Varieties of Banking and Regional Economic Development in the United States, 1840-1860

IT is sometimes asserted that a laissez-faire policy toward financial intermediaries tends to deepen financial development and accelerate economic growth.[1] The two decades preceding the American Civil War provide a challenging case for this proposition because they witnessed something approaching a natural experiment. During those years the Federal government withdrew from the regulation of banking, a policy that was the final outcome of Andrew Jackson's war with the Second Bank of the United States. A wide range of experiments concerning entry into commercial banking were tried, from "free" banking to "socialized" banking. Moreover, other kinds of legislation affecting banking varied from state to state as well. While the regions of the United States differed in terms of economic structure, a common language, a common legal tradition, and, to some extent, a common culture permeated all regions. Thus, the period provides excellent conditions for observing the effects of financial legislation on the extent of financial intermediation. In this paper I will assess the impact on financial development of the three most important forms of regulation: the commercial banking laws, the usury laws, and the mutual savings banking laws.

The concept of a well-developed financial system encompasses a variety of dimensions. One might consider such factors as the variety of financial intermediaries, the rate of failure among financial intermediaries, the rate of growth of financial intermediaries, and so on. I have relied primarily on the amount of monetary liabilities (bank deposits and circulating notes) per capita as the

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[1] Two recent books with this theme are: Ronald I. McKinnon's *Money and Capital in Economic Development* (Washington, D.C.: The Brookings Institution, 1973) and Edward Shaw's *Financial Deepening in Economic Development* (New York: Oxford University Press, 1973).

measure of financial development. Commercial banks and mutual savings banks were the most important financial intermediaries. Monetary liabilities per capita appears to me to be the best single measure of the extent to which the financial system was able to supply a range of services attractive to consumers.

Precedents exist for using a different aggregate, perhaps total bank assets or total loanable funds, to measure financial development. Almost sixty years ago A. Barton Hepburn examined regional financial development in this period using a concept which he called "banking power," total bank assets per capita.[2] Ratios using very broad aggregates have also been employed by recent investigators including Cameron and Goldsmith.[3] However, three considerations suggest that a narrower aggregate is most appropriate in this instance. First, estimates of monetary liabilities are more accurate, especially in 1840. Some banks would evade minimum capital requirements by lending investors the funds with which to buy the stock of the bank. This created fictitious items under loans and capital. Second, data exist for adjusting the value of monetary liabilities to reflect market discounts. Failure to adjust for this pair of problems biased Hepburn's comparisons. A third reason for using monetary liabilities is that it facilitates comparison with recent cross-section studies of the demand for money.

THE REGULATION OF COMMERCIAL BANKS

There are two important senses in which the term "freedom" is used in connection with the banking legislation of the time. One is freedom of entry. The other is the discretion given banks in choosing their portfolios. If a wide range of assets was permitted, the law would be classified as liberal. The adjective "free," used in the term "free banking law"—the somewhat misleading name used by contemporaries—referred solely to freedom of entry. The free banking laws ended the requirement that banks obtain their charters through special legislative acts. Instead, charters could be obtained from a state official upon application. The opposition of

[2] A. Barton Hepburn, *A History of Currency in the United States* (New York: the Macmillan Company, 1915), pp. 158, 174.

[3] Rondo Cameron and collaborators, *Banking in the Early Stages of Industrialization: A Study in Comparative Economic History* (New York: Oxford University Press, 1967), pp. 300-305. Raymond W. Goldsmith, *Financial Structure and Development* (New Haven: Yale University Press, 1969), pp. 26-30.

the established banks to free banking in New York suggests that, at least in some cases, the law eased entry.[4]

The expected effect of free entry on the level of bank money balances desired by consumers is ambiguous. On the one hand, if free entry produced a geographic pattern of banks more suited to the needs of consumers, or otherwise reduced the cost of using bank money, one would expect larger bank money balances. On the other hand, if the primary effect of free entry were to reduce the actual, or the perceived, soundness of the banking system, one would expect smaller balances.

Both the special charters and the free banking laws prohibited banks from investing in real property; however, the free banking laws added a further restriction on funds generated through issuing notes. Under these laws banks had to back issues of circulating notes with government bonds deposited with a state authority. While the banks received the interest on the bonds, the authority was empowered to sell them if a bank failed to honor its notes and to redeem the notes out of the proceeds from the sale. In this sense free banking laws were the antithesis of laissez-faire banking laws. Conant believed that this restriction produced inferior banking systems because of "excessive" rates of bank failure.[5]

A major concern of Conant and other writers evaluating the bond security system was wildcat banking. The wildcats, which sometimes sprang up in great numbers under the free banking laws, would issue more notes than they could permanently keep in circulation. Inevitably the wildcats were wiped out in an epidemic of failures. Perhaps the term mushroom banks, which is occasionally used in banking history, would be more descriptive.

For the most part, New England remained a region of special charters. Massachusetts and Connecticut passed free banking laws in the 1850's but few banks were organized under the laws. The premier example of a successful free banking law was New York's. Although a number of free banks failed during the depression of the 1840's, from 1845 to 1860 New York experienced virtually no bank failures.[6] Moreover, the rate of growth of money per capita

[4] Bray Hammond, *Banks and Politics in America from the Revolution to the Civil War* (Princeton: Princeton University Press, 1957), pp. 573, 574.

[5] Charles A. Conant, *A History of Modern Banks of Issue,* fifth edition (New York: G. P. Putnam's Sons, 1915), p. 393.

[6] On bank failures in New York see L. Carroll Root, "New York Bank Currency," *Sound Currency,* II (February 1895), 285-308.

was quite rapid: 4.41 percent compared with 2.56 percent for the country as a whole. The other Atlantic Coast states, with the exception of Virginia and New Jersey, relied on special charters. New Jersey's banking system suffered from wildcat banking, but Virginia's bond security system (entry was not automatic) did not.

Of the four East South Central states only one, Tennessee, had free banking and there it was given only a brief trial. The experience with free banking was neither particularly good nor particularly bad.[7] In the West South Central region Louisiana, the most populous state, adopted free banking. However, while entry was free there were stiff "reserve" requirements against notes and deposits. No failures occurred under Louisiana's law during the antebellum period, but the rate of growth of bank money per capita was relatively slow.[8] Of the five West North Central states Missouri had a single state-owned bank for most of the period, although it adopted a freer chartered system toward the end of the period because of dissatisfaction with the amount and distribution of bank capital in the state.[9] Minnesota, the second most important state in the region, had a free banking system, and suffered from wildcat banking.[10]

All of the East North Central states adopted free banking. In fact Michigan did so twice, once in 1837 and then again in 1857. All of these states with the exception of Ohio, suffered through episodes of wildcat banking. However, these episodes were generally brief in duration, and with the exception of Michigan, the holders of wildcat bank notes received some compensation for the notes they held, not infrequently eighty or ninety percent of their face value.

The popularity of free banking in the areas of new settlement does not appear to have been accidental. The chief goal of the business community in these states was rapid economic development. Moreover, the inflexibility of a legislative review of bank capital allocation was a more severe problem in a region where

[7] For the history of banking in Tennessee see Claude Arthur Campbell, *The Development of Banking in Tennessee* (Nashville: Vanderbilt University, 1932).

[8] For the history of banking in Louisiana see George D. Green, *Finance and Economic Development in the Old South: Louisiana Banking, 1804-1861* (Stanford: Stanford University Press, 1972).

[9] John Ray Cable, *The Bank of the State of Missouri* (New York: Columbia University Press, 1923), pp. 241-248.

[10] For the history of banking in Minnesota see Sidney Patchin "The Development of Banking in Minnesota," *Minnesota History Bulletin,* II (August 1917), 111-168.

the geographic structure of the demand for banking facilities was changing rapidly.

There were several weaknesses in the bond security system. In some cases there seems to have been a confusion between the market value of bonds and their par value. If banks were permitted to issue notes on the par value of bonds while the bonds were selling near or below par (sometimes substantially below), there existed a strong temptation to open wildcat banks. In addition, there was no assurance that the supply of bonds would be sufficient or grow at a rate appropriate to the demand for circulating notes. This was less of a problem in New York than in some of the smaller states, since New York had a large debt of its own and did not have to depend on the supply of bonds issued by other states. Moreover, notes were a less important source of funds for banks in New York.

THE DETERMINANTS OF THE DEMAND FOR COMMERCIAL BANK MONEY

Table 1 presents estimates of bank money per capita and income per capita by region in 1840 and 1860. The regions are those for which Richard Easterlin computed per capita income relatives. They are also, as I have indicated, regions with distinct approaches to the regulation of commercial banking. The Table reveals a wide range in per capita holdings of bank money. In 1860, to take a dramatic example, per capita holdings were over five times as large in New England as in the West North Central region. What role did regulation play in producing these contrasts, or are they simply the product of differences in the demand for bank money produced by differences in per capita income and other economic variables?

The logical method of investigating this issue is to "hold other factors constant" by regressing money per capita on economic variables and then to introduce dummy variables to determine the impact of different banking systems; technically, analysis of covariance. It seemed to me that the simplest interpretation of the resulting regressions is that they would be estimates of the demand for money, so this interpretation was used to guide the selection of the variables. The argument for this interpretation is the following. Assume that the demand for real money balances was a simple function of a small number of variables represented as follows:

$$M = f(Y,i,b), \qquad (1)$$

TABLE 1
BANK MONEY PER CAPITA AND INCOME PER CAPITA BY REGION, 1840 AND 1860

Region[a]	1840		1860	
	Bank Money	*Income*	*Bank Money*	*Income*
U.S.	$ 7.64	$ 96	$14.21	$128
North East	10.55	130	24.73	178
North Central	3.86	65	5.34	87
South	6.30	73	10.15	92
New England	12.04	127	26.10	183
Middle Atlantic	9.89	131	24.21	175
East North Central	4.21	64	5.38	88
West North Central	1.46	72	5.21	84
South Atlantic	5.26	67	10.78	83
East South Central	6.08	70	6.83	87
West South Central	15.31	138	19.36	147

[a] The regions are defined as follows:
New England: Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, and Connecticut.
Middle Atlantic: New York, New Jersey, Pennsylvania, Delaware, and Maryland.
East North Central: Ohio, Michigan, Wisconsin, Indiana, Illinois.
West North Central: Missouri, Iowa, Minnesota, Kansas and Nebraska; Minnesota, Kansas and Nebraska were excluded in 1840.
South Atlantic: Virginia, North Carolina, South Carolina, Georgia and Florida.
East South Central: Kentucky, Tennessee, Alabama and Mississippi.
West South Central: Arkansas and Louisiana.
Sources and methods: See Appendix.

where M is real per capita money balances demanded, Y is real per capita income, i is a vector of variables representing the cost of holding money and the return on close substitutes, and b is a vector of variables representing cost or benefits of holding money associated with particular types of banking systems.[11]

The specification of the supply side of the model is a crucial issue. The simplest assumption is that the supply of nominal money balances (in this case also the supply of real balances since the interstate price relatives can be assumed constant) was perfectly elastic at a given cost of holding money. This assumption may seem to beg the question. But consider the effect if banks in a particular state tried to issue more money than people wanted to hold. This would have drained specie from the state and lowered bank money toward the equilibrium level. Likewise, if fewer monetary liabilities were produced than people wanted to hold there would have been

[11] The classic presentation of this approach is Milton Friedman, "The Quantity Theory of Money—A Restatement," in *Studies in the Quantity Theory of Money*, ed. by Milton Friedman (Chicago: The University of Chicago Press, 1946), pp. 3-21.

an influx of specie and an expansion of monetary liabilities. The foregoing argument does not imply that the quality of the banking system would have no effect on the amount of money people held. For example, a relatively high rate of bank failure would tend to reduce the desired level of bank money balances.

In other words, one can treat each state as a small country in a gold standard world of fixed exchange rates and free trade. The classic Ricardian price-specie-flow mechanism then explains the supply of money in each state. Such a mechanism implicitly underlies several modern cross-section studies of the demand for money. It seems to me to adequately describe the late antebellum economy. However, if this assumption cannot be made, the equations that follow can be regarded as reduced form equations and will still yield useful information on the effects of financial legislation.

The limited amount of data determined the estimation of equation (1). Per capita income estimates are available only for two years, 1840 and 1860, and in 1860 they are available only on a regional basis. In 1850 and 1860 census estimates of wealth exist which can be used as a proxy for income. Indeed, some studies indicate that wealth rather than current income is the appropriate variable. Even fewer data are available to estimate the cost of holding bank money compared with close substitutes such as specie or government bonds. Perhaps the most significant factor in determining the cost of using banks was the average distance from banking facilities. This was less in highly urbanized states, and I have used the percentage of population living in urban areas to proxy this cost. Similar variables have been employed in modern studies,[12] but a number of reasonable interpretations could be placed on such variables.[13]

Thus, the data suggest three equations: (1) a cross-section estimate of the demand for bank money by state in 1840 using per capita income; (2) a cross-section estimate by state in 1850 using per capita wealth; and (3) a cross-section estimate by state in 1860 using per capita wealth. The effect of legislation can then be determined by introducing dummy variables for the different types of banking systems. The best fits were obtained by entering

[12] Richard E. Peterson, "A Cross Section Study of the Demand for Money: the United States, 1960-62," *The Journal of Finance,* XXIX (March 1974), 77.

[13] Hugh Rockoff, "The Free Banking Era: A Reexamination," *Journal of Money, Credit and Banking* (May 1974), 154.

the variables in arithmetic rather than logarithmic fashion. The form of equation (1) actually fitted was thus:

$$M = \alpha + \beta_1 Y + \beta_2 U + \beta_3 D_s + \beta_4 D_u + \varepsilon, \qquad (2)$$

where M is per capita money balances, Y is per capita income or per capita wealth depending on the year, U is urbanization, D_s and D_u are dummy variables corresponding to states with sound free banking systems or unsound (wildcat) free banking systems respectively, and α and β_1 through β_4 are the coefficients estimated by ordinary least squares.

The results of estimating equation (2) are presented in Table 2. The chief determinants of financial development were per capita wealth (or income) and the level of urbanization. These variables explain about seventy percent of the variance in per capita money balances. The coefficients on the variables appear to be consistent with the model and with the results from modern empirical studies. The coefficient on income in the 1840 regression implies an income elasticity, when calculated at the means, of about 1.00. The wealth elasticities in the 1850, 1860, and pooled regressions imply elasticities, when calculated at the means, of from .48 to 1.15. These values are in line with modern estimates which range from .09 to 1.65, although some of these studies employ somewhat different wealth concepts.[14] Urbanization enters positively and significantly as expected.

The incremental contribution to the explanatory power of the model produced by adding the dummy variables is small. As late as 1850 only one state had experienced wildcat banking on a major scale, Michigan. In both 1840 and 1850 the coefficients on the dummy variable for Michigan are not statistically significant. Likewise, as late as 1850, only New York had a free banking system operating without a high rate of bank failure. In both 1840 and 1850 the coefficients on the dummy variable for New York are not statistically significant. In 1850 the coefficient is relatively large equaling twenty-eight percent of actual balances. By 1860 there were several states with sound free banking systems and several which had experienced wildcat banking. In the pooled regression the coefficient on the wildcat banking dummy is significant at the five percent level and negative, and the coefficient on the sound

[14] Peterson, "Cross Section," p. 86.

TABLE 2
THE DEMAND FOR COMMERCIAL BANK MONEY, 1840, 1850, 1860

	Dependent Variable = Commercial Bank Money Per Capita										
Year	*C*[a]	*Y*	*W*	*U*	*NY*	*MI*	*FB*	*WB*	*4 Obs.*	R^2	R^2 *adj.*[e]
1840	−2.35	.13[c]		.22	−.81	−1.50			24	.81	.76
	(−.76)[b]	(2.13)		(1.96)	(−.27)	(−.49)					
1850	−7.25		.036[d]	.34[d]	7.09	.50			25	.77	.72
	(−1.78)		(3.24)	(5.10)	(1.55)	(.102)					
1860	−8.79		.022[d]	.51[d]			4.30	−6.10[c]	26	.81	.77
	(−1.84)		(2.90)	(7.88)			(1.32)	(−1.92)			
1850 & 1860	−.98		.012[d]	.45[d]			5.27	−6.30[c]	51	.74	.72
Pooled	(−.42)		(2.79)	(9.15)			(1.92)	(−2.38)			

[a] Symbols: C = constant term; Y = per capita income; W = per capita wealth; U = percentage of population living in urban areas; NY = the New York dummy, a variable which takes the value of 1 for New York and 0 for all other states; MI = the Michigan dummy, a variable which takes the value 1 for Michigan and 0 for all other states; FB = the free banking dummy, a variable which takes the value 1 for New York, Ohio and Louisiana, and 0 for all other states; WB = the wildcat banking dummy, a variable which takes the value 1 for Michigan, Indiana, and New Jersey, and 0 for all other states.

[b] "t" statistics are given in parentheses.

[c] Significant at the five percent level.

[d] Also significant at the one percent level.

[e] Corrected for degrees of freedom.

Source: See text.

free banking variable is positive and near significance. In both cases the coefficients are large. In the 1860 regression the coefficient for sound free banking states is eighteen percent of actual balances and the coefficient for the wildcat banking states is ninety-seven percent of actual balances. The 1860 regression and the pooled regression thus provide evidence that free banking had an impact on financial development.

However, the coefficients in Table 2 should be regarded as upper bound estimates of the effects of free banking. This is especially true for the dummy variable for sound free banking since these states contained commercial centers and would have had a greater demand for money on this account. The development of the New York stock exchange, for example, increased the demand for money. Feige estimated cross-section demand functions for the years 1949 to 1959.[15] He found large positive coefficients on the New York dummy. In 1959, for example, the coefficient in his regression was thirty-eight percent of total deposits. This argument could be reversed and applied to the states which experienced wildcat banking. They did not contain major commercial centers and so had a lower demand for money. Moreover, these coefficients refer to stocks of assets rather than flows and should therefore be compared with wealth rather than income. For example, the coefficient on the dummy variable for wildcat banking in the 1860 regression is only 1.1 percent of wealth per capita in those states.

In summary, free banking was a mixed blessing. At times it produced wildcat banking. But this was due primarily to defects in the bond security system for circulating notes. When these defects were absent, free banking, judged on the basis of the evidence presented above, performed at least on a par with other systems.

BANKING AND THE USURY LAWS

Although frequently neglected by financial historians, usury laws were potentially the most powerful interference with banking during the antebellum period. Table 3 provides a convenient summary of the maximum rates allowed by law. Rates varied considerably from state to state. They were lowest in the East and highest on the frontier. The penalty applied to the usurer for violating the law

[15] Edgar L. Feige, *The Demand for Liquid Assets: A Temporal Cross-Section Analysis* (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1964).

varied widely from state to state as well. But a strong regional pattern is not easy to discern. The most common penalty was forfeiture of all interest. In 1860 this penalty applied in twelve states including such diverse states as Maine, Florida and Ohio. The relatively innocuous penalty of forfeiting the interest earned in excess of the legal maximum applied in five states. About the strongest generalization that can be made is that severe penalties, such as forfeiture of principle and interest plus a fine not exceeding $1,000 (New York), or forfeiture of three times the principle plus interest (Virginia), were more common on the eastern seaboard than in the western states. This pattern is similar to the pattern of the free banking laws. In both cases the frontier states had the most liberal laws. Thus, additional weight is given to the conjecture that the conditions of frontier life created a demand for a liberal policy toward financial intermediaries.

It is a commonplace that usury laws are honored in the breach. However, a case can be made that at times the usury laws had some impact, perhaps in limiting loans to risky borrowers, and very likely in forcing lenders to adopt cumbersome subterfuges. One argument is simply that actions under the usury laws were self-initiating in the sense that it was sometimes in the interest of the borrower to sue under the law. Given that the law was on the books and the jury might well be sympathetic to the plaintiff, particularly

TABLE 3
USURY RATES BY REGION, 1840, 1850 AND 1860

Region	*1840*	*1850*	*1860*
U.S.	8.1	7	7.8
North East	6.1	6.1	6.1
North Central	11.4	8	10.4
South	7.9	7.3	7.5
New England	6	6	6
Middle Atlantic	6.2	6.2	6.2
South Atlantic	7.4	6.8	6.8
East South Central	7.5	7	7.5
West South Central	10	9	9
East North Central	10	8[a]	8.4
West North Central	15	8	13[b]

[a] Wisconsin did not have a maximum legal interest rate in 1850.
[b] Nebraska did not have a maximum legal interest rate in 1860.
Source: George K. Holmes and John S. Lord, "Report on Real Estate Mortgages in the United States," *Eleventh Census, Vol. XII,* pp. 170-173. Regions defined as in Table 1.

when the defendant was a bank, lenders could not ignore the usury laws. This was so even if government officials had no desire to enforce the law.

The most direct evidence of the effect of the usury laws are the petitions by business groups for the repeal of the laws.[16] A similar kind of evidence is provided by the space devoted to usury laws in the financial press. *The Bankers Magazine,* a leading financial journal, devoted considerable space issue after issue to reporting changes in the usury laws, and the results of cases tried under the laws. Had the usury laws been a mere dead letter it is doubtful that so much ink would have been used on them. Lance Davis in a study of the interest rates paid by textile manufacturers in Boston found that the rates hugged the usury rate until market conditions were clearly inconsistent with this rate. He concluded that the usury rates had some impact.[17] On the other hand, Thomas Senior Berry in his study of the Cincinnati market found that lenders evaded the law with simple subterfuges and that market interest rates were generally above the usury rate.[18]

A test of the effect of the usury laws on the extent of intermediation is provided in Table 4. Here the rate of usury is entered in the equation used to explain the level of per capita money balances. If strict usury laws by hampering the ability of the banks to employ their resources profitably reduced the quality of banking services, there would be a relationship between the usury rate and the level of per capita balances. The relationship should be positive since higher rates would be less restrictive and hence would lead, under competition, to a more attractive array of services for customers. In fact the usury rate does not increase the explanatory power of the equation. The signs on the usury rate are negative in three of the equations and the coefficients are small. In the pooled regression the coefficient is significant at the five percent level. The conclusion must be that despite the occasional inconveniences caused by the usury laws the effects were not sufficiently strong to alter the pattern of financial development. One explana-

[16] Louis N. Robinson and Rolf Nugent, *Regulation of the Small Loan Business* (New York: Russell Sage Foundation, 1935), p. 30.

[17] Lance E. Davis, "The New England Textile Mills and the Capital Markets: A Study of Industrial Borrowing, 1840-1860," THE JOURNAL OF ECONOMIC HISTORY, XX (March 1960), 3, 4.

[18] Thomas Senior Berry, *Western Prices Before 1861* (Cambridge, Mass.: Harvard University Press, 1943), p. 497.

tion of this finding is that usury rates may have been correlated with interest rates. This is suggested by Table 3 since the regions with the highest usury rates were the South and the frontier where interest rates were probably high. In other words, the usury rate may be acting as a proxy for the interest rate. Other tests, incorporating dummy variables designed to capture the effects of different penalties, yield similar results.

THE REGULATION OF MUTUAL SAVINGS BANKS[19]

As with the commercial banks, there is more than one dimension along which mutual savings bank legislation could be classified as liberal or conservative. With respect to taxation, for example, New York did not tax mutual savings deposits while in New England they were taxed. Emerson Keyes, the historian of the antebellum mutual savings banks, laid considerable stress on the discretion granted the trustees in managing the portfolio of the bank. In this respect the legislation in New England could be described, at least in the early years of the century, as more liberal than in New York. Down to 1834 the charters of most mutual savings banks in Massachusetts resembled the first charter which left the investment policy to the discretion of the trustees. In 1834 a general law concerning investment policy was adopted. This law specifically authorized a wide range of assets including bank stocks and bank deposits and permitted some loans on personal security when the resources of the bank could not be "conveniently" invested in the preferred assets. Connecticut was the one exception to the liberal environment in New England. Here the legislation channeled funds into mortgages. But in Maine, New Hampshire, Rhode Island and Vermont the investment policy was left entirely to the discretion of the trustees.

On the other hand, in New York the charters were somewhat more conservative, although the trend was toward greater liberalism. The first charter granted in New York authorized investments only in U.S. government bonds or bonds issued by the State of New York. Later, mortgages became a standard feature. In 1853 a law was passed applying to many mutuals in New York authorizing bonds

[19] This section is based on the discussion in Emerson W. Keyes, *A History of Savings Banks in the United States*, two volumes (New York: Bradford Rhodes, 1876).

TABLE 4
THE EFFECTS OF THE USURY LAWS

	Dependent Variable = Commercial Bank Money Per Capita											
Year	*C*[a]	*Y*	*W*	*U*	*NY*	*MI*	*FB*	*WB*	*I*	*# Obs.*	R^2	R^2 *adj.*
1840	−5.68	.13[b]		.22	−.89	−2.69			.44	24	.82	.77
	(−1.40)	(2.20)		(2.05)	(−.30)	(−.85)			(1.26)			
1850	−2.92		.036[c]	.33[c]	7.53	2.69			−.65	25	.77	.71
	(−.39)		(3.21)	(4.77)	(1.61)	(.46)			(−.69)			
1860	−4.26		.020[b]	.50[c]			4.51	−6.03	−.48	26	.81	.77
	(−.52)		(2.55)	(7.41)			(1.36)	(−1.87)	(−.69)			
1850 & 1860	3.80		.012[c]	.43[c]			5.62	−5.50[b]	−.65[b]	51	.75	.72
Pooled	(.84)		(2.71)	(8.79)			(1.22)	(−2.05)	(−2.03)			

[a] The symbols are defined in Table 2 except for "I" which is the maximum legal rate of interest that banks could charge.
[b] Significant at the five percent level.
[c] Also significant at the one percent level.
Sources: See text and Table 2.

issued by towns or counties in New York, but despite these and other changes New York's mutual savings banks remained under somewhat more restrictions than did New England's.

The freedom granted mutuals in New England might have had some effect in producing the high level of mutual savings deposits in this region. In particular, it was frequently profitable in Massachusetts for commercial banks to lend space and the services of bank personnel to the mutuals because of resulting deposits in the associated commercial banks. Indeed, in Massachusetts fostering mutuals may have been a way of circumventing the law which prohibited interest on most deposits in commercial banks.

THE DETERMINANTS OF THE DEMAND FOR MUTUAL SAVINGS DEPOSITS

Mutual savings banks became a quantitatively important financial intermediary in the North East before the Civil War. Most of the published statistics are derived from estimates prepared by Emerson Keyes. These data were used to produce Table 5. The rapid increase in deposits per capita both in absolute terms and relative to bank money revealed in this Table may have been a movement toward equilibrium as people were exposed to this new form of saving. In other words, Table 5 may in part depict the diffusion of a financial innovation.

As an aggregate time series Keyes' estimates may be adequate, but for our purposes they are less satisfactory. Keyes carefully marshaled the published data and supplemented them with questionnaires and by actual visits to the banks. Despite these efforts his data are complete only for New York and New England. Neverthe-

TABLE 5
DEPOSITS IN MUTUAL SAVINGS BANKS, 1840, 1850, AND 1860

Year	*New York*	*Massachusetts*	*Other New England*
		Per Capita	
1840	$ 2.24	$ 7.89	$ 1.87
1850	6.73	13.74	5.16
1860	17.38	36.60	19.32
		As a Percentage of Commercial Bank Money	
1840	16.8%	34.9%	21.4%
1850	25.7	40.7	42.7
1860	47.1	84.3	105.8

Sources: See Appendix.

TABLE 6
THE DEMAND FOR MUTUAL SAVINGS DEPOSITS, 1850 AND 1860

	Dependent Variable = Mutual Savings Deposits Per Capita						
Year	*C*[a]	*W*	*U*	*CONY*	*# Obs.*	R^2	R^2 *adj.*
1850	−7.28	.024	.14	4.46	6	.60	−.01
	(−.39)	(.52)	(1.07)	(.92)			
1860	−43.17	.090	.54	−6.18	7	.86	.71
	(−1.86)	(1.97)	(2.68)	(−.56)			
1850 & 1860 Pooled	−35.80	.082[b]	.35	.22	13	.74	.65
	(−2.87)	(3.13)	(2.41)	(.035)			

[a] The variables are defined in Table 2 except for CONY which is a dummy variable that takes the value 1 for Connecticut and New York. No regression was run for 1840 since there were not enough observations.
[b] Significant at the five percent level.
Source: See text and Table 2.

less, this is not as serious as it may appear, since the mutual savings bank movement had its greatest development in the North East.

It seems probable that the same variables which were significant in determining the development of commercial banks (wealth and urbanization) also determined the development of mutual savings banks. A steeper slope of the function relating deposits to wealth for mutual savings deposits than for the monetary liabilities of commercial banks would partially rationalize the pattern of mutual savings deposits. Louisiana and Pennsylvania would be exceptions since they had high levels of wealth but apparently did not develop extensive systems of mutual savings banks in the antebellum period.[20]

Table 6 presents regressions of savings deposits on wealth and urbanization for the seven states in 1860 for which Keyes reports deposits, and for the six states in 1850. In 1850 the economic variables explain little of the variance, perhaps because the process of diffusion was still important. In the second and third regressions the variables have the appropriate signs and a substantial proportion of the variance is explained. The coefficient on the wealth variable is significant at the five percent level in the pooled regression. The incremental contribution to the explanatory power of the equation of the dummy variable is small. The coefficient on the dummy vari-

[20] The case of Pennsylvania might be explained by the early appearance there of building and loan associations of a mutual sort. H. Morton Bodfish, editor, *History of Building and Loan in the United States* (Chicago: United States Building and Loan League, 1931), p. 32.

able is not significant in any of the regressions. The sign is correct only in the 1860 regression. Thus, there is no firm evidence that a liberal policy had any effect on financial development.

Certain related factors of an economic nature which are hard to quantify have been advanced to explain the antebellum pattern of mutual savings bank development. Keyes and Teck point to the existence of a wage earning class.[21] And Welfling emphasizes the existence of a wealth holding class, particularly Quakers, with the inclination to found and manage mutual savings banks.[22] However, both of these explanations are most plausible given the still unproved assumption that wage earners were a major source of deposits.[23] The Massachusetts bank commissioners emphasize the role of New England's public school system, although again this argument presumes that the deposits were made by the wage earners who in other regions were less well educated.[24] One might also argue that the land and slaves, which engaged the attention of investors in the West and South, were not so attractive in the East. The existence of this list strengthens the argument that demand factors rather than governmental policies were crucial in determining the pattern of mutual savings bank development.

CONCLUSIONS

One purpose of history is to broaden our conception of the possible. A study of the commercial banking legislation of the late antebellum period shows that free banking, when conceived as free deposit banking in conjunction with a one hundred percent reserve note issue, was a feasible banking system. The free banking era does not provide evidence that such a system must necessarily

[21] Keyes, *History*, Vol. 1, pp. 270-271 and Alan Teck, *Mutual Savings Banks and Savings and Loan Associations: Aspects of Growth* (New York: Columbia University Press, 1968), p. 17.

[22] Weldon Welfling, *Mutual Savings Banks* (Cleveland: The Press of Case Western Reserve University, 1968), pp. 23-24.

[23] Some doubt is cast on the extent of working class participation by Fishlow's study of the British savings banks which were similar to the American mutuals. Albert Fishlow, "The Trustee Savings Banks, 1817-1861," JOURNAL OF ECONOMIC HISTORY, XXI (March 1961), 26-40. However, the American case may have been different. Payne and Davis, for example, found that the Savings Bank of Baltimore tried to restrict its depositors to this class. Peter Lester Payne and Lance Edwin Davis, *The Savings Bank of Baltimore 1818-1866: A Historical and Analytical Study* (Baltimore: The Johns Hopkins Press, 1954), pp. 32-36.

[24] Keyes, *History*, Vol. 1, p. 73.

fail. This in itself is an important datum. On the other hand, free banking was not a panacea that could offset a low level of economic development. Demand factors, such as the level of per capita wealth, were the dominant influence on financial development.

The conclusions to be drawn from a survey of the usury laws are similar. Restrictive laws may at times have hampered the banks, but the impact was too slight to leave a mark on the regional pattern of financial development. It is the usury laws, perhaps, which show most clearly the tendency of economic regulation to be modified in response to the underlying economic realities. In the West, where capital was relatively scarce, usury laws were liberal, giving free play to market forces. In the East, where capital was more abundant, financial legislation was more conservative, providing greater protection to the individual against the consequences of fraud, coercion, or his own bad judgment.

Similar conclusions also emerge from a study of mutual savings bank legislation. The freedom given trustees in most of the New England states was workable and may have played a positive role in promoting the rapid development of the system in this region. Again, this is an important datum. But, as in the case of the commercial banking, demand factors such as the level of per capita wealth, rather than government policy, were the chief determinants of the level of deposits.

The implications of this period for the proposition that liberalization of the capital market promotes financial and economic development are thus not strongly favorable. Financial liberalization seems to have had a small effect on financial development. However, a caveat is in order. Financial legislation varied in response to economic conditions. It may well be that most financial legislation during this period was essentially liberal despite the variety of forms.

HUGH T. ROCKOFF, *Rutgers, The State University*

Appendix

Description of the Data

The monetary data are from the U.S. comptroller's report for 1876.[25] Since the comptroller's figures refer to the end of the preceding year they were back-dated one year. Bank money was defined as total deposits of individuals plus circulating notes less notes held by banks. The estimates for each state were adjusted by multiplying by the modal discount on bank notes found in Van Court's bank note reporters.[26] The reporters for November 1840, November 1850, and November 1858 were used; the latter because it was the last available issue. This adjustment was most important for some of the frontier states in 1840. When no data were available or when a phrase like "all banks in this state uncertain" appeared in Van Court's reporter, the data for that state were dropped from use in the state regressions. The money supply estimates were deflated by population estimates from the U.S. Historical Statistics.[27]

The state income estimates for 1840 are Easterlin's. The regional income estimates in Table I were computed by applying Easterlin's income relatives to Gallman's aggregate estimates.[28] This procedure was used by Fogel and Engerman.[29] In Table I the monetary estimates for 1840 were deflated by the implicit price index in Gallman's G.N.P. series. The regional estimates in Table I consist of total monetary liabilities in the region divided by total population. In this Table states with zero (reported) banking were not excluded.

The wealth estimates are from the censuses and appear to be reasonably accurate.[30] The 1850 estimates were computed by applying the 1860

[25] U.S. Comptroller of the Currency, *Annual Report of the Comptroller of the Currency, 1876* (Washington: Government Printing Office, 1876).

[26] *Van Court's Counterfeit Detector and Bank Note List,* Philadelphia, Nov. 1840, Nov. 1850 and Nov. 1858.

[27] U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1957* (Washington, D.C.: U.S.G.P.O., 1960), pp. 16-18.

[28] Richard A. Easterlin, "Interregional Differences in per Capita Income, Population and Total Income, 1840-1950," in Conference on Research in Income and Wealth, *Trends in the American Economy in the Nineteenth Century,* Studies in Income and Wealth, Vol. 24 (Princeton: Princeton University Press, 1960), pp. 97, 98. Richard Easterlin, "Regional Income Trends, 1840-1950" in *American Economic History,* edited by Seymour Harris (New York: McGraw Hill, 1961), p. 528. Robert E. Gallman, "Gross National Product in the United States, 1834-1909" in Conference on Research in Income and Wealth, *Output, Employment and Productivity in the United States After 1800,* Studies in Income and Wealth, Vol. 30 (New York: Columbia University Press, 1966), p. 27.

[29] Robert William Fogel and Stanley L. Engerman, *Time on the Cross: The Economics of American Negro Slavery* (Boston: Little, Brown and Company, 1974), Vol. 2, p. 162.

[30] For 1860: U.S. Bureau of the Census, *Eighth Census, 1860: Mortality and Miscellaneous Statistics,* p. 319. For 1850: U.S. Bureau of the Census, *Seventh Census, 1850: Abstract of the Seventh Census,* p. 46.

APPENDIX TABLE I
MONETARY AND RELATED STATISTICS BY STATE—1840

State	*Money (per capita)*	*Income (per capita)*	*Urbanization*	*Usury*
Maine	$ 4.88	$ 57	7.8%	6%
New Hampshire	5.52	64	10.0	6
Vermont	6.03	65	0.0	6
Massachusetts	19.72	107	37.9	6
Rhode Island	25.17	118	43.8	6
Connecticut	12.43	91	12.6	6
New York	11.49	80	19.4	7
New Jersey	7.55	83	10.6	6
Pennsylvania	8.06	75	17.9	6
Delaware	12.20	68	10.7	6
Maryland	9.78	63	24.2	6
Virginia	6.93	54	6.3	6
North Carolina	3.10	51	1.8	6
South Carolina	7.45	56	5.7	7
Georgia	3.10	57	3.6	8
Alabama	12.18	53	2.1	8
Louisiana	19.58	113	29.9	10
Kentucky	5.78	52	4.0	6
Tennessee	4.78	47	.8	6
Ohio	2.94	48	5.5	6
Indiana	4.44	41	1.6	10
Illinois	8.82	47	2.0	12
Michigan	2.82	44	4.3	10
Missouri	1.62	53	4.3	10

ratios of total wealth to assessed wealth to the 1850 estimates of assessed wealth, since this is the only series available in 1850. Wealth may include monetary assets. However, wealth is considerably larger than monetary assets, and when the value of real estate is used in the regressions the results are not significantly changed. Hence, no attempt was made to adjust for monetary assets. The urbanization rate is the proportion of people living in cities with a population greater than 2,000.[31] The data on mutual savings deposits are from Keyes.[32]

[31] U.S. Bureau of the Census, *Eighteenth Census of the United States, 1960,* Vol. 1, pp. (1-30)-(1-37).
[32] Keyes, *History,* Vol. 2, The table facing p. 532.

APPENDIX TABLE II
MONETARY AND RELATED STATISTICS BY STATE—1850

State	*Money (per capita)*	*Wealth (per capita)*	*Urbanization*	*Usury*
Maine	$ 6.31	$246	13.5%	6%
New Hampshire	6.56	360	17.1	6
Vermont	12.32	431	1.9	6
Massachusetts	27.35	544	50.7	6
Rhode Island	29.45	417	55.6	6
Connecticut	18.59	443	16.0	6
New York	25.14	438	28.2	7
New Jersey	10.19	431	17.6	6
Pennsylvania	11.86	366	23.6	6
Delaware	14.40	366	15.3	6
Maryland	14.59	416	32.3	6
Virginia	10.07	414	7.1	6
North Carolina	5.35	400	2.4	6
South Carolina	21.28	478	7.3	7
Georgia	12.78	393	4.3	7
Alabama	6.23	475	4.6	8
Mississippi	.07	469	1.8	8
Louisiana	23.18	474	26.0	8
Kentucky	7.91	349	7.5	6
Tennessee	7.79	341	2.2	6
Ohio	7.95	271	12.2	6
Indiana	3.81	242	4.5	6
Illinois	.22	190	7.6	10
Michigan	2.94	202	7.3	10
Missouri	5.17	262	11.8	6

APPENDIX TABLE III
MONETARY AND RELATED STATISTICS BY STATE—1860

State	*Money (per capita)*	*Wealth (per capita)*	*Urbanization*	*Usury*
Maine	$10.90	$354	16.60%	6%
New Hampshire	12.73	530	22.10	6
Vermont	9.80	571	2.00	6
Massachusetts	40.03	626	59.60	6
Rhode Island	32.98	592	63.30	6
Connecticut	27.60	771	26.50	6
New York	36.15	597	39.30	7
New Jersey	12.99	734	32.70	6
Pennsylvania	13.04	570	30.80	6
Delaware	17.77	657	18.90	6
Maryland	16.13	607	34.00	6
Virginia	15.51	677	8.50	6
North Carolina	6.72	554	2.50	6
South Carolina	12.86	863	6.90	7
Georgia	7.51	647	7.10	7
Florida	.30	590	4.10	8
Alabama	7.81	822	5.10	8
Louisiana	31.28	891	26.10	8
Kentucky	11.84	653	10.40	6
Tennessee	5.59	755	4.20	6
Ohio	4.81	542	17.10	6
Indiana	5.26	463	8.6	6
Illinois	6.64	529	14.30	10
Michigan	.57	461	13.3	10
Wisconsin	9.18	380	14.40	10
Iowa	1.93	402	8.90	10
Missouri	8.42	553	17.20	10

APPENDIX TABLE IV
MUTUAL SAVINGS DEPOSITS PER CAPITA
(1850 and 1860)

State	*1850*	*1860*
Maine	—	$ 2.45
New Hampshire	$ 5.59	17.15
Vermont	.63	3.53
Massachusetts	13.74	36.63
Rhode Island	10.14	52.36
Connecticut	14.74	42.13
New York	6.73	17.38