BUILDING YOUR DREAM HOUSE

THANK YOU FOR your article "Building a Home of Your Own" (Q4 2000/Q1 2001). It was accurate, honest, and informative.

My wife and I built our home between 1981 and 1987. We did it all: design, engineering (I am not an engineer), carpentry, electrical, plumbing, roofing, drywall, etc. We hired help to put in the septic tank and a bulldozer to make a foundation hole. I am proud that during the six-year building process we passed every inspection. The only drawback is that we cannot imagine living anywhere else.

I believe we were successful for a number of reasons. I was retired so we were both free to work on the house full-time. Since we had sufficient funds, we never had to deal with banks, mortgages, etc. I had worked on the design for ten years and had planned the house in great detail; the total number of drawings exceeded 100, including everything from formal floor plans to sketches of how a particular detail would be constructed. I also spent over $6,000 on codes, trade books, and journals. Finally, we had no neighbors close enough to object to construction noise.

Saving money should seldom be the goal. One should build one's home because it will be a challenging, rewarding, and creative experience. If our house disappeared today, we would still have a treasure trove of memories.

Marvin McConoughey
Corvallis, Oregon

EDITORS' NOTE: We would like to clarify the callout on page 23, from the article "Teens in the Workforce" (Q2 2001). Most research suggests that a teen's chance of getting injured on the job per hour worked is no lower than an adult's.

We are interested in hearing from you. Please address your letters to: Federal Reserve Bank of Boston, *Regional Review*, P.O. Box 2076, Boston, MA 02106-2076.

perspective

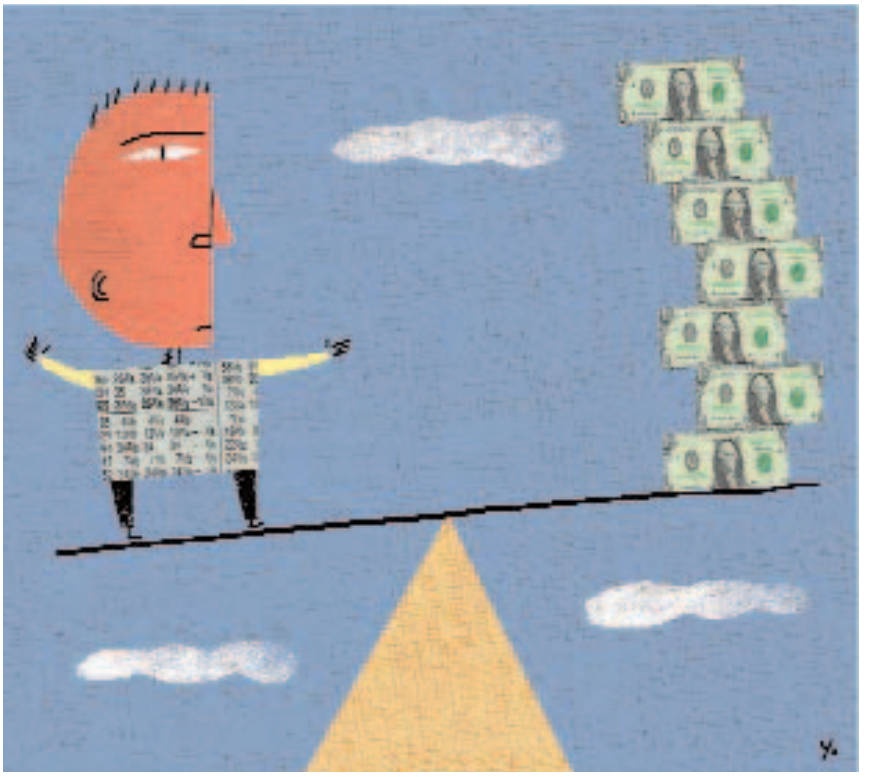


ILLUSTRATION BY JAMES YANG

Is Margin Lending Marginal?

By Peter Fortune § In *The Great Crash: 1929*, John Kenneth Galbraith placed margin loans front and center as the reason for the depth of the market plunge that preceded the Great Depression. Indeed, margin loans, now only 1 to 2 percent of the market value of common stocks, often accounted for more than 10 percent of the New York Stock Exchange's market value during the 1920s (some estimates range as high as 20 percent or more). Such sheer size demanded attention, and the popular view emerged that the ability to borrow to buy stock—that is, buying "on margin"—was a source of stock market instability. In this view, rising stock prices create additional wealth that can be used as collateral for borrowing and purchasing more stock, thus driving prices up even further. Declining prices create "margin calls" in which stockholders must come up with additional collateral when stock values fall be-

low the margins required by brokers, leading to widespread liquidation of stocks and further price declines. (For an explanation of the different margin requirements imposed by the Fed, stock exchanges, and brokers, see Box, page 6.)

More recently, low margin requirements in the stock index futures markets were cited by the Brady Commission and the Securities and Exchange Commission in their analyses of the October 1987 crash. And after stock prices fell in the wake of September's terrorist attacks, one family of large investors sold $2 billion of Disney stock to pay off margin loans and "meet liquidity requirements." In reporting this incident, *The Wall Street Journal* voiced concern that further forced selling of stocks among large investors could "put continued pressure on an already reeling stock market."

Despite the popular role given to margin loans in stock market booms and busts, the Federal Reserve System has changed margin requirements only 22 times since 1934, the last time in 1974. This has led some to ask why the Fed has not changed requirements more often and whether there is a good case for a more active margin policy.

WHY MARGIN REQUIREMENTS?

During the debates that preceded passage of the Securities Exchange Act of 1934, several motives for margin requirements emerged. First, many in Congress believed that an "excessive flow of credit into the stock market . . . into a vortex of speculation in a few metropolitan centers" had deprived "legitimate business of the financial aid and credit" necessary for their operations. Second, margin credit was thought to expose uninformed or overly optimistic investors to risks that more informed or prudent people would avoid, and lead to investor losses and to stress on margin lenders, such as banks and brokers. Said Congressman Sam Rayburn, of Texas, who introduced the legislation in the House of Representatives, "A reasonably high margin requirement is essential so that a person cannot get in the market on a shoestring one day and be one of the sheared lambs when he wakes up the next morning." Finally, it was believed that margin loans contributed to speculative bubbles, which, like the Crash of 1929, would end with stock price declines made worse by margin calls, an outcome that would magnify declines in production and employment.

ALLOCATION OF CREDIT. The effect of margin loans on the availability of credit for other business investment is murky and probably small. The argument that margin loans reduce the credit available for more legitimate uses implicitly assumes that the economy has a fixed pool of credit. Alternatively, margin loans that result in the purchase of stock might stimulate economic activity and add to the pool of savings and available credit. Or margin loans might simply substitute for other debt as, for example, when an affluent car buyer borrows against her margin account instead of taking out an auto loan. Finally, for every dollar of stock bought there is a dollar sold; and while the buyer might take out a margin loan, the seller might lend the proceeds by, say, depositing the funds in a money market fund which channels money to the brokers making margin loans. While margin loans might affect the way credit is allocated across uses in the economy and relative interest rates might change, there is no reason to believe that any adverse effects on businesses will be serious.

INVESTOR-BROKER PROTECTION. Investor protection—an important goal of securities regulation—is a dubious objective of margin policy. To paraphrase a biblical statement, the imprudent will always be with us. In a market economy, investors are allowed to make their own mistakes, and they are expected to take responsibility for risks taken so long as they have been properly informed. In addition, investors have a range of ways to manage the risks imposed by margin debt that were not available in 1929, such as using futures and exchange-traded options. Of course, these same instruments can be used by customers to add to leverage even without resorting to margin debt or facing margin requirements; this limits the effectiveness of margin requirements as a way of protecting investors.

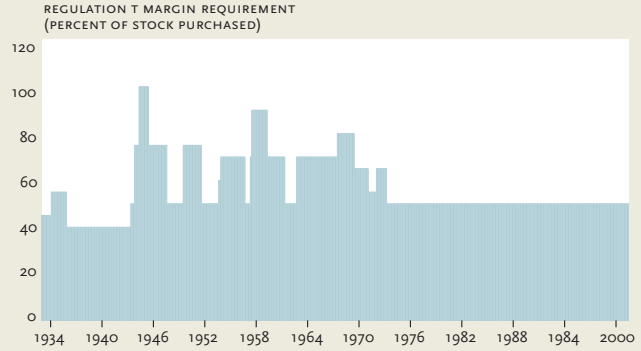
The evidence that margin lending is really quite small also weak-

LEARNING FROM A CRASH

The 1929 stock market crash was instrumental in the wave of securities regulation that followed, including the Securities Exchange Act of 1934 that gave the Federal Reserve System the authority to set initial margin requirements, the minimum equity required at the time a security is purchased. The Fed adopted Regulation T, limiting the size of broker-dealer loans to customers buying common stocks and equity-related securities (such as convertible bonds). The Fed also adopted similar regulations for security loans by banks and other financial institutions (Regulations G and U) and for lending by foreign institutions to U.S. citizens living abroad (Regulation X). In addition to the Fed's initial margin requirements, brokers have maintenance margin requirements that set the minimum equity that must be held at all times; these are typically tailored to the characteristics of the securities held.

REGULATION T

The Federal Reserve has changed its margin requirements only 22 times since 1934. The last change was in 1974.



SOURCE: Federal Reserve System, Regulation T

We might empathize with traders suf
these are individuals in difficulty, not syst

ens the argument. While undoubtedly some investors' accounts are heavily margined, and some brokers (the e-brokers are notable) have large margin loan positions with customers, the aggregate amount of margin debt is, and long has been, about 1 to 2 percent of the value of common stocks listed on the NYSE and the NASDAQ. We might empathize with heavily margined traders suffering from margin calls in bad times, but these are instances of individuals in difficulty, not of systemic problems requiring public policy intervention.

Broker protection is, arguably, a more appropriate objective if a broker's failure can create spillovers and add to the financial system's instability. However, brokers can protect themselves from customer defaults on margin loans by setting high maintenance margins (certainly no lower than exchange margins and sometimes even above the Fed's initial margin), by closely watching individual accounts, and by liquidating securities, without customer approval, well before the customer's equity has disappeared. Even in the less adaptable financial

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world of 1929, Galbraith tells us, there was little evidence of significant broker failures adding to systemic risk.

MARKET STABILITY. Recent interest in margin policy arises from the fear that margin loans might pump up security prices to unsustainable levels, and that any emerging bear market will be more severe because of the initial overvaluation and subsequent margin calls. If increases in the size of short-run stock price fluctuations reduce subsequent production and employment, margin policy deserves our attention. If major crashes—or protracted bear markets—inhibit spending, an even greater case for margin policy exists. But if the only effect of margin lending is to increase stock market volatility, with no consequences for output or employment, our stabilization efforts should be focused on broader instruments than margin requirements.

But does more margin lending lead to more market volatility? The *prima facie* evidence in the chart suggests, surprisingly, that margin loans and volatility are *negatively* correlated; that *more* margin lending is associated with *less* stock market volatility. While the chart only shows a brief period since 1986, this negative correlation has been observed as far back as the 1930s.

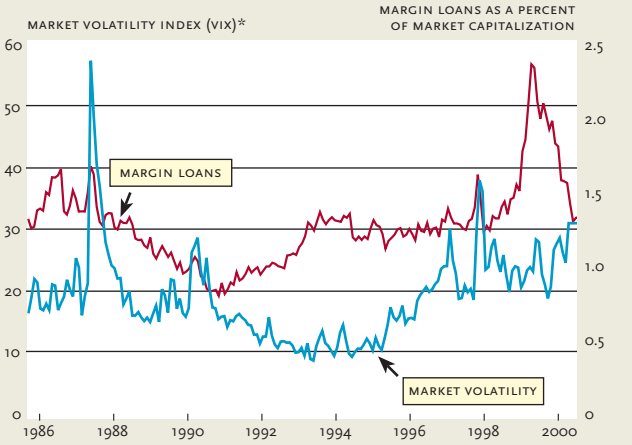
There are both theoretical and statistical explanations for this inverse association. As for theory, margin loans might be a tool for knowledgeable investors to take positions that stabilize the market. In bull periods, any tendency for prices to rise above intrinsic value might motivate the smart money to bet on a decline in stock prices by selling stock short—borrowing and selling shares of stock, and then later replacing the borrowed stock by buying it back at the (one hopes) lower price and pocketing the difference. Short sales will mitigate bubbles because, if profitable, they occur when prices are high. And in bear periods, margin loans might provide liquidity that encourages stock purchases to take advantage of expected recovery.

As for statistical reasons, the negative correlation might arise not from a causal relationship but from the influence of other factors on both margin loans and volatility. For example, stock price volatility is known to be lower in bull markets than in bear markets, and margin loans typically increase in bull periods when expected returns are high and fall in bear periods when expected returns are low. Thus, the association we see in the chart might reflect changes in the market's expectation of future returns rather than any causal relationship between margin debt and volatility. To compound the statistical illusion, margin loans might rise because stock prices are rising, if substantial short-selling has occurred. The reason is that losses on short positions induce short-sellers to borrow to maintain the cash collateral required to cover the larger liability.

Most research on the issue focuses on the relationship between the Fed's margin requirements and stock market volatility. This limits the studies to the period 1934 through 1974, when an active margin policy existed. Although there is little recent work on the relationship between margin loans (as opposed to margin requirements) and volatility, studies of margin requirements are instructive. The results are mixed, giving the reader the sense that margin requirements are of little value as a tool to stabilize the stock market. Even those studies that find that margin policy reduces volatility acknowledge that this does not necessarily support an active policy. Margin requirements might affect volatility but with such a small impact that they have little practical importance. Or the effect might be confined to the short run or to "normal" periods, with little effect on periods of boom or bust. Furthermore, in the popular mind, the reason for an active margin policy is the avoidance of major booms and crashes that might exacerbate the business cycle. But the link between margin requirements and macroeconomic stability is even weaker than the

DO MARGIN LOANS INCREASE MARKET VOLATILITY?

Although margin loans tend to be negatively correlated with market volatility (correlation coefficient = -0.4), the relationship may not be causal.



*VIX is a measure of the implied volatility of the return on the Standard & Poor's 100 stock index, as measured by the Chicago Board of Options Exchange's VIX contract. It is a measure of expectations about the volatility of returns over the next thirty days. That is, VIX = 27 means that the expected annualized standard deviation of returns over the next thirty days is 27 percent.

SOURCES: Margin loans data from Federal Reserve System; market capitalization data from New York Stock Exchange and National Association of Securities Dealers; market volatility data from Chicago Board of Options Exchange.

link between margin requirements and stock price stability.

OTHER ARGUMENTS. Robert Shiller, a prominent financial economist and professor at Yale, has recently argued that while the evidence supporting margin policy's direct effects on stock market or economic stability is slim, a more active margin policy can serve as a signal to investors about the fragility of stock prices. If the Fed sees "irrational exuberance," an increase in margin requirements tells the markets that the road ahead is bumpy. But such signals, if timed incorrectly, might create the problem they are intended to avoid; investors might overreact to the Fed's signal, converting a mild price decline into a tailspin. Furthermore, the Fed's margin-setting authority is a broad weapon that would not necessarily dampen investor enthusiasm in specific sectors such as communications and technology, sectors where the heat was highest in recent years.

Another argument for the existence of margin requirements (though not necessarily for an active margin policy) is that they set a uniform standard for all brokers. In their absence, both initial and maintenance margins would be set by brokerage houses or stock exchanges. Competitive pressures might induce low initial margins, increasing the probability of margin calls. Indeed, margin protection might weaken as debt-inclined customers shop for more lenient brokers. A standard that all brokers must meet can reduce the adverse spillovers from unfettered broker lending.

ARE MARGIN REQUIREMENTS REALLY MARGINAL?

There is no conclusive answer to this question. Margin debt—and any form of leverage—helps define the way financial risks are spread across economic agents and shapes the redistribution of wealth as surprises occur in security markets. These are matters of great importance to the individuals and businesses affected. Margin policy might also be important in distributing leverage across markets. An uneven playing field, with, say, lower margins in futures than in cash markets, will shift leverage-related activity between them. In doing so, it may also facilitate evasion of the regulation's original intent and push risks into other areas, such as derivative securities.

But, at the macroeconomic level, margin lending is, very probably, a nonevent. True, in a major recession there will be those who default on margin loans. But that potential exists for any form of debt, such as home equity loans and credit card debt, especially since these can be used as indirect sources of funds for stock transactions. More important, even if margin lending contributed to short-run stock market volatility, there is little indication that this would translate into changes in overall demand. For example, increased short-run volatility (should it occur) will add to the risk premium on equities, raising the cost of equity capital. But the cost of capital in general, and the cost of equity capital in particular, have historically had little effect on business investment spending. So the real issue is not over whether margin lending affects stock market volatility, but whether it affects the severity and timing of the business cycle. There is no evidence, either way, on this point.

While Fed pursuit of a more active margin policy is unwarranted on the basis of current evidence, the existence of margin requirements might still serve an important function. Margin regulations do establish a higher hurdle than would be set by the exchanges or the brokers. They establish a common standard across brokers, inhibiting problems that might result from competitive pressures if requirements were solely broker determined. And they might provide the extra equity cushion that limits the spillover effects of margin calls in a deteriorating market. But these are all benefits that can be achieved without an active margin policy. ✳

HOW TO BUY STOCK ON MARGIN

At the time a stock is purchased, Regulation T requires that the buyer have a minimum equity equal to 50 percent of the amount paid ("Fed margin"); that is, no more than 50 percent of the purchase can be debt financed. The New York Stock Exchange and National Association of Securities Dealers require that member firms' customers maintain a margin of at least 25 percent, called an "exchange margin." Most brokers require a higher maintenance margin of about 30 to 35 percent, the "house margin." The house margin is tailored to the specific characteristics of the account.

Consider Elena Yee, who buys $100,000 of stock in ABC Corporation. Regulation T limits the amount she can borrow to 50 percent, or $50,000. Assuming a 35 percent house margin, Elena's equity must be at least $35,000, so there is a $15,000 equity cushion at the outset. If ABC's stock price rises, Elena can use each dollar of additional equity to buy two dollars of stock. If the stock price falls, her margin declines to below the initial margin requirement of 50 percent.

But Regulation T does not require restoration of the initial 50 percent requirement; it is silent on the maintenance margin required, leaving that to the discretion of her broker (who must require margin at least equal to the exchange margin). If, say, the value of ABC falls to $77,000, Elena's equity will be $27,000 ($77,000 less the $50,000 debt), just equal to the assumed house margin of 35 percent of the value of her ABC stock. Further price declines would result in margin calls by her broker. Margin calls require either selling stock, with proceeds applied to debt repayment, or the deposit of additional cash or securities.

Had Elena sold $100,000 of ABC short, Regulation T would require that the sales proceeds be held as collateral and that she have equity equal to 50 percent of the value of the short position. In other words, she would need to set aside $150,000 of assets—the $100,000 cash receipts required as collateral for the shares borrowed, plus an additional $50,000 in cash or marginable securities. If ABC's value rose to, say, $111,111, she would have an unrealized loss of $11,111 and her equity would fall to $38,889, just equal to the 35 percent house margin. She would not be required to come up with additional equity unless there were more price increases. But, because the $100,000 originally held as collateral falls short of her $111,111 liability, she would have to provide an additional $11,111 to restore her account to fully collateralized status. These additional funds are typically obtained by a loan from her broker, adding to the margin debt. In this way, short position losses give rise to margin loans.