itself; to allow of some special, though temporary increase in the event of any extraordinary alarm of difficulty...; this seems to be the true policy of the directors of an institution circumstanced like that of the Bank of England.

These English writers are often thought to have been the anticipators of Bagehot, who as we have seen more clearly laid down the rules for central bank crisis containment in 1873. Until recently, no one could have been aware that Alexander Hamilton had formulated Bagehot's rules nine decades earlier, in March, 1792.⁵⁰

Perhaps a positive item of fallout from the panic of 1792 occurred May 17th of that year when twenty-four broker-dealers of New York met under a buttonwood tree on Wall Street and signed an agreement to trade with each other on preferential terms. This

⁵⁰ See John H. Wood, *A History of Central Banking in Great Britain and the United States* (Cambridge: Cambridge University Press, 2005), pp. 27, 44.

is often regarded by many, including the NYSE itself, as the origin or founding of the New York Stock Exchange. No fewer than 10 of the 24 signers are named in Seton's account of those from whom he bought securities at Hamilton's direction in April. It is also likely that some of these securities dealers also cooperated with each other and with the BONY to implement Hamilton's March 22nd Bagehot-like plan designed to alleviate the crisis by extending bank credit on securities collateral. All of the securities regularly listed and quoted in the New York market in the early to mid 1790s—the U.S. 6s, 3s, and deferreds, and the stocks of the BONY and the BUS—were Hamilton's creations. It seems possible that Hamilton's March 22nd plan, by fostering a spirit of cooperation during crisis among members of the New York financial community, might also have led to the foundation of the NYSE. The brokers' club of May 1792 definitely introduced an improved trading technology for securities markets. Hence, the panic of 1792 very likely resulted in institutional changes with long-run benefits for the development of U.S. securities markets.⁵¹

Figures and Tables:

J.S. Davis's (1917) securities price charts:

- Fig. 1. Boston Monthly Quotations...1789-92**
- Fig. 2. Philadelphia Semi-Weekly Quotations...1791-92**
- Fig. 3. Philadelphia...Quotations..."Scrip" of BUS, July-Dec. 1791**

Our securities price charts:

- U.S. Sixes, Boston, New York, and Philadelphia, Oct. 1790-1792**
- U.S. Sixes in Three Markets During the Panic of 1792 (Jan.-June)**
- U.S. Sixes, Philadelphia Price (Oct. 1790-Dec. 1792)**
- U.S. Sixes, New York Prices (Oct. 1790-Dec. 1792)**

⁵¹ We compared Seton's list with the Buttonwood agreement signers as given in Walter Werner and Steven T. Smith, *Wall Street* (New York: Columbia University Press, 1991), p. 212; chapter 2 of this book provides a stimulating account of how the Buttonwood agreement came to be. See also Richard Sylla, "Origins of the New York Stock Exchange," in Goetzmann and Rauenhorst, eds. *Origins of Value*, Chap. 17, pp. 299-312.

--Bank of the United States, Philadelphia Prices (July 1791-Dec. 1792)

Tables from Elliott's Funding System on open market operations, 1791 and 1792

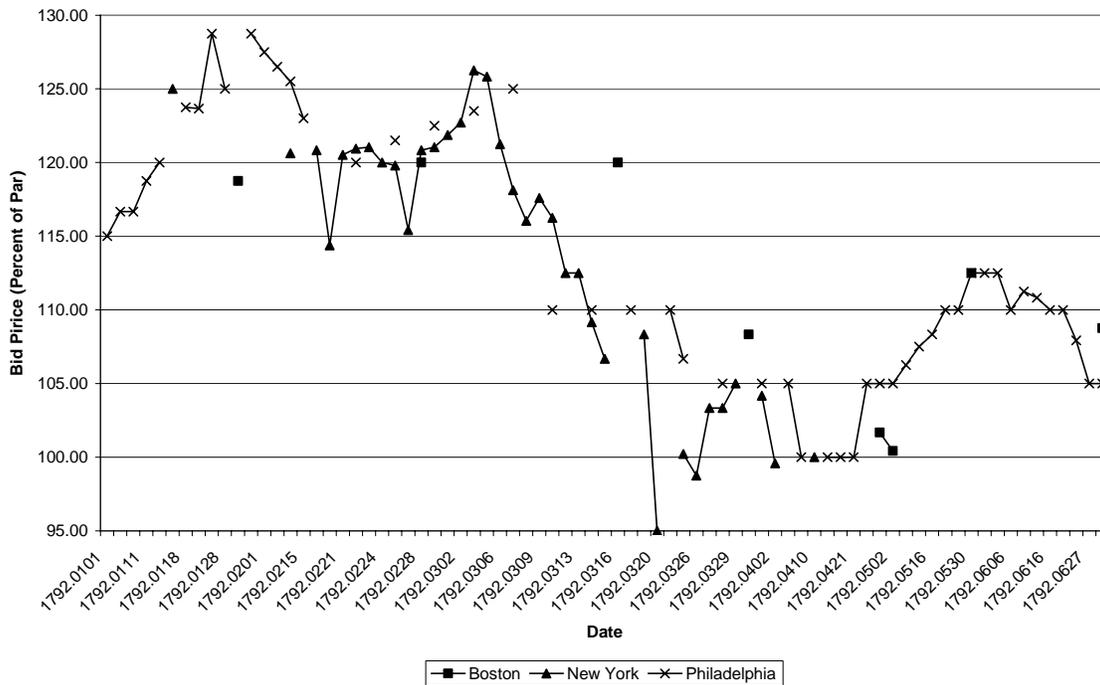
--No. 1. Statement of the purchases of public stock.... (p. 99)

--C. Statement of the purchases of public stock.... (pp. 134-37)

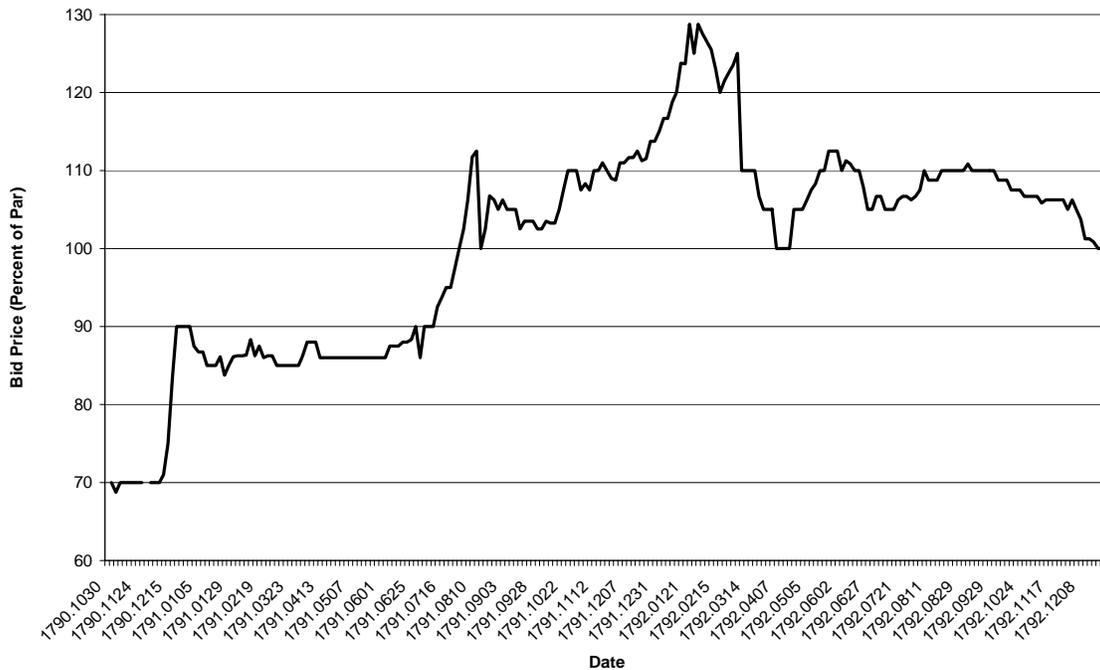
--E. General statement of the purchases of public stock....



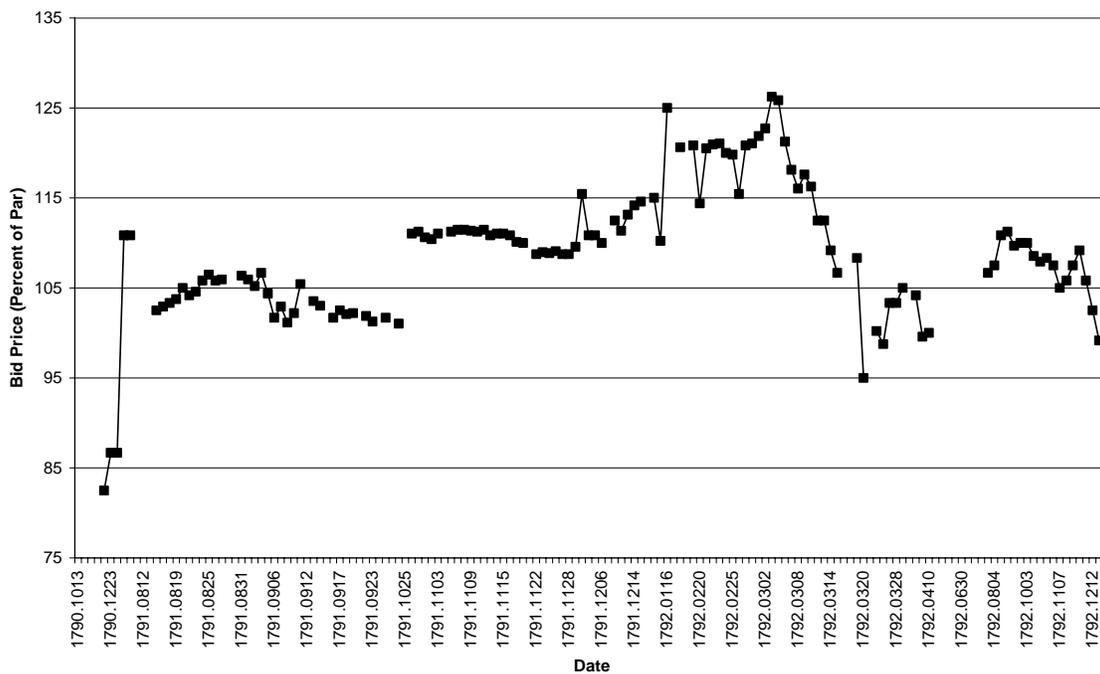
U.S. Sixes in Three Markets During the Panic of 1792



U.S. Sixes, Philadelphia Price



U.S. Sixes, New York Prices



Bank of the United States, Philadelphia Prices

