# Nature abhors a vacuum: the banking system in the United States from 1832 to 1862

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#### Abstract

The paper surveys the literature on the banking system between the 1832 Jackson's veto on the renewal of the charter of the Second Bank of the United States to the 1862 Legal Tender Act. In the meantime, the state banking system went on in several states and free banking system was experienced in others. On the one hand, the removal of the Second Bank entailed that the payment systems became less federally integrated. On the other hand, the crises of 1837 and 1857 revealed the need of the action of the clearinghouses as lender of last resort. The investigation of the system of plurality of issuers of banknotes, under the state banking and free banking, take into account the institutional environment at large. Even if the authority of the government instigated, in a Jacksonian style, decentralization, the payment system found, by its own, the ways leading to hierarchical structure. The federal government let a vacuum during period from 1832 to 1862 at the beginning of the Civil War and the question is to know how the banking system – state baking or free banking – filled the vacuum.

## The Second Bank of the United States and Jackson's veto

At the end of the Revolutionary war, Alexander Hamilton, the first Secretary of the Treasury, left the nation with a funded debt (around \$72 million in 1790), a Bank of the Union (created in 1791) and a Mint (1792). The First Bank of the United States (modeled on the Bank of England, with a 20 years charter, the state owning one-fifth of its capital) acted as the federal government's fiscal agent. At the same time, Jeffersonians thought that the First Bank was not constitutional. Hence, James Madison, who became president two decades later, did not renew the existence of the First Bank at the end of its charter. But during the Anglo-American war (1812-1815), the need for such an institution re-emerged (the national debt soared to \$127 million in 1815). The Secretary of the Treasury of the Madison administration, Alexander J. Dallas, wrote that "The establishment of a national bank is regarded as the best, and perhaps, the only adequate resource to relieve the country and the Government from the present embarrassments; authorized to issue notes, which will be received in all payments to the United States, the circulation of its issues will be co-extensive with the Union" (Dallas, 1815, pp. 43-44). In creating the Second Bank of the United States (in 1816 with a 20 years charter), the aim was to provide the nation with funds and a uniform national currency. Like the First Bank, the Second Bank was the sole fiscal agent of the government: through its several branches, it held the government's funds in deposit and received taxes due to the government.

After 1823, Nicholas Biddle, the president of the Second Bank, increased the influence of the institution and its branches by the remittance of bills and drafts between eastern, southern and western states<sup>1</sup>. The notes usually migrated to the East and the Second Bank had a regulatory power (presenting notes to be redeemed, preventing over-issues)<sup>2</sup>.

	Loans.	Bills of exchange.
Portsmouth	\$437,000	\$5,000
Boston		221,000
Providence	440,000	159,000
Middletown and Hartford	536.000	82,000
New York	4,895,000	223,000
Philadelphia	3,723,000	784,000
Pittsburg	730,000	85,000
Baltimore	4,031,000	250,000
Washington	1,294,000	41.000
Richmond	1,226,000	90,000
Norfolk	696,000	
Fayetteville	457,000	92,000
Charleston	2,428,000	367,000
Savannah	626,000	150,000
New Orleans	2,455 000	1,017.000
Louisville	1,069,000	128,000
Lexington	1,002,000	60,000
Cincinnati	1,329,000	149.000
Chillicothe	450,000	11,000

Table 1: Branches of the Second Bank, Loans and bills of exchanges, 1825, dollars

Source: Dewey (1910, p. 200)

<sup>&</sup>lt;sup>1</sup> "Undoubtedly [Biddle] cultured central banking ideas and policies in the latter 1820's, but they were a pragmatic result of the Bank's position and not the result of a previously determined thesis"

<sup>&</sup>lt;sup>2</sup> "Our paper system, and therefore our currency, is under the control of twenty-four different legislative bodies, which, although forbidden to issue paper money in the name and on the credit of the individual States, authorize its issue by the joint stock companies they incorporate. (...) The Bank of the United States must not be considered as affording a complete remedy, but as the best and most practicable which can be applied. Its object is (...) to keep their issues within reasonable bounds, and thereby give solidity and an uniform value to the whole mass" (Gallatin, 1833, p. 461).

The clearing system speeded up the repayment of banknotes and transformed the agrarian society. Not a full fledged central bank, the Second Bank located in Philadelphia increased its power but instigated many critics: local and state banks resented the limitation of their lending power, "hard money agrarians" were opposed to paper money. On a national scale, states issued relatively little debt the beginning of the nineteenth century (and levied few taxes). Land sales (during westward expansion) and bank charters were the main sources of state revenue.

In 1829, when Andrew Jackson was elected, there were 329 state banks in the country (against 31 in 1801). The attempt of the new President was to cancel the national debt. "Hard money" Democrats in their discourses disliked banks – and above all the Second Bank. "With the advent of President Jackson, the Bank was gradually drawn into conflict with the Democrats, who saw it as both a symbol and a means of exploitation by a financial plutocracy, a bank like other banks, only far larger and thus far more evil. » (Meerman, 1963, p. 379). President Jackson's priority about the national debt was achieved in 1835: for two years, the nation held no obligation to creditors. But this situation weakened the position of the Second Bank.

## The national debt and government funds

The extinction of the public debt was anticipated and increased the Democrats' ire towards banks in general and the Second Bank in particular. Their leader wanted to neutralize the "monster" (as was labeled the Bank). Indeed, "the President vetoed the 1832 recharter bill for several reasons, including, of course, his assertion that the Constitution did not authorize Congress to establish a bank. But he also pointed out that the bank's huge capitalization was unwarranted because 'the public debt . . . has been nearly paid off, and our revenue will soon be reduced" (Lane 2007, p.69).



Table 2: The United States national debts, 1790-1860, dollars

Source: Historical Statistics of the United States (1975, part 2, series Y 493 496 497)

Jackson also asked the Secretary of the Treasury to remove the governments' deposits held by the Bank (two secretaries denied), and to place them into state banks (the "pet" banks), thus terminating the association between the political power and the Second Bank. Inevitably, this decision provoked some reaction at the head of the Second Bank. The exact impact of "Biddle's contraction" of credit is still open to discussion (Meerman, 1963; Remini, 1967; Temin, 1969), but the restriction of discounts extended the bank war on a large scale.

In July 1836, the US government issued an Act (the *specie circular*) specifying that land purchases should be completed in gold or silver. Land prices fell abruptly (at the same time, the Bank of England was increasing its rate of interest, provoking a capital drain from the US). A "panic" seized financial markets in 1837 and severe depression of the US economy followed<sup>3</sup>. After the expiration of its charter in 1836, the Philadelphia branch of the Second Bank kept operating for some years, but eventually closed its doors in 1841.

During the depression, federal revenues collapsed. Between 1820 and 1839, the debts of U.S. states had multiplied more than tenfold (primarily to improve transportation and develop banks). "The southern states felt that their banking systems were insufficient, especially after the United States Bank was not rechartered" (English, 1996, p. 261). During the 1840's, credit was not available anymore, and several states could not repay their debts. The Congress rejected any intervention trying to "assume" these debts. "The fiscal sovereignty of states, the other side of the no-bailout coin, was thereby established." (Henning, Kessler, 2012, p. 12). As a consequence, in the 1840s, eight states (plus Florida, then a territory), defaulted.

In sum, according to the founder of the First Bank of the United States, Alexander Hamilton, the funding of the debt and the organization of the banking structures were tied. The government owned a part of the capital of the Second Bank, the Bank acted as a fiscal agent and could regulate the activity of private and state banks<sup>4</sup>. Twenty years later, in spite of his animosity towards the First bank, James Madison had to relive it, because the war of 1812 had increased the national debt. Nicholas Biddle, at the head of the institution in the 1820's deepened the influence of the Second Bank. But Andrew Jackson, extinguishing the federal debt, thought he could at the same time get rid of "the monster", creating a vacuum in the 1840's, at the moment state debts were increasing. We will now see the kind of reactions this situation created.

<sup>&</sup>lt;sup>3</sup> "By 1843, one quarter of US banks were shut down, overall prices had fallen by more than 40%, and investment in infrastructure such as canals and railroads had ground to almost a complete halt" (Roberts, 2010, p. 4).

<sup>&</sup>lt;sup>4</sup> Michel Chevalier, describing the 2<sup>nd</sup> BUS, used the term « Banque centrale » for the first time (Chevalier, 1834, p.255).

#### Consequences of the removal of the Second Bank

Several theses on the impact of the removal of the Second Bank may be discerned. One thesis holds that the absence of the regulatory control exercised by the Second Bank created an expansion of the banking sector and of wildcat banking (Schlesinger, 1945; Hammond, 1957; Meyers, 1960). Another thesis points out that the ratio of specie to bank liabilities remained stable, which did not indicate that the banking credit sharply expanded but responded to the increase in the metallic reserve due to capital imports from England (Macesich, 1960; Temin, 1969; Rockoff, 1971). Finally, several studies provided amendments. Engerman (1971, p. 726) points out that, under the aegis of the Second Bank network from the late 1820s and early 1830s, the proportion of specie used by the nonbank public felt to low level (around 15% and even less) and specie was deposited in the banking system to support the expansion of bank liabilities. The end of the Second Bank and the panics of 1837 and 1839 contributed to increase the proportion of specie used by the nonbank public (not falling below 23%). Thus, the absence of the federal clearing system (that the Second Bank had built from the late 1820s) impoverished the system of payment and the economization of specie. As a result, the stabilization of the specie ratio after the existence of the Second Bank is misleading.

Sushka (1976, pp. 828-9) finds that, after the mid-1830s, the demand for bank notes and demand deposits declined to the benefit of specie holding, given the interest rate level, meaning that banking behaviour did not become reckless but rather conservative. Moreover, it is found that the demand for bank notes and demand deposits became sensitive to the interest rate, which is explained by the opportunity cost. But the opportunity cost explanation does not discriminate the two periods—before and after the 1832 veto—and prevailed throughout all the period. On the other hand, the institutional framework was different and the removal of the Second increased uncertainty, which explained the sensibility of the demand for bank liabilities. Whatever the explanation, the following conclusion remained relevant: "Had a central bank existed, the [increase in the demand for specie] would have been counteracted by increasing the volume of high-powered money" (ibid).

# The Free Banking Era

In the present paper, by "*laissez-faire* banking" we mean "free banking in theory" featured by free entry or liberal chartering in the market of bank note issuing and insignificant legal restrictions except convertibility at par at the desk of the issuing banks. By "free banking" we mean "free banking in US history" featured by free entry in the market of bank note issuing and by significant legal restrictions. In some extent, free banks in New York were more regulated than chartered banks in England. The true case of *laissez-faire* banking is to be found in private,

unincorporated or unchartered banks (Sylla, 1976): these banks issued certificates deposits or drafts in law denominations and get around restrictions related to bank note issuing. In addition, many states granted liberally charters before 1837 and made entry in the market of asset notes relatively free, so that it is not sure that the banking system was more 'free' in that banks could not choose at discretion the asset they purchased in issuing banknote.

Three regulatory components of the free banking laws may be discerned. First, the bond-collateral requirement: free banks were authorised to issue banknotes after having purchased eligible public bills issues by states. Second, the convertibility at par: if the value bond reserve were insufficient to face outstanding banknote redemption, the bank should bring supplementary capital or default on the payment; most of the time, banks in difficulty preferred the default option. Third, legal minimum denominations on banknotes generally set at 5 dollars. Hence, White (1995) shows how state banking regulation including free banking legislation attempted to protect note holders after that banking failures from 1837 to 1841 had mostly depleted the safety fund system.

Knox (1903), Hammond (1957), among others, develop a pessimistic view according to which free banking experience was a failure (free banks too numerous, short period of time in business, and free bank notes unsafe with important losses). The height of the free banking experience was the development of wildcat banking. Rockoff (1974), Rolnick and Weber, 1983) and Economopoulos (1988) show that the free banking experiences in the United States were very different and regards the Michigan and Minnesota experiment as a catastrophe, at one extreme, and the New York as a relative success, at the other extreme of the spectrum.

State	Free banks (1)	Free banks with redemption	Free banks that closed	Free banks that failed
		information (2)	(% of col. 1)	(% of col.2)
New York	449	445	160	34
(1838-1863)			(35,6)	(7,6)
Wisconsin	140	140	79	37
(1852-1863)			(56,4)	(26,4)
Indiana	104	77	89	24
(1852-1863)			(85,6)	(31,1)
Minnesota	16	16	11	9
(1858-1862)			(68,7)	(52,2)
Total	709	678	339	104
			(47,8)	(15,3)
Illinois	141	140	117	91
			(83)	(65)
(1851-1860)			24	2
(1861-1863)			93	89

Table 3: Number of free banks, free bank closings, and failures in New York, Wisconsin, Indiana, Minnesota and Illinois

Source : Rolnick et Weber (1983, p. 1085) ; Economopoulos (1988, p. 255).

Regarding the banking and financial relation of the different regions, Bodenhorn and Rockoff's (1992) study reveals the integration of the interregional short-term capital market before the Civil War. In several states, interest rate were close to the interest rate in New York City, particularly in Massachusetts and Rhode Island (New England), Pennsylvania (Middle Atlantic), more surprisingly in Virginia and South Carolina (South Atlantic), and less clearly in Tennessee and Indiana (West). The legal ceiling on interest rate and the usury penalties in several states (from 6% in New York, Massachusetts, Pennsylvania, Virginia, Indiana to 7% in South Carolina) did not explain alone such financial integration with New York insofar as they were also in operation under the National Banking Act of 1863. The differentials in interest rate among regions in the 1850s were similar those at the turn of the century, while the economic and banking forces had completely change in the meantime.

# The Clearing House systems

The Clearing Houses such as the Suffolk Bank of Boston in New England from 1824 onwards and the New York Clearing House in the Middle Atlantic from 1853 onwards played an important role in the East coast during State and Free Banking Era. They performed most of the central bank's functions in organising multilateral offsetting of bank notes and checks, centralizing part of the money reserve, and issuing in last resort high-powered medium in the form of loan certificates or interbank deposits. Hammond (1957, p. 554) goes as far as to state that the Suffolk Bank "was in effect the central bank of New England. It was doing what the Bank of the United States should and might have done for the country as a whole." Nonetheless, the Second bank had a nationwide organization and implemented fiscal functions. Beyond their differences, the Second Bank and the Suffolk Bank both meet similar difficulties arising from annoyance of local banks, which were destabilized by the rapid return of their issue and by the prudential control about their financial sustainability. As a legal construction or as a spontaneous phenomenon, the central banking system stood between the evolution of the banking system toward centralization and claims for decentralization.

## Conclusion

With the 1862 Legal Tender Act, the government thoroughly filled the vacuum that Jackson had created with his 1832's veto. During the Civil War, the Treasury issued paper money, the greenbacks, up to \$400 million. Moreover, the national debt increased from \$65 million in 1860 up to \$2.756 million in 1866. The National Banking System partly financed the national debt through the bond collateral requirement, that is, the national banks were authorised to issue up to 90% of the amount of Treasury bonds after having purchased and deposited them with the Office of the Comptroller of the Currency. But during the Civil war -or the Reconstruction period- the federal government did not create a « Third » BUS ...

#### References

- APPLETON Nathan, 1831, An Examination of the Banking System of Massachusetts, in Reference to the Renewal of the Bank Charters, Boston, Stimpson and Clapp.
- APPLETON Nathan, 1841, Remarks on Currency and Banking, Third edition, Boston, Eastburn's Press, 1857. BN
- BODENHORN Howard and HAUPERT Michael, 1995, "Was There a Note Issue Conundrum in the Free Banking Era?", *Journal of Money, Credit and Banking*, vol. 27, n°3, pp. 702-712.
- BODENHORN Howard and ROCKOFF Hugh, 1992, "Regional Interest Rate in Antebellum America", in C. Goldin and H. Rockoff (eds.), *Strategic Factors in Nineteenth Century American Economic History*, Chicago, University of Chicago Press, pp. 159-187.
- BODENHORN Howard, 1990, "Entry, Rivalry and Free banking in Antebellum American", Review of Economic and Statistics, vol. 72, n°4, pp. 682-686.
- BODENHORN Howard, 1993, "Small-Denomination Banknotes in Antebellum America", Journal of Money, Credit and Banking, vol.25, n°4, pp. 812-827.
- BODENHORN Howard, 2000, A History of Banking in Antebellum America, Cambridge University Press.

- BODENHORN Howard, 2008, "Free Banking and Bank Entry in Nineteenth-Century New York", *Financial History Review*, vol. 15, n°2, pp. 175-201.
- CALOMIRIS Charles W. and KAHN Charles M., 1996, "The Efficiency of Self-Regulated Payment Systems: Learning from the Suffolk System", *Journal of Money, Credit and Banking*, vol. 28, n°4, pp. 766-797.
- CALOMIRIS Charles W. and SCHWEIKART Larry, 1991, "The Panic of 1857: Origins, Transmission, and Containment", *Journal of Economic History*, vol. 51, n°4, pp. 807-834.
- CALOMIRIS Charles W., 1990, "Is Deposit Insurance Necessary? A Historical Perspective", Journal of Economic History, vol. 50, n°2, pp. 283-295.
- CATTERAL Ralph C. H., 1902, The Second Bank of the United Sates, University of Chicago Press, Chicago.
- CHADDOCK Robert E., 1910, *The Safety-Fund Banking System in New York State, 1829-1866*, National Monetary Commission, 61th Congress, 2<sup>nd</sup> Session, vol.34, Doc.581, Washington D.C., Government Printing Office.
- CHEVALIER Michel, 1834, "Lettre XIV, La Banque-L'Esclavage, 24 août 1834," in Lettres sur l'Amérique du Nord par Michel Chevalier, Tome 1, Hauman-Cattoir, Bruxelles, pp.248-266
- DALLAS Alexander J., 1815, "State of the Finances, December 1815", in Reports of the Secretary of the Treasury, Duff Green, Washington, 1829, pp.5-52.
- DEWEY Davis R., 1910, *State Banking before the Civil War*, National Monetary Commission, 61th Congress, 2<sup>nd</sup> Session, vol.34, Doc.581, Washington D.C., Government Printing Office.
- DILLISTIN Williams H., 1949, Bank Note Reporters and Counterfeit Detectors, New York, American Numismatic Society.
- ECONOMOPOLOUS Andrew J. and O'NEIL Heather, 1995, "Bank Entry during the Antebellum Period", *Journal of Money, Credit and Banking*, vol. 27, n°4, pp. 1071-1085.
- ECONOMOPOULOS Andrew J., 1986, "The Impact of Reserve Requirements on free Bank Failures", *Atlantic Economic Journal*, vol. 14, n°???, pp. 76-84.
- ECONOMOPOULOS Andrew J., 1990, "Free Banking Failures in New York and Wisconsin: A Portfolio Analysis", *Explorations in Economic History*, vol. 27, n°4, pp. 421-441.
- ENGERMAN Stanley L., 1970, "A Note on the Economic Consequences of the Second Bank of the United States", *Journal of Political Economy*, vol. 78, n°4, pp. 725-728.
- ENGLISH William B., 1996, "Understanding the costs of sovereign default: American state debts in the 1840s", *American Economic Review*, vol. 86, n°1, pp. 259-275
- FENSTERMAKER J. Van and FILER John E., 1986, "Impact of the First and Second Banks of the United States and the Suffolk System on New England Bank Money", *Journal of Money, Credit and Banking*, vol.18, n°1, pp. 28-40.
- FENSTERMAKER J. Van, FILER John E. and HERREN Robert S., 1984, "Money Statistics of New England, 1785–1837", *Journal of Economic History*, vol. 23, n°2, pp. 447-4467.
- FRAAS Arthur, 1974, "The Second Bank of the United States: An Instrument for an Interregional Monetary Union", *Journal of Economic History*, vol. 44, n°2, pp. 441-453.
- GALLATIN Albert, 1833, "Letter to Horsley Palmer, May 1, 1833", in *The Writings of Albert Gallatin*, H. Adams (ed.), Philadelphia, J. B. Lippincott, 1879, pp. 459-464.
- GARBADE Kenneth D. and William L. SILBER, 1979, "The Payment System and Domestic Exchange Rates: Technological versus Institutional Change", *Journal of Monetary Economics*, vol. 5, n°1, pp. 1-22.
- GOLEMBE Carter H. and Clark S. WARBURTON, 1958, Insurance of Bank Obligations in Six States During the Period 1829-1866, Federal deposit Insurance Corporation.
- GOLEMBE Carter H., 1952, State banks and the Development of the West, 1830-1844, PhD Dissertation, Columbia University.
- GOVAN Thomas, 1954, "The Fundamental Issues of the Bank War", Pennsylvania Magazine of History and Bibliography, vol. 82, July, pp. 305-315.
- GOVAN Thomas, 1959, Nicholas Biddle: Nationalist and Public Banker, 1786-1844, Chicago.

- HAMMOND Bray, 1947, "Jackson, Biddle and the Bank of the United States", Journal of Economic History, vol.7, n°1, pp. 1-23.
- HAMMOND Bray, 1957, Banks and Politics in America, Princeton, Princeton University Press.
- HASAN Iftekhar and DWYER Gerald P. Jr., 1994, "Bank Runs in the Free Banking Period », Journal of Money, Credit and Banking, vol.26, n°2, pp. 271-288.
- HENNING C. Randall and KESSLER Martin, 2012, Fiscal Federalism: US History for Architects of Europe's Fiscal Union, Bruegel Essay and Lecture Series, Bruxelles
- HEPBURN A. Barton, 1915, A History of Currency in the United States, Honolulu, Hawaii, University Press of the Pacific, 2002.

HILDRETH R., 1840, Banks, Banking, and Paper Currencies, Greenwood Press, New York.

- JAMES John A. and WEIMAN David, 2010, "From Drafts to Checks: the Evolution of Correspondent Banking Networks and the Formation of the Modern US Payment System, 1850-1914", *Journal of Money, Credit and Banking*, vol. 42, n°2/3, pp. 237-265.
- KAHN James A., 1985, "Another Look at Free Banking in the United States", American Economic Review, vol. 75, n°4, pp. 881-885.
- KNODELL Jane, 1988, "Interregional Financial Integration and the Banknote Market: The Old Northwest, 1815-45", *Journal of Economic History*, vol. 48, n°2, pp. 287-298.
- KNODELL Jane, 2003: "Profit and Duty in the Second Bank of the United States' Exchange Operations", *Financial History Review*, vol. 10, n°1, pp. 5-30.
- KNODELL Jane, 2006, "Rethinking the Jacksonian Economy: The Impact of the 1832 Bank Veto on Commercial Banking", *Journal of Economic History*, vol. 66, n°3, pp. 541-574.
- KNODELL Jane, 2010: "The Role of Private Bankers in the US payments system, 1835-1865", Financial History Review, vol. 17, n°2, pp. 239-262.
- KNODELL Jane, 2013: "The Nation-Building Purposes of early US Central Banks", *Financial History Review*, vol. 17, n°2, pp. 239-262.
- KNOX John J., 1885, United States Notes: A History of the Various Issues of Paper Money by the Government of the United States, Second Edition, London, Fisher Unwin.
- KNOX John J., 1903, A History of Banking in the United States, New York, Bradford Rhodes and Company. Reprint Augustus M. Kelley, New York, 1969.
- KROSZNER R.S. 1996, "Comment on the Efficiency of Self-Regulated Payments Systems: Learning from the Suffolk Bank System", *Journal of Money, Credit and Banking*, vol. 28, n°4, pp. 798-803.
- KROSZNER R.S. 1998, "Lessons from Laisser-Faire Payments System: The Suffolk Banking System 1825-1858, Commentary", Federal Reserve Bank of St. Louis Review, vol. 80, n°3, pp.117-120.
- LAKE Wilfred S. 1947, "The End of the Suffolk System", Journal of Economic History, vol. 7, n°2, pp.183-207.
- LAMOREAUX Noami, 1991, "Banks, Kinship, and Economic Development: The New England Case", *Journal of Economic History*, vol. 46, September, pp. 647-667.
- LANE Carl, 2007, "The Elimination of the National Debt in 1835 and the Meaning of Jacksonian Democracy", *Essays in Economic and Business History*, vol. 25, pp. 67-78.
- LEGLER John B., SYLLA Richard and WALLIS John J., 1987, "Banks and the State Public Finance in the New Republic : The United States, 1790-1860", *Journal of Economic History*, vol.47, n°2, pp. 391-403.
- LINDERMAN Henry R., 1878, Money and Legal Tender in the United States, New York, G. P. Putman.
- MACESICH George, 1960, "Sources of Monetary Disturbances in the United States, 1834-1845", Journal of Economic History, vol. 20, n°3, pp. 407-434.
- MARTIN David A., 1968, "Bimetallism in the United States before 1850", Journal of Political Economy, vol. 76, May/June, pp. 428-442.
- MARTIN David A., 1973, "1853: The End of Bimetallism in the United States", Journal of Economic History, vol. 33, December, pp. 825-844.

- MARTIN David A., 1974, "Metallism, Small Notes, and Jackson's War with the Bank of United States", *Explorations in Economic History*, vol.11, Spring, pp. 227-247.
- MASHAW Jerry L., 2008, "Administration and 'The Democracy': Administration Law from Jackson Lincoln, 1829-1861", Yale Law Journal, vol. 117, n°8, pp. 1568-1693.
- MCFAUL John, 1972, The Politics of Jacksonian Finance, Ithaca, New York.
- MCGRANE Reginald, 1924, The Panic of 1837: Some Financial Problems of the Jacksonian Era, Chicago, University of Chicago Press.
- MEERMAN Jacob, 1963, "The Climax of the Bank War: Biddle's Contraction 1833-1834", Journal of Political Economy, vol. 71, n°4, pp. 378-388.
- MILLER, Harry E., 1927, Banking Theories in the United States before 1860, Harvard University Press, Cambridge. BN
- MINTS Lloyd W. 1945, A History of Banking Theory in Great Britain and the United States, Chicago University Press, Chicago.
- MULLINEAUX Donald J. 1987, "Competitive Monies and the Suffolk Bank System: A Contractual Perspective", *Southern Economic Journal*, vol. 53, n°4, pp.884-898.
- MULLINEAUX Donald J., 1988, "Competitive Monies and the Suffolk Bank System: Reply", Southern Economic Journal, vol. 55, n°1, pp. 220-223.
- NG Kenneth, 1988, "Free-Banking Laws and Barriers to Entry in Banking, 1838-1860", Journal of Economic History, vol.48, n°4, pp. 877-889.
- O'LEARY Paul, 1937, "The Coinage Legislation of 1834", Journal of Political Economy, vol.45, n°1, pp.80-94. B@
- PARSONS Burke A., 1977, British Trade Cycles and American Bank Credit: Some Aspacts of Economic Fluctuations in the United States, 1815-1840, New York, Arno Press.
- PERKINS Edwin J., 1974, "The Emergence of a Future Market for Foreign Exchange in the United States", *Explorations in Economic History*, vol. XX, Spring, pp. XXX.
- PERKINS Edwin J., 1987, "Lost Opportunities for Compromise in the Bank War: A Reassessment of Jackson's Veto Message", *Business History Review*, vol. 61, Winter, pp. 531-550.
- REDENIUS Scott A., 2007, "Designing a National Currency: Antebellum Payment Networks and the Structure of the National Banking System", *Financial History Review*, vol. 14, n°2, pp. 207-228.
- REDLICH Fritz and WEBSTER M. Christman, 1967, "Early American Checks and an Example of their Use", *Business History Review*, vol. 41, n°3, pp. 285-302.
- REDLICH Fritz, 1951, The Molding of American Banking: Men and Ideas, New York, Hafner Publishing.
- REDLICH Fritz, 1968, "The History of American Banking in the Literature of the Last Fifteen Years", in *The Molding of American Banking: Men and Ideas*, New York, Johnson Reprint.
- REMINI Robert, 1967, Andrew Jackson and the Bank War, New York.
- ROBERTS Alasdair S., 2010, "An Ungovernable Anarchy': the United States' Response to Depression and Default, 1837-1848", *Intereconomics*, vol. 45, n°4, pp. 196-202
- ROCKOFF Hugh, 1971, "Money, Prices, and Banks in the Jacksonian Era", in *The Reinterpretation of American Economic History*, R. Fogel and S. Engerman (eds.), New York, pp. 448-458.
- ROCKOFF Hugh, 1974, "The Free Banking Era: A Re-examination", Journal of Money, Credit and Banking, vol.6, n°2, pp. 141-167
- ROCKOFF Hugh, 1985, "New Evidence on Free Banking in the United States", American Economic Review, vol.75, n°4, pp. 886-889.
- ROLNICK Arthur J. and WEBER Warren E., 1982, "Free Banking, Wildcat Banking, and Shinplasters", Federal Reserve Bank of Minneapolis, *Quarterly Review*, vol. 6, n°3, pp. 10-19.

- ROLNICK Arthur J. and WEBER Warren E., 1983, "New Evidence on the Free Banking Era", *American Economic Review*, vol.73, n°5, pp. 1080-1091.
- ROLNICK Arthur J. and WEBER Warren E., 1984, "The Causes of Free Bank Failures", Journal of Monetary Economics, vol.14, n°3, pp. 267-291.
- ROLNICK Arthur J. and WEBER Warren E., 1985, "Banking Instability and Regulation in the U.S. Free Banking Era", Federal Reserve Bank of Minneapolis *Quarterly Review*, vol. 9, n°3, pp. 2-9.
- ROLNICK Arthur J. and WEBER Warren E., 1998, "The Suffolk Bank System Reconsidered", Working Paper 587D, Federal Reserve Bank of Minneapolis, Research Department, may.
- ROLNICK Arthur J., SMITH Bruce D. and WEBER Warren E., 1998, "Lessons from Laisser-Faire Payments System: The Suffolk Banking System 1825-1858", Federal Reserve Bank of St. Louis Review, vol.80, n°3, pp.105-116.
- ROLNICK Arthur J., SMITH Bruce D. and WEBER Warren E., 2000, "The Suffolk Bank and the Panic of 1837", Federal Reserve Bank of Minneapolis *Quarterly Review*, vol. 24, n°2, pp.3-13.
- ROUSSEAU Peter L., 2002, "Jacksonian Monetary Policy, Specie Flows, and the Panic of 1837", Journal of Economic History, vol. 62, n°2, pp. 457-488.
- SCHEIBER Harry N., 1963, "The Pet Banks in Jacksonian Politics and Finance, 1833-1841", Journal of Economic History, vol. 23, n°2, pp. 196-214.
- SCHLESINGER Arthur M., 1945, The Age of Jackson, Boston.
- SCHWEIKART L., 1988, "Jacksonian Ideology, Currency Control, and 'Central' Banking: A Reappraisal", *The Historian*, vol. 51, November, pp. 78-102.
- SCHWEIKART L., 1991, "U.S. Commercial Banking: A Historiographical Survey", Business History Review, vol. 65, n°3, pp. 606-661.
- SCHWEIKART Larry, 1987, Banking in the America South from the Age of Jackson to Reconstruction, Baton Rouge, Louisiana State University Press.
- SELGIN G. A. 2000: "The Suppression of State Banknotes: A Reconsideration", *Economic Inquiry*, vol. 38, n°4, pp. 600-615.
- SELGIN George A. and WHITE Lawrence H., 1987, "The Evolution of a Free Banking System", *Economic Inquiry*, vol. XXV, n°3, pp. 439-457.
- SELGIN George A. and WHITE Lawrence H., 1988, "Competitive Monies and the Suffolk Bank System: Comment", *Southern Economic Journal*, vol. 55, n°1, pp. 215-219.
- SELGIN George A. and WHITE Lawrence H., 1990, "Laissez-Faire Monetary Thought in Jacksonian America", in D. E. Moggridge (Ed.), Perspectives on the History of Economic Thought, volume 4, pp. 20-39.
- SHADE William G., 1972, Banks or No Banks: The Money Issue in Western Politics, 1832-1865, Detroit, Wayne State University Press.
- SHARP James R., 1970, The Jacksonians Versus the Banks: Politics in the United States after the Panic of 1837, New York.
- SMITH Walter B., 1953, Economic Aspects of the Second Bank of the United States, Cambridge.
- STEVENS Edward J., 1971, "The Composition of the Money Stock Prior to the Civil War", Journal of Money, Credit and Banking, vol. 3, n°1, pp. 84-101.
- STUDENSKI Paul and KROOSS E. Herman, 1963, Financial History of the United States: Fiscal, Monetary, Banking, and Tariff, including Financial Administration and State and Local Finance, seconde édition, New York, McGraw-Hill.
- SUSHKA Marie E., 1976, "The Antebellum Money Market and the Economic Impact of the Bank War", *Journal of Economic History*, vol. 36, n°4, pp. 809-835.
- SYLLA Richard, 1976, "Forgotten Men of Money: Private Bankers in Early U.S. History", Journal of Economic History, vol. 36, n°1, pp. 173-188.
- SYLLA Richard, 1985, "Early American Banking: The Significance of the Corporate Form", Business and Economic History, vol. 14, March, pp. 105-123.

- SYLLA Richard, 2011, "Financial Foundations: Public Credit, the National Bank, and Securities Markets", in *Founding Choices*, ed. By D.A. Irwin and R. Sylla, The University of Chicago Press, Chicago, pp.59-88
- TEMIN Peter, 1968, "The Economic Consequences of the Bank War", Journal of Political Economy, vol. 76, n°2, pp. 257-274.
- TEMIN Peter, 1968, "The Panic of 1857", Intermountain Economic Review, vol. 6, n°XXX, pp. 1-12.
- TEMIN Peter, 1969, *The Jacksonian Economy*, New York.
- TIMBERLAKE Richard H., 1961, "The Specie Standard and the Central Banking in the United States Before 1860", *Journal of Economic History*, vol. 21, n°3, pp. 318-341.
- TIMBERLAKE Richard H., 1964, "Ideological Factors in Specie Resumption and Treasury Policy", *Journal of Economic History*, vol. 24, n°1, pp.29-52. B@
- TIMBERLAKE Richard H., 1974, "Denominational Factors in the Nineteenth Century Experience", *Journal of Economic History*, vol. 34, n°4, pp. 835-850.
- TIMBERLAKE Richard H., 1978, The Origins of Central banking in the United States, University of Chicago Press, Chicago.
- TIMBERLAKE Richard H., 1984, "The Central Banking Role of the Clearing House Associations", Journal of Money, Credit and Banking, vol. 16, n°1, pp.1-15.
- TIMBERLAKE Richard H., 1993, Monetary Policy in the United States: An Intellectual and Institutional History, University of Chicago Press, Chicago.
- TRIVOLI George, 1979, The Suffolk Bank: A Study of a Free-Enterprise Clearing System, Adam Smith Institute, London.
- WALLIS Joseph J., 2001, "What Caused the Crisis of 1839", NBER Working Paper Series, Historical Paper n°133, April.
- WALLIS Joseph J., SYLLA Richard E. and GRINATH Arthur, 2004, "Sovereign Debt and Repudiation: The Emerging-Market Debt Crisis in the U.S. States, 1839-1843", NBER Working Paper Series, n°10753, September.
- WEBER Warren E., 2002, "Bank Note Exchange Rates in the Antebellum United States", Working Paper 623, Federal Reserve Bank of Minneapolis, September.
- WEBER Warren E., 2003, "Interbank Payments Relationships in the Antebellum United States: Evidence from Pennsylvania", *Journal of Monetary Economics*, vol. 50, n°2, pp. 455-474.
- WHITE Eugene N., 1995, "Free Banking, Denominational Restrictions, and Liabilities Insurance", in George Edward Durell Foundation, Money and Banking: The American Experience, Fairfax, George Mason University Press, pp. 99-117.

WHITNEY David R., 1878, The Suffolk Bank, Cambridge, Mass., Riverside Press.