George, Mickey, Michael, and Money

by Robert F. Graboyes
Federal Reserve Bank of Richmond
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In the basement of the Richmond Fed, a great machine sucks in paper money faster than the eye can see, separates out damaged or soiled bills, purees them into a fine confetti, and sprays out the residue in a green-tinted geyser. Stunned visitors who witness this procedure often react in one of two ways:

1. "What a horrible waste! Can't they just give those old bills to charity?"
or
2. "What a horrible waste! Can't they just give those old bills to me?"

Alas, there is no waste involved. Every shredded bill is replaced by a clean, crisp, newly printed bill of the same denomination. Still visitors ask, "Can't you print the new bills but, instead of shredding the tired, old ones, just give them to people in need? Plenty of folks would happily take them." This suggestion is appreciated, but not pursued—and with good reason.

The machine destroys dollar bills—not dollars. This distinction may seem a bit cryptic, but it provides considerable insight into how a monetary system works. On the road to explaining why the Fed shreds U.S. currency, it helps to ask two questions: (1) Why do George Washington's face, a pyramid with an eyeball, and the words "One Dollar" make a piece of paper valuable? and (2) Why do Mickey Mantle's face and a bunch of baseball statistics make a piece of cardboard worth 24,000 of those George Washington portraits?

Why Is Money Valuable?

This question is difficult to answer without resorting to tautology ("Money is valuable because it's valuable.") Usually, we don't even think to ask the question. Every money and banking textbook explains what money does and how it does it. Economists know how to make a dollar more valuable or less valuable (in terms of what it can buy). People trust the value of a dollar bill, even though by itself it provides no sustenance, shelter, warmth, or entertainment.

In the days of the gold standard one might have argued, "Paper money is valuable because the government promises to exchange gold for your paper money at any time, and gold is valuable." But this, in turn, would not explain why gold is valuable—a question that can only be explained in terms of human psychology and aesthetics. Nowadays, of course, the promise of gold is history, so the value of paper money seems even more mysterious. Economic tools allow us to estimate the demand for money and the supply of money, but no theory explains *satisfactorily* why people demand a particular quantity of money or why they are willing to accept money in the form of a piece of paper. A common answer is:

"A dollar bill is valuable because the government promises it will be valuable." But ultimately, money is valuable for the same reason that any other good is valuable—people want it, and its supply is limited.

In one respect, though, money is different from many goods in that the cost of manufacturing paper money is very low, relative to its price. To build one more $12,000 machine, a manufacturer might have to spend $11,500 in parts and labor. In contrast, producing an extra $12,000 in one-hundred-dollar bills costs the Bureau of Engraving and Printing only a few dollars.

Because printing costs are so low, governments are often tempted to meet their financial needs by simply printing more paper money. This is a short-sighted strategy that, in the end, only erodes the value of the money. When we say that the dollar bill is valuable because the government promises it will be valuable, what we are really saying is that the government promises to keep the supply of money limited.

Why Are Sports Cards Valuable?

Paper rectangles with George Washington's portrait will purchase a drink or a small toy or a large candy bar. Those with Abe Lincoln's face will buy five times as much. And the value rises even higher as we move from Lincoln to Alexander Hamilton to Andrew Jackson to Ulysses S. Grant to Benjamin Franklin. But if you want real value, head on over to Mickey Mantle.

A 1952 Mantle rookie card sells for around $24,000. Why? Some collectors want Mickey Mantle rookie cards—and want them badly—and there are very few left in existence. Many were printed, but their size made them ideal to put into bicycle spokes to make a clacking sound. (Today, a similar clacking sound comes from baby boomers' teeth as they think about the Mickey Mantle cards they once put into their bicycle spokes.) As with paper money and gold, though, there's still no really satisfying theory that explains why a baseball card will bring that kind of price. A 1952 Mantle card is valuable because it's valuable.

What does this have to do with shredded money? We're getting there.

Sports Cards As Money?

Suppose you live in an apartment. On the first of each month, you pay your landlord $1,100, or you have to vacate. January 1 rolls around, and you find your checkbook is empty and the bank is closed. You get an idea. When the landlord arrives, you explain what has happened. Then, in lieu of a check or currency, you offer the landlord a 1997 Michael Jordan gold refractor card, which, according to the catalogs, is worth $1,100. Being from Chicago, your landlord accepts.

In fact, the landlord likes Jordan so much, he says you can pay every month with a 1997 gold refractor card. And you agree to do so. Now, every month, you buy one card and pass it on to your landlord instead of a check. You're happy (you have a source that sells them to you for a little less than $1,100) and the landlord is happy (because he likes Jordan and believes he can sell the card for $1,100).

Then the government comes along and sees how happy you and the landlord are. The government gets an idea! It buys the printing plates for the Jordan cards and prints millions of them. The government gives Jordan cards to needy people all over the United States so they can pay their rent without having to dip into their paychecks or bank accounts. Will tenants and landlords all over America be happy with this deal?

Any kid on the school playground will see where this scheme falls apart. With millions of Jordan cards in circulation, their value will quickly plummet to nothing. Landlords will not accept the cards in payment, and neither will anyone else. The card's original $1,100 value came from a combination of fans' desire for the cards and the limited supply available. The angriest people in this disaster will be the original collectors who paid $1,100 apiece for their cards, since their investments are now worthless.

On to Shredded Money

So why doesn't the Fed just give the old, worn bills to deserving organizations or individuals? The Fed doesn't do so for the same reason it doesn't print Michael Jordan cards and hand them out. There is only so much demand for paper money. If too much circulates, the value of the dollar will drop, meaning that prices will rise. This is precisely what we mean by "inflation." With oversupply, people who own dollar bills or who are owed dollar-denominated debts will lose the value of their assets, just as the Jordan card owners would lose their investments. To prevent inflation, the Fed keeps tight control over how much paper money (and other types of money) circulates. If sports card manufacturers printed copies of rare cards, collectors would cease trusting them. Similarly if the Fed allowed too much money to circulate, people would cease trusting U.S. money.

Bills do get worn out, dirty, and damaged. If they circulate long enough, they become unreadable, vending machines won't accept them, and eventually they just fall apart. So when their condition deteriorates sufficiently, the Fed yanks them out of circulation and destroys them. The needs of commerce demand that we have a good supply of crisp, usable bills, but we must take care that we don't destroy the value of the dollar in meeting this need. As long as the public's demand for paper money is unchanged, the Fed will want to make sure that every bill is replaced—no more and no less. In this way, dollar bills are destroyed, but dollars are not. This policy of destroy-and-replace keeps the currency fresh and also helps maintain the public's trust in the dollar. Loophole

There's one tiny loophole to this story—a way that a little bit of that shredded money might get back into circulation, thus increasing the supply of paper money. Visitors to Federal Reserve Banks often jokingly ask whether we give out free samples of money. Anticipating this question, some Feds pass out tiny bags filled with a bit of the shredded money. And more often than not the recipients then ask, "If I find all the shreds of a bill and glue them back together, can I then spend the reconstructed bill?" The answer is, "We don't encourage it, but we're not worried about it." The problem is, you might spend a lifetime sifting through the shredded money without ever finding enough pieces of a single dollar bill to make it spendable. But if you want to try, good luck!