Velocity, risk, and the crash

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OK, about every day, somebody asks me to explain the bailout package, the credit crunch, the subprime mortgage thing, or the concept of ownership of land.

There are so many sources that can give you the basics of what's going on that I'm not even gonna bother to give you a list of links; ask your local newspaper or search engine. I'll touch on that, but this will primarily be a topic essay going back to my favorite question: the creation of value.

Or, in this case, the creation of money. You know the government prints money (economists call this M0), and for the purposes here, that's all easy enough. But there are other means.

The first, still in the hands of the government, is simply to print bonds. A promise from the U.S. government to hand you cash 90 days in the future is basically equivalent to cash.

But it gets more interesting when other parties throughout the economy get to produce money.

Reserves We'll start with our banks, who re-loan the same money repeatedly. Say the bank has $100 million in deposits, in air-conditioned quarters (i.e., cold, hard cash). It then lends out $90 million. The people getting the loans will tell you 'we have $90 million,' and the people holding savings accounts will take out their bank statements and say 'we hold $100 million.'

The bank has just generated $90 million in cash.

In fact, the requirements for banks are to hold in the ballpark of 10% of actual savings, and they can lend out the rest. Naturally, every bank will lend out to the hilt of that allowance. So if the Treasury prints a $100 bill and hands it to somebody, who puts it in the bank, the Treasury has really just put $190 in the economy.

Margin The brokerage firm can do the same sort of trick with its clients. Using the deposits and positions on hand, it can lend cash to investors, so somebody who walks in with $100 can buy $200 worth of stock. This is known as *buying on margin*. Your $200 worth of stock is probably only going to shift a marginal amount in a week or two, to maybe $180 at the worst, so the $100 that the brokerage lent you is just going to sit there doing nothing under most conditions. The name *margin* emphasizes that we just care about the variation at that last 10% or 20% of the price. A person buying on margin deposits only 50% of the stock price and thus comes closer to just buying and selling the marginal changes.

Despite the story in the last paragraph, the 50% requirement is not insurance or an attempt to ensure that you'll be able to pay back the brokerage's loan. No, the margin deposit comes from Federal Reserve Regulation T, and it's the Federal Reserve that sets the rules because borrowing on margin is another means of printing money. At the brokerage firm's accounting department, it's very much like the bank's lending out of savings.

We typically only sell items we already own, but that's just how squares think. Why not sell the stock first, thus having a debt of so many shares, then buy them later? It's is what you would do if you expect the share price will fall: sell today at $100, buy tomorrow at $90, and pull a $10 profit. This is known as a *short sale*. For our purposes, in that first step, you walked into your brokerage house with a 50% margin deposit of $1,000, and after selling your imaginary shares, walked out with $2,000. Sweet: you just printed yourself some cash, which you can use for other purposes anywhere else in the economy, until you decide to flatten out your short.

Returning to a prior example, the Treasury prints a $100 bill, and I put it in the bank, which then lends out $90 to a trader, who hands it in as margin requirements to make a short sale, walking away with $180. And my savings account still says I have a hundred bucks in savings. What will the trader do with her newly-minted $180? Maybe she'll put it in her own saving account, so the bank can loan $160 to somebody else.

All is full of value So, back to value. Picture somebody handing you $100. I don't know how you'd respond to that. Maybe you picture what you'll buy with it, or maybe you have an inherent sense in your gut, down where you feel love and hate, that you've been given a piece of paper with some value.

Now consider the papers above. If somebody hands you a $100 90-day bond, you don't get to contemplate the size of Benjamin Franklin's forehead, but you can more-or-less have the same experience of weighing the paper and contemplating the same sort of purchases.

Although we don't often get handed stocks or loan certificates, they have the same weight, and can be traded for the same sorts of things that one could buy with cash. If holding a $100 stock in your hand doesn't have the right weight in your gut, then just sell it for the equivalent value in Benjamins and go back to buying as normal.

The point here is that our currency—the store of our economy's value—is not just bills printed by the Treasury, but all of these financial papers. We care about the velocity of all of it, including the bonds, loans, stocks, and whatever else.

Velocity Mortgages and other loans are frequently bought and sold. E.g., my own mortgage was sold even before I could make my first payment. There are many reasons for selling a debt: one company may be good with retail customer-wrangling but another may be more efficient with monthly servicing; a company may want to offset the risk from another position with the semi-reliable income from being on the receiving side of a debt; a company may have an opinion that interest rates will move in a way the first company didn't expect; a company may want to bundle several loans to pool risk.

Whatever happens, selling the loan frees up the original lender to make more loans.

If you've been following all the subprime mortgage stories, then you know that these subprime mortgages were re-packaged and sold, then re-re-packaged and resold, and so on. Then, as the loans at the base of all this reselling started to default, the loans stopped moving.

Money has a velocity—the rate at which it changes hands; macroeconomists have reduced the measurement of this velocity to a two–decimal-point science. High velocity is the sign of a good economy. Getting back to a fundamental axiom of microeconomics, every trade makes both sides marginally better off, so more trades mean more marginal improvements. Money sitting in the bank is sitting; money being traded is hopefully building something and making people happy.

Or if you think I'm being too airy about perceived value, then go back to the above examples: I put $100 in the bank, and Joe borrows $90. Joe put it in the bank, and Joe's bank now has the reserves to loan out $81 to Jane. Jane puts $81 in the bank, and Econ 103 students have to work out how much money is in the system after a hundred such deposit-loan steps. [hint: a thousand bucks.] If we cut this off at the third loan, then there's only about $340 in the system. So not only does trading add value in a conceptual sense, but in the context of the reserve/margin system, it creates value on the accounting ledgers, too.

At this point, you can see that one of the most fundamental questions the U.S. government faces is also one of the most difficult: how many dollars are there in the system? If we print a billion more, how many billions more will spawn therefrom? If we nudge the various requirements by half a percent, how will that grow or shrink the dollar count? This column is of course leaving out a thousand details, like how Panama, El Salvador, and Ecuador officially don't have their own currencies, but just use US dollars for all affairs, and have their own wheels-within-wheels of dollar multipliers, while many other countries unofficially do the same thing.

The dollar count is fundamental, because too much leads to inflation spirals and too little leads to a sort of block in the economic plumbing where nobody can pay each other or get cash for new projects, and yet we can only make educated guesses about how much cash is in the system. But the overwhelming consensus at the moment is that we're on the blocked-plumbing side of things—the so-called 'credit crunch' that the recent bailout bill is intended to alleviate. These banks deputized to produce money can't do it unless they sell off the existing loans, but those loans aren't moving, because so many of them are terrible and worthless investments. Those lousy mortgages are simply sinks of value, where it sits and waits and prevents banks from re-using it for other purposes. These loans have become brakes on money's—and thus the economy's—velocity. So the bailout bill gives the government a means to produce a few billion more dollars by buying those crappy loans, and thus freeing the banks to re-use their money-producing powers.

[Of course, our government frees up this money partly by printing bonds. Why don't they just print a few billion in $100 bills and then drop them from helicopters? There are explanations for this, but they involve ritual goat sacrifice, which I'm not willing to make for the sake of this superficial discussion. If you want my official opinion about the bailout bill, I personally remain skeptical.]

Risk We like velocity, and elements of the system, like the margin allowance that lets traders make twice as many trades, are intended to maximize velocity. But the risks inherent in all of these velocity-generating and money-producing tricks are clear enough. What if all the depositors come asking for their money at the same time? What if you short sell a stock, making $100, and then the stock price rises to infinity? You've just lost infinity minus a hundred dollars, and now you can't pay back the bank that lent you the original $100, and once you default on that loan they don't have the cash depositors entrusted them with. [Authors often use game metaphors here: maybe *house of cards* or *domino effect*. Things are not so fragile as that implies. Me, I think the appropriate metaphor is to Twister.]

One intuitive response to a disastrous calling-in of all risks at once, like we're seeing now, is to say that we shouldn't be taking all these risks, and should go back to just having the darn Treasury print money and leave it at that.

First, we can't go back. The size of the economy, in the sense of how many dollars people think they have, is calibrated to this system where banks and others can contribute this multiplier effect to the cash printed by the treasury. There's a right amount of money in the system to keep things lubricated, and the current balance depends on these margin-type rules. Also, I really can't picture how banking would work without inducing at least some multiplier (though you can easily argue that 90% is too loose). This doesn't mean that we can't have checks on the system—and more are clearly needed—but the basic contours of the system aren't going anywhere.

If we repealed Regulation T and banned stock trades on margin, then the Treasury would more-or-less have to print that money itself. Same with the bank loans that turn $100 into $190. The government hands off the responsibility of producing money to others, and the cost of that delegation is a risk that the so-entrusted banks will fall apart.

So, you pull out your bank account statement, and it says you have $100 in checking. Where does that value come from? It is partly based upon a promise from the Federal government, but partly a chain of promises from your bank, other people who deposited money into the bank, the other side of the loan or stock transaction that let people make that deposit, and so on and so forth. That $100 is not backed by trust in the U.S. government, but by trust in the whole of the economy.