

ASK AN ECONOMIST

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Warren Buffett described some derivatives as “financial weapons of mass destruction.”¹ In light of recent events on Wall Street, does The Regional Economist agree?

—Christopher Schlie, accounting student at the University of Cincinnati

Yes, derivatives are financial weapons of mass destruction. Firms and individual investors can lose a lot of money very quickly. But you can also lose everything you invest in a single day in stocks and bonds. For that matter, any other kind of asset—including your house, car or a painting—can decline rapidly in value, too. Yet, the vast majority of derivatives traders and end-users do not complain, either because the contracts are useful in hedging risks or because they have consciously chosen to speculate using derivatives.

Why did Mr. Buffett make a special point about derivatives being financial weapons of mass destruction? Most likely, he meant to highlight at least three features of derivatives that distinguish them from other assets: 1) they contain a great deal of “implicit” leverage, 2) they often have very complex payoff patterns and 3) they lack transparency when they are traded over the counter (OTC), or away from an organized exchange.

Leverage. A futures contract or an option contract (two important types of derivatives) automatically leverages, or multiplies, an investor’s exposure to the underlying risk. The price of an option on a share of stock, for example, can be much lower than the price of the stock itself, while the potential profit or loss per share is the same in dollar terms. Given the smaller initial investment, the option contract multiplies the gain or loss in percentage terms.

To illustrate, suppose there are three investors, A, B, and C, each with \$30 in cash. Investors B and C each buy a share of a stock for \$25. Investor A pays investor B \$5 for a call option that gives A the right to buy a share of the stock currently worth \$25 from B at that price either today or tomorrow.

Portfolios at end of first day	Cash	Stock	Options	Total
Investor A	\$25		\$5	\$30
Investor B	\$10	\$25	-\$5	\$30
Investor C	\$5	\$25		\$30

If the stock price goes up \$10 tomorrow, to \$35, A can acquire a share for \$25 by exercising his option. A would make a net gain of \$5 (after deducting the \$5 cost of the option)—not bad for a \$5 investment. Investors B and C had to invest \$25 to earn net gains of \$5 and \$10, respectively.

Portfolios if stock goes up to \$35	Cash	Stock	Options	Total
Investor A		\$35		\$35
Investor B	\$35			\$35
Investor C	\$5	\$35		\$40

Complex payoffs. To see how complex payoff patterns can be on options, consider some other possible stock-price changes. If the stock price stays the same or falls, investor A will not exercise his call option, letting it expire worthless. Investor B will suffer any decline in stock price, but would get to keep the \$5 option premium paid by Investor A. Investor C simply would suffer the stock-price decline.

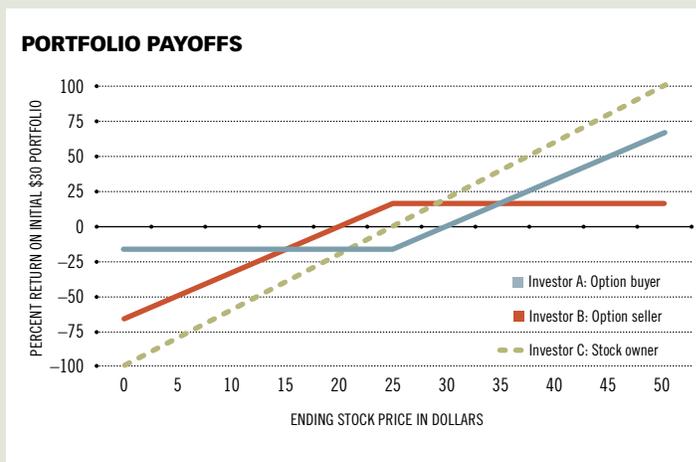
Portfolios if stock goes down to \$15	Cash	Stock	Options	Total
Investor A	\$25			\$25
Investor B	\$10	\$15		\$25
Investor C	\$5	\$15		\$20

Portfolios if stock goes down to \$5	Cash	Stock	Options	Total
Investor A	\$25			\$25
Investor B	\$10	\$5		\$15
Investor C	\$5	\$5		\$10

Because the stock price could go up quite a bit as well as down, consider a \$20 stock-price increase.

Portfolios if stock goes up to \$45	Cash	Stock	Options	Total
Investor A		\$45		\$45
Investor B	\$30			\$30
Investor C	\$5	\$45		\$50

Investor C appears to have the riskiest portfolio while the option traded between Investors A and B appears to have damped down the volatility of their portfolios. Yet the option-trading investors have portfolios with complex relationships to the stock price itself, as the chart below illustrates. Investor C’s portfolio returns rise and fall smoothly with increases and decreases in the stock price. Investors A and B experience portfolio returns that are much more difficult to describe—they are more like hockey sticks than straight lines.



Lack of transparency. The amount of derivatives trading that occurs on an organized exchange such as the Chicago Mercantile Exchange is public information. In OTC derivatives markets, there is no central counterparty and no reporting requirement. Therefore, there is no way to know how many contracts of a particular type actually are being traded at any given time. In some cases, the amount of derivatives trading may far exceed the amount of trading in an underlying asset. Because derivatives contracts are “zero-sum” (for every winner, there is a loser), they can be created without limit and, in some cases, without the consent of the issuer of a security on which the derivatives are based. The result is that the OTC derivatives markets are not very transparent and, therefore, can yield some nasty surprises.

So Warren Buffett is absolutely correct that derivatives are financial weapons of mass destruction. Like real weapons, they can be extremely damaging if used imprudently. Fortunately, most derivatives traders and end-users are fully aware of the danger.

¹ See pp. 13-15 of Berkshire Hathaway’s 2002 Annual Report at www.berkshirehathaway.com/2002ar/2002ar.pdf.

LETTERS TO THE EDITOR

These are in response to January’s article titled “Deficits, Debt and Looming Disaster.”

Dear Editor:

The article seemed honest and sincere. My only comment, which is general, is that most of the conversation is not dealing with the dire straits we find ourselves in. The media is cheerleading and hoping that people in America suspend reality. Our markets are in turmoil, and no amount of bailouts for the banks is going to change this reality. We must either tell the truth or face the consequences. Unemployment of millions of our populace is neither a Democratic nor a Republican issue. It is a human issue. Let’s tell America where we really stand and pull ourselves out of this hole.

—Leon Fainstadt, an insurance salesman and artist in Los Angeles

Dear Editor:

Thanks for your article in the January issue of *The Regional Economist*. It is nicely juxtaposed to Mr. Bullard’s article on the “lender of last resort,” the Federal Reserve Bank. We are told that the current economic crisis is the most dangerous since the ‘30s. It seems that a difference between then and now is the nature of the currency—then it was real money, now fiat money; then a store of value, now a medium of exchange. It is national policy to reduce the exchange value of the currency at an annual rate of 2 to 3 percent. How does this change in the nature of the currency alter possible policy options in managing the current crisis, what does it mean in assessing the severity of both national debt and national deficit at future dates and what does it imply about solutions to the future liabilities of Social Security, Medicare and other promises of the government to pay?

—John F. Lindeman, M.D., of Chesterfield, Mo.

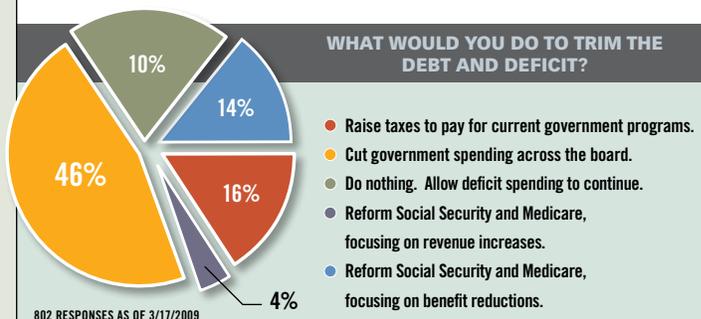
The following is related to the poll that went with the “Deficits, Debt and Looming Disaster” article. See poll results to the right.

Dear Editor:

I went to the web site to participate in the current issue poll. The choices were limited. What about these?

FED FLASH POLL RESULTS

Whenever a new issue of *The Regional Economist* is published, a new poll is posted on the Bank’s home page, www.stlouisfed.org. The poll question is always pegged to an article in that quarter’s issue. Here are the results of the poll that went with the January issue. The question stemmed from the article “Deficits, Debt and Looming Disaster.”



THIS ISSUE’S POLL QUESTION:

What motivates your company to be socially responsible?

- 1. Altruism.** Doing the right thing is as important as profits.
- 2. Pressure.** Our customer base is forcing us to do this.
- 3. Profits.** If people feel good about our corporate image, they will buy more of our product.
- 4. Huh?** Our only responsibility is to our stockholders

After reading “Corporate Social Responsibility Can Be Profitable,” go to www.stlouisfed.org to vote. Anyone can vote, but please do so only once. (This is not a scientific poll.)

“There are numerous *monetary* ways the federal government can deal with the country’s current economic maladies.

1. Do nothing.
2. Tax and lend and receive money and interest back, with no debt.
3. Tax and lend interest-free, receive money back, with no debt.
4. Tax and grant, receive no money back, with no debt.
5. Borrow and lend interest-free, receive money back, pay debt back plus interest.
6. Borrow and lend, receive interest and money back, pay debt back plus interest.
7. Borrow and grant, receive no money back, pay debt back plus interest.
8. Create money and grant, receive no money back, no debt, pay no interest.
9. Create money and lend interest-free, receive money back, no debt, pay no interest.
10. Create money and lend, receive interest, receive money and interest back, no debt, pay no interest.

Congress and the executive can do any of the above singularly or any combination. All of these alternatives are identified in OUR Constitution. See Article I, Section 8, Clauses 1,2 and 5.”

Personally, I favor items 8 and 9, with item 8 for infrastructure and educational projects and item 9 for all other projects. To learn more, see <http://createmoney-saveoureconomy-reducefederaldebt.net>.

—Patsy Campbell of Murphysboro, Ill., retired from county health department as business manager