

is growing that these countries—call them the risky rich—will no longer be able to finance these deficits, raising the alarming possibility that they might default on their sovereign debt or wipe it out with high inflation.

Not even the United States is immune to this possibility. Its deficits are soaring, thanks to foolish tax cuts and the cost of bailing out everyone from banks to car companies to homeowners. As the United States continues to borrow more and more money from abroad, its creditors have started to whisper the unthinkable: that the United States might resort to the time-honored way of making debts disappear, by cranking up the printing press and flooding the world with depreciated dollars.

It may or may not happen, but that such a scenario even merits serious discussion portends a major geopolitical shift. For many decades the United States enjoyed international political and economic hegemony, thanks in part to the dollar's role as a reserve currency for the rest of the world. But over the last twenty years the United States has increasingly spent more than it has produced and earned, and imported more than it exports. As it went from being the world's biggest creditor to being its largest debtor, its power has weakened. So too has the dollar, which conceivably may one day be replaced by, say, the Chinese renminbi.

In this chapter we look at the origins of this disquieting development, about which a remarkable amount of confusion and misinformation reigns. How might these problems resolve themselves in the coming years? We will assess different options for managing the difficult transition from the American Century to what may well become the Chinese Century.

This tectonic shift may well take place in a disruptive, disorderly fashion; only time will tell. But if it does happen suddenly, it won't be pretty. Sovereign debt defaults, high inflation, and currency crashes are bad enough when smaller, emerging markets crumble and fall, commonly spawning widespread bank runs, devastating inflation, exploding unemployment, and widespread political and social unrest. If the world's largest and most powerful economy—the United States—were to fall prey to that kind of crisis, one can only imagine the effects. Such a calamity would give “too big to fail” a whole new and scary meaning.

Chapter 10

Fault Lines

The financial crisis that crept onto the radar late in 2007 and reached gale-force intensity in 2008 has come and gone. We live in its aftermath, and like the survivors of a hurricane, we're mopping up the damage and picking up the pieces. At this point, it's tempting to assume the worst is behind us. Unemployment may continue to climb and housing prices could resume their downward slide, but a consensus holds that we've weathered the storm.

But crises of other kinds loom on the horizon, crises of countries and currencies, in which nations default on their debt or see their monetary system collapse. Such crises were largely absent in 2007 and 2008: nations didn't default on their debt, nor did monetary systems break apart at the seams, even if currencies fluctuated wildly. Only Iceland came close to total collapse.

Sadly, Iceland may soon have some company. In the past, speculative booms and busts often triggered a wave of sovereign debt defaults. This time around, as a consequence of bailouts and stimulus programs, many of the world's advanced economies are now running record fiscal deficits. The risk

Accounting for the Current Account

In order to better grasp what may lie ahead for China and the United States, we must understand an important measure of a country's economic health: the current account.

A country's current account is its "external balance," a measure of how its economy compares with those of other countries at any given time. The current account balance comes in two flavors: a current account *surplus* and a current account *deficit*. While it's theoretically possible for a country to have a current account of zero, that doesn't really happen; it would be like a corporation that reported neither a profit nor a loss.

That said, countries aren't really like corporations; they have bigger and more complicated balance sheets. One ingredient of a country's current account is the tally of its imports and exports. The difference between them yields either a negative or a positive number. Some countries, like the United States, run a trade deficit, meaning that they import more goods and services than they export. That's a negative number. Other countries, like China and Japan, run a trade surplus, exporting more goods and services than they import. That's a positive number.

That number is one part of a country's current account. But the current account also takes stock of the country's foreign assets and foreign liabilities. Let's begin with assets. If the United States owns equities, bonds, or even real estate in another country, these holdings generate income in the form of dividends, interest, and rent; it all flows into the United States. That's a positive number. On the other hand, if companies in the United States have issued equities or debt that is owned by nonresidents, or if the United States itself has issued government debt owned by nonresidents, these are liabilities: they cause money—in the form of dividends or interest payments—to flow out of the country. That's a negative number.

The current account adds together the difference between exports and imports (the balance of trade) and the difference between income earned on foreign assets and payments made toward foreign liabilities (what economists call "net factor payments"). Additionally, the current account has a third component: one-sided transfers of money across national boundaries,

such as foreign aid and migrant worker remittances back home. Such transfers tend to be relatively minor, except in certain countries that receive a lot of aid (in sub-Saharan Africa, for example) or that have a lot of their citizens working abroad (the Philippines and some Central American economies), so let's leave that figure aside for now. In any case, if the number derived from adding all three components together is negative, the country is running a current account deficit. If that number is positive, it's running a surplus.

As a measure of a country's overall health, the current account can be misleading. Japan, for example, is now running a current account surplus. That may seem strange, since Japan's government has issued an astonishing amount of debt; one might expect it to be running a current account deficit. But it isn't, because Japan exports far more than it imports. In addition, most Japanese government debt is purchased by Japanese citizens, so it doesn't show up as a debt owed to other countries. That helps give Japan—a country not known recently for its robust economy—a current account surplus.

Now consider the United States, which is running a significant trade deficit. In addition, its government is issuing more and more debt, much of which is financed by investors overseas. Finally, until recently consumers spent far in excess of their income. That spending too was heavily financed by overseas investors, who snapped up securities derived from American mortgages and credit card debt. All these imbalances help contribute to what is now the biggest current account deficit in the world.

By contrast, China has the world's biggest current account surplus. Plenty of money flows into China as payments for all the goods that it makes and exports. Moreover, China has relatively little debt of its own, and foreigners don't own much of it. But it owns lots of debt issued in other countries, most obviously American mortgages and government bonds. China's massive current account surplus thus leads to an accumulation of foreign assets, like U.S. Treasury bonds. In this way, money flows from countries that run current account surpluses (China) to those that run current account deficits (the United States).

A country's current account balance also represents the difference between its "national savings" and its "national investment." This distinction is key. Let's start with national savings. Both the public sector (government) and the private sector (households and businesses) bring in income,

in the form of taxes, wages, salaries, or other revenue. Different sectors of the economy then spend some or all of that income on things, which qualifies as consumption: the government purchases military supplies, a household buys food, or a manufacturer procures raw materials. After all that consumption, the aggregate amount left over is known as the "national savings." It is the "money in the pocket" of the nation at large.

Let's imagine that a country's national savings is a positive number: the government runs budget surpluses, and households and businesses have money left over after their consumption too. This money now must be invested somewhere. It can be invested at home: underwriting the construction of a new factory, for example, or going toward other capital improvements. The sum total of the various investments made at home is the national investment. If some savings are still left over after all that national investment, then the country is said to be running a current account surplus. The current account is the difference between national savings and national investment; when that difference is a positive number, as it is in this case, then the extra savings end up flowing out of the country.

This example is very simplistic: more typically, a country's government will run a deficit, even when its households and businesses are running an even bigger surplus. But a country with a positive national savings isn't necessarily running a current account surplus. Not at all. Let's say it plows all of its savings into investments at home, but that doesn't exhaust the demand for investments. (Emerging-market economies, for example, often have a demand for investments that domestic savings alone can't fill.) When that happens, the country is likely to attract investment from abroad, in which case borrowed money flows into the country. The country ends up running a current account deficit.

Clearly there are many ways of looking at current account surpluses and current account deficits. In itself, a surplus or a deficit is neither a good thing nor a bad thing; it's merely a reflection of a more complicated underlying reality. Soaring government budget deficits can fuel a current account deficit, but so can a boom in investment. A fall in private savings because people are consuming too much—particularly goods from abroad—can drive a current account deficit as well. All these different factors can come together either in a deficit or in a surplus.

Let's say a country is running a current account deficit, with excesses in spending over income, investment over savings, and imports over exports. How does it finance these various excesses? Usually other countries will lend the country money by buying up its debt or by investing in its economy by purchasing stocks, or buying real estate, or by directly investing in, acquiring, or creating productive firms (as Japanese and European automakers have built factories in the United States). Alternatively, a country may finance its current account deficit if its central bank sells off its holdings of foreign currency or if domestic investors sell off their assets overseas. Thus the sum of the current account balance and what economists call the "capital account"—the change in the country's private foreign assets minus its foreign liabilities—is equal to the change in the reserves of the central bank.

Normally some countries run deficits and others run surpluses. But in recent years these imbalances have become ever more, well, imbalanced. Up to 2007, when the recent financial crisis hit, the United States and a few other countries ran ever larger current account deficits. How did this happen?

Lessons from Emerging-Market Crises

Economic theory holds that for the most part emerging economies will run current account deficits while more advanced economies run current account surpluses. Theoretically, advanced economies, having a surplus of savings above and beyond their own capital investments, will invest in emerging markets, where capital investment opportunities exceed domestic savings. Investors from advanced economies can buy up debt, equities, and real estate in emerging economies, as well as make foreign direct investments, all in the hope of earning high returns. When they make such investments, sometimes both sides ultimately benefit. At other times, crises are the consequence.

For centuries, as we have seen, crises have followed a pretty predictable path. Foreign investment flows into a country and helps fuel an asset bubble of one sort or another. In the process, as private consumption rises and investment booms, the country's current account deficit widens. Large fiscal

deficits may emerge—and debt and leverage accumulate. At some point the bubble bursts, and various sectors of the economy suffer: households, corporations, financial firms, and the government. Eventually the country defaults on its debt, or its currency collapses; or both happen at once.

In recent years emerging markets around the world have endured some version of this rags-to-riches-to-rags story. The reasons vary greatly. A typical culprit is a current account deficit driven largely by growing fiscal deficits. Fiscal deficits aren't bad in themselves; a country may be issuing debt abroad in order to finance improvements in its infrastructure, which eventually will enable the country to be more competitive, producing and exporting more goods and services, and ultimately turning that current account deficit into a surplus.

Unfortunately, government spending can also be the road to ruin, especially if it ends up going toward the salaries of government officials rather than toward investments in, say, infrastructure. In various ways countries may run large fiscal deficits and issue too much debt. Eventually foreign investors balk at renewing the debt, or refuse to purchase new debt. The result is a "sovereign debt crisis." That's precisely what happened in Latin America in the early 1980s, as well as Russia in 1998, Ecuador in 1999, and Argentina in 2001 and 2002. These countries effectively defaulted on the sovereign debt held by their own citizens and by foreigners, and their currencies collapsed. In each case foreign investors fled, and the domestic economy plunged into a severe recession. In Argentina, for example, consumer prices rose 40 percent in a single year, and unemployment approached 25 percent. Other countries—Ukraine and Pakistan in 1999, and Uruguay in 2002—avoided outright default but sustained significant damage nonetheless. Most of these countries experienced currency crises as well.

A current account deficit, as we've said, need not degenerate into a sovereign debt default or a currency crisis. An emerging market may be borrowing heavily from foreigners in order to finance investments in its economy. For example, in new factories that may become future sources of income. Ideally, these investments will enable the country to produce more goods and services that it can export abroad, enabling it to repay its debts and, it is hoped, run a current account surplus.

But a current account deficit driven by foreign investment can also go

awry, as happened in Indonesia, South Korea, Thailand, and Malaysia in the 1990s. None of these countries were running significant fiscal deficits; rather, their current account deficits derived almost entirely from an excess of capital spending relative to private saving, with foreign investors making up the difference. Yet their current account deficit swelled to unmanageable levels, and eventually these economies crashed. Why?

For starters, much of the borrowing from foreign investors was denominated in foreign currencies: the dollar and the yen. These countries were willing to borrow in foreign currency partly because their central banks were buying and selling foreign currencies in order to maintain a somewhat inflated value for the local currency. They could then borrow even more from foreign creditors, adding to the amount of their foreign debt denominated in foreign currency.

When one of these countries' current account deficits reached extreme levels, some investors finally lost their nerve and fled. The central bank tried to maintain the old rate of exchange, but to no avail. More foreign investors cashed out at the fixed exchange rate, draining the central bank of reserves and undercutting its ability to prop up its own currency. Eventually, the old exchange-rate regime collapsed, as did the currency.

As the value of the local currency plunged, the real value of the debt denominated in foreign currency soared. Borrowers who exported goods had no problem with such debt: they earned foreign currency when they sold their wares and could repay their own debts. But for those whose investments in real estate and local services generated only local currency, the currency collapse was a disaster. They could no longer pay their debts, and many went under.

Other forces conspired to make these countries particularly vulnerable. Most of the foreign investment in these countries arrived in the form of loans rather than equity investment. With equity financing, profits and dividends can decline when times get tough and rise once conditions improve. Debt financing, by contrast, allows much less flexibility: interest and principal on bank loans and bonds have to be paid both in good times and in bad. When a crisis hits, that commitment can be tough to maintain.

For many of these countries it was particularly tough, because their obligations consisted of short-term debt, which had to be rolled over on a regular

basis. That effectively gave foreign investors plenty of opportunities to pull out, which they did when they got spooked. They declined to renew their loans and asked the debtors to pay in full. Many of the latter lacked sufficient liquid assets, such as central bank foreign currency reserves, or could not convert their assets into liquid funds, and defaulted.

Most of the emerging markets that succumbed to crisis ended up going hat in hand to the IMF. The IMF deemed Russia, Argentina, and Ecuador effectively insolvent and pulled the plug, letting them default on some of their sovereign debt. It deemed other countries illiquid but not insolvent and rescued them by offering loans (bailouts) or by brokering agreements in which private creditors agreed to give them some breathing room by rolling over their debt obligations, or by participating in a formal debt restructuring (a "bail-in"). None of this prevented defaults on privately issued debt, and eventually huge numbers of banks and nonfinancial corporations defaulted on debts denominated in foreign currencies.

The string of emerging-market crises that began in the 1980s and continued for the next two decades left an indelible impression on policy makers in many countries, who concluded that a current account deficit was a bad thing: it had, after all, left economies vulnerable when the flows of foreign capital ("hot money") stopped and shifted into reverse. They also concluded that their countries had to prepare for future crises by accumulating war chests of foreign currency reserves that could be used to provide liquidity where needed. Accordingly, they cut their budget deficits and private spending, thereby reducing their foreign borrowing. Having put their financial houses in order, these countries then started to run current account surpluses—and accumulated massive amounts of foreign currency reserves to shield themselves from future crises.

For many of these economies, this accumulation of reserves had another, complementary purpose. A country that runs a current account surplus is likely to see its currency appreciate. For economies that depend on exports, an appreciating currency reduces their products' competitiveness on the global markets. So these economies deliberately bought up foreign currencies on the foreign exchange market, propping up the foreign currencies' value while simultaneously undercutting that of their own. China, home to the world's biggest current account surplus and possessor of one

of the world's most undervalued currencies, has honed this dual strategy to perfection.

That current accounts in most emerging economies in Asia and Latin America went from deficit to surplus surprised most economists. So did the fact that a number of advanced economies—Ireland, Spain, Iceland, Australia, the United Kingdom, New Zealand, and, most important, the United States—went from running surpluses to running deficits.

In fact, these advanced economies started to resemble the emerging economies of a decade earlier: they played host to asset booms financed from abroad. Much of the U.S. housing bubble, for example, was financed by nonresidents—during the boom years they purchased more than half the mortgage-backed securities and collateralized debt obligations. This helped housing prices soar, and Americans felt richer, saved less, and spent more, further exacerbating the country's current account deficit. Residents of other advanced economies did the same. After the financial crisis, these current account deficits narrowed, but none of these countries is likely to run a surplus in the foreseeable future.

These developments ran counter to the conventional wisdom, as well as to historical precedent. Ordinarily advanced economies run surpluses and emerging markets run deficits; a surplus of savings accumulated in advanced economies ends up invested in emerging economies, not the other way around. But we now live in a world where the opposite is increasingly true—a world turned upside down.

Rashomon

The debate over current account imbalances resembles Akira Kurosawa's classic film *Rashomon*. In that saga a terrible crime has occurred in the forest, and various characters concede that something bad has occurred, but each gives a different explanation of what happened and who is to blame.

Likewise, no one disputes the facts of the current economic "crime": global account imbalances are very large and until recently were growing larger. The United States and a few other advanced economies live beyond

their means, while most of the rest of the world—China, Japan, emerging Asia, various oil exporters, and much of Latin America, as well as Germany and a handful of other countries in Europe—do precisely the opposite. But as for who is to blame—and who should be punished—there's very little consensus.

Why? For one thing, within economic circles there are multiple accounts of this "crime," multiple accusations and alibis. While some of them contain shadings of truth, misinformation also abounds. So we must clear the air by addressing a few key questions: Why have these imbalances materialized in recent years? Are they sustainable? And if not, who should address them, and what policies should they pursue?

One of the more specious attempts to account for the current account deficit is the "dark matter" explanation. Proponents of this fairy tale—the economists Ricardo Hausmann and Federico Starzenegger, among others—deny that the current account deficit is really as big as official figures suggest; if it were, they argue, the United States couldn't possibly be borrowing from the rest of the world at such low rates. They point to the fact that the United States is getting a better return on its foreign investments than foreigners are getting on their U.S. investments, which is hard to explain in the context of a massive current account deficit.

But their explanation is simple: there is no current account deficit. It is, they explain, "just a confusion caused by an unnatural set of accounting rules." Instead, there is "dark matter" out there that the existing accounting has failed to capture. This valuable dark matter is difficult to price because it consists of intangibles that the United States provides: things like insurance, liquidity, and knowledge. The authors put particular emphasis on knowledge, arguing that superior "know-how" deployed abroad by U.S. corporations "isn't captured in the statistics, and that all this talk about a current account deficit is nonsense.

This argument has been challenged on a number of points. One, that foreigners investing in the United States have earned less than the United States earns overseas is not surprising: many of them invest in the United States for reasons other than turning a profit. China, for example, has sunk hundreds of billions of dollars into low-yield U.S. Treasury bonds in order to keep its currency cheap and its exports affordable. Moreover, economists at

the Fed have collected data suggesting that the returns realized by the United States abroad and those realized by foreigners investing in the United States are actually the same. That too seriously undercuts the argument.

A more serious explanation of the current account balance is the "global savings glut" hypothesis. Ben Bernanke came up with this one; it effectively deflects the blame for the U.S. current account deficit onto other countries. The problem isn't that Americans aren't saving enough, says this hypothesis, or that the U.S. government is running massive deficits. Rather, the problem is that China and other Asian countries are saving *too much*.

At first glance this argument seems counterintuitive. But many advanced industrial economies in Europe, Bernanke points out, are saving a great deal in anticipation of an aging workforce. Without sufficiently attractive investment opportunities at home, they have sunk those savings into the United States. Even more central to his hypothesis is the idea that frugal citizens of various Asian countries, particularly China, are saving too much and spending too little.

This argument has some superficial truth. Savings rates in China are very high, and consumer spending is relatively low. That's partly due to structural constraints: China has no social safety net and lacks a sound consumer credit system; it's hard to borrow money there to buy a house. So China and other emerging economies have accumulated surplus savings for a reason. Moreover, in an age of financial globalization, money can flow easily across national borders and into the United States, making current account deficits more sustainable than in previous eras.

That said, this line of reasoning has a serious problem: it subtly shifts blame for the massive current account deficit onto foreigners. By that logic, the U.S. consumer shouldn't be blamed for the housing bubble; it's the fault of all those penny-pinching Chinese who sent us their surplus funds. Blaming them is like blaming drug lords in Bolivia for the coke habits of some Americans; there's some truth to the allegation, but the story is far more complicated.

In fact, other forces played a far bigger role in the rising current account deficit, particularly since 2001. Thanks to a recession and the enormous tax cuts that George W. Bush rammed through Congress, fiscal deficits soared. After having taken the trouble to put its fiscal house in order in the 1990s, the United States once again started to issue lots of debt, which the Chinese

and other emerging-market economies purchased. Their only crime was purchasing that debt; American policy makers' crime was consciously pursuing policies that exacerbated the U.S. current account deficit.

The Federal Reserve played a role too, making plenty of easy money available after 2001 and doing little to supervise and regulate the financial system. These policies, more than any "global savings glut" helped create the housing boom, leading to an increase in residential investment and a decline in savings. Yes, much of the investment was financed with savings from other countries, but the Fed helped create the unsustainable boom that attracted these savings in the first place.

Looking back, it's clear that different factors at different points in time have driven today's global account imbalances. In the 1990s the tech boom and the corresponding rise in the stock market attracted an influx of foreign capital and thereby drove the rising current account deficit. That led many Americans to save less and consume more, further fueling the current account deficit. After the bubble's collapse, the deficit should have declined, but it didn't; instead, reckless fiscal policies enacted by the Bush administration sent it soaring.

The current account deficit increased even more after 2004, thanks in part to a dubious housing boom enabled by lax federal regulators. Savings rates fell, and foreign investors snapped up securities derived from the growing number of mortgages. Only after 2007 did the current account deficit finally decline, as the housing bubble burst, imports fell, and households started to save more. A drop in oil prices contributed to the decline as well.

So unlike Kurosawa's *Rashomon*, the tale of the current account deficit "crime" has an obvious culprit: To paraphrase Pogo, "We have met the enemy, and he is US"—the United States.

That's not to say that the United States didn't have help: everything from surplus savings from China to financial globalization enabled the country to run a current account deficit. But enabling is not the same as coercing. So the ultimate responsibility for this mess rests with the United States, which for a decade pursued policies that sent its current accounts deficit soaring. With its reckless tax cuts and its unwillingness to rein in the housing boom, the United States has dug itself deep into a hole.

Dangers and Dilemmas

Economists of a Panglossian bent use several arguments to dismiss concerns about the American current account deficit. Emerging-market economies, they say, will happily finance the deficit for the foreseeable future; they need to keep their currencies cheap, and one way to do that is to buy up U.S. equities and debt. Others point to the fact that the United States enjoys what Valéry Giscard d'Estaing, the French minister of finance in the early 1960s, called the "exorbitant privilege" of having the world's reserve currency. Surely, the reasoning goes, this will forestall the sort of currency crises that plague less fortunate countries. Given these advantages, the United States should be able to keep running massive current account deficits for many years.

That's absurd. The status quo is unsustainable and dangerous, and absent some difficult reforms it will ultimately unravel. Indeed, if the United States doesn't get its fiscal house in order and start saving more, it's headed for a nasty reckoning. When that reckoning will come is anyone's guess, but the notion that it might be put off for decades is delusional. Indeed, some signs suggest that the tide is already beginning to turn. Back in the 1990s the current account deficit was financed in no small part by foreign investment in U.S. equities, which by its peak in 2000 topped \$300 billion. After the tech bubble burst, foreign investment collapsed, and while it has rebounded some, it has not returned to previous levels. Yet during that same period the current account deficit grew ever larger. This was made possible by foreign purchases of debt. The government issued some of that debt; plenty more was issued on the backs of private mortgages and other assets.

Foreign central banks and sovereign wealth funds purchased most of it. In fact, nonresidents now hold about half of the outstanding U.S. Treasury bills and bonds (outside of those held by the Federal Reserve), and two-thirds of these are held by central banks and sovereign wealth funds. In other words, it's not private investors who have financed the lion's share of the current account deficit. They're not stupid: they know the dollar might depreciate and have no interest in putting their money at risk. But

governments and their proxies, as we've discussed, have other motives for buying up this debt.

But they too have their limits. As evidence of foreigners' growing unease, they're not holding on to U.S. debt as long as they once did. A decade ago the average maturity of U.S. public debt was close to sixty months. By 2009 that figure shrank to below fifty months, which reflects growing worry that the dollar will decline in value, whether by chance or by design. Indeed, as the United States accumulates ever more staggering loads of debt, some of its creditors fear that it may try to deliberately depreciate the dollar by "monetizing" the deficit, effectively printing money out of thin air. But then, it's already doing that via quantitative easing.

If the United States were an emerging market, it would have long ago suffered a collapse of confidence in its debt and its currency. That it hasn't reflects the fact that the United States is still regarded as a country that raises taxes and cuts spending when necessary, putting its fiscal house in order. It did so in the early 1990s after a decade of soaring deficits; there's no reason it can't do so again. Moreover, unlike many emerging economies, the United States has never defaulted on its public debt. That goes a long way toward reassuring investors. Finally, and most important, the United States borrows from abroad in its own currency. The potential depreciation of the dollar doesn't increase U.S. liabilities. Instead, that currency risk is transferred to foreign creditors.

That's a key difference. But it doesn't mean foreign creditors will keep piling up hundreds of billions of low-yield government bonds forever. At some point they're going to demand real assets—ownership stakes in American companies. So far the United States has resisted foreign ownership of its most important corporations. In 2005 public outcry stopped the China National Offshore Oil Corporation from purchasing an ownership stake in Unocal, and the following year a similar reaction prevented a state-owned company in Dubai (Dubai Ports World) from assuming management control of a number of key U.S. ports.

These skirmishes reflect a kind of "asset protectionism," in which the United States tries to tell its increasingly powerful creditors where to direct their money. Asset protectionism continued during the financial crisis, when several of the nation's biggest banks went hat in hand to sovereign wealth

funds in the Middle East and Asia but refused to cede any significant control to these investors. Many of those investors got burned, which makes it highly unlikely that they'll be content to sit in the backseat next time they're tapped to prop up the financial system.

Many politicians and policy makers seem blithely unaware of how little leverage the United States has with the countries financing our twin fiscal and current account deficits. They tell China it can't buy up American companies, and they threaten to take protectionist measures if China doesn't revalue its currency. That's very quaint—and foolish. In effect, China is underwriting U.S. wars in Afghanistan and Iraq, never mind the bailout of the financial system and any costs associated with reforming health care. Biting the hand that feeds us may play well with voters at home, but with China it has its limits.

Is China's path to global hegemony free of obstacles? No. Only 36 percent of China's gross domestic product comes from consumption. In the United States that figure is upward of 70 percent. While U.S. domestic consumption is too high, China's remains far too low. For now, its continued survival and growth depend heavily on cheap exports to the United States, which are in turn financed by the sale of debt to China. This perverse symbiosis ("They give us poisoned products, we give them worthless paper," explains Paul Krugman) poses a threat to China's long-term interests.

China has other problems too. Undeniably it has staggering reserves, and it has plowed some of its sizable war chest into a massive stimulus program aimed at improving the nation's infrastructure and at forcing state-controlled banks to make loans to various state-owned enterprises. That may work in the short term, but it's not sustainable in the long run. Loaning money to build more factories in a global economy that's already drowning in overcapacity isn't the road to salvation. All it may do is foster a speculative bubble in China that will ultimately leave the nation's banks with a bunch of nonperforming loans.

As of 2010, China and the United States remain locked in what economist Lawrence Summers has described as a "balance of financial terror." Neither side can make a move without upsetting that balance. China can't stop buying U.S. debt, or its biggest market will collapse. Conversely, the United

States can't throw up protectionist barriers, or China will stop financing its profligate ways.

To get out of this bind, both countries need to take simultaneous steps to bring their current accounts into some semblance of equilibrium. The United States must tackle its twin savings deficits: its ballooning federal budget deficit and its low level of private savings. As its first step on the road to redemption, it will have to repeal the misguided tax cuts that the Bush administration pushed through earlier in the decade. If Americans think they can enjoy European-style social spending—universal health care, for example—while maintaining low tax rates, they are wrong. It won't work, and betting that the Chinese will forever foot the bill is wishful thinking.

For their part, China and other emerging economies in Asia need to let their currencies appreciate. They also need to adopt structural reforms to discourage saving, so that more of what China produces gets consumed at home. They must take concrete steps to promote the growth of consumer credit: at present, most Chinese continue to purchase their homes in cash, rather than relying on mortgages. And they must institute the sort of safety nets common in advanced economies, like unemployment insurance and affordable health care. These very basic steps would give China's citizens some assurance that they don't need to save every penny—or renminbi—for a rainy day. Absent these reforms, China will have a hard time stopping its famously frugal citizens from indirectly subsidizing the United States.

The rest of the world can help by trying to trim their own surpluses. More mature economies like Germany, France, and Japan need to accelerate structural reforms that will increase investment, productivity, and growth and (it is hoped) shrink their current account surpluses. Oil exporters like Saudi Arabia need to let their currencies appreciate and start spending more on domestic consumption and on investment in infrastructure and in the exploration and production of more oil.

All these measures would foster an orderly rebalancing of international current accounts. Unfortunately, none of the players in this drama seem to be taking the necessary steps. Everyone seems to be hoping that the status quo—soaring surpluses on one side, widening deficits on the other—is somehow sustainable. It's not. Unless things change, the pressure will continue to build until it can no longer be contained. Then it will snap, with

unpredictable effects. The resulting crisis would be very different from the garden-variety booms and busts we discussed in chapter 1. It would be less a function of capitalism's inherent instability than a deep ebb and flow of geopolitical power. If ordinary financial crises are minor tremors, the abrupt unraveling of global imbalances—never mind the associated sovereign debt defaults and currency crashes—would constitute an earthquake.

So far, we have felt only tremors. The financial crisis wounded a number of advanced economies, raising doubts about the long-term creditworthiness of Greece, Ireland, Italy, Portugal, Spain, and even the United Kingdom. Some of these nations—particularly the so-called Club Med countries of Greece, Italy, Portugal, and Spain—may default sooner rather than later, threatening the European Union and potentially plunging these regions into the sort of chaos that touched Argentina in 2002 and Iceland in 2008.

These tremors will shake the global economy. But they're minor compared with the “big one”—a rapid, disorderly decline of the dollar.

The Decline of the Dollar

In the late 1950s the United States was at the peak of its power. It ran a current account surplus, and the dollar served as the international reserve currency. Under the famed Bretton Woods agreement, signed shortly before the end of World War II, other nations made their currencies convertible into dollars at certain fixed rates, and the United States pledged to convert those same dollars into gold.

Most economists of the day—particularly American economists—thought Bretton Woods was a good idea, but Robert Triffin, a Belgian-born economist, begged to differ. In 1960 he spoke against the idea of having one nation's currency simultaneously serve as an international reserve currency. Such an arrangement, he warned, contained the seeds of its own destruction. Triffin observed that nations that issue reserve currencies—Britain in the nineteenth century, the United States in the twentieth—generally maintain current account surpluses. In the case of the United States, that meant that more dollars flowed into the country than flowed out.

So far, so good. But other countries, Triffin pointed out, would need to hold the reserve currency. The resulting demand for dollars would create a countervailing force, causing dollars to flow out of the United States. Those pressures, Triffin argued, would eventually create a current account deficit, which would eventually undercut the economic standing of the United States and, by extension, the dollar. In effect, Triffin pointed out that the needs of the United States would collide with the needs of the rest of the world, paving the way for the decline of the dollar. That was precisely what happened in 1971, when President Nixon reneged on the pledge to convert dollars into gold.

Triffin's Dilemma remains relevant today. The dollar is no longer convertible into gold, but it remains the world's de facto reserve currency, even as that demand contributes to ever-greater global imbalances. Some economists have claimed that this arrangement—the so-called “Bretton Woods II” system—can persist for the foreseeable future, as dollars flow out of the United States and pile up in the vaults of central banks in Asia and the Middle East.

In fact, this uneasy arrangement shows serious signs of strain. Back in 2001 dollars made up a little over 70 percent of the currency reserves held overseas. Over the succeeding decade, as the fiscal deficits and current account deficit of the United States spiraled out of control, that percentage declined, reaching 63 percent in 2008. In the second half of 2009 foreign central banks displayed a pronounced aversion to the dollar and a strong preference for the euro and the yen; in the third quarter of 2009, dollars constituted only 37 percent of newly acquired reserves—a far cry from the average 67 percent a decade earlier. Gold and even some emerging-market currencies constitute a growing percentage of these reserves.

The ongoing effort to diversify away from the dollar is all the more apparent in the world's sovereign wealth funds. These state-owned investment funds—organizations like the China Investment Corporation—have started to avoid the U.S. Treasury debt that has long been a staple of central bank reserves, focusing instead on higher-yield investments, in everything from hedge funds to mineral rights.

That trend is likely to continue in the coming years. With any luck, the transition will be a gradual process, not a sudden, disorderly collapse. Possibly

the United States may follow in the footsteps of Britain, whose power—and currency—ebbed over many decades. Indeed, though the United States surpassed Britain as the world's biggest economy sometime around 1872, the pound sterling remained the world's premier currency for two more generations. Only after World War I, when Britain went from being a net creditor to a net debtor, did the pound sterling seriously slip, and other countries began diversifying their currency holdings, though as late as 1928 the world's currency reserves still contained twice as many pounds as dollars. After Britain abandoned the gold standard in 1931, the dollar did displace the pound. The Bretton Woods agreement helped cement the dollar's supremacy, though only with the Suez Crisis of 1956—and the further collapse of the pound sterling—did the dollar become the world's unrivaled reserve currency.

The fall of the pound took three-quarters of a century, and we may reasonably hope that the dollar's decline will also proceed at such a leisurely pace. But this sort of historical analogy shouldn't be taken too far. China, which occupies roughly the same position that the United States did a century ago, is climbing the global economic ladder far more quickly than any other nation in history. It will likely surpass Japan as the world's second-largest economy in 2010 or 2011, and it may dethrone the United States from the top spot sooner rather than later. All of this has happened with astonishing speed. While the United States took a century to rise to power, China has managed to go from second-rate status to global power in only twenty years.

That raises the unnerving prospect that the dollar's days may be numbered in years rather than decades. How such an abrupt and disorderly decline might play out is difficult to know. Historically, currencies had some relationship to gold or silver; only in the 1970s was this connection severed entirely. The world's monetary system now rests not on gold but on a fiat currency—a currency that has no intrinsic value, is not backed by precious metals, and is in no way fixed in value. In a way, the dollar occupies the role that gold once did, and its collapse would be no less calamitous than if the regents and bankers of centuries past had opened their vaults one day to find that their precious piles of coin had turned to dust.

That may happen one day if the United States keeps running spiraling deficits. While China will likely continue to purchase debt, other, smaller countries may start to edge toward the exit. That may eventually

prompt a stampede that even China would be tempted to join. Whatever the advantages of the present system for China, at some point the costs will outweigh the benefits.

The United States stands at a crossroads. If it doesn't get its fiscal house in order and increase its private savings, such a seismic event will only become more likely. It's all too easy to imagine a scenario where this plays out, particularly if a political stalemate develops: Republicans veto tax increases, Democrats veto spending cuts, and monetizing the deficits—printing money—becomes the path of least resistance. The resulting inflation will erode the dollar value of the public and private debt held around the world. Faced with such an “inflation tax,” investors around the world dump their dollars, moving them into the currency of a country with a far better reputation for fiscal responsibility.

Should that take place, the United States would pay the price. Up to now, we have been able to issue debt in our own currency rather than a foreign one, shifting the losses of a fall in the value of the dollar to our creditors. If other countries effectively revoked this “exorbitant privilege,” the burden would fall back on us, and our borrowing costs would shoot upward, dragging down consumption, investment, and ultimately economic growth. The price of imports—everything from cheap plastic toys from China to barrels of oil from Saudi Arabia—would rise, crimping a standard of living that Americans have come to consider their birthright. In the process, the dollar would become just another currency in the crowd.

But that invites a question: what would take its place?

The Almighty Renminbi?

At first glance, the Chinese currency—the renminbi or the yuan—seems the obvious candidate to follow in the footsteps of the American dollar. Few other currencies pose serious competition. The British pound, the Japanese yen, and the Swiss franc remain minor reserve currencies. They may offer temporary refuge from an eroding dollar, but they're the currencies of countries in decline. The same could be said, on a larger scale, of the euro, whose

continued survival depends on the unity of a fractious group of countries, many of which shoulder staggering deficits, aging populations, and growing competition from emerging markets.

Far less feasible is a return to gold. For all its recent luster, the idea of making gold the basis of the monetary system remains what Keynes rightly called a “barbarous relic.” While it may provide a temporary sanctuary from a collapsing dollar, its rising value is largely a function of fear and anxiety about the future. Gold is a place to hide, not a foundation for a new monetary order. It has few practical uses, is difficult to store, and exists in minute quantities relative to the present size of the global economy. None of these features make it a good candidate for a reserve currency.

That said, if governments resort to monetizing their deficits, triggering higher inflation, gold could rise sharply in price. But should that happen, central banks would probably not try to corner scarce supplies of gold. More likely they would invest more in oil and other commodities as a hedge against inflation. In other words, they would rush into real assets as they fled fiat currencies like the dollar.

That leaves the renminbi as the long-term alternative to the dollar. China looks much like the United States did when it came to power: it runs large current account surpluses, has become the world's biggest exporter, has a relatively small budget deficit, and carries much less debt relative to other countries. It has already taken subtle steps to challenge the dollar. For example, it has permitted financial institutions in Hong Kong to issue Chinese public debt denominated in the yuan, a crucial step in creating a regional market in the debt and, by extension, the currency. The Chinese finance ministry tellingly described this move as an effort to “promote the renminbi in neighboring countries and improve the yuan's international status.”

China has taken other steps to bolster its monetary power. It has set up currency swaps with several countries, including Argentina, Brazil, Belarus, and Indonesia. It has also pushed some of its trading partners to use the yuan to settle accounts—that is, to denominate their invoices in yuan. This may seem like a small matter, but it's not: at present, much invoicing in international trade uses the dollar as the “unit of account,” even when the trade doesn't involve the United States. This deference—similar to the respect accorded the pound sterling a century ago—reflects the dollar's real

and symbolic status as the international reserve currency. If the yuan gains widespread acceptance in the world's account books, the dollar will see its reserve-currency status usurped.

For now, however, the renminbi faces an uphill battle to become the world's premier currency. Even the Chinese may not want it to happen too quickly. The exchange rate would have to become more flexible, allowing the renminbi to appreciate far more than it has already, and making China's exports less affordable to other countries. In addition, China would need to implement reforms it may not wish to take: easing restrictions on money entering and leaving the country, for example, and making its currency fully convertible for such capital transactions. China would also need to accelerate domestic financial reforms and start issuing much greater quantities of yuan-denominated debt.

Though the Chinese clearly want a greater role for the renminbi, they don't seem eager for it to become the world's reserve currency anytime soon. In 2009 Zhou Xiaochuan, governor of the People's Bank of China, proposed something very different: a new, supra-sovereign currency that would compete with the dollar. Zhou suggested a revision of the Special Drawing Rights (SDR), a quasi-currency created in 1969 under the auspices of the IMF, that can't pass from hand to hand the way a paper dollar or euro does but is purely a unit of account used by the IMF. It derives its value from four underlying currencies that are weighted in different ways: the dollar is the predominant ingredient, followed by the euro, the yen, and the pound. Anyone holding SDRs has a claim on the various currencies contained in the underlying "basket." The instruments can be used for a variety of purposes, like discharging debts owed to the IMF.

The relative quantities of the currencies in the basket get recalculated every five years, and Zhou's broadside made it clear that China expects its currency will be included. But wanting to sit at the table is not the same as wanting to run the show. In fact, Zhou cited Triffin's Dilemma in forcefully arguing for the creation of "an international reserve currency that is disconnected from individual nations and is able to remain stable in the long run, thus removing the inherent deficiencies caused by using credit-based national currencies."

In framing this proposal, Zhou looked back to the Bretton Woods

Conference of 1944. That year John Maynard Keynes pushed the attendees to contemplate the creation of a global supercurrency, called the "bancor," that would derive its value from a basket of some thirty underlying commodities. The Americans rejected the idea and pushed for the dollar to become the world's reserve currency. Zhou criticized that fateful step as misguided. Keynes, he claimed, had been "far-sighted," and the SDR might be a way of resurrecting his ideas.

For now, the idea of turning the SDR into a global reserve currency remains fanciful. A significant number of private and public parties would have to use it as a unit of account, and so far there's no sign of that happening: the SDR remains a creature of the IMF. Nonetheless, the growing interest in expanding its role highlights the degree to which China and many other emerging markets want to replace the dollar with something a bit more stable and resistant to crisis and collapse.

But that's not going to happen without international cooperation. So one of the other institutions that emerged from that fateful 1944 conference will have to be reformed: the IMF.

Global Governance

The swift rise of the economically powerful BRICs—Brazil, Russia, India, and China—and other emerging market economies has underscored the need to reform global economic governance. The original G-7—the United States, Japan, Germany, France, the United Kingdom, Canada, and Italy—cannot possibly claim to speak for the rest of the world. In order to resolve global imbalances, other players must sit at the table. To some extent they already are: in the past few years, the G-20 has started to supplant its more selective sibling, bringing Brazil, Indonesia, South Africa, Saudi Arabia, and other countries into the fold.

While more may be merrier, the G-20 is unlikely to make substantive changes in the global economy and the international monetary system. The G-7 has had enough trouble doing that; more than doubling the number of members may make it impossible, absent a more formal framework for

discussing and implementing policy—and most of the world's economies would still have no voice.

The IMF may be more representative, but it has its own problems. Much of the IMF's decision making takes place via its executive board, which has twenty-four directors, each of whom represents a different global constituency. Unfortunately, European nations are overrepresented, while emerging economies in Asia and Africa are underrepresented. A similar problem bedevils the way the IMF calculates "shares"—the votes each country receives by virtue of its contributions to the IMF. One recent study found that in 2000 and 2001, the collective voting power of China, India, and Brazil was 19 percent less than that of Belgium, Italy, and the Netherlands, despite the fact that by one measure the former cluster of countries had a GDP four times the size—and a population twenty-nine times the size—of the latter.

So far the Europeans have been unwilling to cede power. That's foolish: if the IMF is to have any credibility in the coming years, its allocation of chairs and shares will have to reflect the interests and input of the emerging-market economies. That's true at the very top of the organization too. An informal precedent dictates that an American heads the World Bank while a European leads the IMF. So far, calls to dump this antiquated practice have fallen on deaf ears, further threatening the organization's legitimacy.

The IMF needs to be reformed in other ways too. While it has leverage over its members, this leverage applies only during times of crisis, and only to smaller countries that have trouble meeting payments on their debt. China, Japan, and Germany, nations that act as creditors to the rest of the world, can ignore the IMF. So can the United States, which runs current account deficits but gets to borrow in its own currency. In effect, the IMF can do nothing to force China, Europe, and the United States to change their ways. Worse, it has been reluctant to use the bully pulpit, failing to name and shame countries whose actions threaten the stability of the global economy.

That doesn't mean the IMF should be abandoned. Even with its limited resources, it can tackle one problem in particular: current account imbalances. As we have seen, emerging economies came away from the crises of the 1990s with two lessons: avoid running current account deficits, and amass a war chest of foreign currencies in anticipation of an international liquidity crunch. These strategies paid off during the recent crisis: countries in

Asia and Latin America that had surpluses and substantial foreign currency reserves aggressively intervened to prop up their own currencies, reassuring foreign investors that they could deal with a liquidity crisis without having to beg for support from the IMF.

However commendable, independence from the IMF has come at a serious price. Not only do these strategies contribute to unsustainable balances, but the real cost of such self-insurance—trillions of dollars stuck in low-yield assets—is high. Moreover, if left unattended, these reserves can help fuel asset bubbles in the countries that amass them. While governments sometimes deal with this problem by selling government bonds to soak up or "sterilize" the surplus cash, they end up paying high rates of interest on these new obligations—yet another cost to bear.

The IMF can address these problems, at the very least providing more liquidity in times of crisis. Until recently IMF loans came with strings attached: countries that accepted them had to agree to undertake economic reforms that the IMF deemed necessary. But not every country that suffers from a liquidity crunch needs to overhaul its economy. So during the recent crisis, the IMF offered a so-called Flexible Credit Line to qualifying countries. This is a good start. In the future, precautionary lines of credit should be made available to a greater range of countries as soon as signs of a crisis appear.

The IMF can also expand its issue of SDRs, particularly in times of crisis. In 2009 it obtained the right to issue \$250 billion worth of SDRs, some of which went to emerging-market economies. That program should be expanded, especially through the issuance of international bonds denominated in SDRs. Central banks could purchase them to bulk out their reserves without contributing to the potential instability that conventional currency purchases cause (because the SDRs effectively spread the burden among several currencies rather than targeting a single one). Here the IMF should attach some strings: any recipients of SDRs should be forced to reduce their current account surpluses and otherwise reduce their accumulation of foreign currency reserves.

These modest proposals may go a long way toward weaning the global economy off the kinds of imbalances that played a role in the recent crisis. But if the world is going to move away from an obsolescent monetary

system dependent on the declining dollar, much more will have to be done. A greater reliance on SDRs is a good first step but only a small one.

Addressing these challenges will require a level of international cooperation that has been noticeably absent in recent years. Whether the world's major economies will cooperate for the common good is an open question. If the United States and China continue to focus on short-term national interests, imbalances will continue to pile up, and an already-fragile international monetary system may fall victim to accumulated strain and stress.

In fact, the historical record would suggest that we live at a particularly vulnerable moment in financial history. In the past, international banking crises like the recent one have often been a prelude to waves of sovereign debt defaults and currency crashes. Economies damaged by the effects of asset bubbles gone bust and the consequent banking crises may limp along for a little while, but many will ultimately succumb, victims of accumulated injuries. That's going to be especially likely if the sorts of current account balances that preceded the recent crisis continue to spiral out of control. If they unravel, what happened to Iceland may be a harbinger of things to come in the world at large.

The Road Ahead

In chapters 8 and 9 we laid out ways that nations might reform their financial systems, imposing regulations on the banks and other firms that played a role in precipitating the recent crisis. But the push for reform can't end there; in the coming years policy makers will have to address the kinds of imbalances that can eventually cause national, regional, and even global financial crises. Every economy will have to do its share rather than try to free-ride on the system, using imbalances for its own advantage.

These reforms can approach the problem on the demand side and on the supply side; so far reforms on both fronts have been woefully insufficient. On the demand side, the excessive demand for foreign reserves by emerging-market economies has seriously exacerbated global imbalances. This problem needs to be addressed by the presence of a more stable and

reliable international lender of last resort in order to avoid the risk of international liquidity crises. Only then will these economies' need for reserves start to diminish.

On the supply side, the menu of international reserve assets should be expanded beyond the U.S. dollar and a few other currencies: over time the SDR can and should play a greater role. Likewise, in the coming years, central banks and sovereign wealth funds may start to hold currencies of emerging-market economies as part of their reserves. In the short term, this won't threaten the role of the dollar as the major reserve currency; the U.S. dollar has no clear alternatives. But if the United States keeps running large twin deficits—or worse, starts to monetize its fiscal deficit—the resulting high inflation will accelerate the decline of the U.S. dollar as a major reserve currency, with unpredictable results.

Let's assume that the United States doesn't go down that road, and that the reforms we've described can bring about an orderly adjustment of global imbalances. There's one more piece of the puzzle. A substantial change in the institutions of global economic governance is necessary and desirable within both the G-20 and the IMF. The needed changes would provide more formal and effective power to emerging-market economies and ease the transfer of economic power from one part of the globe to another.

Will the world's major economies truly cooperate for the common global good? Or will they keep on following their national interests, eventually destabilizing the global economy and the global financial system? The question remains open, but both China and the United States in particular need to contemplate it in the coming years. Neither country stands to win from a continuation of the status quo, and everyone—emerging and advanced economies alike—stands to lose.

the 1970s, economists in developed nations kept the faith, worshipping at the altar of the Great Moderation.

The recent cataclysm marks the beginning of the end of this dangerous illusion. It also marks the end of the financial stability ushered in by the Pax Americana. As American power erodes in the coming years, crises may become more frequent and virulent, absent a strong superpower that can cooperate with other emerging powers to bring the same stability to the global economy. Far from being a once-in-a-century event, the recent financial disaster may be a taste of things to come.

A new era demands new ways of thinking. We should jettison bankrupt ideas about the inherent stability, efficiency, and resilience of unregulated markets, and we should let crises take their rightful place in economics and finance. Sadly, many otherwise intelligent people cling to the belief that the recent crisis was an unpredictable, unheralded event. No one could have seen it coming, they say, and we'll never see the likes of it again—at least not in our lifetimes.

We can wait for a new financial calamity to deal a coup de grâce to this continuing complacency. Or we can embrace understanding a new economics: crisis economics.

Tragedy and Farce

Crises, as we have seen, are as old and ubiquitous as capitalism itself. They arose hand in hand with capitalism in the early seventeenth century, and like the plays that Shakespeare first staged at this time, they have remained with us ever since, in much the same form. The staging changes, as do the audiences, but everything else—the cast of characters, the order of the acts, and even the lines—remains remarkably consistent from crisis to crisis, century to century.

Almost all crises begin the same way: modestly. Subtle developments set the stage for the real drama down the line. This scene setting can take years, even decades, as numerous forces create conditions hospitable to a boom-and-bust cycle.

Conclusion

Throughout most of 2009, Goldman Sachs CEO Lloyd Blankfein repeatedly tried to quash calls for sweeping regulation of the financial system. In speeches and in testimony before Congress, he begged his listeners to keep financial innovation alive and “resist a response that is solely designed to protect us against the 100-year storm.”

That’s ridiculous. What we’ve just experienced wasn’t some crazy once-in-a-century event. Since its founding, the United States has suffered from brutal banking crises and other financial disasters on a regular basis. Throughout the nineteenth and early twentieth centuries, crippling panics and depressions hit the nation again and again.

Financial crises disappeared only after the Great Depression, a period that coincided with the rise of the United States as a global superpower. At the same time the U.S. government reined in financial institutions with legislation like the Glass-Steagall Act and shored them up by creating agencies like the SEC and FDIC. The dollar became the ballast of an extraordinarily stable international monetary system, and crises came to seem like things of the past. Though serious cracks started to appear in the facade after

The crisis that exploded in 2007 was no exception. Decades of free-market fundamentalism laid the foundation for the meltdown, as so-called reformers swept aside banking regulations established in the Great Depression, and as Wall Street firms found ways to evade the rules that remained. In the process, a vast shadow banking system grew up outside regulatory oversight.

Over the same period banks increasingly adopted compensation schemes like bonuses that encouraged high-risk, short-term leveraged betting, even though such bets would undercut a financial firm's long-term stability. They effectively shifted negative consequences away from traders and bankers and onto the backs of the firm's shareholders and other creditors. Such problems, part of a larger epidemic of moral hazard, had been percolating throughout the U.S. financial system long before the crisis finally broke. The Federal Reserve played an instrumental role, rescuing the financial system in its time of need and giving rise to the famed "Greenspan put."

But setting the stage is not the same thing as creating a bubble. A bubble requires a catalyst. In previous financial crises the catalyst was a shortage of some coveted commodity or the opening of a new market overseas. Or a technological innovation stirred investors to believe that the old rules of valuation no longer applied. Fresh ways of doing things could originate in the financial system itself: a new way to package investments, or a new way of managing risk.

Unfortunately, the recent financial crisis fell into this final category, as financial institutions embraced securitization on a massive scale, giving us an alphabet soup of increasingly complex structured financial products. While securitization had been around for many years, it exploded in importance in the years immediately preceding the bubble. "Originate and distribute" became a vehicle for originating junk mortgages, slicing, dicing, and recombining them into toxic mortgage-backed securities, and then selling them as if they were AAA gold.

Another axiom of crisis economics is the straightforward observation that a bubble can grow only if investors have a source of easy credit. It might come courtesy of a central bank, or from private lenders—or from both, especially if unwary regulators allow the credit bubble to grow and fester. Easy

credit might even come from an unexpected source of surplus cash sloshing around the global economy in search of an investment.

Here too the recent crisis followed a predictable plot. Greenspan slashed interest rates after September 11 and kept them too low for too long. Banks and shadow banks leveraged themselves to the hilt, loaning out money as if risk had been banished. Regulators and supervisors, captivated by industry and by an ideology of *laissez-faire* self-regulation, failed to do their jobs. And plenty of savings flowed into the United States, courtesy of savers in emerging economies around the world.

At a certain point bubbles become self-sustaining. Banks and other financial institutions eager to cash in on rising prices make even more credit available. Every asset that investors purchase can then become collateral for yet more borrowing and more investing. Using the magic of leverage, growing numbers of investors build soaring towers of debt—a sure sign that a bubble is brewing. And that's precisely what happened in the bubble that reached remarkable proportions by 2005. Vaulting ambition and utter greed kept pushing this process forward, as developers built innumerable tract homes, speculators snapped them up, and bankers packaged the resulting mortgages into increasingly fragile financial instruments.

In every such drama, a new character arrives onstage around this time: the self-proclaimed visionaries who spring up to explain why this boom will continue to yield perpetual profits—why "this time is different" or why the old economic rules no longer apply. The appearance of these boosters and their empty claims are a sure sign that things have started to spin out of control.

The recent housing bubble attracted hordes of such charlatans, all of whom disregarded history and common sense to claim that housing was a safe investment whose value would only increase. Their numbers included everyone from shills for the real estate industry to investment bankers who packaged dubious mortgages into AAA securities labeled as no riskier than supersafe government bonds.

These mountebanks may dominate the drama, but they do not go unchallenged. Inevitably, a handful of people who can see through the bogus claims speak up. Hardheaded realists, they point to accumulating weaknesses, but

their warnings often go unheeded. One of the authors of this book played that role in the recent crisis, warning early on of a coming crash with remarkable specificity. Other prominent economists and analysts also pointed to the writing on the wall, but to no avail.

Like all bubbles, this one eventually stopped growing. And as in most bubbles, the end began with a whimper, not with a bang. Prices moved sideways: a strange sort of stasis came over the markets. The bubble boosters insisted this lapse was momentary; prices would rise again soon. But they did not. At this point in the drama, they rarely collapse overnight. They simply stall.

Then they collapse, a few institutions at first, then many. The effects reverberate throughout the financial system. Fear and uncertainty grip the markets, and while the price of the bubbly asset crumbles, the real action lies in the financial institutions that provided the credit behind the bubble. Deleveraging begins, and faced with overwhelming uncertainty, investors flee toward safer, more liquid assets.

The recent crisis stuck to this script. At first a few big mortgage lenders went under, stirring anxiety. Then came a series of higher-profile collapses, each one bigger than the last. Some big hedge funds failed. Eventually, other leading parts of the shadow banking system crumbled too. While many of these institutions didn't look like banks, their death throes would have been instantly recognizable to anyone familiar with financial crises from the seventeenth century onward. Like countless financial institutions before them, these twenty-first-century shadow banks swiftly succumbed to a crisis of liquidity and, in many cases, insolvency.

Rarely do the banks collapse all at once. In fact, one dramatic bank collapse may be succeeded by an interlude of relative peace, as a superficial calm returns to the markets, inducing a sucker's rally. But things continue to deteriorate beneath the surface, setting the stage for even more dramatic failures, and panic grows. The recent crisis displayed precisely these sorts of fluctuations, worsening, as in previous disasters, with each high-profile failure. The biggest crises have another defining characteristic: they rarely respect national boundaries. They can begin anywhere in the world, but they have a habit of going global, as problems in one country surface elsewhere, or problems in one country spread via channels—commodities, currencies,

investments, derivatives, and trade—to other countries. When it comes to financial crises, all the world's a stage.

Though the recent crisis first surfaced in the United States, other countries soon exhibited the same symptoms. And no wonder: like Greenspan, central bankers around the world had adopted easy-money policies, fostering numerous housing bubbles. Banks overseas showed the same reckless appetite for risk displayed by their counterparts in the United States. With a few exceptions, they took on plenty of leverage and drank from the same poisoned chalice, investing in billions of dollars of the same bum assets generated by the magic of “financial innovation.”

Crisis often climax in one failure so spectacular that it overshadows all the rest. In the recent crisis, the calamitous collapse of Lehman Brothers played this role, making it seem that this one event was to blame for the tragedy that engulfed the global economy. As with earlier crises, explaining this one by a single high-profile failure is a simplistic way of looking at things that obscures more than it reveals. Lehman caused tremendous damage to the global financial system, but its failure was less a cause than a consequence.

Lehman's failure coincided with a scene commonly glimpsed in the final act: banks begging some lender of last resort—a central bank or some government entity—to step into the breach and prop up the financial system. Such requests invariably spark a debate: Should floundering banks be saved, fostering moral hazard? Or should the market be left to its own devices, leaving ailing patients to minister to themselves?

That debate played out in stark terms in the recent crisis, and in the end Ben Bernanke threw lifeline after lifeline to the deserving and undeserving alike on an unprecedented scale. Like some colossal *deus ex machina*, the Federal Reserve and other central banks brought the crisis to a rather abrupt, if somewhat unsatisfying, close, leaving plenty of questions unanswered and problems unresolved.

Indeed, when the dramatic phase of a crisis comes to an end, other troubles invariably begin, as the effects of the financial meltdown echo through the rest of the economy. The damage runs deep, and the wounds take a long time to heal—not months, but years. While all manner of palliative measures can be taken—stimulus packages, for example—the road to recovery can be rough, as households, banks, other financial firms, and corporate firms need

to deleverage. Countries wounded by a financial crisis may falter, weighed down by debts accumulated in better times and by the socialization of private losses during the crisis. Eventually some countries will default on their debt or wipe it out with high inflation and suffer a currency crash.

This is the point where we find ourselves now. In the aftermath of previous crises, chastened politicians have enacted sweeping reforms of the financial system. We too have that opportunity. We must seize it. If we fail to do so, we may find, as many have before us, that what's past is prologue.

The Road to Redemption

For the past half century, academic economists, Wall Street traders, and everyone in between have been led astray by fairy tales about the wonders of unregulated markets, and the limitless benefits of financial innovation. The crisis dealt a body blow to that belief system, but nothing has yet replaced it.

That's all too evident in the timid reform proposals currently being considered in the United States and other advanced economies. Even though they have suffered the worst financial crisis in generations, many countries have shown a remarkable reluctance to inaugurate the sort of wholesale reform necessary to bring the financial system to heel. Instead, people talk of tinkering with the financial system, as if what just happened was caused by a few bad mortgages.

That's preposterous. As we've made clear throughout this book, the crisis was less a function of subprime mortgages than of a subprime financial system. Thanks to everything from warped compensation structures to corrupt ratings agencies, the global financial system rotted from the inside out. The financial crisis merely ripped the sleek and shiny skin off what had become, over the years, a gangrenous mess.

The road to recovery will be a long one. The first steps will entail undertaking the reforms outlined in chapters 8 and 9. For starters, traders and bankers must be compensated in ways that bring their interests into alignment with those of shareholders. That doesn't necessarily mean less compensation, even if that's desirable for other reasons; it merely means that

employees of financial firms should be paid in ways that encourage them to look out for the long-term interests of the firms.

Securitization must be overhauled as well. Simplistic solutions like asking banks to retain some of the risk won't be enough; far more radical reforms will be necessary. Securitization must have far greater transparency and standardization, and the products of the securitization pipeline must be heavily regulated. Most important of all, the loans going into the securitization pipeline must be subject to far greater scrutiny. The mortgages and other loans must be high quality, or if not, they must be very clearly identified as less than prime and therefore risky.

Equally comprehensive reforms must be imposed on the kinds of deadly derivatives that blew up in the recent crisis. So-called over-the-counter derivatives—better described as under-the-table—must be hauled into the light of day, put on central clearinghouses and exchanges, and registered in databases; their use must be appropriately restricted. Moreover, the regulation of derivatives should be consolidated under a single regulator.

The rating agencies must also be collared and forced to change their business model. That they now derive their revenue from the firms they rate has created a massive conflict of interest. Investors should be paying for ratings on debt, not the institutions that issue the debt. Nor should the rating agencies be permitted to sell “consulting” services on the side to issuers of debt; that creates another conflict of interest. Finally, the business of rating debt should be thrown open to far more competition. At the present time, a handful of firms have far too much power.

Even more radical reforms must be implemented as well. Certain institutions considered too big to fail must be broken up, including Goldman Sachs and Citigroup. But many other, less visible firms deserve to be dismantled as well. Moreover, Congress should resurrect the Glass-Steagall banking legislation that it repealed a decade ago but also go further, updating it to reflect the far greater challenges posed not only by banks but by the shadow banking system.

These reforms are sensible, but even the most carefully conceived regulations can go awry. Financial firms habitually engage in arbitrage, moving their operations from a well-regulated domain to one outside government purview. The fragmented, decentralized state of regulation in the United

States has exacerbated this problem. So has the fact that the profession of financial regulator has, until very recently, been considered a dead-end, poorly paid job.

Most of these problems can be addressed. Regulations can be carefully crafted with an eye toward the future, closing loopholes before they open. That means resisting the understandable impulse to apply regulations only to a select class of firms—the too-big-to-fail institutions, for example—and instead imposing them across the board, in order to prevent financial intermediation from moving to smaller, less regulated firms. Likewise, regulation can and should be consolidated in the hands of fewer, more powerful regulators. And most important of all, regulators can be compensated in a manner befitting the key role they play in safeguarding our financial security.

Central banks arguably have the most power—and the most responsibility—to protect the financial system. In recent years, they have performed poorly. They have failed to enforce their own regulations, and worse, they have done nothing to prevent speculative manias from spinning out of control. If anything, they have fed those bubbles, and then, as if to compensate, done everything in their power to save the victims of the inevitable crash. That's inexcusable. In the future, central banks must proactively use monetary policy and credit policy to rein in and tame speculative bubbles.

Central banks alone can't handle the challenges facing the global economy. Large and destabilizing global current account imbalances threaten long-term economic stability, as does the risk of a rapidly depreciating dollar; addressing both problems requires a new commitment to international economic governance. The IMF must be strengthened and given the power to supply the makings of a new international reserve currency. And how the IMF governs itself must be seriously reformed. For too long, a handful of smaller, aging economies have dominated IMF governance. Emerging economies must be given their rightful place at the table, a move reinforced by the rising power and influence of the G-20 group.

All of these reforms will help reduce the incidence of crises, but they will not drive them to extinction. As the economist Hyman Minsky once observed, "There is no possibility that we can ever set things right once and for all; instability, put to rest by one set of reforms, will, after time, emerge in

a new guise." Crises cannot be abolished. Like hurricanes, they can only be managed and mitigated.

Paradoxically, this unsettling truth should give us hope. In the depths of the Great Depression, politicians and policy makers embraced reforms of the financial system that laid the foundation for nearly eighty years of stability and security. It inevitably unraveled, but eighty years is a long time—a lifetime.

As we contemplate the future of finance from the mire of our own recent Great Recession, we would do well to try to emulate that achievement: Nothing lasts forever, and crises will always return. But they need not loom so large; they need not overshadow our economic existence. If we strengthen the levees that surround our financial system, we can weather crises in the coming years. Though the waters may rise, we will remain dry. But if we fail to prepare for the inevitable hurricanes—if we delude ourselves, thinking that our antiquated defenses will never be breached again—we face the prospect of many future floods.

Outlook

During the global financial crisis of 2007–8, the world looked into the abyss. In the fourth quarter of 2008 and first quarter of 2009, global economic activity plummeted at rates last seen at the onset of the Great Depression.

Only swift, radical policy measures in a number of countries stanching the bleeding. Though not always coordinated or careful, this collective response successfully prevented another depression, and economies around the world stopped their free fall. The dangers of deflation faded, and the world started to recover. Emerging economies turned around first, and by the third quarter of 2009 most advanced economies stopped contracting too.

But while the global economy has started to rebound, its risks and vulnerabilities may lead to renewed crises in the coming years. One possible outcome is that exploding fiscal deficits may prompt some countries to default on their debt, or to resort to the printing press to mitigate it, triggering the sort of high inflation last seen in the 1970s.

Other troubles may emerge as well. Extremely loose monetary policies and quantitative easing—combined with a growing reliance on the carry

trade in the dollar—may foster an even bigger bubble than the one that just burst. Should it deflate suddenly, the value of risky assets and global wealth would fall sharply, with the danger of a double-dip global recession.

Other equally frightening events might occur. The European Monetary Union could break up. Or Japan might return to deflation and near depression, triggering a major sovereign debt crisis. Even China faces growing risks: its investment-led recovery could lose steam, possibly triggering a rise in nonperforming loans and, ultimately, a banking crisis. All of these scenarios could lead to a backlash against globalization.

Much rides on how the global economy recovers—or falters—in the next few years. Here, then, is a glimpse of the near-term dangers facing us. (For a far more detailed analysis, please visit Roubini Global Economics at www.roubini.com.)

V, U, or W?

Recoveries come in different forms, reflecting their relative vigor or sustainability. A V-shaped recovery is swift and vigorous; a U-shaped recovery is slow and underwhelming; and a W-shaped recovery is a double dip, in which the economy experiences a fleeting recovery, then plunges downward again. The most likely scenario at present is a U-shaped recovery in advanced economies, featuring weak, below-trend growth for a number of years. Here's why.

First, labor market conditions remain weak. In 2010 the U.S. unemployment rate reached 10 percent. (A more comprehensive measure that accounts for partially employed workers and discouraged workers topped 17 percent.) Many jobs in real estate, construction, and the financial sector have disappeared forever. Likewise, many manufacturing and service-sector jobs that have been outsourced offshore will not return.

Even workers who have kept their jobs have seen their income decline. Many firms, as a way of “sharing the pain,” asked their employees to work fewer hours or accept furloughs or even wage cuts. The fall in hours worked was equivalent to the loss of another 3 million full-time jobs, on top of the 8.4 million jobs formally lost by the end of 2009. Those losses may continue: a

recent study by Alan Blinder suggests that up to one-quarter of all U.S. jobs could be eventually outsourced. Therefore the unemployment rate may continue to rise for a while, and when it finally falls, it will do so very slowly.

Moreover, the current recession is different from previous ones. This recent crisis was born of excessive debt and leverage in the household sector, the financial system, and even the corporate sector. The recession wasn't driven by monetary tightening; it was a "balance sheet" recession driven by a staggering accumulation of debt. Recent research by Carmen Reinhart and Kenneth Rogoff suggests that a "balance sheet" recession can lead to a weak recovery, as every sector of the economy "deleverages" and cuts down its debt.

This will take a while. Households in the United States and the United Kingdom have saved too little and spent too much. Though U.S. savings rates rose above 4 percent by the end of 2009, studies done by the IMF and other scholars suggest that this rate needs to rise to 8 percent or higher in the next few years. That will mean lower growth rates of consumption. But since consumption is 70 percent of GDP in the United States (and very high in other countries that have also seen declining savings rates), reduced consumption growth may undercut economic growth.

Other indicators point toward a U-shaped recovery. In a typical V-shaped recovery, the corporate sector plows money into capital expenditures—better known as "capex"—contributing to a rapid rebound. Unfortunately, in this recovery, capex spending will be anemic because much of the economy's capacity (factories, machines, computers, and other fixed assets) sits unused. Indeed, capacity bottomed out at a much lower number (67 percent) than in previous recessions (75 to 80 percent). Even by the end of 2009, 30 percent of capacity remained idle in the United States and Europe. Why, in this climate, would firms want to undertake new capex spending?

In addition, for all the government support that the financial system received, vast swaths of it have been damaged. As of this writing, in the United States alone the FDIC shut down more than 130 banks and placed 500 or more on a watch list. More important, much of the shadow banking system has collapsed or been irreparably damaged; much of it has become a ward of the state. Despite public subsidies, securitization is a shadow of its former self, and even private equity firms continue to struggle with the consequences of having taken on too much leverage.

The financial system will take a long time to mend. The damaged financial system's ability to finance future residential investment, construction activity, capex spending, and consumption of durable goods will be seriously constrained. We will not return to the kind of growth we saw during the go-go years of 2003–7, financed by an unsustainable credit bubble.

Other factors suggest the likelihood of a U-shaped recovery. The policies that helped the economy recover—especially the fiscal stimulus—cannot last forever. When it's withdrawn, slower growth will follow. If it's not withdrawn—if policy makers resort to even bigger deficits to pay for tax cuts and spending increases—then we'll simply set ourselves up for a bigger fiscal train wreck. Continued stimulus spending will also lead to fears that countries will default on their debt or inflate it away, pushing long-term interest rates higher and crowding out the economic recovery.

Finally, persistent global current account imbalances imply slower global growth in the next few years. During the last decade the United States—as well as countries like the United Kingdom, Ireland, Iceland, Spain, Dubai, Australia, New Zealand, the Baltic states, and other central European economies—functioned as the world's consumer of first and last resort, spending more than its income and running current account deficits. Conversely, China, emerging Asia, most of Latin America, Japan, Germany, and a few other Eurozone economies served as the producers of first and last resort, spending less than their income and running current account surpluses.

The first group of countries is retrenching by saving more and importing less, but the second group is not compensating by saving less and consuming more. This necessarily means a net decline in the global demand for goods. Given that our world already has a glut of industrial capacity, the recovery of global aggregate demand will be weak at best.

All of these factors point toward a slow U-shaped recovery in the United States and in other spendthrift advanced economies. The recovery may not appear to be U-shaped at first: indeed, U.S. growth for the fourth quarter of 2009 was 5.9 percent, the strongest in six years. But most of that figure can be explained by the direct and indirect effects of the fiscal stimulus as well as by the fact that in the final months of 2009 companies replenished inventories.

These forces may boost growth to 3 percent or higher in the first half of

2010. So too may the lingering effects of the cash-for-clunkers programs and tax credits for first-time home buyers. The U.S. Census will hire almost a million temporary workers, which will help sustain growth for a brief period. But growth will stall in the second half of 2010 as the effects of these temporary factors fizzle out. At that point growth will slump well below par until the necessary increase in saving and the deleveraging of the private and public sectors have occurred.

Europe on the Edge

As bad as things look in the United States, the medium-term prospects of the Eurozone and of Japan may be equally bad, if not more so. In both regions the recovery will be U-shaped for many reasons.

First, the potential growth rate of the Eurozone and Japan (around 2 percent) is lower than that of the United States. Second, these countries will have a harder time using fiscal policy to counter the effects of the crisis: even before 2007 they ran large fiscal deficits and had large stocks of public debt relative to their GDP (in many cases close to or above 100 percent). Third, these countries face serious challenges over both the short term and the long term: poor productivity growth and aging populations. None of these problems can be easily addressed.

Moreover, a group of Eurozone countries known as the PIGS—Portugal, Italy, Greece, and Spain—are in grave trouble. In recent years their debts have soared and their competitiveness has declined. The reasons are complicated. The adoption of the euro enabled them to borrow more and consume more than they would have otherwise. The ensuing credit boom supported consumption but also led to rising wages. This made their exports less competitive. At the same time, excessive bureaucracy and other structural impediments discouraged investment in high-skill sectors, even though wages in these countries trailed behind the average for the European Union.

The resulting noxious mix of large current account deficits and budget deficits left the PIGS countries heavily indebted to banks elsewhere in Europe. All are highly leveraged, making them a likely source of financial

contagion. Worse, the dramatic appreciation of the euro in 2008–9 has increased the loss of competitiveness, leaving them even more vulnerable to default and threatening to burden the wealthier, healthier members of the European Union.

This wasn't supposed to happen. The European Monetary Union was designed to bring stability and unity to Europe. When member states joined, they ceded control over monetary policy to the European Central Bank; they also joined the Stability and Growth Pact, which imposed restrictions on the size of their fiscal deficits. In theory their membership would force these countries to undertake structural reforms and force a convergence of economic performance among all member states. Instead, the opposite happened. Germany and a few other countries spent a decade reducing their fiscal imbalances and improving their competitiveness via corporate restructuring. But the opposite occurred in Italy, Spain, Greece, and Portugal, where fiscal imbalances remained high and labor costs rose above productivity growth. As a consequence, we now have two Europes instead of one.

Other factors have aggravated the divergence. Labor mobility within the union is only modest, as language and culture hamper migration. So a rise in unemployment on the periphery of the union will not lead workers to migrate to more prosperous regions as much as they otherwise might. As a consequence, labor markets in the European Union are much less flexible than those in the United States. Equally troubling, the individual nations of the EU do not share the fiscal burden of government, as states do in the United States. The fact that fiscal policy is left in the hands of the individual countries limits the degree to which one nation can help another.

If these economic divergences persist and widen, the European Monetary Union could break up. For example, suppose Greece resorts to financial engineering and fiscal fudges to deal with its problems. If it continues to do so, Greece could lose access to debt markets sometime in 2010. It would then have to go hat in hand, begging for direct loans from other member states, the European Central Bank, the European Commission, or the IMF.

These players might bail out Greece for the sake of the survival of the Monetary Union. But if similar trouble spreads to Spain, Italy, Portugal, or other member states, the willingness and ability of the European Central Bank, much less the French and German taxpayers, to bail out other member states

would reach a limit. Greece would then have to exit the Monetary Union and adopt a new, devalued currency like the drachma to replace the euro.

This twin scenario—default and devaluation—could have terrible consequences. By adopting a new, depreciated drachma, Greece would necessarily default on public—and most likely private—debts denominated in euros.

Something like that happened in Argentina in 2001. Its exit from a currency board and a sharp devaluation of the peso triggered a massive default on public and private debts denominated in U.S. dollars. It also led to the forced conversion of dollar-denominated domestic debt into peso liabilities with a much lower value, a process known as “pesification.” Likewise, a devaluation and default by Greece or Italy would lead to a “drachmatization” or “italization” of domestically issued euro liabilities, effectively imposing massive losses on anyone holding these claims, mostly other European banks.

No currency union has ever survived without a fiscal and political union as well. Should such defaults and devaluations take place, the contrast between the Eurozone and the United States would become ever starker. California and many other states in the United States face budget crises, but a strong tradition of fiscal federalism—as well as provisions in the bankruptcy code—makes it possible to solve some of these local problems at a national level. The Eurozone lacks such burden-sharing mechanisms.

A breakup of the Monetary Union could even lead to the partial destruction of the European Union itself. Any member nation that exits the Monetary Union and defaults on debts held by other member nations may ultimately be expelled from the EU. That fate, inconceivable a few years ago, has become a very real possibility for authorities in Athens, Rome, Madrid, and Lisbon. Years of economic divergence and an erosion of economic competitiveness in these countries have made such an outcome far more likely than ever before.

Whither Japan?

Japan is in as much trouble as the Eurozone. As we have seen, the bursting of its real estate and equity bubble in the early 1990s led to a Lost Decade

of economic stagnation—punctuated by four recessions—as well as serious deflation. In the wake of the bubble, Japan made many policy mistakes: it adopted monetary easing and fiscal stimulus too late, then abandoned them too early. It kept zombie banks alive for too long, recapitalizing only late in the decade. A double-dip recession in 2000 only exacerbated the twin problems of deflation and stagnation. Japan returned to a potential growth of 2 percent only after 2004.

During the recent crisis the contraction was more severe in Japan than in the United States, despite the fact that most of Japan’s financial institutions had little exposure to toxic mortgages or structured financial products. Instead, Japan proved vulnerable on account of its heavy dependence on foreign trade, which was itself dependent on a weak yen. When global growth and trade collapsed in 2008–9, exports collapsed. The yen-based carry trade unraveled, driving the yen to appreciate. Its recovery since then has been anemic at best.

Japan faces a host of long-term problems. Its aging population, combined with its reluctance to welcome immigrants, has put its economy in a demographic vise that will reduce growth. An inefficient, somewhat ossified service sector with low productivity has proven resistant to change, as have rigid economic and social conventions like lifetime employment. The political system is equally rigid, showing no will to undertake the structural reforms necessary to break free of these restraints. Japan’s position as the world’s second-largest economy is probably no longer secure: China is likely to supplant it in the coming years.

More worrisome, Japan’s high public deficits, weak growth, and persistent deflation point to a possible fiscal crisis. So far that fate has been avoided, thanks in part to high private savings rates. In addition, Japan’s large current account surpluses have led both the private sector and the central bank to accumulate foreign assets, providing a buffer of savings that could be eventually used to service the growing domestic debt. For this reason Japan’s government can still borrow at relatively low rates, even though it now shoulders a gross public debt equivalent to almost 200 percent of GDP.

Still, in the recent crisis the household savings rate fell sharply as income-strapped households had to spend more to maintain their standard of living; even the current account surplus shrank, as rising budget deficits and falling

private savings overwhelmed the fall in private investment. Should these trends continue, Japan may be headed for a serious fiscal crisis, as continuing deflation, anemic growth, soaring deficits, and a strong yen conspire to drive down confidence in its economy.

In fact, some rating agencies have put Japan on a possible sovereign downgrade watch. If Japanese households lost confidence in the government's ability to tackle the deficit and public debt, they might dump domestic assets (starting with government bonds) and resume yen-based carry trades, sharply pushing down the value of the yen and sending long-term government bond yields upward. This could eventually trigger a public debt crisis.

Unfortunately, the Japanese political system's ability to deliver the kind of fiscal adjustments and structural reforms necessary to turn things around is limited. In 2009 the opposition Democratic Party of Japan (DPJ) finally ousted the dominant Liberal Democratic Party (LDP), which had maintained a virtual monopoly on power for over fifty years. This political shift suggested that Japan might be on the road to reform, but events soon suggested otherwise.

Upon assuming office, the DPJ's new leader, Yukio Hatoyama, made ambitious but contradictory promises. Acknowledging the constraints on Japan's budget, he and his party promised to cut inefficient and wasteful state spending. At the same time, he called for "an economy of the people" that depended on significant state subsidies, as well as a budget that required record borrowing. Equally troubling, Hatoyama then announced plans to halt the privatization of Japan Post Bank. This enormous enterprise, which holds more than \$3 trillion in assets, has helped finance state spending for decades, and the move made it clear that Hatoyama expects to continue this tradition.

These policies will likely increase debt and keep growth at subpar levels. Unfortunately, Hatoyama's ability to pursue these goals has few political checks: in recent years, the DPJ built a strong single-party majority in the lower house while joining forces with coalition partners to dominate the upper house. Hatoyama also faces fewer institutional obstacles, analogous to the filibuster of the U.S. system, to setting and pushing a political agenda.

At the same time Hatoyama is unlikely to reform the larger economy. Prior to the DPJ's ascent to power, business elites worked with an LDP-dominated bureaucracy to frame legislation. Suddenly, the business elite has

seen the one-party system shift to a no-party system; indeed, the new ruling coalition has far fewer connections in the business world. That means it has few opportunities for the kind of compromises necessary to achieve the sorts of structural reforms that would ensure higher growth in the coming years.

That may eventually leave Japan in a very dangerous position, as soaring deficits and a sclerotic economy bring about the unthinkable: a sovereign debt crisis or a surge in inflation and a decisive fall from grace for a country once considered likely to dominate the global economy.

BIC? BRIC? BRICK?

On paper, most emerging economies can reasonably expect robust medium-term growth ranging between 5 and 8 percent, depending on the country. This growth rate is much higher than the 2 or 3 percent that most advanced economies expect in the coming years.

Their strength has much to do with the advantages they possessed going into the recent crisis. Except for parts of central and eastern Europe, emerging markets lacked the leverage in the financial and household sectors that became the Achilles' heel of many advanced economies. Moreover, having endured financial crises in recent decades, these countries cleaned up their financial systems, followed sound fiscal policies, and insulated central banks from political pressure so that they might better provide price stability.

These strengths and lessons learned enabled the emerging economies to weather the crisis well. They implemented effective monetary and fiscal policies to restore demand and growth, setting themselves up for a quick recovery. In fact, most of them will grow at a healthy clip, should they stick with the market-oriented reforms and policies adopted before the crisis.

That's the best-case scenario. But we should keep a few caveats in mind. First, these economies aren't self-sufficient; they have extensive trading and financial ties to more advanced economies and cannot fully decouple from their problems. An anemic recovery in the United States will inevitably act as a drag on even the most dynamic emerging markets.

The emerging economies include dozens of nations. The BRICs—Brazil,

Russia, India, and China—are the biggest of the bunch, and China is the undisputed king. But China faces serious challenges. While it has weathered the crisis, its all-too-effective response may set it up for problems in the medium term.

For example, China has reacted to the crisis with state-directed credit growth. State-owned banks have been told to provide massive amounts of credit and loans to state-owned enterprises in order to induce them to hire more workers, produce more goods, stockpile more commodities, and increase capacity. Every province now induces banks to lend recklessly to state-owned enterprises in order to increase capacity in steel, cement, aluminum, car making, and other heavy industries. But China already has a glut of capacity in these areas.

Thanks to the boom in public and private investment, China now has an infrastructure that outstrips its level of development: it has plenty of empty new airports and highways with very few cars. It also has a staggering increase in real estate development that will inevitably lead to a glut in commercial and residential properties. While economic growth and urbanization will eventually make use of these improvements and properties, the supply is starting to outstrip the demand. Unfortunately, some of these distortions are a function of the fact that land is not properly priced at a market rate; the state continues to control the supply.

Some of the credit now flooding through the Chinese economy is going toward other, equally unproductive uses, including speculative, leveraged purchases of commodities, equities, and real estate. This has the potential to become a dangerous bubble, eventually leading to a significant downward correction in asset prices. The authorities recognize this possibility, and rising prices in energy, food, and real estate have prompted them to contract the money supply and credit in the hopes of engineering a soft landing.

China occupies a paradoxical position in 2010. While stimulus programs instituted the previous year pushed growth back up into the 9 percent range, its economy still hasn't made the necessary shift from an emphasis on exports to a reliance on private consumption. Consumption in China remains stuck at a paltry 36 percent of GDP, compared with 70 percent of GDP in the United States. There's certainly a happy medium between these numbers, but so far China hasn't done much to move toward it.

Other problems may bedevil China in the coming years. The country itself is growing at two different rates: coastal, urban areas that depend on exports are advancing more quickly than rural areas in the central and western parts. Moreover, economic growth in all regions has been pursued with a reckless disregard of the environment, leading to pollution that disfigures the landscape and causes significant health problems for millions of Chinese. Finally, an authoritarian political system that seems unable to tolerate any dissent, as well as the growing restlessness of ethnic minorities, may also spell trouble down the line.

The other members of the BRIC elite face a different set of challenges. Compared with China, India has a vibrant democracy, a stronger rule of law, and greater protection of property rights. But democracy is a mixed blessing: weak coalition governments in India have slowed down necessary structural economic reforms. These reforms include reducing budget deficits at the central and state levels, cutting inefficient government spending, and reforming the tax system.

Other liberal reforms must be instituted as well. Government intervention in the economy must be restrained; red tape and a bloated bureaucracy must be cut back. Labor markets remain too rigid and must be liberalized, so should trade and restrictions on foreign direct investment. Entrepreneurship should receive more encouragement, as should investment in human capital and skills. While India has made some progress on these fronts, the risk remains that these reforms will occur too slowly, increasing the gap between the Chinese hare and the Indian tortoise.

Brazil's situation is different still. It's a dynamic economy with plenty of natural resources, a sophisticated financial system, and an advanced manufacturing sector that could maintain robust growth for a long time. But even in the best of all times—the years between 2004 and 2007, when average growth in the other BRICs topped 8 or even 10 percent—Brazilian growth lagged far behind at 4 percent.

The Luiz Inácio Lula da Silva administration deserves credit for having followed sound macroeconomic policies—a low budget deficit and an independent central bank committed to low inflation—but more must be done. In order to get growth above 6 percent, the next president will have to deal with unfunded pension liabilities, reduce government spending and taxes that can

badly warp economic decision making; increase the skills of the labor force by investing in education and training; and improve and expand infrastructures via private and public partnerships—all the while maintaining socially progressive policies that gradually reduce income and wealth inequalities.

The recent economic crisis exposed the remaining BRIC as a potential impostor. The weakness of the Russian economy—in particular, its highly leveraged banks and corporations—had been masked by the windfall generated by spiking oil and gas prices. After growing 8 percent in 2008, Russia's economy contracted by an equally stunning 8 percent the following year.

In effect, Russia's economy consists of one somewhat healthy sector—oil and gas—that fluctuates with the price of these commodities. It needs to diversify, but that would require the privatization of state-owned enterprises, the liberalization of the economy, a reduction in the kind of red tape that hampers the creation of new firms, and a serious crackdown on the corruption that permeates the private sector. Even the energy sector has to be liberalized. Unfortunately, foreign investors remain reluctant to sink money into facilities that might eventually be expropriated or nationalized.

Russia has plenty of other problems that should disqualify it from BRIC status. It has a decaying infrastructure and a dysfunctional, corrupt political system. Its population is rapidly shrinking, and serious health problems—alcoholism, most obviously—have driven down life expectancy to worrisome levels. While Russia retains the world's largest nuclear arsenal, and maintains a permanent seat on the UN Security Council, it is “more sick than BRIC.”

In fact, several other countries probably have a better claim to BRIC status, even if that means adding some letters to the acronym. Given its potential, the case is far stronger for including South Korea in the BRIC—or BRICK—club. South Korea is a sophisticated high-tech economic power: innovative, dynamic, and home to a skilled labor force. Its only major problem is the danger that North Korea will collapse and inundate it with hungry refugees.

Turkey too deserves to be included in the inner circle. It has a robust banking sector, a thriving domestic market, a large and growing population, a savvy entrepreneurial sector, and a comparative advantage in labor-intensive manufacturing. It has ties to Europe (NATO and European Union membership candidacy), to the Middle East, and to Central Asia.

Indonesia may be the strongest candidate of the bunch. The world's largest Muslim state, it boasts a rapidly expanding middle class, stable and increasingly democratic politics, and an economy that outshone much of Asia despite the damage done by the global recession. From the perspective of the United States, Indonesia presents a rather attractive alternative to Russia, which increasingly vies with Venezuela for leadership of the “America in decline” cheering section.

Indonesia has displayed resilience not only as an economy but also as a nation. It has a remarkably diverse and far-flung population, attributes that might cast doubt on its ability to make the transition to a world-class economy. Yet the country has left behind the legacy of a military dictatorship and has recovered from multiple setbacks. Though the Asian financial crisis in 1997, the tsunami in 2004, and the emergence of radical Islam have all done damage, Indonesia continues to move forward at an impressive rate.

While Indonesia's per capita GDP remains low compared with that of other aspirants to BRIC status, it has remarkable potential. It depends far less on exports than do its Asian peers (never mind Russia), and its markets in timber, palm oil, coal, and other assets have attracted major foreign investment. The government in Jakarta, meanwhile, has taken a strong stand against corruption and has moved to address structural problems. Even demographic trends favor Indonesia, which, with 230 million people, is already the fourth-largest country in the world by population, equivalent to Germany and Russia combined.

The hype about the BRICs—or BICs or BRICKs—reflects an important long-term trend: the rise of a broader range of emerging-market economies with economic, financial, and trading power. A few years ago Lawrence Summers argued that the integration of China and India into the global economy—with close to 2.2 billion “Chinidians” joining the global labor force and the global markets—was the most significant event in the last thousand years of human history, after the Italian Renaissance and the Industrial Revolution.

How that plays out remains to be seen. China, India, and the other leading emerging economies all face their share of challenges and will need to pursue very specific reforms to move to the next stage. But in all likelihood, most will end up playing an increasingly central role in the global economy in the coming years.

A New Bubble?

Since March 2009 a range of risky global assets have undergone a massive rally. Stock markets rebounded in the United States; energy and commodity prices started to climb back upward; and stocks, bonds, and currencies in emerging markets shot skyward. As they regain their appetite for risk, investors have moved away from U.S. government bonds and the dollar, which has sent bond yields gently up and the value of the dollar down.

While this recovery in asset prices is driven in part by better economic and financial fundamentals, prices have shot up too fast too soon. Why? The most obvious reason is that the central banks of the advanced economies have used superlow interest rates and quantitative easing to create a “wall of liquidity” that has managed to surmount the “wall of worry” left behind after the crisis. And that’s helping to fuel a massive rally in risky assets.

But something else is also fueling this global asset bubble: the carry trade in the dollar. In a carry trade, investors borrow in one currency and invest it in places where it will yield a higher return. Thanks to near-zero interest rates in the United States, investors can borrow dollars and sink them into any number of risky assets around the world. As the prices of these assets go up, the investors make a tidy profit, which they can then use to pay back those borrowed dollars, which by this point have depreciated, making it even easier to return the loan. In practice, that means investors aren’t borrowing at zero percent interest rates; they’re borrowing at negative interest rates, negative 10 or 20 percent, depending on how much the dollar depreciates. In this climate, it’s pretty easy to make a profit: 50 to 70 percent since March 2009.

The Fed has inadvertently kept this game going. By buying up a range of asset classes—U.S. government bonds, mortgage-backed securities, and the debt of Fannie Mae and Freddie Mac—the Fed has reduced volatility in the markets. That only makes the carry trade more appealing, minimizing people’s sense of risk and drawing more and more investors into a bubble. These measures, when combined with the Fed’s policy of keeping interest rates near zero, have made the world safe for the “mother of all carry trades” and the mother of all asset bubbles.

The growing weakness of the dollar has put central banks in Asia and

Latin America in a difficult position. If they fail to intervene in foreign exchange markets, their currencies will appreciate relative to the dollar, making it even more attractive to borrow in dollars. If they do intervene to prevent this appreciation, buying up foreign currencies like the dollar, the resulting foreign reserves can easily feed asset bubbles in these economies. Either way the outcome is the same: a global asset bubble that grows bigger by the day.

Eventually the carry trade will unravel. The Fed will end its program of purchasing assets, effectively restoring some volatility to the markets; and at some point the dollar will stabilize, as it can’t keep declining indefinitely. When it stabilizes, the cost of borrowing in dollars will no longer be negative; it will merely be close to zero. That’s bad news for anyone who has bet that the dollar will continue to decline, and it will force these speculators to suddenly retrench and “cover their shorts.”

That process may be especially violent if the dollar starts to appreciate quickly. Any number of things could cause it to do so: increased investors’ risk aversion or military confrontations and other geopolitical tensions could suddenly send investors fleeing for safer havens. Whatever the reason, if the dollar appreciates suddenly—just as the yen did when the carry trade in that currency unraveled—a stampede will ensue. Investors who went long on risky global assets and short on the dollar will suddenly reverse course. The bubble will then burst.

This unraveling may not occur immediately. The wall of liquidity and the Fed’s suppression of volatility can keep the game going a bit longer. But that means the asset bubble will only get bigger and bigger, setting the stage for a serious meltdown.

Defaulting on Debt

Until very recently, the idea that an advanced economy might default on its sovereign debt would have seemed outlandish. Emerging markets were the ones that defaulted. In the past decade alone, Russia, Argentina, and Ecuador defaulted on their public debt, while Pakistan, Ukraine, and Uruguay came close. This same pattern has held through the centuries: emerging

economies occasionally default on their debt, then eventually “graduate” to a more respectable, reliable place in the global economy.

We seem to have come full circle. In recent years, with a few exceptions in central and eastern Europe, emerging-market economies have put their fiscal houses in order. The threat of default now looms over advanced economies. In 2009 rating agencies downgraded the debt of several advanced countries, and debt auctions in the United Kingdom, Greece, Ireland, and Spain found far fewer buyers than anticipated. It was a less-than-friendly reminder that unless advanced economies start to put their fiscal houses in order, the rating agencies—and in particular, the dreaded “bond vigilantes”—will bring them to heel.

That prospect puts many advanced economies in a bind. The recent crisis and the ensuing recession have led to a serious erosion in their fiscal position. Stimulus spending programs and lower tax revenues have hit hard. So has the decision to socialize the losses in the financial sector, effectively shifting them onto taxpayers’ backs. In the coming years, an overwhelming recovery and an aging population may worsen the debt burden of the United States, the United Kingdom, Japan, and a handful of countries in the Eurozone.

Some countries have already taken measures to consolidate their fiscal position, including Iceland, Ireland, and the United Kingdom, as well as Spain, Portugal, and, to a lesser extent, Greece. These measures will hurt in the short term, but they will be the only thing that can prevent a loss of credibility and the inevitable spike in borrowing costs. Unfortunately, while putting one’s fiscal house in order may play well with foreign investors, it could also sabotage a fledgling recovery. On the whole, however, these countries are better off taking the pain now rather than running the risk of defaulting on their debt.

Though the United States and Japan will likely avoid the bond market vigilantes for some time to come, they too may one day incur their wrath. The United States continues to run unsustainable current account deficits and has an aging population and plenty of unfunded entitlement spending on Social Security and health care. Japan has an even bigger aging population and has already racked up significant debts. Both countries may soon face growing scrutiny of their fiscal position, a prospect that poses particular

dangers for the United States, which until now has been able to borrow in its own currency.

Unfortunately, it has another, less honest option. The United States (as well as the United Kingdom and Japan) issues its public debt in its own currency. That means it need not formally default on its debt if it proves unable to raise taxes or cut government spending. Instead, central banks can print new currency—or its digital equivalent—and monetize the debt. This time-honored method would send inflation soaring, wiping out the real value of the debt and transferring wealth from creditors to the government. While the so-called inflation tax avoids an outright default, it achieves the same end.

Proponents of the inflation solution argue that it kills two birds with one stone. First and most obviously, a moderate rate of inflation helps erode the real value of public debt, reducing the burden. At the same time, it resolves the problem of debt deflation, reducing the real value of private liabilities—fixed-rate mortgages, for example—while increasing the nominal value of homes and other assets. This is a win-win: the public and private sectors both get to wiggle free of their debts.

It sounds smart, but it’s not. If inflation rose from near-zero levels to the low single digits—let alone double digits—central banks could lose control of inflation expectations. Once the inflation genie gets out of the bottle, it’s hard to control. In the process, central banks would destroy their hard-won credibility. While Paul Volcker’s success in fighting inflation in the early 1980s confirms that this credibility can be regained, doing so comes at the considerable cost of a severe recession.

Moreover, while inflation can reduce the real value of nominal debt at fixed interest rates, much of the debt in the United States and other advanced economies consists of short-term obligations with variable interest rates. These include bank deposits, variable-rate mortgages, short-term government debt, and other short-term liabilities of households, corporations, and financial institutions. Expectations of rising inflation would mean that these liabilities would be rolled over at higher interest rates. The rates would effectively keep pace with inflation. In the case of short-term and variable-rate debt, the inflation solution would be ineffective: you can’t fool all of the people all of the time.

Needless to say, trying to use inflation to erode the real value of private and public debt would carry other risks. Foreign creditors of the United States would not sit back and accept a sharp reduction in the real value of their dollar-denominated assets. The resulting rush toward the exits—as investors dumped dollars—could lead to the collapse of the currency, a spike in long-term interest rates, and a severe double-dip recession. The United States would not have the sway that it did the last time inflation started to rage, in the 1970s. Back then the country was still running current account surpluses.

That's no longer the case: the United States has become the world's biggest debtor, owing a whopping \$3 trillion to the rest of the world. Its current account deficits—\$400 billion a year—have become the stuff of legend. As its creditors become increasingly leery of holding long-term debt, it will have to resort to borrowing on a shorter time frame to finance its various deficits. That makes it increasingly vulnerable to the kind of crises that hit emerging markets in the 1990s, with the sudden collapse of the dollar more likely.

The Chinese and other U.S. creditors—Russia, Japan, Brazil, and the oil exporters in the Gulf—would not accept such a loss on their dollar assets. Convincing China to accept such a financial levy would require some rather unpleasant negotiations: China might ask the United States for some other form of compensation, such as giving up on its defense of Taiwan. Such trade-offs would be likely in a world where the great powers on both sides of large financial imbalances vie for geopolitical leadership.

This “balance of financial terror” would seem to rule out the possibility that China would simply stop financing the U.S. fiscal and current account deficits. For China to halt its interventions in the foreign exchange markets, much less dump its stock of dollar assets, would severely damage the competitiveness of its exports. But should political tensions rise, and the United States begin actively to debase its own currency, China may well walk away from the table, even if its interests suffer in the short term. This outcome may be as unlikely as a nuclear exchange at the height of the Cold War, but it is not inconceivable.

Given these risks, U.S. authorities will likely not resort to the printing press to deal with the country's debt, even if the temptation to use inflation—just a little bit—to depreciate the debt will remain strong. But prudent policy

makers should know that the costs and the collateral damage of such a solution would be significant, if not catastrophic.

All That Glitters

Through 2009 the price of gold rose sharply, reflecting fears that the United States might purposely debase and devalue its currency in order to resolve its debt problems. In 2009 gold prices breached the \$1,000 barrier and rose to \$1,200 by the end of the year, before falling once more. Some goldbugs forecast that in the next couple of years gold prices could reach a level above \$2,000. Is that possible? Is the recent rise of gold prices justified by fundamentals, or is it evidence of a bubble?

Typically, gold prices rise sharply in one of two situations: one, when inflation starts to rage out of control, at which point gold becomes a hedge against inflation; two, when a near depression seems increasingly likely and investors become concerned that even their bank deposits may not be safe. The history of the last two years fits both situations.

First, gold prices started to rise sharply in the first six months of 2008 as emerging markets began to overheat, commodity prices skyrocketed, and fears of inflation in these markets increased. Oil prices hit record highs. Then the bubble burst, commodity prices fell, and gold prices fell too.

The second spike in gold prices occurred at the time of the Lehman collapse in 2008. Then the rush to gold was not driven by concerns about inflation; indeed, deflation had become a problem around the world. Rather, once the Lehman collapse triggered a global financial cardiac arrest, investors became sufficiently scared about the security of their financial assets—including bank deposits—that some preferred the safety of gold.

The G-7 contained that depression scare by widely insuring deposits and bailing out and backstopping the financial system. The price of gold then drifted downward, as the near depression gripping the global economy undercut commercial and industrial demand for gold, as well as the consumer demand for it as a luxury object.

But gold bounced back, spiking above \$1,000 in the early spring of 2009

as concerns about the solvency of the financial system in the United States and Europe peaked once again. Fears grew that governments could not bail out the entire financial system—that something once considered “too big to fail” was now “too big to save.” At that point growing concerns about an economic and financial Armageddon triggered another spike in gold prices. That’s hardly surprising: when you begin to worry that your government cannot credibly guarantee bank deposits, it’s time to buy a gun, ammo, canned food, and gold bars, and hunker down in a remote log cabin in hopes of surviving a global meltdown. But once again that panic subsided—and gold prices drifted downward again later that spring, as additional policy measures and the gradual bottoming-out of the global economy helped dispel fears.

The pattern is clear: gold prices spike in response to concerns about either inflation or depression. In both cases, gold makes a good hedge against risk, particularly extreme events that signal a total systemic collapse. When those threats ease, gold prices generally drift downward.

How might gold fare going forward? Any number of forces may propel gold prices higher, though it’s unlikely to hit \$2,000 per ounce. For example, growing concerns that governments might try to monetize their deficits could stoke fears of inflation, sending prices higher. Likewise, massive amounts of liquidity sloshing around the financial system could send any number of asset prices higher, including gold. In addition, carry trades funded by dollars have pushed the value of the dollar sharply downward. There’s an inverse relationship between the relative value of the dollar and the dollar price of commodities: as the dollar goes lower, prices of a range of commodities, including gold, increase.

Other factors may fuel demand for gold. Central banks in India, China, and other countries have increased their holdings of gold. Private investors who have lingering fears of low-probability events—high inflation or a crippling double-dip global recession—may also fuel demand. Given the inelastic supply of gold, central banks and private investors need make only a small shift toward gold in their portfolios to increase its price significantly. A single event—a sovereign debt default, for example—can serve as a catalyst for gold prices to move upward into bubble territory. So-called herd behavior and momentum trading would only inflate the bubble still further.

Nonetheless, a downward correction in gold prices carries significant

risks. The dollar carry trade will likely unravel at some point, and central banks will eventually exit quantitative easing and abandon near-zero policy rates. Both these developments will put downward pressure on commodity prices, including gold.

More generally, anyone who has blind faith in gold as a hedge against risk should understand that crises don’t always drive people toward gold. The prospect of sovereign debt defaults in smaller countries may drive investors toward dollars, not gold. The same goes for any kind of crisis. So long as the dollar itself is not the focus of a crisis, gold prices do not automatically spiral higher simply because bad things are afoot.

For the sake of argument, let’s assume that the global economy plunges into a near depression, and investors’ steer clear of dollars. Should they therefore put all their money into gold? Not necessarily. Unlike other commodities, gold has little intrinsic value. You can’t eat it, heat your house with it, or put it to good use. It is what Keynes called a “barbaric relic.” While you could exchange gold for something more useful, it might make more sense to stock up on commodity futures or, if you can stomach it, cans of Spam.

Investors should remain wary of gold. The recent swings in its price—up 10 percent one month, down 10 percent the next—underscore the fact that its price movements are often a function of irrational beliefs and bubbles. Holding some gold as a hedge against inflation may make some sense, particularly if governments start to monetize their debt. But holding lots of gold makes no sense, particularly given the likelihood that inflation will remain in check.

Inflation or Deflation?

At the height of the recent crisis, concerns about deflation drove many governments to take drastic measures to prevent prices from falling. Zero interest rates and quantitative easing would normally trigger a round of inflation, but that did not happen in 2009. Deflation crept into the United States, the Eurozone, Japan, and even some emerging-market economies. The

reason was simple: banks held most of their excess liquidity in the form of reserves rather than loaning it out.

Deflationary pressures will persist in the short term in most advanced economies and even some emerging-market economies. In most places, demand for goods and labor remains slack, putting downward pressure on prices and wages. Inventories of unsold goods get liquidated at low prices, and workers facing record unemployment rates have little bargaining power, even accepting cuts in wages in exchange for job security.

Inflation has shown some signs of reappearing in emerging economies, which have enjoyed a swifter recovery from the financial crisis. At the end of 2009 oil, food, and real estate prices were rising in China and India. For these economies, which may soon overheat, inflation could become a problem, far more so than in advanced economies.

Still, advanced economies may see a return of inflation starting in 2012. It could happen for one of three reasons. One, if governments opt to monetize their deficits, expectations that inflation will soar, prompting a vicious cycle of falling currencies and rising prices and wages. Two, the glut of easy money unleashed in response to the crisis may end up fueling an asset bubble in commodities, prompting a return of inflation. Three, if the dollar continues to weaken, the price of commodities in the United States might go up: as we've seen, there's a negative relationship between the value of the dollar and the dollar price of commodities. Oil producers, for example, will raise the dollar price of a barrel of oil if the dollar weakens. Otherwise, they will see a decline in the purchasing power of the dollar they receive in revenue.

In all likelihood, neither deflation nor inflation is likely to be pronounced in the next year or so. Absent a severe double-dip recession, deflation will likely remain in check, but inflation might start to gain momentum under certain circumstances.

Globalization and Its Discontents

In the last few decades the world has become increasingly "globalized." Trade in goods and services has become increasingly international in scope, as has

the migration of workers and the diffusion of information. Globalization has gone hand in hand with technological innovation, each reinforcing the other. For example, financial capital now moves around the world at a much faster pace thanks to the widespread adoption of information technology.

As a result, countries can now provide services to other countries on the other side of the world: think of India's call centers, for example, and the outsourcing of U.S. white-collar jobs. Likewise, China has been able to join complicated supply chains that stretch around the globe. Increasingly, countries on the economic periphery are connected to advanced economies and vice versa.

Globalization has brought a sharp increase in the standard of living in emerging economies. Hundreds of millions of Chinese, Indians, Russians, Brazilians, and other citizens of emerging-market economies have been lifted out of poverty. They have obtained higher-paying blue-collar jobs, or even middle-class salaries, gaining far greater access to necessities and luxuries alike. In turn, citizens of advanced economies have seen the prices of goods and services become ever more affordable.

But globalization and innovation are not without risks. Take, for example, the daunting challenge of adding billions of people to the global labor supply: China and India contain nearly 2.5 billion people, and other emerging economies have another 2 billion. Botching this integration could cause a backlash against globalization and free trade in advanced economies. Unfortunately, this sort of transition will not likely be smooth. Many stress points in the global economy—current account imbalances, for example, and the growing prevalence of financial crises—are in no small part a function of the complex integration of emerging markets in the global economy.

Globalization has also been associated with growing inequalities of income and wealth in advanced economies and emerging-market economies alike. Debate simmers over why this has happened. Some economists point out that technological progress has left some workers out of growing global prosperity (for example, if you don't know how to use a computer, you can't improve your situation). Others point to the rising comparative advantage of China and other emerging markets in the manufacture of labor-intensive goods.

Whatever its causes, this increased inequality has caused a growing malaise and concerns about globalization and free trade. It began with blue-collar

workers, for understandable reasons, but has spread to white-collar workers, as outsourcing enables firms to shift service jobs from advanced economies like the United States to emerging economies like India. In time, entire industries may shift from one part of the globe to another, causing serious disruption. This kind of “creative destruction” may be inevitable, but it will cause considerable strife unless properly managed.

Finally, globalization may well usher in far more frequent and virulent crises. The speed with which financial capital and hot money can move in and out of specific markets and economies has increased the volatility of asset prices and the virulence of financial crises. Unfortunately, while finance has gone global, its regulation remains a national affair. All of this increases the likelihood of future crises that could assume global proportions.

The recent crisis has made it clear that the “Great Instability” may be a better description of the coming era than the “Great Moderation.” Asset bubbles and busts may occur more frequently, and crises once thought to occur only once or twice a century may hammer the global economy far more often. Black swans may become white swans.

That would be unfortunate: as financial crises grow in frequency and severity, they will inflict social and political instability and ultimately breed a backlash against globalization. The backlash could take many forms: protectionist trade policies; financial protectionism, with restrictions on foreign direct investment; capital controls; and a broader rejection of any policies that promote free markets.

How to prevent such a backlash? First, it’s essential for governments to adopt policies that reduce the frequency and virulence of asset booms and busts. This will entail reforming the financial system and monetary system along the lines described earlier in this book. But it will also require the construction of a much broader government safety net. If workers have to be flexible enough to switch jobs and careers frequently, they will need more government support to navigate the increasingly uncertain employment terrain. This approach—dubbed “flexicurity”—will mean greater investments in education, job skills, and retraining; a safety net of unemployment benefits; and portable health care plans and pension benefits. In the United States, it will also mean a more progressive tax system in order to pay for these benefits.

Paradoxically, making free markets function better, and enabling workers to be more flexible and mobile in a global economy where “creative destruction” will be the norm, requires more, not less, government. Government can use monetary policy and increased regulation to keep booms and busts from occurring. It can provide a broad social safety net to help make workers more productive and flexible. It can implement tax systems that will reduce inequalities of wealth and income. Finally, government will need to take a bigger role in more closely coordinating their economic policies so as not to create the kind of imbalances that produce crises in the first place. Crises may be here to stay, but governments can limit their incidence and severity.

In the shadow of the worst financial meltdown since the Great Depression, many policy makers and pundits have observed that “a crisis is a terrible thing to waste.” This is true. We will plant the seeds of an even more destructive crisis if we squander the opportunity this crisis has presented us to implement necessary reforms. That opportunity would be a terrible—indeed, a tragic—thing to waste.