

CHAPTER 20:

Reducing Banks' Incentives for Risk-Taking Via Extended Shareholder Liability

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It has long been understood that deposit guarantees and too-big-to-fail (TbTF) policies create a moral-hazard problem—they incentivize banks to take on too much risk by shielding depositors and shareholders from losses in excess of equity (“left-tail” outcomes)—in American banking.¹ Congress passed the Federal Deposit Insurance Corporation Improvement Act (FDICIA) in 1991 to mitigate the moral-hazard problem by restricting forbearance and implicit subsidies for undercapitalized banks. But the mandates of the act (particularly early intervention to reorganize undercapitalized banks) were ignored when they might have made a difference just before and during the recent financial crisis. Common recommendations for mitigating moral hazard would have the FDIC adopt the techniques that private insurance companies use (deductibles, coinsurance, lower effective limits on coverage), but these have not been adopted, in part because (as seen in the British case of Northern Rock) they can give ordinary depositors reasons to rapidly withdraw money from suspect banks (the dreaded “run on banks”).

This chapter considers a different method for mitigating moral hazard: extended liability for bank shareholders. This reform does not put additional legal restrictions on bank activities, but reduces banks' *incentives* for taking excessive risks by at least partially neutralizing current safety-net subsidies to risk-taking. It shifts the risk of left-tail events from deposit-guarantee agencies to equity-holders as a means for reducing the moral hazard that promotes inefficient risk-taking. Given that the root of the current incentive distortion lies in deposit and TbTF guarantees, a more straightforward approach would be simply to remove the guarantees, shifting risk from guarantee agencies to depositors and giving

them more incentive to monitor and reward safe banking. Portfolio, activity, and capital restrictions might also then be removed, and liability arrangements allowed to be freely chosen by banks.²

While such a move might be first-best, the authors of this chapter take for granted that the guarantees will not be removed. The question to be addressed is whether adding extended liability would be an improvement over today's status quo. Assuming that deposit guarantees remain in place, the potential gain from introducing extended liability is not as a substitute for deposit guarantees, but as a cost-effective way of reducing moral-hazard distortions. In putting this case on the table, the argument

presented in this chapter supports other suggestions made in recent years for the (re-)introduction of extended liability into banking.³

EXTENDED LIABILITY: AN OVERVIEW

Under today's standard arrangement of *single liability*, when a bank (or any corporation) is declared insolvent and closed down with negative net worth, the value of shares goes to zero, but shareholders have no obligation to repay the remaining debts to creditors. Under extended liability—an arrangement common in banking history—shareholders do have an obligation to repay. Shareholders are called upon to cover (in proportion to their shareholdings) some or all of the unpaid debts. Under double liability, the holder of a share with a \$100 face value may be called on to chip in up to \$100 *more*; under triple liability, up to \$200. Under unlimited liability, shareholders are obliged to cover the entire amount of unpaid debt. Their liability can be joint and several, as it was in the U.K. (if some shareholders go bankrupt before paying in full, their unmet burdens fall to the others), or pro rata as in California (each is liable only for his initial share of the unpaid debt). For clarity, note that single, double, and triple liability are all forms of *limited* liability, but double and triple are *extended* by comparison to single liability. Unlimited liability is the limiting case of extended liability.

The same degree of shareholder liability need not apply to all bank debts. Some historical banks' shareholders have retained unlimited liability for banknotes, and single liability for deposits. All bank shares need not carry the same degree of exposure: Non-voting shares might have single liability, while voting shares have extended liability. Finally, where banks are free to choose the division of default risk between shareholders and creditors, all banks need not adopt the same liability arrangements. Goldman Sachs retained unlimited shareholder liability until 1999, long after other investment banks had switched to single liability. Brown Brothers Harriman

today provides private banking and other financial services while retaining unlimited liability for its general partners.⁴

In a banking system without deposit guarantees, bank shareholders might voluntarily adopt extended liability to provide solvency assurance to depositors and other creditors. By standing more fully behind its debts, the bank reduces default risk to depositors and thereby can attract deposits at lower interest rates. A note-issuing bank can likewise attract a larger note-holding clientele. In the presence of deposit guarantees—especially absent deductible, coinsurance, and coverage limits—this motive disappears. If the bank does not repay, the deposit guarantee agency will. Riskier banks no longer have to pay higher rates to attract deposits (below the insured limit). This is the core of the moral-hazard problem already mentioned.

EXTENDED LIABILITY: EXPERIENCES IN THE UNITED STATES

The American colonies under British rule, and after independence the 13 state governments, inherited the English legal system under which a bank (or any other business firm) seeking incorporation had to go to the legislature for a special chartering act. Such charters routinely limited the shareholders' liability for the corporation's debts to the par value of their shares, a system of single liability. In 1837, the chartering rules began to change as a few, and then an increasing number of, states adopted "free-banking" laws under which any applicant who agreed to standardized terms could obtain a bank charter. The charter terms varied from state to state, but some states required bank shareholders to accept extended liability, including double, triple, and even unlimited liability. In a few states, a bank could choose its own shareholders' level of liability, a system known as "voluntary liability."⁵ By 1860, more than half the states in the U.S. had free-banking laws.⁶

The National Banking Acts passed during the Civil War created federal charters with

double liability, and extended liability was common in the U.S. before federal deposit guarantees arrived in 1933. Many states imposed double or greater liability as a feature of their bank charters. All *federal* charters, offered after 1863 under the National Banking system, specified double liability.⁷ Overall, the number of chartering authorities requiring double liability rose from fewer than 10 states in 1851, to the federal government plus 18 states in 1875, to federal plus 34 states in 1930.⁸ As a result, in the early 20th century, the U.S. had two classes of banks: (1) federally chartered National Banks, subject to double liability, and (2) state-chartered banks that operated under various liability rules. Ten states had single liability, Colorado had triple liability, California had unlimited liability, and most other states had double liability.⁹ Between the Civil War and the Great Depression, most depositors and all noteholders were cushioned from losses in bank failures by shareholders who absorbed some risk beyond the value of their shares.¹⁰ Cross-sectional studies indicate that extended liability made banks safer for depositors, inducing banks to hold more liquidity and safer assets.¹¹ Nonetheless, this set of arrangements, having taken nearly a century to evolve, was reversed in less than a decade.

Having apparently proven ineffective at protecting depositors from the huge banking losses of the early Great Depression, extended liability was considered redundant to the creation of federal deposit insurance. In 1933, Congress “amended the National Bank Act and the Federal Reserve Act to remove double liability from national bank shares issued after June 16, 1933.”¹² In 1935, Congress passed an amendment allowing National Banks to terminate double liability after July 1, 1937, on all shares regardless of when they were issued. State governments followed the federal government, and similarly removed requirements for extended liability. By the end of World War II, 31 states had done so.¹³ In 1956, Arizona became the last state to do so. A handful of banks continued to operate

under extended liability, though they were no longer required by law. These arrangements, however, meant little. The FDIC Act includes a provision stating that upon paying for insured deposits of a failed member bank, the FDIC waives any and all claims on shareholders if such claims arise from state laws.

EXTENDED LIABILITY: PERFORMANCE IN THE U.S.

There are a variety of ways to measure the riskiness of a banking system, including the rate of bank failures, asset volatility, the composition of banks’ asset portfolios, equity ratios, and losses to depositors. Empirical studies from the era of extended liability banking are necessarily non-exhaustive for lack of data, but do suggest that extended liability reduced bank risk-taking in contrast to single-liability systems. One recent study of U.S. bank failures from 1892 to 1930 finds that extended liability reduced the risk of bank failures.¹⁴ A separate investigation of the 27 California banks that switched from unlimited liability to double liability between 1909 and 1915 finds

that banks subject to stricter liability rules have lower [on-balance-sheet] equity and asset volatility, hold a lower proportion of risky assets, and are less likely to increase their investment in risky assets when their net worth declines, consistent with the hypothesis that stricter liability discourages commercial bank risktaking.¹⁵

Similarly, an empirical study of U.S. banking in the New Deal era finds that in “states with contingent liability, banks used less leverage and converted each dollar of capital into fewer loans, and thus could survive larger loan losses (as a fraction of their portfolio) than banks in limited liability states.”¹⁶

Two studies examine voluntary versus involuntary liquidations of banks in the U.S. from 1865 to 1933.¹⁷ By closing an unprofitable bank voluntarily, shareholders with extended

liability avoid wealth depletion from future negative profits. They do not face the same incentive to “gamble for resurrection” that shareholders face under single liability, an incentive that grows as net worth approaches zero (and *a fortiori* as it declines below zero, the “zombie bank” problem). Consequently, the ratio of voluntary to involuntary liquidation would be greater in a system with extended liability, a finding reported in both studies.¹⁸ The evidence in these studies is not conclusive, however, because it is difficult to compare the pre-Depression system to the post-Depression system. With federal deposit insurance and other regulatory interventions, fewer banks closed either voluntarily or involuntarily. Nonetheless, the above findings do indicate that voluntary closures were relatively common under extended liability, limiting depositor losses and thereby avoiding possible negative spillovers to the rest of the system.¹⁹

In the United States, from 1865 to 1934, the “average annual loss to depositors of failed national banks was a mere forty-four cents per thousand dollars of deposits.”²⁰ The losses were much greater during the Great Depression, ranging from 50 cents to more than two dollars per *hundred* dollars of deposits (losses borne by depositors of suspended banks average around 20 percent for 1930 to 1933).²¹ Of course, whether the pre-Depression era or the Great Depression itself is a better picture of the extended liability system is a difficult question. On the one hand, the Great Depression was an extraordinary period when many arrangements failed, and does not therefore reflect on the extended liability system. On the other hand, the question remains as to why extended liability did not prevent large-scale banking collapses during the Great Depression.²² While the evidence suggests that extended liability can help to produce more prudent behavior on the part of banks, it also suggests that extended liability cannot prevent shocks that originate outside the banking system, nor can it eliminate the mechanism through which the shocks propagate through the economy. In other words, what

the extended liability can do is reduce the likelihood of shocks that arise from unwise behavior by banks in the management of reserves and the risk-profile of their assets.

EXTENDED-LIABILITY DRAWBACKS: EVIDENCE FROM THE U.K. AND IRELAND

The incentive-aligning features of extended-liability banking, noted above, call into question the desirability of mandatory single liability for banking, and perhaps for financial intermediaries more generally. Extended liability has its own potential drawbacks, however. The same incentive-alignment mechanisms that reduce moral hazard under extended liability might, on other margins, incentivize socially costly behavior. Extended liability might conflict in important ways with preferable contractual arrangements.

For instance, a long-standing concern is that extended liability for bank shares would mean significantly higher transaction costs and therefore *reduced liquidity* for such shares, by comparison with single-liability shares. With joint and several liability, any given shareholder’s expected cost of being called upon to repay depositors and other debt-holders in the event of the bank’s insolvency depends on the wealth of other shareholders: The smaller the amount that other shareholders can chip in before going personally bankrupt, the greater the amount that wealthier shareholders will have to pay. For a shareholder to appraise the expected cost accurately requires costly monitoring of the loss-absorbing capacity of other shareholders.²³

The hypothesis of significantly higher transaction costs implies less trading and lower prices (an illiquidity premium) for bank shares with extended liability, but these implications find little support in regime-change “natural experiments” that have been studied. For instance, one study examined the effects of the Ulster Banking Company’s conversion from unlimited to limited liability in 1883 after new legislation required all banks to convert.²⁴ Contrary to the expectation that conversion to limited liability would

give shares significantly greater liquidity, the study reports that “the move to limited liability does not appear to result in any apparent increase in market activity. If anything, the upward trend in market activity slows somewhat just after the conversion to limited liability.”²⁵ Other research that examined nine separate unlimited-liability banks before and after they were compelled to convert to limited liability finds similar conclusions.²⁶ The study presents evidence that extended liability substantially *reduced* share-transfer costs, and suggests “that the stock of limited banks was no more liquid than that of unlimited banks, and that stock did not become more liquid after banks limited their liability.”²⁷

A second long-standing concern is that wealthy individuals will avoid owning bank shares with unlimited liability in order to avoid the risk of being disproportionately called to repay an insolvent bank’s debts. This concern is sometimes referred to as the Bagehot hypothesis, after Walter Bagehot’s statement that “every person joining a bank shall be liable for every sixpence contained in it, to his last acre and shilling. The consequence is, that persons who join banks have very commonly but few acres and few shillings.”²⁸ Low-wealth shareholders will predominate. If wealthy investors are less eager to own bank shares (at any given rate of return), bank capital will be more costly to raise, and the banking system will be less well capitalized.

The Bagehot hypothesis has been tested using data from the U.K. in the 19th century, when shares of both limited and extended liability banks were traded. Overall, Bagehot’s hypothesis—shareholders without sufficient wealth to repay a bank’s residual debts in the event of insolvency would predominate, so that de jure extended liability would amount de facto to single liability—is not borne out by the balance of historical experience. Put differently, the effects of extended liability were not (in the U.K. experience) commonly undone by trading of shares to impecunious holders.²⁹ In general, the detrimental effects of extended-liability regimes for banking appear to be minor,

a conclusion supported by both time-series studies of the U.K. experience and cross-sectional studies of the U.S. experience.³⁰

CONCLUSION

Single liability combined with federal deposit guarantees (FDIC and TBTF) makes shareholders indifferent to the left-hand tail of the probability distribution over asset losses. Once net worth reaches zero, single-liability shareholders are wiped out, and it does not matter to them how much farther below zero net worth goes. This creates the moral hazard of incentivizing high-risk “gamble for resurrection” strategies by “zombie” (and near-zombie) institutions. Put differently, the shareholders no longer bear the full downside of the risks that the bank takes, and the vast majority of creditors (depositors) are guaranteed by the government. In a TBTF bank even the legally *uninsured* creditors are covered, so the downside risk is externalized to taxpayers. As a result, the shareholders and the managements of banks under single liability, when backed by government insurance, have too little incentive to act prudently (from the point of view of taxpayers), especially as net worth approaches zero. Extended liability mitigates the problem (unlimited liability nearly eliminates it) by giving shareholders something to lose from a gambling strategy even when the bank’s visible net worth is zero.

The incentive-aligning effects of extended liability have the potential to reduce moral hazard and thereby the inefficiency of excessively risky bank portfolios and the frequency of (and damage done by) large bank failures. Short of eradicating moral hazard by removing all guarantees and restrictions from the banking system, the more limited change of imposing extended liability on shareholders in banks with guaranteed deposits could be a move in the right direction.³¹

Extended liability is an *institutional* approach to financial stability rather than government-implemented regulatory policies aimed at preventing financial instability from instigating crises. By changing the underlying

rules governing bank structure, the desired result—preventing crises—is achieved by aligning information and incentives that banks confront, which are a product of underlying institutions, with those that are conducive to social welfare. Financial instability is not something that “just happens,” as is assumed by much of the macroprudential literature. Instead, financial instability is a result

of a particular framework of rules that incentivizes banks to behave irresponsibly. Rather than taking on the significant information and incentive burdens associated with government regulatory solutions to financial instability, extended liability incentivizes banks to discover and undertake voluntarily the sort of practices that promote bank and system stability.

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This chapter is a summary of the three authors’ paper “Extended Shareholder Liability as a Means to Constrain Moral Hazard in Insured Banks,” *Quarterly Review of Economics and Finance* (forthcoming).

ENDNOTES

1. Edward J. Kane, *The Gathering Crisis in Federal Deposit Insurance* (Cambridge, MA: MIT Press, 1985), and Gary H. Stern and Ron J. Feldman, *Too Big to Fail: The Hazards of Bank Bailouts* (Washington, DC: Brookings Institution Press, 2004).
2. There is extensive historical and theoretical literature on this type of lightly regulated (free-banking) banking regime. See George A. Selgin, *The Theory of Free Banking* (Totowa, NJ: Rowman and Littlefield, 1988); Lawrence H. White, *Competition and Currency* (New York: New York University Press, 1989); Alexander W. Salter, “The Imprudence of Macroprudential Policy,” *Independent Review*, Vol. 19, No. 1 (2014), pp. 5–17; Alexander W. Salter, “Is There a Self-Enforcing Monetary Constitution?” *Constitutional Political Economy*, Vol. 25, No. 3 (2014), pp. 280–300; and David Beckworth, ed., *Boom and Bust Banking* (Oakland, CA: The Independent Institute, 2012).
3. Richard Grossman and Masmi Imai, “Contingent Capital and Risk-Taking: Evidence from Britain’s Banks 1878–1912,” VoxEU.org, September 7, 2010; Claire Hill and Richard Painter, “Berle’s Vision Beyond Shareholder Interests: Why Investment Bankers Should Have (Some) Personal Liability,” *Seattle University Law Review*, Vol. 33, No. 4 (2010), pp. 1173–1199; Axel Leijonhufvud, “A Modest Proposal,” VoxEU.org, January 23, 2010, <http://www.voxeu.org/article/modest-proposal-double-liability-bankers> (accessed October 4, 2016); Tyler Cowen, “Break Up the Banks? Here’s an Alternative,” *The New York Times*, February 11, 2012, <http://www.nytimes.com/2012/02/12/business/making-shareholders-liable-for-big-banks-economic-view.html?ref=business> (accessed October 4, 2016); Hester Peirce, “Double Liability A Better Response to J. P. Morgan Mess,” *U.S. News and World Report Economic Intelligence* blog, May 22, 2012, <http://www.usnews.com/opinion/blogs/economic-intelligence/2012/05/22/double-liability-a-better-response-to-jp-morgan-mess> (accessed October 4, 2016); Anat Admati and Martin Hellwig, *The Bankers’ New Clothes: What’s Wrong with Banking and What to Do About It* (Princeton: Princeton University Press, 2013); Richard M. Ridyrd, “Corporate Governance and Double Liability: Toward a Bank Shareholder-Orientated Model,” University of Oxford *Working Paper*, December 2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2371088 (accessed October 4, 2016); John D. Turner, *Banking in Crisis: The Rise and Fall of British Banking Stability, 1800 to the Present* (Cambridge: Cambridge University Press, 2014); and Joshua R. Hendrickson, “Contingent Liability, Capital Requirements, and Financial Reform,” *Cato Journal*, Vol. 34 (Winter 2014), pp. 129–144.
4. “Wall Street partnerships: Brown-Blooded Holdouts,” *The Economist*, June 16, 2011, <http://www.economist.com/node/18836248> (accessed October 6, 2016).
5. Richard Grossman, “Double Liability and Bank Risk Taking,” *Journal of Money, Credit and Banking*, Vol. 33, No. 2 (2001), pp. 143–159.
6. Arthur J. Rolnick and Warren E. Weber, “Banking Instability and Regulation in the US Free Banking Era,” Federal Reserve Bank of Minneapolis *Quarterly Review*, Vol. 9 (1985), pp. 2–9.
7. One study reports that as of 1932, “about two-thirds of the states...[were] imposing double, triple or even unlimited liability on bank shareholders.” See John R. Vincens, “On the Demise of Double Liability of Bank Shareholders,” *Business Law*, Vol. 12 (1956), p. 275.
8. Richard Grossman, “Fear and Greed: The Evolution of Double Liability in American Banking, 1865–1930,” *Explorations in Economic History*, Vol. 44, No. 1 (2007), p. 61.
9. Benjamin C. Etsy, “The Impact of Contingent Liability on Commercial Bank Risk Taking,” *Journal of Financial Economics*, Vol. 47, No. 2 (1998), p. 191, and Jonathan R. Macey and Geoffrey P. Miller, “Double Liability of Bank Shareholders: A Look at the New Data,” *Wake Forest Law Review*, Vol. 28 (1993), p. 933.
10. This is not to suggest that government regulatory authorities played no role in early American banking. As Mitchener and Jaremski note, government regulation did exist, but was light. Early regulators were less interested in system stability and more in the behavior of individual banks. See Kris James Mitchener and Matthew Jaremski, “The Evolution of Bank Supervision: Evidence from US States,” National Bureau of Economic Research *Working Paper* No. 20603, 2014.
11. Etsy, “The Impact of Contingent Liability on Commercial Bank Risk Taking,” and Grossman, “Double Liability and Bank Risk Taking.”
12. Vincens, “On the Demise of Double Liability of Bank Shareholders,” p. 276.
13. Grossman, “Double Liability and Bank Risk Taking.”
14. *Ibid.*
15. Etsy, “The Impact of Contingent Liability on Commercial Bank Risk Taking,” p. 189.
16. Kris James Mitchener and Gary Richardson, “Does ‘Skin in the Game’ Reduce Risk Taking? Leverage, Liability and the Long-Run Consequences of New Deal Banking Reforms,” *Explorations in Economic History*, Vol. 50, No. 4 (2013), p. 508.
17. Etsy, “The Impact of Contingent Liability on Commercial Bank Risk Taking,” and Macey and Miller, “Double Liability of Bank Shareholders: A Look at the New Data.”

18. For instance, Esty, “The Impact of Contingent Liability on Commercial Bank Risk Taking,” p. 34, finds that between 1865 and 1933, “voluntary liquidations accounted for 70% of the 8302 national-bank liquidations,” and between 1865 and 1912, they accounted for over 80 percent of the liquidations in the U.S.
19. There is also some evidence to suggest that regulators are aware of this phenomena. After widespread bank failures in Texas in the 1980s, regulators became increasingly concerned with the relationship between banks and bank holding companies (BHC), a corporate structure that allowed BHC shareholders to reap the upside of bank investments while the FDIC carried the downside. The moral hazard threatened the FDIC, and in turn the other banks, through higher FDIC premiums. Regulators responded with provisions in the Financial Institutions Reforms, Recovery and Enforcement Act (FIRREA) of 1989 that require a BHC to use the net worth of its solvent banks to reimburse the FDIC for expenses it incurs resolving an insolvent sibling bank. See William R. Keeton, “Bank Holding Companies, Cross-Bank Guarantees, and Source of Strength,” *Economic Review*, Vol. 75, No. 3 (1990). Knopf and Teall find evidence to support the hypothesis that FIRREA led to a decrease in the risk profile of bank assets: John D. Knopf and John L. Teall, “Risk-Taking Behavior in the US Thrift Industry: Ownership Structure and Regulatory Changes,” *Journal of Banking & Finance*, Vol. 20, No. 8 (1996), pp. 1329–1350.
20. Macey and Miller, “Double Liability of Bank Shareholders: A Look at the New Data,” p. 34. These are losses as a percent of deposits in all commercial banks.
21. Howell E. Jackson, “Losses from National Bank Failures During the Great Depression: A Response to Professors Macey and Miller,” *Wake Forest Law Review*, Vol. 28 (2993), p. 919.
22. Many explanations have been put forth for the causes and severity of the Great Depression, but it is clear that these were due to a variety of monetary, financial, and real shocks. See, for example, Milton Friedman and Ana J. Schwartz, *A Monetary History of the United States* (Princeton: Princeton University Press, 1963); Scott Sumner, *The Midas Paradox: Financial Markets, Government Policy Shocks, and the Great Depression* (Oakland, CA: Independent Institute, 2015); and Harold L. Cole and Lee E. Ohanian, “New Deal Policies and the Persistence of the Great Depression: A General Equilibrium Analysis,” *Journal of Political Economy*, Vol. 112, No. 41 (2004), pp. 779–816.
23. Lewis T. Evans and Neil C. Quiggley, “Shareholder Liability Regimes, Principal-Agent Relationships, and Banking Industry Performance,” *Journal of Law and Economics*, Vol. 38 (October 1995), pp. 497–498. Either each shareholder monitors for himself or herself, or (more common in practice) the bank’s directors adopt a costly procedure for screening share purchases and transfers, rejecting impecunious would-be owners in order to restrict shareholding to individuals of sufficient net worth.
24. Charles R. Hickson, John D. Turner, and Claire McCann, “Much Ado About Nothing: The Limitation of Liability and the Market for 19th Century Irish Bank Stock,” *Explorations in Economic History*, Vol. 42, No. 3 (2005), pp. 459–476.
25. *Ibid.*, p. 469.
26. Graeme G. Acheson, Charles R. Hickson, and John D. Turner, “Does Limited Liability Matter? Evidence from 19th-Century British Banking,” *Review of Law and Economics*, Vol. 6, No. 2 (2010), pp. 247–273.
27. *Ibid.*, p. 269.
28. Quoted in Charles R. Hickson and John D. Turner, 2003, “Shareholder Liability Regimes in Nineteenth-Century English Banking: The Impact Upon the Market for Shares,” *European Review of Economic History*, Vol. 7, No. 1 (2003), p. 932. See also John D. Turner, “‘The Last Acre and Sixpence’: Views on Bank Liability Regimes in 19th-Century Britain,” *Financial History Review*, Vol. 19, No. 2 (2009), pp. 111–127.
29. For instance, Hickson and Turner observe that “very few shares were sold to individuals from the lower middle classes or below” (*ibid.*, p. 947), and that “transfers to impecunious individuals were particularly prevented in times of increased bank distress” (*ibid.*, p. 956). Additionally, Acheson and Turner argue that, contrary to the narrative that prevailed at the time, there is no link between the City of Glasgow bank failure in 1878 and the Bagehot Hypothesis. See Graeme G. Acheson and John D. Turner, “The Death Blow to Unlimited Liability in Victorian Britain: The City of Glasgow Failure,” *Explorations in Economic History*, Vol. 45, No. 3 (2008), pp. 235–253. On the “screening” of share transfers, see Timothy L. Alborn, *Conceiving Companies: Joint-Stock Politics in Victorian England* (London: Routledge, 1998). Also see Hickson and Turner on the 1825 Banking Copartnership Regulation Act, a law that worked against the Bagehot hypothesis by making sellers of bank shares retain liability for the bank’s debts if the buyer had insufficient wealth to answer a call. Charles R. Hickson and John D. Turner, “Free Banking and the Stability of Early Joint-Stock Banking,” *Cambridge Journal of Economics*, Vol. 28, No. 6 (2004), pp. 903–919.
30. Esty, “The Impact of Contingent Liability on Commercial Bank Risk Taking,” and Grossman, “Double Liability and Bank Risk Taking.”
31. Retaining deposit insurance while introducing extended liability primarily improves financial outcomes by operating on bank shareholders’ incentives. With this adjustment at the margin, depositors are still protected—thus assuaging the distributional concerns associated with financial instability—while incentivizing banks to behave in a manner more conducive to the health of the financial system as a whole. Of course, there is no need to couple deposit insurance with extended liability in the abstract;

in fact, removing deposit insurance, at the margin, would incentivize depositors to monitor banks more closely. Nonetheless we contend, purely focusing on banks' current asymmetric incentives for risk, that the introduction of extended liability would still be an improvement.