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WHAT CAUSED THE CRISIS OF 1839?

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ABSTRACT

The 1830s were a decade of enormous importance in American economic history. A disproportionate amount of attention has been paid to the Panic of 1837. The Crisis of 1839, however, led to four years of deflation and depression. This paper shows that events in 1839 followed a different path than events in 1837. Domestic, rather than international forces, played a key role in the origins and duration of the crisis. The critical element was the massive increase in state borrowing after 1836, and the subsequent collapse of internal improvement projects in the west and south in the summer 1839. This was an American cycle of events.

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The decade between 1834 and 1843 fascinates American economic historians for many reasons. Prices fluctuated as rapidly then as in any other period in the nation's history. The deflation from 1839 to 1843 rivals the decline from 1929 to 1933, and the sharp drops in 1837 and 1839 are as large as any other single year declines. The contractions in 1837 and 1839 followed four years of political infighting between Andrew Jackson and his opponents over the shape of the government's economic policies. The economic troubles after 1837 crystalized the difference between the two new political parties, the Democrats and the Whigs. Their debate about the government's relationship to banks, the causes of the panic of 1837, and government's role in promoting economic growth through internal improvement investment continued into the 1850s and formed the axis around which national party coalitions formed. The crisis that began in 1839 ultimately led nine state governments to default on their debts in 1841 and 1842. Stimulated by the crisis, the debate over the appropriate relationship between the state and the economy ultimately produced a wave of constitutional reforms. Beginning with New York in 1846, almost two-thirds of the states wrote new constitutions in the next ten years. The new constitutions restricted state investment in private corporations; limited or banned incorporation by special legislative acts; created general incorporation laws for all types of business; altered the way state and local government issued debt; put absolute limits on the amount of debt governments could issue; and fundamentally changed the structure of the property tax. These changes were intended to remedy weaknesses in state and local government revealed during the crisis following 1839. And not least, the economic history of this period produced one of the neatest exercises in Cliometrics: Temin's demonstration that the inflation of the 1830s and the Panic of 1837 was not caused by Jackson or Biddle, but by exogenous international factors.

By September of 1837, Democrats and Whigs were already arguing over the causes of the Panic of 1837. Given its central importance in the politics of the 1840s, it is not surprising that histories focus on 1837 and the events leading up to the Panic.¹ Yet, it was the Crisis of 1839 that led to four years of deflation and contraction and the default of nine states on their debts in 1841 and 1842. While the importance of 1839 is widely acknowledged in the economic histories of the period, it is poorly understood.² Temin devotes just one chapter of *The Jacksonian Economy* to events after 1837, and only a few pages of that chapter discuss the causes of the Crisis of 1839. Temin concludes that 1839 was much the same as 1837, that international forces were critical in both years. Temin, of course, is concerned with events leading up to and including the Panic of 1837 and his conclusions about 1839 are casual remarks rather than in depth analysis. If the Crisis of 1839 was the same as the Panic of 1837 then this is not a major problem. If the two crises were different, and they were, we need to understand more about what happened 1839. The first task of this paper is to show how the Crisis of 1839 differed from the Panic of 1837.

In *The Migration of British Capital to 1875*, Leland Jenks claimed the failure of Nicholas Biddle's cotton speculation in the summer of 1839 brought down the Bank of the United States in October and created the Crisis. Jenks was concerned with international capital flows and events in Britain. While there is no doubt that the Bank of the United States was an important channel through which British capital reached the United States between 1837 and 1839, it is by no means clear that the Bank's losses in cotton caused its suspension or that the suspension was the fundamental cause of the Crisis. Bray Hammond draws heavily on Jenks and blames the Crisis on the cotton speculation as well. The second and third tasks are to evaluate the relative importance of international and domestic forces in causing the Crisis, and to determine why the Bank of the United States suspended in October of 1839 and failed in 1841. Because the resources of the BUS were tightly stretched between Europe and the United States, had

international pressure on the American economy been an important factor in the Crisis it should be visible in the Bank's suspension.

Temin's treatment of the years after 1837 focus on whether there was a depression or just a deflation after 1839. He argues that the contraction from 1839 to 1843 was primarily monetary: that prices, rather than production fell. Prices fell because the money supply shrank. If we accept Temin's argument, as I do, then the question becomes why did the money supply collapse in 1839 and continue decline in 1840? Temin is not certain of what happened:

“If banks and the American public had not decided to hold more specie, specie would have been exported, and the money supply would have fallen anyway. But it is not quite accurate to say that the cessation of capital imports was the cause of the deflation, and that *the mechanism by which the supply of money fell was irrelevant*. For capital imports stopped at least partly because the American states defaulted on their interest payments, and these states defaulted partly because the financial system of the United States was prostrated by deflation. To some extent, therefore, the decline in British investment in the United States was a result of the crisis in the United States...” (p. 165, emphasis added.)

The final task is to show how and why the money supply fell from 1839 to 1841.

The key to accomplishing these tasks is the behavior of state governments after 1830. State governments were the major investors in canals, railroads, and banks, and their behavior as principles in these undertakings had an enormous impact on the economy. The largest amounts of state government investment took place after the May of 1837, and most of the borrowing was in the south and west. The crisis in 1837 hit banks in the commercial centers in the northeast and in New Orleans. The crisis in 1839 was concentrated in southern and western banks. State governments in the south and west were closely tied to their banks: a third of state borrowing up to 1841 was to finance investments in state banks. The relationship between state governments and their banks was so close that when states began to experience financial troubles in 1839 so did their banks. The crisis in state finances began in the summer of 1839 in the west, even though the defaults did not occur until 1841 and 1842. The crisis in state finances and the

financial crisis were intimately linked. Unlike 1837, when banks quickly recovered from the Panic, after 1839 banks in the south and west continued to lose deposits and specie through 1841. This was the “mechanism by which the supply of money fell,” the primary cause of the deflation after 1839.

The Bank of the United States did not suspend specie payments in October of 1839 because of international pressures – European financiers were willing to lend the Bank funds until early 1840 -- but because of domestic pressures in the United States. The Bank failed in 1841 (and was under pressure in 1839) because it acquired a large portfolio of state bonds and private bank stocks after becoming a state-chartered bank in 1836. As the fiscal crisis of the states deepened, the value of the Bank’s assets fell. The connection between state finances, capital flows, and banks is crucial to understanding the unfolding of events after 1836. It is the connection between states and their banks that explains why the economic contraction that followed the Crisis of 1839 was so deep.

Background

The contours of the 1830s macro economy can be seen in Figure 1, which presents Smith and Cole’s weighted wholesale price index. The price series is what Matthews calls “double-headed,” with a peak in or around 1836 and a peak in or around 1839. This double headed pattern is also repeated in land sales and international trade.³ We can say little about the course of national product or employment between 1836 and 1843. Gallman’s worksheet data show considerably less variation in GNP than in the trade or price data, and Temin uses those numbers to argue that the effects of the depression that began after 1839 were largely nominal.⁴ Real output does not appear to have fallen much between 1839 and 1843, but prices dropped precipitately.⁵ The big question is why prices recovered so quickly after 1837 and fell so far after

1839.

Democrats, and some historians, argued that the expansion of the banking system in the early 1830s produced an increase in the money supply, a rapid inflation, and the conditions for a financial crash in 1837. Whigs, and other historians, maintain that Jackson's failure to recharter the Bank of the United States, his arbitrary removal of federal deposits from the BUS to the state banks, the Specie Circular of 1836 (which required that all federal lands be purchased with specie), and the mismanagement of the federal surplus distribution in 1837, disrupted the financial system and ultimately led to the Panic in May of 1837.⁶ The essential elements of Temin's revision of both traditional stories are straightforward. During the period of intense inflation from 1833 to 1836 and for the longer period of mild inflation between 1829 and 1839, the growth in the money supply was driven by specie flows. Temin showed that specie flows into the United States were caused by exogenous international events, and neatly defused one major point of contention in the Bank War. Neither Jackson or the state were responsible for the inflation.⁷

Temin argued next that international factors precipitated the Panic in 1837. His evidence on the causes of the Panic is necessarily more circumstantial than his direct evidence on specie flows and the money supply. Temin accepts that the Specie Circular and the Surplus Distribution could have contributed to the crisis, but he points to the restriction in credit caused by the Bank of England, beginning in late 1836, as the primary cause of the Panic.⁸ The basic financial evidence can be found in Table 1, which reports the New York and Boston price of 60 day bills payable in London relative to par (1), Officer's estimate of bill prices adjusted for interest and currency premiums relative to parity (2), discount rates for domestic commercial bills in New York and Boston (3), the Bank Rate of the Bank of England (4), commercial bill rates in London (5), bullion reserves at the Bank of England (6), and cotton prices in New Orleans (7).

The export side of America's international trade was dominated by raw cotton, the largest export of the United States and typically the largest import into Britain, although cotton's share of American exports was far larger than cotton's share of British imports.⁹ Most cotton found its way to Britain through a complex series of middlemen. Southern cotton owners, growers or factors, typically consigned their product to an intermediary who arranged for shipment and finance, in return for which the cotton owner was able to draw on credits for a percentage of the estimated value of the cotton when it was actually sold.¹⁰ The owner could realize cash for these credits by drawing a bill of exchange payable at sight plus sixty days in sterling in London (or a bill on New York or Boston). These bills could be discounted with local banks, merchants, or other financiers. Bills of less well known individuals required the endorsement of individuals with more standing, and most bills acquired a number of endorsers, all of whom stood at risk to honor the bill in the event that the sale of the cotton failed to generate funds sufficient to redeem the debt. The bills accumulated in smaller financial centers, were bought and transferred to New York or New Orleans, and from there on to England.

American importers of British goods typically purchased goods on credit extended by British or American financial intermediaries in the form of letters of credit against which they could draw bills payable in London. In order to settle these obligations, American importers bought sterling cotton bills and sent them to London. As a result, there was an active market for sterling bills in the United States. The BUS played a prominent role in this market, buying bills in the south in the fall and winter (the shipping season for cotton) and selling bills in the northeast in the spring and summer. In partnership with Barings, who extended a line of credit to the Bank, the Bank was able to stabilize seasonal fluctuations in bill prices, as well as provide greater liquidity to both sides of the international market. The British side of the market was dominated by the "American" houses, British firms that specialized in the financing of the

American trade: “They were Baring’s, Brown’s, Lizardi’s. Morrison, Cryden and Co., and the three that later became notorious as “the three W’s”, Wilson’s, Wiggin’s, and Wildes’.”¹¹

Column (1) of Table 1 reports the New York and Boston price of 60 day bills drawn on London, relative to their par value in New York and Boston dollars.¹² Bills were typically payable 60 days after presentation to the drawee in London. As a result, the bill prices contain an implicit interest charge, a implicit exchange premium (or discount) on New York or Boston currency, as well as a pure exchange rate. Column (2) of the table presents Officer’s quarterly estimates of the pure exchange rate, adjusted for changes in interest rates and the price of American currency.¹³ The market for exchange was the major conduit through which economic influences were transmitted between Britain, the United States, and the international financial community. Because bills drawn on cotton consignments represented advances rather than payments, the whole system was susceptible to a decline in the price of cotton. If cotton prices fell far enough, the sale price would not cover the cost of shipping the cotton and the advance. In that case, bill drawers and all of the endorsers were potentially liable for the shortfall.

The American economy was booming in 1836. Land sales were extraordinary, credit markets were tight, and discount rates on domestic commercial paper in New York and Boston were high for the entire year, column (3). Trade with Britain reached historical highs and British investors found new investment opportunities in the canals, railroads, and banks being built by American states.¹⁴ The Bank of England’s Bank rate had been 4 percent since 1827. In late 1836, market rates rose, column (5), discounting at the bank increased, and the Bank of England began to feel the pressure on its bullion reserves, column (6). The Directors of the Bank identified one source of specie outflow in the American trade. The Bank held increasing amounts of American bills as security for loans to the American houses. In July 1836, the Bank advanced the Bank Rate to 4.5 percent and became more selective in the bills it would accept,

singling out American bills. “A part of this action was the absolute refusal of the Bank’s Liverpool Agent, no doubt under orders, to handle paper drawn from America on those firms.”¹⁵

The effects on the American market were chilling. The price of cotton fell, column (7), and short term interest rates rose further. As cotton prices declined, all who had endorsed sterling bills were potentially liable for losses. Heaped on top of the international disruption were the internal derangements caused by the Specie Circular and the Distribution Act, which, as Rousseau documents, required an unusual pattern of specie movement throughout the country. Under pressure throughout the spring of 1837, American banks suspended convertibility into specie in May of 1837. Exchange on London rose to a premium of ten percent in the ensuing months, as the commercial crisis spread.

The fall in the price of cotton was one of the principal ways in which the pressure exerted by the Bank of England on the English financial market was communicated to the United States. As a result of this fall, debts secured by cotton became uncollectible, merchants holding such debt failed, banks found their assets illusory or at least illiquid, and they refused to honor their liabilities. In short, they suspended payment. The restrictions of the Bank of England, acting strongly through the price of cotton, bear much of the responsibility for the suspension. (Temin, p. 141)

The pressure on domestic markets was eased by the suspension and commercial rates on domestic commercial paper fell back to more normal levels. The Bank of England reversed its policy toward the American houses in late spring of 1837, and increased its loans on the security of American bills. The federal government allowed the third installment of the distribution to be paid in bank notes rather than in specie. The crisis eased and, with the repeal of the Specie Circular in 1838, the economy began to recover rapidly.

Peter Rousseau has challenged Temin’s emphasis on international factors in the Panic of 1837 by carefully examining the regional pattern of specie holdings in banks in 1836 and 1837. Rousseau finds that the Surplus Distribution, whose effect was to cause a drain of specie from New York banks, played an important role in the Panic. In their weakened condition, the

subsequent dislocation imposed by the Specie Circular brought on the panic: “International factors added pressure to an already volatile situation by late April and early May, but any demands for specie from abroad would have been absorbed by a New York money market that had not been subjected to such a severe internal drain.”¹⁶

I find both Temin and Rousseau’s evidence to be compelling. The Panic of 1837 was caused by both international and domestic forces. The importance of geography in their debate, is relevant for the analysis of 1839:

“Since the problem [the Panic] originated in international affairs and was communicated through the cotton market, the pressure was felt first in the principal markets for cotton, New Orleans and New York. Had the pressure originated with the Specie Circular or the distribution of the surplus, the pressure would have been concentrated first in the West or in New York, the city most drawn upon for interstate transfers, and not in New Orleans, where bank deposits of the Federal government doubled in late 1836, and only small interstate transfers were demanded.” (Temin, p. 144).

What then of 1839? The economy recovered quickly in 1838 and 1839. Prices, exports, and imports all recovered to near the levels of 1836. Land sales were higher in 1839 than any year between 1820 and 1850, except for 1835 and 1836, although land sales in the south did not recover. In 1838 and 1839, the British suffered poor wheat harvests. Grain imports and continued British lending in the United States again put pressure on bullion reserves in the Bank of England. The Bank responded as before by raising the Bank Rate. Financial markets tightened, the price of cotton fell, and in October 1839 the Bank of the United States (now of Pennsylvania) suspended convertibility, followed by banks throughout the west and south. Banks in New York and New England did not suspend, however, and the price of sterling bills stayed near par throughout the crisis. The reasons for the crisis of 1839 appear to be the same as in 1837, an international crisis prompted by the actions of the Bank of England and transmitted to the United States through lower cotton prices.

The Panic of 1837 compared to the Crisis of 1839

The Treasury Department was required to collect information on every bank in the country, on or near January 1 of each year, throughout the 1830s. Table 2 draws on these reports to track the experience of banks from January 1, 1837 to January 1, 1841. In order to emphasize the main trends, the nation is divided into two regions: the Northeast, containing all the states north and east of Pennsylvania (including PA), and the south and west, containing the remaining states. Totals are also reported for the BUS and the nation as a whole. The relevant comparisons for the two crisis are between January 1, 1837 and 1838, and between January 1, 1839 and 1840. The upper four panels give the percentage change in loans and discounts, specie, circulation, and deposits for the two regions. The bottom two panels give the aggregate of specie and circulation plus deposits on January 1 of each year in both regions. The report and the table include all states from 1837 to 1840. The 1841 numbers were incomplete for Pennsylvania, free banks in New York, and Connecticut. The percentage changes from 1840 to 1841 in the table are calculated on a same state basis, and the levels for 1841 are not reported.

The table tells a clear story. The Panic of 1837 fell heavily on northeastern banks. Excluding the BUS, northeastern banks held 37 percent of the banking system's specie and 48 percent of the system's circulation and deposits. Between January 1, 1837 and January 1, 1838, specie fell by 10.6 percent in the northeast vs. 5.6 percent in the south and west, loans and discounts by 14.8 percent in the northeast vs. 1.4 percent in the south and west, circulation by 26.4 percent in the northeast vs. 13.7 percent in the south and west, and deposits fell by 43.5 percent in the northeast vs. 32.7 percent in the south and west. In every measure the Panic was more severe for northeastern banks.

The Crisis of 1839 was completely different. Between January 1, 1839 and January 1, 1840, specie holdings in the banking system as a whole fell from \$43 million to \$34 million, in

1837 they had fallen from \$44 million to \$41 million. Banks collapsed in the south and west, but not in the northeast. Between 1839 and 1840, specie holdings fell by 5.7 percent in the northeast vs. 25.0 percent in the south and west, loans and discounts by 5.8 percent in the northeast vs. 11.0 percent in the south and west, circulation by 23.2 percent in the northeast vs. 21.4 percent in the south and west, and deposits fell by 5.8 percent in the northeast vs. 27.6 percent in the south and west. In every measure but circulation, the Crisis was much more severe for banks in the south and west than for northeastern banks.

The differential regional impact of the crisis was magnified in 1840. Although the numbers for January 1841 are incomplete, we can use data on a comparable sample of states to see that the pattern of southern and western collapse continued in 1840. In every measure, northeastern banks recover quickly during 1840. Banks in the south and west continue to suffer reductions in loans and discounts, specie, circulation, and most importantly, deposits. Deposits are the measure that best captures public confidence in the banks, and the public had utterly lost confidence in the banks in the south and west.

The money supply is a function of the bank's desire to make loans and the public's willingness to hold assets in the form of specie, bank notes, and bank deposits. Table 3 decomposes changes in the money supply into its component elements: circulation plus deposits minus specie held by banks (the converse of specie held by the public). Between January 1, 1839 and January 1, 1841, the money supply declined nationally by 22 percent. Southern and western banks account for 80 percent of the decline. The decline in their notes and deposits is sufficient to explain all of the decline in the money supply, but that was offset by a decline in their specie holdings. Declines in northeastern bank deposits and circulation account for only 20 percent of the decline in the money supply. Why were banks in the south and west hit so hard?

International Forces

The evidence on southern and western banks casts doubt on the hypothesis that international forces were the driving cause of the Crisis. “Since the problem [the Panic of 1837] originated in international affairs and was communicated through the cotton market, the pressure was felt first in the principal markets for cotton, New Orleans and New York.” (Temin, p. 144). If the Crisis of 1839 was caused by international forces we would expect the brunt of the crisis to fall on the cotton centers of New York and New Orleans, as it clearly did in 1837. The Crisis of 1839 had a smaller impact on New York banks than the Panic of 1837. Specie holdings in New York banks decreased by 37 percent in calendar 1837, but by only 11 percent in 1839. Specie holdings in Louisiana banks decreased by 12 percent in calendar 1837, and by 15 percent in 1839. Nationally, specie holdings fell by only 3.8 percent in 1837 and by 22.5 percent in 1839. Unlike the 1837, the crisis of 1839 was not centered in New York and New Orleans.

What of the larger international picture? Large grain imports in 1838 and 1839 combined with rapidly growing British investment in American state bonds, led to a depletion of the Bank of England’s specie reserves and tightening financial markets. By July of 1839, interest rates on commercial paper in London rose to 5.5 percent. The Bank Rate was raised from 4 to 6 percent in a series of steps. There can be no doubt that tighter conditions in Britain put pressure on cotton markets and made it more difficult for Americans to market their state bonds in London. Unlike 1837, however, the behavior of interest rates in 1839 indicate a American domestic, rather than an international, credit crisis. The price of international exchange did not change in October of 1839, but domestic interest rates jumped significantly. While in May of 1837, international exchange jumped significantly and domestic rates fell.

The Bank of England did not move specifically against the American trade in 1839.¹⁷ It sought extra gold reserves through a loan from the Bank of France. Tooke credits grain imports

and the Bank of England's desire to accommodate the American trade as the source of the specie outflow, and he blames the bank for not raising the Bank rate above the market rate and contracting, rather than expanding, bank discounting.¹⁸ Thorp's *Business Annals* classify every year in Britain from 1838 to 1843 as a depression year. Thorp reports in 1839 that "Money tightens severely; gold crisis, April," the crisis that led to the Bank of England's loan from the Bank of France. Gayer, Rostow, and Schwartz speak of a "panic" in 1839, "The major cause of this panic was the drain of bullion to the United States in payment for the large quantity of American Securities then being imported."¹⁹ As in 1837, the evidence supporting international forces as the cause of the Crisis of 1839 is necessarily circumstantial. To the extent that the crisis was caused by the Bank of England's policies, the crisis was in part caused by growing American state debts. Is there evidence that domestic forces within the United States were at work?

State borrowing

The massive increase in state government involvement in canals, banks, and railroads in the 1830s has a prominent role in American economic history.²⁰ The timing, geography, and purpose of the investments is often not appreciated, however. Table 4 presents information on the amount of debt outstanding in each state in September of 1841, allocated by the year in which the debt was authorized from 1835 to 1841.²¹

The first important aspect of state borrowing is timing. The table illustrates the tremendous amount of borrowing in 1837, 1838, and 1839 (much of the 1837 borrowing authorized after May). These numbers alone cast substantial doubt on the idea that Americans thought the Panic of 1837 was the beginning of a serious economic downturn. States throughout the country went right on borrowing, Panic or no Panic. Few states borrowed heavily in 1836 at

the height of the economic boom. In relation to the Bank of England's bullion reserves, state borrowing was a much more important cause of specie outflows in 1838 and 1839 than they could have been in 1836.

The second important aspect of state borrowing is geographic. Before 1835, 80 percent of the borrowing is in five states: New York, Pennsylvania, Maryland, Ohio, and Louisiana.²² Between 1835 and 1841 these states account for only 35 percent of state borrowing. State investment in the south and west exploded after 1836. In 1835 and 1836, the federal government sold over 30 million acres of land in the south and west, dramatically increasing the fiscal resources of the public land states. The federal government sold enough land in Indiana in 1836 alone to double the number of taxable acres in that state. Every public land state shared somewhere between 3 and 5 percent of the proceeds of federal land sales within its borders. In 1836, almost \$25,000,000 worth of land was sold, representing a bonus of roughly \$1,000,000 to the states in fiscal 1837. The bulge in federal revenues produced a large surplus and the federal government promised to distribute to the states \$37,000,000 in quarterly installments spread over 1837. The distribution was on the basis of representation in Congress, so that the largest total grants went to the populous non-public land states. Illinois received roughly \$315,000 from its share of land sales within its borders, and \$358,439 from its surplus distribution (only three of the four quarterly payments were made).²³

This transitory income certainly stimulated state investments, but it was probably less important than another aspect of the land boom. Every public land state entering the union after Ohio was forced to agree to a five year moratorium on the taxation of land sold by the federal government. Land sales in Indiana and Illinois, for example, in 1836 not only increased the amount of current revenues those states received, they knew twice the current acreage could be taxed in 1841. The land boom presented public land states with a significant increase in their

permanent income, most of which did not come online for five years. Rationally, the states borrowed against that income.

The rapid expansion of state investment was not caused by supply side factors in the capital market: interest rates did not fall nor did states that had been trying to borrow money suddenly find they were able to. Indiana and Illinois had been considering transportation improvements since the 1820s, and now found it fiscally feasible to undertake investments. New York, Pennsylvania, Maryland, and Ohio all expanded their already substantial investments. Southern states continued to invest in banks. Both domestic and foreign lenders were willing to accommodate these new state investments. By 1839, interest rates were rising and American borrowers were having more difficulty placing their bonds in Britain. The investment boom was not driven by the supply side.²⁴

While the land boom fueled increasing state investments, state investments probably fueled the land boom after 1837. Transportation improvements in the northern states increased land values and, with the price of public land fixed at \$1.25 and acre, stimulated land sales.²⁵ The continuation of the land boom in the northwest in 1838 and 1839 surely owed something to canal and railroad construction. The overall recovery of the economy was driven, in part, by state expenditures.²⁶ The direct fiscal impact of state spending was probably small, \$30 to \$40 million of annual expenditures in an economy of over \$1.5 billion, but the continued investments were both a reflection of, and an element sustaining people's confidence in the boom. Increasing state expenditures stimulated the economy in other ways as well.

State Investment in Banks

The third important aspect of state borrowing is purpose. State investment in banks typically receives less attention than investments in canals and railroads. Although many

northeastern states actively invested in and promoted banks in the 1810s and 1820s, by the 1830s state involvement in banking had subsided.²⁷ The vast majority of the country's banks were located in the northeast: out of the 626 banks and branches reported by the Treasury Department in 1837, 476 were located to the north and east of Pennsylvania.²⁸ Most states in the south and west had fewer than 10 banks. Many states in the south and west had close associations with their banks. There were "State" banks in North Carolina, South Carolina, Alabama, Mississippi, Kentucky, Tennessee, Missouri, Arkansas, Indiana, and Illinois. These banks were state chartered private banks, with varying degrees of state government interest and control. All were closely associated with state finances and fortunes in the eyes of the public.²⁹

Table 5 reports all debt authorized by state governments to invest in banks.³⁰ States invested over \$66 million in banks, all of it in the south and west, providing roughly half of all the bank capital in southern and western states. There was a symbiotic relationship between these states and their banks. State banks typically were the depository for state funds and the major investment vehicle for state governments (school funds, for example, were often invested in bank stock), while state governments were usually the largest depositor and investor in the banks. The banks also came to hold significant amounts of state bonds. Southern and western banks increased their holdings of state bonds from \$5 million on January 1, 1837 to over \$15 million on January 1 of 1840.³¹

The types of banks created by the states varied across regions. Most southern state investment was in land or property banks, rather than commercial banks.³² Modeled on the colonial land banks, stock could be purchased by a mortgage on the lands of the stockholder, usually limited to half the value of the lands mortgaged. Stockholders were able to borrow from the bank to buy new lands as well. The state purchased stock by issuing bonds or by guaranteeing the bonds of the individual banks. The bank's liquidity came from sale of the state

bonds; their assets were the mortgages. The banks were responsible for debt service on the bonds. These banks were thought to be safe investments, since the value of the mortgaged lands stood as security for the bonds. Although these banks were closely tied to cotton, they were extremely susceptible to declines in the value of land.

Two northern states, Michigan (1837) and New York (1838), experimented with free banking. While state governments did not invest in these banks, the banks were required to invest in state government debt, since the note issue of free banks was backed by state securities. These banks were extremely susceptible to declines in the prices of state bonds.³³

In 1837 and 1838 alone, state governments invested over \$20 million in bank capital. The investments were concentrated in a handful of states: Illinois, Indiana, Missouri, Arkansas, Mississippi, and Alabama. Collectively, this represented a substantial increase in bank capital in those states, and provided banks with liquid assets during and after the Panic of 1837. In Alabama and Mississippi, bank investments were made explicitly to deal with the banking crisis. States provided direct fiscal stimulus by building canals and railroads and shored up the banking system. States also extended credit to a number of large investment banks in the northeast between 1837 and 1839. To understand how this happened, we need to look more closely at how states borrowed.

Issuing Bonds

While each state marketed bonds in its own way, there were similarities. Enabling legislation usually authorized the Governor and/or a administrative agency, like a canal or internal improvement board, to issue bonds under certain restrictions. The agents placed the bonds, sometimes with individuals, sometimes with banks. Bonds were sold for cash, on commission, or on credit. Commission sales involved a middleman, usually a bank, who would

maintain a small inventory of bonds to be replenished as the bonds were sold and proceeds turned over to the state. In a credit sale, all of the bonds were turned over to the middleman immediately, and then the state received payment over a specified period of time. Banks often sold the bonds, or pledged them as security for other loans, long before they paid the states. Early in the 1830s, bonds typically sold for a premium, and were easy to market. In 1838, as the market for bonds tightened, states found it difficult to sell bonds at par, and a number of banks came forward and suggested that states sell bonds on credit.

The bank most notoriously involved in credit sales was the Morris Canal and Banking Company of New Jersey. In 1838 and 1839, the state of Indiana made credit advances to the Morris Bank including \$1,000,000 in internal improvement bonds payable in sterling in London, a \$1,000,000 issue to increase the capital of the State Bank, and \$1,000,000 in internal improvement bonds. For the last advance the Morris Bank was to pay \$100,000 a month, beginning in September 1839. In August 1839, the Morris Bank defaulted.³⁴ Several other banks and individuals also defaulted in 1839. The “suspended” debt was estimated at \$3,381,000; of which \$2,146,000 was for bonds issued to the Morris Bank.³⁵ The Morris Bank also defaulted on credit sales with Michigan. The Phoenix Bank of New York defaulted on credit sales with Arkansas. Illinois had trouble with several banks. The BUS was a partner with the Morris Bank in Indiana and Michigan, as well as taking bonds on credit from Mississippi.³⁶

The use of credit sales was not illegal or inappropriate, but the banks often stretched the limits of propriety. In 1837, Michigan authorized a bond issue of \$5,000,000, sold through the Morris Bank on commission. In the spring of 1838, the Morris Bank, in partnership with the BUS, suggested to the state that the banks take the entire remaining bond issue at once, and remit \$250,000 to the state quarterly until the balance had been paid. Morris was responsible for one quarter of this commitment, the BUS three-quarters. The state agreed, and in May 1838

advanced the remainder of the \$5,000,000 in bonds to the banks. The state was surprised to find in July of 1839 (the state's first interest payment was due then, the banks paid the January interest), that the banks demanded interest on the entire \$5,000,000, even though the state had received only \$1,590,000. By the summer of 1839, all of the Michigan bonds issued to the Morris Bank had been transferred to the BUS and either sold or hypothecated by the bank. When the Morris Bank defaulted on the state in the fall of 1839, and the BUS defaulted in 1841, the state was righteously indignant.³⁷ Michigan defaulted in 1842, and repudiated the bonds for which it had never been paid.

In 1837, 1838, and 1839 credit sales handled by these nascent investment banks amounted to over \$20 million in the bonds of the newest and most undeveloped states.³⁸ At the same time, more established states like Ohio, New York, Massachusetts, Pennsylvania, and Maryland were borrowing heavily. This was an enormous amount of debt to put on the market in a very short period of time. When the banks over reached and defaulted on their obligations to the states, they set in motion the events that became the Crisis of 1839. The Bank of the United States was a leader among this group of highly speculative financial organizations.

The Bank of the United States of Pennsylvania and The Crisis of 1839

The Crisis of 1839 is usually dated from the suspension of specie payments by the Bank of the United States of Pennsylvania on October 10, 1839, followed by suspensions in the south and west shortly thereafter. It is doubtful that the BUS suspension was a primary cause of the Crisis, but it reflected the forces that led to suspension throughout the south and west and drove the economy into a recession. By assessing what caused the Bank to suspend in 1839 and to fail completely in February of 1841, we can trace the role played by international and domestic forces in the Crisis. The Bank had been a key player in America's economic relationship with Britain

before 1836, and in the years that followed the Bank extended its international operations even further. By late summer of 1839, the Bank's resources were stretched tight as a bow string between London, Philadelphia, and the South. Had international forces caused the Crisis, some reverberations should be visible in the bank's collapse. Jenks and Hammond lay the blame for the downfall of the Bank and the economy on the failure of the Bank's cotton speculations, and thus on international factors. The evidence, however, is far stronger for Walter Smith: that the Bank suspended and failed because Biddle's policies after 1836 created systematic weaknesses in the Bank's position. Domestic pressures forced the Bank to suspend in October of 1839. International creditors were trying to keep the Bank in business as late as 1840.

When the Bank of the United States lost its federal charter in 1836 and obtained a charter from the state of Pennsylvania, it transformed itself into what amounted to a universal bank. Up to 1836 the BUS had been the nation's largest commercial bank, its assets concentrated in high quality short term commercial paper and its liabilities in deposits and its own note issue. After 1836, the Bank expanded its operations to include investment banking, international borrowing and merchant banking, and commodity speculation. The move into investment banking began when the BUS wrapped up its business as a federal bank and sold off its branches. Several branches were purchased by local bankers, who obtained state charters. The Philadelphia bank financed the purchase by holding the obligations of the new owners. By doing so, the BUS of Pennsylvania became a large investor in banks throughout the south and west. The original charter prohibited the Bank from purchasing stock in private corporations, but allowed the bank to hold stock it acquired in "settlement of debts and advances." In June of 1836, the charter was amended to allow the Bank to purchase the stock of other banks. In 1836 and 1837 the bank acquired a controlling or substantial interests, among others, in the Merchant's Bank of New Orleans, the Insurance Bank of Columbus Georgia, and a one quarter interest in the Morris Bank.

As we have already seen, the Bank “underwrote” the issue of state debt through the use of credit sales, and it acquired a large portfolio of state bonds, most of which it tried to sell in Europe. Table 6 gives an abstract of the assets and liabilities of the BUS in 1836, 1839 and 1841.³⁹ The stock account is private corporation stocks, mostly bank stocks. State bonds are reported separately. In 1836, the bank held no state bonds or private corporation stocks, in 1839 the bank held over \$5 million in state bonds, and by 1841 over \$20 million in state bonds and \$10 million in private stocks (out of total assets of \$67 million on March 1, 1841).⁴⁰ At the time of its liquidation, state bonds were the largest item in the bank’s assets, accounting for almost a third of the bank’s portfolio. This was the most serious problem facing the Bank in 1839, half of its earning assets were long-term, illiquid, over valued and under performing state bonds and private corporation equities.

The Bank extended its international operations in two ways: borrowing and merchant banking. In May of 1836, Samuel Jaudon negotiated a loan of £1,000,000 through Barings and another loan in Paris of 12,500,000 francs on behalf of the Bank. The Bank needed these funds to cover its obligations to Pennsylvania under the terms of its new charter, and to compensate the United States government for its stock in the old bank. In 1837, the Bank began issuing post-notes, “interest-bearing bonds to bearer, maturing within ten to eighteen months,” many payable in sterling in London. The post-notes played a central role in Biddle’s economic rescue operation in 1837, but post-notes held in America were the cause of the suspension in 1839.

In order to manage these loans and its international exchange business, the Bank established an agency in London, headed by Samuel Jaudon, to handle the Bank’s financial concerns in November of 1837. The Bank helped create and made arrangements with a new partnership in Liverpool to handle the marketing of the Bank’s cotton: Humphreys and Biddle (May Humphreys was a director of the Bank of the United States and Edward Biddle was

Nicholas's son).⁴¹ Under the old arrangements with Barings, the Bank was authorized to draw bills on Barings up to the limit of its open credit. With the establishment of the agency, the Bank was now able to draw bills on itself: purchase bills for cotton consigned to Humphreys and Biddle or sell bills to importers drawn on Jaudon. The Bank extended its operations to both sides of the Atlantic, and was now operating with the same facilities as Barings or Browns, though without the experience or resources.⁴²

The third expansion of the Bank's operations was direct involvement in the cotton market. The Bank's cotton operations had two aspects. First, was an expansion of its existing exchange business, buying sterling bills in the south. Biddle encouraged southern banks to expand their cotton discounting and made the credit of the Bank available to facilitate purchases.⁴³ The second aspect is the most notorious of the Bank's actions: the cotton speculation. The Bank was legally prevented from purchasing cotton directly, but Biddle, operating through a series of intermediaries, purchased cotton on his own account with credit furnished by the Bank. "This arrangement continued during the years 1837, 1838, and 1839, the transactions of which amounted to \$8,969,450.95. The shipments were made principally to Biddle & Humphreys; were paid for by drafts on Bevan & Humphreys; the funds advanced by the bank, and the proceeds remitted to Mr. Samuel Jaudon, agent of the bank, in London."⁴⁴ There were three separate operations with the 1837 and 1838 cotton crops. The first involved cotton purchased in the spring and sold in the fall of 1837.⁴⁵ The second purchases were made in the fall of 1837 and liquidated in the fall and winter of 1838 and 1839. The second operation was successful, largely because Humphreys and Biddle used Jaudon's financial resources to hold their cotton off the market until the price rose after October of 1838. The operation netted proceeds of roughly \$800,000. The third operation was a dismal failure. Cotton purchased in May and June of 1839 had to be sold in August of 1839 and later, to keep Jaudon in funds. The

operation lost \$962,524.13. Biddle and other the Bank officers were held liable for \$631,390.97. After negotiations with the Bank, the loss was divided one half to Nicholas Biddle, and one quarter each to Cowperthwaite and S.V.S. Wilder.⁴⁶ The stock holders were dissatisfied with the outcome and sued Biddle and other officers for \$1,000,000 in June of 1841, and again for \$400,000 in 1842. Biddle successfully defended himself in the first suit, and died before the second was resolved. Biddle's cotton speculations were sensational and received the attention of the contemporary press and economic historians.

Jenks and Hammond make the cotton speculations the key to the Bank's downfall, but the magnitude of the losses involved clearly indicate this could not have been the case. In the first operation Biddle's profits are not known, in the second they were \$800,000, in the third the loss was \$900,000. While \$900,000 was a small loss to a bank with \$35 million in capital, it could have been critical given the highly leveraged position of the Bank. But the cotton operation and its losses paled in comparison to the Bank's bond dealings. By comparison, in 1838 the Bank took all \$5,000,000 in Mississippi bonds on its own account, all of the money was paid to the state. In the fall of 1839, the Bank held over \$3,000,000 in unsold Mississippi bonds. The bank was able to sell cotton, but unable to sell state bonds in 1839. The stockholders ultimately lost all of the \$3,000,000.⁴⁷ The cotton speculation was, relatively, small potatoes. The attention paid to the speculations, the spectacle of Biddle making a small fortune in the spring of 1839 only to lose it in the fall of 1839, and the coincidence of the third operation with the suspension of the Bank certainly contributed to the loss of public confidence in the Bank. Biddle was in trouble, however, for deeper and more systematic mistakes.

As Temin stresses, financial markets, domestic and international, were tight for the entire year leading up to the Panic of 1837. When American banks suspended in May of 1837, financial conditions within America eased quickly, the deflation stopped, and the disruption

shifted to the market for international exchange. Exchange on London rose to a premium of 11.25 percent in September of 1837, and as Officer's interest and currency premia adjusted series shows, the premium was due to interest rate and currency movements. The Bank, however, could take advantage of the nominal disequilibrium. Its obligations were still accepted at face value in London, and by issuing post-notes payable in specie, the Bank could immediately earn the exchange premium. When the Bank entered the market for foreign exchange in 1837, it came to the aid of American business and it turned a tidy profit. The Bank sold sterling post-notes for a premium of 11 percent against New York currency in September of 1837. New York currency traded at a 10 percent premium to New Orleans, and Biddle could draw on cash from the sale of post-notes to purchase cotton in the south. Biddle and the Bank realized immediate profits on these exchange operations.⁴⁸ By drawing bills on the cotton Biddle had purchased, the Bank "covered" a portion of its open liability in the post-notes by creating sterling bills to remit to London to redeem the notes. Although Biddle's 1837 cotton operation was bold and audacious, it was profitable and fell within the normal seasonal and regional pattern of bill sales and purchases the Bank had engaged in for more than a decade.

There were cautions, however. The post-notes were the Bank's own liabilities, it was not intermediating as a third party in a credit/exchange transaction. The success of the post-note operation and the establishment of Jaudon's agency enabled the Bank to successfully retire the two loans engaged in 1836, but those resources were not available to service the post-notes when they fell due. The bank's debts to European and American creditors were increasing. On the other side of the market, the Bank ceased to be an intermediary when ever it bought a cotton bill drawn on Humphreys and Biddle, even when Biddle did not own the cotton outright: the Bank loaned money to the cotton shipper that the Bank promised to pay itself back out of the proceeds of the sale of the cotton. There was no upside potential in this exchange, since any rise in the

price of the cotton would be realized by the shipper, not by the Bank. There was plenty of downside potential if cotton prices fell. The Bank could be liable directly for any shortfall if it endorsed the bill, and it incurred an additional risk that the shipper would default on his debt.

Under the exchange conditions that prevailed in 1837, the Bank could realize a profit if a steady flow of post-notes, sold at a premium, went to Jaudon's agency, and a steady flow of cotton, purchased at a discount, went to Jaudon via Humphreys and Biddle. Jaudon's position was precarious, as the Bank was still a net debtor internationally. His ability to keep the London end of the Bank's business above water until 1840 is a testimony to his skills as a "financial diplomat." By 1838, exchange markets had returned to nominal as well as real par. Biddle had one more tool to give Jaudon to keep the boat afloat: state bonds.

As soon as the Agency was established, Biddle endeavored to make it a channel for the export of American securities to London. If the sale of high-price cotton would improve the international financial position of the United States the sale of high-priced pieces of paper would serve that purpose too. Throughout October and November [1837] he wrote to numerous state officials and private individuals calling their attention to the new channel for the foreign disposition of stocks and bonds.

The Illinois 6 per cent Sterling bonds were the first important issue thus secured.
(Smith, p. 199)

The Illinois agreement was reached on Dec. 7, 1837. As we have seen, states issued bonds throughout 1837, 1838, and 1839, and an increasing number of those bonds were marketed through the Bank or its partners on credit terms that were extremely favorable to the banks.⁴⁹ (The one exception, ironically, was in the terms of the Bank's charter, which required the Bank to lend to Pennsylvania at below market rates in 1839 and 1840). The Bank partnered with the Morris Bank in the Indiana and Michigan loans, and the Bank took the entire \$5,000,000 bond issue of Mississippi in 1838. As Table 6 shows, by April 1839, the BUS was no longer a commercial bank. Its primary assets were state bonds and stock in private banks, rather than commercial bills and other high quality short term notes. Its primary liabilities were post-notes

and foreign debts, rather than its own circulation.

Jaudon faced a growing stream of post-notes, bills, and other obligations that had to be redeemed out of the flow of cotton shipments, state bonds, and private corporation equities sent to him from Philadelphia. In the summer of 1839, cotton prices and state bond prices began to decline. The Bank was going to fail, the question was when, not if. The Bank had overstretched its resources in its international operations and its fate hung by the thread of Jaudon's skills and ability to keep assets moving and loans coming. Certainly, if international forces were the cause of the Crisis of 1839, they would be visible in the Bank's collapse.

But that is not what happened. Jaudon was able to successfully raise a series of loans in late 1839 and early 1840, using state bonds as collateral. The Bank was unable to sell all of its state bonds, but it did borrow against them. The Bank had overdrawn its credit with Hottinguers, the Bank's French agent, and in August of 1837 that firm dishonored the bills drawn on it by the Bank. But Jaudon was able to arrange another line of credit through the Rothschilds. The same ship that brought news of Hottinguer's dishonored bills brought news of the Rothschilds credit. The ship reached the United States the day after the Bank suspended.

The success of the post-note issues in 1837 depended on exchange conditions that did not last into 1838, yet the Bank continued to issue notes. In the spring and summer of 1839, faced with declining specie reserves and the retirement of Biddle, the Bank increased its sale of post-notes dramatically. As Hammond relates in "The Chestnut Street Raid on Wall Street," in the late summer of 1839 the Bank unsuccessfully attempted to force a suspension in New York. The short run effect of the post-note sales in New York and Boston was to make banks in those cities the debtor of the BUS, but the longer term effect was the reverse. Hammond explains the surge in post-note issues as an attempt to break the New York banks by acquiring New York bank notes. Smith, in uncharacteristically strong language, "takes the view that the large sale of post

notes and foreign bills of exchange at this time was a futile and stupid act of desperation.” Smith and Hammond both agree: “So it was clear that the actual pressure that closed the bank was that of maturing obligations in the domestic market... Niles said explicitly that the bank had been compelled to stop specie payments because of the demands from New York and New England.”⁵⁰

The Europeans did not desert Biddle, nor did they increase pressure on the Bank in the wake of the suspension:

Three large foreign loans temporarily solved Jaudon’s problem in the latter part of 1839. In October a loan of £800,000 was secured through Denisons in England. It ran, part for 18 and the rest for 36 months, bore a nominal rate of of [sic] interest of 7 3/4 and 8 per cent, actually yielded to the purchasers of the bonds about 10 per cent, was secured by \$2,662,000 of Pennsylvania 5's, \$900,000 of Michigan 6's, and \$880,000 of Mississippi 5's. A month later a loan for £900,000 was secured through Rothschilds. One half of this matured on October 15, 1841 and the other half a year later. The nominal rate of interest was 6 per cent. Pledged as security were \$1,325,906 of Pennsylvania 5's, \$1,570,000 of Mississippi 5's, \$316,000 of Indiana 5's, \$108,000 of Illinois Sterling 6's, \$250,000 of Illinois dollar 6's, and \$1,431,000 of Michigan Sterling 6's. After about four months of negotiation, Jaudon completed arrangements in January 1840 for a loan of 10,000,000 guilders through Hope and Company of Amsterdam. This 5 per cent loan was secured by \$290,000 of Pennsylvania 5's, \$200,000 of Maryland 5's, \$558,000 of Mississippi 5's, \$750,000 of Illinois 6's, and \$952,000 of Michigan 6's.”⁵¹

Jaudon used \$12,192,906 of state bonds as collateral for these loans. The amounts for Michigan and Mississippi account for 60 per cent of each state’s borrowing in the late 1830s. When the Bank went into liquidation in 1841, over \$14 million in state bonds were pledged as security for loans in Europe.

The Bank of the United States of Pennsylvania failed because its assets became illiquid and fell in value, a direct result of Biddle’s decision to shift its portfolio. The immediate cause of the Bank’s suspension in 1839, however, was pressure from creditors within the United States. By 1839, European financiers held large portfolios of American securities, on which they were about to lose substantial sums. They had a vested interest in keeping Biddle afloat, or as Jenks, p. 94, observed: “Begun in shrewd calculation of the interest of the investor and of the British

economy, swollen to dangerous limits in support of the “open credit” system, the flow of British capital to the United States had created a vested interest in its prosperity which warped the judgement of the leading merchant-bankers. No other conclusion is possible.” When the Bank failed 197,551 out of 350,000 shares were held in Europe. The Europeans paid dearly for their attachment to Biddle.

The Crisis and the Deflation

We are now ready to examine the Crisis of 1839 and the deflation that followed, and to compare events in 1839 to those in 1837. In 1837, financial conditions tightened in Britain, the Bank of England raised its Bank rate, and the market for cotton weakened, even as the Surplus Distribution and the Specie Circular disrupted financial markets in the United States. The Panic hit in May and banks throughout the country suspended. Forces were at work to bring the country quickly back. State governments, buoyed by the land boom, were already increasing expenditures on canals, railroads, and banks. The land boom resumed in northern states in 1838 as the Specie Circular was repealed and construction on new canals and railroads pushed ahead. The Bank of England began easing conditions in Britain even before the Panic, and came to the aid of New York banks with a shipment of £1 million in specie in the spring of 1838. The Bank of the United States eased the international payments crisis by issuing post-notes redeemable in sterling and supporting the market for cotton. States in the west and the south pumped \$20 million of new capital into their banks. By mid-1838, trade and commerce had recovered. States were borrowing at a record pace, and for the first time ever states in the far west were making large investments in banks, canals, and railroads. Their bonds flooded markets in New York and London, using the facilities of a new group of investment bankers, headed by the Bank of the United States.

There were weaknesses. Southern banks had not completely recovered from 1837. The Bank of the United States was overextended and illiquid. Free banks had sprung up in Michigan and New York whose currency was backed by state bonds. European investors had acquired a huge amount of state government debt on the advice of the new American bankers. British harvests were small in 1838 and 1839. The combination of grain imports and state bond purchases weakened sterling and drew down the specie reserves of the Bank of England. Commercial paper rates in London rose, as did the Bank Rate. American bankers found it more difficult to dispose of bonds they had acquired on credit from state governments. In July of 1839, the Morris bank defaulted on its obligation to Indiana and, in the fall, on its obligations to Michigan. The bank's failure had several severe and immediate effects:

1) Construction on transportation projects in Indiana came to a halt in August of 1839, in Michigan in late fall, and in Illinois in early 1840. With the end of canal and railroad construction came the end of the land boom, and the end of the land boom brought a sharp fall in land prices. Indiana is the only state that actively assessed property and reported their assessments in a way that enables us to retrieve the assessed value per acre of land. In Indiana, assessed value per acre fell from \$9.87 an acre in 1837, to \$6.20 an acre in 1841, to \$3.67 an acre in 1843.⁵² The fall in land values was devastating. It hit new land owners in the west and south hard. Foreign creditors, who had seen land as the ultimate collateral for state debts, began losing faith in the western states.

2) Michigan and Indiana made semi-annual interest payments with the proceeds of the loans. When the Morris Bank defaulted, the states had no readily available funds to make the January 1840 interest payment. Both states raised taxes and were able to find enough money to make their interest payments in 1840, but Indiana defaulted in July 1841 and Michigan in January 1842. Default in these states was a direct result of the banks' defalcation. As Indiana

governors pointed out several times, the amount due from the banks would have enabled the state to meet its interest payments for an additional four years without recourse to higher taxes.

3) States that had not been paid for bonds they had issued, began discussing the repudiation of their unpaid bonds. Michigan and Arkansas eventually repudiated on that basis. The discussions, even in states that did not repudiate, killed the market for western state bonds. In early 1839, Indiana and Illinois bonds sold for 10 percent discount to Pennsylvania bonds. By October and November, Indiana and Illinois bonds were selling at a discount of 30 percent relative to Pennsylvania bonds, as it became clear that western transportation projects were trouble.⁵³ Banks, like the State Bank of Indiana and the State Bank of Illinois, holding large portfolios of western state debt, were also in trouble. The bank holding the largest portfolio of state government bonds was the Bank of the United States. Biddle, now retired, came to the defense of the bank and argued that forces in Europe were at the root of the problem. But, “The events of 1839 were viewed far less charitably in Boston, New York, and Washington. In these quarters the blame was placed squarely on the bank. The root of the trouble was thought to have been the facilities which the Bank provided for the sale of bonds.”⁵⁴

During the Crisis, banks throughout the country came under pressure, but banks in the north and east did not suspend convertibility. The price of international exchange remained steady in New York and Boston, as shown in Table 1. There was no international payments crisis. There was an intense, but brief domestic credit crisis: rates on domestic commercial paper in New York and Boston rose to 30 percent in October, but by June of 1840, rates were back down to 6 percent. Yet banks in the south and west did not resume, the money supply continued to shrink, and prices continued to fall. Unlike 1837, no forces rallied to end the crisis. The Bank of the United States was headed for receivership. The states had no intention of investing yet more money in their banks, they shut down their canal and railroad projects, and seriously considered

default and repudiation.

Most important, the public rapidly lost confidence in the banking system in the south and west. Deposits are the best measure of public confidence in the banks. Changes in circulation are problematic when convertibility is suspended; loans and discounts measure the confidence of the banks; and specie holdings, while important, are a better measure of liquidity than confidence. We have already seen that the most of the decline in the money supply occurred in banks in the south and west. Was declining confidence in the banks associated with the fiscal crisis of the states?

Table 7 provides three simple, bivariate analyses of the decline of banking indicators between January 1, 1839 and January 1, 1841. The first panel reports the results of a regression of the change in each indicator on per capita debt in each state in 1841. The second panel of the table tests the difference in means between the states that defaulted and the states that did not. The third panel of the table tests the difference in means between the states where banks were closely associated with state governments and those states without a close association. Since the data covers January 1, 1839 to January 1, 1841, and no state defaulted until July of 1841, none of these results are the direct product of state defaults.

There was no appreciable difference in the behavior of circulation or of loans and discounts in the different states. There was a marked difference in the change in specie holdings and the change in deposits in states with higher debt, that defaulted, or in states where there was a close association between the state government and the banks. The differences are quite large. Banks in states that defaulted lost 40 percent of their specie and 55 percent of their deposits between January 1839 and January 1841, while banks in states that did not default lost only 17 percent of their specie and 30 percent of their deposits. The average per capita debt in the defaulting states was about \$35. The coefficients in the upper panel suggest that defaulting states

should have roughly 21 percent lower specie reserves and 18 percent lower deposits, compared to states with no debts, in line with the difference in means results.

When the comparison is between states where governments were closely associated with their banks versus states that were not, the differences are even wider. Banks in states with close association experienced declines in specie holdings of 35 percent and of deposits of 54 percent. Banks in states without close association experienced declines in specie of 14 percent and of deposits of only 18 percent. The decline in deposits for states without close association is much lower than for the non-defaulting states. Banks in states with a close association of state governments and their banks suffered much larger declines in deposits than other states.

Conclusions

In 1954, Matthews concluded his analysis of the American economy in the 1830s this way: "... it is in the nature of things futile to try and draw any hard-and-fast line assigning to either country causal primacy in the cycle as a whole or in its individual phases. But enough has been said in the present chapter to indicate the powerful nature of forces making for instability from within the United States in this period."⁵⁵ There were important international forces at work in 1839, and it may be futile to try and draw hard-and-fast distinctions between domestic and international forces. The amazing growth in state borrowing brought American and British credit markets closer together. The transformation of the Bank of the United States made it more dependent on foreign creditors, just as it came to hold a larger share of its assets in state bonds. There was a credit crisis in Britain in the spring and summer of 1839, and it did have a chilling effect on markets for American cotton and on financial markets in general.

Yet a comparison of the Panic of 1837 and the Crisis of 1839, the first task of this paper, is revealing. When we look carefully at the two events, we see two completely different profiles.

Events in 1837 conform nicely to the idea that international forces were the primary cause of the crisis. Events in 1839 were completely different. The Crisis was not centered in New York and New Orleans, but on the frontiers. The crisis was short lived in the north and east, but continued in the south and west into 1841 and 1842, when the default of nine state governments brought the entire financial system, international and domestic, to its knees. If declining cotton prices were the driving force in 1839, why did banks in Ohio suffer more than banks in New Orleans or New York?

Since end of the War of 1812, Britain had become more closely tied to the United States, and in 1839 it paid a steep price for the association. Britain had invested millions of dollars in the various projects of the states through the intermediation of American banks. The beginning of the crisis occurred when the most speculative of those banks, the Morris Canal and Banking Company, defaulted on its obligations to Indiana in the summer of 1839. Nicholas Biddle and the Bank of the United States were the primary conduit for moving state bonds to Europe. The Bank acquired large holdings of state bonds and private bank stocks, and when the value of those assets collapsed, the Bank failed. The second and third tasks of the paper are to evaluate the importance of international forces in the crisis, and explicitly in the collapse of the Bank of the United States. Again, domestic forces within the United States and the Bank's own policies led to suspension in 1839 and failure in 1841. Rather than pressuring the Bank to suspend in 1839, Europeans continued to lend Biddle money on the security of state government bonds that made up the largest item in the Bank's assets. The Bank's problems did not cause the collapse of the market for state bonds, instead the increasing amount of state bonds in the Bank's portfolio made it dependent on the state bond market. As the value of Indiana, Illinois, Michigan, and Mississippi bonds fell in late 1839, the value of the BUS portfolio fell as well.

Temin showed that the contraction after 1839 was in prices, not production: it was a

monetary phenomenon. The final task is to identify and explain why the money supply declined. The money supply declined between 1839 and 1841 because depositors lost confidence in southern and western banks. They lost confidence because banks in those states were so closely associated with state government finances, and state government finances were in a shambles in the south and west. States were in financial trouble for a fundamental reason: declining land values. With the halt of canal construction in the northwestern states, land values began to fall. As land values fell, security for the mortgages of southern land banks evaporated. As states in the west and south faced the possibility of default or repudiation, and the value of their bonds fell, free banks in Michigan and New York, with their state bond backed currency, came under pressure. Banks in the north and east recovered quickly in 1840, while banks in the south and west continued to decline. This is the reason the money supply shrank after 1839. This was an American cycle of events.

Table 1
Exchange Rates, Short Term Interest Rates in
The United States, The Bank of England Bank Rate
and Bullion Reserves, and Cotton Prices
1836 to 1840

	60 Day Bills On London in Boston & New York Deviations from Par	Pure Exchange Rate Quarterly Deviations from Parity	Discount Rates Commercial Paper Boston and New York	Bank Rate Bank of England	Discount Rates Commercial Paper London	Bullion Reserves Bank of England (Millions Sterling)	Cotton Prices New OrL. Short Staple cents Per lb.
	(1)	(2)	(3)	(4)	-5	(6)	-7
1/36	-1.25	-0.06	10	4	3.75	7.8	14.5
2/36	0.25		10	4	3.75		14.5
3/36	-0.5		12	4	3.5		15.5
4/36	-2	-1.54	12,15	4	3.25	7.4	16.8
5/36	-2.75		15,18	4	3.25		15.5
6/36	-2.75		15,12	4	4		15.5
7/36	-2.25	-1.07	15,18	4.5	4	5.7	14.8
8/36	-2.25		18,24	4.5	4.5		14.8
9/36	-2.25		24	5	5		
10/36	-1.5	-0.73	24,36	5	5	4.3	15
11/36	-1.5		24,30	5	5.5		15.3
12/36	-0.25		24,30	5	5.5		14.3
1/37	-2.25	-0.17	16,20,13	5	5.5	4.1	14.1
2/37	0		15,21,27	5	5.5		12.8
3/37	-1		18,20,27	5	5.5		13.8
4/37	1.75	-0.19	27,26,30	5	5.5	4.7	11.5
5/37	1.25		27,32	5	4.5		11.5
6/37	3.25		18,9,6	5	4.5		
7/37	8.25	-0.38	7.5	5	4.5	6.3	
8/37	10		7.5	5	4		11.3
9/37	11.25		7.5,6.5	5	3.5		9.4
10/37	4.25	-0.1	6.5	5	3.5	8.9	9.8
11/37	6.25		6,9	5	3.25		9.3
12/37	4.25		10	5	3.5		9.1

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1/38	0.125	-4.27	11	5	3.5	10.1	9.1
2/38	-0.75		12	4	3		9.1
3/38	-2.25		12,18	4	3		8.1
4/38	-5	-1.05	18,12	4	2.75	9.7	8.8
5/38	-3		10,9,7	4	2.5		9.3
6/38	-1.75		7,6	4	2.75		9.3
7/38	-1.5	0.09	6	4	3	9.6	8.4
8/38	-2.5		6,7	4	2.75		9.3
9/38	-0.5		6,7	4	3		8.8
10/38	0.125	0.55	6,7	4	3	9.3	10.4
11/38	-0.25		6,8	4	3.25		10.5
12/38	0.25		7,9,7	4	3.5		11.5
1/39	-0.25	0.3	6,9	4	3.75	7.1	12.3
2/39	-0.75		6,9	4	3.75		12.9
3/39	-1		6,9	4	3.75		13.8
4/39	-0.25	0	6,9	4	3.75	4.3	14.6
5/39	-1		6,9	5	4		14.4
6/39	-0.375		9	5.5	5		14.3
7/39	-0.625	1.43	11,12	5.5	5.5	2.8	12.5
8/39	-0.25		12,15	6	6		10.3
9/39	-0.75		15,18,21	6	6.5		9.3
10/39	0.25	-0.63	21,30	6	6.5	3.5	10.3
11/39	-0.75		20,33,26	6	6.5		9.3
12/39	-0.75		18,15,9	6	6.5		7.5
1/40	-1.75	-1.89	9	5	6	4.3	7.9
2/40	-1.25		9,12	5	4.75		7.3
3/40	-1.75		9,12	5	4.75		6.5
4/40	-2	-0.8	12,7	5	4.75	4.4	6.8
5/40	-1.75		7	5	4.25		6.9
6/40	-2.25		6,8	5	4.75		7.5
7/40	-2.75	-1.26	8,5	5	4.5	4.3	7.8
8/40	-2.75		5,7,5	5	4.5		8.3
9/40	-2.75		6,7	5	4.75		8.3
10/40	-1.5	-1.08	6,7	5	5	3.5	8.4
11/40	-1		6,7	5	6		8.3
12/40	-1		6,7	5	5.75		8.4

(1) Exchange Rates on 60 day bills, Smith and Cole, *Fluctuations*, p. 190.

- (2) Officer, "American Foreign Exchange Market," p. 563.
- (3) Discount Rates, Smith and Cole, *Fluctuations*, p. 192
- (4) Bank Rate, Clapham, *Bank of England*, vol II, Appendix B, p. 199.
- (5) NBER,
- (6) Bullion reserves, Matthews, *Trade Cycles*, p. 199.
- (7) Cotton Prices, Gray, *History of Agriculture*, p. 1027.

TABLE 2
Banking
Indicators

PERCENT CHANGE IN	1/1/37 to 1/1/38	1/1/38 to 1/1/39	1/1/39 to 1/1/40	1/1/40 to 1/1/41
LOANS AND DISCOUNTS				
NORTHEAST	-14.8%	1.3%	-5.8%	2.7%
SOUTH&WEST	-1.4%	4.6%	-11.0%	-7.8%
BUS	-21.1%	-8.0%	-11.5%	
NATIONAL	-9.8%	1.9%	-8.8%	-3.7%
SPECIE				
NORTHEAST	-10.6%	25.4%	-5.7%	8.1%
SOUTH&WEST	-5.6%	24.4%	-25.0%	-5.8%
BUS	42.9%	10.2%	-64.6%	
NATIONAL	-3.8%	23.2%	-22.5%	-1.3%
CIRCULATION				
NORTHEAST	-26.4%	19.7%	-23.2%	27.4%
SOUTH&WEST	-13.7%	7.6%	-21.4%	-1.4%
BUS	-40.9%	-11.6%	11.9%	
NATIONAL	-21.3%	11.2%	-20.5%	7.9%
DEPOSITS				
NORTHEAST	-43.5%	12.3%	-5.8%	14.3%
SOUTH&WEST	-32.7%	-2.7%	-27.6%	-23.5%
BUS	12.2%	159.1%	-50.8%	
NATIONAL	-37.2%	9.6%	-19.5%	-6.0%
LEVEL OF SPECIE				
	1/1/37	1/1/38	1/1/39	1/1/40
NORTHEAST	\$12,636,704	11,303,259	14,169,071	13,354,857
SOUTH&WEST	21,130,352	19,948,766	24,821,216	18,627,949
CIRCULATION + DEPOSITS				
NORTHEAST	118,558,605	76,938,736	89,604,319	75,495,890
SOUTH&WEST	128,676,181	99,877,683	103,432,488	78,921,733

Northeast - ME, NH, VT, MA, RI, CT, NY, NJ, PA

South & West - DE, MD, DC, VA, NC, SC, GA, FL, AL, LA, ARK, MS, TN, KY, MO, IL, IN, OH, MI

Source: United States Congress, *House Document 111*, 26th Congress, 2nd Session.

Table 3
 Percentage change in the Money Supply Explained
 By changes in Specie, Circulations, and Deposits
 in the Northeast, South and West, and Nation as a Whole

1/1/1839 to 1/1/1841		TOTAL EXPLAINED		
	BY SPECIE	BY CIRCULATION	BY DEPOSITS	BY EACH REGION
NORTHEAST	-2.44%	17.03%	4.47%	19.07%
SOUTH&WEST	-24.03%	48.45%	56.52%	80.93%
NATIONAL TOTAL	-26.47%	65.48%	60.99%	

Source: See Table 2

Table 4
Total Debt Outstanding in 1841
By Year of Authorization
(Thousands of Dollars)

	Up To 1834	1835	1836	1837	1838	1839	1840	1841	State Totals
Illinois	0	0	500	3,165	0	3,478	5,079	1,306	13,527
Indiana	1,990	227	7,771	0	1,400	1,363	0	0	12,751
Michigan	0	100	0	5,020	451	40	0	0	5,611
Kentucky	0	200	190	0	1,250	33	1,413	0	3,086
Tennessee	500	35	0	0	2,881	0	0	0	3,416
Missouri	0	0	0	432	0	145	0	265	842
Alabama	3,900	1,600	2,400	5,000	2,500	0	0	0	15,400
Florida	3,000	900	0	0	0	100	0	0	4,000
Mississippi	2,000	0	0	0	5,000	0	0	0	7,000
Arkansas	0	0	146	2,530	0	0	0	0	2,676
Louisiana	22,200	0	0	600	0	1,185	0	0	23,985
Ohio	4,500	0	170	550	1,710	3,476	149	369	10,924
Maine	0	0	0	2	267	507	825	133	1,735
Massachusetts	0	0	0	1,900	2,200	1,644	0	225	5,969
New York	6,409	0	2,000	250	5,088	50	7,784	216	21,797
Pennsylvania	22,159	960	0	0	15	6,289	3,754	3,159	36,336
Maryland	4,885	40	20	500	8,775	903	0	92	15,215
Virginia	4,067	714	15	573	959	2,364	18	34	8,744
South Carolina	944	0	0	0	2,148	600	0	0	3,691
Georgia	0	0	0	903	422	0	0	0	1,325
Total Outstanding	76,554	4,775	13,212	21,425	35,066	22,177	19,023	5,798	198,030
Total Authorized	79,341	7,220	18,589	21,609	41,617	26,795	27,377	12,170	
Total Ever Issued	79,266	4,775	13,556	21,587	37,746	20,764	19,811	5,798	

Notes:

The entry in each cell is the total amount of debt authorized by state legislatures in each calendar year, still outstanding on September 1, 1841.

Authorized debt may never be issued, or may be issued in a later year.

Where debt was authorized by more than one piece of legislation, the later date was usually taken.

"Total Authorized" debt is the total, for the entire nation, of debt authorized in each year.

"Total Ever Issued" debt is the amount of the authorized debt that was ultimately issued, for the entire nation in each year. This does not represent debt actually issued in each year.

Source: House Report, 296, 27th Congress, 3rd Session, 1843. "Report of William Cost Johnson."

Table 5
Bank Debt Authorized
(Thousands of Dollars)

	Up To								State
	1834	1835	1836	1837	1838	1839	1840	1841	Totals
Illinois	0	0	0	3,000	0	0	0	0	3,000
Indiana	1,390	0	0	0	1,000	0	0	0	2,390
Michigan	0	0	0	0	0	0	0	0	0
Kentucky	0	0	0	0	0	0	0	0	0
Tennessee	500	0	0	0	2,500	0	0	0	3,000
Missouri	0	0	0	432	0	2,230	0		2,662
Alabama	3,900	1,600	2,400	5,000	2,500	0	0	0	15,400
Florida	3,000	2,500	0	0	0	0	0	0	5,500
Mississippi	2,000	0	0	0	5,000	0	0	0	7,000
Arkansas	0	0	330	2,530	800	0	0	0	3,660
Louisiana	23,400	0	0	0	0	0	0	0	23,400
Ohio	0	0	0	0	0	0	0	0	0
Maine	0	0	0	0	0	0	0	0	0
Massachusetts	0	0	0	0	0	0	0	0	0
New York	0	0	0	0	0	0	0	0	0
Pennsylvania	0	0	0	0	0	0	0	0	0
Maryland	0	0	0	0	0	0	0	0	0
Virginia	0	0	0	0	0	450	0	0	450
South Carolina	0	0	0	0	0	200	0	0	200
Georgia	0	0	0	0	0	0	0	0	0
TOTAL	34,190	4,100	2,730	10,962	11,800	2,880	0	0	66,662

Notes:

Entry in each cell is the amount of debt authorized for bank purposes. Not all authorized debt was issued.

Source: House Report, 226, 27th Congress, 3rd Session, 1843. "Report of William Cost Johnson."

Table 6
 Assets of the Bank of the United States
 March 3, 1836; April 1, 1839; and March 1, 1841
 (Thousands of Dollars)

	1836	1839	1841
ASSETS			
Bills Discounted			
on personal security	20,148	12,991	14,404
on other security	17,386	18,815	3,071
on bank stock	3,061	296	0
Domestic Bills of exchange	17,751	7,446	2,638
Bills Receivable for Post Notes	0	306	0
Total Bills	58,345	39,854	20,115
Stock Accounts*	0	12,043	10,842
State Bonds*	0	5,645	20,305
Specie	6,224	3,070	862
Due from State banks	4,376	6,662	7,912
State Bank Notes	2,351	2,085	972
Other	2,551	5,482	8,910
Total Assets	73,847	74,841	69,918
LIABILITIES			
Circulation	20,114	6,680	3,870
Post-Notes	0	4,891	6,105
Foreign Liabilities**	372	13,702	17,009
Due State Banks	3,412	3,675	1,868
Due to Depositors	3,711	4,474	2,210
Other	3,024	2,071	2,183
Total Liabilities	30,633	35,493	33,245

Notes:

Estimates of state bond holdings are taken from elsewhere in the report.

Foreign Liabilities includes the balance on various foreign accounts, the foreign exchange account, loans in Europe, and Bonds in Europe.

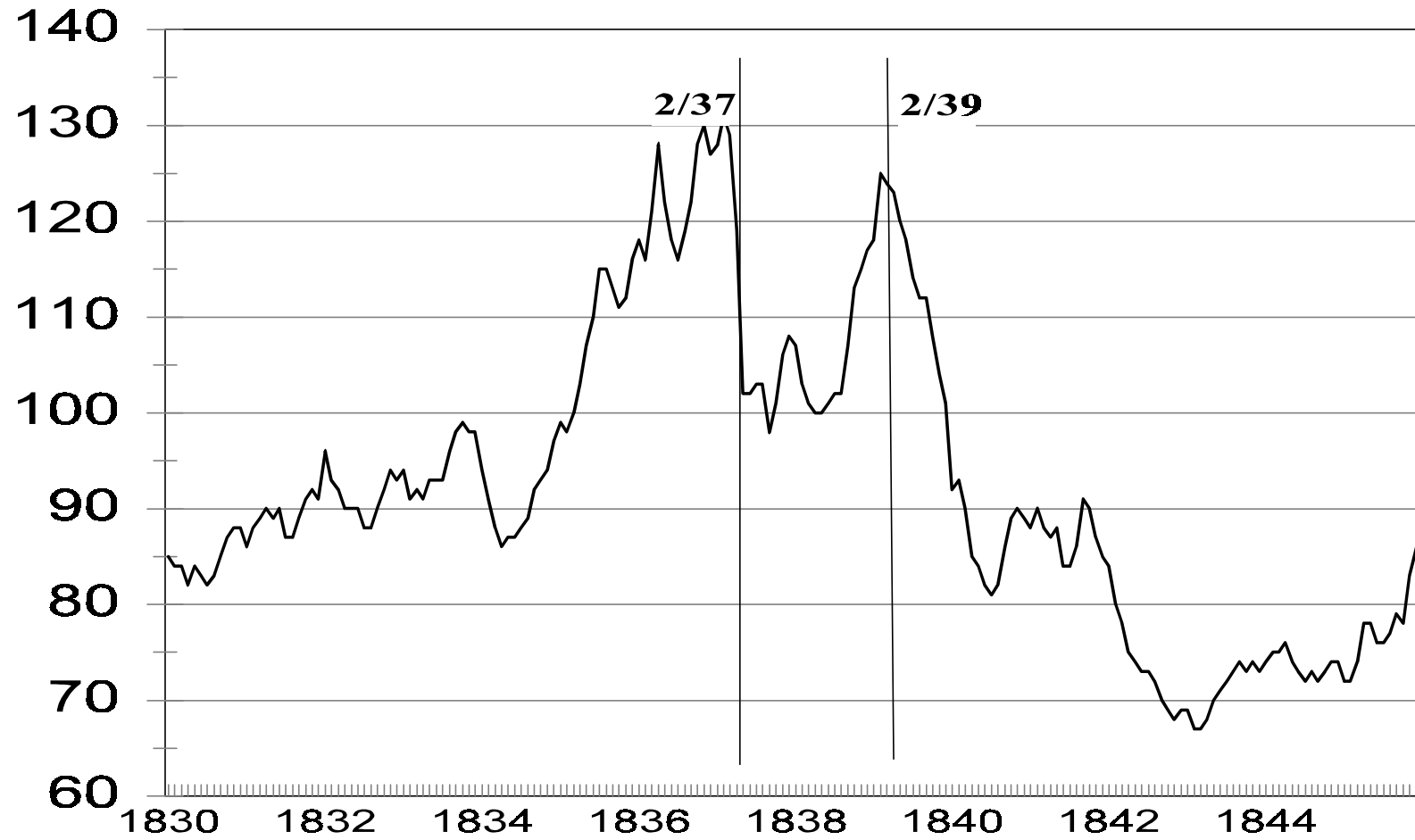
Source: Congressional Report 226, 29th Congress, 1st Session
 Appendix E, p. 442

Table 7

Variation in the Change in Specie, Loans and Discounts,
Circulation, and Deposits
January 1, 1839 to January 1, 1841
by Per Capita Debt, Default Status, and Banking System

Dependent Variable	Change in Specie	Change in Loans and Discounts	Change in Circulation	Change in Deposits
<hr/>				
Regression on Per Capita Debt				
Constant	-0.1492	-0.0868	-0.1719	-0.2731
standard error	0.2632	0.8860	0.3752	0.3239
Per Capita Debt	-0.0062	0.0062	0.0012	-0.0050
standard error	0.0027	0.0091	0.0039	0.0033
r2	0.1979	0.0208	0.0045	0.0922
<hr/>				
Difference in Means Tests				
State Defaulted Mean	-0.4067	-0.2157	-0.2281	-0.5492
standard error	0.1143	0.0748	0.0822	0.1410
State did not Default Mean	-0.1716	-0.1530	-0.2049	-0.3010
standard error	0.0644	0.0463	0.0640	0.0737
probability	0.0348	0.2607	0.4235	0.0555
<hr/>				
State Banks Mean	-0.3553	-0.2156	-0.1106	-0.5371
standard error	0.0848	0.0724	0.1460	0.0961
No State Banks Mean	-0.1403	-.1270	-0.1551	-0.1833
standard error	0.0758	.0335	0.0634	0.0671
probability	0.0359	.1329	0.3881	0.0029
<hr/>				

**Figure 1 -- Smith and Cole Prices
1834-1842 = 100**



Endnotes

1. Martin Van Buren articulated the position of the Jacksonian Democrats in his message to the special session of Congress on September 4, 1837, four months after the Panic, when he blamed the “present conditions” on an “overaction in all the departments of business -- an overaction ... stimulated to its destructive consequences by excessive issues of bank paper and by other facilities for the acquisition and enlargement of credit.” Richardson, *Messages and Papers of the Presidents*, Vol. 2, p 1542. (This is the version of Richardson “with additions.” In the original, 1896 version, Van Buren’s message appears in Volume 3, not Volume 2.) The Whig Party responded in kind on September 27, 1839 when Henry Clay blamed the economic crisis on “1st. The veto of the bank. 2nd. The removal of deposits, with the urgent injunction of Secretary Taney upon the banks to enlarge their accommodations. 3rd. The gold bill, and the demand for gold for foreign indemnities. 4th. The clumsy execution of the deposit law [surplus distribution]; and 5th. The Treasury order of July, 1836 [Specie Circular].” In Thomas Hart Benton, ed., *Abridgement of the Debates of Congress from 1789 to 1856* Vol. 13, (New York: D. Appleton and Co.), pp. 404-5. For a discussion of how banking and other economic issues shaped the debate between the parties see Holt, *Political Crisis*, pp 17-38; Holt, *Whig Party*, pp. 76-82; Shade, *Banks*, pp. 40-59; and McCormack, *Party Period*, pp. 162-166.

2. While the Panic of 1837 is often blamed for the “... seven long years the people of this land struggled to free themselves from its oppression,” McGrane, *Panic of 1837*, p. 1, economic historians have always understood that the economy recovered quite rapidly from the Panic, and that “... complete liquidation was suspended until after 1839 and that the most painful event was the depression which ensued.” Berry, *Western Prices*, p. 433. Temin is clear: “Yet, unlike 1837, no recovery followed the panic in 1839. Prices did not recover, and the signs of prosperity disappeared.” *Jacksonian Economy*, p. 154. “The boom of the 1830's thus had a double-headed

appearance in the United States as well as Britain, Older American writers were accustomed to make 'the panic of 1837' the focal point of their narrative, but recent historians have been disposed to give more attention to the recovery of 1838-39 and have been reluctant to single out any one date as marking *the* turning-point..." Matthews, *Trade Cycles*, p. 64. Also see North, *Economic Growth*, pp. 189-90.

3. Figure 1 is taken from Smith and Cole, *Fluctuations in American Business*, Table 45, p. 158. Data on American foreign trade are available in Smith and Cole, *Fluctuations*, Table 18, p 73, and on British exports to America in Matthews, *Trade Cycle*, Table 5, p. 45. Data on public lands sales are available in Gates, *History of Public Lands*, Appendix B, p. 802. Public land sales were 4,658,000 acres in 1834, 12,564,000 acres in 1835, 20,074,000 acres in 1836, 4,805,000 acres in 1837, 3,414,000 acres in 1838, and 4,976,000 acres in 1839. Land sales were higher in 1839 than any other year between 1820 and 1850 except for 1835 and 1836.

4. See Paul Rhode's unpublished working paper on Gallman's worksheet estimates. Presented at the NBER Summer Institute 2000, but not for attribution. Temin, *Jacksonian Economy*, p. 157.

5. "In the 1840's, the falling supply of money led to falling prices, and prices fell far enough to obviate a need for production to fall in addition. Business was deranged during the price fall, but the panics were short-lived. The growth of income was below its usual rate, but there was no decline in income comparable to the depression of the 1930's. In the 1830's and 1840's, prices were far more flexible than production – in both directions." Temin, *Jacksonian Economy*, p. 171. Temin makes this point in greater detail in "Anglo-American Business Cycle."

6. Temin surveys the historical literature. For examples, see Schlesinger, *Age of Jackson*, Pessen, *Jacksonian America*, Remini, *Bank War*, Sellers, *Market Revolution*, Meyers, *Jacksonian Persuasion*, Gatell, "Sober Second Thoughts" and "Spoils of the Bank War," and Hammond, *Banks and American Politics*, and "Jackson, Biddle, and the Bank."

7. Temin's arguments are nicely quantified and presented in Rockoff, "Money, Prices, and Banks."

8. Rousseau, "Jacksonian Monetary Policy," argues that the Surplus distribution and the Specie Circular were more disruptive than the international factors, an argument developed earlier by Timberlake, "The Specie Circular," "The Specie Standard and Central Banking," and "The Specie Standard and Sales of Public Lands." Rousseau supports his position by carefully examining the specie holdings of banks throughout the country in 1837.

9. Between 1830 and 1840 exports of raw cotton accounted for 48 percent of all American exports and 59 percent of American merchandise exports, Historical Statistics, series U 187, U 191, and U 276. Matthews reports that in 1838, total non-corn imports into Britain were £67.1 million, while cotton imports were £14.3 million. Matthew, p. 15 citing unpublished figures by Imlah. Corn imports reached £11 million in 1839, the largest imports between 1829 and 1842, Matthews, p. 30, citing Tooke.

10. See Woodman, *King Cotton and His Retainers* and Perkins, *Anglo-American Trade*, for a description of cotton finances.

11. Clapham, vol II, p. 132. The Bank of the United States relationship with Barings is described in Hidy, *House of Baring*, pp. 179-269, "House of Baring," and "Anglo-American Merchant Bankers." The Bank's exchange dealings, both domestic and foreign are discussed in Redlich, *Molding*, pp. 110-81.

12. Par value was a "premium" of 9.75 percent. In 1834, the United States reduced the gold value of American coins. The effective par became \$4.8865 per pound sterling. See Officer, "Dollar-Sterling Mint Parity," and O'Leary, "The Coinage Act of 1834."

13. The use of bill prices as a proxy for exchange rates goes back to Cole "Evolution" and "Seasonal Variations," through Davis and Hughes, "Dollar-Sterling Exchange," Perkins,

“Foreign Interest Rates,” and Officer, “Dollar-Sterling Mint Parity,” and “Integration.”

14. There is no complete and reliable estimate of foreign holdings of American state bonds.

Estimates for Pennsylvania suggest 70 percent of its debt was held overseas in July 1842, McGrane, *Foreign Bondholders*, p. 71. Scheiber, *Ohio Canals*, appendix I, pp. 371-79, studies the distribution of several bond issues. Foreigners held more than 50 percent of every issue. The BUS alone moved at least \$15 million in bonds to Europe after 1837, see below.

15. Clapham, *Bank of England*, p. 153. See Hidy, *House of Baring*, as well, pp. 205-24.

16. Rousseau, “Jacksonian Monetary Policy,” p. 40. There is a large literature on this question, see Timberlake, *Central Banking*, “The Specie Circular,” “The Specie Standard,” and “Specie Standard: Reply;” Scheiber, “Pet Banks;” Macesich, “Sources of Monetary Disturbances;” and of course, Temin, *Jacksonian Economy* and “Economic Consequences.”

17. Smith, *Economic Consequences*, p. 217 suggests that the Bank of England was not happy with the BUS, however.

18. Tooke, *History of Prices*, pp. 73-74, writing in 1840, thought there were three reasons for the specie drain, in descending order of importance:

1. The large importations of foreign corn, the computed amount of which, in the two years, was to the amount of about ten million sterling [it as actually £11,000,000 in 1839 alone].

2. The state of financial and commercial relations with the United States of America.

By the financial state, I mean our over-importation of American securities, which were created chiefly by the bonds of the separate states, and by the United States Bank, and by the other American banks and joint stock companies.

By the commercial state of our relations with that country, as having contributed to the recent derangement, I mean, not only a renewed tendency which there might be to an excess of mere mercantile credits, but mainly the peculiar circumstances of the cotton trade.*

3. The state of credit on the continent of Europe.

The footnote refers to the “unjustifiable and extravagant operations of the United States

Bank... in making advances on cotton to the planters,... with a view of withholding it from the manufacturers in this country.”

19. Gayer, Rostow, and Schwartz *Trade*, pp. 297. Jenks, *Migration*, p. 95-6, gives a succinct summary of all the problems in Europe in 1839.

20. This history goes back to Callender, “Banks and Corporations,” through Goodrich, *Government Promotion*, and the work sponsored by the Committee on Research in Economic History. The default crisis is the subject of several studies. The most thorough and authoritative is McGrane, *Foreign Bondholders*. See Ratchford, *American State Debts*, Scott, *Repudiation of State Debts*, English, “Sovereign Default,” Sylla and Wallis, “Anatomy,” and Wallis, Grinath, and Sylla, “Debt, Default, and Revenue Structure.”

21. This data is analyzed in more detail in Wallis, Grinath and Sylla, “Debt, Default, and Revenue Structure.”

22. Borrowing by some states, notably New York and Ohio, is understated in the table, since a considerable amount of their canal debt had been repaid by 1841.

23. Temin correctly emphasizes the fiscal impact of the Surplus Distribution on the states, but the Surplus was, by itself, small compared to state borrowing. Because the distribution was based on population, most of the money went to the populated east, while state expenditures were growing rapidly in the south and west. See Bourne, *Surplus Revenue Act*.

24. Temin, *Jacksonian Economy*, p. 83, describes interest rate movements in the 1830s: “... it is hard to find a consistent pattern in the movement of interest rates during the 1830's. The short-term interest rate fluctuated wildly, but reached high levels only in or near financial panics. The long-term rate scarcely moved at all. The interest rate cannot be said to have fallen in the 1830's.” Ayres, *Turning Points*, constructed a weighted series of rates on New York, Ohio, and Kentucky bonds that moves up after 1836. Long term interest rates showed no downward

movement from 1836 to 1838. Of course, it is possible that they would have moved lower had states not borrowed so much.

25. For estimates of the access to transportation improvements on land values see Craig, Palmquist and Weiss, "Transportation Improvements," and Coffman and Eschelbach, "Railroad Development."

26. "The recession of 1837-38, therefore, was brought to a speedy end by the restoration of the capital flow from Britain to the United States and by the expansion of demand stemming from the rise in state government expenditures." Temin, *Jacksonian Economy*, p. 151.

27. See Sylla, Legler, and Wallis "Banks and State Public Finance" and Wallis, Sylla, and Legler "Relationship" for a discussion of state government involvement with banks before 1830.

28. Report of the Treasury, House Document 111, 26th Congress, 2nd Session, The northeastern states include Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey and Pennsylvania. Outside of the northeast, Ohio had 32 banks, Maryland 21 banks, Georgia and Louisiana 16 each. In contrast, Fenstermaker, *American Commercial Banking*, reports a total of 729 chartered banks in 1837, p. 111, with the same geographic distribution.

29. For a complete list of all the chartered banks before 1837, see Fenstermaker, pp. 112-184.

The literature on state banking in this period is enormous. See Knox, *History of Banking*, Redlich, *Molding*, and Sharp, *Jacksonians against the Banks*. Shade, *Banks or No Banks*, describes banking in the Northwest; Schweikart, *Banking in the American South*, describes banking in the South; and Lamoreaux, *Insider Lending*, describes banking in New England. For individual states see: Indiana: Esarey "State Banking," Harding, "State Bank," McCulloch, *Men and Measures*; Ohio: Huntingdon, "History of Banking;" Illinois: Dowrie, *Banking in Illinois*, Cyril James, *Chicago Banks*; Mississippi, Bentley, "Monopoly Bank," Brough, "History of

Banking,” Kilbourne, *Bank of the United States*; Louisiana: Green, *Finance and Economic Development*, Caldwell, *Banking History*; Arkansas: Worley, “Control;” Alabama, Brantley, *Banking in Alabama*; Michigan, Scheiber, “George Bancroft;” and Tennessee, Abernathy, “Early Development.”

30. This table reports authorized debt, rather than debt issued or outstanding. In a few cases, debt was authorized but not issued, and in other cases debt had been repaid by 1841. As a result, the numbers in Table 5 for debt issued can exceed the numbers in Table 4 for debt outstanding.

The table under represents total state ownership in banks, since several states, notably New York, Pennsylvania, Maryland, Virginia, and South Carolina owned bank stock which they had not purchased with borrowed funds. See Wallis, Sylla, and Legler, “Relationship.”

31. Taken from United States Congress, *House Document 111*, 26th Congress, 2nd Session.

32. See Schweikart, *Banking in the American South*, for a general discussion of southern banks and Sparks, *History and Theory*, pp. 83-113, for an explicit description of land banks.

33. Rockoff, “Varieties of Free Banking” and “The Era of Free Banking.”

34. See Milton Stapp to Noah Noble, August 6, 1839, Riker, *Wallace Papers*, p. 260. The situation in the summer of 1839 is described in Fatout, *Indiana Canals*, pp. 93-101, Esarey, *History of Indiana*, pp. 423-27, McGrane, *Foreign Bondholders*, pp. 129-35.

35. The Governor, Samuel Bigger, noted in his address to the legislature on Dec. 7, 1841, that declared to the legislature that the state was now in default, that: “No correct opinion can be formed of the probable amount which will be realized from the suspended debt, nor of the value of the collateral securities taken at different times for its payment; the securities are as various as can well be imagined, and many of them are doubtless scarcely worth the paper employed in conveying them to the state. A part of the debt may be recovered, but how much, or when, are questions it is impossible to answer. One thing, however, is pretty certain, that very little of it

can be collected in time to be used for any immediate purpose.” *Indiana House Journal, 1841/42* pp. 16-17.

36. For events in Michigan see William Jencks, “Michigan’s Five Million Dollar Loan” and McGrane, *Foreign Bondholders*, pp. 143-155.; for Arkansas see McGrane, pp. 245-64; for Illinois see Krenkel, *Internal Improvements*, pp. 139-141 and McGrane, pp. 102-25.

37. Exactly when the state knew that the Morris Bank would default is not clear. W. Jenks reports that “All payments due on the contract were made during 1839 so that up to and including the payment of January 1, 1840...” p. 589. The “Report of the Auditor General” for December 14, 1839, *Michigan Senate Documents, 1840*, pp 101-109, makes no mention of any defaults. The report for December 20, 1840 *Michigan Senate Documents, 1841* indicates payments received from the BUS but none from the Morris Bank in fiscal 1840 (the year ran from December 1 to November 30). By November, the state was clearly worried about the solvency of the Morris Bank and the BUS, and sent a representative, Kintzing Pritchette, to negotiate for the surrender of all of the bonds for which the state had not yet been paid. The banks informed Pritchette that the bonds were already in Europe.

38. Redlich, *Molding of American Banking, Vol. 2*, pp. 324-43, dates the origins of investment banking in the 1830s to just these banks and their marketing of state securities.

39. Table 6 is taken from House Document, 226, 29th Congress, 1st Session, pp. 458-60. Smith noted that “The totals given in the consolidated statement for the Bank are misleading at this point. Detailed analysis of the accounts for the various offices and agencies suggests that the accounts were juggled.” Smith, *Economic Consequences*, note 26, p. 297. The numbers in Table 6, indeed in the entire final report on the Bank’s condition, are somewhat suspect, and certainly are not absolutely accurate. They do convey, however, the general condition of the bank.

40. By the end of 1839 the BUS had pledged over \$12 million in state bonds as security for loans

in Europe. The Bank must have acquired substantially more bonds than the reported \$5 million it held in April, or the \$5 million figure is in error. There is some margin of error in the division of bank assets between state bonds and private corporation stock, as the Bank's statements are not always explicit about the distinction.

41. Humphreys and Biddle "were to sell the cotton, and Samuel Jaudon, in the London money market, who was to raise the funds needed to hold the cotton until the price was right." " His [Jaudon's] function was to get money from British investors for the purpose of holding cotton and raising its price to British buyers. His capital was a trunkful of bank stocks, bonds, and other securities which he sold if possible or used as collateral." Hammond, *Banks and Politics*, p. 472.

42. One key to the success of the Brown's family of firms was the ability to draw on its Liverpool branch, Perkins, *Anglo-American Trade*. For Barings see Hidy, *House of Baring*.

43. "For example, upon cotton shipped by the Brandon Bank through the agency of Minturn & Yorke to the consignment of Humphreys & Biddle, the bank agreed to advance not more than \$30 per bale through the agency of the Merchant's Bank of New Orleans. The Brandon Bank drew on Humphreys & Biddle in favor of Minturn & Yorke, who endorsed the drafts, which were then turned over with the bills of lading to the Merchant's Bank in return for the agreed cash.

The New Orleans bank then drew on the Bank of the United States, which was paid with the drafts on Humphreys & Biddle and sent them to Jaudon." Hidy, *House of Barings*, pp. 242-3.

The Merchant's Bank was part of the BUS's southern holdings, the Bank held stock worth \$1,076,250 in April 1839, HR 226, p. 460. Minturn was also President of the Merchants Bank.

44. House Document 226, p. 419.

45. In the summer of 1837, Biddle, using A.J. Jaudon as his front, shipped \$2,182,998.28 of cotton on the credit of Barings.

46. Wilder was a stand-in for Thomas Dunlap, President of the Bank in 1841. Although the

cotton speculation is described in many places, most of what we know is provided in Lippincott report, reprinted in House Document 226, pp. 419-422. See Govan, *Nicholas Biddle*, pp. 320-50, Hammond, *Banks and Politics*, pp.467-477 and 513-526; Hidy, *House of Baring*, pp. 241-42; Smith, *Economic Consequences*, pp.193-221; and Jenks, *Migration of British Capital*, pp. 88-95. We do not know the exact dates of the cotton transactions. In October of 1837 the price was 9.8 cents per pound; in October 1838, 10.4 cents (the price had not been above 9.3 cents from November 1837 to September 1838, which is why it was critical for Humphreys and Biddle to hold the cotton until the price rose); in April of 1839, 14.6 cents, producing the very large profits; and in August of 1839, 10.3 cents. New Orleans cotton prices from Gray, *History of Agriculture*, pp. 1027.

47. The Mississippi bonds, along with the bonds of other states, were pledged for loans obtained in late 1839 and 1840, discussed below.

48. Kilbourne, *The Bank of the United States*, has an excellent discussion of the Bank's cotton operations from 1837 to 1839, pp 115-50. "Here then is a very early revelation about the exigencies which would drive the United States Bank into the commodities market. A splendid opportunity was unfolding for arbitraging among a chaotic array of domestic exchange rates." Currency in New Orleans in July and August of 1837 was at a 10 percent discount relative to New York, pp. 162.

49. "The struggle for liquidity after 1836 led the Bank to acquire stocks (on what sometimes looked like a moderate down payment) and mortgage them in London for liquid Sterling assets." Smith, *Economic Consequences*, p. 255.

50. The first quote is from Smith, *Economic Consequences*, note 100, p. 300. The second is from Hammond, "The Chestnut Raid," pp. 615-16. Govan, pp. 363-4, believes that Dunlap authorized the post-note sales in 1839 without notifying Biddle, and that when Biddle found out what was

happening, he put a quick stop to the sales, but the damage had been done.

51. Smith, *Economic Consequences*, p. 218. The first two loans were fully collateralized by the bonds, the third loan was not. There may have been other collateral.

52. Wallis, Grinath, and Sylla, “Debt, Default, and Revenue Structure” provide a detailed analysis of the state defaults. They show that Indiana would have been able to meet its bond obligations in 1843 with the tax rates of 1843 if the value of land had stayed at \$7 an acre.

53. Data on Illinois and Pennsylvania bond prices was provided by Robert Wright and Jack Wilson. Data on Indiana bond prices from Redlich, *Molding*, Vol. 2, pp. 342-3.

54. Smith, *Economic Consequences*, the quote is from page 220, and the discussion from 209-221.

55. Matthews, *Trade-Cycle*, p. 69.