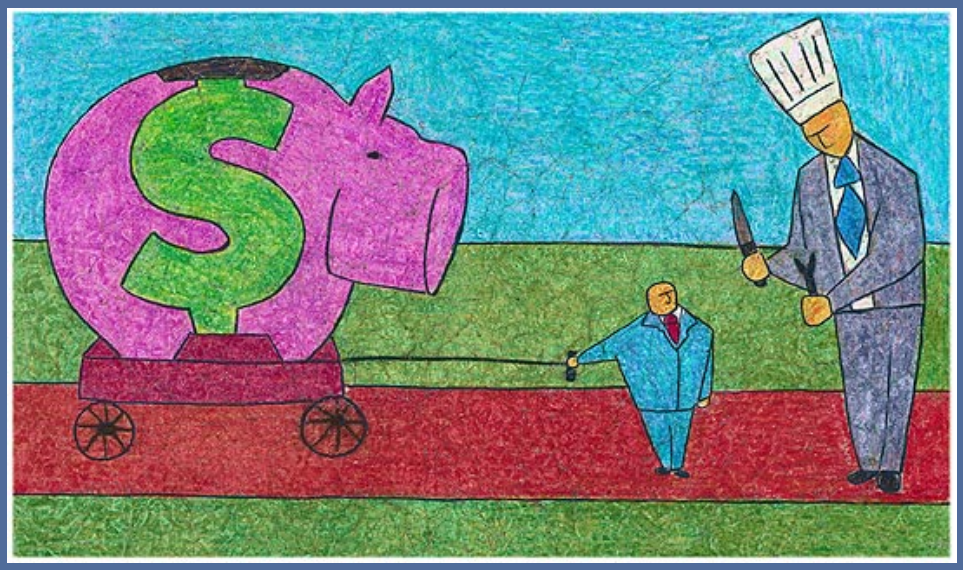
A SOUND MIND INVESTING
SPECIAL REPORT



Inflation History: The Rise and Fall of the U.S. Dollar

BY AUSTIN PRYOR

Introduction

What is inflation? In layman's terms, it's when your money doesn't buy as much as it used to. Why does that happen? Sometimes price inflation is caused by a change in the normal supply/demand forces of the marketplace. For example, prices are likely to go up when:

- A natural disaster, such as a flood or drought, devastates food crops and fewer come to market;
- The cost of producing a product is increased (perhaps unions demand higher wages or costly environmental regulations are imposed) and the new higher costs are passed on to the consumer;
- The limited number of available tickets to a popular sporting or entertainment event gives rise to sidewalk scalpers.

On the demand side, it could be that:

- Government programs (Medicaid/Medicare) enhance consumers' ability to pay for particular goods/services, thereby overwhelming the normal supply;
- Low interest rates encourage borrowing and spending for personal consumption or investment, thus increasing demand while the supply remains fairly constant.

These types of "inflation drivers" usually are short-lived—crop production returns to normal levels, the sporting event is over, interest rates eventually rise. Even when this type of inflation continues longer term, it tends to be focused on a particular area of the economy (health care, for example).

But there is another cause of inflation—and it is the subject of this report. This kind of inflation is related to the *supply of money available*. In essence, it occurs when too much money begins to circulate, lessening the value of money. In extreme cases (and there are notable historical examples), this "oversupply" can unleash a powerful inflationary trend called "hyperinflation."

The birth of money

The best place to start in understanding the kind of inflation that's related to money supply is look at what "money" actually is.

The power to create money carries with it the power to nurture or destroy an economy. Yet, few of us understand the process by which governments create money, or how that process ties in with the current debate over budget deficits and the risk of future inflation.

So let us go all the way back to the beginning—to the birth of money—then gradually add layers of complexity as we go along. Let's begin with a hypothetical scenario. We'll pretend you're the proverbial Robinson Crusoe stranded on an isolated island. You don't have any money, but that's not a problem because:

1. A single individual doesn't need any money. There is no one else to exchange anything with. You do the best you can to make what you need, and you consume it all yourself. It doesn't get any simpler than this.

Now, let's add another shipwrecked survivor to the local economy.

2. Two individuals don't need any money. Assuming your new neighbor has his own share of island property and you have yours, you both will primarily be looking after your own needs. Still, one thing has changed—there is now the possibility that an occasional exchange might take place if you each produce a little more of something than you need at the moment.

Having a surplus isn't enough, of course. Neither of you will willingly trade your surplus unless the other has something you want. Both of you must find the swap appealing if an exchange is to take place. It's not human nature to trade the fruits of your labor for something you have no desire for just to please your neighbor.

To the contrary, you will most likely put in the extra work and make the trade—that is, make the effort and sacrifice—only when you believe you will ultimately get something you want in return. (This aspect of human nature is usually ignored by government planners and explains why many well-intentioned government programs are utter failures. But that's another story!)

3. A small community doesn't *need* money, but as it grows, money will inevitably develop to facilitate trading. Let's switch scenarios to one imagined by the late investment analyst Harry Browne in his popular book of the early 1970s, *How You Can Profit from the Coming Devaluation*:

> *One day Jones the nail-maker walks into the store of Smith the furniture-maker: "Smith, I need a new workbench. I'll give you 2,000 nails to make one for me."*
>
> *"Sorry," says Smith, "I have all the nails I'll need for a while. Those you gave me for the bed I made for you will last me for another six months. Come back and see me then."*
>
> *Determined not to be refused, Jones goes on, "But I need the workbench **now**! Look, you're bound to use those nails eventually. But, even in the meantime, you can probably trade them to someone else for something you need. I'm always getting offers of trades from people wanting nails. They're a lot easier to exchange than furniture."*
>
> *"You have a point there," ponders Smith. "I do seem to have a lot of trouble exchanging king-*

size beds for clothes. This way, I'd only use as many nails as I need for each purchase... Well, okay – I'll try anything once."

So he accepts the nails and makes the workbench for Jones. And then he goes out to find products for which he can exchange the nails. And, lo and behold, it works! He finds that trades are much easier to make.

As a result, he enjoys life a lot more with a few nails in his pocket. He can stop at a store and trade for anything he wants to – without having to arrange an elaborate, long-term furniture purchase with the storekeeper.

In fact, he merely points out to the merchant the advantages of nails as a trading medium in the same way that Jones pointed them out to him. And the final argument is that you can always use the nails ***sometime*** *in the future; they won't lose their value. And if* you *don't use them,* ***someone*** *will.*

In the months to follow, Jones the nail-maker notices a slow, steady increase in the demand for his product. Why? Because individuals, ***one at a time****, are coming to see that it's valuable to have a few extra nails on hand (in addition to those needed for construction purposes) to facilitate exchanges with others. Nails seem to most people to be an ideal trading medium.*

Money is simply anything you accept in an exchange with the expectation of being able to trade it later for something else you want.

But as Harry Browne notes in his book, "The commodity to be used as money must already have established itself as being in demand—otherwise, you'd never be sure that you could trade it later for something you wanted."

All manner of commodities have been used as money—including stones, cattle, sheep, beads, tobacco, furs, rice, tea, and, yes, even nails.

As it turns out, there are certain special characteristics that make some commodities more suitable for use as money than others. We'll look at these next, and you'll see why, over the centuries, gold and silver became the preferred medium of money.

What makes good money

Imagine a world without money—where you had to barter for everything you wanted. Every transaction would require you to find a person who wants something you have (say your 2005 Jeep Cherokee) and who also has something you want (perhaps a vacation home on the South Carolina beach that he's willing to lend to you for two weeks next May). How would you locate this almost-impossible-to-find person?

The creation of money allows this search process to be greatly simplified by breaking it

down into two parts. First, you find a person who wants your Jeep Cherokee and is willing to pay you, say, $4,000. Then, in a separate trade, you find someone else who will rent you a beach home for two weeks in exchange for that same amount. It still takes some time, but you no longer feel like you're looking for a needle in a haystack.

You can see why a system that uses money would lead to an explosive growth in the amount of economic activity versus the old bartering system. That's why the development of money as a means of exchanging goods and services between buyers and sellers is one of the most important "inventions" in history.

Notice, however, that money works only so long as sellers are willing to accept it in the belief that *it will hold its value long enough for them to eventually trade it for something they want*. As we'll later see, this matter of people having confidence that money will act this way is of immense importance.

Let's return to the scenario in which we saw nails develop as a form of money in a small economy. It seems that Jones, the nail-maker, got a little greedy and began manufacturing (and spending!) thousands of extra nails. Soon, all the local farmers, craftsmen, and merchants had all the nails they wanted—far more than they could put to any practical or trading use for months to come. Nobody wanted to accept nails as money anymore because they weren't sure if they'd be able to spend them later, or if they could, how much they would buy.

The town mayor asks you to serve on a committee that will come up with something else that will serve as money now that the townspeople have lost confidence in nails. At your first meeting, your committee makes a list of all the good things they liked about using nails.

1. They had intrinsic value. Nails had uses which gave them value *apart from their use as money*. It was the fact that people all over the community wanted nails to build things with that made them desirable in the first place.

2. They were durable. You could store them for as long as you liked, and you knew they wouldn't break, rot, or mildew. They'd never go completely bad because they'd always be useful for building things. (The fact that money shouldn't be perishable rules out crops or anything else that deteriorates over time.)

3. They were easily divisible. That's what sold Smith the furniture-maker on the idea in the first place—he couldn't "make change" from a king-size bed. With nails, he could easily divide his supply into small amounts for making everyday purchases. (Things that aren't easily split into small units are at a disadvantage as money, so land and livestock aren't good choices.)

4. They were consistent in quality. One nail was like every other nail. Unlike precious

gems or works of art where there can be different grades, there was no risk of being stuck with a "bad" nail. Knowing this greatly simplified negotiations.

5. They were valuable in relation to their weight. If you wanted to transact business, you didn't have to bring along several wagonloads full of nails. Before "nail-inflation" got out of control, you could do a lot of shopping just with the nails you easily carried around with you. This made them more versatile than barrels of oil or sides of beef. This portability is important.

In retrospect, nails made pretty good money. They lacked only one important characteristic which, as it turned out, was the one thing that doomed them.

6. Whatever is used as money must be relatively scarce. Its scarcity is what allows a high value to be placed on a small amount of it. Furthermore, the total supply in circulation must either be held constant or allowed to grow only at a slow, predetermined rate over time.

After giving the matter much thought, the committee can think of only two commodities that met the criteria as well as nails did *and* that also had some degree of scarcity: gold and silver. Consider how well gold, the more valuable of the two, met their criteria:

1. Intrinsic value. Gold is the most malleable and noncorrosive of all metals. Next to silver, it is the most reflective of light and the most conductive of heat and electricity. It has countless industrial uses apart from its traditional use in jewelry.

2. Durability. As one of the natural elements, gold is virtually indestructible.

3. Divisibility. Gold can be divided into small increments or used as dust without losing any of its inherent value.

4. Consistent quality. One ounce of gold is interchangeable with any other ounce of gold of the same fineness.

5. Valuable in relation to weight. Presently worth more than $1,300 an ounce, a large amount of wealth in gold can easily be transported.

6. Scarcity. Less than 165,000 tons of gold are known to have been mined in all of history—that's "barely enough to fill two Olympic-size swimming pools," according to *National Geographic* magazine.

For thousands of years, gold has been prized for its unique properties and has proven itself as a "storehouse" of value. This is important, because to be accepted as money a commodity *must have the ongoing confidence of buyers and sellers.* No government can, for long, force its people to use a form of money that they distrust.

So your town committee, knowing that your fellow citizens have a high regard for the yel-

low metal, votes to recommend the use of gold as the community's new money. Nothing is perfect, however, and soon they become aware that gold has two shortcomings.

The switch from gold to paper money

The first shortcoming of gold is obvious: having to get out a scale and weigh the correct amount of gold dust every time someone wants to buy a newspaper or a Big Mac is inconvenient. Fortunately, this problem is solved rather quickly when one of the town's more entrepreneurial thinkers, a young fellow named Ben, steps forth with an offer to shape raw gold into various standard sizes and weights—in other words, to convert it into coins. For a modest service charge, of course.

On the front of each coin, Ben promises to stamp the exact amount of gold inside so people will know how much it was worth. Since Ben enjoys a reputation for honesty, many of the townspeople take him up on his proposal and begin bringing in their gold. (Still, you can't be too careful, so at first everyone checks the coins to make sure they weigh what they were supposed to. When months go by without anyone catching Ben in a mistake, it becomes generally accepted around town that his coins can be trusted.) Ben's mint becomes a thriving business.

But then there is gold's second shortcoming. The villagers discover that some of the very qualities that make gold such an excellent choice as money also make it a favorite target for thieves! It is valuable, easily transported, easily divided, and, since everyone's gold and coins look alike, they can't be identified as stolen property.

Listening to the concerns of his customers, Ben comes up with another inspiration—he'll add a special vault inside his mint so that people can store their gold in safety. He will issue receipts each time they put gold on deposit, and they can come by and claim their gold anytime they want. All for a modest service charge, of course.

It isn't long before Ben's "gold warehouse" business is up and running. And as more and more of the townspeople use Ben's vault for keeping their gold safe, a curious thing begins to happen.

When negotiating a purchase, shoppers engage in this kind of conversation with storekeepers: "Say, do you have a gold storage account at Ben's warehouse? You do? I thought you might since you take in a lot of gold here at your business. How about saving both of us a little time and trouble? Rather than me going over to the warehouse to pick up my gold, and then coming back here to give it to you, I'll just sign this receipt over to you. Then the gold would legally be yours, and you wouldn't have to go to the trouble of placing it in safekeeping—it's already there."

As this way of doing business catches on, people begin *exchanging the receipts* rather

than the actual gold. The receipts are being accepted as a means of exchange because of what they represent. They aren't really the money; they are simply substitutes for money. The gold is the real money; it is the commodity with the accepted value.

The paper receipts, in and of themselves, have no intrinsic worth. They take on value only because they can be exchanged for gold. If, through fraud, bankruptcy, or natural disaster, the gold in the warehouse were no longer available, the receipts would be worthless.

For the paper receipts to *keep* their value as money substitutes, three conditions have to prevail.

- **Ben's warehouse has to build widespread patronage throughout the village.** A merchant would be less inclined to accept the receipt in exchange if he didn't also have an account at Ben's, or if he didn't expect to be able to trade the receipt to someone else who had an account at Ben's.
- **Ben's warehouse has to keep regular and convenient hours for business.** The villagers needed confidence that the gold (i.e., the real money) is actually there, and that they can get it out anytime they want.
- **Ben's warehouse has to never let gold out of the warehouse without getting a corresponding receipt back.** Otherwise, there would be more receipts in circulation than there is gold to back them up. Then, how could a receipt-holder know for sure that his gold is there?

Money substitutes will retain their value and enjoy widespread acceptance to the extent they are readily and assuredly convertible into real money. Since Ben pays careful attention to such details, his business is a successful one. Furthermore, the townspeople reap the benefits of an effective system of money. All is going well—and the best is yet to come: Ben is about to invent banking.

Banking and the lending of money

As the village grows, it becomes apparent to Jim, owner of the local general store, that he has outgrown his building. The growth of his business is being limited because he doesn't have room to store or display more merchandise. He begins to dream of building a new store, where he would have more room for stocking and displaying a wider variety of groceries and dry goods.

Jim estimates it would cost $12,000 to build and stock his new store. Unfortunately, he has managed to save only $5,000 over the past several years, which he has stored at Ben's gold warehouse. He calculates that if he could *borrow* the remaining $7,000, he is sure that an increase in sales would enable him to repay it within 9-12 months. But who

will lend him $7,000? He takes his problem to Ben.

"Sorry, Jim," Ben says, after looking over his list of customer accounts, "There are very few people in the village who have that much on hand right now. If you're going to pull this off, you'll stand a much better chance of borrowing $1,000 from seven people than trying to borrow $7,000 from just one person."

"How can I do that? I wouldn't know who to go to. But, wait—you do! Would you do it for me? I'd be glad to pay you for your time."

Ben considers the idea. "Well, I do talk with my customers when they bring their gold in for storage, and I know a few who might be willing to lend theirs. But I'm not sure they would be interested in taking a chance on your expansion idea—they'd want more of a sure thing. Let me think it over."

Jim's dilemma is familiar to Ben. From the daily talks he has with his customers, he knows there are always some looking to borrow while others have more gold than they need for the coming months. Sometimes the grapevine gets borrowers and lenders together. But for the most part, few customers are willing to lend their money. There is just too much risk that something could go wrong and they wouldn't get it all back. Even though Ben knows Jim is a good businessman and believes there is little risk in the loan, he knows it would be a "hard sell" to convince his cautious customers to take a chance on Jim.

Then this thought occurs to Ben: "Maybe they'd take a chance on *me*." Based on his track record of success and integrity at the warehouse, he has an excellent reputation. If his customers would lend their money to Ben, he could turn around and re-lend it to Jim. In effect, Ben would be taking the risk instead of his customers, even though it is their money being used. In return, Ben would expect a profit based on the amount of money at risk.

So Ben posts a large sign in his warehouse. It offers to pay an annual rate of interest of 5% to customers willing to give up the right to use their gold for a period of one year. It would still be their gold, of course. They would merely be agreeing that they wouldn't come and demand it back until the year was over. In return for surrendering their gold receipts (which represent their right to take their gold at any time) they'll get a one-year note from Ben. The note entitles them to claim their gold, plus 5% interest, at the end of the year.

Ben's offer is a success. Over the next month, $10,000 worth of gold receipts are exchanged by their owners in return for Ben's one-year 5% notes.

What Ben has done is create a distinction between *demand deposits* that cannot be lent out, and *time deposits* that can. Thus, he provides a structure for the safe creation of

credit—one person is paid a fee for temporarily giving up the use of his or her money in order to allow someone else to use it. And by "inventing" commercial banking, Ben once again prospers by providing a valuable service to the village.

HOW BEN'S GOLD WAREHOUSE BUSINESS BECAME A BANK

Form of Money	Description	Phase 1	Phase 2	Phase 3
Gold Certificates	Can be exchanged at Ben's warehouse for actual gold coins at any time	$100,000	$ 90,000	$ 100,000
+ Ben's Notes	IOUs which Ben promises to exchange for gold (plus interest) in one year	0	10,000	10,000
= Total Paper Money	All the potential claims against the gold coins on hand in the warehouse	100,000	100,000	110,000
Gold	Actual gold coins on hand in the warehouse	100,000	100,000	100,000
Reserve Ratio	The percentage of paper claims backed by gold coins	100%	100%	91%

How banks create money

As you can see from the table above (Phase 2 column), at this point Ben still has $100,000 worth of gold coins in his warehouse to fully back up the $90,000 in gold certificates and $10,000 in his one-year notes that are circulating around the village. This keeps his reserve ratio—the ratio of gold reserves to paper money—at 100%.

(You may wonder why Ben's notes are considered part of the supply of paper money. After all, Ben doesn't have to honor them for a full year. Isn't that money "out of circulation," so to speak? Well, no. Remember our definition of money: *Money is anything you accept in an exchange with the expectation of being able to trade it later for something else you want.* Imagine that Collins, a holder of one of Ben's notes, wants to buy a few horses from his neighbor, Davis, and that Davis is willing to accept Ben's one-year 5% note in payment. He's agreeable because he expects to be able to trade the note later for something he wants, namely, Collins' gold coins plus the accumulated interest. Any of the villagers who hold Ben's notes have the right to "spend" them like Collins did if they can find someone else who will accept them in payment.)

True to his intentions, Ben calls Jim and makes the $7,000 loan at 8% as they had previously discussed. He also loans $3,000 to Frank, a nearby farmer. Of course, rather than giving them $10,000 worth of gold coins, which they would have temporarily deposited in the warehouse for safekeeping anyway, Ben simply gives them $10,000 in new gold certificates. As Jim and Frank begin using these gold certificates to implement their expansion plans, they join the others already in circulation in the village (see table, Phase 3 column).

The loans transform Ben's warehouse business into that of a bank. For the first time, he has printed up and handed out new gold certificates but *has not actually received any new gold coins in the warehouse to back them up*.

In doing so, he has (1) used a printing press to create $10,000 of new money, and (2) established a precedent of having less than 100% in gold reserves to back the paper money used in the village. But everyone seems happy—the customers are earning 5% interest, Jim and Frank are expanding their operations, and Ben is making 3% for his role as middleman. No harm done—yet.

It is, Ben thinks, an altogether satisfying experience—a much easier way to turn a profit than the meticulous hard work required in operating his coin mint and gold warehouse businesses. He is eager to do it again.

How banks create inflation

A year has passed since Ben, our accidental banker, first ventured into the lending business. His loans totaling $10,000 to Jim and Frank have been repaid. Ben took the $10,800 he received ($10,000 for the loans and $800 in interest), and paid off the one-year IOUs given to customers who had lent their gold at interest (total outgo of $10,000 plus $500 in interest). He pocketed the $300 difference in interest between what he had charged and what he paid. Note that with the two loans repaid and Ben's notes to his depositirs paid off, the total paper money in circulation ($100,000) once again matches the amount of actual gold in the warehouse; the reserve ratio has returned to 100%.

During the latest year, as the village has continued to grow economically, Ben's warehousing business has grown along with it. He has a virtual monopoly when it comes to offering a safekeeping place for the villagers' wealth.

Let's assume that, as a result, Ben's customers soon have $140,000 in gold stored in his warehouse. Correspondingly, Ben has issued $140,000 worth of receipts (gold certificates) that his customers can present at any time to claim their gold. And, as a result of his hard work, Ben is becoming a wealthy man. In addition to what his villagers own, he has $20,000 worth of his own gold in the warehouse. The "village money supply" is now at $160,000 (see table on next page).

Another thing happened as well. As Ben's role in the successful expansion of the two local businesses became known, more would-be borrowers found their way to his door. They included local merchants, professionals, farmers, and ranchers. Even the town council approached Ben, asking if he'd be willing to help finance their new toll-road idea.

It isn't long before Ben lends $10,000 of his own money, the limit he has set for himself in order to retain sufficient capital for his business. But he still has a long line of eager borrowers waiting to see him.

Ben briefly considers borrowing gold from his warehouse customers as he had done before, but he knows from experience what a time-consuming process that is. Besides, the

interest he pays them cuts heavily into his profits. And he knows he would be paying them to do something most of them are going to do anyway—i.e., leave their gold in storage with him.

By this time, his customers have come to rely on Ben's receipts, rarely using their gold coins for transacting business anymore. Even when they do, more often than not the gold is returned the next day to be put back in safekeeping by its new owner.

The important thing, Ben thinks, is to be sure he always has enough gold in the warehouse to honor any receipts that might be presented on a given day. And the more he thinks about it, the more confident he becomes that reserves of 10%-20% of the total gold on deposit would be more than enough to meet routine redemptions.

Still, just to be on the very safe side, Ben decides to keep his gold reserves equal to about two-thirds of outstanding receipts. In other words, he will maintain at least 67¢ worth of gold for every $1 in receipts. Even though he will no longer have $1 in gold on hand to back up every $1 in paper, Ben considers the risk to be negligible.

In other words, Ben now decides to make loans as before, but this time without issuing IOUs (and paying interest) to his depositors in return for their promises to leave the gold in the warehouse for a specified period of time. *He just assumes most of them will.*

With $140,000 of the villagers' gold in storage, this means an additional $70,000 is available to make loans. As he had done a year earlier, Ben makes these new loans by simply printing and issuing new gold certificates. In effect, he "creates" new money out of nothing.

HOW BANK LENDING INFLATES THE MONEY SUPPLY

Form of Money	After Initial Loans Have Been Repaid	Ben Begins 2nd Round of Loans with His Money	Ben Decides to Lend Customers' Money, Too	Borrowers Spend Their Loan Money
Gold certificates held by villagers	$140,000	$140,000	$140,000	$220,000
Gold certificates held by Ben	20,000	10,000	10,000	10,000
Gold certificates held by borrowers	none	10,000	80,000	none
Total gold certificates in circulation	160,000	160,000	230,000	230,000
Actual gold on hand in the warehouse	160,000	160,000	160,000	160,000

Although there remains $160,000 in gold in storage ($140,000 from the villagers plus Ben's $20,000), there now exists $230,000 in paper money claims against that gold. But as long as Ben can honor his receipts on any given day, what's the harm?

What Ben has done, however, is bring inflation to the village. Most of us think of inflation as when things cost more. Although that's a likely *result* of inflation, as noted earlier, it's not inflation itself. *Inflation is when you have money substitutes growing faster than the real money it represents.*

Or, as Harry Browne put it in *How You Can Profit from the Coming Devaluation*:

> *Inflation is the counterfeiting of paper money.... It doesn't matter **who** does the counterfeiting. Any increase in paper money – not backed by real money in storage – is going to cause the same reaction: prices will be higher than they would have been without the inflation.*

Why more money leads to higher prices

As Ben gradually makes new loans of $70,000 to help local merchants, farmers, and others expand their businesses, they spend their loan proceeds mostly on building materials needed for construction. There is, therefore, an increase in the number of buyers of nails, lumber, paint, and the like; however, the supply of these items within the village does not increase.

The owners of the general store and lumberyard that provide building materials become the happy beneficiaries of a bidding contest. Ben's borrowers, who now have more money, compete against the rest of the villagers, who have the same amount of money as they had before. Naturally, the people with the most money win, but not before the prices of building materials rise significantly.

Here's the key point: The more money being circulated, the higher prices will be.

It's not that a larger supply of money makes goods and services more valuable; their value *in relation to one another* is unaffected by a change in the money supply.

For example, assume that before Ben's loans increased the money supply, one pound of nails and a ten-foot 2x4 piece of lumber cost the same—about $3. After the inflation occurs, one pound of nails would still be equal to a ten-foot 2x4 in value. However, their *price* might have risen to $4.

This happens because prices are expressed in units of money, which in this case, were shrinking in value. Money units are like any other commodity in the sense that the greater the supply, the less value that attaches to each individual unit.

The new money created through Ben's loans isn't spent in such a way that it is distributed evenly throughout the village—at least, not initially. Rather, the new money —and the inflation it caused—is concentrated in the construction sector. Other goods and services in the village continue to be priced at the same levels as had prevailed before Ben made the loans.

This works to the benefit of the sellers of building materials because they get the new money first. Although they have to spend some of it to order new inventory, they still have their profits. Only when they begin spending their profits, perhaps on a new suit or watch, does the tailor or jeweler gain a share in the new money. Thus, during subsequent rounds

of spending the loan money ripples out through the village economy.

This new money dilutes or "waters down" the value of all the old money outstanding that is fully backed by gold. *The new money is the problem; higher prices are a symptom.* The new money is the cause; higher prices are an effect. In creating new money not fully backed by real money, Ben has brought inflation to the village.

By reducing his reserve threshold from 100% to 67%, Ben is able to make many profitable new loans. But what is to keep him from lowering the threshold again, to 50%, or 33%, or even 25%? After all, the lower the reserve requirement, the more money available for loans and the more profits for Ben.

Ben, of course, is wise enough to know it is also vitally important that he retain the confidence of his depositors. They know he makes loans, but they don't have the big picture that would enable them to understand he is only keeping a fraction on hand in the bank for every $1 on deposit. If they learned this, which they might if too much money began circulating as a result of Ben's loans, they would become concerned about their ability to get their money back. The result would be the familiar "run on the bank" scenario.

As long as Ben can obscure the extent to which he is inflating, he knows he can profit from the confidence the villagers have in his bank and paper money. So it is essential that Ben keep his greed and ego under control. Otherwise, he will sow the seeds of his own destruction.

We'll end our tale of the village here, and I'll leave Ben's fate to you. But given human nature, I wouldn't be too optimistic about Ben. Sadly, the history of inflation is filled with accounts of banks and governments that tripped at this very point.

Government fund-raising and money

Now that the basic elements needed in a monetary system have been explained, let's begin a study of today's economies, in which the role of government has become supreme.

Governments love to spend, but they have no money of their own. To finance their spending programs, governments typically use a combination of three fund-raising mechanisms.

- **Taxing.** Although governments have the power to tax, they are generally careful in the way they exercise this power. (Spending tends to enhance and secure a government's power; taxing, if overdone, undermines it.) To the extent that government lives within its means—that is, spends no more than it raises through taxation—there is no inflation. That's because the total amount of money in circulation isn't increased, it's merely redistributed by taking from taxpayers and spending on government functions and programs.

- **Borrowing.** Unfortunately, taxes alone usually cannot support all of a government's spending ambitions, so bonds are sold to those willing to lend the government money. Again, this does not cause inflation because the total amount of money in circulation has not risen—money held privately by investors has temporarily moved into the hands of the government where it will be redistributed.

- **Printing.** Just as Ben did when he was in control of the money supply, the government simply prints new paper money. As this new money is spent, the money already in circulation is diluted in value. The more money being circulated without a corresponding increase in tangible assets (finished goods, raw materials, land), the more prices will rise.

Of these three ways of raising money, only the third *has the advantage of subtlety*. Citizens understand that taxes leave them with less. They also know that if they lend their money to the government, they have less available for spending. But few understand how the creation of money through the irresponsible use of the printing press robs them. Instead, as prices move higher, so-called "greedy" businessmen usually shoulder the blame.

All three fund-raising methods transfer purchasing power away from the citizenry into the hands of government, but only the inflating method obscures who's behind it. That's why *control of the money supply and the accompanying ability to inflate* has always been coveted by government.

The inevitable government takeover of banking and the supply of money

History shows it's only a matter of time before government will seek to take control of the banking industry and regulation of the money supply. This is rarely done quickly and overtly, however, because the people would object to such an obvious grab for power.

Let's trace the process in our own history, as the United States moved from a highly decentralized banking system in which money was convertible into gold or silver to the present-day arrangement where power is concentrated in Washington and our money isn't convertible into anything of intrinsic value.

Step 1: Local governments begin issuing money in competition with private banks.

From the earliest days of our history, private banks (much like the one operated by Ben, the banker in our fictional village) sprang up. These banks issued their own paper money as loans to individuals and businesses. Eventually, colonial and state governments followed suit, printing money to pay for military defense, first against the Canadians and later the British.

Step 2: More paper money is printed than is justified by its gold/silver backing.

Even before the Revolutionary War, paper notes issued by various colonies were in trouble. Businesses wouldn't accept them at face value, requiring buyers to pay more for their purchases when paying in paper than if they paid with gold or silver coins. It took two acts of the British Parliament, prohibiting the further issuance of paper money by the American colonies, to keep the currency from becoming worthless. (Later, the U.S. Constitution, written in 1787, forbid the states from issuing their own currencies.)

This problem surfaced again during the Revolutionary War. To finance its military efforts, the fledgling Continental Congress printed large amounts of a new currency called "continentals." The currency was backed by silver coins from Spain, which were in wide circulation in the colonies at that time. The Spanish coins were called "dollars." As the war continued, the quantity of paper money far exceeded the amount of Spanish coins backing them, and the value of the paper money plummeted. ("Not worth a continental" became a common expression, used to describe objects of little value.)

Space doesn't permit detailing the exploits of the First Bank of the United States (1791-1811) or the Second (1816-1836), which, on balance, were largely positive. Their paper money was backed by gold coins and the banks did a good job of minimizing the irresponsible issuance of paper money by private banks at the state level. Both banks were initially chartered for a 20-year period, but for reasons of political intrigue, neither had their charters renewed.

This paved the way for the so-called "wildcat" currency period in American banking (1836-1863). In the absence of the restraining influence of the Bank of the United States, many of the private state-chartered banks went overboard in circulating their own promissory notes (IOUs) as money. They issued as much paper money as the market would bear—regardless of what their gold assets would justify. Hundreds of new banks were created to do just that.

Of course, such banks were doomed to fail eventually, because they didn't have enough gold on hand to honor all of their notes that would be presented for payment. By 1863, there were 1,562 state-chartered banks and an estimated 10,000 different kinds of notes in circulation!

Step 3: National government claims the right to regulate issuance of *all* money.

The National Bank Acts of 1863 and 1864 established a national currency and a system of federally chartered banks. These banks were designed to compete for deposits with banks sponsored by the states.

To attract depositors, the national banks offered added safety: legal reserve requirements were imposed (thus limiting the number of notes any bank could issue); national bank notes were backed by U.S. government bonds (not, you'll note, by gold); and it was mandated that national bank notes be accepted as legal tender at full face value in all financial transactions. In addition, the U.S. Treasury was instructed to print and circulate currency in the form of gold certificates, which could be converted to gold coins upon demand.

At the same time, a federal tax of 2% (later raised to 10%) was assessed against the notes of state-chartered banks in an attempt to coerce these banks into joining the national system.

With fine-tuning here and there, this system remained in place for half a century.

The system evolved into one with three tiers: local smaller banks kept their legal reserves on deposit with medium-sized banks in one of 47 "reserve cities," and these medium-sized banks, in turn, kept their reserves at one of three large banks in New York, Chicago, or St. Louis. Unfortunately, because the total reserves in the system were spread out, they couldn't be quickly redeployed to areas where they might be needed temporarily during a crisis.

For example, such crises occurred several times during periods of heightened loan demand. In the late 1800s and early 1900s, America's economy was still tied heavily to farming enterprises. When farmers sought credit to meet seasonal planting or harvesting expenses, they would borrow from their rural banks. In making the loans, the rural banks would draw from the funds they had on deposit in the 47 reserve cities.

The medium-sized banks, having lost these deposits for the time being, would then need to rebuild their own depleted balances. They did this by making withdrawals from their reserve accounts in one of the three large central reserve cities. So, ultimately, pressure was put on the banks at the top of the tier to supply the system's temporary needs for extra capital.

Most of the time, the system worked. On occasion, however, when the business cycle and farming cycle were peaking simultaneously, loan demand outstripped the local banks' reserves. The only way they could keep lending was if other banks would lend to them. To raise new capital, the larger banks would attempt to put together syndications composed of banks that still had money to lend. Because such banks were scattered over wide areas (occasionally even involving institutions in Europe), this took time. Unfortunately, time also was in short supply.

Until the large banks could complete their syndication deals, they would have to turn down other banks' requests for loans. When this happened, the local banks would either (1) be

unable to meet the loan commitments they had made, or (2) be unable to meet their depositors' withdrawal requests. In other words, the local banks would fail.

Once word of the failures began to circulate, people moved to protect themselves by withdrawing their savings. In this manner, an increasing number of bank "runs" and failures led to the panic of 1893, the panic of 1895, and, the most damaging, the panic of 1907, which included a major New York bank among its victims. Following decades of recurring instability, this was the final push the country needed to begin the difficult task of banking reform.

In 1908, Congress did what it always seems to do when it doesn't know what to do—it created a bipartisan commission to look into the matter. This led to extended political wrangling between urban business interests and rural farming communities. The debate lasted for five years, during which time six different plans were put forth, until a compromise was reached and the Federal Reserve Act was passed in 1913.

The final legislation attempted to remedy two major weaknesses of the old system. For one, the previous reserve-bank arrangement, which involved 50 banks, was too decentralized and cumbersome to efficiently provide capital to banks that needed temporary loans. The new law called for a simplified structure of just 12 regional banks, supervised by a Federal Reserve Board in Washington. Second, the existing form of money had proven incapable of expanding quickly enough to meet seasonal surges in loan demand. Therefore, a new kind of "elastic currency" was approved (Federal Reserve Notes), the supply of which could be enlarged or reduced in response to economic necessity.

Passage of the Federal Reserve Act was a watershed event in American monetary history, with consequences far beyond anything that could have been contemplated by the Congress that passed it. In *Secrets of the Temple*, an authoritative and exhaustive history of the Federal Reserve, author William Greider summed it up this way:

> *The overwhelming majority in Congress who voted for the measure did not grasp that they were creating a new management system that would replace gold as the regulator of money's value and, therefore, would influence prices generally. Most of all, they would have been appalled to learn that the new Federal Reserve Notes they were authorizing would [soon] become...the fiat paper money that had been proposed thirty years earlier by the Populist agitators.... Until 1933, citizens could turn in their Federal Reserve Notes for an appropriate quantity of gold. After 1933, the Fed's paper money would only be redeemed with more paper money.*

Ironically, the Federal Reserve System, established to combat economic instability, became a major *contributor* to economic instability during the 1920s and 1930s. In the classic textbook, *American Economic History*, scholar Jonathan Hughes writes:

The Federal Reserve System came out tarred with the brush of incompetence; it had lowered interest rates in 1928, then failed to abort the 1929 stock-market bubble before it burst. The Fed had allowed the supply of money to fall, had actually raised its rediscount rate in 1930 for a time, and then had sat idly by while thousands of banks failed, to the ruin of their depositors and the desolation of the economic terrain. Subsequently, the Fed did little to aid recovery. They did, however, pursue policies in 1936-37 that were thought to have contributed to another recession in 1938.

When Franklin D. Roosevelt took the presidential oath of office in 1933, he faced a banking crisis. More than 5,000 banks had failed from 1929-1932. By March of 1933, when Roosevelt was inaugurated, 38 states had declared bank holidays and their banks had suspended operations.

Led by the new president and attempting to stem a rising panic, Congress passed an Emergency Bank Act that same month. Among other features, it created a temporary deposit-insurance program that reassured depositors and succeeded in bringing the bank runs to a halt.

The success of this effort encouraged a major restructuring of America's financial system during the mid-1930s. Ironically, given the previously stated summary of the Federal Reserve's "incompetence," Congress gave the Federal Reserve even more control over bank-reserve requirements and centralized its power in Washington. The banking and monetary system of the United States was now placed completely in the hands of the Fed's Board of Governors.

During this period, the role of gold in our economy also underwent a dramatic change. The U.S. had been on a strict gold-standard since the turn of the century, but policymakers believed that raising the Treasury's gold price (in effect, devaluing the dollar) would help stimulate the economy. To facilitate this, laws were passed that required Americans to surrender all their gold coins. In addition, paper currency was no longer convertible into gold. The hoarding of gold was declared illegal and Americans were not allowed to export gold.

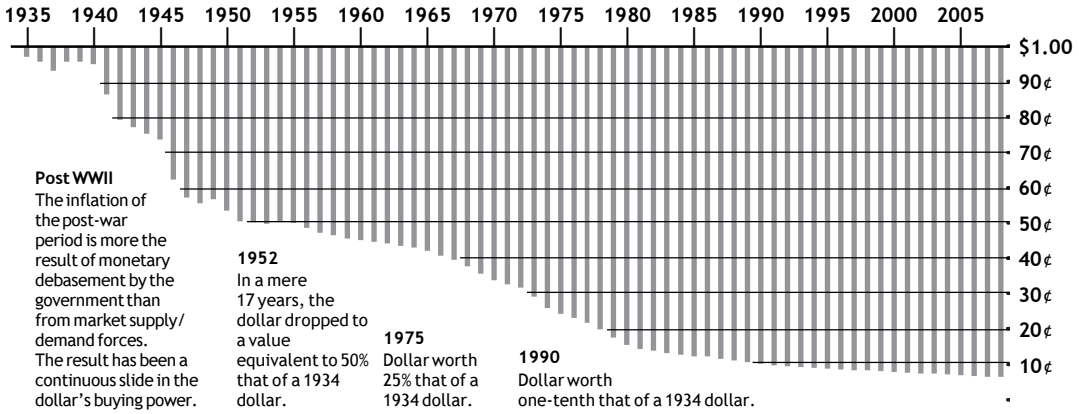
The long-term effects of these changes—i.e., giving the Fed monopoly control of the printing presses while simultaneously taking away the right of the citizenry to exchange the Fed's paper money for gold—can be seen in the graph on the next page.

The death of money

As World War II drew to a close, economists from the leading industrial nations met in Bretton Woods, New Hampshire, to hammer out a new international monetary system on which to base post-war recovery and growth. Under the "Bretton Woods" system, the U.S. dollar was established as the central international trading currency. All other

THE DECLINE AND FALL OF THE AMERICAN DOLLAR

The Mint Act of 1792 established the dollar as the unit of money in the United States. From 1792-1932, the average annual rate of inflation was just 0.3% per year. Although the country experienced a number of inflation/deflation cycles during this 140+ year period, we had very little net inflation. The dollar was tied to a gold standard, and was an extremely stable currency. During The Great Depression, having a sound currency took second place to New Deal efforts to lift the economy. To facilitate government spending, FDR took America off the gold standard.



currencies would be valued in terms of how many dollars for which they could be exchanged.

The various "exchange rates" were set at specific levels appropriate to each country's economic strength at the time, and a mechanism was put in place to keep them there. Thus, currency exchange rates were "fixed" rather than "floating."

At the same time, the dollar's value was anchored to gold. The U.S. obligated itself to exchange one ounce of its gold for every 35 dollars turned in by foreign governments. The "gold window" was the place where these dollar redemptions took place. Therefore, under Bretton Woods, all currencies were convertible into dollars at a fixed rate, and all dollars were convertible into gold at a fixed rate. In effect, post-war international commerce was to be based on a gold standard.

This provided a degree of economic discipline. Other countries could not unduly expand their money supplies (i.e., they could not irresponsibly turn on their printing presses) because it would undermine the exchange rate of their currencies in relation to the dollar—a rate they had committed to maintain and support. For similar reasons, the U.S. could not print more dollars than it could redeem with gold.

The intended result was that each nation's money supply would grow at roughly the same rate as that nation's supply of labor, goods, and services. In this way, prices would be kept stable. This Bretton Woods system worked fairly well for more than two decades. Commodity prices were generally stable. In the U.S., inflation was typically less than 2%. Interest rates rarely exceeded 4%, and long-term fixed mortgages were commonly available at rates around 5%.

This economic stability led to a period of exceptional growth. Once the post-war recovery got started in earnest in 1948, the U.S. economy grew at an average annual rate, after inflation, of 6.6% for the next 20 years.

However, throughout the 1960s, the U.S. found itself increasingly burdened by the burgeoning costs of the war in Vietnam, the Great Society social welfare programs, and being the primary military defender of the West. Put succinctly, America was obligated to more than it could afford. To pay our bills, we had to either borrow or print what we needed.

What happened was that we betrayed our Bretton Woods commitments by sending billions of supposedly gold-backed dollars overseas *for which we had no gold.* By 1971, foreigners held more than 45 billion in U.S. dollars, but the U.S. had just $10 billion worth of gold reserves to back them up.

Foreigners, of course, had the option of (1) spending their dollars on our products, (2) investing them in our markets, or (3) exchanging them for our gold. As long as they chose either of the first two, we were all right. But even a relatively modest amount of dollar redemptions would soon exhaust our gold holdings.

In his fascinating book *The Death of Money*, economist Joel Kurtzman gives this account of our "solution" to the problem—and the ramifications that followed:

> *[In 1971, President Richard] Nixon announced that he had closed the gold window. This represented the biggest challenge to the world economy since the Great Depression; it meant the value of the dollar was no longer linked to the amount of gold in Fort Knox. It was a change of monumental proportions....*
>
> *By closing the gold window, Nixon destroyed the carefully crafted Bretton Woods system. His actions also precipitated a monetary crisis around the world and threw the world's credit markets into chaos. Within a week the value of the dollar decreased by more than 17% against the world's other major currencies. At the same time, prices on the world's stock and bond markets gyrated up and down as the world's money managers tried to assess the consequences of the new floating non-system. For the world's finance ministers the new uncertainty and financial volatility was too much. Within one day of Nixon's announcement they temporarily shut down the world's largest foreign-exchange markets....*
>
> *On August 15, 1971, money – in the old sense, the traditional sense – was repealed. Nixon transformed it into something totally new, a currency without any underlying value whatsoever and without any limitations on the government's ability to create it. Nixon turned money – traditionally a symbol of real, tangible wealth – into a twisted abstraction.*

In the 1950s, the U.S. money supply grew 23% to accommodate the needs of a rapidly expanding post-war economy. Because the money supply was growing in tandem with the economy, inflation remained low. But, as noted by economist Robert Samuelson in

The Great Inflation and Its Aftermath, the U.S. money supply grew *78%* during in the economically stagnant 1970s. One result was that during the period from 1973-1981, U.S. inflation averaged more than 9.2% a year. In three of those years (1974, 1979, 1980), the inflation rate was in double digits.

Ultimately, that period of high inflation was brought under control only after a long and deep recession.

Looking ahead

Now that you have an understanding of what money is, how it works, and how too much money has led to inflation in the past, you probably understand why so many people are concerned that current conditions are ripe for a future inflationary spiral.

Over just the next decade, the U.S. will face budget deficits *roughly equal to all the deficits combined from 1945 to 2008.*

How will these huge deficits be funded? Partially by tax increases, but mostly by the Fed simply creating more money. One economist quoted in the *Wall Street Journal* put it this way: "Effectively, the Fed is monetizing the Treasury's debt, a strategy that appears in the encyclopedia under the heading 'how to trigger inflation.'"

As the world continues to recover from the economic downturn that began in 2007, *de*flation (another potentially serious economic problem) may be more of an immediate concern than future inflation. So we don't suggest making sudden changes in your financial plan to guard against inflation. Instead, use the time now to educate yourself so you can begin making well-considered preparations in the coming months.

For further reading, we recommend Robert Samuelson's book, *The Great Inflation and Its Aftermath*, mentioned above. For specific suggestions on how to prepare an "inflation protected" portfolio, visit www.SoundMindInvesting.com.