

Rummaging Through the Fed Archives: When Capital and Liquidity Regulations Were Integrated

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Current bank regulations evaluate a bank's capital and liquidity separately. Digging through the Federal Reserve archives, we found that this has not always been the case.¹ Federal Reserve Board Form F.R. 363 – Form for Analyzing Bank Capital – from 1956 defines a risk-based capital requirement augmented with a liquidity-sensitive add-on². As described in Lockett (1962), the form was used on an “experimental basis” for at least four years beginning in 1956 to evaluate a bank's capital position, with the assessment influenced by the bank's liquidity position.³ In this note, we describe how the form incorporated liquidity risk into a capital assessment, as well as several other interesting characteristics of the measure. We then investigate how banks would currently perform under the capital-liquidity measure. We find that, in aggregate, larger banks, GSIBs, banks subject to capital stress tests and banks subject to liquidity requirements all have more capital than required by the form. The remaining smaller banks do not. Results are driven by the relatively higher amount of cash assets held by larger banks, possibly reflecting the incentives created by liquidity requirements. We conclude by reflecting on the potential merits of integrating the approach taken in the metric into today's regulatory framework.

Capital regulations are designed to ensure that the value of a bank's assets exceed its liabilities by enough so that the bank is very unlikely to become insolvent over some period. Liquidity regulations are designed to ensure that a bank will be able to meet scheduled payments, deposit withdrawals and draws on lines of credit over some period. Conceptually, a bank's capital and liquidity needs are related. The forced liquidation of illiquid assets can result in a reduction in the value of a bank's assets and capital, and a liquid bank is better able to withstand transitory negative shocks. Moreover, a bank whose assets are worth significantly more than its liabilities should be able to borrow against those assets to meet its obligations if it has enough time to raise the funds.

There have occasionally been calls for capital and liquidity assessment to be more integrated. For example, in Daniel Tarullo's final [speech](#) as Fed Governor, he expressed a hope that stress tests would become more macroprudential by taking into account second-round effects from banks selling assets at fire-sale prices. In *The End of Alchemy*, Mervyn King called for banks to keep enough collateral pledged to the central bank to cover all liabilities, noting that such a requirement would make central bank collateral haircuts the de facto capital requirements.⁴

Current requirements do combine capital and liquidity risks somewhat in at least one instance. In the United States, the Global Systemically Important Bank (GSIB) capital surcharge depends in part on

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¹ See *Reappraisal of the Federal Reserve Discount Mechanism*, Volume 3, 1972, pp. 159–160, 166–167.

https://fraser.stlouisfed.org/files/docs/historical/federal%20reserve%20history/discountmech/bog_reappraisal_discount_197108_vol3.pdf

² “Martin and Younger (2020) note the existence of a 1956 form that combines a capital and liquidity assessment in “War Finance and Bank Leverage: Lessons from History.”

<https://som.yale.edu/blog/war-finance-and-bank-leverage-lessons-from-history>

³ Duckett, Dudley G., 1956, Compensatory Cyclical Bank Asset Adjustments, *The Journal of Finance*, March 1962, Vol. 17, No. 1 (Mar. 1962), pp. 53-62.

⁴ King, Mervyn (2016), *The End of Alchemy: Money, Banking, and the Future of the Global Economy*, W.W. Norton, New York, chapter 7.

banks' short-term wholesale funding (STWF). The [preamble to the GSIB rule](#) states that STWF is included because short-term borrowing leaves a bank vulnerable to runs.

To meet its borrowing obligations, the borrowing firm may be required to rapidly sell less liquid assets, which it may be able to do only at fire sale prices that deplete the seller's capital and drive down asset prices across the market.

The Basel Committee on Banking Supervision has commissioned investigations into the potential value of integrating capital and liquidity assessments of a bank's condition. In "[Making supervisory stress tests more macroprudential: Considering liquidity and solvency interactions and systemic risk](#)," a BCBS working group concluded that "integrated liquidity and solvency stress tests . . . are desirable, as liquidity and solvency interactions can be material." In "[Literature review on integration of regulatory capital and liquidity instruments](#)," another BCBS working group identified four channels of interaction between liquidity and capital requirements: (1) Both types of requirements provide incentives for banks to hold higher-quality assets; (2) liquidity requirements may reduce the need for banks to sell assets at fire-sale prices which could threaten a bank's solvency; (3) both types of requirements may impact bank profits and thereby their ability to replenish capital through retained earnings; and (4) both types of requirements lead to the "shoring up of buffers" that protect the bank from failure. Owing to these channels, the working group concluded that "these two types of requirements have elements of substitutability but also complementarity." The group also observed that "the literature suggests that not taking into account liquidity and interbank channels in solvency stress tests could understate total losses by as much as 25%."

While capital and liquidity assessments are not currently combined, they have been in the past. In 1956, the Board of Governors gave examiners a liquidity-sensitive metric for assessing bank capital. The F.R. 363 "Form for Analyzing Bank Capital" defines a risk-based capital requirement that estimates the amount of capital a bank would need to remain solvent under the assumption that a forced liquidation of some of the bank's assets becomes necessary to meet funding needs. The form was included as an appendix to a 1968 paper on discount policy and bank supervision prepared by Benjamin Stackhouse of the Bank Examinations Department of the Federal Reserve Bank of New York.⁵

Lockett (1962) quotes a letter from a Vice President of the Federal Reserve Bank of Chicago that describes how the form was used:

In a letter to the author, Mr. Hugh J. Helmer, vice-president of the Federal Reserve Bank of Chicago, emphasizes that the "Form for Analyzing Bank Capital" is subject to substantial modification in any particular instance. The "normal range" of banks considered to be adequately capitalized is from 80 to 120 per cent of their capital requirements (with shadings near the extremes) as indicated by the Form. Nevertheless, a bank with too low a percentage may be put under considerable pressure to sell additional capital stock, retain earnings, or shift its assets. In this connection, see the report on the Continental Bank and Trust Company in the Federal Reserve Bulletin, August, 1960, pp. 859-67, where the bank had, in the opinion of the Board, only about 50-60 per cent of its capital needs.

Use of the form is discussed further in the minutes of one of the Board meetings – on June 6, 1960 – convened to determine whether Continental Bank was adequately capitalized.⁶ The Director of the Board's Division of

⁵ Stackhouse, Benjamin, *Fundamental Reappraisal of the Discount Mechanism: Discount Policy and Bank Supervision*, Board of Governors of the Federal Reserve System, Washington, D.C., 1968.

⁶ Minutes of the Board of Governors of the Federal Reserve System on July 6, 1960. <https://fraser.stlouisfed.org/title/minutes-board-governors-federal-reserve-system-821/meeting-minutes-july-6-1960-515550>

Examinations explained that the bank's capital situation was evaluated using a number of different measures, but "...explained why it was felt that the Form for Analyzing Bank Capital [the F.R. 363] had certain advantages as a screening device not inherent in other screening devices." (p.28) indicating that the form was used and taken seriously by Board examiners.

Description Of The Combined Capital And Liquidity Requirement (F.R. 363)

The F.R. 363 established a capital requirement based on asset risk and added an additional requirement based on assumed liquidation markdowns of assets needed to cover potential liquidity needs under stress. The form and explanatory notes are included in Appendix 1, and an example filled-out form as Appendix 2.

CAPITAL

The component of the capital requirement calculated by the form that is based on asset risk (as opposed to liquidity risk) is similar to current risk-weighted capital requirements. The capital requirement for a normal asset, such as a business or household loan, is 10 percent. The requirements for lower-risk assets are lower. In a few cases, the requirement is 100 percent, meaning the asset must be funded entirely with equity.

Unlike current capital requirements, the requirements are sensitive to interest rate risk. For example, banks are required to fund themselves with capital equal to 0.5 percent of Treasury securities with maturity of less than 1 year, 4 percent for Treasury securities with maturities between 1 and 10 years, and 6 percent for Treasury securities with maturities of more than 10 years. Moreover, capital equal to only 0.5 percent of commercial paper (CP) is required, likely because CP's short maturity reduces both interest rate and credit risk.

The capital requirement for some assets is greater than 10 percent. For premises, other real estate owned equities, and assets classified as "loss," the requirement is 100 percent. The requirements for assets classified as "substandard" or "doubtful" are 20 percent and 50 percent, respectively. The high capital requirements associated with classified assets are offset by the inclusion of the "Reserve for Contingency" and "Loan Valuation Reserve," which are similar to the current Allowance for Loan and Lease Losses (ALLL), in equity. Under current accounting, the ALLL is deducted from assets, reducing both assets and equity. If a bank were to set its loss reserves equal to 100 percent of assets classified as loss, 50 percent of assets classified as doubtful, and 20 percent of assets classified as substandard, the two approaches (add the reserve to equity and don't subtract from assets, or subtract from assets and therefore exclude from equity) would be the same.

These capital requirements can be converted into risk weights if we assume that the default risk weight on loans and securities not otherwise listed is 100 percent, just like current risk weights. Because the capital requirement on those assets is 10 percent, the risk weights on other asset categories is the capital requirement divided by 10 percent (that is, multiplied by 10). For example, the risk weights on short-, intermediate- and long-term Treasury securities are 5, 40, and 60 percent, respectively, well above the current weight of zero for each category. By contrast, the weight on commercial paper is 5 percent—the same as Treasury bills—compared with its current weight of 100 percent.

LIQUIDITY

In addition to risk-based capital requirements for credit and interest-rate risk, the F.R. 363 form calculates an additional capital requirement to cover losses associated with liquidating assets to meet liquidity needs. To do so, the form calculates outflows from different liabilities that it assumes are met by liquidating assets, starting with the most liquid. The liquidation markdowns are higher for less liquid assets.

Compared with the two current international liquidity metrics, the balance sheet focus of the calculation more closely resembles the Net Stable Funding Ratio (NSFR) than the Liquidity Coverage Ratio (LCR). The magnitude of the outflows also seems more consistent with the NSFR's longer horizon.

The outflow rates equal 47 percent of the demand deposits of individuals, partnerships, or corporations (IPC); 36 percent of time deposits of IPCs; 100 percent of deposits of banks; 100 percent of other deposits; and 100 percent of "borrowings." As explained in the notes to the form, the 47-percent outflow rate on IPC demand deposits represents an assumption that the deposits decline by one-third, plus an additional outflow equal to 20 percent of the remaining two-thirds. Similarly, the 36-percent outflow rate on deposits equals an assumption that the deposits decline by 20 percent, plus an additional 20 percent of the remaining 80 percent. The notes explain that the extra 20 percent in both cases "is to help the bank continue as a going concern even after suffering substantial deposit shrinkage." The calculation, in effect, assumes that an amount equal to 20 percent of remaining IPC deposits of the bank's most liquid assets are unavailable to finance outflows.⁷ One explanation for this assumption could be that the reserve requirements on demand deposits was roughly 20 percent then. However, this is not completely satisfactory, because the reserve requirement on time deposits at that time was about 5 percent.⁸ For comparison, the two standardized international liquidity requirements, the 30-day LCR and the 1-year NSFR, assume 3 percent and 5 percent of insured demand deposits leave the bank, respectively.

The form calculates the liquidity available from assets to meet outflows using haircuts that increase as asset liquidity declines. The entire value of Primary and Secondary Reserve assets, which include highly liquid assets such as cash and Treasury bills, less capital requirements for those assets, is assumed to be available. Ninety percent of Minimum Risk Assets, which include medium-term Treasury securities and short-term muni assets, is assumed to be available. And 85 percent of Intermediate assets, which include longer-term Treasuries, is assumed to be available. Additional liquidity needs are met by liquidating Portfolio Assets, which equal all other loans and securities. As explained in the last line of the Notes to the form, the extra capital required to cover losses on the liquidated assets assumes a loss of 6, 9, and 15 percent on Minimum Risk, Intermediate, and Portfolio assets, respectively. No extra capital is required to cover losses on Primary and Reserve assets because "the regular capital specified for these assets assumes forced liquidation."

In short, the form is designed to assess whether a bank can withstand a massive run while remaining sufficiently capitalized and still having a healthy reserve of liquid assets. In the remainder of this note, we evaluate whether today's banks could fulfill such a requirement.

Mapping from Current Call Report Items to F.R. 363

As described in detail in Appendix 3, to apply the liquidity and capital test defined in F.R. 363, we need to map current Call Report (bank quarterly balance sheet and income statement) items to the items in the form, and then perform the calculation set out in the F.R. 363. As noted, the form first defines a baseline capital requirement that depends on the riskiness of bank's assets. It then defines a stress funding outflow and determines what assets the

⁷ There may be, however, a "turtles all the way down" problem with the reasoning. Suppose, for example, that it was judged proper that a bank maintain 25 percent of its assets as HQLA to cover liquidity contingencies. If it is also required to hold 25 percent of its assets as HQLA after experiencing a cash outflow equal to 25 percent of its assets, then it should be required to hold 44 percent of its assets as HQLA now. But presumably, it should also be required to have 44 percent of its assets as HQLA after experiencing the 25-percent outflow. Therefore, it should hold 77 percent of its assets as HQLA now. And so on. The requirement converges with banks required to hold all of their assets as HQLA.

⁸ For central reserve city banks, the maximum reserve requirement on demand deposits of IPCs was 26 percent, and the minimum was 13 percent. For reserve city banks, the maximum and minimum were 20 and 10 percent. For country banks, the maximum and minimum were 7 and 14 percent. For time deposits of IPCs, the maximum and minimum reserve requirements for all banks were 6 and 3 percent. See *Federal Reserve Bulletin*, March 1956, p. 238. <https://fraser.stlouisfed.org/title/federal-reserve-bulletin-62/march-1956-21255>

bank would have to liquidate to meet that outflow. Finally, it calculates extra capital required to cover the reduction in the value of assets that must be sold at fire-sale prices to meet the outflow. All items are drawn from the 2019Q4 Call Reports to avoid the effects of the COVID-19 pandemic.

BASELINE CAPITAL REQUIREMENT

As a baseline, as discussed above, the F.R. 363 requires that a bank fund each asset with 10 percent capital, but the requirement is reduced for some assets and increased for others. The category with the lowest risk weights is “Primary and Secondary Reserve.” Within that category, banks are not required to fund “cash assets,” in which we include deposits at other banks and deposits at the Fed, with any equity. One-half of 1 percent of very short-term financial assets, including Treasury bills out to 1 year and commercial paper, must be funded with equity. In that category, we include reverse repos, fed funds sold and an estimate of Treasury securities with maturities of 1 year or less. The estimate is derived by multiplying the share of the bank’s Treasury securities holdings by the fraction of the bank’s holdings of debt securities with maturities less than 1 year. We use this approach to determine the maturity breakdown of all Treasury securities. The bank is required to fund 4 percent of slightly longer-term securities with equity, including Treasury securities with 1- and 5-year maturities and investment-grade corporate bonds with maturities of up to 3 years. We assume that half of each bank’s CMBS, ABS and other corporate bonds have maturities of up to 3 years.

The next category of low-risk assets is “Minimum Risk Assets,” all of which are required to be funded with 4-percent equity. The section includes Treasury securities with maturities between 5 and 10 years, short-term loans to municipalities, and other assets with no current equivalent. We include a portion of Treasury securities, all agency-guaranteed MBS (which typically have weighted-average maturities of well less than 10 years), and all muni loans and muni debt.

The bank is required to fund 6 percent of “Intermediate assets” with equity. Intermediate assets include Treasuries with maturities of more than 10 years, as well as FHA and VA loans. We include a fraction of Treasury securities calculated as described above.

On the riskier end of the asset spectrum, the bank is required to fund premises, furniture and fixtures, other real estate owned, stocks and defaulted securities completely with equity. All these assets have a modern-day equivalent on the Call Report, which we use.

And finally, the form requires hefty capital for what then and now are called “classified assets,” or troubled assets judged “substandard,” “doubtful” and “loss.” The Call Report does not include classified assets. However, banks do now maintain an allowance for loan and lease losses that is deducted from assets and therefore from capital. By contrast, in the F.R. 363, the “loan valuation reserve,” which appears to be similar, is added to capital. We follow current practice and use loans net of the loss allowance and don’t include the loss allowance in capital.

LIQUIDITY SHOCK, LIABILITY OUTFLOWS

Less judgment is required to map current liability items into those used on the F.R. 363. Demand deposits and time deposits of individuals, partnerships and corporations are available on the current Call Report, as are deposits of banks (U.S. and foreign, at domestic and foreign offices). We define “other deposits” simply by subtracting the categorized deposits from total deposits. We include in “borrowings” fed funds purchased, repo and “other borrowed money” with remaining maturity of 1 year or less.⁹ As noted above, the total assumed outflow is 47

⁹ It may be more appropriate to include repo net of securities provided as collateral, since the collateral would be returned if the repo was not rolled over.

percent of demand deposits; 36 percent of time deposits; and 100 percent of bank deposits, other deposits, and other borrowings.

OTHER ITEMS

Two other items are required to fill in the form: trust income and equity. Each bank is required to hold capital equal to 3 times gross earnings of the trust department. We use “fiduciary income,” which includes trust department income.

The F.R. 363 defines “Actual Capital, Etc.” as

(Sum of Cap. Stock, Surplus, Undiv. Profits, Res. For Conting., Loan Valuation Res., Net unapplied Sec. Valuation Res., Unallocated Charge-offs, and any comparable items) (Exclude Depreciation and Amortization Reserves)

We use “total equity capital” from the Call Report, which includes preferred stock, common stock, surplus, and retained earnings. As noted, we did not include the allowance for loan and lease losses, because bank assets are net of the allowance. We did not make the other adjustments simply because we do not know what they mean.

Results

We use Call Report data as of 2019Q4, and the mapping described above, to apply the F.R. 363 to current U.S. banks. Our sample includes 4,625 banks. We use the largest commercial bank subsidiary for each bank holding company. We look separately at four different groups. Group 1 includes the 8 Global Systemically Important Banks (GSIBS). Our second group – CCAR – includes 16 banks subject to the Fed's annual capital stress tests. The third group – ILST – includes all banks that are required to conduct regular internal liquidity stress tests and subject to advanced liquidity requirements; roughly all banks with more than \$100 billion in assets.¹⁰ Lastly, we include all the other banks in our sample.

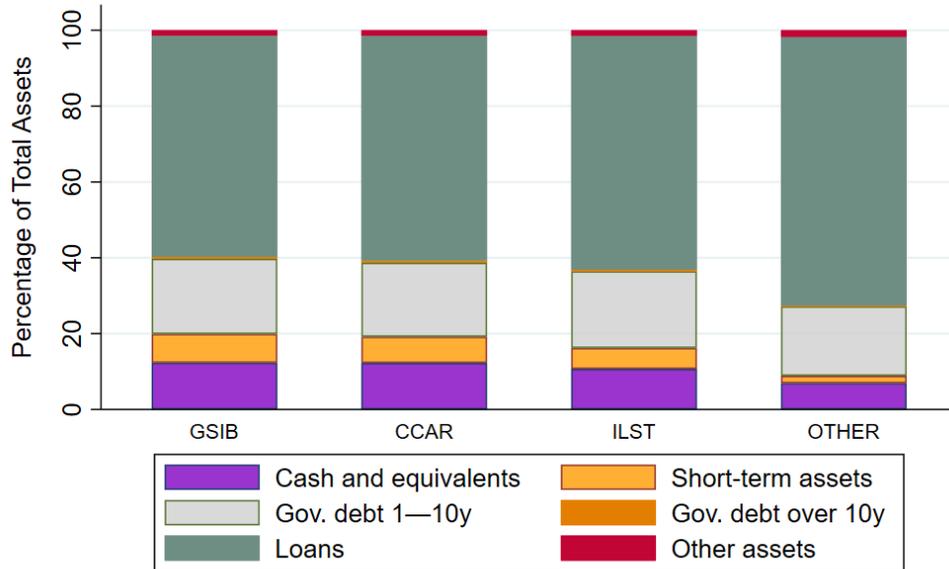
¹⁰ “ILST” banks are all banks in category I-IV under the Federal's Tailoring Rule Requirements for Domestic and Foreign Banking Organizations. <https://www.federalreserve.gov/aboutthefed/boardmeetings/files/tailoring-rule-visual-20191010.pdf>

Table 1: Ratio of Bank Requirements to Assets					
	Percentage				
Ratio to Assets	GSIBS	CCAR	ILST	OTHER	TOTAL
Actual Capital	10.5	10.7	10.9	11.8	11.2
Base Capital Requirement	8.1	8.2	8.5	9.6	9.0
Liquidity Add-On	1.6	1.7	2.0	3.5	2.8
Total Requirement	9.7	9.9	10.5	13.1	11.7

As shown in Table 1, each category of banks except “Other” has more capital than would be required by the F.R. 363. Largely because larger banks have a greater percentage of their portfolios in cash – primarily reserve balances – their capital requirements and the liquidity add-ons are lower than for other banks. Comparing banks currently subject to liquidity requirements to the remaining banks (Column ILST vs. Column OTHER above), their capital requirement is 1.1 percentage points lower, and their liquidity add on – the fire-sale losses from liquefying illiquid assets – is about half the size. The latter result suggests liquidity regulations and examinations are accomplishing their objective of ensuring that banks have sufficient liquidity to cover projected net funding outflows under stress.

Table 2 provides additional details on the balance sheets of the ILST banks and the other banks. As can be seen, the two sets of banks each have liability outflows equal to about one-third of assets. However, the ILST banks have a higher percentage of their balance sheet invested in cash, reverse repos, and Treasury securities and a smaller percent invested in loans. As a result, the ILST banks are able to satisfy their liquidity needs to a greater extent using liquid assets and therefore, when applying the logic behind the F.R. 363 form described in this note, have a markedly lower assumed markdown from raising funds using illiquid assets.

Exhibit 1: Differences in Bank Asset Distribution That Determine Pass-Rate



Note: Government debt includes treasuries, municipal debt, and GSE debt.

Exhibit 2: Asset Composition That Drives Changes in Capital and Liquidity Requirements

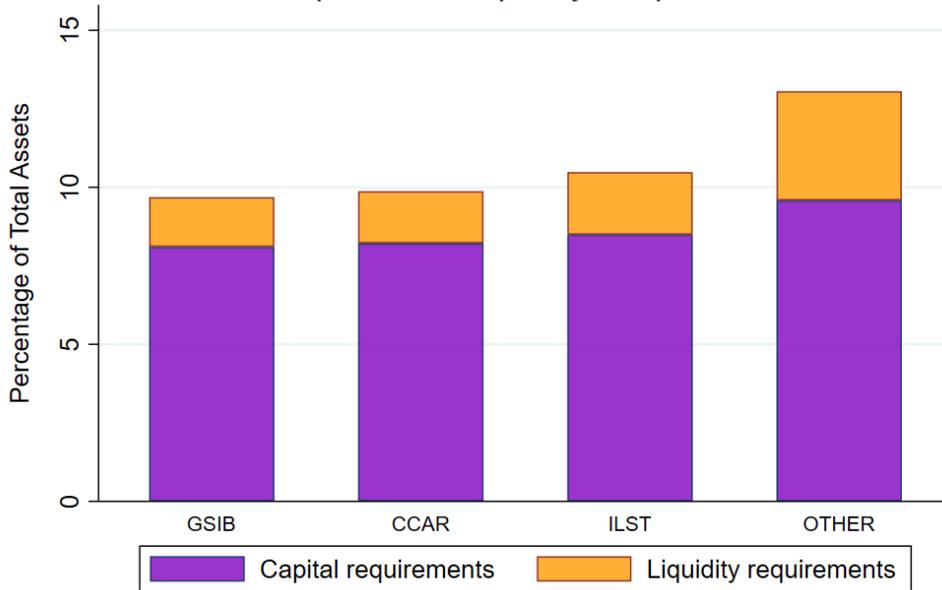


Table 2: Additional Information on Banks Subject to Liquidity Requirements and Other Banks

Category	ILST		OTHER	
	\$ Billions	Percent of Assets	\$ Billions	Percent of Assets
Reserve balances and bank deposits	1,325.87	10.4	755.92	6.5
Federal funds sold, and securities purchased under agreements to resell	514.12	4.0	120.55	1.0
T-bills	192.72	1.5	104.09	0.9
Treasury 1–5 Years	303.64	2.4	144.72	1.3
Half of other investment grade securities such as commercial-MBS, private ABS, other structured financial products and corporate debt.	291.51	2.3	181.57	1.6
Short-term Municipal Loans	260.61	2.0	352.93	3.1
Treasury 5–10 Years	151.33	1.2	109.53	0.9
Treasury Over 10 Years	56.25	0.4	23.54	0.2
Agency MBS	1,584.19	12.4	1,329.64	11.5
Loans and Securities Not Listed Elsewhere	7,891.87	61.7	8,200.02	70.9
Other Real Estate	114.22	0.9	135.78	1.2
Stocks and Defaulted Securities	73.02	0.6	65.88	0.6
Other Assets (Accrued Interest Receivable and Prepaid Expenses)	40.70	0.3	45.66	0.4
Allowance for Trust Department	28.53	0.2	16.79	0.1
Actual Capital	1,401.37	10.9	1,363.27	11.8
Liquidity Outflow	4,922.59	38.5	4,273.61	36.9

Conclusion

The combined capital and liquidity assessment defined by F.R. 363 is worth investigating further as an approach for conducting a similar joint assessment of banks today. The logic is sensible: “How much capital would a bank need to withstand a shock that included a significant loss of funding and attendant losses from forced sales of assets?” Some elements of the form reflect a different but reasonable view of risk—longer-term Treasury securities really are riskier than shorter-term Treasury securities, for example. Some aspects are hard to understand: what kind of shock would cause a bank to lose half of its retail deposits? Some aspects are just out of date; securities are now much more liquid than 70 years ago.

Even so, the assessment finds that in aggregate, larger banks today have approximately the right amount of capital under the particular stress scenario defined in the 1956 F.R. 363 while smaller banks do not fare as well. The difference is driven by the high amount of cash assets held by larger banks which are subject to current liquidity requirements.

This approach could be incorporated into bank stress tests. In addition to assessing the losses from a sharp recession, banks could also estimate the losses resulting from a significant loss of funding. To prevent the change from being an unintended tightening of capital requirements, the macroeconomic shock could be reduced. The information gathered about tested banks’ funding plans would not only foster a more nuanced measurement of each bank’s resilience, but it would also allow the Fed to measure the extent to which banks are all planning to tap the same funding sources under stress.

Jose Maria U. Tapia provided research assistance.

NOTES:

A thorough appraisal of the capital needs of a particular bank must take due account of all relevant factors affecting the bank. These include the characteristics of its assets, its liabilities, its trust or other corporate responsibilities, and its management—as well as the history and prospects of the bank, its customers and its community. The complexity of the problem requires a considerable exercise of judgment. The groupings and percentages suggested in the Form for Analyzing Bank Capital can necessarily be no more than aids to the exercise of judgment.

The requirements indicated by the various items on the form are essentially “norms” and can provide no more than an initial presumption as to the actual capital required by a particular bank. These “norms” are entitled to considerable weight, but various upward or downward adjustments in requirements may be appropriate for a particular bank if special or unusual circumstances are in fact present in the specific situation. Such adjustments could be made individually as the requirements are entered for each group of assets; but it usually is preferable, particularly for future reference, to combine them and enter them as a single adjustment under Item 8, indicating on the Analysis Form or an attached page the specific basis for each adjustment.

The requirements suggested in the Analysis Form assume that the bank has adequate safeguards and insurance coverage against fire, defalcation, burglary, etc. Lack of such safeguards or coverage would place upon the bank's capital risks which it should not be called upon to bear.

ITEM (4)—PORTFOLIO ASSETS

Concentration or Diversification.—The extra requirement of 15% of the first \$100,000 of portfolio, 10% of the next \$100,000, and 5% of the next \$300,000, as specified in Item 4, is a rough approximation of the concentration of risk (lack of diversification) which is likely in a smaller portfolio, and which is usually reflected in the somewhat larger proportion of capital shown by most banks with smaller portfolios. This requirement is applied to all banks, but is naturally a larger portion of the total capital requirements of banks with smaller portfolios. However, a particular portfolio, whatever its size, may in fact have either more or less concentration of risk than other portfolios of similar size. If there is in fact substantially greater or lesser concentration of risk in the portfolio assets of the particular bank—as for example dependence upon a smaller or larger number of economic activities—it would be appropriate to increase or decrease requirements correspondingly.

Drafts Accepted by Bank.—When drafts have been accepted by the bank, ordinarily the customers' liability to the bank should be treated as Portfolio Assets if the acceptances are outstanding, or the acceptances themselves should be so treated if held by the bank.

ITEM (5)—FIXED, CLASSIFIED, AND OTHER ASSETS

Rental Properties.—Bank premises, furniture and fixtures, and other real estate are assigned a 100% requirement as a first approximation, since these assets usually are not available to pay depositors unless the bank goes into liquidation, and even then they usually can be turned into cash only at substantial sacrifice. However, some properties which bring in independent income, such as bank premises largely rented to others, may be more readily convertible into cash by selling or borrowing on them, and in such situations it may be appropriate to reduce the 100% requirement by an amount equal to an assumed “sacrifice” value, such as, say, two or three times the gross annual independent income.

Stocks.—In the case of stocks, their wide fluctuations in price suggest a 100% requirement as a first approximation. However, in some cases it may be appropriate to reduce the 100% requirement against a stock by an amount equal to an assumed “sacrifice” value, such as the lowest market value reached by the stock in, say, the preceding 36 or 48 months.

Hidden Assets.—In some cases assets may be carried at book values which appear to be below their actual value, and may thus appear to provide hidden strength. However, any allowance for such a situation should be made with great caution, and only after taking full account of possible declines in values and the great difficulty of liquidating assets in distress circumstances.

ITEM (6)—ALLOWANCE FOR TRUST DEPARTMENT

Deposited Securities.—The requirement for the trust department should in no event be less than the amount of any securities deposited with the State authorities for the protection of private or court trusts, since such securities are not available in ordinary circumstances to protect the bank's depositors.

LIQUIDITY CALCULATION

Percentages of Deposits.—The provision for 47% liquidity for demand deposits of individuals, partnerships, and corporations actually represents 33½% possible shrinkage in deposits, plus 20% of the remaining 66½%. 36% of time deposits i.p.c. represents 20% shrinkage, plus 20% of the remaining 80%. In both instances, the provision for 20% liquidity for remaining deposits is to help the bank continue as a going concern even after suffering substantial deposit shrinkage.

Among possible special factors to be considered in connection with the liquidity calculation would be concentration or diversification of risk among deposits. This might be due to such things as dependence upon a smaller or larger number of economic activities, or preponderance of large or small deposits—large deposits usually being more volatile.

Liquidity Available from Assets.—Liquidity available from primary and secondary reserves is assumed to equal the amount of those assets less only the regular capital required thereon, since the regular capital specified for these assets assumes forced liquidation. However, the regular capital specified for other assets (i.e., those in Groups 2-4) is only a portion (approximately 40%) of that required for forced liquidation. Therefore, in determining the liquidity available from such other assets, the amount of such other assets must be reduced by more than the regular specified capital.

Extra Capital Required.—This extra capital is to cover possible losses in forced liquidation of assets other than primary and secondary reserves in case they had to be used to provide liquidity. The 4% indicated for Line E amounts to an automatic addition to the 6.5% that has already been applied to Line C, and results in a total extra requirement of 10.5% of the liquidity to be provided from Intermediate Assets. Similarly, the total extra requirement on the liquidity to be provided from Portfolio Assets is 20%. If the same amounts of extra capital were stated as percentages of the assets to be liquidated rather than of the liquidity to be provided, the percentages would be smaller, namely, 6% of Minimum Risk Assets, 9% of Intermediate Assets, and 15% of Portfolio Assets.

Appendix 2: Example of Filled-in F.R. 363 Form from Reappraisal of the Federal Reserve Discount Mechanism, Volume 3

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AMOUNT OUTSTANDING		CAPITAL REQUIREMENT		LIQUIDITY CALCULATION	
(Dollar Amounts in Thousands)					
		Per Cent	Amount		Amount
(1) PRIMARY AND SECONDARY RESERVE					
Cash Assets	\$ 532	0%		47% of Demand Deposits (p.c.)	\$ 364
Cont. Portion of CCC or V-items				30% of Time Deposits (p.c.)	1,427
Com. Paper, Disk Accept., & Bills* Line				100% of Deposits of Banks	921
U.S. Govt. Secs:		0.5%	1	100% of Other Deposits	
Bills	200			100% of Borrowings	
Certificates, etc. (to 1 yr.)				Allow. for spec. factors, if info. available (+ or -)	
Other (1-5 yrs.) (incl. Treas. Inv., Series A & B)	535			A. Total Provision for Liquidity	2,712
Other Secs. Inv. (Steps 1 & 2 or E items) (to 3 yrs.)	177	4.0%	28	B. Liquidity available from Prim. and Secondary Res. ("amt. outstanding" less cap. required thereon)	1,415
TOTAL	\$ 1,444		29		
(2) MINIMUM RISK ASSETS					
U.S. Govt. Secs. (5-10 yrs.)	235			C. Liquidity to be provided from assets in Groups 2, 3 or 4 (zero if B equals or exceeds A, otherwise A less B)	1,297
Inv. Portion FNA Regs. & Mod'n Loans				D. Liquidity available from Min. Risk Assets (50% of "amt. outstanding" in line 2)	288
Loans on Passb'ys, U.S. Secs. or CSV	85	4%	13	E. Liquidity to be provided from assets in Groups 2 or 4 (zero if D equals or exceeds C, otherwise C less D)	1,009
Life ins.				F. Liquidity available from Intermediate Assets (25% of "amt. outstanding" in line 3)	148
Short-term Municipal Loans	320	4%	13		
TOTAL	\$ 320		13	G. Liquidity to be provided from Portfolio Assets (zero if F equals or exceeds E, otherwise E less F)	861
(3) INTERMEDIATE ASSETS					
U.S. Govt. Secs. (Over 10 yrs.)	174	6%	10		
FNA and VA Loans	174				
TOTAL	\$ 174		10		
(4) PORTFOLIO ASSETS (Gross of Res.)					
Investments (not listed elsewhere)	612	10%*	431		
Loans (not listed elsewhere)	3,353				
TOTAL	\$ 3,965				
* Plus 15% of top \$100,000 of securities, 10% of next \$100,000 and 5% of next \$300,000.					
(5) FIXED, CLASSIFIED & OTHER ASSETS					
Bk Prem., Furn. & Fixt., Other Real Est.	64	100%	64	Extra Capital Received on Any Assets in Groups 2-4 Used for Liquidity	
Stocks & Defaulted Secs.				5.0% of line C	70
Assets Classified as "Loss"		50%	29	4.0% of line E	40
Assets Classified as "Doubtful"	59	20%	43	3.0% of line G	82
Assets Classified as "Substandard"	213	0%			
Accruals, Fed. Res. Bk. Stock, Prop. Liabns.	14			H. Total Extra Cap. Req.	\$ 206
TOTAL ASSETS	\$ 6,252				
(6) ALLOWANCE FOR TRUST DEPT. (Amt. equal to 30% of annual gross earnings of Department)					
(7) EXTRA CAP. REQ. IF ANY ASSETS IN GROUPS 2-4 USED FOR LIQUIDITY (zero if line C in Liquidity Calculation is zero, otherwise Total in line H)					
(8) ALLOW. FOR SPEC. OR ADJUT. FACTORS, IF INFO. AVAILABLE (+ or -)					
(9) TOTAL CAPITAL REQUIREMENT (1 thru 8)					
			\$ 825		
(10) ACTUAL CAP., ETC. (Sum of Cap. Stock, Surplus, Undiv. Profits, Res. for Conting., Loan Valuation Res., Net unapplied Sec. Valuation Res., Unallocated Charge-offs, and any comparable items) (Exclude Depreciation and Amortization Reserves)					
			\$ 674		
(11) AMOUNT BY WHICH ACTUAL IS:					
MORE than requirement (10 minus 9)					
or					
LESS than requirement (9 minus 10)					
			\$ 221		
(12) RATIO OF ACTUAL CAPITAL, ETC. TO REQUIREMENT (10 divided by 9)					
			73	%	

NATIONAL BANK'S LIQUIDITY FORMULA**SAMPLE BANK**

In thousands of dollars unless otherwise indicated

Cash and due from banks.....	532
Market value, unpledged bonds.....	1,396
Market value, excess pledged bonds.....	0
Federal funds sold.....	0
Subtotal.....	1,928
<i>Less:</i> Borrowings.....	(0)
Federal funds purchased.....	(0)
Required reserves.....	(319)
Net liquid assets.....	1,609
Total deposits.....	5,658
<i>Less:</i> Secured deposits.....	360
Net deposits.....	5,298
(Net liquid assets)/(net deposits) (per cent).....	30.3

Appendix 3: Mapping from 1956 F.R. 363 to 2019Q4 Call Report Items

Original Category	Description of Current Items	Call Report Item (2019Q4)
Cash assets.	Noninterest and interest-bearing balances and currency and coin.	RCFD0081+RCFD0071
Guar portion CCC or V-loans.	Outstanding PPP loans.	RCONLG27
Comm. Paper, Bnk Accept & Brks' Lns.	Federal funds sold, and securities purchased under agreements to resell.	RCONB987+RCFDB989
Tbill.	U.S. government and government agency issued securities, excluding MBS, with maturities less than 1 year as inferred by the maturity distribution of the bank's total debt securities.	(RCFD0211+RCFDHT50+RCFD1287+RCFDHT53+RCFD3531+RCFD3532)* ((RCFDA549 + RCFDA550)/ RCFDA549 + RCFDA550 + RCFDA551 + RCFDA552 + RCFDA553 + RCFDA554)
Certificates, etc. (to 1yr)	Covered under Tbill above.	N/A
Other (1-5 yrs) (Incl. Treas. Inv. Series A & B).	U.S. government and government agency issued securities, excluding MBS, with maturities between 1 and 5 years as inferred by the maturity distribution of the bank's total debt securities.	(RCFD0211+RCFDHT50+RCFD1287+RCFDHT53+RCFD3531+RCFD3532)* ((RCFDA551 + RCFDA552)/ RCFDA549 + RCFDA550 + RCFDA551 + RCFDA552 + RCFDA553 + RCFDA554)
Other Secs. Inv.Rtns 1 & 2 or Equiv. (to 3 yrs).	Half of other investment grade securities such as commercial-MBS, private ABS, other structured financial products and corporate debt.	0.5*(RCFDK142+RCFDK146+RCFDK145+RCFDK149+RCFDK154+RCFDK157+RCFDC026+RCFDHT58+RCFDC027+RCFDHT61+RCFD1737+RCFD1742+RCFD1741+RCFD1746)

US Govt Secs (5-10 yrs)	U.S. government and government agency issued securities, excluding MBS, with maturities between 5 and 10 years as inferred by the maturity distribution of the bank's total debt securities.	(RCFD0211+RCFDHT50+RCFD1287+RCFDHT53+RCFD3531+RCFD3532)* (RCFDA553/ RCFDA549 + RCFDA550 + RCFDA551 + RCFDA552 + RCFDA553 + RCFDA554)
Ins portion FHA rep n& Modr'n Loans	Agency MBS securities, guaranteed by GNMA, or issued by FNMA and FHLMC or issued/collateralized by U.S. Government agencies or sponsored agencies.	RCFDG300+RCFDG304+RCFDG312+RCFDG316+RCFDK142+RCFDG303+RCFDG307+RCFDG315+RCFDG319+RCFDK145
Loans on Pssb'ks, U.S. sec, or CSV Life Ins	N/A.	N/A
Short-term muni loans	Short-term municipal loans and obligations issued by states, political subdivisions in U.S.	RCFD8496+RCFD8499+RCFD2107
US Govt Secs (Over 10 yrs)	U.S. government and government agency issued securities, excluding MBS, with maturities over 10 years as inferred by the maturity distribution of the bank's total debt securities.	(RCFD0211+RCFDHT50+RCFD1287+RCFDHT53+RCFD3531+RCFD3532) * (RCFDA554/ RCFDA549 + RCFDA550 + RCFDA551 + RCFDA552 + RCFDA553 + RCFDA554)
FHA and VA loans	FHA and VA loans.	Included in agency MBS securities above.
Investment and Loans (not listed elsewhere)	All assets not listed elsewhere.	RCFD2170 – all assets defined above.
BK Premises, furn&fixt., other real estate	Other real estate related loans.	RCFD2145+RCFD2150
Stocks and defaulted securities	Equity investments without readily determinable fair values.	RCFD1752+RCON1752
Assets classified as "loss"	Assets classified as "loss".	N/A. Please refer to text.

Assets classified as "doubtful"	Assets classified as "doubtful".	N/A. Please refer to text.
Assets classified as "substandard"	Assets classified as "substandard".	N/A. Please refer to text.
Accruals, Fed Res BK. Stock, Prep. Exp	Accrued interest receivable and prepaid expenses.	RCFDB556+RCFD2166
Allowance for trust department	Total gross fiduciary and related services income times 3.	RIAD4070*3
47% demand deposits of IPC	47% of demand deposits of individuals, partnerships, and corporations (IPC).	(RCONB549+RCFNB553)*.47
36% of time deposits of IPC	36% of time deposits of individuals, partnerships, and corporations (IPC).	RCONB550*.36
100% deposits of banks	Total transaction accounts, deposits of commercial banks and other depository institutions in U.S., in foreign countries, including total non-transaction accounts, U.S. banks and other U.S. depository institutions, and foreign banks.	RCONB551+RCON2213+RCONB552+RCON2236+RCFNB554+RCFN2625
100% other deposits	Total deposits less demand deposits, time deposits, and deposits of banks as defined above.	RCON2200 + RCFN2200 - (RCONB549 + RCFNB553) - (RCONB550) (RCONB551 + RCON2213 + RCONB552 + RCON2236+RCFNB554+RCFN2625)
100% of borrowings	Federal funds purchased, and securities sold under agreements to repurchase, and total trading liabilities, other borrowed money advances/other borrowings with a remaining maturity of 1 year or less.	RCONB993+RCFDB995+RCFD3548+RCFD2651+RCFDB571
Actual capital	Total Equity capital in schedule RC.	RCFDG105