

IS FREE BANKING MORE PRONE TO BANK FAILURES THAN REGULATED BANKING?

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Bankers, economists, and regulators generally accept that banks are special and that bank runs or failures are costly to the economy; banking stability is therefore afforded the utmost importance. This paper investigates empirically the relative stability of three different banking regimes—a free banking system, a regulated banking system, and a regulated one with the presence of a flat-premium deposit insurance scheme—for the period 1935–64. Those regimes are respectively represented by the Hong Kong, Canadian, and U.S. banking systems. A remarkable fact is that there were no bank failures in Hong Kong or Canada during the period under study.¹

The paper begins with a summary of the major views on the relations between banking regulations, deposit insurance, and bank failures. A brief description of the institutional and economic backgrounds of the three banking systems during the period under study follows. Finally, the empirical results comparing the relative stability of the alternative banking regimes are presented.

Regulations, Deposit Insurance, and Bank Failures

The traditional, dominant view is that free or unregulated banking is inherently unstable because of market failures arising from such

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¹The bank failure rate is used as a quantitative measure of banking instability. The higher the bank failure rate, the more unstable is the banking system. This assumption ignores other aspects of instability of the economy such as (hyper)inflation resulting from adopting a particular monetary regime. Obviously, there is no unique objective indicator measuring the different facets of instability.

factors as externalities, natural monopolies, and information asymmetry. Free banking causes counterfeiting, wildcat banking, fraudulent banking, over-issue of banknotes and overexpansion by banks. Free banks therefore are prone to failures and lead to systemic banking instability. Economic and non-economic reasons have been given to justify banking regulations—such as protection of small depositors, maintenance of monetary stability, protection of the payments system, assurance of safety and soundness of financial institutions, avoidance or limitation of the effects of failed institutions, and encouragement of efficiency and competition in the financial system.² Bank failures in Indiana, Wisconsin, and Minnesota during the free banking era (1837–1865) are cited as *prima facie* evidence of the instability of free banking.

This conventional view has come under increased scrutiny since the 1970s. Benjamin Klein (1974), F. A. Hayek ([1978] 1990), Lawrence H. White (1984), Roland Vaubel (1985), George Selgin (1988), David Glasner (1989), and others have provided a theoretical basis and offered historical evidence for the soundness of a free banking system. One of the major arguments is that competition in the supply of money forces banks to maintain either their brand names or convertibility of their liabilities (banknotes or deposits) into specie or real commodities, which in turn prevents banks from over-issuing money. In contrast, a self-correcting mechanism does not exist under monopolized supply of money by the government. Therefore, free banking is more stable than central banking.

Empirical studies of the U.S. free banking era by Hugh Rockoff (1974, 1975) and by Arthur Rolnick and Warren Weber (1983, 1984, 1988) show that that era was not as chaotic as commonly thought. Lawrence H. White (1984) uses the Scottish free banking era as historical evidence of the success of free banking in practice. Other studies of free banking outside the United States—e.g., those by Weber (1990), Eugene White (1990), Andrew Economopoulos (1988, 1990), and Kevin Dowd (1992)—also support the stability of free banking.

Some economists, though not necessarily advocates of free banking, argue that banking regulations (such as interest-rate ceilings, restrictions on loans and investments, and required reserves) can be a source of instability. The major ways in which regulations affect the stability of financial institutions are well summarized by George Benston (1991). First, regulations constrain banks' diversification by limiting banks' portfolio choices or by restricting branching, thus reducing the flexibil-

²See, for example, Cooper and Fraser (1986), Goodhart (1988, 1989), and Spong (1992).

ity of banks to accommodate unanticipated shocks. Second, as implicit taxes, regulations reduce banks' profitability. Third, regulations often create a moral hazard problem by encouraging risk taking. Fourth, while it may be the intention of the regulatory authorities to promote banking stability by interventions through monitoring, supervising, and preventing fraud and grossly incompetent management, it is usually the case that supervision is inadequate.³

Before the recent deposit insurance crisis in the United States started to surface, most economists had a strong faith in deposit insurance.⁴ Information and confidence externalities in the banking sector were believed to justify the setup of a deposit insurance scheme. The steep decline in the bank failure rate from 28.16 percent in 1933 to 0.37 percent after the establishment of the Federal Deposit Insurance Corporation (FDIC) in 1934 was regarded as evidence of the effectiveness of deposit insurance in stabilizing the banking industry.⁵ Formal theoretical models (e.g., Diamond and Dybvig 1983) have also been developed to justify deposit insurance.

While deposit insurance reduces or eliminates the systemic risk due to contagious bank runs, it also induces a moral hazard problem by encouraging banks to take excess risk (Kane 1985). Moreover, it is not obvious if the systemic risk is reduced when the deposit insurance fund is insufficient to cover depositors' losses. For instance, there were runs in 1985 on the Home State Savings Bank and 70 other thrifts insured by the Ohio Deposit Guarantee Fund following Home State's reported loan loss of \$140 million, which exceeded the fund's \$136 million in reserves.⁶

The Hong Kong, Canadian, and U.S. Banking Systems, 1935–64

During the period 1935–64, the Hong Kong banking system was virtually unregulated, whereas the Canadian system was regulated,

³It should be stressed that the inadequacy of supervision, in Benston's opinion, refers only to the U.S. experience. It is not necessarily the case in other countries.

⁴See, for example, Friedman and Schwartz (1963: 434): "Federal insurance of bank deposits was the most important structural change in the banking system to result from the 1933 panic, and, indeed, in our view, the structural change most conducive to monetary stability."

⁵A recent econometric study by Cottrell, Lawlor and Wood (1993) finds that, using the data on U.S. bank failures for the period 1892 to 1989 and controlling for likely economic shocks to the financial systems, FDIC (or variables correlated with that insurance) decreased bank failures while state insurance systems appear to have increased bank failures.

⁶Two months after the runs in Ohio, similar runs occurred in Maryland. While it can be argued that such runs might not have taken place if the deposit insurance funds were run by state governments instead of private companies, the state governments would have been more credible insurers only if they had been perceived as ready and able to finance (by

and the U.S. system was regulated and subject to federal deposit insurance. Banking was not completely free in Hong Kong because the right to issue banknotes was restricted to only three private commercial banks, whereas the supply of coins and notes of small denominations was monopolized by the Hong Kong government.⁷ Nonetheless, there was free trade in banking in the sense that supplies of deposits and loans were competitive and largely unrestricted. Furthermore, Hong Kong had no deposit insurance and no central bank; neither a discount window nor an official lender of last resort existed. At the same time, banking regulations were very lenient. The first Banking Ordinance was passed in 1948. But except an annual licence fee of HK\$5,000, banks were not subject to any restrictions, such as minimum capital-asset ratios, reserve ratios, or liquidity ratios. More stringent banking regulations were not imposed until the Banking Ordinance of 1964 was passed on October 16, 1964. As banking business was not precisely defined in Hong Kong before this Ordinance, all financial institutions reported as "banks" in the official statistics are included in our sample.⁸

The downtrend in the number of banks in Hong Kong in the 1948–58 period (see Table 1) was caused by both economic and noneconomic factors.⁹ Nonetheless, this downtrend did not result in any reported losses to depositors or turmoil to the financial system, so banks that left the industry are not counted as failed banks in this study. Although there were no bank failures during this period, there was a short-lived run on the Liu Chong Hing Bank, a medium-sized local bank, in June 1961, partly due to the liquidity squeeze arising from the oversubscription of rights and new issues on the local stock market and unfavorable clearings suffered by small banks. It ended after the Liu Chong Hing Bank had reportedly used its real estate holdings on a purely commercial basis to secure advances from the two largest note-issuing banks (Jao 1974: 238–40).

borrowing or taxing) whatever amount was necessary to replenish the insurance fund. The same is true of federal deposit insurance.

⁷The three private note-issuing banks were the Hong Kong and Shanghai Banking Corporation, the Chartered Bank (now known as the Standard Chartered Bank), and the Mercantile Bank.

⁸Official statistics on the number of banks in Hong Kong were not available until the first Banking Ordinance was passed in 1948. However, this does not affect our empirical results qualitatively because there were no bank failures in Hong Kong resulting in losses to depositors during the period under study.

⁹First, a number of marginal banks were weeded out by the licensing and annual license fee requirements of the Banking Ordinance. Second, for noneconomic reasons, some banks ceased their operations or were reorganized following the communist takeover of mainland China. Third, some banks closed because of the U.S. embargo on trade with China during the Korean War and increasing competition in the banking industry.

The Canadian banking system during the period under study was a regulated one without deposit insurance as the Canadian Deposit Insurance Corporation (CDIC) was not established until 1967. It had more stringent regulations than its Hong Kong counterpart. Banks in Canada here refer to the Schedule A banks or the so-called chartered banks. During this period there was neither a bank failure nor a run (see Table 1).¹⁰

The U.S. banking regulations were more complicated and stringent than those in Canada. In addition, the Federal Deposit Insurance Corporation (FDIC)—a flat-rate deposit insurance system—had been set up in 1934. Because of the differences, U.S. banks in this study are limited to commercial banks insured by the FDIC. Other depository institutions such as noninsured commercial banks, mutual savings banks, and S&Ls are excluded—either because their deposits are not insured or because their business activities differ from those of commercial banks.¹¹ Failed banks here refers to insured commercial banks that were closed because of insolvency (i.e., because of losses to liability holders or insurers). The bank failure rate for a particular year is calculated as the number of “failed” banks in that year as a percentage of the average number of banks in that year.

Economic downturns are a major factor highly related to bank failures.¹² However, in terms of economic fluctuations, the period under study is one of the most stable in this century. The world economy enjoyed decades of steady growth and stability in prices and interest rates. There were no dramatic events such as the Great Depression and the oil crises. Both Hong Kong and Canada were, and still are, major trading partners of the United States, and the business cycles of the three economies moved closely together. For the period under study, Hong Kong and Canada registered higher average growth rates than the United States. For 1935–64, the U.S. economy grew on average at 4.7 percent a year in real terms, while the real economic growth of Canada was higher, at 5.5 percent. Official

¹⁰As a matter of fact, there had been no bank failures in Canada since the Home Bank of Canada failed in 1923. Bank failure did not occur until 1985, when both the Northland Bank and the Canadian Commercial Bank failed.

¹¹Mutual savings banks were also insured by the FDIC but they accounted for about a mere 2 percent of the total number of depository institutions insured by the FDIC. Including them would not change qualitatively our empirical findings.

¹²Benston et al. (1986: 59) examine the American banking history and find that “between 1870 and 1919 there were six non-war-related downturns in industrial production. Each was accompanied by an increase in the number of bank failures. In the period there were also six downturns in the stock market. Again, each was accompanied by an increase in bank failures. Thus, major increases in overall bank failures and major national recessions appear closely related.”

TABLE I
NUMBER OF BANKS AND BANK FAILURES, 1934-66

Year	Hong Kong			Canada			United States		
	Banks	Failures	Rate (%)	Banks	Failures	Rate (%)	Banks	Failures	Rate (%)
1934	36	0	0	10	0	0	13915	9	—
1935	38	0	0	10	0	0	14179	26	0.19
1936	39	0	0	10	0	0	14065	69	0.49
1937	40	0	0	10	0	0	13887	76	0.54
1938	44	0	0	10	0	0	13727	73	0.53
1939	44	0	0	10	0	0	13572	60	0.44
1940	44	0	0	10	0	0	13483	43	0.32
1941	n.a.	0	0	10	0	0	13426	14	0.10
1942	n.a.	0	0	10	0	0	13403	20	0.15
1943	n.a.	0	0	10	0	0	13302	5	0.04
1944	n.a.	0	0	10	0	0	12269	2	0.02
1945	n.a.	0	0	10	0	0	13282	1	0.01
1946	n.a.	0	0	10	0	0	13335	1	0.01
1947	133	0	0	10	0	0	13391	5	0.04
1948	143	0	0	10	0	0	13420	3	0.02
1949	138	0	0	10	0	0	13423	5	0.04
1950	133	0	0	10	0	0	13449	4	0.03
1951	125	0	0	10	0	0	13451	2	0.01
1952	111	0	0	10	0	0	13450	3	0.02

1953	101	0	0	10	0	0	13435	4	0.03
1954	94	0	0	11	0	0	13400	2	0.01
1955	91	0	0	11	0	0	13287	5	0.04
1956	86	0	0	10	0	0	13229	2	0.02
1957	83	0	0	9	0	0	13211	2	0.02
1958	81	0	0	9	0	0	13144	4	0.03
1959	82	0	0	9	0	0	13097	3	0.02
1960	86	0	0	9	0	0	13147	1	0.01
1961	85	0	0	9	0	0	13136	5	0.04
1962	92	0	0	8	0	0	13111	1	0.01
1963	87	0	0	8	0	0	13196	2	0.02
1964	88	0	0	8	0	0	13401	7	0.05
1965	86	2	2.30	8	0	0	13535	5	0.04
1966	76	1	1.23	8	0	0	13559	7	0.05

NOTE: The bank failure rate for a particular year is calculated as the number of "failed" banks in that year as a percentage of the average number of banks in that year. To illustrate, the average number of banks in Hong Kong in 1965 is $(88 + 86) \div 2 = 87$ (because the official figures are year-end figures) and the bank failure rate is therefore equal to $2 \div 87 \times 100 = 2.30$ percent.

SOURCES: (1) Hong Kong: Data for 1948-66 are from *Hong Kong Annual Report*, Hong Kong Government, various issues; *Banker's Yearbook*, Chinese Bankers Association, various issues; and Jao (1974). The figure for 1947 is based on the total number of banks that obtained their licenses when the first Banking Ordinance was passed in January 1948. The total number of banks in 1949 is an interpolation (the official statistic is unavailable). Data before World War II are estimated from available literature. (2) Canada: Neufeld (1972). (3) United States: *Historical Statistics of the United States: Colonial Times to 1970 Part II*, U.S. Department of Commerce.

real growth rates of the Hong Kong economy are not available for the same period. Measured in nominal terms, Hong Kong's economy grew by 11.3 percent a year on average for the period 1948–64. Deflated by the retail price index, the available official price index, the average “real” growth rate is slightly lower at 9.3 percent.

Could the occurrence of bank failures in the United States during this period simply be due to economic growth lower than that of Canada or Hong Kong? An examination of the data indicates that this is highly unlikely. First, bank failures occurred in the United States notwithstanding good or bad years (see Table 1). Second, the U.S. economy experienced downturns in 1938, 1945–47, 1954, and 1958, but the bank failure rates for those years (except 1938) are not the highest among the U.S. bank failure rates within the sample, not to mention the fact that they are not significantly different from the other observations.¹³ On the other hand, the economic downturns in Canada in 1946–47 and 1954 did not result in any bank failures. Similarly, there were no bank failures in Hong Kong following its 7 percent (in nominal terms) negative economic growth in 1952.

The Relative Stability of the Three Banking Regimes

The fact that there were no bank failures in both Canada and Hong Kong during 1935–64 while the United States experienced bank failures each year suggests the banking systems are not equally failure-prone. This hypothesis is supported by our empirical results based on the Friedman test.¹⁴ The computed value of the statistic is 60, greater than the critical values of 5.99 and 9.21 at the 5 percent and 1 percent significance levels respectively. In other words, the U.S. bank failure rates were more than randomly higher than failure rates in Canada and Hong Kong.

It is possible that, since the Friedman test is based on ranks, the United States is ranked first simply because of its large number of banks. To examine that possibility, an alternative test is implemented. Assume that bank failures are binomially distributed such that each

¹³A statistical test indicates that the bank failure rates within each regulatory regime are not significantly different from each other. This result implies that the economic contractions during the sampling period were so mild that they did not have a drastic impact on bank failures.

¹⁴The Friedman test is a distribution-free test based on ranks (see Neave and Worthington 1988). It is applied because the bank failure rates are not normally distributed and also because of its appropriateness to the problem—we are examining if there is evidence of real differences between regulatory regimes over the period under study.

bank has the same probability to fail each year. For 1935–64, there are a total of 401,308 draws for the U.S. sample, of which 450 failed.¹⁵ From these observations, the probability of bank failure is estimated to be 1.12×10^{-3} . Under the null hypothesis that the U.S. and Hong Kong banking systems were equally failure-prone, the likelihood of obtaining no bank failure in a sample of 2,088 observations for Hong Kong is found to be about 0.10.¹⁶ This means that the null hypothesis cannot be rejected at the conventional 5 percent significance level but can be rejected at the 10 percent level. The same procedures are repeated to compare the American and Canadian banking systems, and the probability of obtaining no bank failure among the 291 Canadian observations is 0.72, indicating that both banking systems are equally failure-prone. Because of different underlying assumptions, the two sets of empirical results are somewhat different. Nevertheless, both indicate that *free or unregulated banking is not more prone to bank failures than regulated banking*. On the contrary, if we are willing to accept a 10 percent significance level for our hypothesis testing, the test based on the binomial distribution suggests that the Hong Kong banking system was more stable than the U.S. banking system in terms of bank failures.

Opponents of free banking can argue that the Banking Ordinance of 1964 came too late—a grace period of two years was allowed for banks to meet the various requirements—to prevent and moderate the 1965 crisis.¹⁷ During the grace period, three banks failed: the Ming Tak Bank and the Canton Trust and Commercial Bank in early 1965, and the Yau Yue Bank in 1966. The failures of the first two banks also triggered a banking crisis, which saw runs on several local banks (Jao 1974: 246–50). To see how sensitive our empirical results are to the 1965 banking crisis, the same empirical procedures are

¹⁵The figures are respectively the sum of the total number of banks each year over the entire sampling period and the total number of bank failures during the same period.

¹⁶This figure is calculated excluding the years 1941–46. The years 1941–45 are excluded because of World War II; normal banking business was suspended during the Japanese occupation. The rapid postwar economic recovery saw the establishment of many new banks and the introduction of the first Banking Ordinance. There are no official statistics for the total number of banks in 1946 and 1947. The figure for 1947 in this study is based on the fact that initially 133 banking licenses were granted under the first Banking Ordinance, passed on January 29, 1948. If the 1947 figure is omitted, the probability of observing no bank failure will be marginally higher, at 0.11.

¹⁷On the other hand, the 1964 Banking Ordinance was based on the Tomkins Report completed in April 1962 to review the banking system following the run on the Liu Chong Hing Bank a year earlier. The recommendations of the report were criticized by the local financial circles as unsuitable for Hong Kong, because they were based on the English blueprint and put small local banks into a competitive disadvantage against the large foreign banks.

repeated for the extended period 1935–66. Our empirical findings for the Friedman test do not change qualitatively. The computed value for the test statistic is 55.43, substantially higher than the critical values of 5.99 and 9.21 at the 5 percent and 1 percent significance levels respectively, indicating that the failure rates of the three banking systems are not equal.

The computed statistic for a comparison between the U.S. and Hong Kong banking systems, using Dunn's multiple comparison method, is 5.38 while that for the U.S. and Canadian systems is 4.63. Both figures are greater than the critical values of 2.64 and 3.02 at the 5 percent and 1 percent levels respectively. In other words, the United States still had a higher average bank failure rate than either Hong Kong or Canada. While there were three bank failures in Hong Kong, the failure rate was not statistically different from the Canadian rate because the correspondent statistic is 0.5. For the test based on the binomial distribution, the likelihood of obtaining the Hong Kong realizations from the U.S. population is 0.21 while that for Canada is 0.72. Thus, we cannot reject the null hypothesis that the three banking systems are equally likely to fail. As in the previous case, there is no evidence that free banking is more prone to bank failures than regulated banking.

The occurrence of bank runs is often associated with banking instability. The 1965 banking crisis raises the question whether free banking is more prone to bank runs. To free-banking proponents, the 1965 bank runs would not have occurred if the affected banks had the right to issue banknotes. Although a bank run may produce a relatively small cost, in both private and social terms, by increasing uncertainty and the shoe-leather cost of transferring funds, it can be a means to discipline banks and maintain good banking practice. So long as the run is not on the entire banking system, it is not necessarily as bad or unstable as most people perceive (Kaufman 1988). Available official monetary statistics revealed that customer deposits of the Hong Kong banking industry were HK\$6,377 million at the end of March 1965, down by 1.76 percent from HK\$6,491 million at the end of 1964. The decline was partly due to deposit losses resulting from the bank failures. Deposit growth resumed after March 1965 and reached HK\$ 7,250 million by the end of 1965, an increase of 11.69 percent from a year earlier. Available bank balance sheet data reflect that over the year there was a redistribution of deposits within the banking system rather than a run on the entire system.

The empirical results indicate that free or unregulated banking is not more prone to bank failures than regulated banking. The American experience that the mere existence of regulations does not guarantee

banking stability is also shared by Hong Kong. Before the Banking Ordinances of 1948 and 1964, the Hong Kong banking industry was virtually unregulated but governed by common law originating from Britain, which covered the contractual and tort relations between the customer and the bank, but not between the government and the banking industry. Ironically, the Hong Kong banking system enjoyed a long period of stability in the past despite the fact that it was largely unregulated. For the period 1864–1933, the Hong Kong banking system was more stable than its Canadian and American counterparts. There had not been any documented and reported bank failures resulting in losses to depositors and financial crises since the collapse of the Oriental Banking Corporation in 1884.¹⁸ The year 1864 marked the end of the U.S. free banking era as a result of the National Banking Act of 1863. On the other hand, the Canadian federal government was granted the exclusive jurisdiction over currency and banking after Confederation in 1867. The Bank Act of 1871, the first permanent legislation governing banking in Canada, was passed by the new federal government. The banking regulations failed to prevent bank failures. The 1965 banking crisis in Hong Kong also shows that regulations are no guarantee for financial stability. Between 1967 and 1981, the Banking Ordinance had been amended 19 times to strengthen banking regulations. Yet regulations failed to prevent the 1982–86 banking crisis, during which a total of seven commercial banks experienced financial difficulties, and they were taken over by either the Hong Kong government or other financial institutions.¹⁹

Among the many factors contributing to banking stability, an argument that is based on market power and the value of bank charters deserves attention. As Michael Keeley (1990) argues, increasing competition causes the values of bank charters to decline, which in turn causes banks to increase their asset risk. During 1935–80, the various regulatory restrictions protected U.S. banks from competition and made bank charters valuable, which counterbalanced banks' incentives for excessive risk-taking due to fixed-rate deposit insurance. Similarly, as Jack Carr, Frank Mathewson, and N.C. Quigley (1995) argue, one of the factors contributing to the stability of the Canadian banking system during the 1924–66 period was that substantial barriers to entry made bank charters valuable, which in turn provided incentives for bank managers and shareholders to avoid risky policies. The increases in the number of failures of depository institutions in both Canada and the United States in the 1980s can be attributed partially

¹⁸Its failure was due to the failure of coffee crop in Ceylon (Sri Lanka) (King 1990: 16).

¹⁹For an analysis of the banking crisis in Hong Kong during 1982–86, see Jao (1987).

to the combined effects of increasing competition arising from banking deregulation and the fixed-rate deposit insurance systems: the former diminished the values of bank charters whereas the latter created a moral hazard for excessive risk-taking.

The bank-charter-value hypothesis can also be a plausible explanation for the long period of free banking stability in Hong Kong. Although banks in Hong Kong were not protected from competition by any explicit regulatory barriers, there were fewer distortions due to government regulations and interventions when banks made their decisions on the tradeoff between risk and expected return. Given bankruptcy costs and monopoly rents from market power, banks had an incentive not to risk failure. There were not many banks in the industry until the influx of banks from China in the 1930s due to the Sino-Japanese War. This suggests that banks enjoyed a certain degree of market power. On the other hand, the banking crises of 1965 and 1982–86 occurred when competition was known to be fierce.

Conclusion

The empirical results of this paper indicate that free banking is not more prone to bank failures than regulated banking. This finding is robust with respect to the statistical tests and the sampling periods used in the study. The results based on the binomial distribution of bank failures do not show any evidence that free banking is more failure prone than regulated banking. On the contrary, the low probability of obtaining the Hong Kong realizations suggests that the Hong Kong banking system was more stable than its American counterpart during 1935–64. This finding is reinforced by the results of the distribution-free tests, which show that the U.S. bank failure rate was significantly higher, in a statistical sense, than its counterparts in Canada and Hong Kong. This result is consistent with the moral hazard argument that non-risk-rated deposit insurance induces banks toward excessive risk taking and therefore results in more bank failures. The moral hazard hypothesis is also supported by the empirical results of Richard Grossman (1992).²⁰ The fact that Canada had no bank failures and runs at all during the period under study seems to suggest that regulations are necessary and desirable to stabilize a banking system. This policy recommendation, however, should be made with qualifications. First, in the statistical sense, our empirical results show that free banking is not more prone to bank failures than regulated banking. Moreover,

²⁰Carr and Mathewson (1992) examine the impacts of the Canadian Deposit Insurance Corporation on Canadian financial institutions and also find similar results.

the finding that the American banking system had a higher bank failure rate than the Canadian system, though both were regulated, is consistent with Benston's allegation that the U.S. regulatory authorities were not adequate in preventing bank failures. That the existence of regulations does not necessarily stabilize the banking industry is also supported by the Hong Kong experience.

However, the fact that there were no bank failures and runs in Canada during 1923–66 is hardly sufficient for a conclusion that free banking is the optimal banking system. After all, this study has looked into only one aspect of monetary stability—bank failures. Other aspects, such as price stability and the efficiency of the banking system in terms of intermediation and promoting economic growth, need to be examined and considered in the process of banking and monetary reform. Nevertheless, this study is another piece of evidence to show that free banking is not as unstable as most economists believe. If a free banking system is not more prone to bank failures than other banking systems, it can be an effective alternative to banking reform. Regulatory authorities, therefore, should not assume that more regulations naturally translate into fewer bank failures.

Government regulations are not necessarily more effective and efficient than self-regulation. Furthermore, when government regulations are imposed, a distinction between economic regulation and health-safety-environment regulation should be made.²¹

Regulations are costly and distortionary; they may not necessarily achieve the goal of stabilizing the banking system, as evidenced by the U.S. experience. To achieve the goal, appropriate regulations need to be imposed, and they must be adequately and effectively enforced. Even if we assume that regulations can succeed in decreasing or eliminating bank failures, the total costs of banking regulations can be much higher than the costs of bank failures. It is the costs and benefits of the various proposals that regulators, economists, and bankers need to take seriously in reforming the present banking system.

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²¹On the distinctions between the two concepts, see White (1991: 5–6).

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