

The Federal Reserve:

Why that dollar in your pocket is more than just a piece of paper

for doing too little. Everyone agrees that what the Fed does matters enormously.

From where does the Federal Reserve, an institution that is not directly accountable to the voting public, derive such power? And how does that power affect the lives of everyday Americans? The answer to all those questions is the same: The Federal Reserve controls the money supply and therefore the credit tap for the economy. When that tap is open wide, interest rates fall and we spend more freely on things that require borrowed money—everything from new cars to new manufacturing plants. Thus, the Fed can use monetary policy to counteract economic downturns (or prevent them in the first place). And it can inject money into the financial system after sudden shocks, such as the 1987 stock market crash or the terrorist attacks of September 11 or the bursting of the American real estate bubble, when consumers and firms might otherwise freeze in place and stop spending. Or the Fed can tighten the tap by raising interest rates. When the cost of borrowed funds goes up, our spending slows. It is an awesome power. Paul Krugman once wrote, “If you want a simple model for predicting the unemployment rate in the United States over the next few years, here it is: It will be what Greenspan wants it to be, plus or minus a random error reflecting the fact that he is not quite God.” The same is now true of Ben Bernanke.

God does not have to manage by committee; Ben Bernanke does. The Federal Reserve System is made up of twelve Reserve Banks spread across the country and a seven-person board of governors based in Washington. Ben Bernanke is chairman of the board of governors—he’s the “Fed chairman.” The Federal Reserve regulates commercial banks, supports the banking infrastructure, and generally makes the plumbing of the financial system work. Those jobs require competence, not genius or great foresight. Monetary policy, the Federal Reserve’s other responsibility, is different. It might reasonably be described as the economic equivalent of brain surgery. Economists do not agree on how the Federal Reserve ought to man-

Sometimes simple statements speak loudly. On September 11, 2001, hours after the terrorist attacks on the United States, the Federal Reserve issued the following statement: “The Federal Reserve System is open and operating. The discount window is available to meet liquidity needs.”

Those terse and technical two sentences had a calming effect on global markets. The following Monday, as America’s markets opened for their first trading sessions after the attack, the Federal Reserve cut interest rates by 0.5 percent, another act that moderated the financial and economic impact of the terrorist assaults.

How exactly does an inelegant two-sentence statement have such a profound effect on the world’s largest economy—indeed, on the whole global economy?

The Federal Reserve has tools with more direct impact on the global economy than any other institution in the world, public or private. During the economic crisis that began to unfold in 2007, the Federal Reserve used everything in that toolkit—and then acquired some new gadgets—to wrestle the financial system back from the brink of panic. Since then, some have criticized the Fed and its chairman, Ben Bernanke, for doing too much; some have criticized the Fed

age our money supply. Nor do they even agree on exactly how or why changes in the money supply have the effects that they do. Yet economists do agree that effective monetary policy matters; the Fed must feed just the right amount of credit to the economy to keep it growing steadily. Getting it wrong can have disastrous consequences. Robert Mundell, winner of the 1999 Nobel Prize in Economics, has argued that bungled monetary policy in the 1920s and 1930s caused chronic deflation that destabilized the world. He has argued, "Had the price of gold been raised in the late 1920s, or, alternatively, had the major central banks pursued policies of price stability instead of adhering to the gold standard, there would have been no Great Depression, no Nazi revolution, and no World War II."¹

The job would not appear to be that complicated. If the Fed can make the economy grow faster by lowering interest rates, then presumably lower interest rates are always better. Indeed, why should there be any limit to the rate at which the economy can grow? If we begin to spend more freely when rates are cut from 7 percent to 5 percent, why stop there? If there are still people without jobs and others without new cars, then let's press on to 3 percent, or even 1 percent. New money for everyone! Sadly, there *are* limits to how fast any economy can grow. If low interest rates, or "easy money," causes consumers to demand 5 percent more new PT Cruisers than they purchased last year, then Chrysler must expand production by 5 percent. That means hiring more workers and buying more steel, glass, electrical components, etc. At some point, it becomes difficult or impossible for Chrysler to find these new inputs, particularly qualified workers. At that point, the company simply cannot make enough PT Cruisers to satisfy consumer demand; instead, the company begins to raise prices. Meanwhile, autoworkers recognize that Chrysler is desperate for labor, and the union demands higher wages.

The story does not stop there. The same thing would be happening throughout the economy, not just at Chrysler. If interest rates are exceptionally low, firms will borrow to invest in new computer systems

and software; consumers will break out their VISA cards for big-screen televisions and Caribbean cruises—all up to a point. When the cruise ships are full and Dell is selling every computer it can produce, then those firms will raise their prices, too. (When demand exceeds supply, firms can charge more and still fill every boat or sell every computer.) In short, an "easy money" policy at the Fed can cause consumers to demand more than the economy can produce. The only way to ration that excess demand is with higher prices. The result is inflation.

The sticker price on the PT Cruiser goes up, and no one is better off for it. True, Chrysler is taking in more money, but it is also paying more to its suppliers and workers. Those workers are seeing higher wages, but they are also paying higher prices for their basic needs. Numbers are changing everywhere, but the productive capacity of our economy and the measure of our well-being, real GDP, has hit the wall. Once started, the inflationary cycle is hard to break. Firms and workers everywhere begin to expect continually rising prices (which, in turn, causes continually rising prices). Welcome to the 1970s.

The pace at which the economy can grow without causing inflation might reasonably be considered a "speed limit." After all, there are only a handful of ways to increase the amount that we as a nation can produce. We can work longer hours. We can add new workers, through falling unemployment or immigration (recognizing that the workers available may not have the skills in demand). We can add machines and other kinds of capital that help us to produce things. Or we can become more productive—produce more with what we already have, perhaps because of an innovation or a technological change. Each of these sources of growth has natural constraints. Workers are scarce; capital is scarce; technological change proceeds at a finite and unpredictable pace. In the late 1990s, American autoworkers threatened to go on strike because they were being forced to work too much overtime. (Don't we wish we had that problem now . . .) Meanwhile, fast-food restaurants were offering signing bonuses to new employees. We were at the wall. Economists reckon that the speed limit of the

American economy is somewhere in the range of 3 percent growth per year.

The phrase "somewhere in the range" gives you the first inkling of how hard the Fed's job is. The Federal Reserve must strike a delicate balance. If the economy grows more slowly than it is capable of, then we are wasting economic potential. Plants that make PT Cruisers sit idle; the workers who might have jobs there are unemployed instead. An economy that has the capacity to grow at 3 percent instead limps along at 1.5 percent, or even slips into recession. Thus, the Fed must feed enough credit to the economy to create jobs and prosperity but not so much that the economy begins to overheat. William McChesney Martin, Jr., Federal Reserve chairman during the 1950s and 1960s, once noted that the Fed's job is to take away the punch bowl just as the party gets going.

Or sometimes the Fed must rein in the party long after it has gone out of control. The Federal Reserve has deliberately engineered a number of recessions in order to squeeze inflation out of the system. Most notably, Fed chairman Paul Volcker was the ogre who ended the inflationary party of the 1970s. At that point, naked people were dancing wildly on the tables. Inflation had climbed from 3 percent in 1972 to 13.5 percent in 1980. Mr. Volcker hit the monetary brakes, meaning that he cranked up interest rates to slow the economy down. Short-term interest rates peaked at over 16 percent in 1981. The result was a painful unwinding of the inflationary cycle. With interest rates in double digits, there were plenty of unsold Chrysler K cars sitting on the lot. Dealers were forced to cut prices (or stop raising them). The auto companies idled plants and laid off workers. The autoworkers who still had jobs decided that it would be a bad time to ask for more money.

The same thing, of course, was going on in every other sector of the economy. Slowly, and at great human cost, the expectation that prices would steadily rise was purged from the system. The result was the recession of 1981-1982, during which GDP shrank by 3 percent and unemployment climbed to nearly 10 percent. In the end, Mr.

Volcker did clear the dancers off the tables. By 1983, inflation had fallen to 3 percent. Obviously it would have been easier and less painful if the party had never gone out of control in the first place.

Where does the Fed derive this extraordinary power over interest rates? After all, commercial banks are private entities. The Federal Reserve cannot force Citibank to raise or lower the rates it charges consumers for auto loans and home mortgages. Rather, the process is indirect. Recall from Chapter 7 that the interest rate is really just a rental rate for capital, or the "price of money." The Fed controls America's money supply. We'll get to the mechanics of that process in a moment. For now, recognize that capital is no different from apartments: The greater the supply, the cheaper the rent. The Fed moves interest rates by making changes in the quantity of funds available to commercial banks. If banks are awash with money, then interest rates must be relatively low to attract borrowers for all the available funds. When capital is scarce, the opposite will be true: Banks can charge higher interest rates and still attract enough borrowers for all available funds. It's supply and demand, with the Fed controlling the supply.

These monetary decisions—the determination whether interest rates need to go up, down, or stay the same—are made by a committee within the Fed called the Federal Open Market Committee (FOMC), which consists of the board of governors, the president of the Federal Reserve Bank of New York, and the presidents of four other Federal Reserve Banks on a rotating basis. The Fed chairman is also the chairman of the FOMC. Ben Bernanke derives his power from the fact that he is sitting at the head of the table when the FOMC makes interest rate decisions.

If the FOMC wants to stimulate the economy by lowering the cost of borrowing, the committee has two primary tools at its disposal. The first is the discount rate, which is the interest rate at which commercial banks can borrow funds directly from the Federal Reserve. The relationship between the discount rate and the cost of borrowing at

Citibank is straightforward; when the discount rate falls, banks can borrow more cheaply from the Fed and therefore lend more cheaply to their customers. There is one complication. Borrowing directly from the Fed carries a certain stigma; it implies that a bank was not able to raise funds privately. Thus, turning to the Fed for a loan is similar to borrowing from your parents after about age twenty-five: You'll get the money, but it's better to look somewhere else first.

Instead, banks generally borrow from other banks. The second important tool in the Fed's money supply kit is the federal funds rate, the rate that banks charge other banks for short-term loans. The Fed cannot stipulate the rate at which Wells Fargo lends money to Citigroup. Rather, the FOMC sets a target for the federal funds rate, say 4.5 percent, and then manipulates the money supply to accomplish its objective. If the supply of funds goes up, then banks will have to drop their prices—lower interest rates—to find borrowers for the new funds. One can think of the money supply as a furnace with the federal funds rate as its thermostat. If the FOMC cuts the target fed funds rate from 4.5 percent to 4.25 percent, then the Federal Reserve will pump money into the banking system until the rate Wells Fargo charges Citigroup for an overnight loan falls to something very close to 4.25 percent.

All of which brings us to our final conundrum: How does the Federal Reserve inject money into a private banking system? Does Ben Bernanke print \$100 million of new money, load it into a heavily armored truck, and drive it to a Citibank branch? Not exactly—though that image is not a bad way to understand what does happen.

Ben Bernanke and the FOMC do create new money. In the United States, they alone have that power. (The Treasury merely mints new currency and coins to replace money that already exists.) The Federal Reserve does deliver new money to banks like Citibank. But the Fed does not give funds to the bank; it trades the new money for government bonds that the banks currently own. In our metaphorical example, the Citibank branch manager meets Ben Bernanke's armored truck outside the bank, loads \$100 million of new money into the bank's vault,

and then hands the Fed chairman \$100 million in government bonds from the bank's portfolio in return. Note that Citibank has not been made richer by the transaction. The bank has merely swapped \$100 million of one kind of asset (bonds) for \$100 million of a different kind of asset (cash, or, more accurately, its electronic equivalent).

Banks hold bonds for the same reason individual investors do; bonds are a safe place to park funds that aren't needed for something else. Specifically, banks buy bonds with depositors' funds that are not being loaned out. To the economy, the fact that Citibank has swapped bonds for cash makes all the difference. When a bank has \$100 million of deposits parked in bonds, those funds are not being loaned out. They are not financing houses, or businesses, or new plants. But after Ben Bernanke's metaphorical armored truck pulls away, Citibank is left holding funds that can be loaned out. That means new loans for all the kinds of things that generate economic activity. Indeed, money injected into the banking system has a cascading effect. A bank that swaps bonds for money from the Fed keeps some fraction of the funds in reserves, as required by law, and then loans out the rest. Whoever receives those loans will spend them somewhere, perhaps at a car dealership or a department store. That money eventually ends up in other banks, which will keep some funds in reserve and then make loans of their own. A move by the Fed to inject \$100 million of new funds into the banking system may ultimately increase the money supply by 10 times as much.

Of course, the Fed chairman does not actually drive a truck to a Citibank branch to swap cash for bonds. The FOMC can accomplish the same thing using the bond market (which works just like the stock market, except that bonds are bought and sold). Bond traders working on behalf of the Fed buy bonds from commercial banks and pay for them with newly created money—funds that simply did not exist twenty minutes earlier. (Presumably the banks selling their bonds will be those with the most opportunities to make new loans.) The Fed will continue to buy bonds with new money, a process called open market operations, until the target federal funds rate has been reached.

Obviously what the Fed giveth, the Fed can take away. The Federal Reserve can raise interest rates by doing the opposite of everything we've just discussed. The FOMC would vote to raise the discount rate and/or the target fed funds rate and issue an order to sell bonds from its portfolio to commercial banks. As banks give up lendable funds in exchange for bonds, the money supply shrinks. Money that might have been loaned out to consumers and businesses is parked in bonds instead. Interest rates go up, and anything purchased with borrowed capital becomes more expensive. The cumulative effect is slower economic growth.

The mechanics of the Fed's handiwork should not obscure the big picture. The Federal Reserve's mandate is to facilitate a sustainable pace of economic growth. But let's clarify how difficult that job really is. First, we are only guessing at the rate at which the economy can expand without igniting inflation. One debate among economists is over whether or not computers and other kinds of information technology have made Americans significantly more productive. If so, as Mr. Greenspan suggested during his tenure, then the economy's potential growth rate may have gone up. If not, as other economists have argued convincingly, then the old speed limit still applies. Obviously it is hard to abide by a speed limit that is not clearly posted.

But that is only the first challenge. The Fed must also reckon what kind of impact a change in interest rates will have and how long it will take. Will a quarter-point rate cut cause twelve people to buy new PT Cruisers in Des Moines or 421? When? Next week or six months from now? Meanwhile, the Fed has the most control over short-term interest rates, which may or may not move in the same direction as long-term rates. Why can't Ben Bernanke work his magic on long-term rates, too? Because long-term rates do not depend on the money supply today; they depend on what the markets predict money supply (relative to demand) will be ten, twenty, or even thirty years from now. Ben Bernanke has no control over the money supply in 2015. Also remember that while the

Fed is trying to use monetary policy to hit a particular economic target, Congress may be doing things with fiscal policy—government decisions on taxes and spending—that have a different effect entirely (or have the same effect, causing Fed policy to overshoot).

So let's stick with our speed limit analogy and recap what exactly the Fed is charged with doing. The Fed must facilitate a rate of economic growth that is neither too fast nor too slow. Bear in mind: (1) We do not know the economy's exact speed limit. (2) Both the accelerator and the brake operate with a lag, meaning that neither works immediately when we press on it. Instead, we have to wait a while for a response—anywhere from a few weeks to a few years, but not with any predictable pattern. An inexperienced driver might press progressively harder on the gas, wondering why nothing is happening (and enduring all kinds of public assaults on his pathetically slow driving), only to find the car screaming out of control nine months later. (3) Monetary and fiscal policy affect the economy independently, so while the Fed is gently applying the brake, Congress and the president may be jumping up and down on the accelerator. Or the Fed may tap on the accelerator ever so slightly only to have Congress weigh it down with a brick. (4) Last, there is the obstacle course of world events—a financial collapse here, a spike in the price of oil there. Think of the Fed as always driving in unfamiliar terrain with a map that's at least ten years out of date.

Bob Woodward's biography of Alan Greenspan was titled *Maestro*. In the 1990s, as the American economy roared through its longest expansion in economic history, Mr. Greenspan was given credit for his "Goldilocks" approach to monetary policy—doing everything just right. That reputation has since come partially unraveled. Mr. Greenspan is now criticized for abetting the housing and stock market bubbles by keeping interest rates too low for too long. "Cheap money" didn't cause inflation by sending everyone to buy PT Cruisers and Caribbean cruises. Instead we bought stocks and real estate, and those rising asset prices didn't show up in the consumer price index. Add one

new challenge to monetary policy: We were speeding even though the gauges we're used to looking at said we weren't.

It's a hard job. Still, that conclusion is a long way from Nobel laureate Robert Mundell's dire claim that bad monetary policy laid the groundwork for World War II. To understand why irresponsible monetary policy can have cataclysmic effects, we must first make a short digression on the nature of money. To economists, money is quite distinct from wealth. Wealth consists of all things that have value—houses, cars, commodities, human capital. Money, a tiny subset of that wealth, is merely a medium of exchange, something that facilitates trade and commerce. In theory, money is not even necessary. A simple economy could get along through barter alone. In a basic agricultural society, it's easy enough to swap five chickens for a new dress or to pay a schoolteacher with a goat and three sacks of rice. Barter works less well in a more advanced economy. The logistical challenges of using chickens to buy books at Amazon would be formidable.

In nearly every society, some kind of money has evolved to make trade easier. (The word "salary" comes from the wages paid to Roman soldiers, who were paid in sacks of *sal*—salt.) Any medium of exchange—whether it is a gold coin, a whale tooth, or an American dollar—serves the same basic purposes. First, it serves as a means of exchange, so that I might enjoy pork chops for dinner tonight even though the butcher has no interest in buying this book. Second, it serves as a unit of account, so that the cost of all kinds of goods and services can be measured and compared using one scale. (Imagine life without a unit of account: The Gap is selling jeans for three chickens a pair while Tommy Hilfinger has similar pants on sale for eleven beaver pelts. Which pants cost more?) Third, money must be portable and durable. Neither bowling balls nor rose petals would serve the purpose. Last, money must be relatively scarce so that it can serve as a store of value.

Clever people will always find a medium of exchange that works. Cigarettes long served as the medium of exchange in prisons, where

cash is banned. (It doesn't matter whether you smoke; cigarettes have value as long as enough other inmates smoke.) So what happened when smoking was banned in U.S. federal prisons? Inmates turned to another portable, durable store of value: cans of mackerel. According to the *Wall Street Journal*, a single can of mackerel, or "the mack" is the standard unit of currency behind bars. (Some prisons have moved from cans to plastic pouches, because the cans can be fashioned into weapons.) In a can or pouch, mackerel doesn't spoil, it can be bought on account in the commissary, and it costs about a dollar, making the accounting easy. A haircut costs two macks in the Lompoc Federal Correctional Complex.²

For much of American history, commerce was conducted with paper currency backed by precious metals. Prior to the twentieth century, private banks issued their own money. In 1913, the U.S. government banned private money and became the sole provider of currency. The basic idea did not change. Whether money was public or private, paper currency derived its value from the fact that it could be redeemed for a set quantity of gold or silver, either from a bank or from the government. Then something strange happened. In 1971, the United States permanently went off the gold standard. At that point, every paper dollar became redeemable for . . . nothing.

Examine that wad of \$100 bills in your wallet. (If necessary, \$1 bills can be substituted instead.) Those bills are just paper. You can't eat them, you can't drink them, you can't smoke them, and, most important, you can't take them to the government and demand anything in return. They have no intrinsic value. And that is true of nearly all the world's currencies. Left alone on a deserted island with \$100 million, you would quickly perish. On the other hand, life would be good if you were rescued and could take the cash with you. Therein lies the value of modern currency: It has purchasing power. Dollars have value because people peddling real things—food, books, pedicures—will accept them. And people peddling real things will accept dollars because they are confident that other people peddling other

real things will accept them, too. A dollar is a piece of paper whose value derives solely from our confidence that we will be able to use it to buy something we need in the future.

To give you some sense of how modern money is a confidence game, consider a bizarre phenomenon in India. Most Indians involved in commerce—shopkeepers, taxi drivers, etc.—will not accept a torn, crumpled, or overly soiled rupee note. Since other Indians know that many of their countrymen will not accept torn notes, they will not accept them either. Finally, when tourists arrive in the country, they quickly learn to accept only intact bills, lest they be stuck with the torn ones. The whole process is utterly irrational, since the Indian Central Bank considers any note with a serial number—torn, dirty, crumpled, or otherwise—to be legal tender. Any bank will exchange torn rupees for crisp new ones. That doesn't matter; rational people refuse legal tender because they believe that it might not be accepted by someone else. The whole bizarre phenomenon underscores the fact that our faith in paper currency is predicated on the faith that others place in the same paper.

Since paper currency has no inherent worth, its value depends on its purchasing power—something that can change gradually over time, or even stunningly fast. In the summer of 1997, I spent a few days driving across Iowa “taking the pulse of the American farmer” for *The Economist*. Somewhere outside of Des Moines, I began chatting with a corn, soybean, and cattle farmer. As he gave me a tour of his farm, he pointed to an old tractor parked outside the barn. “That tractor cost \$7,500 new in 1970,” he said. “Now look at this,” he said angrily, pointing to a shiny new tractor right next to the old one. “Cost me \$40,000. Can you explain that?”*

I could explain that, though that's not what I told the farmer, who was already suspicious of the fact that I was young, from the city, wearing a tie, and driving a Honda Civic. (The following year, when

* I can't remember the exact numbers, but they were something along these lines.

I was asked to write a similar story on Kentucky tobacco farmers, I had the good sense to rent a pickup truck.) My answer would have been one word: inflation. The new tractor probably wasn't any more expensive than the old tractor in real terms, meaning that he had to do the same amount of work, or less, in order to buy it. The sticker price on his tractor had gone up, but so had the prices at which he could sell his crops and cattle.

Inflation means, quite simply, that average prices are rising. The inflation rate, or the change in the consumer price index, is the government's attempt to reflect changing prices with a single number, say 4.2 percent. The method of determining this figure is surprisingly low-tech; government officials periodically check the prices of thousands and thousands of goods—clothes, food, fuel, entertainment, housing—and then compile them into a number that reflects how the prices of a basket of goods purchased by the average consumer has changed.

The most instructive way to think about inflation is not that prices are going up, but rather that the purchasing power of the dollar is going down. A dollar buys less than it used to. Therein lies the link between the Federal Reserve, or any central bank, and economic devastation. A paper currency has value only because it is scarce. The central bank controls that scarcity. Therefore a corrupt or incompetent central bank can erode, or even completely destroy, the value of our money. Suppose prison officials, in a fit of goodwill, decided to give every inmate 500 cans of mackerel. What would happen to the price of a prison haircut in “macks”? And mackerel is better than paper, in that it at least has some intrinsic value.

In 1921, a German newspaper cost roughly a third of a mark; two years later, a newspaper cost 70 million marks. It was not the newspaper that changed during that spell; it was the German mark, which was rendered useless as the government printed new ones with reckless abandon. Indeed, the mark lost so much value that it became cheaper for households to burn them than to use them to buy firewood. Inflation was so bad in Latin America in the 1980s that there

were countries whose largest import became paper currency.³ In the late 1990s, the Belarussian ruble was known as the “bunny,” not only for the hare engraved on the note but also for the currency’s remarkable ability to propagate. In August 1998, the Belarussian ruble lost 10 percent of its purchasing power in one week.

Massive inflation distorts the economy massively. Workers rush to spend their cash before it becomes worthless. A culture emerges in which workers rush out to spend their paychecks at lunch because prices will have gone up by dinner. Fixed-rate loans become impossible because no financial institution will agree to be repaid a fixed quantity of money when that money is at risk of becoming worthless. Think about it: Anyone with a fixed-rate mortgage in Germany in 1921 could have paid off the whole loan in 1923 with fewer marks than it cost to buy a newspaper. Even today, it is not possible to get a thirty-year fixed mortgage in much of Latin America because of fears that inflation will come roaring back.

America has never suffered hyperinflation. We have had bouts of moderate inflation; the costs were smaller and more subtle but still significant. At the most basic level, inflation leads to misleading or inaccurate comparisons. Journalists rarely distinguish between real and nominal figures, as they ought to. Suppose that American incomes rose 5 percent last year. That is a meaningless figure until we know the inflation rate. If prices rose by 7 percent, then we have actually become worse off. Our paycheck may look bigger but it buys 2 percent fewer goods than it did last year. Hollywood is an egregious offender, proclaiming summer after summer that some mediocre film has set a new box office record. Comparing gross receipts in 2010 to gross receipts in 1970 or 1950 is a silly exercise unless they are adjusted for inflation. A ticket to *Gone with the Wind* cost 19 cents. A ticket to *Dude, Where’s My Car?* cost \$10. Of course the gross receipts are going to look big by comparison.

Even moderate inflation has the potential to eat away at our wealth

if we do not manage our assets properly. Any wealth held in cash will lose value over time. Even savings accounts and certificates of deposit, which are considered “safe” investments because the principal is insured, are vulnerable to the less obvious risk that their low interest rates may not keep up with inflation. It is a sad irony that unsophisticated investors eschew the “risky” stock market only to have their principal whittled away through the back door. Inflation can be particularly pernicious for individuals who are retired or otherwise living on fixed incomes. If that income is not indexed for inflation, then its purchasing power will gradually fade away. A monthly check that made for a comfortable living in 1985 becomes inadequate to buy the basic necessities in 2010.

Inflation also redistributes wealth arbitrarily. Suppose I borrow \$1,000 from you and promise to pay back the loan, plus interest of \$100, next year. That seems a fair arrangement for both of us. Now suppose that a wildly irresponsible central banker allows inflation to explode to 100 percent a year. The \$1,100 that I pay back to you next year will be worth much less than either of us had expected; its purchasing power will be cut in half. In real terms, I will borrow \$1,100 from you and pay back \$550. Unexpected bouts of inflation are good for debtors and bad for lenders—a crucial point that we will come back to.

As a side note, you should recognize the difference between real and nominal interest rates. The nominal rate is used to calculate what you have to pay back; it’s the number you see posted on the bank window or on the front page of a loan document. If Wells Fargo is paying a rate of 2.3 percent on checking deposits, that’s the nominal rate. This rate is different from the real interest rate, which takes inflation into account and therefore reflects the true cost of “renting” capital. The real interest rate is the nominal rate minus the rate of inflation. As a simple example, suppose you take out a bank loan for one year at a nominal rate of 5 percent, and that inflation is also 5 percent that year. In such a case, your real rate of interest is zero. You pay back 5 percent more than you borrowed, but the value of that money has

depreciated 5 percent over the course of the year, so what you pay back has exactly the same purchasing power as what you borrowed. The true cost to you of using someone else's capital for a year is zero.

Inflation also distorts taxes. Take the capital gains tax, for example. Suppose you buy a stock and sell it a year later, earning a 10 percent return. If the inflation rate was also 10 percent over that period, then you have not actually made any money. Your return exactly offsets the fact that every dollar in your portfolio has lost 10 percent of its purchasing power—a point lost on Uncle Sam. You owe taxes on your 10 percent “gain.” Taxes are unpleasant when you've made money; they really stink when you haven't.

Having said all that, moderate inflation, were it a constant or predictable rate, would have very little effect. Suppose, for example, that we knew the inflation rate would be 10 percent a year forever—no higher, no lower. We could deal with that easily. Any savings account would pay some real rate of interest plus 10 percent to compensate for inflation. Our salaries would go up 10 percent a year (plus, we would hope, some additional sum based on merit). All loan agreements would charge some real rental rate for capital plus a 10 percent annual premium to account for the fact that the dollars you are borrowing are not the same as the dollars you will be paying back. Government benefits would be indexed for inflation and so would taxes.

But inflation is not constant or predictable. Indeed, the aura of uncertainty is one of its most insidious costs. Individuals and firms are forced to guess about future prices when they make economic decisions. When the autoworkers and Ford negotiate a four-year contract, both sides must make some estimates about future inflation. A contract with an annual raises of 4 percent is very generous when the inflation rate is 1 percent but a lousy deal for workers if the inflation rate climbs to 10 percent. Lenders must make a similar calculation. Lending someone money for thirty years at a fixed rate of interest carries a huge risk in an inflationary environment. So when lenders fear future inflation, they build in a buffer. The greater the fear of inflation, the bigger the

buffer. On the other hand, if a central bank proves that it is serious about preventing inflation, then the buffer gets smaller. One of the most significant benefits of the persistent low inflation of the 1990s was that lenders became less fearful of future inflation. As a result, long-term interest rates dropped sharply, making homes and other big purchases more affordable. Robert Barro, a Harvard economist who has studied economic growth in nearly one hundred countries over several decades, has confirmed that significant inflation is associated with slower real GDP growth.

It seems obvious enough that governments and central banks would make fighting inflation a priority. Even if they made honest mistakes trying to drive their economies at the “speed limit,” we would expect small bursts of inflation, not prolonged periods of rising prices, let alone hyperinflation. Yet that is not what we observe. Governments, rich and poor alike, have driven their economies not just faster than the speed limit, but at engine-smoking, wheels-screeching kinds of speeds. Why? Because shortsighted, corrupt, or desperate governments can buy themselves some time by stoking inflation. We spoke about the power of incentives all the way back in Chapter 2. Still, see if you can piece this puzzle together: (1) Governments often owe large debts, and troubled governments owe even more; (2) inflation is good for debtors because it erodes the value of the money they must pay back; (3) governments control the inflation rate. Add it up: Governments can cut their own debts by pulling the inflation rip cord.

Of course, this creates all kinds of victims. Those who lent the government money are paid back the face value of the debt but in a currency that has lost value. Meanwhile, those holding currency are punished because their money now buys much less. And last, even future citizens are punished, because this government will find it difficult or impossible to borrow at reasonable interest rates again (though bankers do show an odd proclivity to make the same mistakes over and over again).

Governments can also benefit in the short run from what econo-