Assignment: Read the 3 attached Case Studies on Macroeconomic topics and answer the following questions. The questions for each case are worth up to 10 points total. Answers MUST be typed and submitted in Course Den via a Dropbox as one Word Doc or one PDF.

Deadline: Friday, April 17th at 5pm (in Course Den Dropbox)

Case 4: Ch 14, Health Care Reform

- C4, Q1: If the government attempts to reduce health care expenditures by lowering the fees that physicians can charge for certain procedures, what might be the result in the short run? In the long run?
- C4, Q2: What is special about health care that justifies so much government intervention? (In other words, what problems would arise if the health care sector were completely unregulated and unsubsidized?)

Case 5: Ch 16, Big Bucks for Bailout

- C5, Q1: Who benefits and who loses from our "too-bit-to-fail" policies?
- C5, Q2: Outline the scenario of what might have happened to GM had the federal government allowed it to go bankrupt on its own several years ago.

Case 6: Ch 20, The Fed and Financial Panics

- C6, Q1: If the Fed continued to pay interest on required reserves but stopped paying interest on excess reserves, how would bank lending incentives be changed?
- C6, Q2: If the Fed had not injected reserves into the banking system in 2008, what would have been the consequences for the banks and for Aggregate Demand?

Chapter 14

Health Care Reform

The trite but true saying "Nothing is more important than your health" should be replaced these days with another: "Nothing is more important than who pays for health insurance and health care." The most massive change in the history of our nation's health care insurance and delivery systems occurred in 2010 with the passage of health care "reform." The stakes are big. Americans spend 17 percent of total national annual income on health care—we are, indeed, the world's health-care spending champions.

How About the Uninsured?

So what about all those people who are said to be shut off from this health care system because they lack health insurance? The typical claim in the debate over health care reform was that 15 percent of Americans lacked coverage—but like many numbers you hear in political debates, this one needs to be taken with a grain (or perhaps a shaker) of salt. Of the forty-five million people said to lack health coverage in America, about eighteen million were aged 18–34, a group for which health expenditures are far lower than average. About twelve million were fully eligible for publicly provided (and paid-for) health insurance, but chose not to take it. And among all of the uninsured, fully half were uninsured only part of each year. The bottom line is that only about 3 percent of Americans (fewer than one in thirty) were likely to have a significant demand for health insurance and yet be unable to get insurance on a persistent basis. For these individuals, the lack of insurance was an onerous, often terrifying, fact of life. But it is important to keep in mind that the number of people in this group is a far cry from the numbers that are normally bandied about.

Rising Health Care Costs in America

Fifty years ago, spending on health care in this country was not even 6 percent of national income. Today it is 17 percent, about equally divided between public spending and private spending. And there is no doubt that even as we speak, health care costs have been rising in America. There are at least four reasons why health care costs have gone up so much:

1. *An aging population:* The top 5 percent of health care users incur more than 50 percent of all health care costs. Senior citizens (all of them covered by Medicare) make up most of the top users. It is not surprising, therefore, that as our population ages, we will be spending more on health care. Currently, about 13 percent of U.S. residents are over 65. By 2035, this number will have risen to 22 percent. Given that the elderly consume in excess of four times as much per capita health care services as the rest of the population, the demand for such services is certain to go up with our aging population.

   Of course, populations in Western Europe, Canada, Japan, and other industrialized nations are rising as well. But there the elderly have not played as big a role in pushing up health care costs as in America. The reason is simple. In those other nations, which have national health insurance systems, the elderly are sharply limited on the amount of health care they are allowed to utilize. This is much different from the U.S. Medicare system, which effectively lets senior citizens choose to have whatever health care services they wish.

2. *More expensive technologies:* Each advance in medical technology brings with it more expensive equipment and prescription drugs. A magnetic resonance imaging (MRI) scanner costs at least $2 million. A positron emission tomography (PET) scanner costs over $4 million. Each time these machines are used, the fees range to as high as $2,000 per procedure. New drugs for cancer can easily cost $250,000 for one course of treatment. Innovation in medicine has played a key role in improving the quality of health care in America, and neither innovation nor spending on it is about to stop. Therefore, we can expect increasing expenditures in medicine just because of advances in equipment and drugs.

3. *When someone else pays:* Between the government (through **Medicare** and **Medicaid**) and insurance companies, more than 80 percent of health care spending is paid for by someone else—a **third party.** Less than 20 percent is paid directly by individuals. This was not always the situation. In 1930, third parties paid only about 4 percent of health care expenditures.

When someone else pays for medical services, we encounter the problem of **moral hazard**: Payment by third parties creates a larger quantity demanded. You may think that people do not react to the price of medical services, but they do. When Medicare went into effect in 1965, the volume of federal government–reimbursed medical services increased by more than 65 percent above what was anticipated when the program was made into law. And when senior citizens received new coverage for prescription medicines in 2003, their spending on prescriptions ended up being *double* the forecast.

Consider an example: If you have a health insurance policy that pays everything, then you have little incentive to reduce your medical care purchases. Why not see a doctor about every sniffle "just in case"? If, in contrast, you have to pay the first $1,000 out of your pocket before an insurance company (or the government) will start paying for your medical care expenses, you will react differently. You will engage, at a minimum, in more wellness activities and you will be less inclined to seek medical care for minor problems. Physicians in hospitals face a type of moral hazard problem, too. If they are reimbursed for every procedure by an insurance company or by the government, they will tend to ask for more tests and procedures "just in case." That means we pay more for medical care.

4. *Obesity:* The Centers for Disease Control and Prevention (CDC) have estimated that almost one-third of Americans are obese. In contrast, fifty years ago obesity was a rarity. The CDC estimates that today about 10 percent of total U.S. medical expenditures are attributable to obesity. About half of these expenditures are being paid for by Medicare and Medicaid. Many expenditures for obese people relate to obesity-caused type 2 diabetes—a disease that is rising at a record rate in the United States. As obesity rises, spending on medical care will follow. (For the causes of increased obesity, see Chapter 3.)

HEALTH CARE REFORM TO THE RESCUE?

A bitterly fought battle over the health care system occurred in the U.S. Congress until new health care legislation was signed into law by President Obama in 2010. After briefly reviewing the key aspects of the two-thousand-plus pages of the new law on this matter, you will see that not all of the promised results can actually come to fruition, especially the promise that "spiraling health care costs will come down."

Here is a brief point-by-point summary of the federal government's new national health care program:

1. *Health care regulations*—Health insurance companies must cover everyone who applies, including those with preexisting medical problems. (As explained below, this new rule will weigh heavily (and expensively) on young people.)
2. *Individual mandate*—Just about everyone living in the United States must either purchase health care coverage or pay a fine up to $750 per year for an individual or $2,250 per year per family (twenty-one states have challenged this mandate in federal court).
3. *Employer mandate*—Firms with more than 50 employees must offer health insurance coverage or pay an annual fine of up to $750 per employee who obtains federal subsidies for such coverage.
4. *Health care insurance subsidies*—A variety of subsidies and tax credits will be provided to lower-income people and smaller firms.
5. *Higher taxes*—A special tax rate of 3.8 percent will apply to nearly all income earnings above $200,000 for individuals and $250,000 for a married couple.

THE MORAL HAZARD PROBLEM WILL WORSEN

You have already been introduced to the moral hazard problem that arises when third parties pay for medical care. Health care reform will worsen moral hazard. Once the national health care program fully goes into effect, tens of millions of U.S. residents are going to be paying a smaller percentage of their health care expenses themselves than they did previously. Consequently, the direct price paid by them for health care services will fall and thus the quantity of health care services demanded will rise. Also, because health insurers will be required to cover this expanded consumption of medical services, total expenditures on health care will increase even faster.

Finally, the moral hazard problem will become worse because more U.S. residents will face reduced incentives to make decisions that promote better health. As people have more health problems as a consequence of this increase in moral hazard, the demand for health care will increase. And as you know, when demand rises, so too will prices and expenditures.

WHY YOUNG PEOPLE WILL PAY MORE

The new law means that soon everyone must buy health insurance. The law also states that insurance companies must give full coverage to those with preexisting illnesses, but without charging them a higher rate. What does that mean? Simply that healthy young people—who will be required to buy insurance policies—will not pay a low price that reflects the low risk of them getting sick. One analysis conducted for the *Associated Press* estimates that beginning in 2014 young adults seeking coverage in the individual health insurance market will pay almost 20 percent more for the same coverage that they could buy today. To see why this is likely to be an understated impact of the new rules, consider this fact: Typically, insurance companies have charged six or seven times as much to older customers as to younger ones in those states that had no restrictions. The new federal law limits this ratio to three to one. That means that a 60-year-old can be charged only three times as much as a 25-year-old. So, who gets stuck? Young adults will, in the form of higher premiums.

WON'T EXTRA PREVENTIVE CARE CUT HEALTH CARE SPENDING?

Supporters of health care reform argue that it will encourage a lot more preventive care, thereby reducing overall health care spending. But Stanford University Medical Professor Abraham Verghese argues that spending more on preventive care will actually drive costs *up*, not down. First of all, everyone knows what illness prevention strategies we can do as individuals—lose weight, eat better, exercise more, smoke less, and wear a seat belt while driving a car. These are cheap, save lives, and cut health care costs.

All other preventive strategies end up costing the economy more. Increased medical screening leads to discovering more potential medical problems and therefore more expenses in the form of additional screening tests and medications. Professor Verghese uses the following example. A test that discovers high cholesterol in a person who is feeling fine is really the discovery of a risk factor and not a disease. Elevated cholesterol levels mean that you have a greater chance of having a heart attack. You could reduce your cholesterol levels through weight loss, better diet, and lots of exercise. Or, you can take a pill every day in the form of a drug called a statin. That pill will reduce your cholesterol levels. Using a statin in the general population costs about $150,000 for every *year* of life it saves in men and costs even more in women. Sorry, no savings to be found here.

THERE ARE INDEED NO FREE LUNCHES

From the onset, the health care debate was couched in absurd contradictions, at least for those who understand limited resources versus unlimited wants, **budget constraints,** and supply and demand. No legislation that promises to subsidize tens of millions of U.S. residents who currently have no health care insurance can possibly lead to lower overall medical care expenditures. That does not mean that such legislation is wrong—that's a value judgment and not a conclusion arising from economic analysis. Nevertheless, it is past time that everyone who takes place in the discussion of health care acknowledges one simple fact. Throughout all recorded history, when any good or service becomes cheaper to the person who uses that good or service, quantity demanded will rise, no matter what the political arguments are to the contrary.

THE MACROECONOMIC EFFECTS OF HEALTH CARE REFORM

Let there be no doubt about it—the most recent health care reform legislation is going to impact the rest of the U.S. economy in significant ways. It will have effects on labor markets, markets for goods and services, and the budgets of federal and state governments. Let's consider these effects in order:

1. *Labor market effects*—The new legislation requires many firms to provide health care insurance when they are currently not providing it. The result will be an increase in the effective wage rates that these firms must pay for each unit of labor. The increased effective wage rate will induce firms to reduce the quantity of labor demanded. The result: Other things being equal, U.S. employment will be lower than it otherwise would have been had there been no mandate requiring firms to pay for employee health care coverage.
2. *Markets for goods and services*—The increase in labor costs that firms will incur in hiring each unit of labor will clearly increase average and marginal costs of production. This will induce firms to decrease their output in all prices. The result: Other things being equal, equilibrium prices will rise in a number of markets and consumers will pay higher prices for many goods and services.
3. *The impact on government budgets*—The new taxes for higher-income people mentioned on page XX went into effect in 2011, so tax revenues began flowing into the new federal health care program immediately. Because federal government expenditures on this new

program are being phased in gradually, the program initially will be financed by the revenues collected in advance. According to most experts, though, the new tax revenues will be insufficient to cover the increases in government health care spending that is going to occur in future years. Ultimately, the federal government will have to search for additional ways to reduce its health care expenditures—such as **price controls** on hospitals and physicians—or increases in tax rates and new taxes. Note that the federal program does not include revenues for states to cover the higher expenses of additional people admitted to the Medicaid program, which state governments administer. Consequently, state governments will also face pressures to increase tax rates or to reduce health care service costs.

Chapter 16

Big Bucks for Bailouts

Alstom, American International Group (AIG), Anglo Irish Bank, Bear Stearns, Citigroup, General Motors (GM), Chrysler, Freddie Mac, and Fannie Mae. What do these companies—which are based in a variety of nations and offer different products—all have in common? They have been "saved" by government (read: taxpayer) subsidies. They were, according to proponents of these subsidies, just "too big to fail." Now that concept—too big to fail—could be looked at in the alternative. Perhaps those companies were too big to save—at least from the points of view of taxpayers and the long-run efficiency of each country's economy. We shall first look at what "too big to fail" means, and then examine this concept in the context of what has been called **industrial policy.**

The Logic (or Illogic) Behind Too-Big-to-Fail Policies

The people who support preventing very large corporations from failure, whether those companies are manufacturers of high-speed trains, insurance providers, investment banks, commercial banks, automobile producers, or large guarantors of mortgages, sincerely believe that a failure of a very large corporation can create **systemic risk,** that is, threaten a widespread reduction in economic activity throughout an economy.

Consider two contrasting examples. Your local CD retailer is having a tough time competing against online downloads. Eventually, the company goes out of business, laying off its three employees and abandoning the rented retail space in the local mall. There are no systemic risks with such an event. A few people have to look for jobs and the landlord of

the rented space has to find another tenant, but that is the extent of the impact of the firm's closure.

Now consider GM. For years prior to its partial takeover by the government, it was losing hundreds of millions, even billions, of dollars per year. Over the past half century or so, during good economic times GM routinely agreed to generous labor contracts. During bad economic times, it was stuck with high labor costs, including high pension benefits (see Chapter 17). By the time the recession of 2007–2009 rolled around, GM was simply uncompetitive due to its high costs. Just as the company was about to go under, it was saved by the U.S. government (with subsequent help from the Canadian government). Those who argued for government intervention claimed that GM's bankruptcy would put several hundreds of thousands of people out of work and lead to a vicious cycle of increasing unemployment throughout the United States and elsewhere. In other words, GM was too big to fail and had to be saved. The systemic risks were supposedly too great to let it go under.

The Moral Hazard Problem with "Saving" Large Corporations

When large corporations are "saved" by the government, the taxpayers who actually pay the bill also face the possibility of a **moral hazard** problem. Why? Consider how labor leadership and management in corporations can reason if they believe they are candidates to be "saved." Believing that they will not be allowed to fail, they can engage in activities that are not necessarily in the long-term interests of the company. (And, we should add, not in the interests of the taxpayers (that's you and us) who will be subsidizing them.)

When times are tough, the head of a labor union whose workers produce GM's cars knows that the union does not have to "give back" very much to the company in terms of lowered fringe benefits and lower wages. Why should it? The company is too big to fail, after all. The managers of GM act the same way: They know that during tough times they don't have to institute dramatic cost-saving actions because—you guessed it—GM is too big to fail.

This moral hazard problem influenced the behavior of all of the large corporations that were saved by taxpayers in the United States—Chrysler, Citicorp, Goldman Sachs, and AIG, among others. Those companies' workers and managers were no longer subjected to an unfettered competitive marketplace, and they acted accordingly. The result was (and continues to be) the **inefficient** use of resources. Costs were not trimmed where and when they should have been, excessive risks were

assumed, and so forth. As a result, resources were not employed in their most productive uses. So, not only are taxpayers footing the bill, but also the economy will in general grow less rapidly than it would have without the subsidies to the too-big-to-fail corporations.

INDUSTRIAL POLICY IS BACK IN FASHION

The latest worldwide recession officially lasted from 2007 to 2009, but its reverberations may still be going on as you read this. The recession brought back in vogue something called **industrial policy.** The too-big-to-fail policies examined above are just an example of this policy. The way President Barack Obama put it in 2009 was this: The government must make "strategic decisions about strategic industries." The $800 billion stimulus legislation in that year earmarked billions of taxpayer dollars for investment in "strategic" sectors, such as renewable energy, advanced vehicles, and high-speed rail systems. But the United States was not alone. At about the same time, Japan announced that it would create a strategy to make sure that its key industries would not be "left behind." France declared that it would invest in "strategic" industries, too, although the government there used the phrase "national champions." The bottom line is that an essential part of the new industrial policy in Europe and Asia, as in America, has been to lavish taxpayer subsidies on banks, carmakers, and other favored industries.

If we define industrial policy as attempts by governments to promote the growth of particular industrial sectors and companies, history does not shed a favorable light on these policies. Simply claiming, as Obama did when he visited Detroit in 2010, that taxpayer subsidies "saved jobs" does not really tell us anything. After all, the correct analysis of any industrial policy must compare costs with benefits. How much did those "saved" jobs cost the economy?

Consider the example of the semiconductor industry. Japan spent somewhere between $20 and $50 billion (estimates differ) during the early 1980s to make the Japanese firms in this industry competitive. All that money was spent for naught. None of the Japanese firms appreciably improved their market shares, and the two world leaders in the industry today are American (Intel) and South Korean (Samsung). Singapore spent about $15 billion in 1995 as part of a similar drive, as did China in 1999. Both policies were failures—no companies from either nation have managed to crack the top ten.

Britain tried similar maneuvers, just as it tried to prop up some of its ailing car companies. Both efforts failed. France spent billions trying to construct an information technology industry, a move that ultimately

failed also. The simple fact is that the more globally competitive an industry is, the harder it is for government industrial policy to effectively promote companies in that industry. And because virtually all major industries are globally competitive, this means that industrial policy is destined to fail.

PICKING WINNERS—NOT AS EASY AS IT SEEMS

Most industrial policy is based on the belief of government officials that they are able to pick winners. Whether the selection process is undertaken in a poor country or in a rich country does not seem to matter, for reasons that are easy to understand. Consider the incentives facing government employees in charge of industrial policy compared to the incentives of decision makers in the private sector. First, the government policymaker is using other people's money—taxpayer dollars, yen, or euros. It is difficult for us to imagine that a government employee using other people's money is going to make better predictions about which industries or companies are going to be winners in the future than someone who has "skin in the game." After all, if the government employee is wrong, the financial consequences are minimal. Her or his life savings are not at stake.

There is also a certain amount of arrogance involved in a government official deciding where best to move resources in the economy. Under what circumstances would such an official have better information about future demands for certain products or services than people in the private sector? There are almost none of which we can think.[1] After all, those who pick winners in the private sector are rewarded handsomely and can become millionaires or even billionaires. In contrast, a government official who is successful in this endeavor might move up a grade level in civil service rating or perhaps be mentioned as an exemplary employee. Small peanuts, we would say.

CREATIVE DESTRUCTION AND BANKRUPTCY

Do you know what a Polaroid camera is? Probably not, because that good has virtually disappeared due to competition from a better instant photography medium—digital cameras. Do you know what an eight-track cassette tape is? Probably not. It was replaced by the compact disc, which is now becoming obsolete because of competition from online music downloading. Have you ever heard of FedMart? Probably not.

1 The (possible) exceptions involve industries (such as aerospace) where correct decision making is heavily dependent on "top secret," government-held information.

It was eventually put out of business by innovative competitors, such as WalMart.

A Harvard economist named Joseph Schumpeter (1883–1950) had a term for the death of certain companies over time—**creative destruction.** He used this term to describe the process by which the economy is transformed by innovation. In his view (now generally shared by economists), innovative entry by entrepreneurs is the economic force behind sustained long-term **economic growth.** In the process of innovation, the value of established companies (and many of their specialized workers) is destroyed. Of course, at the same time, even *more* value is created elsewhere by the innovation. Indeed, the process of creative destruction is at the heart of sustained economic growth.

We see most dramatically the process of innovative destruction at work when we see companies going **bankrupt.** Many companies simply disappear when they go bankrupt, forcing employees to seek work elsewhere. Other companies emerge from bankruptcy leaner and better able to compete. When a bankrupt company emerges from bankruptcy, most of its creditors and shareholders have lost considerable sums. Many of its workers have been laid off or have had to accept reduced salaries and benefits, even if they previously had a union contract. That is what would have happened, without taxpayer subsidies, for GM, Chrysler, Citicorp, Goldman Sachs, and AIG.

BUT WHAT ABOUT SAVING JOBS?

Whether bankruptcy is involved or not, creative destruction necessarily means that people will have to move from one job to another—old jobs are eliminated, new ones created. Supporters of the too-big-to-fail theory (and of industrial policy in general) always argue that they are only trying to "save jobs." It is true that such taxpayer subsidies may protect the jobs of those in the subsidized companies or industries. But that is hardly job-saving **fiscal policy.** Every subsidy to save a job in a company or industry has to be paid for. Either there is less government spending (and presumably fewer jobs) elsewhere or taxes must be raised, which means less taxpayer spending (and presumably fewer jobs) elsewhere. Therefore, a job "saved" in one company or industry ultimately leads to job *losses* in unsubsidized companies and industries. (In fact, there is every reason to believe that the jobs lost will *exceed* the jobs saved—see Chapter 25.) Economists are fond of saying that there is no such thing as a free lunch, and this principle applies to any fiscal policy justified as being purportedly "job saving."

NEGATIVE INDUSTRIAL POLICY

Despite all the talk by politicians about "saving" jobs, governments at all levels in the United States regularly have acted in ways that *reduce* employment. Indeed, the tax and regulatory policies of the federal government and many state governments have fostered a climate of **deindustrialization.** We have the second highest corporate tax rate in the world. Perhaps equally important, federal government regulations add dramatically to the cost of production in this country. Estimates of the annual costs go as high as $1.7 trillion for federal regulations, or about 12 percent of annual national income.

Businesses in the United States today are also facing regulatory uncertainty. They do not know whether there is going to be a tax on carbon output. They certainly do not know how to estimate the costs of the 2,400-page health care law or the 2,300-page financial services law, both passed in 2010. The latter requires that 243 new rules be written and no one knows what they will be. The former involves over a hundred new agencies, all of which will write new rules. All of this uncertainty puts U.S. companies at a disadvantage to their competitors in other countries, particularly in Asia.

The bottom line is simple. Despite their willingness to spend your money on bailouts, politicians don't actually seem too interested in promoting the policies that would encourage long-run recruiting and retention of workers. Once again, good politics makes bad economic policy.

CHAPTER 20

The Fed and Financial Panics

The Panic of 1907 began after a failed attempt by Otto Heinze to "corner the market" on **shares of stock** in the United Copper Company. Heinze had expected the demand for United's shares to increase in the near term and thought that if he bought up enough shares quickly at low prices, he could turn around and sell them at a handsome **profit.** His judgment proved wrong, and Heinze had to sell out at devastatingly low prices. Not only did his stock brokerage firm go out of business as a result. More disastrously, the public's confidence in the financial condition of banks that had large holdings of United Copper shares evaporated. Confidence also plummeted regarding the financial health of several banks with whom Otto's brother Augustus was associated.

All of these banks suffered **bank runs,** in which large numbers of customers simultaneously withdrew their deposits, and some ultimately failed as a result. The banking panic soon spread more widely, threatening the security of the entire financial system. It was eventually halted only when the famed financier J.P. Morgan induced a large number of banks to join a consortium and mutually stand behind each other's financial obligations.

BIRTH OF THE FED

The Panic of 1907 achieved notoriety at the time by causing the recession of 1907–1908, but the panic's longer-term importance lies elsewhere. Hoping to avoid a repeat of 1907's financial meltdown, Congress in 1913 established the **Federal Reserve System,** commonly referred to as the **Fed.** The Fed is now the nation's monetary authority and, among other things, our first line of defense against financial panics.

As had been true in prior financial panics, the crux of many banks' woes in 1907 was their inability to convert their assets into the cash that panicked depositors desperately wanted. So the Fed was created to serve as "lender of last resort" to the nation's **commercial banks.** Congress empowered the Fed to lend funds to banks to meet whatever demands that depositors put on the banks, regardless of how great those demands might be. The intention was that there would never be another financial panic in the United States, an objective that, if achieved, would significantly reduce the number and severity of the nation's economic **recessions.**

OPPORTUNITY AND FAILURE

The Fed's first real chance to perform as lender of last resort—the function for which it was created—came in 1930 when several prominent New York banks got into financial difficulties. Customers of those and other banks started withdrawing funds, fearing that their banks might be weak. This spreading lack of confidence was exactly the scenario the Fed was created to defend against—yet it did nothing. The result was a banking panic and a worsening of the economic downturn already under way.

The next year, the Fed had two more opportunities to act as lender of last resort when confidence in banks sagged, yet in both cases it again failed to act. The results were recurring bank panics in 1931 and an intensification of what was by then an extremely severe recession. Early in 1933, eroding public confidence in the banking system gave the Fed yet another opportunity to step in as lender of last resort, and *again* it failed to do so. The resulting banking panic was disastrous and ushered in the deepest stages of what has come to be known as the Great Depression. It is little wonder that Herbert Hoover, who was president of the United States at the time, referred to the Fed as "a weak reed for a nation to lean on in time of trouble."

LESSONS LEARNED

Thirty years after the end of the Great Depression, Nobel laureate Milton Friedman and Anna Schwartz published *A Monetary History of the United States*. Among other things, this book laid out in detail the story of the Fed's failings during the 1930s. The book's lessons were absorbed by at least two people who have since served as the head of the Fed—Alan Greenspan, who was chair of the Fed from 1987 to 2006, and Ben Bernanke, who succeeded Greenspan.

Greenspan's opportunity to have the Fed serve as the banking system's lender of last resort came in September 2001, in the wake of the terrorist

attacks on the World Trade Center towers. Banks found themselves in need of a quick infusion of funds as panicked depositors made large-scale withdrawals of cash. The Fed quickly stepped in to provide funds to banks, enabling them to meet the demands of depositors without having to sell off **assets** quickly at depressed prices. A terrorist attack had surely never been contemplated by the legislators who created the Fed. Nevertheless, the Fed acted vigorously as a lender of last resort and thus certainly achieved the objectives of its creators—prevention of financial panic.

THE PANIC OF '08

Only 2 years after he replaced Greenspan as chair of the Fed, Ben Bernanke had an even bigger opportunity to put the Fed to work. Late in 2008, rapidly eroding confidence in America's financial system led to the near or total collapse of several major financial firms. Many commercial banks, investment banks, and even insurance companies were suddenly in dire condition. Potential borrowers across the country found themselves unable to obtain funds from anyone, at any rate of interest. Although circumstances differed from 1907 in that commercial banks were not at the center of the panic, there was no doubt about one point: The Panic of '08 was just as threatening to the U.S. economy as its century-old predecessor had been.

Mindful of the costs of inaction, the Fed moved swiftly to maintain and restore confidence in key components of the financial system. But its actions were considerably broader than ever before. Historically, for example, the Fed has lent funds to commercial banks and to the federal government itself. But in 2008, the Fed also lent hundreds of billions of dollars directly to nonbank corporations around the country, including tens of billions to insurance giant AIG. The Fed also began purchasing obligations of government-sponsored **mortgage** market giants Fannie Mae and Freddie Mac, hoping to encourage more lending for home purchases. And finally, the Fed agreed to the following trade with commercial banks: It would exchange billions of dollars of risk-free federal **bonds** it held for billions of dollars of high-risk private bonds that they held. In effect, the Fed helped the banks remove high-risk assets of questionable value from their **balance sheets,** thus reducing the chances that skittish depositors might suddenly make large-scale withdrawals of funds from commercial banks.

THE SURGE IN EXCESS RESERVES

On many of their deposits, commercial banks are required to keep a minimum amount of **reserves** on hand, either in their vaults or on deposit with the Fed. These are referred to as **required reserves.** Any reserves

above these minimum required levels are called **excess reserves.** Over the past 70 years, bank holdings of excess reserves have generally been quite small, amounting to no more than a few billion dollars for the entire banking system. And this is not surprising. In normal times, banks generally keep only enough excess reserves to handle day-to-day transactions with depositors because they can earn interest on any funds they lend out.

By 2009, excess reserves soared to more than $800 billion, and eventually topped $1.2 *trillion*. Total reserves (required plus excess) were up sharply because the Fed was giving banks reserves in return for other assets. Among the purchases were commercial paper (debts issued by private companies), securities backed by credit card debt and home mortgages, and even home mortgages themselves. But almost all of the Fed-provided reserves simply sat there—either in bank vaults or on deposit with the Fed—because banks lent almost none of them out.

Banks across the country held on to the excess reserves for three reasons. First, the sagging economy meant that borrowers were riskier and hence less profitable at any given interest rate. Second, depositors were greatly concerned about the financial condition of commercial banks. The banks therefore wanted plenty of funds on hand—in the form of excess reserves—in case they had to meet increased withdrawal demands by depositors. Oddly enough, the third reason for the failure of banks to lend out reserves was a new policy implemented by the Fed itself.

PAYING INTEREST ON RESERVES

In 2008, the Fed began paying interest on the reserves held by commercial banks, something it had never done before. And it was paying interest not just on required reserves but on *excess* reserves as well. This policy encouraged banks to hold excess reserves rather than to lend the funds to customers. Thus, the payment of interest on commercial bank reserves made it *more difficult* for companies and individuals to get loans. (See Chapter 21 for more on this.)

On balance, it remains to be seen whether the Fed actions during the last recession lived up to the expectations that the Fed's founders had more than a century ago. By providing funds to banks and other financial institutions, the Fed helped reduce the impact of the financial panic and helped prevent widespread runs on commercial banks. Nevertheless, the Fed decision to pay interest on reserves markedly discouraged banks from lending those reserves to companies and households across the land. This surely *slowed* recovery from the recession. Only time and further study will tell whether, on balance, the Fed's actions during the recession made us better off—or worse off.