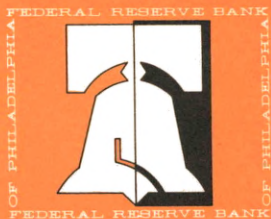


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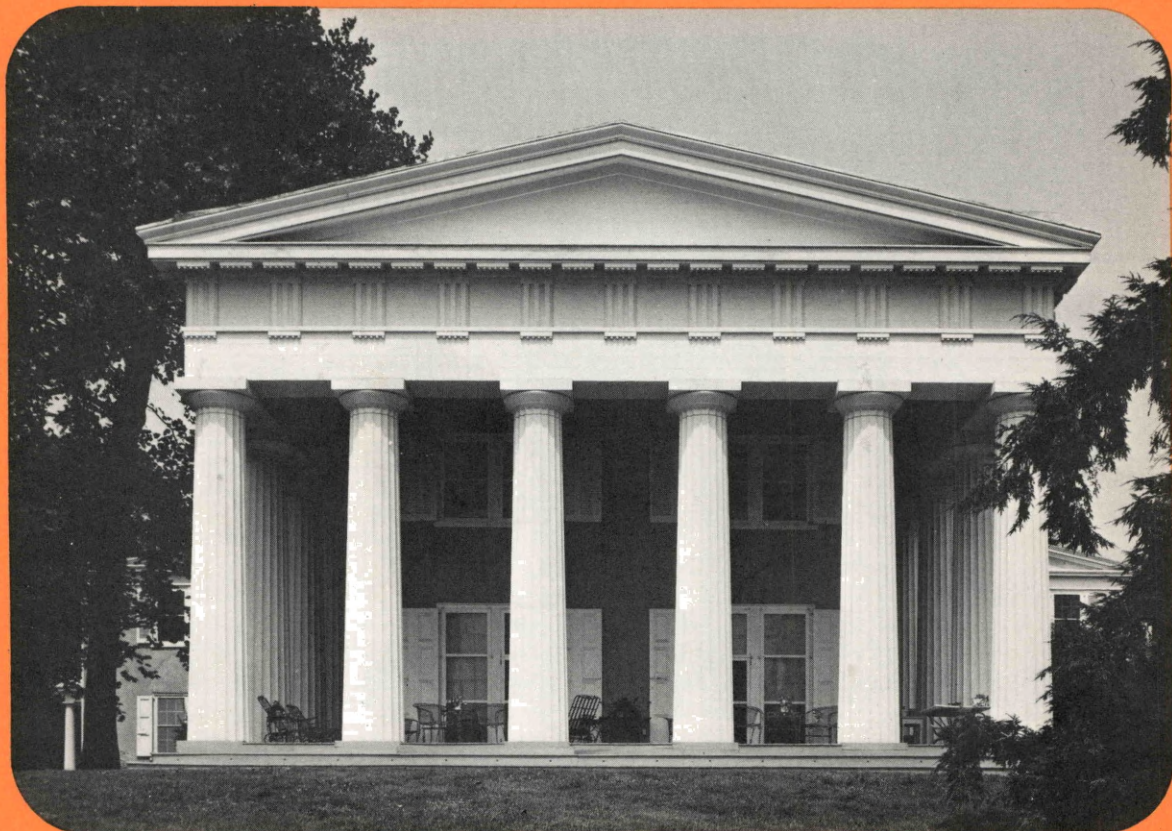
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A Need for Reconsideration

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business review



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On our cover: Andalusia, one of America's most famous Greek revival mansions, is located on the banks of the Delaware River, just northeast of Philadelphia off US 13. The older part of the present structure was built in 1795 and the stately portico was added in 1834. It was the home of Nicholas Biddle, president of the Second Bank of the United States (1822–36), and has remained in the Biddle family since. Although privately owned and presently occupied, Andalusia is open for tours by appointment during the summer. (Photograph for Historic American Buildings Survey by Jack E. Boucher and courtesy of the National Trust for Historic Preservation, Washington, D.C.)

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Insuring Some Progress in the Bank Capital Hassle

By Ronald D. Watson

What do bank managers want less of, bank regulators want more of, and ordinary depositors seldom care a wit about? The size of a bank's capital account (see Box 1). The generalization is too broad, but it captures the flavor of a problem that has long been a bone of contention between bankers and regulators.

Aggressive bankers have repeatedly tried to extend the frontiers of "prudent management policy" by operating their banks with less and less capital—often in defiance of regulatory guidelines (see Box 2). Supervisory authorities—on guard against bank failures—continue to resist this decline of capital.

While corporations with large uninsured deposits may be concerned about bank capital, most small depositors are oblivious to the whole issue. To them the safety of their money depends, not on the size of that bank's capital account, but on the FDIC membership sticker displayed in the

bank's front window. Who cares how much capital the Ninth National Bank has as long as its deposits are insured?

Clearly, the bankers and supervisors care a lot—both have something at stake. But the general public *should also care*, because it has something equally important at stake. Capital is a scarce resource, and society's best interests dictate that it be used efficiently. If banks are forced to use more capital than the market requires, their operating costs and, therefore, prices may be higher than necessary. However, bank failures resulting from inadequate capital can impose costs on the bank's depositors, investors, and the whole society. In the long run everyone's interests are best served (and capital may be used most productively) when each bank holds the amount of capital which just balances the social costs of its failure with the losses which result from carrying more capital than the market requires.

BOX 1

WHAT CONSTITUTES BANK CAPITAL?

It's axiomatic in corporate finance that a company must have *some* capital to remain in business over any extended period. In this respect, banks are no different from other corporations. A bank must have a minimal amount of capital as a legal prerequisite to receiving its charter. Furthermore, capital protects the bank's solvency by absorbing losses which occur in the normal course of business. The key *capital* questions are "how much?" and "what kind?"

The basic building block in a bank's capital account is *common stock*—money invested by the bank's shareholders in the hope of making a profit. All banks employ some of this permanent source of funding. In fact, they need minimal amounts of common stock before regulators will grant them a charter to begin operation as a commercial bank.

A second source of equity funds is *preferred stock*, although this is becoming less and less common for banks. In addition, any bank that has been profitable has probably augmented its capital account with some *retained earnings*. The high cost of issuing new common stock often makes retention of earnings the least expensive and most practical way for a bank to increase its capital account.

Less obvious sources of capital are the *reserves* normally set aside for losses on securities investments and on bad loans. These two reserve accounts may not appear explicitly as capital on the bank's balance sheet, but they can be treated as capital. In the absence of special reserve accounts, a bank's capital accounts would serve the same function of absorbing operating losses.

The final source of capital to a bank is intermediate- and long-term *debt* (usually subordinated to the claims of other creditors and sometimes convertible into common stock). Adoption of this form of financing is a relatively recent phenomenon and is generally available only to larger banks (although some small banks have been successful in selling debt to the general public or to their major correspondents). However, debt has characteristics that make it riskier than equity, so there are important public policy questions concerning the appropriateness of treating debt capital as a substitute for equity capital.

Setting the "proper" amount of capital for commercial banks entails weighing the costs and benefits to all parties involved. Regulators and bankers each offer a solution to the "adequacy" problem. Unfortunately, there is little common ground, because each sees his *own* objectives as being of primary importance. However, since a basic reason for enforcing capital adequacy standards is to protect the nation's deposit insurance reserves, compromise may be possible. If the Federal Deposit Insurance Corporation (FDIC) were to levy deposit insurance premiums according to the risk associated with each institution, bank managers could be given the freedom

to reduce their capital as long as they were willing to pay the cost of insuring this higher risk. In effect, it may be possible to substitute deposit insurance for some of a bank's capital without harming the interests of society.

THE SEED OF THE CONTROVERSY

Regulators and bank managers may differ widely on the issue of capital adequacy, but both embrace the same basic objectives for the commercial banking system. *Both* want banks to be safe, to serve the interests of the general public and the economy, and to be profitable. They differ on capital adequacy questions—and may

BOX 2

A MINIHISTORY OF BANK CAPITAL

For well over a century this country's bankers have been steadily reducing the proportion of capital they use in operating commercial banks. In the early 1800s banks relied heavily on long-term capital for the money used in lending and investing activities. A bank raising more than half of its funds from capital sources was not at all unusual.

However, permanent capital is usually a more expensive source of money than deposits or other short-term borrowed funds. It stood to reason that a bank could increase its profits if deposits could be increased relative to capital funds—subject, of course, to preserving the safety and stability of the bank's operations.

Over the years, then, competition and desire for greater profits have led bankers to whittle away at their capital accounts—not by reducing the size of the capital account, but by failing to augment it at the same rate that the bank's assets were expanding. As a result, very few banks in operation today count on capital to provide more than 10 percent of their funds. For some the proportion is even below 5 percent.

While today's banks may be much better managed than those of 40 to 50 years ago, the basic reason that banks have been able to reduce their reliance on capital as a source of working funds is the increasing stability of the commercial banking industry. Creation of the national banking system and the Federal Reserve System made banking a more sound industry. The Federal Deposit Insurance Corporation was also instrumental in stabilizing the industry. This insurance increased the public's confidence in banks and made deposits a less volatile source of funds to the banks. If bankers can count on their deposits to provide a large and stable proportion of their operating funds, they can reduce their reliance on the more expensive alternative source—capital. Continuing expansion and the stability of the economy since the Depression have enabled bankers to reduce their capital accounts to very low levels relative to their asset holdings.

Expansion into new bank-related activities through the holding company organization has injected another element of uncertainty into the banking business. The Federal Reserve Board has recently been applying pressure to the most aggressive banks and their holding companies to increase their capitalization. No one is positive that capital positions have been reduced to their absolute minimum working levels, but Federal Reserve authorities are unwilling to take additional risks in this area.

always differ—because each attaches different priorities to accomplishing these objectives.

The Regulator's Priorities. There are many reasons for regulating banks, but the most important one is protecting the public's best interests. In broad terms, this means trying to assure that the banking community uses its resources efficiently and that the social costs associated with banking are borne as equitably as possible. On

the one hand, bank regulators want banks to compete, because competition will stimulate the industry to be as efficient as possible. On the other hand, bank failures can have a very high cost for society, and regulators must try to prevent the costs of bank failures from exceeding any benefits that might be gained from competition.

On an operating level, the bank supervisor doesn't *always* prefer more capital to less. He

knows that excessive amounts of capital can prevent a bank from earning the return necessary to stay in business and attract new capital for growth. However, while his charge is to protect the public interest, this broad objective tends to be translated into the more easily measured (and less appropriate) goal of trying to prevent banks from failing. A banking industry with very few failures inspires public confidence.

It also gives the appearance that the regulator has done his job well. His performance is not measured by his ability to hold the combined costs of regulation and bank failures to a minimum. Instead, he is judged by the number and size of the banks that fold.¹ Regulators suffer a high personal cost when a bank's capital turns out to be *inadequate*, but none when it's too high.²

The Banker's Priorities. The bank manager finds himself in the opposite position. His goal is sizable profits for the bank's stockholders. His salary and promotions depend on making profits—not simply on avoiding bankruptcy. Naturally, success in the long run requires that the banker protect the interests of depositors and shareholders by maintaining the bank's solvency. He must also safeguard its solvency to protect his own reputation, future job prospects, stock options, and pension. However, solvency is a constraint on the manager's decisions rather than a primary objective.

A rational banker will want additional capital if his current capital base is insufficient. A bank wanting to add new services, open additional offices, or move into new markets may need more capital before tackling these activities. All

are risky and would require capital and extensive management attention. Even a management that is strongly profit-oriented may judge the added risks to be too great for existing capital to support and would then have an incentive to get more capital. However, adding more capital is designed to achieve that combination of risks and profits that management feels is *ideal* for the bank rather than simply to avoid risks.

What Is an Unusual Loss? A crucial difference in the way regulators and bankers treat capital is the magnitude of the losses each expects it to absorb. Both presume that the capital account should be sufficient to cover any and all of the common losses that banks face. Operating expenses may be unexpectedly high, bonds may have to be liquidated to meet deposit withdrawals or to adjust the maturity structure of the portfolio, and some loans will certainly sour. That's the nature of the business. However, with few exceptions these losses should be small enough that they can be covered out of current earnings. A profitable operation is clearly the bank's first line of defense against occasional losses.³

It's the question of covering *unusual* losses that brings out differences of opinion. Aggressive bankers believe that they should be responsible for handling any losses resulting from an economic recession or from a mild natural disaster but should not be prepared for another depression or the losses resulting from a collapse of financial markets. They argue that the Federal Government is officially committed to programs of economic stabilization. What's more, the economy has been able to stay on a "reasonably" steady course since the 1940s. In light of this experience, it may be wasteful to plan the industry's liquidity and capital requirements around another depression.

Regulators don't really want capital adequate for another depression,⁴ but they clearly want

¹In the minds of some critics, the occurrence of a bank failure is presumed to be sufficient reason for closer regulatory control. Seldom is concern shown for balancing the costs of more supervision with the probable benefits it would yield.

²It isn't clear that supervisory authorities have been successful in their attempts to make banks employ more capital than the banks feel they need. (See Sam Peltzman, "Capital Investment in Commercial Banks and Its Relationship to Portfolio Regulation," *Journal of Political Economy*, 78 [1970]: 1–26.)

³In 1971, the worst year for loan losses that the industry has faced since World War II, the industry's ratio of net loan loss to after-tax earnings was just under 21 percent.

⁴Federal Deposit Insurance Corporation, *Annual Report—1957* (Washington: Federal Deposit Insurance Corporation, 1958), p. 49.

banks to be prepared for emergencies worse than anything experienced since the 1940s. The formulas used by bank supervisors (see Box 3) to define capital adequacy are based, in some sense, on a pessimistic psychology. In effect, they assume that the bank is sold to pay the depositor's claims with all expected losses from asset liquidation made up from capital. If liquidation were the standard way to handle an insolvency problem, this would be reasonable, but many banks—especially larger ones—that encounter problems are merged into other institutions.⁵ In that case, the conservative valuation placed on bank buildings and certain loan categories may undervalue the assets and thereby overstate real capital needs—or so say the bankers.

THE “PROPER” APPROACH TO CAPITAL EVALUATION

Differences over the actual *amount* of capital a bank should have are the chief disagreements that arise between aggressive bankers and strict regulators, but they are not the only ones. Bankers and supervisors also have rather opposite philosophies of *how* capital needs should be calculated.

The Regulator's Ratios. In general, supervisory authorities have shown a strong preference for ratio analysis in measuring a bank's capital position.⁶ Such affection is understandable. The objective numerical precision that ratio analysis offers is reassuring in an area fraught with uncertainties. Ratios also enable the analyst to compare a bank with others in the industry or with its own past record.

No regulator would suggest that ratio analysis

should be taken strictly at face value without the benefit of judgmental modification. But the fact that ratios are the foundation of the evaluation indicates that many regulators find them useful and more defensible than any alternative measure.

Underlying this reliance on ratios is the belief that, for all their faults, they're the most workable analytical tool available. There is a body of historical information available about bank capital ratios. The analysis that has been done of historical experience used ratio analysis. In short, examiners feel comfortable in their beliefs about what capital levels have been adequate historically. Regulators argue that they have been flexible in applying ratios, and that their perceptions of capital needs have changed in recent years. However, the regulator wants to minimize bank failures by sticking to “proven” methods of capital evaluation even though they may not be appropriate for fully evaluating “adequacy.”

The Manager's Market Method. While some regulators are wedded to ratio analysis, aggressive banks are equally committed to using the capital market's evaluation of their institution as the true measure of its soundness. Bankers hold that the investors who supply the bank with debt and equity capital are equipped to evaluate the risks inherent in their investment. Stockholders obviously want to avoid defaults and insolvency, but their interest in profits provides a balancing motive for economizing on capital. Bankers also claim that a stockholder is more likely to evaluate the bank as an ongoing organization and examine its ability to meet obligations through profits and liabilities management⁷ as well as through asset liquidation. Factors such as management quality, liquidity, and growth prospects also enter into an investor's determination of a bank's capital adequacy in much the

⁵Roughly half of the banks that have failed since 1945 were merged into other institutions. However, many banking problems are solved by the regulators prior to an *official* failure, by merging the weak bank or by finding new capital for the bank.

⁶The Comptroller of the Currency's examiners claim that they rely only incidentally on formulas and ratio analysis to evaluate bank capital adequacy.

⁷Liabilities management is a relatively new technique for bank liquidity managers. It involves meeting a need for cash by acquiring a new liability rather than by selling an asset. For instance, a large deposit withdrawal might be covered by selling new certificate of deposit liabilities rather than by liquidating an existing investment.

BOX 3

MEASURING CAPITAL ADEQUACY

Imagine trying to draw a precise blueprint with a stubby piece of charcoal. The tool just isn't up to the task. Much the same can be said about trying to "measure" the adequacy of a bank's capital account. Regulators have only the foggiest conceptual notion of what constitutes adequate capital. Finding numerical measures for capital adequacy just compounds the problem.

The commonest adequacy measures depend on analysis of financial ratios—primarily comparisons of accounts on the bank's balance sheet. The grossest of these tools are the ratios of capital to assets and capital to deposits. The capital-to-assets ratio implies that a bank's risks stem from its asset holdings. The greater the size of the capital account relative to total assets, the lower the chance that losses suffered on asset values will impair the bank's solvency or result in losses to depositors. Much the same information is gleaned from the capital-to-deposits ratio. The principal objective of this measure is to define the proportion of long-versus short-term funds being used by the bank. The more long-term funds employed, the lower the risk of losses to depositors.

Of necessity, a somewhat more sophisticated measure—a ratio comparing a bank's capital to its risky assets—was developed following World War II. During the war banks bought a large share of the newly created Government war debt without increasing their capital accounts proportionately. This change in the asset structure of banks caused many of them to "fail" the basic capital adequacy tests. The problem focused attention on the economic fact that the composition of a bank's assets could have as much to do with its risk as the size of its assets. Accordingly, the capital adequacy ratios were revised to fit the new industry structure. The new measure of capital adequacy was *capital-to-risk assets*, where risk assets were defined as total assets minus cash, bank balances, and U. S. Government securities.

Still other refinements were in order—one of the most elaborate being an adjusted risk asset method developed in the Federal Reserve System in the early 1950s. Bank assets were categorized according to their probable risk and assigned a hypothetical capital reserve depending on the amount of the asset held. The sum of these hypothetical reserves (with an additional adjustment for liquidity) set a standard for "adequate" capital in the bank being analyzed.*

Each succeeding refinement of the capital adequacy measures has added more surface realism to the analysis process. However, the implied precision of these refinements may lull users into assuming these tools have a higher level of accuracy than is really the case. Aware of the inherent fallibility of ratio measures and of the need for using seasoned judgment in evaluating capital adequacy, regulators try to temper their numerical analysis by considering other factors. In addition to an examination of a bank's capital position from its balance sheets, most supervisory authorities consider factors such as profitability, management quality, efficiency, fixed costs, and competitive environment. Ratios have an important place in this informal analysis, but bank regulators usually try not to be dependent on them for an "answer" to the question: "Is capital adequate?"

*This formula was revised in 1972.

same way that they influence a regulator's.

The attractiveness of a bank's stock (its profit potential and risk) determines the price that the institution must pay for new capital. Shareholders are more vulnerable to loss than any of the bank's creditors or depositors. If either the current or potential stockholders feel that the bank's capital position is weak (and the bank, therefore, is too risky), the stock's price will fall. A falling stock price is a powerful signal to management to change its policies, because that price affects the cost of new equity capital and the value of the current shareholder's investment. Managers that are not responsive to the best interests of the shareholders may not be around long enough to pick up their retirement checks. Investors in a bank's debt capital can convey the same signal to management. As the bank's riskiness increases, the bond market will increase the interest rate that must be paid for new debt capital. Rising debt costs will lower residual profits for the common stockholders, and management will get the message in a hurry.⁸

Bankers don't argue that the market is always perfect in its evaluation of risks, but they do champion it over the regulator's analysis. Investors require that a bank's capital be adequate to meet its commitments with very high probability. But that probability need not be 100 percent. Unlike the regulator, stockholders are willing to risk insolvency because in doing so the bank can conserve on capital and realize a higher return.

Each Has Shortcomings. Even with the alternative approaches so clearly drawn, choosing sides is difficult. While ratios are mathematically precise, easy to use, and apparently of some validity as a historically proven guide, they are theoretically inadequate.

Primary objections to ratio analysis stem from its unreliability as a method for detecting potential bank failures. The criticism is a bit unfair because there are no statistics available to show

the number of bank failures that were averted because regulators required additions to the capital of weak banks. However, statistical analysis has shown that capital ratios for banks that have failed are seldom materially different from those of banks that didn't fail. A crucial reason for this is that many banks failed because of fraud or bad management practices that aren't captured in the ratio comparisons. Two banks with apparently identical balance sheets can have very different insolvency risks, and, therefore, needs for capital.

Bank regulators include these incidental factors in deciding how vigorously to enforce the capital standards. Nonetheless, if judgmental factors become overwhelming considerations in the evaluation of capital, an elaborate ratio analysis scheme is rather pointless. Furthermore, regulators note that the market's stock analysts and securities rating agencies also use ratios in making their assessments of risk.

The *social costs* of bank failure represent the key reason why an unmodified "market discipline" rule is inadequate.⁹ A bank's failure has an obvious cost to its investors, but their loss is limited to their investment. However, society may also pay a cost. Apart from the many inconveniences suffered by a local community when a bank that serves it fails, banks are a vital cog in the nation's economy—as savings and safekeeping institutions, lenders, and payments system intermediaries. If a large bank should fail—or more important, a number of large banks—the event could disrupt the public's confidence in the soundness of the industry. In the extreme, a 1930s-style "run" on the banks could develop with accompanying liquidity crises, contractions of reserves, and severe strains on the resources of the FDIC.

This scenario is highly unlikely. The Government's economic stabilization policies, deposit

⁸Market discipline may be somewhat dulled if the regulatory agencies publicly guarantee the solvency and liquidity of banks that encounter difficulty.

⁹Many economists argue that there would be gains in the private sector's efficiency if more banks were allowed to fail, and these gains might outweigh the social costs of those failures. The difficulty, of course, is defining the limit where added efficiency becomes secondary to the uncertainty that increased failures create for all banks.

insurance programs, and the Federal Reserve's discount window are all designed to prevent it from happening. Refinement of bank management techniques also reduces the risk. But it is still a *possibility* if the industry takes on too much risk relative to its capital position. Multiple failures are a cost which regulators are currently unwilling to pay—the cause of capital efficiency notwithstanding. Finding a merger partner for a troubled \$10 million bank is one thing—for a \$10 billion bank quite another.¹⁰ Virtually any institution large enough to absorb such a big problem bank as a merger partner would be an illegal suitor for antitrust reasons.

If all the costs to *society* of multiple failures could be included in the market's valuation of bank capital, supervisory authorities might be willing to let the market work. Sketchy information about the riskiness of bank investments and thin markets for bank stocks would not be problems of sufficient seriousness to force abandonment of the market as "chief disciplinarian." But since the full cost of banks taking risks is not entirely shouldered by the investor, regulators feel they have an obligation to impose a greater constraint on bank operations than the market will. Too large a segment of society can be harmed by the mistakes of a relatively small number of over-aggressive banks for those banks to be free of any social responsibility for their policies.

A BETTER SOLUTION?

Though the conflict between aggressive banks and regulators (with each trying to keep his own costs to a minimum) is understandable, official policies on bank failure should be selected with an eye to bringing the greatest net benefit to the

¹⁰Investors seeking to reduce or limit total risk can diversify their stock and bond holdings among a number of industries, thus avoiding some of the risk that their bank investments are undercapitalized. Regulators don't have the same option. The FDIC is diversified in the sense that it insures a wide spectrum of banks, but it cannot diversify against the risk that the entire industry is undercapitalized. This is why bank deposits cannot be protected by a private insurance company.

whole society. Perhaps a solution to this conflict might be found in a compromise by both parties of their operating objectives.

Would society be better off with the private sector benefits of improved capital allocation and the social costs created by more bank failures or with fewer failures and some degree of overcapitalization? Many bankers opt for the first combination—regulators for the second. What is needed is a more objective basis for choosing the amount of risk a bank should take—a scheme which allows a banker to select any amount of capital he wishes as long as he pays the cost of protecting society against the risks his choice creates.¹¹

Accordingly, regulators and legislators might consider several modifications of the FDIC's insurance system. First, banks could be charged a fee for their deposit insurance which varies with the risk of the bank. Banks currently pay a flat rate which is the same no matter how safe the bank is. Second, all *demand deposits* at banks could be fully insured by the FDIC rather than leaving deposits of more than \$20,000 vulnerable to loss when a bank fails.

Using the Market. A central feature of this compromise approach to capital adequacy would be to make better use of markets to determine society's real preferences. Presently, only a portion of a bank's funds are sensitive to its risk. Stockholders and long-term creditors are very likely to demand a return which compensates them for their risks. However, only the largest and most sophisticated of the bank's depositors do, because the FDIC protects most deposit funds from loss. The cost of most of a bank's deposits does not respond to changes in its risk.

If the FDIC were to vary its insurance premium according to the risk of the bank rather than just the total amount of its deposits, the bank would have to pay an additional insurance fee for trying to reduce its long-term capital. An insurance rate

¹¹Several proposals are found in the literature. Suggestions from the work of Tussing, Jacobs, Mayer, Kreps and Wacht, and Robinson and Pettway (see Bibliography) are combined in this plan.

that increased as the relative amount of long-term capital decreased would place an implicit risk premium on deposits of a low-capital bank. Since, everything else being equal, the risk of the low-capital bank failing is higher than that of a better-capitalized bank, it is only appropriate that the price for insuring its deposits be higher.

The cost of FDIC insurance might also be adjusted to reflect the asset composition, liquidity, profitability, and management of the bank as well as its mix of liabilities. This would further refine the price paid by the bank for engaging in riskier activities. The objective would not be one of preventing banks from increasing their risks but of making sure that they pay the appropriate cost to society of assuming these risks.

The obvious objection is that the artificiality of the capital adequacy evaluation might not be improved. It might even be argued that setting an explicit insurance fee according to the result of the evaluation compounds the problem. However, the importance of developing a rational fee structure that is actuarially sound would give bankers and regulators an incentive to work together to build a solid system for distinguishing various grades of risk. Once this rate structure was established it would have the advantage of giving greater decision-making flexibility to the banker. It would make the costs of each decision more explicit. If he thinks the benefits of adopting a riskier capital structure will outweigh the cost of insuring society against the risk, he is free to make that choice (see Box 4).

The revised capital evaluation system would stress ranking the risk of each bank against a wide spectrum of possibilities. There would not be any "adequate versus inadequate" line—a subject of continual debate—but, instead, a choice between increasing the bank's risks (and insurance costs) or decreasing them. With a variety of risk classes and a similar spectrum of rates, bankers could make more rational cost/profit decisions. The cost of each of the bank's sources of funds would respond to management's policy decisions, thus bringing the discipline of the market into each decision *without* imposing capital constraints which are rigid and artificial on the banks and *without* forcing society to bear

additional *uncompensated* risk. More bank failures might occur under this plan, but higher insurance fees from the riskier banks should cover the costs of these failures. Furthermore, if the regulator's insurance-premium rating for each bank were made public, this additional information would aid the securities markets in setting costs for the bank's long-term funds.

The insurance-premium method for regulating risk would be superior to the bank supervisor's determination of "adequate" capital, because it focuses the regulator's objective more clearly on the broad goal of controlling the total cost imposed on society by the banking system rather than the present narrower objective of preventing bank failures. Setting capital adequacy standards is now tantamount to preventing any bank from exceeding a risk limitation. Variable insurance premiums put the regulator in the more appropriate position of a *risk manager* whose goal is to control the total risk and cost that society faces rather than to limit the management discretion of each bank.

The second element of this plan to rationalize the bank capital problem is 100-percent insurance on demand deposits. While this is a retreat from the market discipline advocated for a risk-based insurance fee, it is intended to serve society by making the entire banking system less vulnerable to financial panic. Depositor protection is an obvious but still secondary function of this plan. The prime objective is to reduce the likelihood and the social costs of a major crisis caused by multiple bank failures.

This proposal has always been rejected on the grounds that sophisticated depositors would not leave their funds in banks which had inadequate capital. A banker's interest in attracting such money would force him to maintain adequate capital. Yet, while these uninsured deposits do encourage management to respond to market pressures, these funds may be very unstable during a period of financial uncertainty. The failure of one *major* bank could generate immediate deposit outflows at institutions throughout the industry which are otherwise quite sound. Full demand deposit insurance would obviate the need for short-term depositors to set in motion

BOX 4

SETTING THE RATE

Setting a proper insurance premium is a crucial element of the proposal. Without trying to minimize the difficulty of the task, it should be possible to do this with *sufficient* precision. The regulatory authorities have access to an enormous store of banking data extending over several decades. Since the 1940s, America's banks have managed to cope with several recessions and a couple of severe credit crunches. Careful analysis with the statistical tools currently available should enable regulators to set insurance rates that would accurately reflect the change in risk that the insurance fund must absorb if a bank changes its capital policies. Past experience may be a poor indicator of future developments, but it does define the current capabilities of the Government's stabilization policies and the effect that volatile interest rates and several credit crunches have had on the liquidity and solvency of the banking system. Virtually any method developed would be more rational than charging a very conservative, liquid bank the same rate for insurance as that charged a rather risky institution.

The Rate Setters. Specifically, a politically independent panel of experts might be charged with the task of determining the appropriate rate structure for insuring society against the risks of alternative levels of bank capitalization. Bankers, regulators, statisticians, banking scholars, and actuaries should all be represented on such a panel. Judgment and reason should be combined with rigorous statistical and economic analysis to set these rates.* Further, the panel might be reconvened at five-year intervals (or sooner, should the regulator feel it necessary) to revise the rate structure in light of new developments in the economy and the banking industry and new research findings.

The Rates. It is unlikely that any "perfect" method could be found for setting the insurance fee schedule. However, with serious effort it should be possible to construct an internally consistent, rational set of rates that would be *at least as sound* as the present capital adequacy rules and, perhaps, much better because of the new flexibility given the banker.** At the outset

*The risk insurance fees should not be used as a tool for selective credit control.

**Given the same analytical resources and the correct objectives, regulators would be able to set capital adequacy standards just as rationally. However, improved goal specification and increased flexibility for all participants make this a better approach to the problem.

such chain reactions, thereby reducing the chance of this happening. The banking system's legal privilege of not paying time-deposit withdrawal requests as though they were demand deposits should provide the industry with sufficient flexibility to withstand any short-term financial crisis, if it is sound in all other respects.

Furthermore, the benefits of market discipline would still not be lost entirely. Not only would

the cost discipline of an insurance fee based on risk be substituted for analysis by uninsured depositors, but the bank would continue to have to satisfy the market's standards on any funds raised through nondeposit sources. Since these funds sources are of great importance (especially to the major banks), the market would still have a strong influence on the kinds of risks bankers take.

it might be desirable to set the insurance fees rather conservatively, assigning relatively high social costs to management policies which are radically different from current standards. As regulators and bankers learned to live with the new plan, any artificial conservatism could be gradually done away with, thus increasing flexibility and discretion under this system to the greatest extent possible.

The Insurance Fund. This does not mean that the FDIC's reserve fund must necessarily grow larger than it is now. No one knows exactly how large the fund must be to do its job, but its present size seems sufficient to satisfy the regulatory community.*** (In fact, for many years the FDIC has been rebating a portion of each year's official insurance premium to its member banks.) There is no reason for the fund to increase further (*vis-à-vis* insured bank deposits) unless the risk associated with protecting those deposits increases. Under the proposal offered here, banks that are less risky than average would pay a lower premium for insurance, and those that are more risky than average would pay more—an amount equivalent to the cost of protecting society against the higher risk of that bank's operations.

Uncle Sam's Role. The Federal Government should be ready to backstop the industry's insurance programs against the possibility of a depression, because it isn't practical for banks to pay the full cost of insurance or hold sufficient capital. The Government is committed to a program of stabilizing the economy—a commitment that bankers and regulators both agree precludes the need for capitalizing banks to withstand another depression. In the event of an economic disaster it would be in the nation's best interests to preserve the industry. Since the benefits of supporting the whole industry would fall not only to depositors but to everyone, the job of preserving the system rightly falls to the Government. When the public is the primary beneficiary, it should bear some of the costs.

In some sense, this kind of commitment has already been formally acknowledged. The Treasury stands ready to provide the FDIC with several billion dollars should that agency's insurance reserves ever be exhausted.

***The FDIC's insurance reserve fund presently has assets of over \$5 billion and has an additional \$3 billion of borrowing authority from the Treasury. Between 1933 and 1972 the corporation had suffered only \$74.4 million of net losses as a result of bank failures. (While losses are only a small portion of the reserve, it must be remembered that no major bank has failed since 1940, and the FDIC has been very successful in disposing of failed banks at very small losses. Furthermore, the potential losses faced by the corporation from the failure of the United States National Bank in San Diego are well above \$100 million.) Federal Deposit Insurance Corporation, *Annual Report—1972* (Washington: Federal Deposit Insurance Corporation, 1973), p. 28.

Protect the Depositors, But Not the Bankers. In conjunction with the variable insurance premium and higher deposit insurance, the FDIC and the other regulators should continue their policy of trying to minimize the cost and inconvenience suffered by depositors when a bank fails. A very common solution to date has been the speedy merger of a distressed bank with a stronger institution. Where state law or antitrust considerations preclude such a merger, the

strategy of finding new ownership and management has sometimes been explored.

This basic approach is laudable. One of the regulator's chief goals should be to prevent an isolated failure from jeopardizing the public's trust in all banks. Preservation of a distressed bank's ability to continue to serve its customers while it is being reorganized is vital to keeping that trust.

However, this protection should not be extended to either senior management, stockholders, or uninsured investors in the bank's debt. These persons either made the decisions that led to the losses that created the bank failure or invested in the bank with knowledge that there was some risk. Investors may not have been fully aware of the bank's policies, but taking those risks is part of the implicit contract they made when they invested. Before the market can impose any discipline on bank management's decisions to take additional risks, investors must be aware that they can and will lose their money if the risks prove too great. Regulators should be careful not to let their enthusiasm for saving a bank inadvertently cause them to shield former managers or investors from the adverse consequences of making bad decisions.

ADEQUACY AND EQUITY

One of the theoretical roles of bank capital is to protect the interests of shareholders while the bank is in operation and both creditors and uninsured depositors upon liquidation. However, the minimum capital requirements that bank examiners try to enforce aren't needed as protection for these investors. A bank's stockholders and creditors should rely on their own financial savvy and the free market for capital to assure themselves of a competitive return for investing

their money at risk. Furthermore, in the event of liquidation, capital adequacy requirements are only protection for some depositors since the bulk of the funds deposited by unsophisticated investors are insured by the FDIC.

Instead, a major function of the minimum capital rules is to limit the risk exposure of the FDIC and, thereby, the probable cost to the Government of "bailing out" the industry during a period of extreme financial stress. Since the regulator's objective should be to control costs incurred by the public sector rather than to maintain minimum capital standards as an end in themselves, there may be a way to dispense with these rules. If the regulators can charge a deposit insurance fee that varies with the riskiness of a bank's structure yet covers the expected additional social costs of management opting for that extra risk, society's interests can be protected within a freer banking environment. Furthermore, if deposit insurance protection could be extended to all demand deposits, the risk to society of a financial crisis might be reduced appreciably. Naturally, bankers and regulators would continue to argue over how risky each bank is. But the important change is the substitution of a pricing mechanism for the "adequacy versus inadequate" capital rules. This will provide greater flexibility for bankers willing to pay the full cost of stretching their capital.

APPENDIX

Capital's Role in Absorbing Losses

There's a common misconception that a bank's capital accounts constitute a pool of funds that are available for either investing in buildings and equipment or covering the bank's losses. Not even the "retained earnings" segment of the bank's capital account is available in the form of a cash reserve. The capital account found on a bank's Statement of Condition doesn't describe asset holdings at all. Instead, it defines the *amount* of long-term funds the bank has raised and *who* supplied those funds. It is listed as a liability of the bank.

For example, the Ninth National Bank (shown below) starts with a total of \$100 million invested in cash, bonds, loans, and its buildings. This money came from two basic sources—depositors and stockholders, although the stockholders' contribution is usually divided into several different accounts (common stock, surplus, reserves for loan and bond losses, and retained earnings).

NINTH NATIONAL BANK
Statement of Condition (\$000,000s)

ASSETS		LIABILITIES	
Cash	15	Deposits	90
Bonds	20	Capital	
Loans	60	Common Stock	5
Building	5	Surplus, Reserves, and Retained Earnings	5
TOTAL	100	TOTAL	100

Deposits are a short-term liability of the bank because requests by depositors to withdraw money must be met quickly. The capital account, however, represents a *permanent* source of funds to the business. If a stockholder wishes to liquidate his ownership position in the bank, he can only do so by selling his shares to someone else. Their transaction doesn't reduce the amount of capital available to the bank. Furthermore, depositors have a claim on the bank for a *fixed* number of dollars. This claim for payment takes priority over other parties who supplied funds to the bank. Shareholders have only a *residual* claim to earnings or assets after obligations to the depositors have been satisfied. They share the bank's profits if it is successful, but they must also absorb their share of the losses when it is not. A bank is *solvent* only as long as the value of its assets exceeds the fixed, legal claims for payment held by depositors and it's able to meet those demands for payment.

The Ninth National Bank must be prepared to face losses from several quarters, and it's the capital account that is used to absorb these losses. Tracing the impact on the bank of three kinds of losses (operating, emergency asset liquidation, and major loan defaults) may clarify the role capital plays.

An Operating Loss of \$1 Million. If operating expenses exceed operating revenues by \$1 million the bank may have a net outflow of that much cash. Since the bank's assets and liabilities must always be equal, and since the depositors' claims against the bank are fixed, the residual value of the stockholders' claims must be reduced by the amount of the loss. This is done by deducting the loss from the retained earnings account.

ASSETS		LIABILITIES	
Cash	14	Deposits	90
Bonds	20	Capital	
Loans	60	Common Stock	5
Buildings	5	Surplus, Reserves, and Retained Earnings	4
TOTAL	<u>99</u>	TOTAL	<u>99</u>

Thus, the loss is charged against capital, but the bank remains solvent since there has been no impairment of the depositors' claims against the bank.

Deposit Runoff of \$20 Million. If a bank's major corporate customer closes its local plant and lays off a number of workers the bank might lose a substantial share of its depositors in a relatively short time. Demands for deposit withdrawals must be met in cash, but the Ninth National has only \$15 million in cash and a good part of the cash is needed for a day-to-day transactions and reserves. At best perhaps \$5 million of the losses could be absorbed from reduced cash holdings. Profits from operations plus maturing bonds and loans might provide some extra cash. However, most of the other \$15 million must come from liquidating parts of the bond and loan accounts. If the bank is very lucky it may be able to raise the \$15 million by selling bonds and loans without serious loss—but that would be unusual. Often when banks must liquidate bonds and loan holdings under a severe time pressure, losses result. For example, if the losses amounted to \$1 million from selling \$10 million of bonds and another \$1 million from liquidating \$7 million of loans, a partial write-off of the capital account would be necessary. Charging the bond and loan losses first against the valuation reserves and then if necessary against retained earnings and surplus, the balance sheet becomes:

ASSETS		LIABILITIES	
Cash	10	Deposits	70
Bonds	10	Capital	
Loans	53	Common Stock	5
Building	5	Surplus, Reserves, and Retained Earnings	3
TOTAL	<u>78</u>	TOTAL	<u>78</u>

Loan Defaults of \$7 Million. If the bank were to experience very heavy loan losses (perhaps associated with a natural disaster in the bank's locale), the book value of its loans must be reduced. This loss would first be charged against the bank's reserve for loan losses. When that account has been exhausted the remaining losses are charged against retained earnings and then surplus. In the case of a \$7 million of losses, \$2 million would remain after all of the surplus, reserves and retained earnings accounts had been written down to zero. The remaining loss is then charged against the common stock account.

ASSETS		LIABILITIES	
Cash	15	Deposits	90
Bonds	20	Capital	
Loans	53	Common Stock	3
Building	5	Surplus, Reserves and Retained Earnings	<u>0</u>
TOTAL	<u><u>93</u></u>	TOTAL	<u><u>93</u></u>

However, any significant impairment of the common stock account of the bank will cause supervisory authorities to consider liquidation or reorganization of the bank. In this example, the bank's capital has been sufficient to insulate depositors from losses, but had the bank's losses exceeded \$10 million, the depositors' funds would have been jeopardized to the extent that they were not protected by the FDIC.

Capital, then, serves the dual purpose of protecting both depositors and society in general against major losses while providing the bank's stockholders with a cushion that insulates their investment from the shock of lesser losses.

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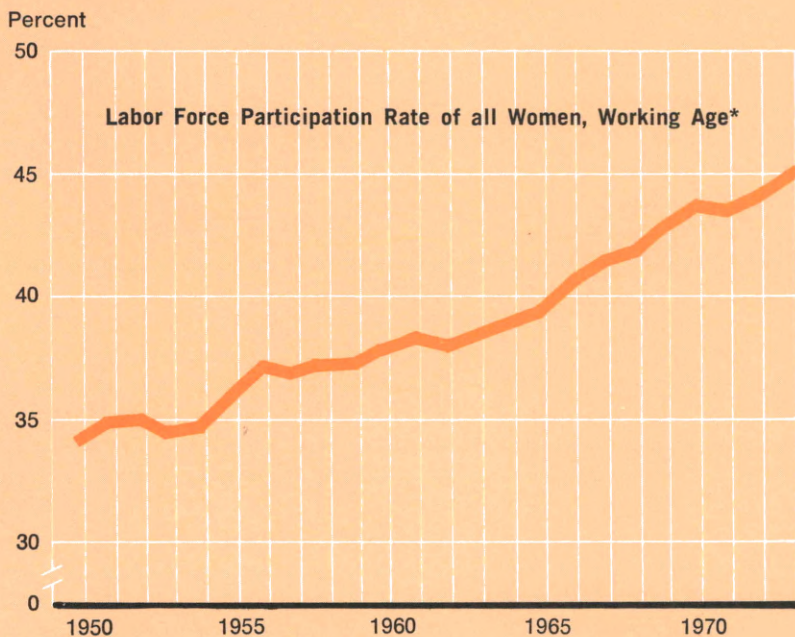
The Earnings Picture For Women: Slack Job Markets Behind the Downward Trend

Trend

By Vincent A. Gennaro

CHART 1

WOMEN'S PARTICIPATION IN THE LABOR MARKET HAS INCREASED CONSIDERABLY DURING THE PAST 25 YEARS . . .

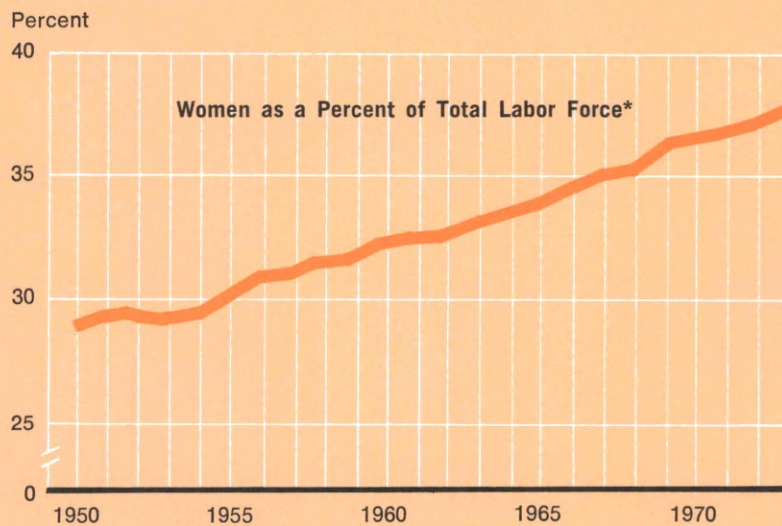


* Refers to all women in the labor force as a percent of the total noninstitutional population of all women 16 years and over. Percentages are annual averages.

Source: U. S. Department of Labor, Bureau of Labor Statistics.

CHART 2

AND THE PROPORTION OF WOMEN IN THE TOTAL LABOR FORCE HAS RISEN DRAMATICALLY

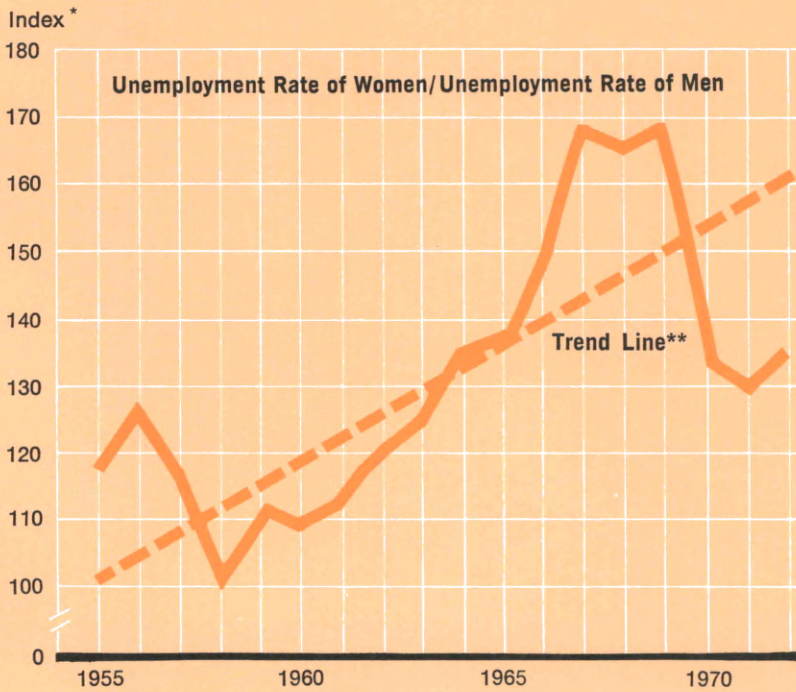


* Includes both employed and unemployed.

Source: U. S. Department of Labor, Bureau of Labor Statistics.

CHART 3

BUT THE WOMEN HAVE GENERALLY FOUND IT INCREASINGLY MORE DIFFICULT THAN MEN TO FIND WORK, . . .



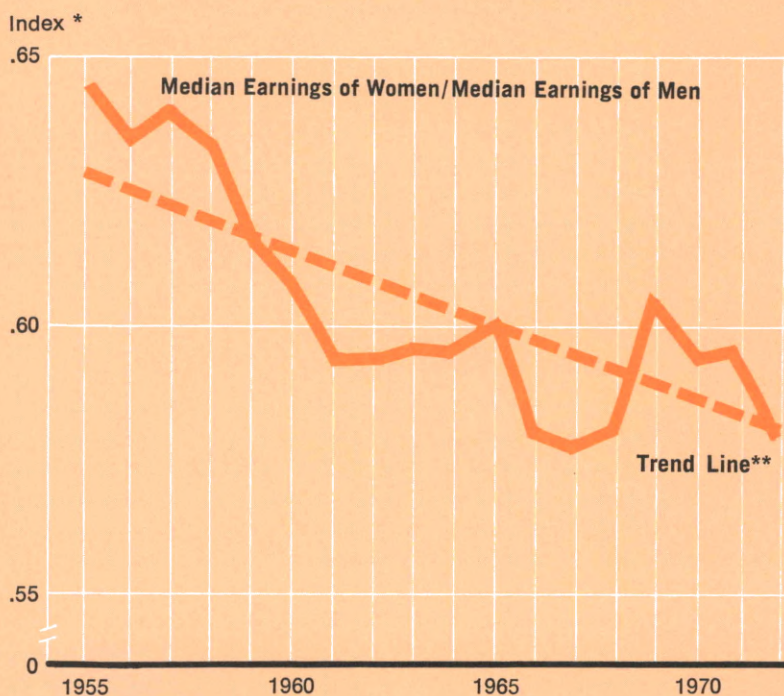
* (Unemployment Rate of Women/Unemployment Rate of Men) x 100. 16 years old and over.

** Trend line calculated by method of semi-averages.

Source: U. S. Department of Labor, Bureau of Labor Statistics.

CHART 4

WHICH HAS CONTRIBUTED TO THE DOWNWARD TREND IN THE MEDIAN EARNINGS OF WOMEN RELATIVE TO MEN



* Median Earnings of Women/Median Earnings of Men. Full-time workers include those who were employed 50 weeks or more in a year.

** Trend line calculated by method of semi-averages.

Source: U. S. Department of Commerce, Current Population Survey, Series P-60.

Federal Regulation Of Stock Market Credit: A Need for Reconsideration

By James M. O'Brien

Financing the purchase of an asset by borrowing is as American as apple pie. Most of the time the size of the loan is worked out by the borrower and lender. However, an exception occurs when the purchase is stock.

Since 1934, Uncle Sam has restricted stock market lending by imposing Federal margin requirements which fix the maximum amount of the loan relative to the value of the collateral.¹ Suppose, for example, the margin requirement were 65 percent and a potential stock purchaser puts up \$1,000 worth of stock as collateral. The most he could borrow would be \$350 or, alternatively, the minimum "margin"

would be \$650. The Federal Reserve Board, custodian of this regulation, varies Federal margin requirements according to conditions in the stock market. Currently requirements are 50 percent which, except during the late 1930s and early 1940s, is the lowest they've ever been. Prior to regulation, lenders had generally only required between 10 and 30 percent margin.

Margin requirements are mainly intended to eliminate a destabilizing impact on stock prices that supposedly results when "too much" credit is used to buy stock. However, it seems unclear whether regulating security credit has actually made a significant contribution to the stability of the stock market. Moreover, even without legal taboos, stock market loans would likely be playing a smaller role on Wall Street today than prior to 1934. Despite these considerations, the scope and complexity of margin regulation have

¹However, for reasons of feasibility, Federal margin requirements apply only if the collateral is stock or a security which can be converted to stock. Usually, but not always, the stock being purchased serves as the collateral for the loan.

been expanding substantially. And sizable “gaps” in regulation still remain. As security credit control reaches its 40th birthday, a re-evaluation of its need and structure may be in order. One possible alternative to the current regulatory apparatus would be to maintain only standby control over stock market credit. Restrictions on lending to buy stock would be applied only if a special need appeared to arise.

THE UNCERTAIN GAINS OF STOCK MARKET CREDIT CONTROL

Regulating stock market credit originated with the Securities Exchange Act of 1934. Prior to the 1930s, the use of credit had become a popular way to buy stock, particularly where the investor figured to profit on expected near-term price increases. Following the stock market crash of 1929 and the early 1930s, support for security credit regulation became quite strong. Many observers believed that low margin requirements had accentuated both the stock market boom of the '20s and the bust of the '30s. From 1926 to 1929 stockbrokers' loans to customers jumped from \$3 billion to \$8 billion but by 1932 stock market credit had dropped to only a half billion dollars! This importance of security credit and its volatility gave rise to several arguments for regulation.²

Undesirable Effects on the Banking System?

One argument rested on the fact that most stock

market credit ultimately came from banks that treated the credit extension as a liquid asset—a short-term loan which could be “called” for repayment when the bank needed reserves. The importance of “call” loans supposedly threatened the stability of the banking system. In the event of a serious decline in stock prices, the value of these loans, and hence banks' solvency, might be jeopardized. Whatever the merits of this argument may have been, since the early 1930s other sources of bank liquidity have developed independently of stock market credit regulation. Today banks hold large amounts of U.S. Government securities which can readily be converted into cash. There also exists a highly developed mechanism for interbank lending—the Federal funds market. These and still other sources of bank liquidity have obviated the use of call loans as an important secondary reserve for banks.

Reducing Credit for Productive Trade? A second contention was that margin credit (stock market credit) which financed “speculation” reduced the volume of loans available for “productive” trade. However, many have pointed out that this argument is erroneous. Margin credit merely facilitates the exchange of securities from one party to another. It does not represent a claim on real resources and, hence, does not reduce the *overall* ability of consumers and businessmen to buy food, homes, or machines. Proceeds from the stock loan must end up as a source of finance for either businesses or consumers.

Destabilizing Effects on Stock Prices? But the main argument for curbing the use of security credit is that unregulated lending increases the volatility of stock prices. The evidence is the strong tendency of security credit to rise and fall with stock prices. It is argued that prices would rise less if credit to finance stock purchases were restricted. And with a smaller amount of credit outstanding, less stock would be sold to repay loans when prices start declining. Consequently, stock prices presumably would not

²Background references enumerating the arguments for margin regulation are Jules I. Bogen and Herman E. Kroos, *Security Credit: Its Economic Role and Regulation* (Englewood Cliffs, N. J.: Prentice-Hall, 1960); Robert E. Harris, “Federal Margin Requirements: A Selective Instrument of Monetary Policy,” University of Pennsylvania, unpublished dissertation, 1958; Carl Parry, “A Short History of Regulation T and U,” Board of Governors of the Federal Reserve System, unpublished (1949); Frederic Solomon and Janet Hart, “Recent Developments in the Regulation of Securities Credit,” *Journal of Public Law* 20 (1971): 165–69; John Stoffels, “The Use of Margin Credit in the Trading of Securities,” Michigan State University, unpublished dissertation (1969); U.S. Congress, Senate, Committee on Banking and Currency, *Factors Affecting the Stock Market*, 84th Cong., 1st sess., 30 April 1955, chap. 3.

TABLE 1
SOME MEASURES OF THE BEHAVIOR OF
STOCK MARKET CREDIT
AND PRICES SINCE THE EARLY 1900s

	A	B	C	D
	Stock Market Credit Volatility ^{1 2}	A Measure of Coincidence Between Stock Prices and Stock Market Credit ³	Average Federal Margin Requirement	Stock Price Volatility ¹
Jan 1900–Aug 1918	*	*		11.4
Sep 1918–Nov 1922	44.0	.84		15.7
Jan 1926–Dec 1933	189.5	.87		89.1
Jan 1939–Dec 1949	28.6	.59	55%	15.7
Jan 1950–Dec 1960	6.0	.50	66	8.5
Jan 1960–Jun 1970	8.9	.47	71	8.8

*Stock-market credit data not available (also data were not available for December 1922–December 1925).

¹The volatility measure is the variance. Both stock prices (Standard and Poor's 500 Index) and the stock market credit statistics are expressed as monthly rates of change. Thus 11.4 is the variance of the monthly rate of change in stock prices between January 1900 and August 1918.

²Limited availability of stock market credit data made it necessary to use somewhat different measures of stock market credit. Stock market credit for September 1918–November 1922 and January 1926–December 1933 comprise bank loans to brokers. January 1939–December 1949 credit data are broker loans to customers. The remaining data include broker loans to customers plus bank loans to nonbroker customers. All data since 1939 refer to regulated security credit. Differences in definitions of security credit are unlikely to be sufficiently important to account for much of the observed differences in volatility among the respective periods. Source: *Banking and Monetary Statistics (Securities Markets)*, Board of Governors of the Federal Reserve System Bulletins.

³The measure of coincidence is the correlation coefficient for rates of change in the two variables. A correlation of 1.0 means a perfect coincidence and a correlation of 0 means no coincidence.

fall so far.³

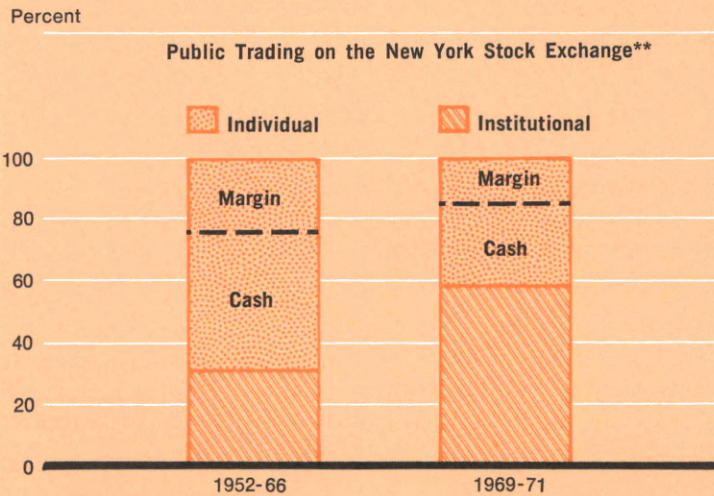
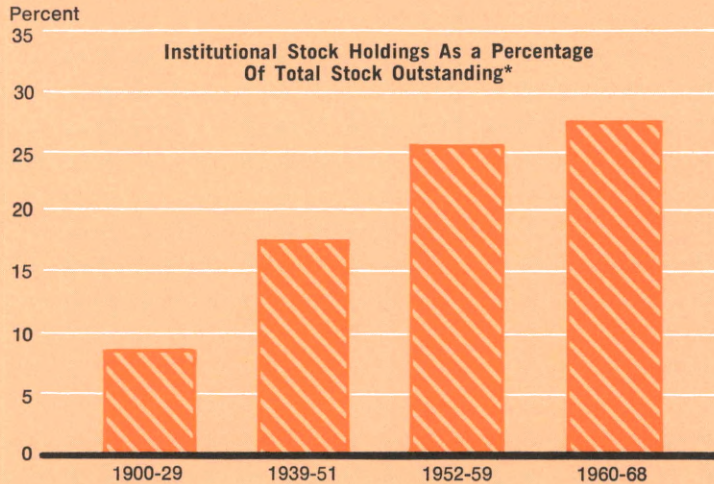
Since the enactment of margin regulation, stock market credit does appear to have been less volatile—particularly when compared to the

less dramatic changes in the volatility of stock prices (see Tables 1A and 1D). The tendency of security loans to fluctuate with stock prices has also been less pronounced (see Table 1B). These facts help to corroborate the view that Federal margin requirements have helped to stabilize stock market credit.⁴ Still, it may be that

³This argument raises the question of whether the price fluctuations supposedly fostered by margin trading might represent, in some sense, proper reevaluations of firms' expected earnings and, hence, be justified on grounds of economic efficiency. The issue of what constitutes "excessive" fluctuations in stock prices is not addressed here and the goal of reducing stock price fluctuations that might be caused by margin trading is accepted without question. However, the issue is not resolved among economists. See Irwin Friend, "The Economic Consequence of the Stock Market," *American Economic Review* 62 (1972): 212–19.

⁴All credit data since 1939 reported in Table 1 is regulated security credit. However, the margin credit measures of volatility and coincidence with stock prices were also computed for January 1971–May 1973, using a definition of margin credit which also included reported data on unregulated security credit as well. The results were very similar to those obtained using only regulated credit over the same period.

INSTITUTIONAL GROWTH HAS DIMINISHED THE ROLE OF THE INDIVIDUAL TRADER AND MARGIN CREDIT



*Source: *Institutional Investor Study Report of the Securities and Exchange Commission 1* (March 10, 1971): 78, 119. Institutional stock holdings are presented on an annual basis and only for selected years between 1900 and 1952. These percentages are averages of the years for which data are available.

**Source: *1971 Public Transaction Study*, Research Department of the New York Stock Exchange, Inc., April 1972, pp. 13, 15. Before 1959, estimates were based on analysis of transactions on only one or two days of each year and no analysis was made in 1962 and 1964. In 1969 transactions analysis is based on single day reports in each half of the year. In 1971 the transactions analysis is only for the first and second quarters. Because of inavailability of data, 1969-71 does not include trading data for 1970.

other factors have had some hand in altering the behavior of margin credit (without corresponding effects on stock price behavior). Of particular note is the substantial growth of institutional investors such as life insurance companies, pension funds, mutual funds, and trusts. These investors now account for a large share of stock market trading (see Chart). Because institutional investors are prohibited from using security credit, their growth has significantly lessened the importance of margin trading in the stock market. This could help account for the decreased coincidence between fluctuations in stock market credit and stock prices.

But even if margin control has curbed fluctuations in stock market credit, this need not mean it has helped make stock prices more stable. To a large degree, stock prices fluctuate because of fluctuations in what market traders think prices will be in the future. For example, if traders revise their forecasts of stock prices upward, they will want to hold more stock, expecting to profit on the difference between current prices and predicted future prices. Stock prices can be expected to bid up *until they match the more optimistic expectations of the "market."* The increased demand for stock will be financed by a heavier use of credit, the sale of other assets, or simply by holding stock that otherwise would have been sold. Hence, a strong coincidence between changes in stock market credit and stock prices need not mean the former causes the latter. *Both may simply reflect a changed consensus concerning future stock prices which, in turn, can result from any number of factors.*

It is entirely possible that this is usually the situation. If so, restricting the use of security credit may be having relatively little effect on stock price fluctuations. The end result of margin regulation may be simply a greater reliance on unregulated sources of finance to buy stock with little effect on stock price stability. (The uncertainty of the gains from stock market credit control is also reflected in other studies as indicated in the Appendix.)

A GROWING REGULATORY BURDEN

If margin regulation was costless, the uncertainty of the benefits would be of little concern. But controlling security credit is not costless. Taxpayers must pay for the administration and enforcement of the rules. The regulated must keep records and report periodically to Uncle Sam on some of their lending and borrowing activities. Resources are spent in developing ways around the controls. And, for enforcement purposes, some rules extend beyond just loans to purchase stock. These costs will be difficult to tally, but at least they can be expected to grow with the scope and complexity of the regulatory repertoire.

Margin regulation has, in fact, experienced substantial growth, particularly in recent years. Extensions in coverage of lenders and in the types of securities purchased have been numerous. Rules governing margin lending have been tightened. And, all of this has significantly compounded the complexity of controlling stock market credit. The causes of this regulatory growth have been changes in the structure of the stock market and the development of credit avenues designed to avoid margin requirements (see Box for a more detailed description of the growth in security credit regulation). Moreover, a significant amount of avoidance remains, creating the possibility of even more regulation in the future.

SIGNIFICANT GAPS REMAIN

Some stock market loans are purposely excluded from margin requirements. For example, there are loans whose tendency to destabilize the stock market is believed to be small—credit to buy some stock traded over the counter and the special exemption and privilege categories (see Table 2). Also important are those security loans which would be especially hard to regulate. The most notable of these are loans to purchase stock which do not have equity as the collateral—unrestricted collateral loans. Banks make almost all of the unrestricted collateral

INCREASING THE SCOPE AND COMPLEXITY OF STOCK MARKET CREDIT CONTROL

Extending the Scope of Regulation. In 1934 margin requirements applied only to stock market credit extended by brokers. In 1936, not unexpectedly, it was found necessary to extend margin regulation to stock loans made by bankers. Security credit loans of other domestic lenders, after a long and significant growth, were brought under margin control in 1968. Concern also grew during the 1960s over the unregulated use of foreign sources of security credit. By extending legal responsibilities for the application of margin rules to the borrower of security loans in 1971, an attempt has been made to curb this avenue of stock market credit too.

In terms of lending purposes, margin requirements initially applied only to credit to buy stock registered on a national securities exchange. In 1953, credit to buy mutual fund shares was explicitly brought under regulation. While the equity issued by most mutual funds was not registered on a national exchange much of the securities they held were. A 1968 amendment extended more generally the Federal Reserve Board's power to regulate credit to purchase unregistered securities (according to criteria set down in the amendment). This was the result of the development of the over-the-counter market and consequent growth in the importance of unregistered stock. Convertible bonds, securities which could be converted to stock at the owner's option, were also subjected to margin regulation in 1968.¹ These securities and the use of low-margined bank credit to finance their purchases had become increasingly popular in the 1960s. Still another amendment in 1969 declared that credit used to help finance a package or plan offering a combined purchase of equity and any other asset, good or service was subject to margin requirements *regardless of the stated purpose of the loan*. The immediate cause of this amendment was the increased use of credit to finance insurance-premium funding plans—plans which provided for the combined purchase of stock and life insurance.

There have been still other rule changes many of which have been relatively minor. However, at least some have added further restrictions to stock market credit transactions. For example, some of the special privileges (where margin rules are eased) have had to be curbed because of abuse. Also the requirements concerning the statement of purpose of a stock-collateraled loan have been expanded on three separate occasions because of concern with evasive extensions of security credit.²

Increasing the Complexity. Amplifying margin regulations has also generally made application by the regulated and enforcement by the regulator an increasingly complex task. The ap-

¹From the broker's view, this regulatory change was an easing, since prior to this convertible bonds could not be used as collateral for broker extended security credit.

²The most detailed review of these and other developments in security credit regulation in recent years is Frederic Solomon and Janet Hart, "Recent Developments in the Regulation of Securities Credit," *Journal of Public Law* 20 (1971): 165–69. A review of the amendments concerned with the purpose statement can be found in Jules I. Bogen and Herman E. Kroos, *Security Credit: Its Economic Role and Regulation* (Englewood Cliffs, N.J.: Prentice-Hall, 1960), pp. 136–38, and a statement of the Federal Reserve Board's concern with abuse of the purpose statement in the *Federal Reserve Bulletin*, March 1960, p. 265.

appropriate margin rules for extending credit collateralized by securities depend on a growing number of circumstances surrounding the loan. In making stock market loans, bankers face different reporting and lending requirements than do brokers. Other lenders are subjected to margin rules which differ from either those followed by bankers or brokers. The type of security being purchased is also important in determining the appropriate margin requirement. Convertible bonds have a lower required margin than stock and some issues of unregistered stock are not subject to margin requirements while others are (currently about 460 issues of unregistered equity are on the Federal Reserve's "O-T-C margin list"). Then there is the question of whether a stock market loan properly qualifies for any one of a number of special privileges and exemptions. There are also a large and growing number of definitional issues which must be interpreted by the regulator and understood by lenders and borrowers.

TABLE 2
REGULATED AND UNREGULATED FORMS OF
STOCK MARKET CREDIT (MILLIONS OF DOLLARS)¹

	Banks	Brokers
Subject to Margin Requirements		
Margin Stock	858	7,236
Convertible Bonds	52	245
Subscription Issues	18	31
Total Regulated ²	928	7,512
Not Subject to Margin Requirements		
Nonmargin O-T-C Stock Purchases	1,666	*
Unsecured or Unrestricted		
Collateral Loans	1,378	*
Exempted Accounts at Brokers ³	*	373
Total Unregulated	3,044	373

¹*Federal Reserve Bulletin*. Average end-of-month figures for January 1972–May 1973. Unsecured or unrestricted collateral loan data is not available after May 1973.

²This omits the relatively small amount of credit extended by other lenders which is also regulated.

³Taken from Federal Reserve staff report on security credit outstanding June 30, 1970. See *Federal Reserve Bulletin*, December 1970, p. 911, Table 1.

*Type of loan not made by respective lender.

loans since brokers are generally not allowed to make such loans. The amount of this credit is greater than regulated loans extended by banks and is even significant relative to the total volume of regulated stock market credit (see Table 2).

Finally, there are those security loans (collateraled by stock) that circumvent Federal margin requirements because they are declared by the borrower to be for a purpose other than purchasing stock (or simply not reported by the lender). Few facts on the amount of this lending are available. However, the volume of bank loans secured by stock but declared to be for other purposes can give some indication of the potential for this form of evasion. Based on a 1962 survey of commercial banks, the Securities Exchange Commission reported that only 13 percent of all stock-collateraled loans extended by banks were reported to be for the purpose of purchasing stock and, hence, subject to margin requirements. Forty-nine percent were declared to be “single payment personal” loans and 33 percent “business” loans (4 percent were “other”).⁵

To what extent a borrower can obtain a “business” or “personal” loan to help buy stock will depend on how similar these loan categories are to regulated stock market credit. When several types of credit are similar, the borrower can more easily move from one source to another. Moreover, the regulator will find it difficult to police the illegal use of highly substitutable sources. Information collected by the SEC’s study indicated that, besides having the same collateral, the “business” and “personal” loans were similar to the regulated “purpose” loans in other respects as well—location of lender, size of loan, and maturity of loan.⁶ While this need not mean that the actual amount

of “business” or “personal” loans used to facilitate stock purchases is significant, it does seem to imply a significant potential for avoidance—a potential which must add to concern for the ability of current margin rules to limit stock market credit effectively.⁷

AN OPTION FOR REDUCING THE REGULATORY BURDEN

Given the uncertainty of the benefits of security credit control, the marked expansion in regulation and the potential importance of remaining regulatory gaps, some alternatives to the current regulatory structure may be worth considering. One alternative would be to rescind the Government’s responsibility for controlling stock market lending. However, the specter of 1929 still haunts many as does the possibility that the unprecedented build-up in stock market credit accentuated the Great Crash. A more moderate option might be to eliminate the *permanent* imposition of Federal margin requirements. Normally, lenders and borrowers would decide themselves the appropriate margin level. Yet to prevent a replay of the 1920s credit frenzy, the Federal Reserve Board would maintain authority to reimpose some form of margin control should a similar situation arise again.⁸

In order to monitor security credit activity, the Federal Reserve could continue to collect information on the volume of bank and broker stock lending—although in far less detail than is now being done. Except for infrequent surveys, information on stock market credit extended by

⁵The SEC’s 1963 *Special Study of Securities Markets* (Part 4, Chapter 10) is currently the most exhaustive public report on stock market credit. However, in an early 1955 survey of 271 banks, the Senate Banking Committee reported that 64.5 percent of security collateraled credit was declared “nonpurpose” and, hence, not regulated.

⁶*Special Study . . .*, Chapter 10, pp. 51–60.

⁷In fact the Board of Governors has indicated its concern about this potential for avoidance by its attempts to tighten the legal requirements concerning the statement of purpose of a stock collateraled loan and by its limited attempt to control credit used to “carry” stock—that is, credit used to finance another purchase while cash which was originally intended to finance the purchase is instead diverted to the purchase of stock, see Solomon and Hart, *op. cit.* p. 199.

⁸The stock market credit bubble of the 1920s was far from being something the Federal Reserve was unaware of or unconcerned about. Rather the situation was one where they lacked the statutory authority to influence margin lending directly. See Stoffels, *op. cit.*, pp. 5–8.

other lenders may not be necessary. These lenders extend only about 5 percent of regulated security credit.⁹ Federal margin requirements would be imposed only during a period when stock market credit, or its rate of expansion, reached some "critical" level. The behavior of stock market lending in the late 1920s and possibly preceding earlier market crises might be used in helping to establish the critical conditions.

If this stand-by authority were used only infrequently, the problem of effective regulation could be eased in several ways. First, the regulatory burden would be reduced. Most of the time individual stock market traders would have greater flexibility in their trading activities than currently. The reduced need for information on security credit lending also would mean lower regulatory costs for lenders, borrowers, and Government. Second, if a need for temporary Federal margin requirements arose, the problem of effective control could be simplified. Under such a system, there would likely be fewer channels or methods for extending security credit than now. Many of those forms of stock market lending which developed because of Federal control over the ordinary channels would be eliminated through competition. The relatively short and infrequent times that margin requirements might be applied would make redeveloping at least some of these inefficient channels unprofitable. Another potential advantage is that it may be unnecessary to maintain all the special privileges and exemptions which have added measurably to the scope and complexity of current margin regulation.

Imposing credit controls on a temporary basis is not new. In the past, part-time controls have

been applied to consumer and housing credit. The New York Stock Exchange imposes special (100 percent) margin requirements on a temporary basis to loans extended by brokers for purchasing particular issues of stock as a perceived need arises. The Federal Reserve Board itself periodically alters the level of margin requirements under changing stock market conditions. These various experiences might be usefully applied to a more complete study of a stand-by form of control on stock market credit.

A NEED FOR RECONSIDERATION

Federal regulation of stock market credit has been in force for 40 years. For many, the importance of regulation has been a foregone conclusion. However, hard facts to substantiate this belief are not easy to come by. It appears to be an open question whether margin regulation has helped to reduce "excessive" swings in stock prices. In any event, the growth of institutional investing has probably diminished the importance of margin trading on stock prices relative to that before regulation. The uncertain and possibly diminishing gains from margin control notwithstanding, regulation has grown substantially. Still, avoidance of margin requirements appears to be at least significant. Closing remaining avenues of avoidance could mean even more regulation for the future. These considerations suggest that some basic changes in the current structure of security credit regulation might be warranted. Putting margin control on a stand-by basis is one alternative that could reduce the regulatory burden without foregoing complete control over stock market credit.

⁹See *Federal Reserve Bulletin*, December 1970, p. 916.

Appendix

OTHER STUDIES OF THE EFFECTS OF MARGIN REQUIREMENTS

There have been only a handful of studies which have looked at several different questions concerning the effects of margin requirements. These studies still appear to leave a significant amount of uncertainty about what effects margin regulation has on stock market credit and prices.

EFFECTS OF MARGIN REQUIREMENTS ON STOCK MARKET CREDIT

Two different studies related various measures of *regulated* security credit to the level of margin requirements (using multivariate regression analysis) finding only a weak negative relationship.¹ The conclusion was that margin requirements have relatively little effect on regulated stock market credit. However, this conclusion can be challenged on several counts. One is that no argument or evidence was presented to indicate that the level of stock market credit did not concurrently influence the level of margin requirements imposed by the Federal Reserve Board. The tests performed in these studies would understate the true effects of margin requirements on credit if the level of margin requirements was made relatively high when the (market equilibrium) level of stock market credit was also relatively high. Second, there is ample evidence that stock market traders have, and do, use alternative unregulated channels to avoid the high level of Federal margin requirements (see text). This would seem to provide some indication that Federal margin regulation does keep the volume of *regulated* credit below what the total volume for stock market credit would be in the absence of regulation. However, the most important and still unaddressed question is the effect that margin regulation has on the *total* volume of stock market credit including that from both regulated and unregulated channels.

EFFECTS OF MARGIN REQUIREMENTS ON STOCK MARKET PRICES

Results from several studies suggest that Federal margin requirements, or changes in margin requirements, have little effect on the average level or rate of change in stock prices.² A most interesting experiment was performed in the Largay and West study which examined the average daily behavior of stock prices (expressed as a rate of change) for 30 days following each change in margin requirements.³ From independent evidence and a priori reasoning based on recent research in stock price behavior, they formulated the hypothetical behavior of stock prices that would be expected in the absence of margin changes or if such changes had no effects on stock prices. The actual behavior of stock prices following margin changes was very close to this hypothetical expectation. However, for a small number of days immediately following an increase in margin levels, there appeared to be a "trivial" depressing effect on stock prices. This was attributed to the regulator's announced increase in margin requirements as having some impact on stock trader's expectations of future stock prices.

The results of these studies are not without interest but it can be contended that the main objective of

¹Jacob Cohen, "Federal Reserve Margin Requirements and the Stock Market," *Journal of Financial and Quantitative Analysis* 3 (1966): 30–54; Thomas G. Moore, "Stock Market Margin Requirements," *Journal of Political Economy* 74 (1966): 158–67.

²James A. Largay and Richard R. West, "Margin Changes and Stock Price Behavior," *Journal of Political Economy* 2 (1973): 328–39; Cohen, *op. cit.*

³Largay and West, *op. cit.*

margin regulation is not to control or influence the average level, but the volatility, of stock prices. The fact that margin regulation might have no significant effect on the expected value of stock prices, or stock price changes, does not mean it has no significant effect on their volatility. In fact, a recent study did find that a measure of the variability of stock prices (the standard deviation of the rate of change in prices) tended to be relatively low when margin requirements were relatively high.⁴ But even this result is somewhat ambiguous. The period of this study (1926–60) was one where the variability of stock prices exhibited a significant downward trend and margin requirements a significant upward trend (see Table 1 in text). It is possible that the downward trend in stock price variability reflects other changes in the character of the stock market rather than the rising trend in margin levels (or changes in the volatility of corporate dividends which were also used to explain changes in the volatility of stock prices).

The most appropriate conclusion from the present collection of evidence on margin requirements would appear to be that more research is needed. What is also needed is a more rigorous conceptual formulation of the behavior of stock market traders who use credit and the implied effects on stock prices. Without a conceptual framework it becomes difficult to interpret the “facts” unambiguously or even to formulate the right kind of testing procedures.

⁴George W. Douglas, “Risk in Equity Markets: An Empirical Appraisal of Market Efficiency,” *Yale Economic Essays* 1 (Spring 1969): 3–45.



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