

Why money creation is central to most of the problems faced by society

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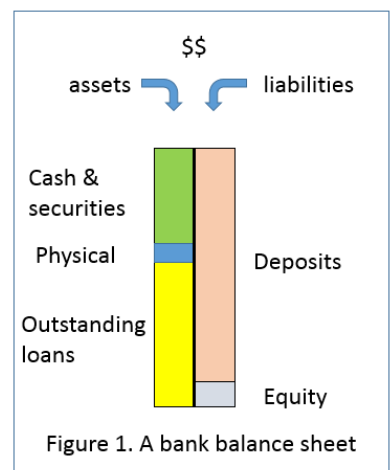
There's a lot of money in the world, and yet our ability to address pressing problems or to develop attractive opportunities seems to be constrained by an apparent lack of money. Why don't we have enough money to repair and maintain the infrastructure needed for a healthy economy, for good schools for our children, for health care for all, and for rapid development of renewable energy sources and of the agricultural practices needed for environmental sustainability? The answer lies in the way we allow money to be created in our society.

How is money created today? Most people think that money is created by the government, but the only money that is created by government is the bills and coins that are circulating in our economy as cash transactions. Bills and coins, however, make up only a small fraction of the money used today, 10% or less. The bulk of the money circulating in our economy is digital: checks, credit cards, and electronic transfers. Bank deposits make up at least 90% of the total money supply and have no existence other than as numbers in accounts, held today in computers. This money is not created by the government. It is created by banks when they make loans.

How do banks create money when they make loans, that is, when they issue credit? Most people think that when a bank makes a loan, it transfers some of its own money and deposits that money in the account of the person getting the loan. No "new money" would be created in this type of transaction: it would just be transferred from one account (the bank's) to another (the borrower's). Surprisingly, this is not the way it works. If the bank simply transferred money from its account to the borrower's account, we'd expect the bank's assets to be reduced while those of the borrower would be increased. In fact, the bank's total assets are not reduced when it makes a loan. While its "liquid" assets are reduced, its "illiquid" assets are increased, resulting in there being no change in the bank's total assets. At the same time, the borrower's assets are indeed increased: the borrower gets the cash value of the loan added to his/her account. This is the "new money" created by the loan. To see how this works, we need to know about **bank balance sheets**.

Bank balance sheets list two columns of figures (figure 1). The left column lists the bank **assets**, which consist of two primary parts: 1) what the bank owns, its money plus its physical plant, and 2) what is owed to the bank as outstanding loans. The right column lists the bank's **liabilities**, that is, what the bank owes to other people. This column also consists of two parts: 1) customer deposits, and 2) equity. Customer deposits include our checking accounts, plus what banks have borrowed from other sources; equity is what investors have put into the banks as investments, such as bank stock.

On the **asset side**, what is owed to the banks, namely outstanding loans, are considered **illiquid**. That means that is not money available for the bank to use for lending or spending; that money becomes available, only as the loans are repaid in accordance with the agreed



upon repayment schedules. What the bank owns consists of its money plus its physical assets, such as buildings. Like loans, physical assets are illiquid. The bank's money represents its **liquid assets**, namely assets that are available to the bank to use for lending. The bank's money is in three forms: 1) currency actually held in its vault (a small fraction), 2) money it has deposited in other banks or in a central bank, such as a Federal Reserve bank, and 3) money it holds in the form of securities, such as government or corporate bonds. All of the bank's money, except for currency in the vault, exists only as account money, as numbers in computers.

The **liquidity** of a bank refers to the fraction of its assets available for lending. These assets include the currency in its vault and the money it has deposited in other banks, including the central bank. Money which the bank holds in the form of bonds is also fairly liquid, in that banks can quickly sell bonds on the bond market, in order to have it for more profitable lending. (Note that bonds themselves are loans. When anyone buys a bond from the government, for instance, that person or institution is loaning money to the government.)

The bank's money which is on deposit at other banks, including the central bank, is referred to as **reserves**. What banks hold in the form of bonds can also be considered part of their reserves. Banks are required to keep some money in the form of reserves, typically 10% in the US; that means that they are not permitted to loan out all of their money. They have to keep some in order to have it when customers wish to withdraw money from the bank.

On the **liability side**, equity is typically 10% to 15% of the total, with deposits making up the rest.

In the bank accounting system the sum of assets always equal the sum of liabilities. This may reflect the idea that all of the bank's assets have originated as deposits and equity. The two sides of the balance sheet do not refer to two different pots of money. They are simply two ways of describing the bank's money.

What happens when banks make loans? How do the balance sheets change?

To consider this we will use a simplified bank balance sheet. The asset side will be divided into two categories: 1) the bank's liquid money, which is available for lending, which we will call reserves and 2) the money that bank has already loaned out, which we will call loans (Figure 2).

As shown in Figure 2, a bank's balance sheet initially rises in the process of making a loan. Step #1 is the issuance of the loan. Both parts of the bank's balance sheet rise when the loan is made. The bank increases its deposits in the liability column (pink hatched area) since it adds the amount of the loan to the borrower's account. At the same time, the

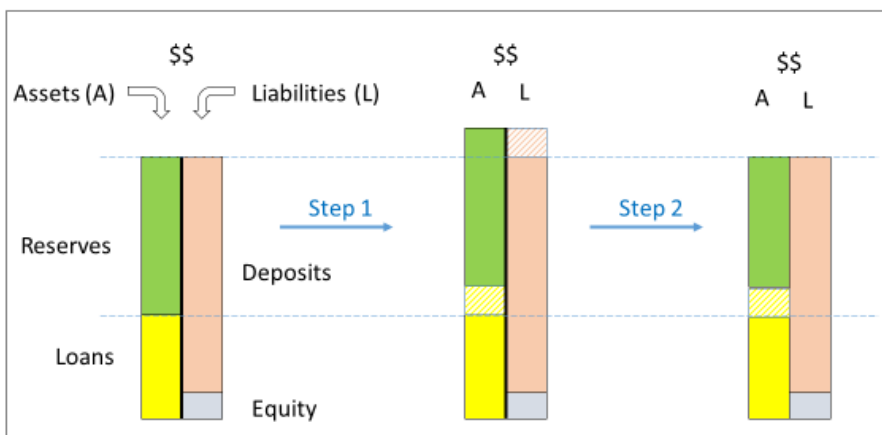


Figure 2. The steps in bank lending. The hatched areas represent the new loan.

bank increases its assets by the same amount (yellow hatched area) since it now has an agreement with the borrower that the loan has to be paid back to the bank.

Step #2 occurs when the borrower withdraws the money. The bank's reserves (in green) fall by the amount of the withdrawal, because the money leaves the bank, causing the asset column to drop back to the pre-loan level. The liability column also falls, because the bank's liability to the borrower has been met, making that liability disappear. The bank balance sheet totals fall to what they were before the loan was made, but the bank's reserves are less.

The net result is that the borrower has new assets, while the banks total assets are unchanged. The bank has not transferred assets in making the loan. It has created new assets.

“What happens to the money which the bank has lent?” Invariably, it finds its way into a bank. For instance, the seller of the house deposits the proceeds of the house sale, for which the loan was made, into his bank account. When that money is deposited into his bank, both the assets and liabilities of his bank rise by the amount of the deposit (Figure 3).

What is the effect of the bank loan on the total money supply? There are various measures of the total money supply used by the Federal Reserve, but a basic one is M2. M2 is the sum of bank deposits plus the total amount of currency, and constitutes most of the money circulating in the economy.

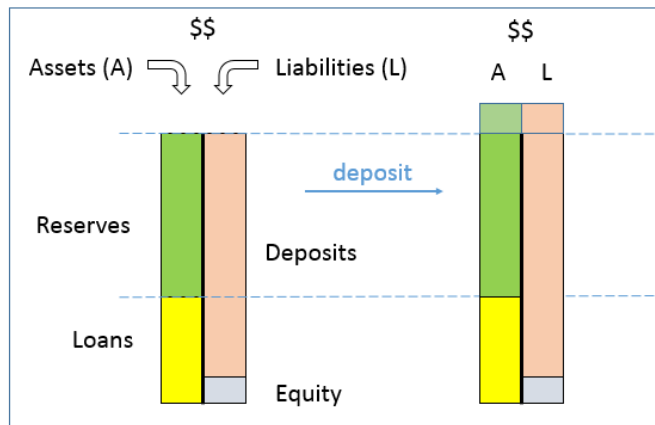


Figure 3. When a deposit is made, bank assets and liabilities rise.

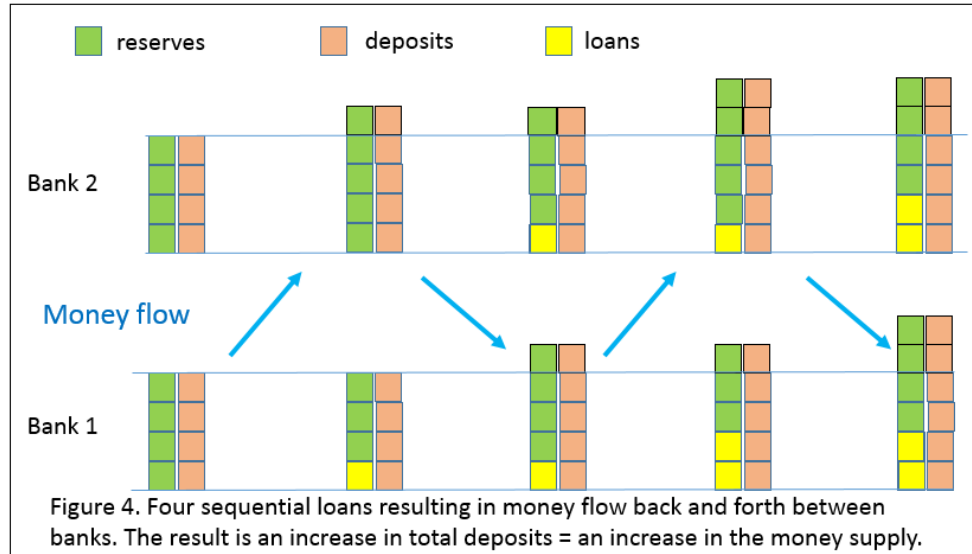
From figures 2 and 3, you can see that total deposits, considering both the borrower's bank and the seller's bank, have increased as a result of the loan. The deposits in the borrower's bank have not changed, but the deposits in the seller's bank have increased. The money supply has risen by the amount of the loan (1).

The increase in the money supply with sequential loans is illustrated in figure 4. The initial condition is the same for each bank, with four units of deposits matched by four units of reserves. Each blue arrow represents money flowing from one bank to the other, with one bank issuing the loan and the other bank receiving the loaned money as a deposit. With each loan it makes, the lending bank converts one block of reserves into a loan. With each deposit received, the bank increases both its reserves and its deposits by one block. The total money supply, represented by the sum of the deposits at any one time, increases with each loan. In this example each loan is equal to 12.5% of the initial total money supply, and after four loans the money supply has gone from 8 blocks to 12 blocks, an increase of 50%.

Reserves are not consumed in this process. They remain at 8 blocks throughout. Therefore the lending and money creation could in principle go on without limit. When loans are made money is not transferred from one place to another, it is created anew.

Are there limits to bank lending?

Although reserves do not fall with lending, the fraction of total bank assets represented by reserves does decrease. Typically reserves are maintained by customers making deposits, but if deposits do not keep up with lending, the



reserve fraction falls. With continued lending that fraction may approach the minimum that is required, which in this country is 10%. In that case, for lending to continue, banks would have to acquire additional reserves by borrowing. These reserves can be provided as loans from the central bank.

When banks borrow, their liabilities rise, and their reserves rise by the same amount. Their liquidity increases. Banks frequently borrow - daily. They do so when outgoing loans have exceeded deposits coming in. They typically borrow from other banks, which have money to loan, as a result of their deposits exceeding their loans. When the entire banking system faces a liquidity problem, as it did in 2008 because of mortgage loan defaults, the central bank steps in to provide reserves.

Non-bank lenders have no depositors, and are totally dependent upon borrowing and equity for the lending that they do. And unlike banks, non-banks cannot borrow from the Federal Reserve. They have to borrow from other lending institutions, such as banks.

How is repayment of a loan registered on a bank balance sheet? When a borrower pays back the principle of a loan in full, money is taken from his account, reducing the bank's liability column, and the loan disappears from the bank's assets column. Therefore both columns of the balance sheet decrease. Money has been created when the loan was made, but, when the loan is paid back, bank deposits decrease by the amount of the loan and the total money supply is decreased by that amount.

Since at least 90% of our money is created as loans, if all our loans were paid off, there would be little money left in circulation.

Interest – how is it represented on bank statements? So far we have considered only loan principle, not interest. The interest which banks collect on loans goes into the asset column and is balanced by the liabilities of the bank in terms of operating expenses and loan defaults.

Interest - where does it come from? When banks make loans, the principle is created, but the amount of the interest is not. Where does the money come from to pay the interest? It has to come from other loans. There is no other source. Imagine a debt money system starting out. The first loan is made. When it becomes due both the principle and interest have to be repaid. The principle can be paid back; it exists. For the interest to be paid, more money must be created. Another loan would have to be

generated, or other loans would have already had to have been generated. Each loan, in effect, demands another loan in order to pay the interest. In the debt money system, debt can never be paid off. Loans perpetuate themselves. Debt can only grow. Interest is sucked out of Main Street economy into the financial sector where wealth accumulates.

What is the consequence for society of the way money is created today?

In order to be able to see the consequences of the way money is created today, we have to recognize 1) how money is created in our current

system, discussed above and 2) how it could be created in other ways to yield other outcomes. The other way money can be created is by government (Fig. 5). Throughout history sovereigns have created their own money. For instance, during the Civil War, Congress approved of the creation of \$450 million in “greenbacks.” The government printed the money and used it to pay its soldiers and meet its other domestic expenses. Greenbacks were accepted as payment of taxes and it became legal money.

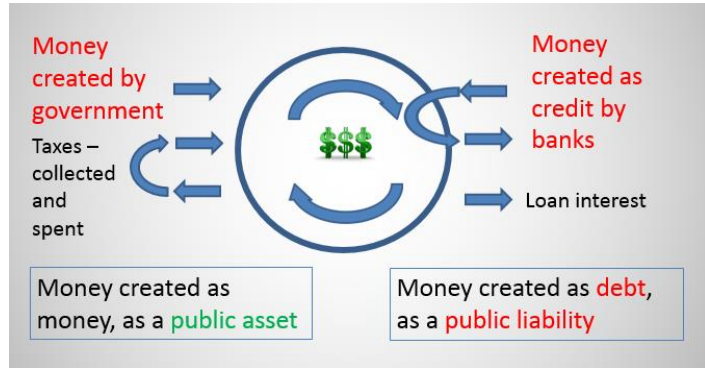


Figure 5. Two ways of creating money

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Primary Consequences. The primary consequences of the current debt money system are

- 1) creation of massive debt, both public and private, and
- 2) extreme concentration of wealth into the hands of lenders, i.e., into the financial sector of the economy, by way of interest payments.

Just as personal debt drains off money that could otherwise be used to purchase goods and services, public debt drains money that could otherwise be used for goods and service, such as infrastructure, education and health care. In the current system, debt is required for there to be any money at all, because all of our money is originated as credit, i.e., as debt. Interest is being paid on every dollar in circulation because every dollar is out on loan. This represents a substantial drain on the economy which feeds the concentration of wealth, transferring wealth from the many, who are the borrowers, to the few, who are the lenders.

Indebtedness of governments is in the form of securities, such as bonds, issued by federal, state and local governments. Part of the corporate debt is in the form of corporate bonds. While the upper 10% of individuals live in comfort and luxury, the governments at all levels are in austerity, unable to maintain adequate public services, and working people struggle to make ends meet, with no sense of economic security.

Although Congress has the Constitutional responsibility (Article 3, Section 8) to create money, Congress outsourced it to the banking system. Ever year Congress spends more than it takes in as taxes. Every year Congress borrows to cover the budget deficits, resulting a current federal debt of about \$20 trillion. Taxpayers are paying the interest on that debt, which amounted to \$433 billion in 2016. Payment on the debt service represents a second mechanism by which the current system systematically transfers

wealth from the many, the taxpayers, to the few, namely to those who loan significant amounts to the government through the purchase of securities, including banks, both domestic and foreign.

Secondary consequences.

1. Congress is up against a wall. Spending on needed programs is rejected because there is no way to pay for them except for two unacceptable pathways – increased taxes and/or increased government debt. Yet, without government spending, the very infrastructure, physical and social, needed to maintain a healthy economy and a vibrant society is at risk. We have governmental deadlock and paralysis.

2. The country is weakened by lack of infrastructure maintenance, and the lack of investment in its people. As the ranks of the unemployed and underemployed grow, with no sign of change, people get hopeless and desperate and turn to drugs and crime. When this goes far enough, resentment in many turns destructive and everyone suffers. This is the story of the fall of civilizations (2).

3. Because all new money is created by banks, all new money goes into uses that will bring profit to banks. New money does not go for infrastructure or other public works that would undergird the economy and support the welfare of the general population.

4. Another consequence of the current system of debt money is the boom and bust pattern that produces recessions and depressions. Creation of money as bank credit is what is known as procyclical, that is, it promotes these oscillations. When the economy is growing and looks strong, both businesses and the general public are willing to borrow because of their confidence that they will be able to repay the loans. And banks are eager to loan. As lending occurs more rapidly than loan repayment, the money supply grows. The economy looks good. When something bad happens, however, such as an economic slowdown from rising oil prices, or when home mortgages start to go into default, or a bubble bursts in the stock market and stock prices fall, the businesses and the general public are less willing to borrow, and the banks are less willing to lend, because of perceived higher risks. The money supply shrinks. Jobs are lost and recession follows. Recessions have a silver lining for banks. Banks take over property when loans go into default. Bankers say they don't like it when that happens, but the result, in fact, enriches the financial sector as they take possession of more of the physical assets of the country.

Alternatives. It doesn't have to be this way. Substantive proposals have arisen in several countries for money creation to come back into the public sector. These proposals, including the Nation Emergency Employment Defense (NEED) Act, which was introduced into the US Congress in 2011, end private money creation, and establish mechanisms for money creation by federal governments (3).

As populations and economies grow new money is needed. Currently it is created by banks and loaned into circulation in ways that will provide a return on investment for the banks. Money created by government would strengthen the country by going into investments in the country's physical social infrastructure.

Government-created money spent on infrastructure, education and healthcare, would put money into the economy through the creation of good jobs. Many of these jobs would be in the private sector, secured through contracts for government work. Money originating in government jobs, federal, state and local, would percolate through the entire economy, stimulating opportunities in the private sector.

Economic analysis by economists associated with the International Monetary Fund has shown that a 10% stimulus of the economy would occur with the enactment of the NEED Act, with no inflation (4).

Government created money would pay off, and therefore eliminate, the federal debt as it comes due, and end the debt burden currently born by the taxpayers.

Government created money would minimize or eliminate the boom/bust cycles. In doing so it would eliminate the uncertainties that inhibit investment and entrepreneurship. It would promote steadier employment, and reduce the anxieties produced by the prospect of recession and job losses.

Mechanisms of government created money

Money created for and by the government would be added directly to the government's bank account at the Fed. This money creation by the Fed would be similar, in part, to the way the Fed now creates money out of nothing when it provides reserves for private banks. When the Fed supplies reserves it treats them as loans made to the banks, increasing simultaneously the Fed's own balance sheets and those of the banks receiving the reserves. Registering the creation of reserves as loans carries the implication that they are to be repaid, although no one pretends that they actually will be repaid. If they were to be repaid, it would eliminate bank reserves, stop bank lending, and cause an economic collapse. (In fact, instead of demanding interest payments from banks on the reserves provided to them as loans, the Fed actually pays interest to the banks as if the banks had deposited the money in an interest earning account (5).) With government created money, it would be different in that the money created in the government account would not be created as loans and this pretense would be ended. The Fed would just establish an account containing an amount to be determined by an independent federal agency, based on the needs of the economy. This would reflect the creation of money, rather than the bank creation of credit and debt, which is used as money today.

It is sometimes argued that money creation by government would lead to inflation. Actually the converse is true. The dollar has lost over 95% of its purchasing power over the past 100 years. We have inflation now, powered by unrestrained money supply growth through bank lending, most of which goes for speculative purposes, such as investment in the stock market, and the buying and selling of existing houses and commercial property. Currently, relatively little goes into increasing the real wealth of the country.

Inflation occurs when the money supply outstrips the real wealth of the country, that is, the total of the country's goods and services. Spending on real wealth, such as infrastructure, education healthcare, renewable energy, restorative agricultural methods, and environmental protection for our future does not cause inflation.

Lending is necessary in society, but lending can concentrate wealth through interest transfers from borrowers to lenders. This is why usury, the charging of interest, or charging of excess interest, was discouraged or forbidden by religious traditions (6).

The NEED Act limits the transfer of wealth through lending in two ways. By injecting money into society where it is needed, through the creation of good jobs, and providing adequate safety nets for those who can't work, the need for borrowing will be reduced. By capping interest rates at 8%, usurious interest rates will be prohibited.

Under the NEED Act lending by banks would continue, but banks would no longer create money to lend, they would lend money they actually have (which is what most people think happens now). They would lend money invested in them by investors and loaned to them by customers wishing to get some return on savings accounts. Checking accounts would no longer be used as the basis for bank lending; they would be held by the banks separate from their balance sheets and remain fully in the possession of the depositors. Banks would charge for the services of safe keeping of customers' money, and for the payment services they provide in the forms of checking accounts, credit and debit cards, and electronic transfers.

Monetary reform is not a panacea. Mechanisms within our economy other than bank creation of money also contribute to the concentration of wealth and power that makes democracy impossible, and these mechanisms also need to be addressed.

Corporations, in which there is no democracy, have become wealthier and more powerful than governments themselves, and have come to control the making of public policy to favor their own interests. Public interest loses out. Corporate money has come to control elections. Public servants respond to their campaign contributors, not to the people they are supposed to represent, as illustrated by the divergence between public attitudes determined through polling and government decisions (7). Corporate power needs to be reined in. It needs to be reined by vigorous anti-trust enforcement. It also needs to be reined in by Constitutional amendment to do two things: 1) to eliminate the corporate claim for personhood, which corporations use to evade meaningful regulation, and 2) to correct the notion of the courts that campaign contributions represent speech protected by the First Amendment. A way to rein in the power of big bank corporations is through revoking their ability to create money.

Monetary reform is central for the country to be able to do what is needed for its own survival, but fiscal reform in government is also needed. Fiscal decisions, namely government taxing and spending, must also be directed toward reducing the concentration of wealth, and toward looking after the welfare of the people, as called for in the introduction to the US Constitution. We must return to the progressive taxation we had in the 1950's and we must insist on government expenditures that provide public support services and safety nets in an era when robots will be increasingly replacing workers.

We must also help the rest of the world toward prosperity, so as to decrease the threat of war. The money system is global. All governments should create their own money for their people. Bank creation of money, which puts people and whole nations into debt and poverty, must be ended.

These things are all necessary to complete the American Revolution against oligarchy and to fulfill Abraham Lincoln's vision of "government of the people, by the people and for the people" (8).

When labor and raw materials are available for public infrastructure projects, there is no reason for lack of money to prevent them from being done. Money is created out of nothing by strokes on computers. There is no reason for it to be limiting for public works. Survival of our economic and social systems, as well as environmental sustainability, require an end to the scarcity of money for the public sector and an end to excessive concentration of wealth within the private sector. Survival and sustainability require the reassertion of the Constitutional authority of government to create money "to promote the general welfare and secure the blessings of liberty to ourselves and our posterity" (9).

Acknowledgements

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- 8) The Gettysburg Address, by Abraham Lincoln, 1863.
(<http://www.abrahamlincolnonline.org/lincoln/speeches/gettysburg.htm>)
- 9) The Constitution of the United States, 1787

Additional resources - internet resource list for articles, videos and books

<http://positivemoney.org>

This British website has several components, including some excellent, short, introductory videos, plus several longer presentations at various levels. Although they all refer to the British monetary system, the US system is identical in almost all ways, and to other systems around the globe.

<https://www.sovereignmoney.eu/>

This is the website of a German economist, Professor Joseph Huber, which contains excellent analyses of issues revolving around money creation and its consequences.

<https://www.youtube.com/watch?v=r7qOuY9ZJ8w>, and
<https://www.youtube.com/watch?v=zlkk7AfYymg>

Two short videos by the British economist, Professor Richard Werner, entitled “Where money comes from” and “Debt-free and interest-free money.”

<http://www.monetary.org/>

The website of the American Monetary Institute contains articles and videos related to our current debt-money system and to the alternative provided by an act introduced into the US Congress in 2011, the National Emergency Employment Defense Act.

http://www.athensmessenger.com/blogs/guest_columnists/who-creates-money-and-where-does-it-go/article_5f286f42-7287-5a23-ba4c-38cb5e0d22c0.html

A short editorial, “Who Creates Money and Where Does It Go,” by the Monetary Literacy Group of Athens, OH.