The

American

Iceberg:

Debt, Inflation, and Money

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Sociologist

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Smashwords Edition

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Dedicated to Teri and Jim

Madison, Avery, Nikolas and Noland

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Ah! What would the world be to us

If the children were no more?

We would dread the desert behind us

Worse than the dark before.

Henry Wadsworth Longfellow

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Looking Backward: 2009 – 1979

On July 19, 2009, my wife Mary asked me to help her move a box of my papers stored in the garage since my retirement in 2001. In the box I found the manuscript for The American Iceberg with "A Letter to the Citizens of the 21st Century" dated July 19, 1979. I checked my calendar to be sure of the date. Yes, it was July 19, 2009. What an amazing coincidence. Exactly 30 years later to the day, I could read what I had written about the debt crisis then. It was like reading current headlines, for the United States is struggling now with the very exponential debt growth process that alarmed me in 1979. I immediately began scanning the manuscript into my desktop computer so that I could update it.

I reached the last page of the manuscript on July 23. The last page of the original manuscript was dated July 23, 1979, an amazing double coincidence. So I get to look backwards, not as Edward Bellamy did in 1887 in *Looking Backward: 2000-1987*, as he imagined the world would be in 2000, but as actual conditions exist now in January 2012 compared to my forecast in 1979.

You will see in the pages that follow that total public and private debt, not just Federal debt, has grown much larger to an apparent ceiling in 2008 at just under $70 trillion. You will see that the debt trouble started at the birth of the United States. As I explain in this report, the Federal government must do now what the First Congress failed to do. It must establish a debt-free money supply with the actual value of "dollar" printed on it. I will explain why and how this can be done fairly and to everyone's benefit in the following pages.

My 1979 letter to you as a citizen of the 21st Century focused on the problem that all national monies are without a common definition of their value. Its absence is the fundamental problem that has allowed inappropriate practices to dominate the management of money. By solving the definition of money's value problem, we will have the proper guide we need to navigate ourselves out of the dangers from the American Iceberg of debt.

Bob Blain May 12, 2012

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A Letter to the Citizens of the 21st Century

At the time of this writing (July 19, 1979), there are about one hundred and fifty different currencies in use by the nations of the world. These include the dinar, the peso, the dollar, the schilling, the franc, the pound, the kroner, the rupee and many others. These currencies are defined in terms of no common known unit. Their exchange rates vary from time to time, sometimes from day to day. Because of the uncertainty and volatility of exchange rates, there is increasing concern about international monetary stability but little understanding of the nature of the problem and therefore no recognized way to solve it.

No doubt it will seem strange to you that we tolerate such a money Tower of Babel, particularly in view of the importance to you of a single, meaningful and stable world money standard unit that you, hopefully, will have adopted by the beginning of the 21st Century. We in 1979 have not yet reached the needed understanding of money to know what it should be. Our understanding of money has not yet progressed beyond vague explanations such as "money is valuable because it is accepted," "people's confidence determines money's value," "supply and demand is the best way to determine prices," and "the price level depends on the quantity of money in circulation." These ideas are widespread and taken as true and correct.

We do not now understand that the rate of inflation is the rate at which inequality is increasing. Incomes consequently have grown extremely unequal. The chairman of the board of one of our automobile companies in 1977 received an income of $992,000, an amount close to 50 times that of the income of someone receiving $20,000 per year. People are paying more than 10 percent interest on their home mortgages, so that the average new home selling for $65,000 in 1978 will end up costing the buyer a total of $145,000.

In the United States as well as in many other countries, sharp contrasts of wealth and poverty can be found in every major city. Some of our inner cities look like they have been devastated by war. Many have areas that are in fact war zones. We have recently landed men on the moon and we have sent satellites into deep space, but on the ground we seem unable to stop inflation, a problem that is worldwide and persistent.

Differences between capitalists and socialists produced the Cold War that led to the production and deployment of nuclear weapons with a total destructive power of 32,000,000,000,000 (32 trillion) pounds of dynamite, or 7000 pounds of dynamite for every person in the entire world. Since the end of World War II in 1945, the world has spent $6,000,000,000,000 ($6 trillion) on weapons, the equivalent of the annual Gross National Product of the entire world, all because capitalists and socialists have different ideas about how best to operate an economy. Each side has good arguments in its favor, but partisans to each side pay little attention to the virtues of the other.

We are in a cultural crisis. Our explanations of how societies function are inadequate. We have pushed orthodox ideas as far as they will go and they have not provided an answer. Consequently, some people, perhaps most, regard our condition as normal, as something about which nothing can be done. You probably know differently, but you have the advantage of hindsight. To most of us, the evidence is confusing and discouraging. As has always been true, we must first solve the problem in theory before we can solve it in reality. Orthodox theory is useless but pervasive.

This book is part of the effort to break new ground, to think about the problem in a new light. It identifies the problem as the defective nature of modern monies and it proposes that a proper money unit be adopted, one applicable worldwide. While the evidence strongly supports the proposed unit, existing prejudices may undermine all efforts to have it adopted. If this happens, the situation will have grown far worse by the time you read this letter (if you are

around to read it at all). If we succeed, it should mean that life for you is much improved and secure. In the event of failure, you must assume responsibility for what must be done. Do not be discouraged, take heart, scrutinize our efforts for insight, and take up the cause, for it is just and it is needed.

Signed, Robert R. Blain July 19, 1979

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Introduction:

Our Situation

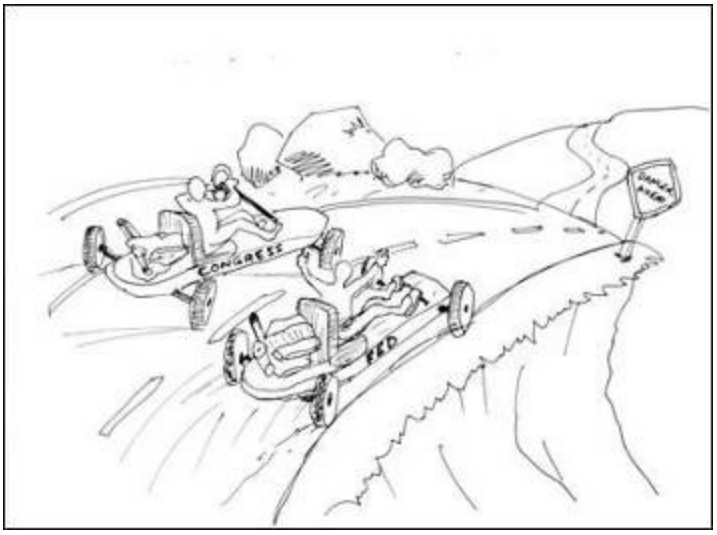
In 1979 and now in 2012 throughout the United States, individuals, families, corporations, and the Federal, city and state governments are dealing daily with the crises produced by astronomical debt and growing inequality. The news media in 1979 were filled with reports of exponentially rising medical costs (Time, May 28, 1979), consumer debt (Newsweek, January 8, 1979), and inflation. Thirty years later in September 2008, the Secretary of the Treasury Henry Paulson and President George Bush came before the video cameras to tell the American people that the banking system needed hundreds of billions of dollars immediately or the credit system would seize up, freeze, stop flowing. On July 15, 2009 in *Business Week* under the headline "The Time Bomb in Corporate Debt," David Henry quoted Louise Purtle, a senior analyst at CreditSights, as saying:

> "Be prepared for a multi-year period of high defaults…. We're going to see peaks like a mountain range."

People like you and I confront cash flow problems face-to-face in our daily lives without the advantage of a system-wide perspective. For us, the crisis is a purely local affair, a matter of prices at the local grocery store or filling station. The two organizations that have the advantage of a system wide perspective with the paramount responsibility for dealing with the crisis are the Federal Government and the Federal Reserve System (FED). These two agencies with their several million employees are responsible 24 hours a day, 7 days a week for the overall condition of the U.S. economy.

The Federal government has fiscal responsibility; it governs taxes and spending. Like the steering wheel of a car; it can turn the economy in one way or another by where it collects taxes and where it spends them.

The Federal Reserve has monetary responsibility; it governs the money supply. It can ease or tighten credit, which, for you and me, is debt. The Fed's tools are like the accelerator and brake on a car; more debt increases the speed of the economy, less debt slows it down. The two functions, fiscal and monetary, need to be integrated just like the steering wheel, accelerator, and brakes of a car are in the same vehicle. You will learn here how and why they became the responsibility of separate institutions.



The good news is that Secretary of the Treasury, Timothy Geithner, and FED Chairman, Ben Bernanke, coordinated their efforts. The bad news is that they have not yet found their way to both roots of the problem. The Federal Reserve Board of Governors has apparently found its way to the consequence of one root, compounding interest. Applying the misleading lesson of the Great Depression to encourage more debt, the Federal Reserve Board of Governors announced January 26, 2012 that the interest rate the FED will charge banks for borrowing with be zero to one quarter of one percent at least until the end of 2014. This is a major step in the right direction as you will understand when you see "the pen of history" in Chapter 3.

Commentators use expressions like the need to "jump start" the economy, that it is "dead in the water," this in spite of a GDP larger than ever at $14.5 trillion in 2010. Talk of reducing GDP in the face of global warming has dropped out of the conversation and been replaced by calls for faster growth in GDP. You will soon see, and as shown in the graphic on the title page of this report, that the growth in total debt has far outstripped the growth in GDP. More growth in GDP is not the solution to explosive growth in debt. The solution is identifying how to arrest growth in debt responsibly and without harm to anyone. It can be done. In fact, a responsible

and harmless solution is the only actual solution. Otherwise, we just trade one problem for another. So let us understand the problem correctly and get to its solution.

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Chapter 1

United States Public and Private Debt: 1916 to 2010

Total United States public and private debt is much more than Federal debt. It includes the debts of Federal, state and local governments, corporations, households, farmers, financiers and consumers. The total public and private debt series was published from 1916 to 1976 by the Bureau of Economic Analysis of the United States Department of Commerce in the *Survey of Current Business*. It stopped doing so in 1978 with the following notice:

> The Bureau of Economic Analysis is discontinuing preparation of the public and private debt series, which last appeared in the July 1977 Survey of Current Business with estimates through 1976. The series is being discontinued because the underlying concepts and methodology needed a thorough review for which resources are not available (*Survey of Current Business,* May, 1978, page 4).

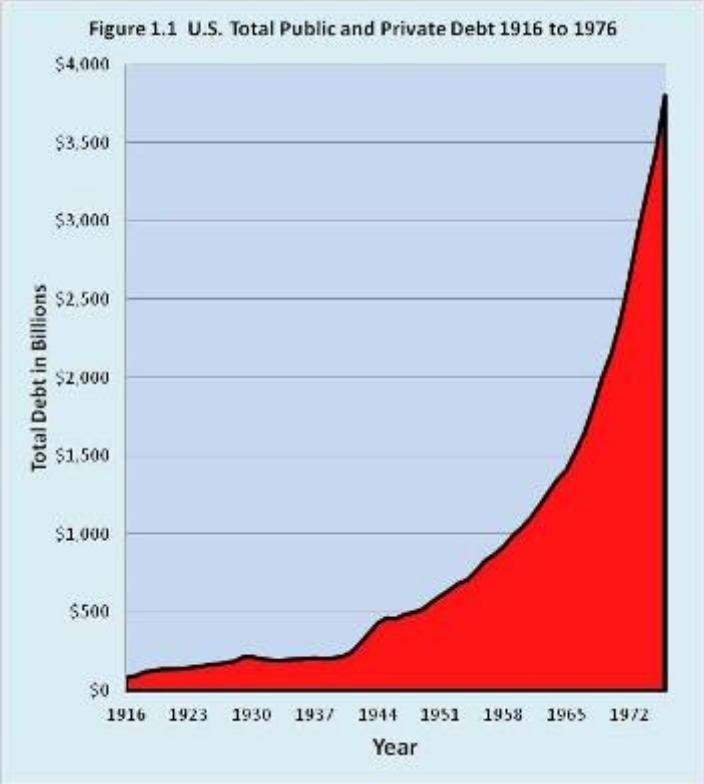
This decision is all the more remarkable when you see what happened to public and private debt after 1976. First, let us look at total debt from 1916 to 1976.

In 1916, total debt was $82 billion. By 1976, it had grown to $3,800 billion (Table 1.1).

Table 1.1 U.S. Public & Private Debt 1916 to 1976

Year	Billions	Year	Billions	Year	Billions
1916	$82	1937	$209	1958	$918
1917	$94	1938	$204	1959	$986
1918	$117	1939	$208	1960	$1,037
1919	$128	1940	$216	1961	$1,101
1920	$135	1941	$242	1962	$1,179
1921	$136	1942	$299	1963	$1,263
1922	$140	1943	$365	1964	$1,346
1923	$146	1944	$431	1965	$1,407
1924	$153	1945	$463	1966	$1,521
1925	$163	1946	$458	1967	$1,641
1926	$169	1947	$486	1968	$1,807
1927	$177	1948	$499	1969	$1,998
1928	$186	1949	$520	1970	$2,148
1929	$214	1950	$564	1971	$2,357
1930	$214	1951	$604	1972	$2,621
1931	$203	1952	$643	1973	$2,922
1932	$195	1953	$684	1974	$3,187
1933	$191	1954	$707	1975	$3,438
1934	$197	1955	$767	1976	$3,800
1935	$200	1956	$831		
1936	$206	1957	$869		

The striking feature of the debt growth pattern is the smoothness of its upward sweep (Figure 1.1).



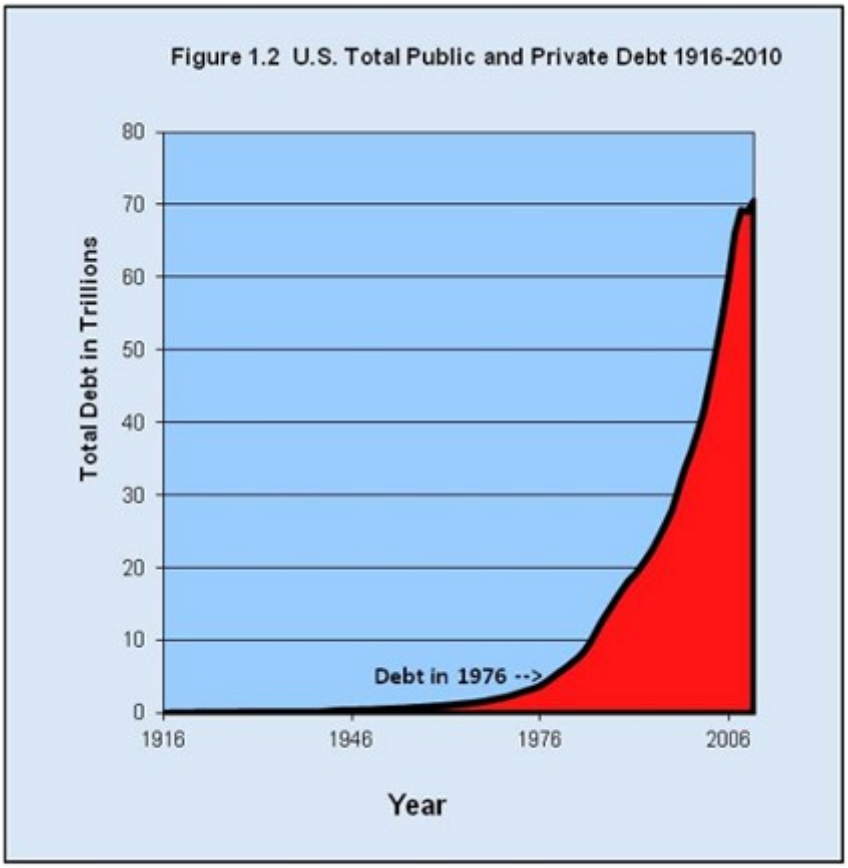
Only in the years of the Great Depression was there an interruption in that pattern when debt stopped growing. I wondered when I first saw this pattern, what process could possibly produce such a remarkably consistent and dramatic growth in debt and what did it portend for the future of debt.

Debt grew ever more quickly. It took 44 years (1916 to 1960) for debt to grow from $82 billion to its first trillion ($1,037 billion), nine years (1961 to 1969) to double to its second trillion ($1,998 billion), and eight years (1969 to 1976) to nearly double again to four trillion ($3,800 billion). Debt per capita followed the same pattern. In 1916, debt was $805 per capita. By 1945, it was $3,312. By 1976, it was $17,665.

Update to 2010

When the Bureau of Economic analysis stopped publishing the public and private debt series, it recommended using outstanding credit market debt as published by the Federal Reserve in its Flow of Funds releases. When both series were published from 1945 to 1976, total debt was consistently 32 percent larger than credit market debt. So, I estimated total debt after 1976 as 32 percent larger than credit market debt. My basic conclusions would be no different had I used simply credit market debt except that I would have no comparable data before 1945.

There was a massive increase in debt from 1976 to 2010 (Figure 1.2).



Notice how the explosive growth of debt we saw in Figure 1.1 is compressed along the bottom of the graph in Figure 1.2. That compression makes it appear as if growth from 1916 to 1976 was small. This compression occurs because so much graph space is needed to show debt growth after 1976. To show debt in 2010 on a graph the same size as Figure 1.1 would require a graph more than 17 times higher. If Figure 1.1 were a foot high, Figure 1.2 would be more than 17 feet high.

From what looks now like total debt in 1976 as "only" $4 trillion, U.S. total public and private debt grew before it stalled in 2008 at nearly $70 trillion (Table 1.2).

Table 1.2 U.S. Public and Private Debt 1976 to 2010

Year	Billions	Year	Billions	Year	Billions
1976	$3,800	1988	$15,677	2000	$35,916
1977	$4,358	1989	$16,956	2001	$38,523
1978	$5,003	1990	$18,196	2002	$41,420
1979	$5,663	1991	$19,068	2003	$45,539
1980	$6,256	1992	$20,167	2004	$49,933
1981	$6,965	1993	$21,423	2005	$54,545
1982	$7,638	1994	$22,793	2006	$59,930
1983	$8,561	1995	$24,395	2007	$66,128
1984	$9,835	1996	$26,163	2008	$69,288
1985	$11,404	1997	$28,024	2009	$69,060
1986	$12,964	1998	$30,836	2010	$70,523
1987	$14,300	1999	$33,645		

Exponential growth is always greatest in the most recent period. To see if that growth is the continuation of a long term pattern, we express the same data on a logarithmic scale. This is easy to do with today's computer technology. All it takes is a click of the mouse to change the scale of the vertical axis.

Logarithms

We will be using logarithmic scale from time to time, so let me take a moment to explain it. Logarithms are exponents. In the following table, you see in the first column the numbers 1, 10, 100, 1,000 and 10,000.

Number	Base 10	Exponent
10,000	10^4	4
1,000	10^3	3
100	10^2	2
10	10^1	1
1	10^0	0

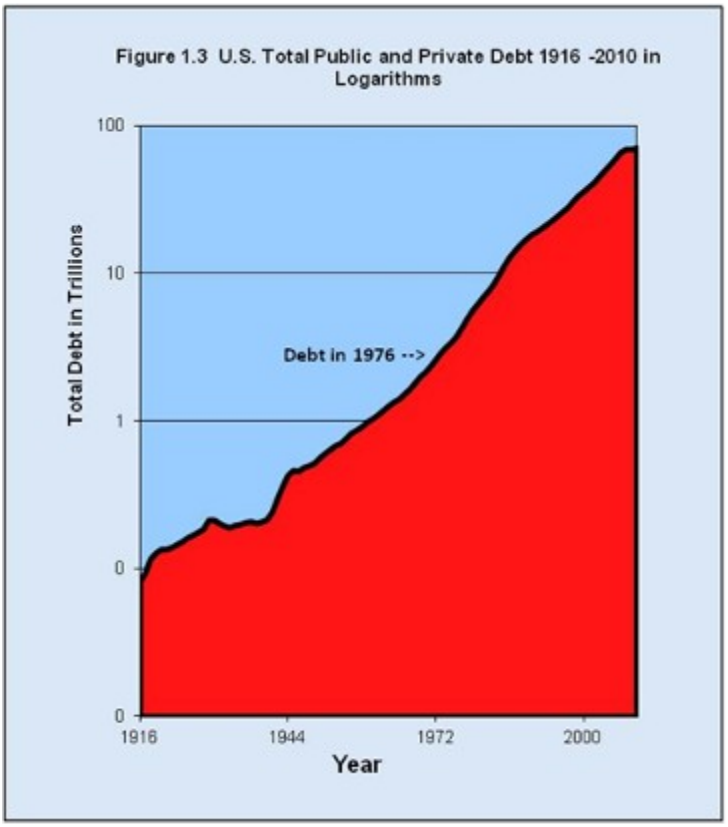
If we used those numbers on a graph, the largest one, 10,000, would cause the other three to be compressed within the first 1,000 category. By using their exponents, shown in the second and third columns, we make distances on the graph correspond to distances between the exponents. If growth is occurring at a constant rate, growth will then show as a straight line. Otherwise, all earlier growth is compressed along the bottom axis and disappears from view.

You and I think logarithmically even if you have never heard of logarithms. Let me explain. When you are sitting in a room, you probably think of the size of the room in feet, yards or

meters. When you step outside, your mind makes a quantum jump, an exponential leap, to thinking in blocks and neighborhoods. You no longer think in feet, yards or meters. A similar quantum exponential leap occurs when you get in a car - then you think in miles. If you fly, you think in hundreds and thousands of miles. Similar quantum exponential leaps happen when we think about money.

If you are buying bread or milk, you think in dollars. If you think of your income, you may think in thousands or tens of thousands of dollars. When you think of corporate budgets, you may think in millions, another exponential leap in money, or billions, another exponential level of money. Back in 1916, $82 billion was a huge amount of money. Not very long ago a Federal budget deficit of $1 billion was considered enormous. We have now transitioned to thinking in trillions. In 1979, total debt of $3,800 billion was frightfully large. We had not yet thought to refer to that total as $3.8 trillion. Now we refer to trillions with a high level of concern not much different from the concern felt about billions thirty years ago.

Did total debt from 1916 to 2010 grow at a constant rate? Did it grow, that is to say, exponentially? If it did, the data points on a logarithmic graph will form a straight line. We see that pattern clearly in Figure 1.3.



Figures 1.1 and 1.2 might easily have misled us to look for causes in recent years, but the straight line pattern on a logarithmic scale tells us that we are seeing the effects of a process of debt growth at a constant rate at least as old as 1916. Total debt in 1976 is on the line, meaning that it was a continuation of the growth in debt from 1916. Debt stopped growing in the 1930s during the Great Depression, then seems to catch up in the 1940s with where total debt would have been had the debt growth process not been interrupted. I wondered in 1979, with what underlying force was debt catching up?

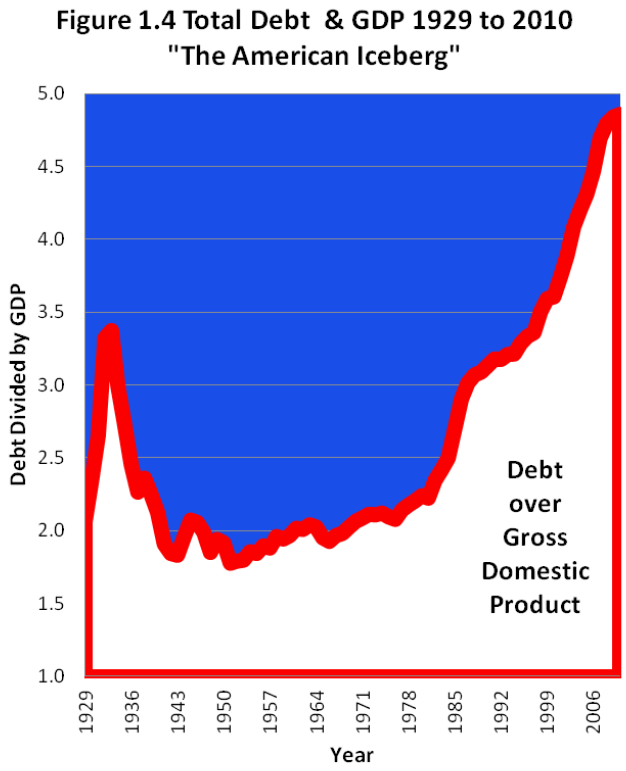
Something as dramatically different as in the 1930s happened in 2008. Debt abruptly stopped growing. In 2009 total debt was less than in 2008. Because both the Great Depression and today's "Great Recession" were rare and dramatic stoppages in debt growth, it is entirely appropriate to compare the current period to the Great Depression. However, calling it the Great *Recession* implies that it is not as bad as the Great Depression when it is a much larger problem than in the 1930s. Maybe we should be calling it the Great Seizure.

Deficit spending by the Democratic administration under President Franklin Delano Roosevelt was bitterly opposed by Republicans, but we can see with hindsight that it was modest compared to the magnitude of new debt that was needed to get debt growth back on track. Only the attack on Pearl Harbor and World War II unified the country to take on massive new Federal and other debt to finance that war.

We see today the same alignment of political parties; Democrats, looking to the Great Depression for the lesson learned, favor massive new Federal debt while Republicans again oppose any increase in Federal debt as we saw with their resistance recently to increasing the statutory Federal debt limit. Neither party is addressing the root causes of exponential debt growth. Apparently, they do not know what the causes are.

Gross Domestic Product and Debt

Economists told me in 1977 that debt must be judged relative to Gross National Product, now replaced by Gross Domestic Product. At its highest during the Great Depression in 1933, debt was 339 percent of GNP. That's the first peak you see in Figure 1.4. Total debt in 2010 was 486 percent of Gross Domestic Product. That's the highest peak you see in Figure 1.4.



The spike in debt growth in the early 1930s seems small compared to the rocket rise of debt in the last 20 years.

Gross Domestic Product grew from $103.6 billion in 1929, which was the first year for which it was compiled, to $14,508.2 billion in 2010 (Table 1.3).

Table 1.3 Gross Domestic Product 1929 to 2010

Year	Billions	Year	Billions	Year	Billions
1929	$103.6	1957	$461.1	1985	$4,217.5
1930	91.2	1958	467.2	1986	4460.1
1931	76.5	1959	506.6	1987	4736.4
1932	58.7	1960	526.4	1988	5100.4
1933	56.4	1961	544.7	1989	5482.1
1934	66.0	1962	585.6	1990	5800.5
1935	73.3	1963	617.7	1991	5992.1
1936	83.8	1964	663.6	1992	6342.3
1937	91.9	1965	719.1	1993	6667.4
1938	86.1	1966	787.8	1994	7085.2
1939	92.2	1967	832.6	1995	7414.7
1940	101.4	1968	910.0	1996	7838.5
1941	126.7	1969	984.6	1997	8332.4
1942	161.9	1970	1038.5	1998	8793.5
1943	198.6	1971	1127.1	1999	9353.5
1944	219.8	1972	1238.3	2000	9951.5
1945	223.1	1973	1382.7	2001	10286.2
1946	222.3	1974	1500.0	2002	10642.3
1947	244.2	1975	1638.3	2003	11142.1
1948	269.2	1976	1825.3	2004	11867.8
1949	267.3	1977	2030.9	2005	12638.4
1950	293.8	1978	2294.7	2006	13398.9
1951	339.3	1979	2563.3	2007	14077.6
1952	358.3	1980	2788.1	2008	14441.4
1953	379.4	1981	3126.8	2009	14258.2
1954	380.4	1982	3253.2	2010	14508.2
1955	414.8	1983	3534.6		
1956	437.5	1984	3930.9		

Anyone who thinks we can grow ourselves out of this iceberg of debt is not looking at the history of production and debt. In just the ten years 2001 to 2010, our GDP totaled $127 trillion but it did nothing to slow the growth in debt.

Using Gross Domestic Product as a standard for how much debt is reasonable is based on the idea that the size of the GDP reflects our ability to repay debt. By this standard, our total debt position is far worse. Our productivity measured by GDP has reached astronomical levels, $14.5 trillion in 2010 alone, yet debt has grown more, to almost five times larger than GDP.

We are left with the puzzling question; why has debt grown by such vast amounts in spite of record levels of production? Should we not have been able to pay off at least some of our debts with that production? We have a problem here that defies common sense. Put another way,

common sense tells us that we should borrow in times of recession and pay back in times of prosperity. That relationship does not apply in this case. We must reframe the problem in a new way if we can ever hope to solve it.

Although I did not mention it in the 1979 manuscript, I remember thinking that the explosion in debt would require an unimaginable increase in production to support it. We did increase GDP dramatically, but it did not reduce debt and much of it appears to me grossly wasteful production. In the years since 1979, we have seen "landfills" mushroom to mountains along with storage facilities and yard sales, all indicators of excess. Our concern now with global warming seems powerless to stop continuing calls for more growth in GDP in the obviously vain hope that it will help us pay down debt.

Inflation and Debt

You may already be asking, what about inflation? If inflation reduced the value of the dollar, would that not mean that debt is not as bad as it looks?

The first answer to the question is that inflation does not affect the ratio of debt to GDP that we just considered because inflation would be in both debt and GDP. The second answer to the question is that the relationship between inflation and debt is reciprocal; inflation increases debt and debt increases inflation.

Inflation increases debt. When prices go up, people must pay more for the same goods or services; when they borrow to purchase such goods and services, they must go further into debt than would be the case if prices did not rise. Debt also increases inflation. When a business owner borrows money to build a new plant or to replace worn equipment, he or she must add the loan and its interest to the prices charged for the goods produced.

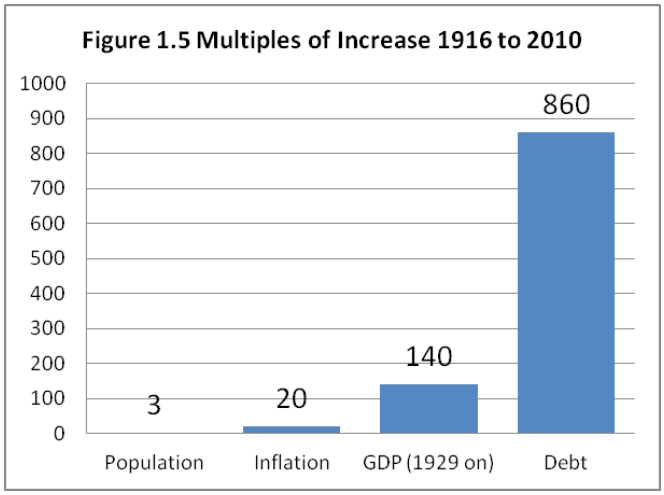
Whatever the relation of inflation to debt, the fact is that inflation has been small compared to the growth in debt (Table 1.4).

Table 1.4 Multiples of Increase 1916 to 2010

Population	Inflation	GDP (Since 1929)	Debt
Times 3	Times 20	Times 140	Times 860

The population of the United States in 2010 was three times larger than in 1916 (300 million compared to 100 million). Prices in 2010 were 20 times higher than in 1916 (218 in 2010 compared to 10.9 in 1916 using 1982-84 = 100). GDP in 2010 was 140 times larger than in 1929

($14,508 billion compared to $103.6 billion), while debt was 860 times higher ($70,523 billion compared to $82 billion) (Figure 1.5).



Inflation accounts for very little of the growth in debt.

Debt and Prosperity

The Federal Reserve Bank of Chicago in their 1963 pamphlet, *The Two Faces of Debt*, notes that debt has increased in times of prosperity and decreased in times of depression.

> Periods of prosperity have been times of rapid increase in over-all indebtedness, and periods of severe depression have been accompanied by debt reduction (p. 3).

The Great Depression supports that relationship. It occurred when debt stopped growing and now the Great Recession has occurred when debt stopped growing. If the average person on the street were asked about the relationship between prosperity and debt, he or she would probably say that times of prosperity are times when people can pay off their debts, while times of hardship are times when people must borrow to survive. There is a basic truth in this understanding of debt that makes much more sense than the view that prosperity requires ever more debt. Prosperity may require some debt, but ever increasing debt? That makes no sense.

No one can deny that debt has increased with general prosperity; at issue is the meaning of that correlation. It is also undeniable that there is more fire equipment at large fires than at small ones. No one would use that correlation to argue that firefighting equipment increases the size of fires. Similarly, we should not assume that rising debt causes prosperity. Rising debt we know now, by its much greater size than GDP, is a negative factor that is not yet properly understood. The 1963 Federal Reserve Bank of Chicago pamphlet quoted above notes but does not explain it.

With such a consistent pattern of debt growth from 1916 to 1976, I wondered in 1979 what I would find if I *reduced* total debt in 1916 by six percent per year back to 1790 where the only total debt we know of is Revolutionary War debt.

Total debt in 1916, $82 billion, reduced six percent annually for 126 years equals $53 million. Revolutionary War debt in 1790 was $70 million. Consider how close $53 million is to $70 million.

In $82 billion there are 820 $100 millions. Both $53 million and $70 million are within the first of those 820 $100 millions. Coming $53 million close to $70 million is like throwing a football from 820 feet (273 yards) away at a target one foot wide and hitting it. That amazing finding led me to investigate what happened in 1790.

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Chapter 2

The Two Seeds of the Present Debt Problem

There were two seeds to the debt crisis we face now, both planted, as strange as it may seem, in 1787 by those who wrote the Constitution and in 1789-1791 by the First Congress. Room for the first seed was made by deleting "and emit bills" (paper money) from the first draft of the Constitution. The First Congress then planted the first seed by converting Revolutionary War debt into interest bearing bonds called “funding” the debt and giving privately owned banks the power to create the money of the new nation as interest-bearing loans. (The second seed, to be discussed in Chapter 7, was defining "dollar" as a weight of gold and silver.)

The word "funding" was entirely misleading. "Funding" implied that the First Congress was providing money to pay the debt. Instead, it was promising only to pay interest on the debt. The "funding" of the economy would be in the form of loans from privately owned banks. Such loans called "credit" from the lender's side are debt from the borrower's side. The First Congress decided to base the entire money supply on debt.

Alexander Hamilton played a leading role in organizing the Constitutional Convention and served as First Secretary of the United States Treasury under the Constitution. Hamilton wanted debt to be the foundation for more debt, which he claimed if not excessive would create a national debt that would be a blessing (Gordon, 1997). W. E. Turner wrote "That he [Hamilton] changed his mind a few years later should have been grounds for a reexamination of our course

in time to prevent a century and a half of unnecessary human misery" (Turner, 1966:11). The deletion from the Constitution of the power to issue paper money followed by basing the entire money supply on interest-bearing debt was the start of the American Iceberg of debt.

The money supply is all debt, so interest has to be paid with principal. Since the payment of interest with principal reduces the debt-money in circulation, recession follows. Debt-money in this way would cause booms and busts for the next two centuries right up to our own time. Only more borrowing would restore the money supply to its pre-recession level, but each time the new borrowing would increase total debt by the interest paid on the old debt. In that way, debt would increase by compounding interest.

The First Congress was warned on February 9, 1790 by the First Congressman from Georgia, James Jackson, that the funding plan would cause debt to multiply.

> "Though our present debt be but a few millions, in the course of a single century, it may be multiplied to an extent we dare not think of."

The "pen of history," as you will see in Chapter 3, shows that his prediction was absolutely correct. Total public and private debt grew by ever larger amounts year after year, punctuated by panics, depressions and recessions, booms and busts, until debt growth crashed against a ceiling just under $70 trillion in 2008.

Alexander Hamilton and others, as you will read below, opposed Congress having the power to emit paper money. In Hamilton's phrases, they wanted the "rich and well born" minority to control the "turbulent and changing" majority

> "who seldom judge or determine right. Give, therefore, to the first class a distinct, permanent share in the government."

For Hamilton, under a democratic government, the majority would vote to emit paper money to pay their debts as he argued in Federalist Paper number 10. Hostility to Congressional and state emission of paper money was clearly expressed in the following surprisingly brief debates while drafting the Constitution.

The Seedling Uprooted

The Continental Congress under the Articles of Confederation had the power to "emit bills on the credit of the united states" (Hunt and Scott, 1970: xlii). Those "Continentals" successfully financed five years of the Revolutionary War but suffered hyperinflation because Great Britain flooded the states with counterfeits (Zarlenga, 2002:380). The decision to uproot that seedling of

a proper debt-free and interest-free money supply was made in the Federal Convention drafting the Constitution.

The first draft of the Constitution stated that Congress have the power "To borrow money, and emit bills on the credit of the United States." On August 16, 1787, delegates debated that provision (Hunt and Scott, 1970:341). I reproduce here the debate exactly as reported in James Madison's notes. I will then comment briefly on them.

> Mr. Governeur Morris moved to strike out "and emit bills on the credit of the U. States" saying "If the united states had credit such bills would be unnecessary: if they had not, unjust and useless."
>
> Mr. Butler 2nd the motion.
>
> Mr. Madison, will it not be sufficient to prohibit the making them a tender? This will remove the temptation to emit them with unjust views. And promissory notes in that shape may in some emergencies be best.
>
> Mr. Governeur Morris. Striking out the words will leave room still for notes of a *responsible* minister which will do all the good without the mischief. The Monied interest will oppose the plan of Government, if paper emissions be not prohibited.
>
> Mr. Ghorum was for striking out, without inserting any prohibition. If the words stand they may suggest and lead to the measure.
>
> Col. Mason had doubts on the subject. Congress, he thought would not have the power unless it were expressed. Though he had a mortal hatred to paper money, yet as he could not foresee all emergencies, he was unwilling to tie the hands of the Legislature. He observed that the late war could not have been carried on, had such a prohibition existed.
>
> Mr. Ghorum. The power as far as it will be necessary or safe, is involved in that of borrowing.
>
> Mr. Mercer was a friend to paper money, though in the present state & temper of America, he should neither propose nor approve of such a measure. He was consequently opposed to a prohibition of it altogether. It will stamp suspicion on the Government to deny it a discretion on this point. It was impolitic also to excite the opposition of all those who were

friends to paper money. The people of property would be sure to be on the side of the plan, and it was impolitic to purchase their further attachment with the loss of the opposite class of Citizens.

Mr. Elseworth thought this a favorable moment to shut and bar the door against paper money. The mischiefs of the various experiments which had been made, were now fresh in the public mind and had excited the disgust of all the respectable part of America. By withholding the power from the new Government more friends of influence would be gained to it than by almost anything else. Paper money can in no case be necessary. Give the Government credit, and other resources will offer. The power may do harm, never good.

Mr. Randolph, notwithstanding his antipathy to paper money, could not agree to strike out the words, as he could not foresee all the occasions which might arise.

Mr. Wilson. It will have a most salutary influence on the credit of the U. States to remove the possibility of paper money. This expediency can never succeed whilst its mischiefs are remembered, and as long as it can be resorted to, it will be a bar to other resources.

Mr. Butler remarked that paper was a legal tender in no Country in Europe. He was urgent for disarming the Government of such a power.

Mr. Mason was still averse to tying the hands of the Legislature altogether. If there was not example in Europe as just remarked, it might be observed on the other side, that there was none in which the Government was restrained on this head.

Mr. Read thought the words, if not struck out, would be as alarming as the mark of the Beast in Revelations.

Mr. Langdon had rather reject the whole plan than retain the three words ("and emit bills").

On the motion for striking out

N.H. ay. Mas. Ay. Ct. ay. N.J. no. Pa. ay. Del. Ay. Md. No. Va. Ay. N.C. ay. S. C. ay. Geo. Ay.

> The clause for borrowing money, agreed to nem. con. [passed without dissent].
>
> Adjourned (ibid., 413-414).

Those in favor of denying Congress the power to originate paper money by deleting "and emit bills," Morris, Butler, Gorham (Madison misspelled it), Elseworth, Wilson, Read and Langdon argued to *require* Congress to borrow money. Mr. Langdon said that he would rather reject the whole plan than retain the three words, "and emit bills." When we are taught the Constitution in school, we are not told that denying Congress the power to issue money was so important to its authors that otherwise they might have rejected the whole plan.

Those opposed to deleting "and emit bills," Madison, Mason, Mercer and Randolph, wanted Congress to have the *option* of issuing money, Mason twice saying that he was unwilling to tie the hands of the Legislature and saying that the war could not have been carried on if such a prohibition had existed. Mercer was sure that the people of property would support the plan and prohibiting paper money would mean losing the support of people without property. Madison and Randolph worried that occasions might arise where emissions would be needed.

No one is recorded as noting any advantage of government issued money nor as raising any problem with basing the money supply on debt.

Deletion passed 9 to 2; then the power to borrow money was passed without dissent.

If Congress was denied the power to emit paper money, whom did Gouverneur Morris have in mind when he referred to “a *responsible* minister" to create money for the new United States? It would be private bankers, what they called "the Monied interest." The goal of putting the control of the money supply in private hands is further evident in how they handled the power of individual states to issue money.

On August 28, 1787, the Convention took up the section in proposed Article XII on state rights that: “No State shall coin money” (ibid. 344). Again from James Madison’s notes:

> Mr. Wilson and Mr. Sherman moved to insert after the words “coin money” the words “nor emit bills of credit, nor make any thing but gold and silver coin a tender in payment of debts” making these prohibitions absolute, instead of making the measures allowable (as in the XIII art) with the consent of the legislature of the U.S.

> Mr. Ghorum thought the purpose would be as well secured by the provision of art XIII which makes the consent of the General Legislature necessary, and that in that mode, no opposition would be excited; whereas an absolute prohibition of paper money would rouse the most desperate opposition from its partizans.
>
> Mr. Sherman thought this a favorable crisis for crushing paper money. If the consent of the Legislature could authorise emissions of it, the friends of paper money would make every exertion to get into the Legislature in order to licence it.
>
> The question being divided; on the 1st part – "nor emit bills of credit"
>
> N.H. ay. Mas. Ay. Ct. ay. Pa. ay. Del. Ay. Md. Divided. Va. no. N.C. ay. S. C. ay. Geo. Ay.

The language is strong. On denying Congress the power to issue paper money, Mr. Elseworth saw the chance to "*shut and bar the door* against paper money." On denying the states the power to issue paper money, Wilson and Sherman wanted to make the prohibition *absolute*; Sherman saw it as a good time for *crushing* paper money.

The issue was framed in terms of gold and silver coin versus paper money. However, the subtext was control of the money supply. Limiting Congress and the states to coins of gold and silver effectively meant limiting their role to a tiny fraction of the money supply, namely, to only that portion for which there was a supply of gold and silver available to coin.

The First Congress would give the power to create the lion's share of the money supply to private bankers with the Funding Act and the Bank Act. Those acts would subordinate the Federal government to government by private bankers. Senator and Assistant Majority Leader, Richard Durbin, admitted as much by saying recently of banks, "They own Congress."

The First Congress on Wall Street

The Revolutionary War was formally ended by the Treaty of Paris on September 3, 1783. Nine months later on June 9, 1784 Alexander Hamilton founded the Bank of New York at 48 Wall Street. (In 1792 the Bank of New York was the first corporate stock traded on the New York Stock Exchange. That bank continues today as BNY Mellon.)

The First Congress of the United States under the Constitution met for the first time on March 4, 1789 in New York City just down the street from the Bank of New York in Federal

Hall at 26 Wall Street. For that most important meeting, the First Congress and the Bank of New York were in walking distance of each other. Hamilton and others understood the importance of banking and money to the future of the United States of America and they knew whom they wanted to be in charge of them.

On the 21st of September 1789 the House of Representatives with the following resolution directed Alexander Hamilton, First Secretary of the Treasury, to develop a plan for dealing with Revolutionary War debt:

> That this House consider an adequate provision for the support of the public credit, as a matter of high importance to the national honor and prosperity. Resolved, that the Secretary of the Treasury be directed to prepare a plan for that purpose, and to report the same to this house at its next meeting (Jacob, E. Cooke, 1964, The Reports of Alexander Hamilton. Harper Torchbooks, New York: page 1).

Hamilton submitted his plan to the House on January 9, 1790. It called for "funding" the debt, which meant converting the debt into interest bearing bonds (ibid. page 5). Hamilton argued that funding the public debt would make it a *substitute* [emphasis in the original] for money, which he implied was gold and silver coin (ibid. page 6).

Hamilton's funding plan had three elements as summarized in his report:

> That there ought to be no discrimination between the original holders of the debt, and present possessors by purchase – That it is expedient, there should be an assumption of the state debts by the Union, and that the arrears of interest should be provided for on an equal footing with the principal (ibid., page 19).

The various forms of Revolutionary war debt had dropped to a small fraction of their face value. The idea of no discrimination between original holders of debt certificates and speculators who had purchased them from the original holders provoked a dispute in the First Congress. In his report Hamilton argued that no such discrimination be made because the original holders had sold them voluntarily and purchasers had bought them at their market value (ibid. page 8).

James Jackson, the First Congressman from Georgia, protested that congressmen, knowing Hamilton's plan, were buying up the debt certificates for pennies on the dollar, anticipating that Congress would make them worth their face value plus interest. I quote here Jackson's entire

protest and then his argument against Hamilton's funding plan so you can put yourself back to that time and place and appreciate the importance of Jackson's words.

On Secretary of the Treasury's Report

January 28, 1790

> Mr. Jackson. The report of the Secretary of the Treasury, Mr. Speaker, embraces subjects of the utmost magnitude, which ought not to be lightly taken up, or hastily concluded upon. It appears to me to contain two important objects, worthy of our most serious and indefatigable disquisition. The first is, that all idea of discrimination among the public creditors, as original holders and transferees, ought to be done away; and on this head, I must own to you, sir, that I formerly coincided in something like the same opinion, but circumstances have occurred, to make me almost a convert to the other.
>
> Since this report has been read in this House, a spirit of havoc, speculation, and ruin, has arisen, and been cherished by people who had an access to the information the report contained, that would have made a Hastings blush to have been connected with, though long inured to preying on the vitals of his fellow men.
>
> Three vessels, sir, have sailed within a fortnight from this port, freighted for speculation; they are intended to purchase up the State and other securities in the hands of the uninformed, though honest citizens of North Carolina, South Carolina, and Georgia. My soul rises indignant at the avaricious and immoral turpitude which so vile a conduct displays (First Congress 1790, *Gales & Seaton's History of Debates in Congress*: pages 1131-1132).

James Jackson would be on the losing side of the debate to follow, which helps to explain why his objections to Hamilton's funding plan have been forgotten. Now, more than 220 years later, we can see that his prediction of how that plan would cause debt "to grow to an extent we dare not think of" was correct, so correct in so many details that I present it to you in full.

Tuesday February 9th 1790, 1179-1182

Public Credit

[Considering Alexander Hamilton's report on Revolutionary War debts.]

Mr. Jackson. Believe me, Mr. Chairman, I have as high a sense of the obligation we are under to the public creditors, and feel as much gratitude toward them as any man on this floor. I shall ever cheerfully acknowledge the duty we owe to our benefactors, and in a peculiar manner to those brave soldiers who, at the risk of their lives and fortunes, secured the independency of America.

I have also the most sincere wishes for the reestablishment of public credit, and that upon firm and solid ground, and on principles which cannot be called in question; but there appears to me a previous question, which has not yet been brought forward; it is this, whether there exists an immediate necessity for funding the national debt in the permanent manner proposed.

The high regard I have for the nature and circumstances of the foreign debt induced me to let the first proposition pass without any animadversion. The vote which has been taken on that point will serve to show foreigners that we are concerned to preserve our credit with them by a rigid performance of our stipulations; trusting, at the same time, that our fellow citizens cannot object to a distinction so just and proper in itself; for, notwithstanding what the domestic creditors may say, it is the money of foreigners that has, in a great measure, established our independence.

It is doubtful with me whether a permanent funded debt is beneficial or not to any country; some of the first writers in the world, and who are most admired on account of the clearness of their perceptions have thought otherwise, and declared that wherever funding systems have been adopted in a Government, they tend more to injure posterity than they would injure the inhabitants to pay the whole debt at the time it was contracted. The principle, I apprehend, is demonstrated by experience.

The first system of the kind that we have any account of originated in the State of Florence in the year 1634; that Government then owed about £60,000 sterling, and being unable to pay it, formed the principal into a

funded debt, transferable with interest at five per cent. What is the situation of Florence in consequence of this event? Her ancient importance is annihilated. Look at Genoa and Venice; they adopted a similar policy, and are the only two of the Italian Republics who can pretend to an independent existence, but their splendor is obscured; they have never been able since the period at which a funding system was introduced to raise themselves to that formidable state to which they were before.

Spain seems to have learned the practice from the Italian Republics, and she, by the anticipation of her immense revenue, has sunk her consequence beneath that level which her natural situation might have maintained. France is considerably enfeebled, and languishes under a heavy load of debt.

England is a melancholy instance of the ruin attending such engagements. In the reign of King William, 1706, the policy of the English Parliament laid the foundation of what is called their national debt; but the sum was inconsiderable; it little exceeded £5,000,000 sterling; the example then set has been closely followed. In 1711, it amounted to £9,177,769 sterling, during the wars in the reign of Queen Anne; since that, the capital of the debt of Great Britain amounted, in 1777, to about £136,000,000 sterling; and to such a pitch has the spirit of funding and borrowing been carried in that country, that in 1786, their national debt had increased to £230,000,000 sterling; a burthen which the most sanguine mind can never contemplate they will ever be relieved from.

If future difficulties should involve that nation still further, what must be the consequence? The same effect must be produced that has taken place in other nations; it must either bring on a national bankruptcy, or annihilate her existence as an independent empire.

Hence, I contend that a funding system in this country will be highly dangerous to the welfare of the Republic; it may, for a moment, raise our credit and increase our circulation by multiplying a new species of currency; but it must hereafter settle upon our posterity a burthen which

they can neither bear nor relieve themselves from. It will establish a precedent in America that may, and in all probability will be pursued by the Sovereign authority, until it brings upon us that ruin which it has never failed to bring, or is inevitably bringing, upon all the nations of the earth who have had the temerity to make the experiment.

Let us take warning by the errors of Europe, and guard against the introduction of a system followed by calamities so universal. Though our present debt be but a few millions, in the course of a single century it may be multiplied to an extent we dare not think of; for my part, I would rather have direct taxes imposed at once, which, in the course of a few years, would annihilate the principal of our debt. A few years exertion in this way will save our posterity from a load of annual interest, amounting to the fifth, or perhaps the half of the sum we are now under engagements to pay.

But why, Mr. Chairman, should we hasten on this business of funding? Are our debts ascertained? The Report of the Secretary of the Treasury proposes that we should not only fund the debts that are ascertained, but the unliquidated and unsettled debts due from the Continent; nor does the plan stop here, it proposes that we should assume the payment of the State debts - debts to us totally unknown. Many of the States, sir, have not yet ascertained what they owe; and if we do not know the amount of what we owe, or are to be indebted, how shall we establish funds? Shall we put our hands into the pockets of our constituents, and appropriate moneys for uses we are undetermined of? But more especially shall we do this, when, in doing it, it is indisputably certain, that the encumbrance will more than exceed all the benefits and conveniences?

Gentlemen may come forward, perhaps, and tell me, that funding the public debt will increase the circulating medium of the country, by means of its transferable quality; but this is denied by the best informed men. The funding of the debt will occasion enormous taxes for the payment of the interest. These taxes will bear heavily both on agriculture and commerce. It will be charging the active and industrious citizen, who pays his share of

the taxes, to pay the indolent and idle creditor who receives them, to be spent and wasted in the course of the year, without any hope of a future reproduction; for the new capital which they acquire must have existed in the country before and must have been employed, as all capitals are in maintaining productive labor. Thus the honest, hard-working part of the community will promote the ease of luxury of men of wealth; such a system may benefit large cities, like Philadelphia and New York, but the remote parts of the continent will not feel the invigorating warmth of the American treasury; in the proportion that it benefits one, it will depress another.

But let me return to the question; does it not require, Mr. Chairman, I say again, that we should ascertain the debt we owe, before we proceed any further in the business? If gentlemen deny this, let me bring forward the old argument: North Carolina has acceded to the Union; she is a State of no inconsiderable importance; she has an equal right to a voice on this important business with any State in the Union; but she is not represented here while we are funding the debts, not of ten or eleven States only, but a debt in which she must participate according to her proportion of representation; she may urge that we have no right to assume or transfer her particular debt, from her own on to other shoulders; at least, after the declaration she has made, there is a delicacy in doing it without her presence.

Things like these, pressed, without allowing time for deliberation, may justly give umbrage to all who are concerned for the independent privileges and sovereignty of the societies confederated under this Government; it may rouse the spirit of discord, and sound the alarm, at a time when unanimity or mutual forbearance is so requisite.

Will all the States be satisfied that Congress should assume their debts under pretext of easing them, when it must be well known that the General Government will thus have it in its power to call upon them to discharge the obligation, in an evil day when they are unprepared? We know nothing of the future circumstances which may take place, or how far this Government

> may attempt to depress or injure individual States; we ought to guard, with the greatest degree of caution, against every danger of this nature.
>
> Under these impressions, sir, I am led to conclude that it is becoming the wisdom of Congress to postpone the consideration of the remaining propositions. Let us endeavor to discover whether there is an absolute necessity for adopting a funding system or not. If there is no such necessity, a short time will make it apparent: and let it be remembered what funds the United States possesses in the Western Territory. The disposal of those lands may perhaps supersede the necessity of establishing a permanent system of taxation. The Secretary of the Treasury is directed to report on this head to the House, and perhaps that report may show us that this property is likely to be more productive than we at present apprehend; these considerations induce me to wish that the further consideration be postponed for the present.

It is a weak ending. Having proposed immediate taxation to pay off the debt, Jackson ends by proposing only postponement. He says nothing about Congress paying the debt with money it creates, although that was how the Continental Congress financed five years of the Revolutionary War. More on that alternative in Chapter 4.

Opposition to Hamilton's plan was intense. A newspaper letter to the editor charged,

> The funding law was passed through Congress by the influence of a majority, who purchased certificates from the army at under value; and who voted for the law, with the single view of enriching themselves. It is firmly believed and loudly asserted, by at least one half of the citizens of America, that the funding system was devised, not for the sake of paying the real creditors but of wronging them. Hamilton planned, Congress voted. The president approved (Taylor, 1950: 61-64).

In a letter to the editor, a 'farmer' protested,

> Such injustice and oppression may be colored over with fine words; but there is a time coming, when the pen of history will detect and expose the folly of the arguments in favor of the proposed system, as well as the iniquity (Taylor, 1950: 53).

The word was "iniquity," not "inequity." The author of the letter believed the proposal was more than unfair; it was evil.

How could such a proposal be passed initially and then survive for more than two centuries producing all the while the American debt iceberg? The answers we consider in turn are Congressional corruption, an enlarged "money" supply, and public ignorance.

Congressional Corruption

In his speech on January 28, 1790 as you read above, Jackson accused congressmen of sending agents into the countryside to buy up what were thought by the general public to be worthless debt certificates, anticipating that Congress would pass Hamilton's Funding Plan, thus assuring themselves and their heirs compounding claims against future generations. What is debt from the debtor's side is a claim to assets of the debtor from the creditor's side. Selfish interest was part of why the funding plan passed. If private gain at public expense is corruption, some members of the First Congress were corrupt. (For detail on the relevance of property and money to drafting the Constitution, see also Charles Beard, 1913, *An Economic Interpretation of the Constitution of the United States* and for other views see Leonard W. Levy (Ed.), 1969, *Essays on the Making of the Constitution.* Oxford University Press, New York.)

Hamilton argued in his report that the wealthy would support the new government because they would receive an income from it. This argument was made in the following newspaper letter to the editor:

> Liberty is not exposed to any new danger by the new monied interests, as the public creditors are termed by the angry newspaper writers…. It would be a queer blunder for a man of six percent to join in a plot against a free government, which pays him his income. Liberty, therefore, has gained new friends rather than foes by the funding system (Taylor, 1950, p. 70).

An Enlarged Money Supply

The second reason that Hamilton's funding plan survived is that it increased the money supply. This aspect of Hamilton's plan was fulfilled with adoption of his plan for the Bank of the United States. The funding part of Hamilton's plan was passed into law on August 4, 1790. On August 9, 1790 the House of Representatives ordered Hamilton to report "such further provision as may, in his opinion, be necessary for establishing the public credit," which he submitted on December

13th, 1790, as his Second Report on the Further Provision Necessary for Establishing Public Credit (Report on a National Bank) (Cooke, page 46).

Hamilton's plan for banking was simple. The debt converted into interest bearing bonds would make them assets that could be used to buy stock in the new Bank of the United States and other banks which would issue bank paper money as interest bearing loans. This would turn the Revolutionary War debt of $70 million into a $70 million debt money supply. Drafters of the Constitution, as you read above from John Madison's notes taken at the Constitutional Convention, were adamantly against government paper money, but here the First Congress was giving the very same power to issue paper money to private banks.

The Bank Act became law when President George Washington signed the bill on February 25, 1791. Many members of Congress bought stock in the Bank, clearly a conflict of interest, but few citizens knew what "Wall Street" was doing. The Bank of the United States opened for business in Philadelphia on December 12, 1791.

The third reason that Hamilton's funding plan survived was public ignorance. It was public ignorance of Hamilton's plan that allowed speculators to buy depreciated debt instruments. Then public ignorance of the plan's effects during the next 125 years explains the continued dominance of debt as the source of the nation's money supply. By 1916, who would imagine that the cause of debt growth had been put in place 126 years earlier? "The pen of history" would not begin to leave its mark until 1916 with the establishment of the Federal Reserve System.

Back to TOC

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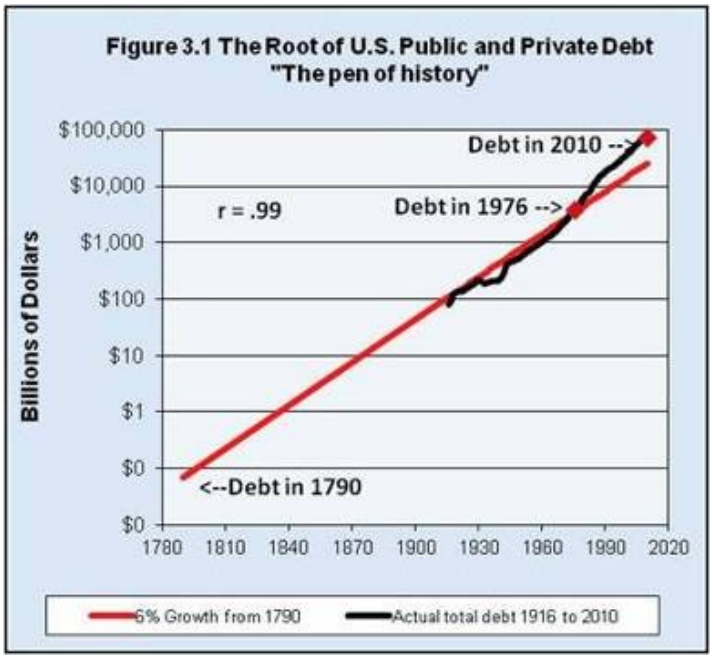
Chapter 3

The Pen of History

Working from 1790, if you increase Revolutionary debt six percent per year compounded, it produces the straight line from 1790 to 2010 shown in Figure 3.1.



The less than straight line from 1916 to 2010 represents actual total public and private debt. The figures for the two lines correlate, r = .99 of a possible 1.00. This confirmed the prediction of the angry newspaper writer in 1790.

> Such injustice and oppression may be colored over with fine words; but there is a time coming, when the pen of history will detect and expose the folly of the arguments in favor of the proposed system, as well as the iniquity (Taylor, 1950: 53).

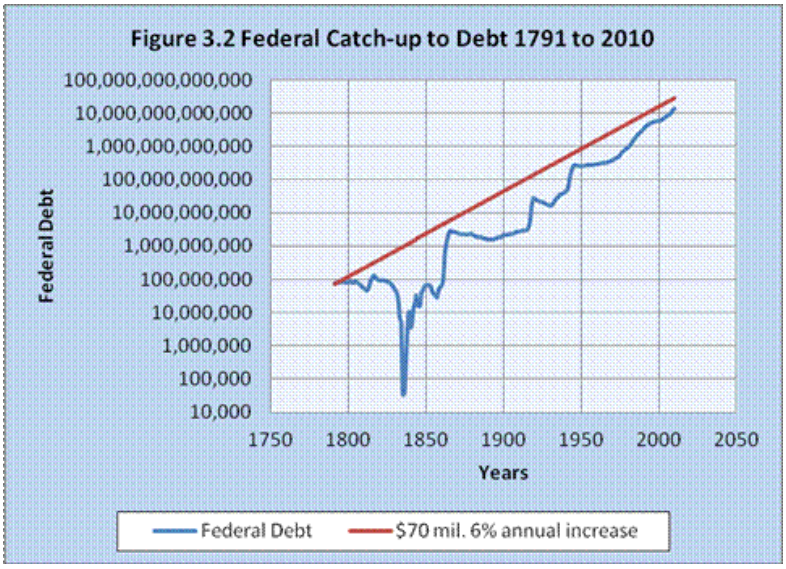
I wonder if the writer realized that his "pen of history" would be that literally revealing of the folly of the adopted system. It left no trace from 1790 to 1915. Now for us, it is undeniable. Just as congressman James Jackson warned, the conversion of Revolutionary War debt into interest bearing bonds as the basis for our money supply caused debt to grow "to an extent we dare not think of."

It is also true as you can see from Figure 3.1, that total debt began to grow faster than the long term trend after 1976. It is that greater rate of growth that has captured attention in recent years. However, you can see that the overall trend implied from the straight line has been operating on us since 1790. The post 1976 rate of growth shows the effect of new forms of debt that we know today as sub-prime mortgages, collateralized debt obligations and derivatives.

We can stop trying to explain overall debt growth by contemporary events or policies. While the size of recent growth is much larger than in the past, we will not be able to solve the

debt problem unless we recognize that the growth of debt started in 1790 and was caused by a debt growth imperative put in place by the First Congress, an interest bearing borrowed money supply.

Federal debt, the steps-like line, seems to have followed the “invisible hand” of the overall trend (Figure 3.2).



President Eisenhower in January, 1960, anticipating a Federal budget surplus of $4.2 billion, urged that it be used to pay some of the federal debt, saying that this was the "only sound course."

> Unless some amounts are applied to the reduction of debt in prosperous periods, we can expect an ever larger public debt if future emergencies or recessions again produce deficits.

Eisenhower’s advice was good as far as it went, but it did not suggest a much deeper and older cause of debt growth, the seeds planted by the First Congress. I guess he didn't know.

The dependence of prosperity on debt is evident from what happened the only time that the Federal debt was paid off. On January 8, 1835, President Andrew Jackson paid the final installment of the Federal debt (World Book Encyclopedia, Vol. 11, page 14). There followed the Panic of 1837. James Sloan Gibbons, writing in 1867, described it as follows:

> In 1837 the stagnation was seen everywhere. Currency filled every bank vault, and it could not be used (Gibbons 1970, p. 159).

Gibbons noted the extraordinary dependence of private credit on public debt.

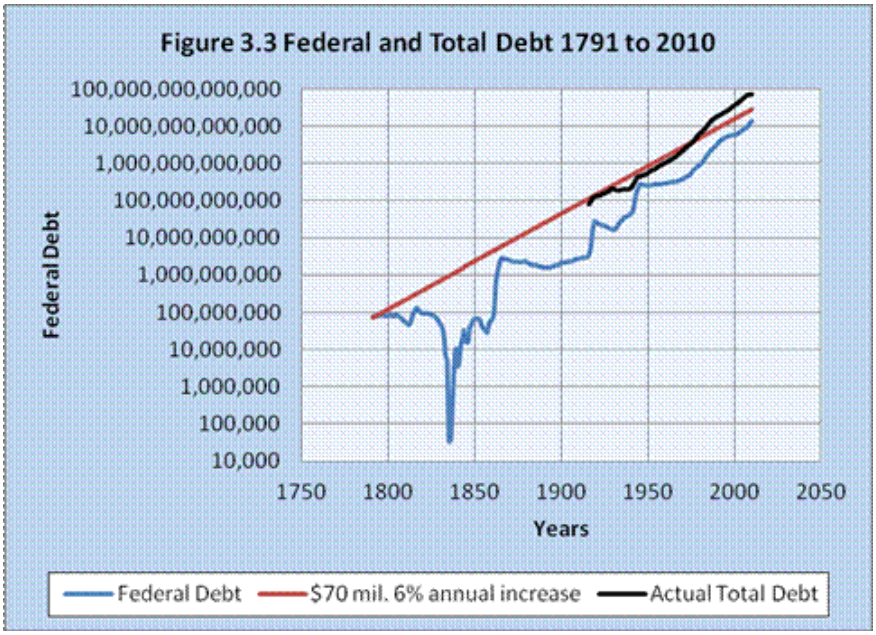
> The connection between the public credit of the United States and the private credit of individuals has been made so intimate as to establish an extraordinary mutual dependence between them. The public bonds constitute the only legal basis of the banking system. The 'National Bank Currency' rests on them alone (Gibbons, 1970:95-96).

The only legal basis of currency is government debt?! Did you know that? I certainly did not know it until I began this research into debt back around 1973. It is not common knowledge; it is practically unknown.

The Federal debt by 1835 dropped to $33,733, near nothing, only to grow, however haltingly, by 1851 to $68 million, nearly the same as the original debt in 1790, but still far below the trajectory of debt. It takes the Civil War to raise Federal debt almost up to the debt trajectory at $2.8 billion. Could it be that failures of debt to grow enough caused the economic distress that led to war? John Gordon referred to the South as "suffering from an economy notoriously lacking in liquidity" (Gordon, 1997:74-75). Could a failure of Federal debt to grow enough have been more important than slavery in causing the Civil War? Paper money financed both sides of the Civil War and alleviated the financial distress, at least for a while, unfortunately with great loss of life and treasure.

Efforts following the Civil War bring Federal debt down by 1890 to $1.6 billion. But the debt trajectory seems again to exert its seemingly mysterious magnetic force with steep increases in Federal debt in 1918 and 1942 understood to have been necessary to finance World War I and World War II. Efforts follow both wars to bring Federal debt down again, but with little success. The converging lines in the 1970s and thereafter seems to signal an accommodation of Federal debt with the debt trajectory.

Remember that the debt trajectory is the known path of actual total public and private debt growth from 1916 to 2010. Total debt added to the previous graph suggests that there is something very powerful driving both total and Federal debt growth (Figure 3.3). Mathematically, it is interest.



James Jackson did not explain in his speech on February 9, 1790 why debt would grow as he warned it would, but it is not hard to explain now. Banks making loans do not lend money; they create debt using interest bearing Treasury bonds and other assets as backing, including the collateral the borrower pledges the bank in the event of failure to repay the loan plus interest. Treasury bonds are bank assets because they are owed to the bank, but they are nonetheless interest-bearing debts owed by the Federal government. The original bonds, remember, were converted Revolutionary War debt. When people buy and sell goods and services, we may call what they are using "money," but it is debt they are passing around that is working as a substitute for money. The entire money supply is recycling debt with compounding interest driving debt ever higher.

The interest that banks charge must be paid with principal. In a borrowed money supply there is no money that is not debt principal. When principal pays interest and that interest is not *spent* back into the economy to purchase goods and services, there is less money in the economy and it slows down. Only new larger loans of debt-as-money bring circulation back into the anemic economy.

You probably have heard it said that government taxes remove money from the economy causing recession. A line in John Gordon's book, *Hamilton's Blessing* (1997) expresses this relationship.

> "The results of these further tax increases were utterly disastrous, slowing the economy still further" (ibid., 118).

Let us take a moment to examine this claim that tax increases slow the economy.

If the government takes in taxes and *spends* them, it does not slow the economy. Taxes collected and spent simply channel money from one part of the economy to another part of the economy. It does not reduce the money in circulation. That money remains in circulation and promotes demand. Increasing demand is at least as important as increasing supply. One could argue that it is the government's job to adjust money flows to optimize supply and demand. Taxing and spending is a reasonable method of making such adjustments.

However, there is one form of government taxation and spending that does slow the economy. It is paying interest on government debt. When a government draws money out of the economy via taxation and pays interest on debt with that money, there remains less money circulating in the economy. Only when creditors spend the interest payments to buy goods and services will the money flow back into circulation. So it is creditors not spending those payments that causes recession and their claims and the corresponding debt to grow by compounding interest. I see no other way that taxation as such would cause recession. Again, it is an interest bearing borrowed money supply that is the root of this often heard but seldom explained charge that raising taxes causes the economy to slow down.

You may think that it is crazy to base a money supply entirely on debt, but that is what was done. If you read Alexander Hamilton's *Second Report on Public Credit* in which he proposed the establishment of a National Bank, you will see that he was mainly concerned with giving private bankers control of the U.S. economy by controlling the money supply. He argued that private bankers would do a better job of managing the economy than a democratically elected Government. In his words:

> To attach full confidence to an institution of this nature [a National bank], it appears to be an essential ingredient in its structure, that it shall be under a private not a *public* [emphasis in the original] Direction; which would be supposed to be, and in certain emergencies, under a feeble or too sanguine administration would, really, be, liable to being too much influenced by *public necessity*. The suspicion of this would most probably

be a canker that would continually corrode the vitals of the credit of the Bank …

The keen, steady, and, as it were, magnetic sense, of their own interest, as proprietors, in the Directors of a Bank, pointing invariably to its true pole, the prosperity of the institution, is the only security, that can always be relied upon, for a careful and prudent administration. It is therefore the only basis on which an enlightened, unqualified and permanent confidence can be expected to be erected and maintained (Cooke, pages 71-72).

Hamilton was no democrat. According to historian Vernon Parrington, Hamilton was a Hobbesian Leviathan monarchist. He wrote of Hamilton:

From the grave difficulties of post-Revolutionary times with their agrarian programs, he created a partisan argument for a leviathan state, which fell upon willing ears; and in the Constitutional convention, which, more than any other man, he was instrumental in assembling, he was the outstanding advocate of the coercive state…. Failing to secure the acceptance of the monarchical principle, he devoted himself to the business of providing all possible checks upon the power of the democracy (Cooke, page 102-103).

In Hamilton's words:

All communities divide themselves into the few and the many. The first are the rich and well born, the other the mass of the people. The voice of the people has been said to be the voice of God; and, however generally this maxim has been quoted and believed, it is not true to fact. The people are turbulent and changing; they seldom judge or determine right. Give, therefore, to the first class a distinct, permanent share in the government. They will check the unsteadiness of the second; and as they cannot receive any advantage by a change, they therefore will ever maintain good government. Can a democratic assembly, who annually revolve in the mass of the people, be supposed steadily to pursue the public good? Nothing but a permanent body can check the imprudence of democracy. Their turbulent and uncontrollable disposition requires checks (Taylor, page 103).

The Bank of the United States was Hamilton's plan to give the "rich and well born" their permanent place governing the new nation by controlling the money supply. The Constitution was meant to deny Congress the most important instrument of modern government. That most important governing power was put permanently into the hands of private bankers who are proxies for the rich and well born. Banker Mayer Amschel Rothschild is reputed to have said in 1790,

> "Let me issue and control the money supply of a nation and I care not who makes it laws."

Whether or not Rothschild said it, Alexander Hamilton believed it.

We are frustrated today with partisan paralysis of the Federal Government and we think that electing better people will solve the problem. However, good people cannot solve a problem unless they correctly understand what it is.

The debt growth problem is a mathematics problem. Compounding interest is infinite; the physical world is finite. But the debt problem is also political. People collecting interest like it. For many, interest may be the only thing they have ever gotten without working for it. I know; many have worked for the money, but not for the interest. It feels good to be able to take it easy after working for the money that is earning the interest. But in the light of history, we need to understand interest as our "pay-off," our placater, our pacifier. Meanwhile, bankers govern Congress, Hamilton's vision realized. Private banks give the wealthy the platform from which to permanently govern the nation including Congress. I suppose Alexander Hamilton did not consider that an interest bearing money supply would cause debt to grow by compounding interest beyond all reason and that there would ultimately be a ceiling to that growth.

Future Debt Pressure

How much would total debt need to grow to keep up with the debt trajectory? Take $70 trillion as our estimate of total public and private debt at the end of 2010, and increase it six percent per year for only four years into the future (Table 3.1). By 2014, another $18 trillion of more debt would be needed to satisfy the growing demands of creditors.

Table 3.1 Projected U. S. Debt Pressure

Year	Trillions
2011	$74
2012	79
2913	83
2014	88

If debt does not grow to validate expected increases in the claims of creditors, creditors will lose not only their interest but their principal as well. If we continue business as usual, bankruptcies of debtors and creditors who claim ownership of those debts will be catastrophic,.

How much pressure for more debt does such an increase represent per person? If everyone in the country owed an equal amount, each of us already owes $233,333. We would each need to take on another $60,000 in debt to catch up with the debt trajectory by 2014. We have hit a ceiling because the required increases in debt are too big, to say the least. The required new debt has become so enormous that we know that we cannot take on more. We must correct the problem at its root, a money supply based entirely on interest bearing debt.

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Chapter 4

The Alternative: Our Dollars

Was there an alternative to converting Revolutionary War debt into interest bearing bonds? Yes, but it was one that members of the First Congress did not want to use. It was to exchange those certificates for brand new United States Notes. That would have paid the debt without taxation as far as money is concerned. It would have been paper money interest free, money that citizens of the new nation would have owned, not just the rich and well born through their proxy, the bankers. It would have been Our Dollars. The $70 million debt would have become a $70 million money supply, just as Alexander Hamilton argued the interest-bearing bonds would become, but with no interest to compound the debt.

Why did they not choose this alternative? Taking Alexander Hamilton at his word, government paper money would not have put the rich and well born in a permanent position to

control the money supply and the new nation, which was Hamilton's stated goal. He achieved his goal by denying the government the power to create paper money, giving it instead to private bankers.

The colonies had issued their own money beginning with Massachusetts in 1690 as "Bills of Credit" receivable as payment for taxes (Zarlenga, 2002: 367). Pennsylvania followed in 1723 by opening a state loan office authorized to loan £15,000 of paper money at five percent interest for eight years. The interest, collected by the government, helped pay colonial government expenses. Benjamin Franklin wrote in Busybody #8, March 24, 1729:

> Experience, more prevalent than all the logic in the World, has fully convinced us all, that it [paper money] has been, and is now of the greatest advantages to the country (Zarlenga, page 372).

Had Benjamin Franklin been in good health in 1787, he might have objected to the decision to deny the new government the power to emit paper money, but he was often absent from the Constitutional deliberations. He died in 1790 while the First Congress acted against his view.

Zarlenga notes how these issues of colonial paper money were attacked by the London "Lords of Trade and Plantations" charged with overseeing the colonies.

> From 1720, most new colonial money issues were considered suspended until specifically approved by the Crown, but enforcement was difficult outside of New England…. In May 1729, [Pennsylvania] Governor Patrick Gordon defied the Lords of Trade and authorized £30,000 of the previously issued £45,000. The good of the colony was sufficient justification for his act, he said (ibid. 373)….
>
> It was a different story in Massachusetts. In 1727 the Lords of Trade began a series of monetary repressions. They ordered the existing bills of credit be withdrawn, and no new ones be issued; all local taxation was to be paid in coinage. This action started two and a half decades of deflation, economic hardship and depression in Massachusetts (ibid, 374).
>
> In 1751 the Massachusetts Assembly issued more interest bearing notes and the colony immediately revived and began to prosper … .

London heard about the new certificates in June 1751, condemned them and tried to push an interest bearing loan of coinage onto Massachusetts. They declined (Ibid, 374).

Acts passed in 1751 and 1764 banned paper money as legal tender in private transactions and made the ban retroactive for any money issued since 1754. … It was this suppression of colonial bills of credit that Benjamin Franklin gave as one reason that the colonies lost respect for British Parliamentary authority. By 1773 London allowed colonial legislatures more leeway in issuing various forms of paper money, but it was too little, too late (ibid. 375-377).

On June 22, 1775 the first Continental Congress in Philadelphia issued $2 million in bills of credit – Continental Currency – eventually authorizing $200 million. They were the Revolution itself! (ibid. 378)

In July 1776 when the Continental Congress issued the Declaration of Independence, they also issued a proclamation that anyone refusing to accept the Continental Currency was a public enemy and General George Washington was authorized to imprison such persons and to seize their supplies (ibid. 380).

The British then began massive counterfeiting of the Continentals as a military weapon. On April 14, 1777 a New York newspaper, the H. Gaines Gazette, advertised:

"Persons going into other colonies may be supplied with any number of counterfeit Congress notes for the price of the paper per ream…. Enquire Q.E.D. at the Coffee House from 11 p.m. to 4 a.m. during the present month" (ibid, 380).

The Continentals had carried the Nation through six years of the Revolution, to within 5 months of its successful conclusion (ibid., 382).

Zarlenga concludes:

For almost two centuries the field of colonial paper money has been miscast in terms of inflation and debasement by the influence of the English school. This misapprehension continues to the present day in spite of

> excellent works to the contrary, and the testimony of expert witnesses of the period such as Franklin, Jefferson and Paine. But there was one good effect of the mother country's monetary repression – it precipitated the revolution and led to the founding of the United States (ibid. 386-387).

Zarlenga does an excellent job of making the case that the power to create money should be a power of government, not a power of private individuals for private profit. President Abraham Lincoln expressed that same view.

> Money is the creature of law, and the creation of the original issue of money should be maintained as an exclusive monopoly of the national Government. The privilege of creating and issuing money is not only the supreme prerogative of the Government; it is the Government's greatest opportunity (Quoted in *A Primer on Money*, 1964:16).

There are many similar quotes from notable people like Thomas Jefferson, Thomas Edison, and Henry Ford in W. E. Turner's, *Stable Money* (1966:7ff).

Government can create money to the extent that there are unmet needs with labor and materials available. The issue of government money would increase employment, adding nothing to debt. Private banks, on the other hand, create money as interest bearing loans, which means that debt, our history tells us clearly, grows by compounding interest. Money must originate somewhere. Congress can do it debt-free and interest-free.

Since 1945, workers in the United States have produced $236 trillion worth of goods and services. In spite of such colossal production, total debt is larger than ever, $70 trillion. To maintain the pattern of debt growth in 2008, another $4 trillion of debt was needed. All sorts of new ways to increase debt, such as Collateralized Debt Obligations and subprime mortgages, were invented to increase debt and thereby to increase the claims of creditors, only to cause millions of home mortgage foreclosures and the collapse of Lehman Brothers and Merrill Lynch and near collapse of Bank of America (Farrell, 2010).

The proximate cause of the current crisis is debtor exhaustion. Sub-prime mortgages are but one example of efforts by persons working hard for creditors to find more debtors. Given that credit-worthy debtors were already overburdened and unwilling to take on yet more debt, the purveyors of debt dug into the "less-than-credit-worthy" population. It is not creditors that need

relief; it is debtors! That relief can be provided through public finance. Let's compare private and public finance (Table 4.1).

Table 4.1 Private versus Public Finance

Private Finance	Public Finance
Creates debt.	Creates money.
Supply exists only as long as interest continues to be paid and re-borrowed.	Supply is permanent interest-free.
Seigniorage goes to banks.	Seigniorage goes to taxpayers.
Governed by the wealthy.	Governed by elected representatives.

Private finance creates debt; the supply exists only as long as interest continues to be paid and it is re-borrowed; seigniorage goes to banks; and private finance is governed by the wealthy. Public finance creates money; the supply is permanent interest-free; seigniorage goes to taxpayers; and public finance is governed by elected representatives.

Money is the life blood of economic exchange. Money is a public utility, as essential to the health of our economy as the blood that courses through our veins and the air that we breathe is to the health of our bodies. It is time that we have a money supply that is permanent, debt-free, interest-free, and directly governed by Congress under the authority given to it in Article I, Section 8, Paragraph (5) "To coin money, regulate the value thereof." A responsible recovery and a healthy economy require it.

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Chapter 5

Immediately Change Interest to a Service Charge

The fuel driving the debt trajectory is interest. We must immediately change interest from a percent to a service charge. Alexander Hamilton provided the theory that we now know led to exponential growth in both public and private debt throughout the history of the United States. He also unintentionally provided the theory to justify reducing interest to zero.

In his proposal for a National Bank, Hamilton proposed that interest be limited to six percent. In justifying it, he explored the effects of a lower interest rate of five percent.

> The limitation of the rate of interest is dictated by the consideration, that different rates prevail in different parts of the Union; and as the operations of the Bank may extend through the whole, some rule seems to be necessary. There is room for a question, whether the limitation ought not rather to be to five than to six per cent, as proposed. It may with safety be taken for granted, that the former rate would yield an ample dividend; perhaps as much as the latter, by the extension which it would give to business.
>
> The natural effect of low interest is to increase trade and industry; because undertakings of every kind can be prosecuted with greater advantage. This is a truth generally admitted; but it is requisite to have analised the subject, in all its relations, to be able to form a just conception of the extent of that effect. Such an analysis cannot but satisfy an intelligent mind, that the difference of one per cent, in the rate at which money may be had, is often capable of making an essential change for the better in the situation of any country or place (Cooke, page 80).

Thank you, Mister Hamilton. We who see the pen of history 222 years later know that your limit of six percent caused debt to increase at an annual compounding rate of six percent. If the limit had been five percent, it is reasonable to suppose that debt would have increased at an annual compounding rate of five percent. But don't stop there; follow the logic to its obvious conclusion. If the rate of interest had been zero, the growth of debt would have been zero. If a lower interest rate is better, a zero interest rate is best.

That is the first step in what we must do now to save ourselves from the American debt iceberg. Other nations will appreciate the example because they have the same problem, money supplies entirely of interest bearing debt – take the European Union debt crisis as an example of fellow sufferers who could benefit by the same solution.

Zero interest is not as farfetched as you might think. Ben Bernanke, Chairman of The Federal Reserve Board just announced, January 26, 2012, that the FED will keep the interest rate it charges banks to borrow from the FED until at least late in 2014 in the range from zero to ¼ percent.

> [T]he Committee decided to keep the target range for the federal funds rate in 0 to 1/4 percent and currently anticipates that economic conditions are likely to warrant exceptionally low levels for the federal funds rate at least until late 2014. http://www.federalreserve.gov/

We are also seeing zero interest rates with many commercials for products such as cars and furniture. The FED rate is the one applied to loans to banks. Zero to ¼ percent must also be applied to bank loans, but also to profits, dividends, and savings in general. They are the assets side of the ledger that is driving the liabilities side as explained in the 1963 Federal Reserve Bank of Chicago pamphlet, *The Two Faces of Debt*.

> While debt is a claim on the assets and earnings of those in debt, it is simultaneously a part of the wealth, or assets, of their creditors. Just as for every buyer there must be a seller, so for every debt incurred by any person or institution, someone acquires a financial asset of equal amount (p. 6).

This means that all the figures that we have been thinking of as "debts" also represent assets. To stop debts from growing by compounding interest, we must also stop assets from growing by compounding interest. People collecting interest need to know that their principal is at risk. While giving up interest would be felt as a loss, losing the entire principal would be much worse. Many have already lost their principal from economic downturns and many more will lose it because debt has hit its ceiling as claims necessarily have also. Zero interest does not take asset value away from anyone. It simply stops the debt problem from becoming worse.

The elimination of interest will also allow us to stop calling for growth in the GDP, which is unsustainable. We can improve GDP by making better products; we need not increase its size. Let us improve quality which will enable us to reduce quantity.

Zero Interest on Federal Debt

Interest on Federal debt in 2011 as reported by the Treasury Department was $454 billion. Reducing that interest rate to zero will prevent another half trillion dollars from being added to Federal Debt this year. This does not reduce the face value of Treasury securities. It simply means that no more will be added to what we owe them and makes it more likely that Federal debt will be paid.

Further borrowing is not necessary. Congress can use its power to coin money to create whatever money is needed to give us a money supply we own; it will finally give us Our money

after a delay of more than two centuries. Had the First Congress chosen to spend money into circulation instead of borrowing it at the cost of interest, we would not have this option now. Because they failed, we can now succeed. The sooner we begin to supply our economy with debt-free money, the better. We can also change the math on home mortgages.

Change the Math on Home Mortgages

On home mortgages, the practice today is to charge an interest rate on the unpaid balance. By this method, on a $100,000 30 year mortgage, 85 percent of the first payment goes to pay interest. With each payment, the portion going to pay interest goes down while the portion going to principal goes up (Table 5.1).

Table 5.1. Home Finance as We Have Been Doing It
Payments for $100,000 @ 6.5 Percent for 30 Years

Date	Payment	Interest	Principal	Balance
January				$100,000
February	$632.07	$541.67	$90.40	$99,909.60
March	$632.07	$541.18	$90.89	$99,818.71
April	$632.07	$540.68	$91.39	$99,727.32

After 30 Years

Amount of Loan	$100,000
Amount of Interest	$127,543
Total Payments	$227,543

After 30 years, total interest paid is more than the price of the house, $127,542.98. No wonder people buying homes are having trouble making payments. It is not a problem for "sub-prime" mortgages alone. The problem is with all mortgages. We can and need to change the math. Interest payments add no value to the property; they do motivate the homeowner to add that cost to the price when they want to sell the house, causing home price inflation.

Is the present method a natural law that cannot be broken? Not at all. It's just the way it is done now, and of course, this is why debtors are going broke. There is nothing sacred or unchangeable about the math. We see that this method explains the huge cost of home finance and why so many people cannot afford to buy a home.

Borrowers for home mortgages can and should be charged a service fee covering actual costs of the lender, which is little more than bookkeeping and business overhead. Banks create

the money they lend. Think of the loan as an advance on a borrower's future income and the "interest rate" as a *total* of six percent on the loan over the life of the mortgage. That would be $36.00 in my example below as the fee for processing each of the 168 monthly payments, a total of $6,048. Look at the difference this simple change in math makes to the cost of the house and the speed with which the mortgage is paid off (Table 5.2).

Table 5.2. The Way We Need To Finance Mortgages
Payments for $100,000 @ $32.00 monthly fee for 14 Years

Month	Payment	Charge	Principal	Balance
January				$100,000
February	$636	$36	$600	$99.400
March	$636	$36	$600	$98,800
April	$636	$36	$600	$98,200

14 Years Later

Amount of Loan	$100,000
Service charges	$6,048
Total Payments	$106,048

Each month $600 pays down the principal and the bank receives a $36 service fee. The cost to the homebuyer is a total fee of $6,048 for the services of the bank and the mortgage is paid off in 14 years.

This single change of policy from complex amortization that costs debtors tens of thousands of dollars for little more than bookkeeping to a simple fee for service would, more than any other action, restore fiscal health to the housing market. Homes would be more affordable, families would have money that would otherwise go to interest for all the other expenses of raising a family like groceries, education, and home maintenance, and the motive to recover the interest by inflating the price of the house when selling it would be removed. This simple change would eliminate the actual cause of bankruptcies, the math of six percent interest on the unpaid balance and home price inflation. A bail-out of banks requiring the Federal government to borrow hundreds of billions of dollars at compounding interest only makes the problem worse. This change would bring simplicity and fairness to home finance.

Savings

Interest on savings would have to be reduced to zero as well. Savers have come to believe that they have an inalienable right to receive interest on their savings. One rationale is that they are delaying the gratification of buying something with the money, which makes it available for the

bank to lend to someone to buy something such as a house. Does that not deserve a reward? The question to ask is how much of a reward.

To the extent that savings are lent for home mortgages, the reward today is in the tens of thousands of dollars. The service fee method could include a portion for savers, but that complicates and compromises the method. It should be enough for savers to receive exactly the same purchasing power of their savings as when they deposited them. It would be even better if the purchasing power of those dollars increased during the time they were in savings. This would require money that holds its value – inflation-free money. That requires correcting the second seed planted by the First Congress, defining "dollar" as a weight of gold and silver, which has left it for us completely undefined, the focus of the next two chapters.

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Chapter 6

Money and the Power of Cooperation

Sometimes it is necessary to get back to basics. This is one of those times. We need to understand the role of money in increasing the range and power of cooperation. A more complete exposition of the theory in this chapter is available in *Weaving Golden Threads*:

The Three Rules of Cooperation

Cooperation, people working together, requires:

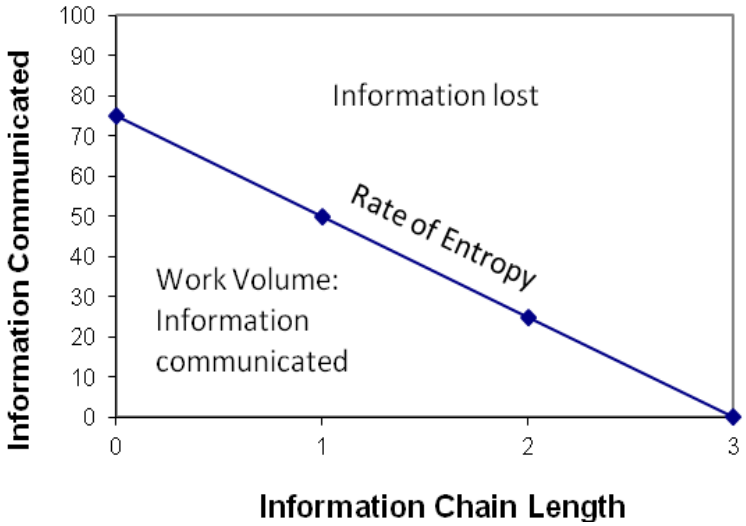
1. Communication – people cannot work together unless they can tell each other what is to be done. That communication must extend longer person to person to person distances as cooperation expands.
2. Specialization – each must do something that needs to be done. Specializing improves their ability to do it.
3. Reciprocity – each must receive an equivalent of what they contribute. Otherwise, there will be discontent that, if prolonged and severe, will cause cooperation to end.

As the scale of cooperation extends over an ever-wider range of space and time, production generally increases. However, communication, specialization and reciprocity become more challenging as the communication must occur over ever-longer information chains consisting of

a myriad of specialists, each with their own special language, expecting reciprocity for what they contribute to the economy in what they purchase from it.

In general, ordinary communication from person to person to person is subject to misunderstanding or entropy (Figure 5, numbering from *Real Capitalism*).

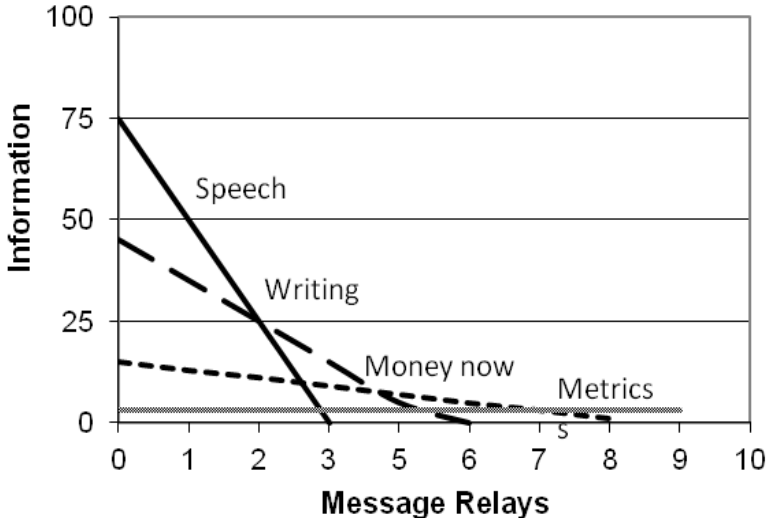
Figure 5. The Information Chain Paradigm



Not only must message entropy be reduced as the scale of cooperation expands; the volume of information must be reduced. Otherwise, cooperation would break down due to information overload (Toffler, 1970).

Change from verbal speech to writing lengthens information chains (Figure 6). Writing communicates less information than speech but its durable form makes messages travel more accurately longer information chain distances.

Figure 6. Symbols and Information Chain Length



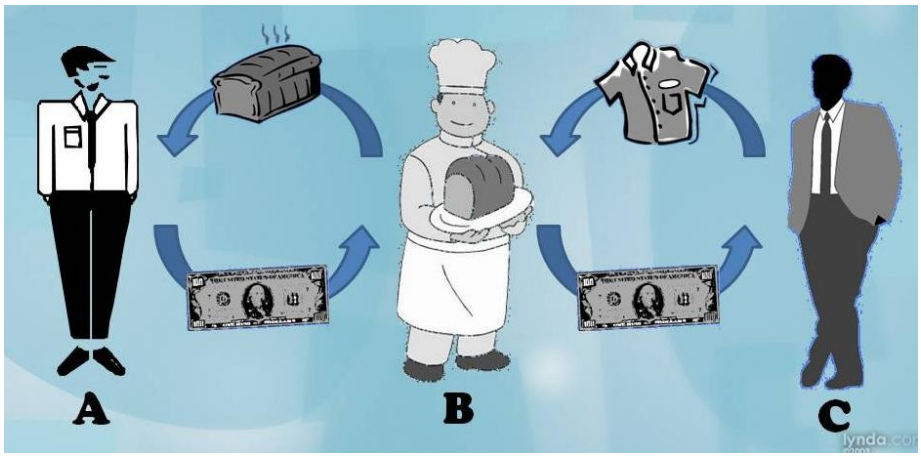
Specialization requires that messages become more general, more common, expressed in a language that every specialist understands. That is the role of money – to communicate a general message across tens of thousands of specialized occupations in the form of a "common denominator." The metric system is an example of common denominators. Messages in metric units travel the globe with very little entropy because the units of the metric system are expressed in real terms, observable quantities, including sticks of a certain physical length, scales calibrated to weights, and containers with definite volumes.

National monies today suffer inflation because they have a named unit - dollars, euros, yen, dinars, etc. - but no definition of the observable quantity to tell us how much the money is worth.

Reciprocity is a particularly difficult message to communicate. When a person receives money for doing a job, they are not yet paid although we say that the money is their pay. Actually, they are paid only when they spend the money. Consider the ABC of money.

The ABC of Money

Consider the simple example shown in the following image.



Person A buys bread from person B. Person A has nothing that person B wants, so A gives B money. Person B gives the money to person C for a shirt. The money tells C to pay B for the work done for A.

A complete money transaction always involves three persons, not one, not two, but three. In this simple example, you see how money functions to divide what might otherwise be done by barter or not at all, into two separate transactions. From it, you see that money's job is to communicate reciprocity across a three-person sequence of two exchanges, in the example, bread for money and money for a shirt.

The ABC of money is: Person A gives money to person B to give person C to pay person B for what person B gave person A. When we hand money to someone to buy something, we are sending a message to third parties that are not present. Money is communicating from person A to person C about what is owed to person B.

The ABC of money says that money is preeminently a medium of social communication. When you read about money in an economics textbook, you get the impression that money is what we use to buy goods and services. While that is true as far as it goes, it does not go far enough. We need also to know that our money is communicating to third parties who are not there.

The money does not stop with person C. Person C will use the money to buy something from person D. Again, the money will be communicating a message from person B to person D about person C. You could call that the BCD of money. Then person D will use the money to buy something from person E. That will be person C communicating to person E about person D. As the money travels along, its purpose is to communicate the need to pay the bearer of that money for what they "sold" to someone else.

The picture can be drawn in much more complex detail when you take into account the many goods and services of different prices that are sold and bought throughout a modern economy. That complexity should not obscure the simple fact represented by the ABC of money that money's job is to communicate from A to C about B, so that B can be paid an equivalent for what they did for A.

What do we need to do for that to happen?

Most importantly, we need to understand that money works as a medium of exchange because it is a medium of communication so we can stop doing nonsense things like having a money supply that forces us into ever larger compounding debt and that produces outrageously wealthy millionaires and billionaires while most people earn less than enough to live on.

When Alexander Hamilton was charged with formulating a plan for setting up a money system for the new nation, he knew the money unit needed to be defined but he limited his definition to coins made of gold and silver. Here are his words:

> In order to form a right judgment of what ought to be done, the following particulars require to be discussed:
>
> 1st. What ought to be the nature of the money unit of the United States?
>
> 2d. What the proportion between gold and silver, if coins of both metals are to be established? (Quoted in Bakewell, p. 203).

He defined the money unit in coins made of gold and silver. In his Reports to Congress, Hamilton referred to bank issued paper money as a substitute for coins minted from precious metals. Coinage was a stage in the evolution of money.

Today, we know that coins need not be minted from precious metals. We have yet to understand that money is simply a device for communicating reciprocity across the entire spectrum of specialists who cooperate to bring us the goods and services that make up our standard of living.

Here is a brief overview of the evolution of money so far.

The first exchanges were probably among members of the same family. They knew by face to face interaction who was working to provide the family with what it needed and, therefore, what each member deserved in exchange. No doubt the exchanges were more or less informal.

Early on, exchange beyond a family household was done with barter. Barter, the exchange of one commodity for another commodity, was very limited. Products had to be ready at the

same time, be transported to the same place, match what each party wanted and had as surplus to exchange, and be equivalent in value. To overcome the limits of barter, people came to use "third commodities."

A person could exchange a tool for metal and then exchange the metal for food. Metal became a third commodity because people would find it useful as metal. Gold, silver, and copper became favorite third commodities because they were durable and could be cut into smaller pieces or combined into larger amounts to accommodate exchanges of items of unequal price.

Coinage, the next stage in the evolution of money, standardized gold, silver and copper metals into coins to make exchanges easier than having to weigh metals in each transaction.

The next stage in the evolution of money was to reduce the risk of loss or theft by depositing coin for safekeeping with goldsmiths in exchange for paper notes that promised the bearer a stated amount of coin if presented to the goldsmith for redemption. These paper notes were warehouse receipts for coin (Ederer, 1964). This is the stage in the evolution of money prevalent in Hamilton's and Jefferson's time.

Both Hamilton and Thomas Jefferson understood that the money of the new nation had to be based on an actual amount of something. They correctly understood that naming the new money "dollar" was not enough; "dollar" had to be defined; it had to be given a definite meaning in real terms. That definition would stabilize the dollar's value. Jefferson proposed a weight of silver.

> Let the money unit, or dollar, contain 11/12ths of an ounce of pure silver.... This, with the twelfth of alloy already established, will make the dollar or unit, of the weight of an ounce, or of a cubic inch of rainwater, exactly.... Measures, weights and coins, thus referred to standards unchangeable in their nature ... will themselves be unchangeable (Quoted by Bakewell, 22-23).

A cubic inch of rainwater? 11/12ths of an ounce of silver? Two hundred years after Hamilton and Jefferson, we know that we do not need to use silver and gold coins as money. We also know that weight is not a proper measure of all prices. If it were, rocks would be more expensive than diamonds. That leaves us in the evolution of money with Hamilton's first question, "What ought to be the nature of the money unit of the United States." We find the

answer in seeing money as a medium of communication performing an essential housekeeping role in a modern economy.

Modern Housekeeping

The word "economics" comes from the Greek words *oikos* meaning household and *nomos* meaning management. In this ancient meaning, economics means household management. Economics continues to mean household management, but a household that has grown to encompass the world as a whole. Money is the central mechanism for managing that World Household. By understanding money in this light, we can arrive at the appropriate unit of measure for money.

Historically, as the size of the household expanded, the power of cooperation increased. From small, self-sufficient though poor families, human settlements grew into villages, cities, and nations with ever more elaborate divisions of labor, more extensive markets for goods and services, and a general rise in the standard of living. As the household grew beyond the face-to-face family group, a new effective and efficient way of sharing the work and sharing the wealth had to be invented.

Look at a dollar. You see that it is a printed note on a piece of paper with pictures, numbers, and words on it. It has all the features of a medium of communication, except words defining "dollar." We say, "Money talks," then what does it say? If money's job is to communicate, what is money's message?

The German monetary theorist, George Knapp (1842-1926), explained the nature of money as a medium of communication in 1924 as follows.

> When we give up our coats in the cloak-room of a theatre, we receive a tin disc of a given size bearing a sign, perhaps a number. There is nothing more on it, but this ticket or mark has legal significance; it is proof that I am entitled to demand the return of my coat.
>
> When we send letters, we affix a stamp or ticket which proves that we have by payment of postage obtained the right to get the letter carried. The 'ticket' is then a good expression for a movable, shaped object bearing signs, to which legal ordinance gives a use independent of its material (Knapp, 1924:31-32).

Knapp's view of money as communicating evidence of a right to a good or services is consistent with the general understanding that money should not be counterfeit or otherwise obtained dishonestly. Counterfeit or stolen money would allow someone who contributed nothing to the household to draw goods and services from it as if they had made a corresponding contribution to it.

I was first introduced to thinking of money as a medium of communication by Talcott Parson (1902-1979), world renowned sociologist at the time and my teacher at Harvard in the early 1960s. Parsons wrote:

> Money is probably the most striking case of an institutionalized medium which is not ordinarily thought of in the context of communication, but which in fact has all the properties of a medium and language when it is seen in the proper light to bring this out (Parsons, 1960:273).

Human ecologist Otis Dudley Duncan made a similar statement.

> Of all devices to facilitate movement of information, money may be second only to writing itself in its significance for the operation of a system of interdependent differentiated parts (Duncan, 1964:65).

Money's job is to help regulate the economic household because spoken language only works short interpersonal distances. Where rights and responsibilities cannot be enforced face-to-face, money as a system of paper and electronic receipts is needed to do the job of communication over very long person to person to person information chain distances. Made legal tender, money serves as evidence that the bearer has contributed to the household and therefore is entitled to draw an equivalent from it. In short, money's job is to help us share the work and share the wealth.

Economists define money as a medium of exchange. Of course money is a medium of exchange, but it works as a medium of exchange because it is a medium of communication. Money communicates that the bearer has elsewhere earned the right to draw from the household. When a seller gives up a good or service for that money, the seller then has the money as evidence to use to buy something from another seller. The goods and services that sellers and buyers exchange with money are the real values backing the money. With money, we exchange valuables, the goods and services we buy with our money. Money's job is to tell each and every one of us that we are sharing the work in exchange for a share of the wealth that we have created

with our work. But without an instrument defining "dollar" we cannot know if the sharing is fair, equitable, and correct.

What backs government issued paper money? If the government issues money by paying people to produce goods and services, those goods and services back the money. When a person who produced those goods for government issued money presents the money for a purchase, he or she is saying,

> "I was given this money for produced something of value that cost me the face amount on these dollars. I am asking you with this money to pay me for that work with something that I want equal to the face amount on these dollars."

You may not think of dollars as evidence of what it cost you, because we think of the money as the pay, not as evidence of the cost. However, we are not paid until we spend the money. Up to that point, the money is evidence of what we are owed for our work.

Can the government simply issue money by giving it to people as a grant? Yes. Here is why. When the government issues money by paying people to produce goods and services, our elected representatives decide what is produced. They are in effect voting with the money for what they have decided we need and want. We delegated that authority to them by voting them into office. Our representatives can delegate some of that authority back to us by giving us money as a grant. When we spend that money, we vote directly for what we need and want. The goods and services that we buy back that new money. The grant just adds a step to the government issue of new money.

The almost exclusive concern with government issuing too much money has distracted us from being concerned about government issuing too little money. That is our problem today. We have no government money in circulation. Our economy is like a patient who has lost all their blood with the attending physicians refusing to give that patient any transfusion at all because it might be too much. When people react to the idea that government issue of money would be inflationary, they are doing the same thing, refusing to issue any money into circulation because it might be too much.

We need money that does not cost interest to remain in circulation. Congress can spend that money into circulation by paying people to produce goods and services that promote the general welfare or issue it as grants for people to vote directly with it when they buy goods and services.

Then the goods and services they purchase pay the sellers to produce more of those goods and services. Those additional goods and services back the money. Government issue of money must be neither too much nor too little. The inflation problem must be solved at its root as well.

The money unit needs to be defined. Without a proper definition, money's value inflates and deflates by trial and error. As relayed to me by Senator Daniel Moynihan in 1979, Professor Henry Wallich, a distinguished economist and member of the Board of Governors of the Federal Reserve System, wrote that inflation has ended the dollar's value as a measure of value:

> Inflation has ended the dollar's value as a trustworthy measure of value. Dealings and contracts based on the dollar have become deceptive. This is not simply a cause of economic injury. It is a moral as well as an economic issue. Without honest money our economic dealings will be neither efficient nor even honest (Personal communication, June 14, 1979).

Economist Alfred Marshall implied a similar though less severe conclusion in 1923.

> The sway of gold and silver has, on the whole, been widened and strengthened throughout the ages: but it is in some danger of being partially superseded by an even more exact standard. For, as the arts of life progress (and indeed as a condition of that progress) man must demand a constantly increasing precision from the instruments which he uses, and from money among others: and he is beginning to doubt whether either gold or silver, or even gold and silver combined, give him a sufficiently stable standard of value for the ever widening range of space and time over which his undertakings and contracts extend. …
>
> We are vaguely conscious that an element of speculation is thus unnecessarily introduced into life, but few of us, perhaps, realize how great it is. We often talk of borrowing or lending on good security, at say 5 per cent. If we had a real standard of value, that could be done; but, as things are, it is a feat which no one performs except by accident (Alfred Marshall, *Money, Credit and Commerce* (1923:16-17).

He was telling us that dealing with money in its present form, we set correct prices by accident.

The concepts of inflation and the velocity of money easily fit thinking of money as a medium of communication. Inflation is the rate that money loses value as it is passed along an

information chain and velocity is the number of times money changes hands along the information chain.

We may not think of money as a medium of communication because it has a very limited vocabulary. Money only says how much. Money says only the price. A large amount of money conveys more information than a small amount of money, but nothing like the qualitative subtleties that writing and speech convey. So we come to the crux of the matter; the money we use today is in a state of arrested development; it has no definition of its value. It needs a valid and reliable unit of measure to define a "dollar's" worth.

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Chapter 7

Hour Money: It's Just a Matter of Time

Does the length of the hour inflate or deflate? No. Why not? It is governed by clocks. Does the yard or meter lengthen or shorten as time goes by? No. Why not? They are governed by measuring sticks of fixed length. We need to follow with money the example of these and all the other units of measure that work so well for us in order to end the inflation and deflation of our money. We do it by making our base standard unit for money an hour of work time.

Time organizes everything, except money. It is time to time money. Timing money will define and stabilize money. All occupations use time to organize and measure work; all occupations use money to pay its practitioners. The obvious denominator for money is time. People already put time and money together intuitively. We spend time and money. We invest time and money. We save time and money. We waste time and money. Put them together and you get Time Money. An hour of work time should be the base money unit everywhere on earth. Time is the best universal quantity for the money unit. Its adoption can transform the quality of economic relations worldwide from uncertain and unequal to certain, stable, and equitable.

Universality of Time

Throughout all of human history, in every location where human beings have ever been found, time has been fundamental to the organization and performance of work. All that has changed during that history is the precision with which time is measured. Because the earth rotates on its axis, we experience life as a succession of days and nights.

Sundials were an early device used to measure time but they were accurate only locally. During the Middle Ages mechanical devices were invented that made it possible to measure time in units of hours, minutes, and seconds, so that time could be standardized across large areas. Today, we measure time with highly precise and inexpensive devices like wristwatches. Clocks exist that measure time in millionths of a second.

The calendar is also a clock; it locates the earth in its orbit around the sun. Of course, ancient peoples may not have seen the earth as rotating on its axis and orbiting the sun, but they did experience the changing seasons and they understood that planting and harvesting had to be done during the appropriate season. The success of agriculture depends on the accurate measurement of time. Many construction projects must be completed in the proper season.

In the modern world, time is important to most if not all aspects of life. We universally organize work with time. The work day, already a unit of time, is defined in hours. Wages are specified in hourly rates. Salaries are paid monthly. Interest on money is charged and paid on time. Corporations plan production and estimate labor requirements in FTE (Full Time Equivalent hours instead of "man" hours). Governments collect taxes at certain times. Services are priced in the time required to perform the work. People's careers are defined by time; we are expected to begin work at a certain age and to retire at a certain age. We use time to measure inflation. We compare prices in one year against prices in another year, sometimes expressing

costs in past years in man-hours in order to compare man-hours required in a recent year to measure actual price changes.

Time is used to argue for exceptions to the rule. For example, when people argue that a physician should be paid more for services than someone else, they cite the longer time that a physician must study to become a doctor. Higher pay for hazardous work is sometimes justified by arguing that a worker is exposed to higher risk during a given period of time. Work beyond the usual standard period is often compensated at a higher rate such as "time-and-a-half" or "double-time." Insurance premiums are calculated in relation to the insured's age and life expectancy. Time has always been and continues today to be universally used to organize work. All that remains is to link time directly to money as its unit of measure.

Time Money

Marshall McLuhan (1911-1980) expressed the connection between time and money poetically as follows.

> Like words and language, money is a storehouse of communally achieved work, skill, and experience . . . . Even today money is a language for translating the work of the farmer into the work of the barber, doctor, engineer, or plumber. As a vast social metaphor, bridge, or translator, money - like writing - speeds up exchange and tightens the bonds of interdependence in any community. It gives great spatial extension and control to political organization, just as writing does, or the calendar. It is action at a distance, both in space and in time. In a highly literate ... society, 'Time is money,' and money is the store of other people's time and effort (McLuhan, 1964:136).

In 1729, Benjamin Franklin wrote that labor measured in time was the appropriate criterion of price.

> By Labour may the Value of Silver be measured as well as other Things. As Suppose one Man employed to raise Corn, while another is digging and refining Silver; at the Year's end, or at any other Period of Time, the compleat [sic] Produce of Corn, and that of Silver, are the natural Price of each other; and if one be twenty Bushels, and the other twenty Ounces, then an Ounce of that Silver is worth the Labour of raising a Bushel of that Corn.

> Now if by the Discovery of some nearer, more easy or plentiful Mines, a Man may get Forty Ounces of Silver as easily as formerly he did Twenty, and the same Labour is still required to raise Twenty Bushels of Corn, then Two Ounces of Silver will be worth no more than the same Labour of raising One Bushel of Corn, and that Bushel of Corn will be as cheap as two Ounces, as it was before at one (Franklin, 1959:149).

Adam Smith, whose *Wealth of Nations* (1776) is regarded as the foundation of economics, was unequivocal in identifying labor as the real measure of price. The first three words of his classic refer to labor time:

> The annual labour of every nation is the fund which originally supplies it with all the necessaries and conveniencies [sic] of life which it annual consumes, and which consist always either in the immediate produce of that labour, or in what is purchased with that produce from other nations (Wealth of Nations, page 1.)

He soon asserted:

> Labour is alone the ultimate and real standard by which the value of all commodities can at all times and places be estimated and compared. It is their real price; money is their nominal price only (Smith, 1963:26).

Although unequivocal in identifying labor as the measure of real price, Smith rejected using time as the direct measure of labor. Smith reasoned that people could judge price more easily in coins than in labor time.

> It is often difficult to ascertain the proportion between two different quantities of labour. The time spent in two different sorts of work will not always alone determine this proportion. The different degrees of hardship endured, and of ingenuity exercised, must likewise be taken into account. There may be more labour in an hour's hard work than in two hours easy business; or in an hour's application to a trade which it costs ten years to learn, than in a month's industry at an ordinary and obvious employment (Smith, 1963:25).

Smith ignored the fact that you and I would have a more difficult time judging value by the weight of gold coin than judging it by work time. Which would be more meaningful to you,

being told by your auto mechanic that he had worked "two ounces of gold's worth" on your car or that he had worked two hours on your car? Granting that it is sometimes difficult to determine the exact proportion between two quantities of labor, it does not follow that the task is made any easier by using the weight of gold rather than time.

Labor time as a measure of price is not new. I have a copy of a “labor exchange note” denominated “One Hour” dated 1832. Such notes were used in two labor exchanges set up by Robert Owen. Local currencies today use time http://www.ithacahours.com. Even so, one economist called measuring price in labor time "absurd."

> In time the presumption that each man's labor-time-given-up was equally costly, even if equally disagreeable, was recognized as absurd, and more sophisticated and useful analyses of value then were developed. The classicists are to be commended nonetheless for their heroic effort to find an anchor for economic value. The realization that all economic values are relative was finally admitted about the middle of the nineteenth century. From that time on, measures for estimating the value of money were constructed by the inductive method of averaging money prices and the search for an absolute measure of value, against which even the value of money could be compared, was abandoned (Timberlake, 1965:16).

Economist Alfred Marshall (1842-1924) thought finding such a unit would be ideal but difficult.

> It has often been suggested that the supply of a nation's currency might ultimately be so adjusted as to fix the purchasing power of each unit of currency closely to an absolute standard. In spite of the severe criticism to which this suggestion has been subjected, there seems no good ground for regarding it as wholly impracticable: but many long tedious studies, stretching perhaps over several generations; and many tentative experiments moving cautiously towards the ideal goal, would need to be taken before any large venture in this direction could properly be made (Marshall, 1923:2).

Having conceded that an absolute standard was possible, a few pages later Marshall rejects the idea as unthinkable.

> An ideally perfect unit of general purchasing power is not merely unattainable; it is unthinkable. For the effective value of money to each individual depends partly on the nature of his wants (Marshall, 1923:28).

Not merely unattainable, but unthinkable, such a rejection, 26 pages after allowing the possibility.

I see two factors responsible for the failure of orthodox economists to recognize the hour as the money unit. First, the entire economics profession has been built on money in its present undefined form. Suggesting otherwise threatens everything about that profession including basic theory, careers, textbooks, and curricula. Thomas Kuhn in *The Structure of Scientific Revolutions* (1970) explained how paradigms pervade professions and make paradigm shifts very difficult.

A second factor responsible for the failure of orthodox economists to recognize the hour as the money unit is their belief that money undefined is already a good measure of value. This mistaken belief arises from regarding money as a measure, not of prices, but of motives. Again, Alfred Marshall explains the basic idea.

> Economics is a study of men as they live and move and think in the ordinary business of life. But it concerns itself chiefly with those motives which affect, most powerfully and most steadily, man's conduct in the business part of his life.... The steadiest motive to ordinary business work is the desire for the pay which is the material reward of work. The pay may be on its way to be spent selfishly or unselfishly, for noble or base ends; and here the variety of human nature comes into play. But the motive is supplied by a definite amount of money; and it is this definite and exact money measurement of the steadiest motives in business life, which has enabled economics far to outrun every other branch of the study of man. Just as the chemist's fine balance has made chemistry more exact than most other physical sciences; so this economist's balance, rough and imperfect as it is, has made economics more exact than any other branch of social science. But of course economics cannot be compared with the exact physical sciences: for it deals with the ever changing and subtle forces of human nature (Marshall, 1920:14).

Marshall exemplifies economists defining money as measuring something subjective rather than objective. For them, how much people are willing to pay for things reflects how strongly they desire to have them. Money, economists like Marshall presume, is a more exact measure of motives than even measures used in psychology.

If money is so subjective, we have to wonder why employers are so keen about employees punching time clocks and filling out time sheets to record when they come to work and when they leave. Employers want their employees to be objective about work time but employers want to be allowed to be subjective when they set wages and the prices of the goods for sale. That is another example of how "capitalism" favors capital.

Marshall, and economists who agree with him, fail to see that even a mirror must be objective. The question "Mirror, mirror, on the wall, who is the fairest of them all" cannot be answered truthfully unless the mirror gives an accurate reflection. Perhaps the viewer does not want an accurate answer. Certainly, inaccuracy is at the heart of profit.

The cause of the debt problem can be reduced to unequal exchange. Profit is price in excess of all costs. Profit is based on unequal exchange. Pricing accuracy would make exchange precisely equal exchange. My dictionary defines profit as: "The return received on a business undertaking after all operating expenses have been met." Profit may legitimately be seen as overcharge.

If a person wants to form an accurate judgment of how much they want something, the money price must give them accurate information. Money in units of "dollars" gives the appearance of being accurate, but it is not. If I give you a note stating that I want exactly 20 ergs of lumber, the note appears to be exact but it is clearly not. To actually be exact, I must tell you the exact quantity referred to by the word "erg." Similarly, if I am selling something for $100, while the price is "exact" in stating "$100," it is not actually exact unless I tell you what real quantity is referred to by the word "dollar." Since "dollar" has absolutely no referent beyond the paper it is printed on, I must make my judgment subjectively, using trial and error, somewhat like a blind man asking the mirror what he looks like.

If the situation is as bad as I claim, how come money works at all? The answer is that everyone judges the value of a dollar by the amount of money they have. A person with very little money puts a higher value on a dollar than a person with a lot of money. Although we cannot tell the meaning of each unit of currency, we know the total money we have to spend.

This is how we must make our purchase decisions. Our judgments are always comparative. We know that if we spend X dollars for rent, we will have that many fewer dollars for other things. If we take in a movie tonight, we will not have that money for groceries tomorrow. We must allocate our available money among alternative expenditures based on our total income. Economists apply the same quantity theory to the economy as a whole.

Their Quantity Theory of Money in equation form is as follows:

$$M V = P T$$

where

M refers to the total supply of Money,

V refers to the Velocity of that money,

P refers to Prices in the economy, and

T refers to Total goods and services.

According to this theory, if the velocity of money (V) and the total of goods and services (T) do not change, an increase in the supply of money (M) will force an increase in prices (P). More dollars will be chasing the same number of goods and buyers will bid up prices. It is this theory that is the basis for arguing that inflation can be controlled by controlling the money supply. In short, the Quantity Theory of Money is just like our personal quantity theory of money applied to the economy as a whole. It was this Quantity Theory of Money that Marshall was referring to when he wrote that "an element of speculation is thus unnecessarily introduced into life, but few of us, perhaps, realize how great it is."

Notice that the Quantity Theory of Money says nothing about money being interest bearing debt. It treats money as a thing whose value varies only by how much of it is in circulation.

What would be the equivalent quantity theory of measurement in other contexts? For example, what would be the quantity theory of time? It would predict that increasing the number of clocks would reduce the length of the hour. What would be the quantity theory of the meter? It would predict that increasing the number of meter sticks would reduce the length of the meter. We know that does not happen. More clocks and meter sticks increase the accuracy of measurements of time and length. Similarly, if the money unit was an hour of work, we could expect prices to gravitate toward actual work times. Time Money would expose pay rates that are too low and pay rates that are too high. Consider how expressing millions of dollars in work time would affect our thinking.

The Gross Domestic Product of the United States in 2010 was produced at the rate of $50 per hour of work. A person working 40 hours per week for 50 weeks would earn $100,000. Call that one year. To earn $1 million would take 10 years. To earn $10 million would take 100 years. To earn $100 million would take 1,000 years. Athletes, movie stars, CEOs and many other people receive hundreds of millions of dollars per year. Imagine how calibrating those incomes in years would change our attitude about the appropriateness of those incomes. The positive side of that picture is that the athletes, movie stars and CEOs would also understand that their incomes are far more than they could possibly earn, use or deserve. But there is a serious technical problem with the Quantity Theory of Money itself.

John Maynard Keynes (1883-1946) in *The General Theory of Employment, Interest, and Money* (1935), theorized that an economy can stagnate at low employment - in contrast to the classical view that an economy naturally readjusts itself to full employment and optimum use of resources. To escape stagnation at low employment, "Keynesian" economics says that the government should engage in deficit spending.

Our interest in Keynes here will not be his theory about the possible need for deficit spending. Instead we will consider a point that Keynes himself referred to as a digression that had to be taken prior to being able to address problems of the economy as a whole, namely, the problem of choosing "the units of quantity appropriate to the problems of the economic system as a whole" (Keynes, 1935:37). Keynes saw a fundamental measurement problem with “T" in the Quantity Theory of Money, M V = P T. "T" represents the Total goods and services in the economy. Keynes commented:

> But it is a grave objection to this definition for such a purpose that the community's output of goods and services is a non-homogeneous complex which cannot be measured, strictly speaking, except in certain special cases, as for example when all the items of one output are included in the same proportion in another output (Keynes, 1935:38).

How, he was asking, is it meaningful to add, say, 100 million bushels of wheat, 5 million pounds of raw steel, 500 million loaves of bread, 1 million automobiles, and so forth, to obtain “T"? It would be absurd to add 100 + 5 + 500 + 1 + ... = T. These are, in Keynes' words, "incommensurate collections of miscellaneous objects" that cannot be added unless one uses

some unit common to all of them. Until this was done, Keynes saw that the elegant form of the Quantity Theory of Money would be deceptive. Keynes wrote:

> To say that net output today is greater, but the price level lower, than ten years ago or one year ago, is a proposition of a similar character to the statement that Queen Victoria was a better queen but not a happier woman than Queen Elizabeth - a proposition not without meaning and not without interest, but unsuitable as material for the differential calculus. Our precision will be a mock precision if we try to use such partly vague and non-quantitative concepts as the basis of a quantitative analysis (Keynes, 1935:40).

Keynes dealt with the problem by defining "T" as the quantity of employment measured in labor hours. He needed only two quantities for the study of the problems of the economic system as a whole; namely, quantities of money and quantities of employment. He explained:

> The first of these is strictly homogeneous, and the second can be made so. For, in so far as different grades and kinds of labour and salaried assistance enjoy a more or less fixed relative remuneration, the quantity of employment can be sufficiently defined for our purpose by taking *an hour's employment of ordinary labour* [emphasis added] as our unit and weighting an hour's employment of special labour in proportion to its remuneration; i.e. an hour of special labour remunerated at double ordinary rates will count as two units. We shall call the unit in which the quantity of employment is measured the labour-unit; and the money-wage of a labour-unit we shall call the wage-unit (Keynes, 1935:41).

The Quantity Theory of Money, re-written to accommodate Keynes' change, would be:

$$M\ V = P\ (\text{Total Labor Time Units}).$$

A 1962 booklet prepared by the Federal Reserve Bank of New York to help secondary school students understand the workings of our economy sets up the problem that Keynes identified and comes close to his solution but drops it. The pamphlet begins with the statement:

> A country is known by the money it keeps. Healthy money and a healthy economy as a rule go hand in hand.

A few pages later, the booklet identifies the problem as Keynes saw it and uses man-hours for services but not for physical goods.

> One way to measure the economy's output would be to make a list giving the total number of each of the different items produced and the man-hours of different kinds of services rendered. Such a procedure would give us a different list for each year; we would be unable to compare the total output of any two years. To obtain a meaningful total, we must rely on placing a price tag on each of the goods and services produced. Then we can add up the "value" of our total output - what economists call the Gross National Product (Federal Reserve Bank of New York, 1962:8).

In terms of the Quantity Theory of Money, the pamphlet recommends measuring T with P! The Quantity Theory of Money would then be:

$$MV = PP.$$

That theory contains no measure of output, only total price, and that term twice.

The Keynesian solution was to translate both products and services into hours of labor. The authors of the Federal Reserve Bank pamphlet, having rejected the man-hours option for goods while accepting it for services, take for granted that placing a price tag on each good and service would provide "a meaningful total." As we have established, this is precisely what money in its present form cannot do. Money cannot provide a meaningful total because it has no definition of its value. “Dollar” is like “ergs” of lumber. It gives us a total that we can compare from year to year, but what does that total mean? That is the question.

How can we decide whether our economy is healthy or not just from a summation of prices? There is no way that debt at its present magnitude can be a reflection of healthy growth. If “healthy money and a healthy economy go hand in hand," it is high time to take our money to the doctor. Unfortunately, some doctor-economists do not think the lack of an appropriate known quantity for our money is unhealthy. Quite the contrary, some economists believe that money in its present form, far from being a problem, is the solution. A doctor who understood the problem and who tried to solve it was Dr. Karl Marx (1818-1883).

Because of the cultural and political bias in our education, we Americans are generally prejudiced against Marx who is identified with socialism and communism. However, Marx has been regarded by many in the world as one of the greatest social scientists and humanists in

history. His critique of capitalism actually provides an essential insight into our current problems. How one gets a fair hearing for his ideas, however, is a major problem. In the present context, I will limit your attention to Marx on labor time.

In his classic work, *Capital* (1867), written over a period of 16 years in London, Marx noted the great importance of realizing that all commodities are material expressions of human labor.

> The recent scientific discovery, that the products of labour, so far as they are values, are but material expressions of the human labour spent in their production, marks, indeed, an epoch in the history of the development of the human race, but, by no means dissipates the mist through which the social character of labour appears to us to be an objective character of the products themselves (Marx, 1967:74).

This discovery, apparent to Marx in 1867, was not accepted by the authors of the Federal Reserve booklet. Marx's view is known to Western economists as the labor theory of value, a view that Timberlake was quoted above as calling "absurd." I find it interesting that Timberlake, who characterized the view that labor time equates us all as absurd, stated the middle of the nineteenth century as the time when the search for a standard for money was abandoned, just about the time that Marx's critique of capitalism was published, 1867. It leaves me with the question, did economists give up the search for a standard of price because it favored labor? You decide.

To the view that money makes commodities measureable by a single scale, Marx responded:

> It is not money that renders commodities commensurable. Just the contrary. It is because all commodities, as values, are realized human labour, and therefore commensurable, that their values can be measured by one and the same special commodity, and the latter be converted into the common measure of their value, i.e., into money. Money as a measure of value is the phenomenal form that must of necessity be assumed by that measure of value which is immanent in commodities, labour-time (Marx, 1967:94).

Marx was correct. When we weigh two objects on a scale, it is not the scale that makes them commensurate; it is the fact that both objects have weight that makes them commensurate. The scale simply gives a definite numerical value to that weight. Similarly, Marx was saying that

money serves as a common unit of measure because all goods share in common having been produced by human labor.

Congress can regulate the value of money by ordering dollars to be denominated by a standard that represents the *actual price* of all goods and services. Money is only the nominal or representation of price, just as any note represents something other than itself. That standard is work time. Work time, not the weight of a metal, is the common denominator of all goods and services produced by human effort and the actual backing of all currencies as you will see explained below.

By adopting work time as the dollar denominator, the United States can lead the world in adopting a proper money standard of price just like France led the world in adopting the metric system. Hour dollars would define, equalize, and stabilize the value of our money and serve as an example to the rest of the world.

Thus far, a case for using work time as the money denominator has been supported directly or indirectly by Talcott Parsons, Otis Dudley Duncan, Marshall McLuhan, Benjamin Franklin, Adam Smith, Alfred Marshall, John Maynard Keynes, and Karl Marx. That case can also be made with data on currency exchange rates.

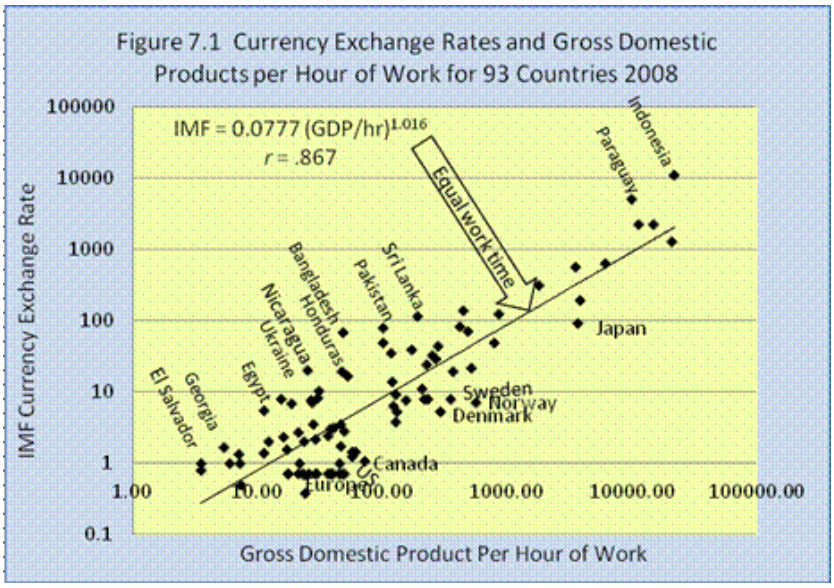
Currency Exchange Rates and GDP per Hour

Equal work time has been the center of gravity for currency exchange rates at least for as long as the International Monetary Fund has published the data we need to see it.

Start by dividing Gross Domestic Product in each country's own currency, line 99b on the country pages of International Financial Statistics published by the International Monetary Fund, by Employment, line 67e times 2000 for hours of work that produced the GDP. Watch the decimal points because GDP is published in billions or trillions and employment is published in thousands. Employment is multiplied by 2000 on the assumption that workers work 40 hours per week for 50 weeks per year. This simple division, GDP divided by hours of work, gives us GDP per hour of work.

Plot the logarithms of the GDPs per hour and actual currency exchange rates, line *ae* on each country page. You need to use logarithms because some exchange rates are very large numbers which would cause the exchange rates that are smaller numbers to compress at the bottom. For the 93 countries with the necessary data in 2008, GDP per hour and currency exchange rates

correlate r = .87 of a possible 1.00 (Figure 7.1). (Had we not used logarithms, the correlation would have been .99.)



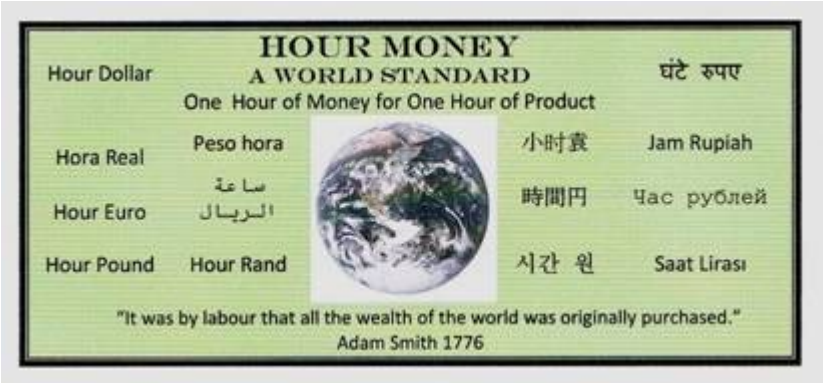
The same data for 1950, 1960, 1970, 1980, 1990, and 2000 show similar strong correlations: respectively, .79, .90, .88, .82, .80 and .86.

Looking at countries named in Figure 7.1, notice that poorer countries are above the line, for example, Indonesia, Sri Lanka, and Bangladesh. These countries have exchange rates that cost them more work time than countries below them. The richer countries are below the line, for example, Japan, Norway, and Canada. These countries have exchange rates that cost them less work time than countries above them. This is the reverse of what common sense would lead us to expect.

The rich countries presumably produce more efficiently so they should be selling goods to poorer countries more cheaply than poor countries sell to rich ones. Yet exchange rates make the goods of poorer countries cheap and the goods of richer countries expensive. What happened to fair exchange rates? The Bretton Woods Conference in July 1944 that created the IMF focused on *stabilizing* exchange rates, not on making them *fair*. The word "fair" was used just once in the official documents of that conference and then only in the speech by U.S. Secretary of the Treasury, Henry Morgenthau, closing the conference.

Every national currency can be expressed in Hours. Hours on money, like meters for length, can promote fair exchange rates. Each country would trade its goods for equal amounts of work time. You see in the example of HOUR Money below that Hour can be added to the name of

every country's currency, so everyone would know the value of their money. Nothing should now stand in our way to adopting work time as the proper money measure of price except the vested interests of people who benefit from money's ambiguity.



Money's purpose is to facilitate cooperation among the billions of strangers on board Spaceship Earth by supporting what cooperation requires:

1. Communication; people must tell each other what is to be done.
2. Specialization: each must do a needed job that is not being done.
3. Reciprocity: each must receive an equivalent of what they contribute.

Money's job is to communicate reciprocity among specialists. Money cannot do its job without a unit that all those specialists know and have in common. That unit is work time measured by clocks and calendars. That's it in a nutshell.

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Chapter 8

Inequality at One Half of One Percent per Month

In this chapter we will explore the effects of a basic mathematical fact; namely, that any numbers increased by the same percent become more unequal by the same percent. It is a mathematical fact that can explain the fall of empires. Its effects are insidious and subversive although thought to be fair and equitable.

A six percent annual interest rate is a fraction less than one half of one percent per month. Seeing it per month helps us to understand how contemporaries would not notice much of a change from month to month. One half of one percent is a small change, but over many years, it grows enormous. Imagine what would happen to your automobile engine if it wore down at the rate of one half of one percent per month. In a few months, it would be ruined. We are dealing

here with a 222 year process that does not change as presidents come and go, whether they are presidents of the Federal government or presidents of corporations, farmers, homebuyers, or consumers. The exponential rise in debt has occurred in every category of debt as you will see in the next chapter. It was all caused by an interest bearing borrowed money supply. This is the clearest conclusion that emerges from our analysis. It is the mathematically natural working out of an exponential process established in 1790. The mathematical force driving the growth of debt is also causing inequality to increase in tandem with it.

Problems Created by Percents

We use percents to calculate not only interest on debts, but also inflation, salary and wage increases, and returns on investments and profits. These all increase income inequality, meaning that inequality in the United States has increased throughout its history and is now greater and increasing faster than ever before. The results, by mathematical necessity, are fortunes at the top of the income distribution beyond comprehension while incomes from the bottom up are being squeezed ever more to fund those fortunes (See Phillips, 2009, Figures 2.8 and 2.9 pages 65-66 for examples of massive recent increases in incomes at the top).

Accelerating Inequality

A little algebra shows that any set of numbers multiplied by the same percent become more unequal by the same percent. If A is increased by C and B is increased by C, the difference, A minus B, is also increased by C.

$$(CA) - (CB) = C(A - B)$$

Example: if $1 is increased by 10 percent, and $2 is increased by 10 percent, the difference between $1 and $2 is also increased by 10 percent.

$2 times .1 = $2.20

$1 times .1 = $1.10

$2 minus $ 1 = $1

$2.20 minus $1.10 = $1.10

The difference of $1 became a difference of $1.10, ten percent larger.

Let us apply this simple mathematical effect to salaries. We start with the salaries of four persons in 1968, A, B, C, and D: $30,000, $18,000, $10,000, and $7,000. The total of differences among all combinations of these salaries is $77,000 (Table 8.1).

Table 8.1 Salary Differences in 1968

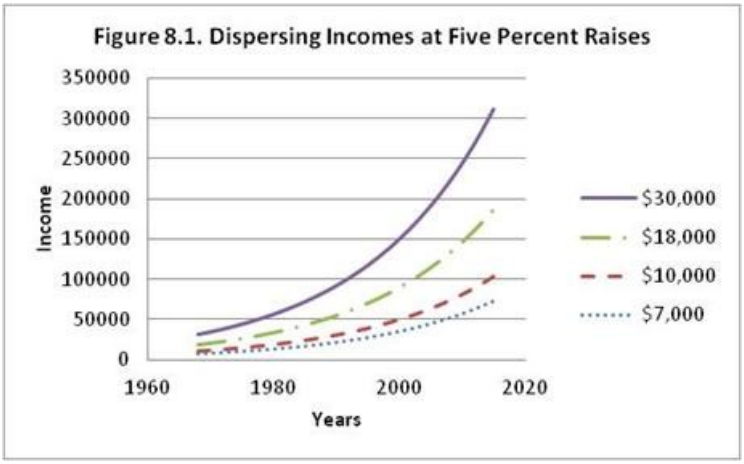
Initial	$18,000	$10,000	$7,000	Row Totals
$30,000	12,000	20,000	23,000	55,000
$18,000		8,000	11,000	19,000
$10,000			3,000	3,000
		Grand	Total	$77,000

Present practice assumes that giving each one a percentage "cost of living" increase will keep their purchasing power relatively the same. Let us, then, increase everyone's salary by five percent per year. By 2015, the differences among their salaries would have grown to $800,897, more than ten times greater (Table 8.2).

Table 8.2 Differences in 2015 at Annual 5% Raises

Initial	$187,223	$104,013	$72,809	Row Totals
$312,038	$124,815	$208,025	$239,229	$572,069
$187,223		$83,210	$114,414	$197,624
$104,013			$31,204	$31,204
		Grand	Total	$800,897

Salaries have dispersed dramatically (Figure 8.1).



All we have done is apply the same percent to different base amounts and increased inequality by hundreds of thousands of dollars. As this practice continues, incomes grow more and more unequal. There is no way around that fact. We may wonder how salaries at the top have become so large. You know now that it happened for the most part at a fraction of a percent per month. We have been increasing incomes by about the same percentage for many years. Using percents has become firmly institutionalized, firmly normative, so that people now regard receiving a percentage cost of living increase as a right. We need no longer wonder how

incomes have become so unequal. Other factors have played a part as well, but the practice we think has kept incomes in the same relative positions is the one we are addressing here.

Two factors determine the magnitude of the resulting inequality; 1) the magnitude of the initial differences, and 2) the length of time that this practice is followed. The greater the initial differences in wages, the greater the inequality, and the longer percentage adjustments are made, the greater the inequality becomes. It is not necessary to believe that every occupation should be paid equally to see a problem here. The problem is the growing size of the differences. While mistakenly thinking that we were keeping salaries in the same relative positions, we have actually been increasing the differences among them.

How would people experience these changes? They would each see their own salaries rising, giving them a feeling of progress. But if they examined all the salaries around them and in the entire economy, they would see that the salaries were dispersing, growing more unequal, at a similar rate. Further and equally important, people only experience changes for short periods of history, mainly the years that they work. Consequently, they are unlikely to know how the long term historical trend is making the distribution of incomes as a whole always more unequal.

The Argument That the Rich Require More

Does giving everyone the same percentage increase keep everyone in the same relative positions of wealth and standard of living? Do not people with higher salaries also have higher expenses and therefore need larger raises at least equal to the rate of inflation? Do not people with lower salaries, having lower expenses, only require the same percentage to stay in the same relative position? What's wrong with that reasoning? The ambiguity is the meaning of "relative."

The ratio between 1 inch and 10 inches is the same as the ratio between 1 mile and 10 miles:

$$1 \text{ inch}/10 = 1 \text{ mile}/10 \text{ miles}.$$

However, the difference between one inch and 10 inches and the difference between 1 mile and 10 miles is vast. If you add an inch to one and a mile to the other, the ratio remains the same but the difference has increased by one inch short of another mile! That is what has been happening to incomes.

Percentage increases would have no effect if people were charged percentages of their incomes when they purchased goods and services. Then the argument that higher incomes require the same percentage increase to keep up with the cost of living would be valid. But people are charged dollar amounts. So increasing all incomes by the same percentage gives

higher incomes greater, not the same, purchasing power, which is the essence of increasing income inequality.

People with higher incomes pay more for housing, they pay more for food, they pay more for clothing, and they pay more for recreation, and they get more. They pay more for housing because they buy better housing; they pay more for food because they eat better; they spend more for recreation because they have more luxurious vacations than people with lower incomes. The rich pay more because they get more. To argue on that basis that they must receive the same percentage increases as the poor is to argue that people with higher incomes have a right to get ever richer than the people with lower incomes. We hear it said that "the rich get richer and the poor get poorer." The use of percents for cost of living increases is one reason why, perhaps the main reason.

The Cost of Living

When we make our purchases, we are not asked our income and then charged a percentage of that income. We are paid for work in dollars and we pay for purchases in dollars. To compensate for inflation, it would be more correct to give everyone the same dollar increase. However, the dollar cost of living varies by city, even by neighborhood. This is one reason why percents came to be used. The dollar has no defined value. With many variables affecting the subjective value of the dollar, the best option seemed to be an index like the Consumer Price Index (CPI).

The CPI takes a market basket of goods and services as the base, then uses percentage changes in the total price of that basket from one year to the next to measure the change in the value of the dollar. You saw above how that method causes salaries to disperse. Let us take that idea one step further.

Suppose we could establish a dollar cost of living. We have an example for poverty levels. As of January 2011, in the contiguous 48 states, a family of four with a gross yearly income of less than $22,350 was judged to be living in poverty. Make it $20,000 to simplify the arithmetic. Let us take triple that amount to $60,000, as the dollar cost to live reasonably well. You could use a different figure if you like. The principle will remain the same. Say that the CPI shows prices to have increased by one percent. That would mean increasing $60,000 one percent, or $600. Here I want you to think with me about what happens to incomes below and above that $60,000 when they are increased one percent.

A family of four with an annual income of $50,000 would receive an increase of $500 for a new total of $50,500. Before that increase, this family's income was $10,000 below the $60,000 we used above as providing an income to live reasonably well. After the increase of $500, this family would have fallen $100 further below that reasonable level ($60,600 - $50,500 = $10,100 versus the previous shortfall of $10,000). The cost of living reasonably well would have risen to $60,600 while the $50,000 income would have risen to only $50,500. In general, with the same percentage increase, incomes below any standard of a reasonable income fall further and further below that reasonable level. They may be getting the same percentage increase, but their financial situation continually worsens.

Consider now the situation of incomes above that reasonable level. The reverse happens. Every percentage increase moves those incomes ever more above that level. For example, an income of $70,000 increases $700, an additional $100 above the cost of living reasonably well ($700 - $600 = $100 gain). In general, families with incomes above the $60,000 level find their financial situation improving with every CPI based cost of living adjustment.

This improvement has political consequences. The more disposable income any person has, the more power they have to influence the political process, whether in making contributions to political campaigns or in lobbying incumbents on particular legislation. We see money having an ever greater influence on the outcome of political elections. That increased influence follows from the practice of awarding salary increases as a percent.

Interest on Savings and Debts Accelerates Inequality

Any numbers, not only salaries, will be made more unequal by the use of percents. Interest is calculated in percents and it has the same predictable disequalizing effects. Suppose that three economic units, they might be families, corporations, or governments, save a different amount of money.

Unit A saves	$1,000
Unit B saves	$10,000
Unit C saves	$100,000

At one percent interest, at the end of one year, each unit will be credited the following increases to their principal:

Unit A	$10
Unit B	$100
Unit C	$1,000

Disparities become greater as interest compounds, as you saw happens in the example of salaries above (Table 8.2).

Should not those who save more receive more? One answer is that they already have more. We need also to ask, who pays the interest? When a person receives interest on a saving account, someone else must pay that interest. Money has no power to grow on its own. It's not corn. The credit side of the ledger must equal the debit side. If the credit side is increased by interest, the debit side must also be increased by the same amount.

We can also frame the issue as the question, how much more? "More" is very ambiguous. It could mean $1, $10, $100 or more. We assume that compensation should correspond with sacrifice. So we assume that there is more sacrifice by a person who saves $1,000 than a person who saves $100. That may or may not be true. It may take a great deal more sacrifice for a poor person to save $10 than for a rich person to save $1,000. The notion that percents should be applied to savings to be fair is an empirical question, a question that could be answered by gathering the relevant information from people when they deposit money for savings. We do not ask such questions and people would be offended if we did.

We know that the same percentage increase makes their savings more unequal by the same percent. Just as salaries become more unequal with the same percentage increases, savings become more unequal with the same interest rate. More importantly from the perspective of the functioning of the economy, the increase in savings from interest payments clashes with the message that savings is supposed to send to loan officers in banks.

Savings should indicate that there are unused resources in the economy that a loan will buy and put to use. Presumably, when a person decides to save a given amount of money, they are deciding not to buy and use the equivalent amount of goods and services. These goods and services are actual capital. Money is a claim to that actual capital; unused but available goods and potential services. So when a loan officer sees that the bank has money in depositors' savings accounts, he or she would know that a borrower will be able to purchase the equivalent in goods and services. Paying interest on those accounts destroys the validity of that message. Savings rise by interest and compounding interest above the available capital of unused

resources. A loan based on interest inflated savings above the actual available capital pits debtors against each other trying to buy the same resources. It is similar to goldsmiths making more loans than the gold in their vaults. Here bankers make more loans than the actual capital of goods and services available to buy with the money.

To make worse the competition among debtors for capital now made scarce by excessive loans, banks do not base loans only on savings; they base them on checking accounts also called demand deposits. When your paycheck is deposited in your checking account, the bank treats that the same as a savings deposit. However, you do not intend to save that money; you plan to spend it. So it does not represent unused resources, that is, capital, that a loan can enable a debtor to purchase. Yet the bank bases loans on those deposits. Worse still, it is loans on demand deposits that build the pyramid of loans that economists like to teach their students as deposit expansion (Taylor, 2007:584-587).

In brief, the process goes like this. Person A deposits $100 into their checking account. If the "reserve rate" is 10 percent, the bank can make a loan of $90 on the strength of that $100 deposit. The bank makes the loan by opening a new demand deposit checking account in the borrower's name. That deposit is indistinguishable from the original $100 deposit, so the bank now has $90 of demand deposit on which to base another loan, this time of $81. The process continues so that a $100 deposit can generate 1/.1 = 10 times $100 or $1,000 in new loans. This multiplication does not happen with savings because a loan based on savings does not become another savings; it becomes a demand deposit.

The practice I have just described is called "fractional reserve" lending. Just as interest on savings causes savings to grow beyond actual available unused goods and services, destroying the message that savings is supposed to convey, fractional reserve lending also destroys the correlation of loans to available goods and services. The difference between interest on savings and fractional reserve lending is that savings grow by compounding interest while fractional reserve lending multiplies the competitive pressure for goods and services by a much larger multiplier.

Percentages to evaluate dividends on stock and profits on other investments cause an exponential rise in expectations. For example, an international grain company in 2007 made $1.8 billion profit. The annual company report was congratulatory. In 2008, the profit was $1.7

billion. The annual report was gloom and doom. Why? The profit percentage had declined. Profits were huge in dollars but the percent expected was for more. Thus, the numbers grow.

The U.S. economy is $15 trillion dollars large, yet we are told that we have a recession problem because it is not growing. It is described as "dead in the water," as needing to be "kick started," that we need to "get the economy moving again." That is how much percentages have put us out of touch with economic reality.

End Result - Worsening Cash Flow Crises

As percentages cause salaries, savings, debts, and profits to diverge, cash flow problems become more severe. The family whose income is below a reasonable standard, even with regular cost of living percentage increases, continues to lose ground even as its new total dollars increases, and finds itself confronted by ever larger cash shortages. The cost of food will have gone up more than the added dollars in the family's income. The same is true of all other costs; the cost of utilities, the cost of gasoline, the cost of clothing, and the cost of debt all increase more than their income.

Meanwhile, on the other side of the process, persons whose incomes were higher than the reasonable dollar standard of living will have more and more extra dollars to play with. They find food easier to buy, gasoline easier to buy, vacations more affordable. Indeed, their growing stock of extra dollars creates a demand push contributor to inflation; they now have extra dollars chasing the same goods. Having to find the extra dollars to increase the higher incomes further aggravates the problems of families below the dollar cost of living level as the dollars that would have helped them go to the higher income families.

As a larger amount of money is needed to satisfy a percentage increase on a large income, more low income families must take an income loss. If $1,000 is added to a large income, then ten low income families must be denied a $100 increase. Since the poor lack political power, the dispersing effect of percentages gives ever more power to those with the upper incomes. Today we see CEOs and others demanding and being given hundreds of millions of dollars in compensation. Historically, this dispersion has happened at an underlying long term rate of one half of one percent per month.

Business cash flow problems worsen in a similar way. As investors demand the same percentage but more dollars in dividends, business expansion grows exponentially more expensive - even at constant rates of interest. An investment that might have been affordable in

1970 at seven percent becomes not affordable in 2007 at seven percent, because prices have gone up and seven percent on a larger base is more money that must be invested or borrowed than on a smaller base. Individuals, families, and corporations, perhaps unaware of the subversive effects of exponential mathematics, find themselves face-to-face with bankruptcy without understanding why.

Overall

The use of percents to measure inflation, to make salary adjustments and to calculate interest on savings and loans has caused both incomes and debts to become ever more unequal and divergent. Accelerating debt is but an example of a numerical process that exists throughout the economy. All the numbers in the system, whether they are salary numbers, rents, prices, or interest rates, are diverging. This dispersion forces cash flow crises throughout the system, particularly among the people with small initial starting bases.

The mathematics of percents makes it clear that receiving increases in income on the basis of the same percent does not preserve people's existing relative positions. Instead, one's base is crucial; if the base is below the required dollar cost of living, no number of subsequent "cost of living" increases will enable a person to catch up; if the base is above the same required dollar cost of living, the person may be able to reach a comfortable life without working at all as the percentage calculations work their “magic” and raise the discretionary surplus of the richer individuals to the point that investment income provides enough and eventually more than enough to meet the required dollar cost of living without lifting a finger. It is thus possible for people with a large initial "investment" to put it into debt instruments that will "yield" sufficient return to enable the person to live well and still add to their account. Given a stable rate of increase, one's situation depends only on the size of the base.

The process explained in this chapter has intensified cash flow crises. With total debt now at $70 trillion, the numbers are rising so much in so short a time that people already in financial trouble with incomes falling behind price increases and occupying weak positions in the society are going bankrupt in ever larger numbers. They are the first to feel cash flow paralysis. The relatively stronger are following in their trail.

The biggest owner/lenders require an exponentially increasing amount of money to satisfy their claims. Being in powerful positions in part because of the vast monies they already control, these wealthier persons and institutions see their increasing demands as justified.

More persons in the middle class are finding it impossible to remain solvent. Now we see the most respectable and prudent of our citizens going broke in spite of hard work and careful management of their resources. At this moment, a large portion of the middle class is far over their heads in debt with little prospect of emerging from it.

Things may seem "normal," but for many families bankruptcy is only a paycheck or two away. Corporations that try to deal with their accelerating debt burden by raising prices hasten their customers' and eventually their own collapse.

The General Depression of the 1930's left the impression that economic disaster comes with a crash. The analysis here suggests that a more apt analogy is continuous erosion. Instead of disaster coming in one collectively felt event, it comes insidiously, carrying away valuable assets without notice except by the people directly affected. Particular people and organizations experience the disaster in a single final day of reckoning; the family forced to move out because the bank is foreclosing on their mortgage, in the 1970s, the people of Youngstown put out of work by the closing of the Youngstown Sheet and Tube plant, the cities of New York and Cleveland, and the Franklin Bank bankrupt, in the 1980s, W.T. Grant, the Penn Central railroad, bankrupt, and in the 2000's, Lehman Brothers, and Merrill Lynch going broke.

People sense that something fundamental is wrong, that problems are not going away but are worsening. Our streets are less safe, our schools have less equipment, our streets and highways have more potholes, trains travel more slowly over poorly maintained rail beds, companies fail to update equipment and services to meet our needs or start using cheaper inferior substitutes, houses in our neighborhood have more need of maintenance, and more houses are becoming rentals. Millions of homes are foreclosed and stand empty while the middle class families that once lived there find themselves living with relatives, in motels or in their cars through no fault of their own.

Contrary to what we might hope, there is no guarantee that people will awaken to the root of the problem and join together to solve it. Just as topsoil once eroded cannot be restored, similarly, the cultural base of a society can be so deeply eroded that the people might never recover. History provides many examples of nations and peoples who, once embarked on what from hindsight was a suicidal course, never recovered. The wise course for any people is to diagnose the cause of the problem accurately then to act to avoid or mitigate it while there is still the time and the resources to prevent disaster from engulfing us all.

Our progress will depend on a better understanding of money. Money is not corn. You cannot plant it and have it grow. Money is a transfer medium and carries a message. It moves in one direction with goods and services moving in the opposite direction. An apt metaphor for money is blood in the body. Good health requires a sufficient quantity, flow rate, and pressure of blood coursing through our veins. If blood stops flowing or pools in pockets of the circulatory system, the body starts to break down. If the condition persists, organs die and the body dies. The same is true of money.

We think and act as if one or a small number of persons or organizations can accumulate a huge amount of money without having any adverse effect on anyone else. One example is lottery prizes. They offer top prizes in the hundreds of millions of dollars. Players bet to win, apparently with little thought to the millions of players who must lose in order for one to win. Another example is salaries. We now have CEO's taking hundreds of millions of dollars in salaries, bonuses and stock options. We have athletes and entertainers demanding millions of dollars. We have more billionaires than ever before. We seem not to understand that when some people receive huge sums of money, bankruptcies for others are inevitable.

The last responders, Congress, are fighting over spending cuts and taxes, but not addressing the root causes of our financial problems, the interest-bearing debt that is our money supply and the absence of a definition of dollar. How can we be surprised after seeing the explosion in debt that has been going on since 1790? For us to thrive individually and together, money must flow equitably throughout the system of human relationships that we call the "economy." The word, after all, as I pointed out earlier, is derived from the Greek words, *oikos*, meaning household, and *nomos*, meaning management. Economics means household management. "A house divided against its self cannot stand." Our national house is splitting, not in two but in millions of pieces, each ever more widely apart. When we comprehend that we need to correct the two defects in the design of our money supply we can reform to a sustainable union of liberty and justice for all.

I was just out watering the plants around the house and it occurred to me how little good it does to water the leaves. Water must get to the roots. Our challenge is to correct the problem planted by the First Congress in 1790. We must solve the problem at its root.

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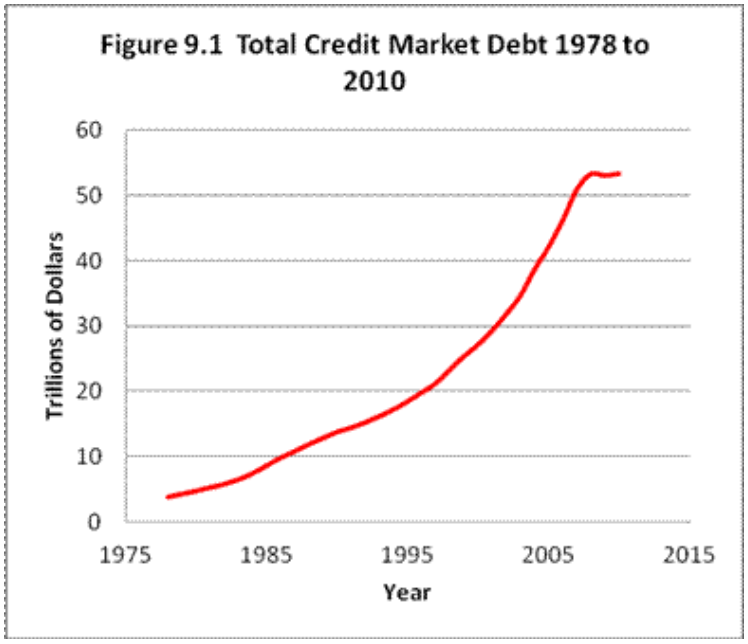
Chapter 9

Debt by Sector 1978 to 2010

Each sector of debt shows a similar exponential growth pattern. A striking deviation is how interruptions in state, local and federal government debt were soon followed by increases to where those debts would have been had growth not been interrupted. This tells us that government spending is a rescue operation. It tells us that we need to end the perpetual exponential increase in debt before we can safely reduce government spending.

Total debt represented by credit market debt from 1978 to 2010 continued the exponential growth that occurred from 1916 to 1976, and from 1790 we might add. We see the evidence of the freeze that President George W. Bush and the Secretary of the Treasury, Henry Paulson, warned of by the ceiling hit in 2008 at $53.3 trillion (Figure 9.1).



In 1978, credit market debt, 32 percent lower than total debt, was $3.78 trillion, already huge by any previous standard. By 2008, it had reached $53.3 trillion, 14 times larger in just 30 years (Table 9.1).

Table 9.1 Total Credit Market Debt 1978 to 2010

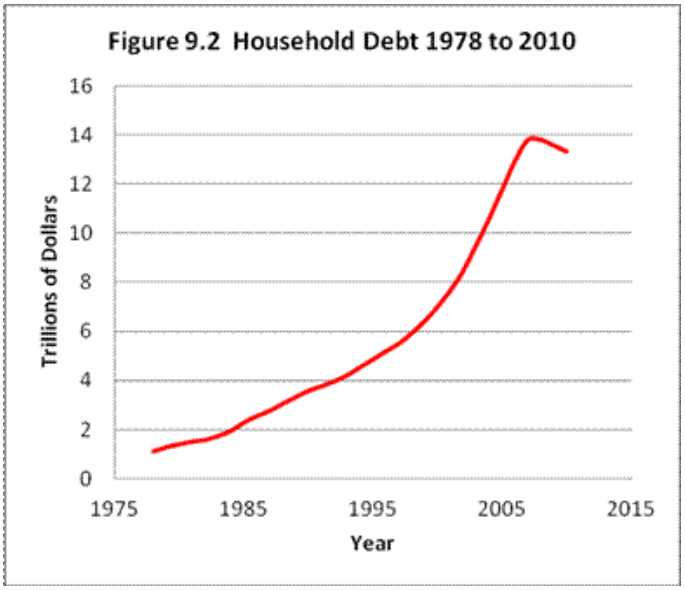
Federal Reserve Credit Market Debt Outstanding Dec. 2011

Year	Billions	Year	Billions	Year	Billions
1978	3780	1989	12839	2000	27138
1979	4276	1990	13767	2001	29319
1980	4725	1991	14421	2002	31831
1981	5258	1992	15213	2003	34646
1982	5770	1993	16181	2004	38639
1983	6466	1994	17208	2005	42100
1984	7431	1995	18469	2006	46158
1985	8623	1996	19805	2007	50869
1986	9812	1997	21236	2008	53292
1987	10825	1998	23328	2009	53060
1988	11866	1999	25389	2010	53358

Then, the only time in this history from 1978, total credit market debt in 2009 was less than in 2008 (Table 9.1).

Household Debt

Household debt in 1978 was $1.1 trillion. Its growth followed the now familiar smooth exponential path to an apparent ceiling in 2008 of almost $14 trillion ($13.8 trillion) (Figure 9.2).



Notice how smooth growth is until 2008 when it stops at $13,797 billion then drops to $13,324 by the end of 2010 (Table 9.2).

Table 9.2 Home Mortgage and Consumer Credit Debt
Federal Reserve D.3 Credit Market Debt Outstanding Z1 Dec. 2011

Year	Billions	Year	Billions	Year	Billions
1978	1110	1989	3316	2000	6993
1979	1279	1990	3576	2001	7652
1980	1399	1991	3760	2002	8462
1981	1511	1992	3962	2003	9504
1982	1580	1993	4205	2004	10568
1983	1735	1994	4533	2005	11743
1984	1948	1995	4851	2006	12910
1985	2283	1996	5186	2007	13777
1986	2542	1997	5491	2008	13797
1987	2760	1998	5916	2009	13565
1988	3047	1999	6404	2010	13324

January 3, 2011, CNNMoney reported:

The number of Americans filing for bankruptcy in 2010 ticked up 9% over the previous year to more than 1.53 million, industry groups said Monday.

The number of consumers filing for bankruptcy has increased each year since 2005, when bankruptcy laws were revamped [to make filing for bankruptcy more difficult], according to the American Bankruptcy Institute and the national Bankruptcy Research Center.

The 2010 figure far outpaces the 1,407,788 total consumer filings that were recorded during 2009, a trend that the American Bankruptcy Institute attributes to high debt and a stagnant economy.

"The steady climb of consumer filings notwithstanding the 2005 bankruptcy law restrictions demonstrate that families continue to turn to bankruptcy as a result of high debt burdens and stagnant income growth," ABI Executive Director Samuel Gerdana said in a statement.

December was a particularly bad month for consumers, with 118,146 total filings, an increase of 3% over November's level. That increase may become typical.

"We expect that consumer filings will continue to rise in 2011," Gerdano said

(http://money.cnn.com/2011/01/03/news/economy/bankruptcy_increase/index.htm)

Notice that the only cause suggested is "high debt and a stagnant economy." It implies that consumers could reduce their debt if the economy would grow more.

Thirty five years earlier, January 26, 1976, Time magazine reported:

> More banks failed during 1975 than in any year since World War II - and hardly anyone noticed.
>
> Collectively, the 14,600 U.S. commercial banks are writing off a record number of loans as uncollectible bad debts - an estimated $3 billion for 1975, or 50 percent more than in 1974 and triple the loan losses of 1973.... Citibank (of New York) in December disclosed that it would write off a record $310 million in bad debts for 1975, considerably more than double the $116.9 million in gross loan losses in 1974. Chase (Manhattan bank of New York) in the first nine months of last year wrote off $209.7 million, v. $64.5 million in the same period a year earlier. San Francisco-based Bank of America, the biggest of all U.S. banks, wrote off only a relatively small $78 million in bad loans for the first nine months of 1975. Even so, Bank of America and the seven largest New York banks collectively swallowed $737 million in bad debts during that period, nearly three and a half times the $215 million total a year earlier (p. 49-51).

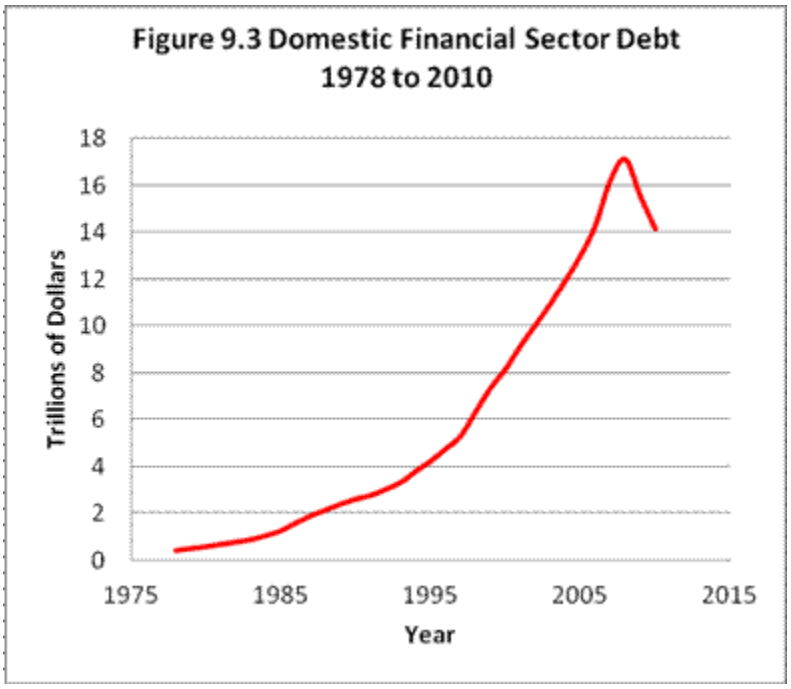
While the banks absorb record losses, the American household also suffered, according to Henry Kaufman of Salomon Brothers in a speech presented in Geneva on June 3, 1975 and published in the *Journal of Commercial Bank Lending*, August, 1975.

> The financial wealth of the American consumer has also been impaired substantially in recent years. The aggregate net financial assets of American households, measured in constant purchasing power, totaled $975 billion at the end of last year or only 64 percent of what they were at the end of 1972. And, in fact, the 1972 level represented only a three percent gain over the December, 1968, total (p. 3).

You can go back and forth from 1979 to 2009 and find similar expressions of concern about the financial health of every sector of the U.S. economy. What is startling is the absence of a good explanation for these problems beyond "high debt and a stagnant economy."

Domestic Financial Sector Debt

Domestic financial sector debt grew with exponential regularity until it hit $17 trillion in 2008 (Figure 9.3).



In 1978, it was what looks now like a "mere" $413 billion. By 2008, it had grown to a ceiling of just over $17 trillion, then it dropped to $14 trillion by the end of 2010 (Table 9.3).

Table 9.3 Domestic Financial Debt 1978 to 2010

Federal Reserve D.3 Credit Market Debt Outstanding Z1 Dec. 2011

Year	Billions	Year	Billions	Year	Billions
1978	413	1989	2399	2000	8158
1979	505	1990	2614	2001	9156
1980	578	1991	2770	2002	10043
1981	682	1992	3024	2003	10949
1982	778	1993	3321	2004	11936
1983	883	1994	3791	2005	12998
1984	1052	1995	4234	2006	14296
1985	1257	1996	4748	2007	16218
1986	1594	1997	5301	2008	17119
1987	1896	1998	6328	2009	15539
1988	2146	1999	7349	2010	14153

Foreign Debt

In 1978, foreign debt was $156 billion, the smallest sector debt. It peaked at $2.1 trillion in 2007 (Figure 9.4).

It declined in 2008 to $1.7 trillion, then resumed its growth trajectory to $2.3 trillion by the end of 2010, still the sector with the smallest debt (Table 9.4).

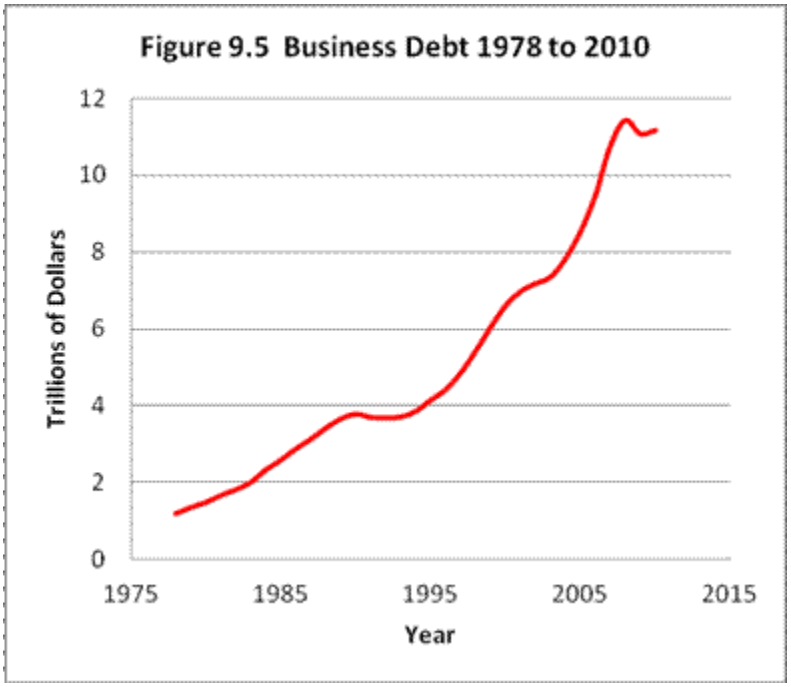
Table 9.4 Foreign Debt 1978 to 2010

Federal Reserve D.3 Credit Market Debt Outstanding Z1 Dec. 2011

Year	Billions	Year	Billions	Year	Billions
1978	156	1989	288	2000	815
1979	169	1990	318	2001	865
1980	193	1991	350	2002	1073
1981	214	1992	372	2003	1253
1982	208	1993	468	2004	1439
1983	224	1994	443	2005	1514
1984	233	1995	568	2006	1883
1985	243	1996	657	2007	2126
1986	252	1997	724	2008	1709
1987	259	1998	783	2009	2090
1988	270	1999	748	2010	2273

Business Debt

Business debt, corporate and non-corporate, in 1978 was $1.2 trillion. Its growth was not as smooth as the growth of household debt, but consistent with exponential growth to an apparent ceiling in 2008 of just over $11 trillion (Figure 9.5).



It remained at $11 trillion at the end of 2010 (Table 9.5).

Table 9.5 Business Debt 1978 to 2010

Federal Reserve D.3 Credit Market Debt Outstanding Z1 Dec. 2011

Year	Billions	Year	Billions	Year	Billions
1978	1184	1989	3644	2000	6590
1979	1344	1990	3774	2001	6963
1980	1475	1991	3686	2002	7169
1981	1659	1992	3679	2003	7339
1982	1808	1993	3697	2004	7816
1983	1996	1994	3841	2005	8521
1984	2321	1995	4133	2006	9463
1985	2572	1996	4406	2007	10758
1986	2866	1997	4838	2008	11418
1987	3117	1998	5404	2009	11061
1988	3406	1999	6026	2010	11156

Here are some assessments of business debt in 1975 and 2009.

Writing in the *Journal of Commercial Bank Lending* October 1975, Harold G. Warner, Jr., Vice President and Chief Economist of the Crocker National Bank in San Francisco, described the general condition of corporate finance.

> By most traditional standards, the deterioration of corporate financial strength over the past decade has been pronounced.... The general thrust of [key] indicators should be clear. Our financial system has become much more fragile over the past 10 years....
>
> Since the early 1960's corporations have become increasingly dependent upon external funds to finance their expenditures for inventories and new plant and equipment. In the inflationary environment, depreciation schedules have not kept pace with replacement costs and retained earnings have been disappointing....
>
> Only a nominal proportion of the external funds raised by nonfinancial corporations over the past decade has come from new equity issues.... Consequently, the debt/equity ratio has climbed steadily from .97 to 2.30.
>
> In recent years, the bond markets have frequently been inhospitable to firms enjoying less than top quality ratings, so corporations have become increasingly dependent upon short-term sources of credit.... Consequently,

> the ratio of short-term debt to total debt has climbed rapidly in each of the past two business cycles (pages 2-3).

The debt/equity ratio referred to by Warner is the corporate equivalent of the Total Debt/Gross Domestic Product ratio we used for total debt. Equity may be thought of as the corporate sector's ability to pay. Warner's prognosis for the future in 1975 was:

> Our economy has become more volatile. Each of the past two business cycles has been more violent than the preceding one. Increasing dependence upon debt -- especially short-term debt -- contributes to this volatility. Leverage, of course, works on the downside as well as the upside. Moreover, confidence is crucial to a credit system, and confidence is not enhanced by volatility. Meanwhile, the capital and liquidity cushions that presumably buffer corporations from shocks have been eroded (page 5).

The August 1975 issue of the *Federal Reserve Bulletin* contains a statement in full agreement with Mr. Warner's.

> Over the past decade, trends in corporate finance have led to a considerable reduction in the relative importance of equity in corporate balance sheets. The sharp increase in debt financing in 1974 accelerated this decline, and corporate debt-to-equity rose to unprecedented levels. In addition, the already unfavorable maturity structure of the debt shown on many corporate balance sheets was worsened by the continued heavy reliance on short-term financing. Because of this deterioration, many corporations found their credit ratings questioned and their ability to obtain external funds impaired at a time when their internal funds were declining (page 463).

Business Week magazine commissioned Investors Management Sciences, Inc., a subsidiary of Standard and Poor's Corp., to survey the debt, equity, and interest coverage positions of the nation's 500 largest nonfinancial corporations and 50 largest utility companies. On the results of this survey, Business Week, in its September 22, 1975 issue, commented:

> U.S. corporations are in the throes of a capital crunch that shows no signs of abating. New outlays for plant and equipment have grown almost twice as fast as common equity over the past five years, and internal cash

> flows for most companies comes nowhere close to meeting the need to finance expansion of facilities and inventory and to pay dividends. More and more corporations have had to go outside for money. As a result, a distressing number of companies must think about taking on new, expensive obligations at a time when their ability to cover interest obligations out of current earnings has fallen to dangerously low levels (page 65).

Business Week offered the following assessment of the ability of corporations to cover interest obligations.

> One of the most disturbing trends is the rapid decline in the ability of corporations to cover interest obligations out of operating earnings. During the past 10 years, interest-coverage ratios averaged 18.5. But as of the first quarter of 1975, that coverage had slipped to 9.9. A growing number are not even able to cover these obligations from current operations. As of 1975's first quarter, Chrysler, Evans Products, W. T. Grant, and Pan American, among others, showed negative interest coverage. And at Great Atlantic & Pacific Tea Co., coverage fell from a 10 year average of 98.1 to -43.5.

Utility companies were not much better off. The utility company with the most favorable interest coverage ratio was Northern Natural Gas with a ratio of 6.4. The company with the least favorable ratio was Transco with a ratio of 1.5.

According to *Business Week*, Sept. 22, 1975, many other companies experienced startling drops in their interest coverage ratios. In this same issue, *Business Week* estimated that new capital amounting to $4.5 trillion will be needed in the U.S. economy over the next 10 years. The New York Stock Exchange estimated that American business will need $3 trillion dollars in new capital through 1985. To raise $250 billion dollars of that total through the sale of stocks and bonds at the rate of $25 billion dollars per year would require raising five times more money than the average amount raised in the past 10 years, that is, since 1968.

Business Week's prognosis for the future in 1975, if we failed to raise the necessary capital, was terrifying.

> The jaws that threaten the nation's well-being are not those on the giant fish that looms up in front of moviegoers, but those of the yawning capital

> gap that faces the U. S. this year and as far ahead as anyone can see. For the failure of the supply of capital to keep up with demand could eat the nation's standard of living alive.
>
> For a disturbingly large number of would-be borrowers, from New York City to some of the nation's largest corporations, there is no money to be had today at any price.... If we fail to raise the necessary capital, the U.S. would suffer both chronic shortages of goods and from continued high inflation. The business cycle profile would consist of short, feeble recoveries quickly aborted. Strong companies would gobble weak companies at an accelerating pace. Social unrest and class conflict would become endemic because income gains will be thin to nonexistent. It is indeed naive to imagine that the capitalist-mixed economy can long survive a capital crisis (*Business Week*, September 22, 1975, p. 42).

The misery caused by corporate failure is exemplified by the closing of the Youngstown Sheet and Tube Division of Lykes Corporation in January, 1978. The closing terminated 5,000 jobs in the city known as Steel City, U.S.A. A city of 150,000 (600,000 in the metropolitan area), Youngstown is located on the banks of the Mahoning River in Northeastern Ohio midway between Akron, Cleveland, and Pittsburgh, the industrial heartland of America.

Many explanations have been offered to account for the shutdown; competition of foreign steel, increased costs for pollution controls, obsolete equipment, and corporate greed. The people of Youngstown, according to an article in Mother Jones magazine of April, 1978, believed that the Lykes Corporation was mainly responsible for the closing. Debt, however, appears to have had a large role.

The Lykes Corporation acquired Youngstown Sheet and Tube in 1969. At the time of the acquisition, the Lykes-Youngstown combined debt was $192 million. By late 1969, the debt had grown to $456 million and by 1976 to $673 million. Interest on the debt averaged more than $40 million per year. The people of Youngstown experiencing the mill closing thought that the company was the culprit. The huge drain of company assets due to interest on debt was scarcely noticed. Corporate debt overtook Youngstown's economy and brought with it unimaginable human hardship; unemployment, lost taxes, dwindling school monies and all the other resources that make life possible.

Thirty four years later, May 21, 2009, Dan Daplinger of Scottrade, under the headline, The Big Threat is Still Corporate Debt, writes:

> Over the past two years, we've seen firsthand how much damage leveraged growth [debt] can do. Companies that used leverage to become too big to fail have cost taxpayers trillions in government bailouts -- and with a host of additional challenges still on the horizon, that figure could grow still further.

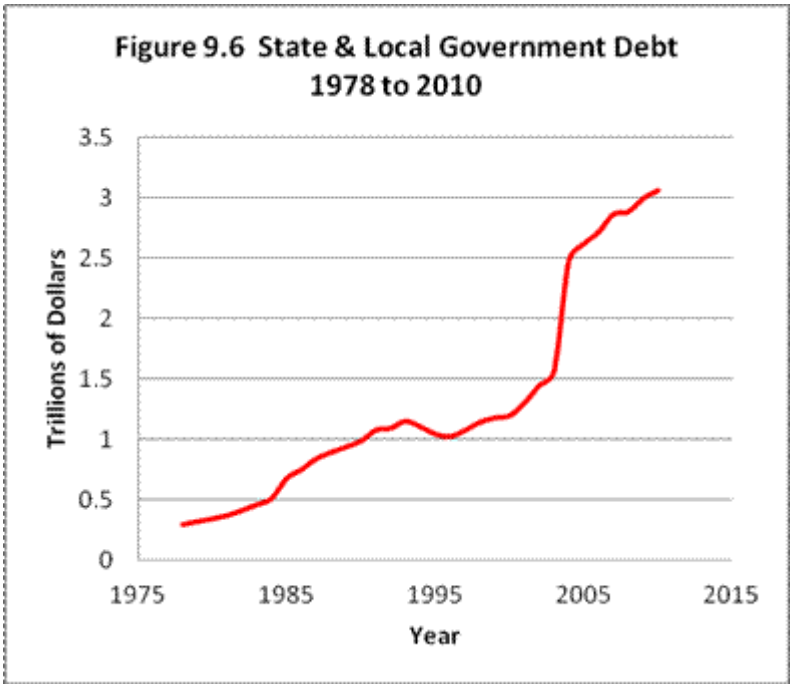
July 15, 2009, *Business Week* author David Henry under the headline, The Time Bomb in Corporate Debt, wrote:

> Company defaults on the heels of record borrowing will hamper the recovery. Going straight into bankruptcy may be a healthier option.
>
> As the recession grinds on, more companies are falling behind on their debt payments. The default rate tops 11%, up from 2.4% last year—and could peak at 12.8% by the end of the year, the highest ever, according to credit rating agency Moody's Investors Service. But what's worrying economists more is that the rate could remain stubbornly high for quite a while. "Be prepared for a multi-year period of high defaults," says Louise Purtle, a senior analyst at CreditSights. "We're going to see peaks like a mountain range."

Bad as business debt was before 1978, it has grown much worse.

State and Local Government Debt

State and local government debt in 1978 was $296 billion. Its growth seemed to stop in the mid 1990s only to begin rising again, dramatically so in 2004 (Figure 9.6).



State and local government debt then continued to grow to just over $3 trillion in 2010 (Table 9.6).

Table 9.6 State & Local Government Debt 1978 to 2010
Federal Reserve Credit Market Debt Outstanding Dec. 2011

Year	Billions	Year	Billions	Year	Billions
1978	296	1989	940	2000	1198
1979	322	1990	987	2001	1304
1980	344	1991	1079	2002	1448
1981	372	1992	1095	2003	1568
1982	414	1993	1153	2004	2485
1983	461	1994	1108	2005	2623
1984	514	1995	1047	2006	2721
1985	678	1996	1026	2007	2868
1986	752	1997	1077	2008	2888
1987	843	1998	1144	2009	2999
1988	893	1999	1181	2010	3066

The interruption in debt growth is different from the patterns for household and financial debt, which grew without interruption until 2008. Why would state and local government debt growth be different? Let me suggest that it is the difference in the visibility of the debts in these sectors. Household debt is visible to individual households but is not widely visible in aggregate. Large segments of financial debt have been invisible – even secret – what we know as unregulated. These could grow unnoticed until a catastrophic seizure. State and local

government debt is public and more visible and, as such, more readily alarming. Citizens do not want their state and local governments to go ever deeper into debt. Many state governments have laws requiring them to balance their budgets. When state and local governments take on more debt it is a highly visible sign of trouble.

The State of California, like New York City and Cleveland in 1975, is mired in debt.

Los Angeles Times, December 11, 2008

S&P downgrades one California debt rating, may cut more

California's credit rating has been dinged by Standard & Poor's as the state's budget crisis worsens. The rating on $5 billion of short-term notes the state sold in October was cut one notch, from SP-1 to SP-2.

Los Angeles Times, January 21, 2009

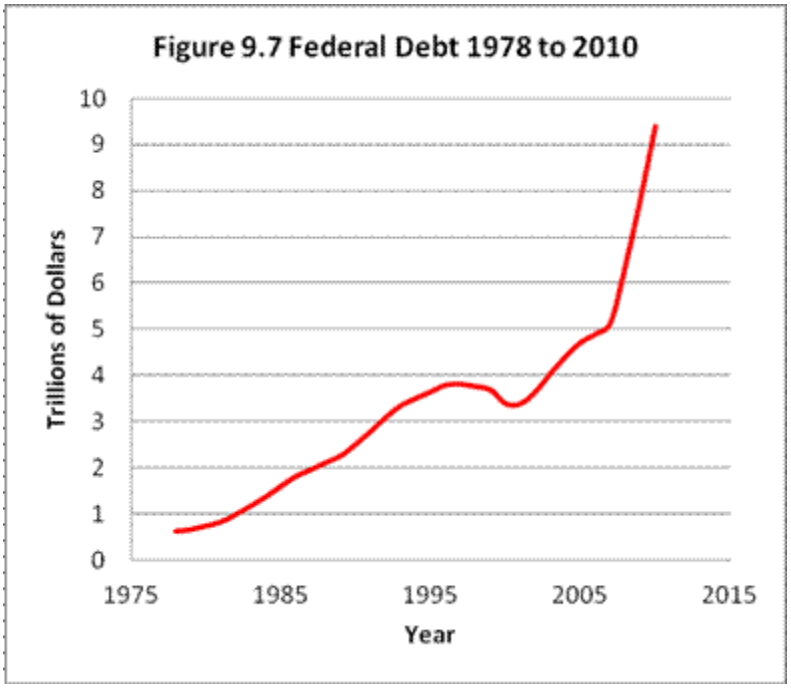
Moody's warns it may cut California's debt rating.

California, tied with Louisiana for the lowest credit rating among the states, now is in more danger of claiming rock-bottom all for itself. Moody's Investors Service today warned that it might downgrade California's general obligation bond rating, currently A1, because of the state's "significant budgetary shortfall, impending liquidity crisis, and lack of legislative solutions." Louisiana also is rated A1. All other states are rated higher on Moody's scale, typically AA or AAA.

The California Constitution requires a balanced budget. Its concern regarding its credit rating decline is an obvious indicator that it has been borrowing money with interest for years in spite of the Constitutional prohibition. It should now be no wonder to the reader why this financially dangerous practice has come home to roost. Seeing only symptoms, policy makers try to blame the problem on labor union demands.

Federal Debt

Federal debt growth resembles that of state and local governments, seeming to stop in 1997, then declining in 1998, 1999, 2000 and 2001 only to resume growth in 2002 then shoot up to over $9 trillion by the end of 2010 (Figure 9.7).



By 1978, Federal debt held by the public had become enormous at $622 billion; by 2012, it was far larger at $9.4 trillion (Table 9.7).

Table 9.7 Federal Government Debt 1978 to 2010

Federal Reserve Credit Market Debt Outstanding Dec. 2011

Year	Billions	Year	Billions	Year	Billions
1978	622	1989	2251	2000	3385
1979	658	1990	2498	2001	3380
1980	735	1991	2776	2002	3637
1981	821	1992	3080	2003	4033
1982	982	1993	3337	2004	4395
1983	1167	1994	3493	2005	4702
1984	1364	1995	3637	2006	4885
1985	1590	1996	3782	2007	5123
1986	1806	1997	3805	2008	6362
1987	1950	1998	3752	2009	7805
1988	2105	1999	3681	2010	9386

The FED Flow of Funds figures in Table 9.7 include only federal debt held by the public which is a bit over 62 percent of the total. The latest figure on total Federal debt as of July 2013 is $16.9 trillion (http://www.usdebtclock.org/)

What strikes me most about these seven graphs is that debt decline was not a good thing. Instead it signaled credit market seizure. This affirms the main finding of this report, namely, that there is a debt imperative operating in the U.S. economy. We have traced the pen of history

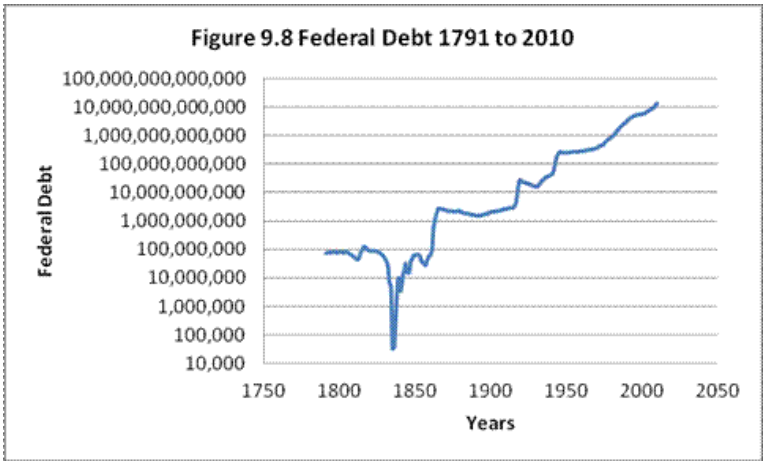
back to the decision of the First Congress to convert Revolutionary War debt into interest-bearing bonds. The total debt we have today is the result of over 200 years of compounding interest on that original debt.

Perhaps the greatest danger in an emergency is that actions taken worsen rather than correct the problem. There is a lesson that pilots must learn in the course of their training that would be well to keep in mind in dealing with debt. The most dangerous moments in an aircraft are when a plane is taking off and is yet within a few hundred feet of the ground. In the event of an engine failure, it is a normal human reflex for the pilot to pull back on the controls in an intuitive impulse to avoid crashing into the ground. Such an action is exactly the wrong action to take, for it raises the nose of the plane producing a stall and causing the plane to fall from the sky like a stone. The proper action for the pilot is to push forward on the controls, causing the nose to point downward, giving the plane a chance to develop lift to cushion the landing.

When confronted with enormous Federal debt, some people urge cutting government spending as we are seeing from conservative forces in recent Congressional debates. This is exactly the wrong course of action. The Federal government functions like a fire department. When persons, cities, or corporations are in trouble, they turn to the Federal government as their last hope for assistance. Federal expenditures for income security including social security, unemployment insurance, and public assistance are rescue programs for the vulnerable when adverse economic conditions prevail, programs that aid the poor, the unemployed, the elderly, and children.

Cutting such programs is equivalent to destroying some of the lifeboats on the Titanic, or shutting off the water supply to the city's firefighting equipment. It makes no sense to blame the fire department for the fire. Economic problems exist throughout our society, involving corporations, cities, states, farmers, and consumers. It would be the height of folly to attempt to correct the problems by cutting off Federal assistance. The sensible course is to continue government rescue operations until the cause of the problem has been identified and corrected. We must first put out the fire - then we can safely turn off the firefighting equipment, not before.

In Figure 9.8 we see how reductions in Federal debt have been soon followed by massive increases in Federal debt since 1790.



The Federal government has tried to stop debt growth and reduce Federal debt throughout our history only to find it necessary to increase that debt to where it would have been had no reduction occurred. History is repeating itself now.

During the George W. Bush administration, we often heard that President Bill Clinton reversed the trend of Federal debt growth, producing a surplus by the end of his administration. President Bush was criticized for returning to the Federal debt growth trend. The credit market seizure in 2008 then, I will say, *required* President Barack Obama to increase Federal debt enormously, exactly what history tells us has always been absolutely necessary, given the debt based nature of the U.S. money supply. While critics have praised and blamed them respectively, what you should be learning from the trend for all categories of debt in this report is that the interest being paid to creditors forces debt to increase to validate and pay those interest claims.

If you think of the Federal government as a fire department coming to the rescue of other individuals and organizations, there is good news and bad news in the curve. The good news is that the Federal government has been responding to distress; the bad news is that it has been doing it by going further and further into debt.

Debt limits up to 1979 pale compared to recent years (Table 9.8).

Table 9.8 Federal Debt Limit in Billions 1996 to 2011

Year	Limit	Year	Limit
1996	5,500	2007	9,815
1997-2001	5,950	2008	10,615
2002	6,400	2009	12,104
2003-2004	7,384	2010	14,294
2005	8,184	2011	15,194
2006	8,965		

Source: U.S. Dept. of Treasury

As reported to Congress by D. Andrew Austin of the Congressional Research Service updated April 29, 2008, the Federal debt limit reached almost $10 trillion at the end of fiscal year 2007. Four trillion was borrowed from other government accounts, for example, the Social Security Trust Fund, with the remaining $5 trillion held by the public.

President Barack Obama's budget for 2010 projected a $1.841 trillion deficit for 2009 and $1.258 trillion deficit for 2010. Can there be any doubt that we are in the grip of a debt imperative growing ever more powerful?

The Christian Science Monitor, March 20, 2009 by Ron Scherer, Staff writer warned:

> CBO: US deficit ballooning to record $1.7 trillion
>
> Higher forecast will complicate Obama's bid to push spending plans through Congress. New York
>
> The US budget deficit is turning a deeper shade of red.
>
> On Friday, the Congressional Budget Office (CBO) said this year's budget deficit is now nearly $1.7 trillion, more than $400 billion larger than it forecast two months ago. Next year's deficit will be nearly $1.1 trillion, $430 billion more than its prior forecast. And that doesn't count President Obama's budget plans to cut taxes and increase spending.

As you learned in Chapter 4, the Federal government, unique among all institutions in the country, has the option of creating, not borrowing, new money by paying people to produce goods and provide services that promote the general welfare. What stops them is the political power of those who receive the interest collected from debtors. These people have a vested interest in maintaining the current system even though it is inexorably sinking the United States under the American Iceberg of debt.

The Debt We Do Not See

Icebergs are particularly dangerous because most of their bulk lies hidden below the water line. Debt has an analogous characteristic. The total public and private debt in 2010 of $70 trillion is principal, the tip of the iceberg. How much interest could eventually be paid on that principal? We cannot answer this question exactly without knowing the interest rates and maturity periods for every debt that makes up the total. However, we can explore different scenarios to see what may be beneath the surface of what we now see as a $70 trillion total debt, (70 million million dollars, $70,000,000,000,000).

Let us assume that the entire debt of $70 trillion is financed at four percent interest. Interest the first year would be $2.8 trillion. We want to pay down the debt, so our payments would have to total more than $2.8 trillion. Let us set it at $3 trillion. Each year the payment portion going to pay principal would increase and the portion going to pay interest would decrease. After paying for 20 years, the principal remaining would be $64 trillion and we would have paid $54 trillion in interest. To reduce total debt $6 trillion would have cost $54 trillion. We could make the final payment of $142 billion in 70 years. We would then have paid $207 trillion in interest plus $70 trillion in principal for a grand total of $277 trillion. As big as is the debt we see, the debt that lies under the surface is much bigger.

We can try different interest rates, payments, and years to see other possible scenarios, but there are two more important questions we need to ask; first, where will we get the money to make our annual payments?

Currently, the entire money supply of the United States is borrowed into existence by banks making loans. You can read about it in any standard economics textbook where it describes how banks use demand deposits to multiply loans according to reserve rate requirements (John Taylor, 2007, Economics, pages 584-587). Such creations are creations of debt. If we use that money to pay principal and interest, we reduce the circulating money supply by the amount of principal and interest paid which then must be replenished with that much more debt. Economists may say that the velocity of money makes us able to pay down debt with debt. However, only one kind of velocity will have that effect, namely, the people collecting the interest must spend it. If people keep the interest so that it will compound, velocity among debtors does nothing to help pay down principal without adding more to debt.

The second question is; what would be the effect of paying the $277 trillion grand total of interest and principal in our example above to the creditors? The creditors could buy and own $277 trillion worth of everything. What would be left for the debtors, having paid off their debts, to own? Would they have had to sell everything to pay off the creditors? And how much additional GDP would have to be produced to pay off $277 trillion? Paying off such astronomical debt is not a reasonable goal. We must solve the problem in a new way.

Back to TOC

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Chapter 10

Four Theories of Government

In this chapter we examine four theories of government, Conservative, Liberal, Radical and Cooperative.

The Federal Government's recognized and accepted role in the United States is to collect taxes from citizens and organizations and spend those revenues to purchase goods and services and to subsidize individuals, corporations, and state and local governments. In these activities the Federal Government is performing a fiscal role. Before considering the recent history of the Federal Government's performance of its fiscal role, let us consider four theories of government.

The Conservative theory is represented by the expression "The government that governs least, governs best." According to this theory, government taxation and expenditure are a drain on the economy and need to be minimized. Conservatives see government actions as interfering with the free operation of the market which operates like an invisible hand to bring about naturally the best allocation of resources to alternative uses. Unsaid, it is Hamilton’s theory that the rich and well born are better managers of things than democratically elected representatives.

Conservatives attack government programs as making people dependent on the government. Better to let people suffer through their problems. This will lead them to find solutions eventually - to their own long term benefit as well as that of the society at large. From the Conservative perspective, increases in Government fiscal operations are a sign of government failure.

The Liberal theory favors government intervention in cases of demonstrable need. For Liberals, government must step in where market forces have failed to perform their adjustment function. When the country did not automatically rise out of the General Depression of the

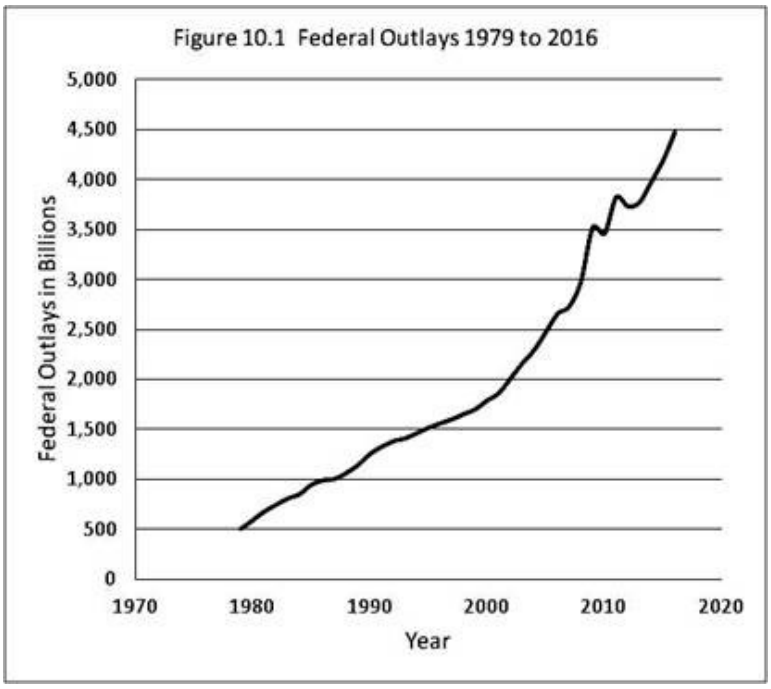
1930's, it was Liberals who urged government deficit spending. Today, it is Liberals who advocate increased Social Security coverage, Medicare, government aid to education, government health insurance, and many other such programs. For Liberals, increases in government fiscal operations are a sign that the government is doing what circumstances require, stepping in where the market fails.

The Radical theory is that poverty and related social problems are caused by capitalism. It says that private ownership of the means of production allows individuals and corporations to become enormously wealthy while other individuals and corporations are driven into poverty and bankruptcy. For Radicals, increases in government fiscal operations are a sign of the growing need for government to take control of the economy. Radicals argue that all the means of production should be nationalized, taken out of the hands of private owners, in order to establish a trouble-free economy.

The Cooperative theory says that relations among people, organizations and societies should be mutually supportive and helpful. In a Cooperative system the government's role is to make decisions that make people more autonomous, more able to deal effectively and efficiently with their own affairs. Every decision made by a Cooperative government should solve more problems than it creates for a net gain in the efficiency of government. As time passes, the government should find it necessary to make fewer and fewer decisions. Reversing the Conservative dictum, the Cooperative theory says, "The government that governs well, will govern less."

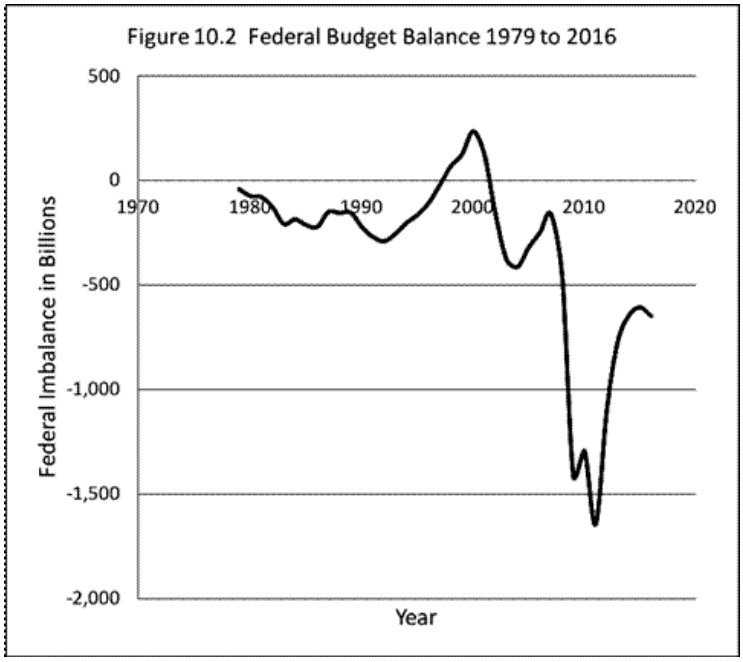
From the Cooperative perspective, an increase in government fiscal operations is a sign that government efforts to solve problems are not getting to the root of the problem.

Regardless of which perspective you favor, for all of them an increase in government fiscal operations is a sign of failure. For the Conservative, it is destructive of free market forces; for the Liberal it is a sign of need; for the Radical it is a sign of the break-down of capitalism; for the Cooperative, it is a sign of inefficient decisions. Although their reasons differ, all four theories regard increased government expenditures as a sign of trouble. The evidence of increased Federal outlays supports all four theories that something is seriously wrong (Figure 10.1).



From outlays of $504 billion in 1979, the President's office projects outlays of $4.5 trillion by 2016. Federal participation in the economy has clearly mushroomed and is projected to continue mushrooming.

Federal budgets are out of balance by trillions of dollars (Figure 10.2).



All presidents since World War II predicted eventual surpluses only to find that they did not occur.

Why has the Federal Government allowed itself to become stuck in such a financial quagmire? The most popular explanation questions the integrity and intelligence of our elected representatives. It implies that if we had men and women made of finer stuff as our lawmakers, this situation would have been avoided. I find it more productive to assume that our legislators are doing as good a job as they can, given their theories of the government's role and the nature of money, debt and compounding interest. The Conservative and Liberal theories are limited to seeing government's role as fiscal only, collecting and spending taxes. They do not include the monetary role of providing the economy with a debt and interest free and defined money supply. The closest that Conservatives and Liberals come to understanding that government has a monetary role is leaving it to the Federal Reserve. How the FED performs its monetary role we consider next.

The Federal Reserve System

Critics of the Federal Reserve usually see its founding as the start of the bankers government of the nation. In light of the idea that two, not one, governments were established in 1789 as noted in Chapter 1, the establishment of the Federal Reserve consolidated that control in such a way that private banks could coordinate their control. I intend no blame here. Bankers do what they are expected to do; protect the money people deposit with them and make enough money to pay utilities and other operating expenses, enough to pay interest to depositors and dividends to investors and some left over for profit to build equity. In the short run, over a twenty or thirty year period, everything appears to be working fine. Over a century or two … it's a Big Bang of the economic world with an ever expanding unequal income distribution. The blame is due the math, not the mathematician.

The Federal Reserve Act was signed into law on December 23, 1913 by President Woodrow Wilson to create a central banking system called The Federal Reserve System. This System is an association of the privately owned commercial banks in the United States including all national banks and such State banks and trust companies as have been admitted to the system by the FED Board of Governors. Supervision of the system is the responsibility of the Board of Governors, a group composed of seven members appointed by the President with the advice and consent of the Senate. The Board of Governors has its offices in Washington, D.C. In addition to the Board of Governors, the system consists of 12 regional Federal Reserve Banks and their 24 branches, the Federal Open Market Committee, the Federal Advisory Council, and the member banks.

In contrast to the fiscal role of the Federal Government, the role of the Federal Reserve System is monetary. It conducts this role by: 1) processing checks, thus acting as a clearing house for the checks written against banks around the country; 2) deciding "reserve" requirements for member banks; 3) buying and selling securities in the open market through its Federal Open Market Committee, and 4) supervising member banks.

The first and fourth functions of the Federal Reserve System are of great importance in the day-to-day operation of the banking system. The processing of checks has become a gargantuan operation, made possible only by electronic scanning devices and high speed computers. The FED performs this role by working seven days a week, 24 hours a day. Supervising member banks involves receiving fiscal condition reports periodically from member banks and deciding on admissions, terminations, and mergers by member banks. These two essential functions are of less interest with respect to debt and inflation than the other two.

The functions of setting "reserve" requirements and interest rates and the buying and selling of securities in the open market are mechanisms to meet varying demands for credit, which from the borrower's perspective is debt. In other words, the FED was designed so that more debt could be created (See *The Federal Reserve System: Purposes and Functions*, 1961, p. 4). The claims of creditors keep growing automatically by contract and out of sight in private bank accounts by compounding interest, so more debt had to be created to validate those claims. The FED was meant to meet that need by bringing all the resources of the private banking system into a common pool to be drawn from as needed by the member banks.

The preferred term is "credit," not "debt." Calling it the creation of more debt would make its problematic nature self-evident whereas calling it the creation of more credit implies that the FED has money to lend. The same kind of misleading nomenclature is produced by calling the system the Federal Reserve, which implies that the system has money in reserve.

Cash flow crises have been endemic since 1790. Debt and its corresponding claims were growing exponentially by compounding interest, so the cash flow crises were becoming exponentially more severe. The Panic of 1907 is an example. The picture shows a swarm of people during the Panic of 1907 on Wall Street outside Federal Hall with George Washington's statue in front of it.

I wonder if they knew that it was in that very building that our debt based money supply was established in 1790 and that their panic was a direct effect of Hamilton's Funding Plan and the imperative that our debt "grow to an extent we dare not thing of." The Panic of 1907 led Congress to establish the National Monetary Commission to determine what should be done. The Federal Reserve System was the result.

The FED uses three mechanisms to influence the creation of debt: 1) setting "reserve" requirements, 2) buying and selling securities on the open market through the Federal Open Market Committee and 3) adjusting the interest rate it charges its member banks.

First, the Board of Governors sets "reserve" requirements. Each bank that is a member of the Federal Reserve System must keep a specified percentage of its funds in reserve against its deposit liabilities.

Reserve Requirements

> Reserve requirements are the amount of funds that a depository institution must hold in reserve against specified deposit liabilities. Within limits specified by law, the Board of Governors has sole authority over changes in reserve requirements. Depository institutions must hold reserves in the form of vault cash or deposits with Federal Reserve.

It sounds good. A reserve is that portion of a bank's deposits that it must not loan out. That makes sense. If you have made a deposit into a bank, you want to be able to withdraw it any

time you want. Usually you don't take it all out. You just want the bank to have enough money on hand to cash your check. The definition of reserves above says that the bank is doing the right thing in having reserves.

Table 10.1 downloaded from the Federal Reserve web site shows reserve requirements as of December 29, 2011.

Table 10.1 FED Reserve Requirements Dec. 29, 2011

Net transaction accounts	% of liabilities	Effective date
$0 to $11.5 million[2]	0	12-29-11
More than $11.5 mil. to $71.0 mil.	3	12-29-11
More than $71.0 million	10	12-29-11
Nonpersonal time deposits	0	12-27-90
Eurocurrency liabilities	0	12-27-90

Three categories of net transaction accounts have zero required reserves. What that says to me is that the FED is encouraging banks to make all the loans they can.

Reserve requirements have a multiplier effect on the debt money supply. I explained the process earlier. Here, again, is how it works. You open a bank checking account at your local bank. You deposit your paycheck of $1,000 into your new account. The bank clerk records it in the bank's computer. You leave the bank with a check book that you will use to make purchases. Sorry, how old school. You leave the bank with a plastic card encoded with your account number and your secret personal identification number, PIN, or password. That's better, more 21st century.

Another customer comes in and wants to take out a loan from the same bank. The FED tells the bank to keep a 10 percent reserve of its transaction accounts – a checking account being one. The bank can lend only $900 to the new customer. The bank opens an account for the new customer of $900. The bank has $100 in reserve.

The new customer has a checking account equal to $900. Where did that money come from? It was based on your checking account balance of $1,000. Did the bank lend your money to the new customer? No. The bank created the account and the "money" in it. The bank created $900 worth of new debt as money.

Why would the bank do that?

The bank will collect interest on that new loan and the borrower is still obligated to repay the $900 principal. The loan money will enter the economy as the borrower uses it, so goods and services will change hands to everyone's benefit.

The process does not stop there. The new debt to the bank of $900 exists in this bank's computer as a deposit. As the borrower draws down that account to buy goods and services, the people who sell those goods and services will deposit those receipts into their accounts in the same or other banks. The banking system can lend 90 percent of that money, $810 to another new customer. That new money creates a new deposit of $810, which can be the basis for another loan of 90 percent of $810, namely, $729. Thus, a deposit of $1000 with a 10 percent reserve rate can justify new loans equal to deposits divided by 1/.1 = 10. A deposit of $1,000 can support $10,000 in new debt. The economics textbook I am looking at explains the process as The Link from Reserves to Deposits (Taylor, 2007, *Economics*:584-585).

What does it mean when the reserve rate is zero? I can see no other meaning than that it is telling the banks that they can create as much new debt money as they can find people to borrow. Theoretically, the banks are authorized to create an unlimited amount of new debt. This cannot happen however unless banks can find people willing to take on an unlimited amount of debt. To have reserve requirements at zero must mean that banks are finding it very difficult to find people willing to take on more debt.

Back in 1979, reserve requirements were much higher but already beginning to creep down according to the Federal Reserve Bulletin, May, 1979 (Table 10.2).

Table 10.2 Demand Deposit Required Reserves 1976

Demand Deposit (million dollars)	As of 2/13/75	As of 12/30/76
0 - 2	7 ½ %	7%
2 - 10	10	9 ½
10 - 100	12	11.¾
100 - 400	13	12 ¾
over 400	16 ½	13 ¼

From February 13, 1975 to December 30, 1976, the FED reduced demand deposit required reserves fractions of a percent, depending on the size of the demand deposit. This allowed banks to create more money in the form of interest bearing debt.

You may be asking, why authorize the creation of more debt? Why not tell banks to stop making more loans? The answer is the other face of debt. Banks are intermediaries. They need more debtors to keep up with the growing claims against them by savers and stockholders for

interest and dividends. If the bank stopped creating more debt, it would not be able to add to the claims of creditors. To stop the growth of debt the growth of claims must also stop.

According to the economic theory you find in economics textbooks, a second powerful tool of Federal Reserve policy is buying and selling securities on the open market through the Federal Open Market Committee. This Committee, consisting of the Board of Governors plus five representatives of the Reserve Banks elected annually by the banks without Congressional involvement, can change the quantity of reserves available by buying or selling securities. When it buys securities, it puts Federal Reserve Notes or demand deposits into the economy which increases debt money available to serve as reserves for more credit/debt. When it sells securities it takes in Federal Reserve Notes and reduces the demand deposits in the economy. Thus, the FED can increase debt money in the economy by buying securities and decrease debt money in the economy by selling them.

Third and finally, the FED can influence credit-debt by adjusting the interest rate, called the discount rate, that it charges its member banks. When a member bank finds itself short of funds, it has the option of borrowing from the Federal Reserve Bank. To control such borrowing, the FED charges more or less interest, depending upon whether the policy is to discourage or encourage such borrowing. According to the May, 1979 Federal Reserve Bulletin, the discount rate charged to member banks was 9 ½ percent as of 11/78, up from a rate of 5 ½ percent as of December, 1970. In an effort to curb inflation, the FED raised interest rates to record levels. Thirty four years later, on January 26, 2012, the FED lowered the discount rate to zero to one quarter of one percent, again, a sign that the FED is encouraging more debt.

The monetary role of the Federal Reserve System may be summarized as the role of supplying the system with what it sees as credit but which the economy receives as debt. This debt puts more lending and investing authority in the hands of bankers who dispense it among their customers as more debt money. This role is similar to the fire fighting role of the Federal Government. The Federal Reserve is the water reservoir controlling the supply. As debts have risen, the Federal Reserve has authorized the creation of more debt. Had the FED not done so, cash flow crises would have been worse. The Federal Reserve has done its job successfully, if one regards that job as providing a mechanism for expanding the debt money supply to keep up with the growing claims of depositors and investors.

Two basic problems, however, have undermined these rescue operations. First, all new monies created by the Federal Reserve enter the system as debts, debts that carry interest charges. Consequently, the more debt money the FED puts out, the more debt money that will be required to repay those debts because the repayment of the debt must include the additional interest cost. If the FED authorizes X number of new monies, it obligates debtors to repay X times (1 + r), where "r" is the interest rate, our familiar compound interest formula. The situation is similar to using water that is slightly flammable to fight a fire. While it may mistakenly be seen as subduing the flames somewhat, it actually fuels them in the long run to burn higher. The flammable portion of money creation is the rate of interest.

The Federal Reserve System is modeled after the Bank of England. The Bank of England was also Alexander Hamilton's model for the Bank of New York and the First Bank of the United States. The Bank of England was established as a profit-making stock corporation under a Royal charter in 1694. Purchasers of stock were entitled to receive interest commensurate with their investments. Alexander Hamilton was impressed with this arrangement as a way of tying the welfare of the wealthy to the welfare of the new nation. If the wealthy owned the stock in private banks including the Bank of the United States and therefore were benefiting financially from its success, they would remain loyal to the nation and be able to control the economy. The FED is run by bankers. Banking in the United States is a business run for profit. People buy stock in a bank and are paid dividends obtained from interest earnings. It is this arrangement that tells us why debt must lead to more debt.

Neither the Federal government nor the FED has been successful in solving the debt problem. The Federal Government is far beyond bankruptcy and still the problems mount. Congress is deluged with new and more demands for assistance. New York City and Cleveland turned to the Federal Government when they faced default in 1975, when the Federal Government had to raise its own statutory debt limit to meet its own payroll (November 15, 1975).

Under the current system, the Federal Reserve System is the most important rescue agency in the country. It has the means to expand the debt money supply, and has used them repeatedly in meeting escalating debts and inflation. Unfortunately, the mechanisms have self-defeating features - repayment of money created as loans necessarily involves the creation of more debt in order to cover interest, and raising interest rates in an effort to curb inflation is itself inflationary.

The impression left by these efforts is of agencies pursuing policies that make little sense, if for no other reason than that they are not working. The more they are pursued, the more debt grows and the worse cash flow problems become. One is reminded of the medieval practice of bleeding patients in an effort to restore them to good health. The more that patients were bled, the weaker they became, so the more they were bled. The more "pressure," "austerity," and "tight" money policies we follow, the worse the economy becomes; and the worse the economy becomes, the more we hear cries for more restraint and more austerity. We are told to "tighten our belts" while the debt trajectory demands more debt.

Imagine if you supplied blood to hospitals under the same conditions as money is now supplied to the economy. You would require a percent of the blood to be returned periodically, which would require hospitals to rent it back, raising their blood debt to you, plus hospitals would need to rent more blood for new patients. Since blood is vital, your blood profits would seem endless. Year after year, hospitals' blood debt would increase and you and your heirs would grow ever richer.

The Federal Reserve is transfusing the patient without stopping the bleeding. Pumping more debt into the system seems to be the only option. Our money supply is like renting blood for the body. It cannot be returned without killing the patient but a portion must be returned to pay the rent. The only treatment is another larger transfusion. If James Jackson were here today, he would be saying, I told you so.

Money is modern government. Mayer Amschel Rothschild is reputed to have said in 1790, "Let me issue and control the money supply of a nation, and I care not who makes its laws." I have not found a source for that statement, but it rings true whether or not he said it. It was in 1790 that Alexander Hamilton led the establishment of two governments in 1790, a permanent government by the "rich and well born" by their being the only source of paper money for the new nation, and a so far subordinate elected government under the Constitution by limiting its money creation to coin.

The problem is reality. The real economy has physical limits. It cannot grow forever. Resources are limited. We see that more clearly now than in the past. Donella Meadows etc. in their 30 year update, *Limits to Growth: The 30-Year Update* (pp. 176-7) say that we may already be in a condition of overshoot. They define overshoot as a condition in which the response

comes too late to stop a process in time to avoid catastrophe. Debt has reached the condition of overshoot.

Ideologically, our problem is "capitalism." What we know today as "capitalism" is money capitalism. All that matters with money capitalism is making money, the more the better. What is produced does not matter. Money capitalism is biased. It favors those with money. The bias is so obvious that money capitalists avoid the word “capitalist.” Instead they use the words “freedom,” “free enterprise” and “the market” because these words have positive connotations. Creditors are money capitalists. They want their money to make more money. Look at their claims, the counterpart of debts, for the measure of their success. $70 trillion of interest bearing debt is $70 trillion in growing claims, which is worthwhile to them, very worthwhile.

We need to reclaim the word "capital" to mean real capital. A cow is real capital. The money to buy a cow is a claim to real capital, not real capital itself. Any good that serves a human need is real capital. It is capital when we need not produce it immediately in order to continue to live. Real capital gives us free time to do other things. Real capital includes all the goods that increase real security against hunger, illness and premature death. The clothes on your back is real capital. It is not the size of the capital that makes it real capital; it is its function - providing us with already available goods and services - that make it real capital. If you think that clothing is not real capital, try to imagine how workers could build a factory - clearly real capital - if they had no clothes to wear to work - no shoes, no hardhats, no gloves. Real capitalism as opposed to money capitalism is genuinely conservative, right down to shoes and socks, hammers and nails. Money capitalism has claimed the word "conservative," but a close examination of its effects will show that it is wasteful of everything, from raw materials, to finished products to the people who are the real capital of nations.

In a society based on real capitalism, the government would be originating money, not private banks. The fiscal and monetary roles would be united under the Federal government. The two governments set up Alexander Hamilton and the First Congress would be united with the banking government subordinated to the Constitutional government. That is one necessary element of the solution to the growing American Iceberg of debt. Then taxpayers would gain the seigniorage.

Seigniorage is the difference between the cost of printing money and its face value. It costs about three cents to print one piece of dollar currency. That cost is the same whether the bill is a

one, a five, a twenty, $100, or more. Seigniorage on $100 is $99.97. Whoever originates money gets the seigniorage. When the government does it, all taxpayers benefit. When the Federal Reserve does it, the owners of the banks benefit.

The Federal Bureau of Engraving and Printing prints United States currency. It sells those bills at cost to the Federal Reserve, which lends it back to the Federal government. In addition, owners of the banks that belong to the Federal Reserve System by law collect six percent dividends on their Federal Reserve bank stock each year.

Let the Federal government *spend* new debt-free and interest-free money into circulation. The best way would be to pay people to produce goods and services that promote the general welfare. That money would become a permanent money supply circulating debt free and interest free. The Federal Reserve can and should be brought within the Federal government and be operated not-for-profit.

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Chapter 11

The American Dream

This chapter is about vision. It is about how life should be, how we want it to be. We review some of the ideals that have shaped the hopes of the many people who came here in the past and how our future can still fulfill the American Dream.

In 1979, it was difficult to remember the classic American Dream. Circumstances seemed to be turning that dream into a nightmare. The Chicago public schools had no money to meet two payrolls, December 21, 1979 and Jan. 4, 1980. Chrysler Corporation had to be bailed out by Federal Government loan guarantees. Town, city, and state governments were forced to cut back essential services; universities and schools across the land were cutting back their programs; labor unions and professions were striking for ever higher wages everywhere, with no indication that they would ever be satisfied. Internationally, the dollar was losing value. The United States was viewed as callously indifferent to the plight of other nations, as impotent and morally bankrupt. Worldwide, capitalism was synonymous with exploitation except in the eyes of the very small minority of capitalists who benefited from it.

We Hold These Truths . . .

The United States is located on a continent that was only sparsely populated by human beings at the time of colonization. When Columbus landed in the New World, perhaps six million natives occupied the vast reaches of the North American continent. The land was for the most part untouched by human hands. Having few people, the natural resources of the area grew. Wild life flourished; the forests of oak, maple, pine, elm, and walnut grew unimpeded by the woodman's ax or the developer's bulldozer. Game filled the lakes and streams and the broad grasslands. Unmolested, the soil became the richest in the world. Vast deposits of coal, oil, and natural gas cumulated beneath the surface. The land flowed abundantly with natural riches of milk and honey – a Biblical Land of Goshen.

Meanwhile, Europe was industrializing and urbanizing. Hundreds of thousands of persons moved into the cities as cottage industry gave way to factory production. Inequalities of wealth and power grew increasingly oppressive as the great fortunes of European investment houses grew from interest bearing loans and profits from trade throughout Europe and the East.

As production reached new heights, however, the condition of the commoners worsened. Child labor, subsistence wages, and unsanitary and overcrowded shops and tenements caused sufferings suggested by such reports as Charles Booth's classic, *Life and Labour of the People in London*, 1903, and Karl Polanyi's *The Great Transformation*, 1957.

Dissatisfied with conditions in England, Ireland, and elsewhere, our brave and many desperate ancestors left their homelands and risked the voyage across the wide Atlantic to seek a new life in America. Throughout the 17th, 18th, and 19th Centuries, they came by the millions, inspired by a chance to start over, to begin anew. America was seen as a chance for the human race to try again from a fresh start to build the good society. Unhampered by the long established traditions of Europe, Americans hoped and worked to build a society whose hallmarks would be Liberty, Equality, Democracy, and Justice for All. Not all who came hoped for Equality and Democracy for all did not share that aspect of the American Dream, but the dream of opportunity for a better life was cherished by all.

It was the American Dream that Thomas Jefferson articulated in the Declaration of Independence.

> We hold these truths to be self-evident, that all men are created equal and are endowed by their Creator with certain inalienable rights such as Life, Liberty, and the pursuit of Happiness.

The Preamble to the Constitution of the United States repeats the essence of the Dream.

> We, the People of the United States, in Order to form a more perfect Union, establish Justice, insure domestic Tranquility, provide for the common defense, promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity, do ordain and establish this Constitution for the United States of America.

This statement clearly acknowledges the interdependence of justice, unity, tranquility, general well-being, and liberty. The close connection between political freedom and economic security is spelled out in the following Annual Message to Congress by President Franklin Delano Roosevelt, January 11, 1944.

> We have come to a clear realization that true individual freedom cannot exist without economic security and independence. "Necessitous men are not free men." People who are hungry and out of a job are the stuff of which dictatorships are made.
>
> In our day these economic truths have become accepted as self-evident. We have accepted, so to speak, a second Bill of Rights under which a new basis of security and prosperity can be established for all, regardless of station, race or creed.
>
> Among these are:
>
> The right to a useful and remunerative job in the industries or shops or farms or mines of the nation;
>
> The right to earn enough to provide adequate food and clothing and recreation;
>
> The right of every farmer to raise and sell his products at a return which will give him and his family a decent living;
>
> The right of every business man, large and small, to trade in an atmosphere of freedom from unfair competition and domination by monopolies at home or abroad;

> The right of every family to a decent home;
>
> The right to adequate medical care and the opportunity to achieve and enjoy good health;
>
> The right to adequate protection from the economic fears of old age, sickness, accident and unemployment;
>
> The right to a good education.
>
> All of these rights spell security. And after this war is won we must be prepared to move forward, in the implementation of these rights, to new goals of human happiness and well-being.
>
> America's rightful place in the world depends in large part upon how fully these and similar rights have been carried into practice for our citizens. For unless there is security here at home, there cannot be lasting peace in the world.

I would have to say that Franklin Roosevelt was a real capitalist, not a money one. It is not money that makes a good life; it is adequate food, clothing and recreation, a decent wage, decent housing, adequate medical care and security throughout life including unemployment, accident, sickness and old age. We have to wonder what would be Roosevelt's assessment of the chances for the survival of American democracy and freedom, given increased debt and inequality since 1944.

Involuntary unemployment among some of our people is as high as 40 percent. Even people with jobs are finding it increasingly difficult to buy adequate food and fuel for their homes; national savings are at an all-time low; more and more people are finding the cost of housing out of reach; medical costs have skyrocketed for everyone; inflation has destroyed the hope for economic security in old age for many; and higher education needed for membership in the middle class is becoming a right only for the wealthy.

Roosevelt suggested that economic security and independence were necessary to preserve political democracy. In this contention, he is supported by the study of past democracies by Willis Ballinger (1946). Ballinger identified eight societies that had developed some degree of democracy including the ancient Greek city-states and the Roman Empire. Ballinger found that democracy emerged and flourished where individuals were able to establish their own economic

independence. In other words, it was personal economic independence that accounted for the emergence of democracy.

An example of Ballinger's thesis was the circumstance under which King John of England signed the Magna Carta in 1215. Under feudalism, the monarchies were paramount. That power was effectively counter-balanced by leading merchants and barons of England when they had become economically independent of the king. Then they successfully extracted from King John a guarantee of political participation through the Magna Carta that included a provision that the council of 25 barons could declare war on the king if he violated the agreement.

The "capitalist democracy" that Ballinger studied, however, had a basic weakness common to all money capitalist economies, the progressive concentration of wealth. History showed Ballinger that only as long as wealth was equitably distributed did democracy survive. As some people became disproportionately wealthy, poverty and discontent grew among the masses who eventually voted power to a dictator in the hope of obtaining relief. For capitalistic democracy to survive, according to Ballinger's findings, it is essential that wealth remain equitably distributed.

If Ballinger's thesis has any validity, American democracy was sorely threatened in the 1930's. Senator Huey Long on the floor of the United States Senate described the inequality.

> I have the statistics here. Here is how the income is being distributed. In 1929 there were 504 super millionaires at the top of the heap who had an aggregate net income of $1,185,000,000. That is 504 people. These 504 persons could have purchased with their net income the entire wheat and cotton crops of 1930. In other words, there were 504 men who made more money in that year than all the wheat farmers and all the cotton farmers in this great land of democracy. Out of the chief crops, 1,300,000 wheat farmers and 1,032,000 cotton farmers -- 2,300,000 farmers raising wheat and cotton -- made less than those 504 men.
>
> From the official statistics we find that $538,664,187 was the net income of the 85 largest income tax payers in 1929. The 421,000 workers in the clothing industry received in wages $475,000,000. Those 85 men could have paid the entire wages of the clothing industry of the Nation and have had $100,000,000 left. Yes; there has got to be relief from this condition (*Congressional Record*, 1933; 4673-4675).

This was a time when many people joined the American Communist Party motivated by the perception that capitalism was out of control and destroying America.

According to economist Paul Samuelson in his 1976 economics textbook, annual income in the United States was so unequally distributed that if a pyramid were made of children's blocks to portray that distribution, the top of the pyramid would be far higher than the Eiffel Tower and most of us would be within one yard of the ground, at or below $18,000 annual income. That was in 1976. Today the top of the pyramid is much higher and getting higher every day.

I do not see how democracy can survive where incomes are growing more and more unequal, a condition that has been described and illustrated above with the mathematical truth that percents cause incomes to become more unequal by the same percent. It is ironic that the greatest threat to the survival of democracy would be the error of basing economic decisions on percents. But facts are facts and truths are truths regardless of what we would like to believe.

While we worry about the advances of socialism and communism in foreign lands, we undermine our own strength because we insist on using percents that accelerate inequality, the great enemy of Life, Liberty, and the General Welfare. The price of liberty is indeed eternal vigilance, not only of our borders to guard against physical invasion by foreign troops, but also to seemingly so small a matter as how we calculate wage and salary increases. What does it profit us to gain secure borders at home and military security abroad if we lose our economic and political freedom here at home?

The New Discipline

When a seller measures out the quantity of some commodity to sell, it is in the seller's self-interest to give up as little quantity of that commodity as possible. When a grocer weighs meat for sale, it is unquestionably in the grocer's self-interest to give 15, 14, or 13 ounces per pound rather than 16 ounces. On the other hand, it is in the self-interest of the buyer to receive extra ounces of meat.

What is it that keeps both of them honest and ensures accurate weight?

It is the visible instrument that measures weight. The scale keeps them honest. The grocer knows that the customer can look at the numbers on the scale and see that the weight is short. State bureaus of weight and measure certify the accuracy of such devices. Measuring instruments discipline both buyer and seller to take only exactly what they are entitled to, no more and no less.

Money is defective today because its value is defined by no recognized "scale," stable, visible, standardized and universally accepted. Prices are subjective, and economists legitimize that subjectivity. The consequence is predictable; prices vary subjectively by personality and motives. Sellers can size up their quarry to decide how much to charge them. So we have expressions like, “charge all the traffic will bear” and “*caveat emptor*,” meaning buyer beware.

Employers and employees fuss over wages. If a seller can charge more, he charges it; if a worker can get more money per hour, he takes it; if a banker can raise the interest rate, he raises it; if a landlord can raise the rent, he raises it. Nothing constrains such increases except bargaining skills and protests. Such protests, however, have no potency. Sellers and employers can usually ignore them. People may be outraged by the most recent rise in utility rates. The utility company can simply wait out the storm. Ordinary people generally lack the resources and energy to organize collectively every time they feel cheated by new price increases.

Oil companies, speculators and OPEC cartels can raise the price of gasoline without fear of any effective opposition provided only that they make the increases gradually, a few pennies at a time. There is no objective standard of real price to which people can turn to determine the fair price.

The landlord can charge $100 per month, $200 per month, $300 per month, $400 per month, $500 per month, $600 per month, $700 per month without the need for any justification. The tenant's choice, because there is no unit to measure the necessity or fairness of the asking price - Take it or leave it.

The powerful executive can demand a salary of $500,000, $1,000,000, $20,000,000 or $30,000,000. Who can say that he or she is not “worth it"? No one. The only constraint is the total supply of dollars that can become available. There can be no independent judgment made that person X is overpaid, since there is no objective yardstick to serve as a standard of what pay is fair. All that can be said is that the salaries reflect "market forces," unnamed people and factors.

The market of supply and demand is truthfully acknowledged to be a "vast system of trial and error." Trial and error! Do you suppose that men could have been landed on the moon by trial and error? How would you have liked to be an astronaut hurled into space on one of the trials? Can a television set be constructed effectively by trial and error? Can a railroad bridge be made safe by trial and error? Can a dentist extract teeth by trial and error? Can I hope to spell the words on this page accurately by trial and error? Wages and salaries and all other prices, according to official economic doctrine, are determined by trial and error. Therefore, it should come as no great surprise that they contain errors. Unfortunately, there is no way of sorting the error from the non-error.

The captain of the Titanic was thought to be at fault in the Titanic disaster because he drove the ship into the ice track at too great a speed. We can say that he showed a tragic lack of discipline. Instead of using the proper caution, in his excitement to arrive early in New York harbor, he threw caution to the winds "taking a chance" - with the result that 1,513 people died needlessly. Similarly the wreckage and deaths on the cruise ship Costa Concordia in 2012 seem to have been caused by errors in judgment and a lack of discipline by the captain.

Economic injustice has similar disastrous effects.

The interest rate is driven upward on the pretext of fighting inflation and your family must pay $150,000 for housing instead of $50,000. The $100,000 "overcharge" might have been available to your family to meet a medical emergency, to pay for college for your children, to build on an extra room for the comfort of another of your family members. Instead, the money is paid to the bank which in turn distributes it to bank depositors and stockholders. Your family fails to receive medical care, your children do not receive the education they were capable of benefiting from and that they now need to have a chance to be or remain in the Middle Class; the extra room is not built.

The Lykes Corporation borrowed money to purchase Youngstown Sheet and Tube. Interest on the debt cost the company $40,000,000 annually, swamping any plans to renovate the plant and it was closed. 5,000 workers were left unemployed, the basic economy of the city suffered a mortal blow.

When interest on Federal bonds rises, tens of billions more dollars of tax money are paid to banks and private investors, money that could have been used to build schools, highways, libraries and countless other life enriching goods and services for us and our families.

Socialists supply economic discipline by government control. Sellers are not permitted to make money at the expense of their fellow citizens because the government controls prices. The discipline, in other words, comes from a central authority. Americans object to such a means on the grounds that it diminishes individual freedom. What we have failed to see, however, is that something must exist to constrain the natural tendency for sellers to charge the highest prices the traffic will bear. Claiming that the market accomplishes this result is self-contradictory. A trial

and error process cannot be relied upon to yield the consistent accuracy essential to economic liberty and justice for all.

If we are to avoid the totalitarian solution to economic injustice, we must institute a money system that tells people on the money itself what it is worth in terms of an instrument that people can use to see for themselves that the value of the money and the value of the good or service match. The goal is price accuracy, objectively verifiable so that we can be free and fair to each other.

Reality disciplines us all. When the captain of the Titanic failed to discipline himself, reality disciplined him, fatally. After the Titanic disaster new rules for ocean safety were established; a coast guard patrol was set up, radio was made a requirement, and other ship captains, when tempted to ignore proper discipline no doubt remember the Titanic and the recent Costa Concordia disasters. It is unfortunate that disaster is necessary before people understand the need for proper discipline.

Reality will judge the American way, ultimately. We have failed to discipline our pricing behavior appropriately, so we are already suffering the natural consequences. Our country, and all the countries that have a similarly undefined or incorrectly defined money unit, have suffered the consequences our and their entire history. The world would survive the collapse of the American economy and other nations might learn from our tragic failure, but are we prepared to be just another of the colossal failures of history?

In the words of President Franklin Delano Roosevelt:

> If we do not allow a democratic government to do the things which need to be done, and if we hand down to our children a deteriorated nation, their legacy will be not a legacy of abundance or even a legacy of poverty amidst plenty, but a legacy of poverty amidst poverty (Address to American Retail Federation, Washington, D.C. May 22, 1939).

The Appropriate Measuring Instrument

Fortunately, the appropriate measuring instrument for money is close at hand; many people carry it strapped to their wrist - a watch. To save our ship from exponentially ever greater debt, inequality, and cash flow crises, we can adopt the clock as our money measuring instrument of economic price and the hour as our universally known, stable and reliable standard unit of measure. Calibrating all prices in work time will not in itself change those prices. It will simply

illuminate them. Then everyone will have the responsibility of deciding what to do about them – in true free market style that can lead to fair market prices.

I am not saying that we will adopt this instrument and unit of measure but I strongly believe that it is correct and recommend that we do. Our economic culture of trial and error has produced a corresponding structure of widely unequal incomes. The people who have benefited most from the present ambiguous form of money can be expected to be most opposed to the needed corrections, and many of them occupy the positions of power needed to introduce the money reformation. Exponentially increasing inequality has pushed them to the top of the distribution of wealth and power. Adopting an objectively observable, fair, stable and standard measure of economic price that would give definite fair and objective meaning to the incomes of such persons would clearly imply some of the "error" that past supply and demand market forces have generated and the need for appropriate adjustments.

There is some perverse comfort in realizing that the problems created by these exponentially increasing "errors" will worsen with each passing day. Sooner or later people will come to understand what is wrong. Whether or not this will occur in time to save this country from a legacy of poverty amidst poverty remains to be seen. No doubt, we are facing the greatest challenge to survival in our history. We can have Life, Liberty, and Happiness for all. We should not defeat ourselves by thinking that the "rich and well born" will not support a change to Hour Dollars. We are on this ship together. If it sinks, we will all suffer. Nor should we let our own immediate self-interest stop us from foreseeing, not only the growing storm as identified in previous chapters, but also the way out of the crisis. Therefore, let us continue.

Update 2009

Everywhere that I used the word "value" with money in the 1979 manuscript for *The American Iceberg*, today I would use the word "price." Money exists to represent price. When you are deciding whether or not to make a purchase, you consider price and value separately. The best buy has great value at a low price. The company that calls itself Best Buy is not declaring that it has the highest prices in town. It is declaring that it has the best value, valuable commodities at the lowest prices. When the grocery chain calls itself Shop 'n Save, it is declaring that it has lower prices for similar values than other grocery stores.

A healthy benefit of distinguishing price from value is its implication for what we understand by "Gross Domestic Product." Now GDP it taken to represent the total *value* of

goods and services produced in a year. The implication of GDP as value is that we should always and forever increase GDP, but that is unsustainable. What about resource depletion, colossal waste, and global warming? Separating price from value means that we can increase value while we decrease GDP. I think that GDP in the United States is already too high at $14.5 trillion in 2010. It is poor countries with very low GDP's that need to increase their GDP's. We in the United States need to identify what we no longer need to produce. We need to shift from wasteful products to better ones.

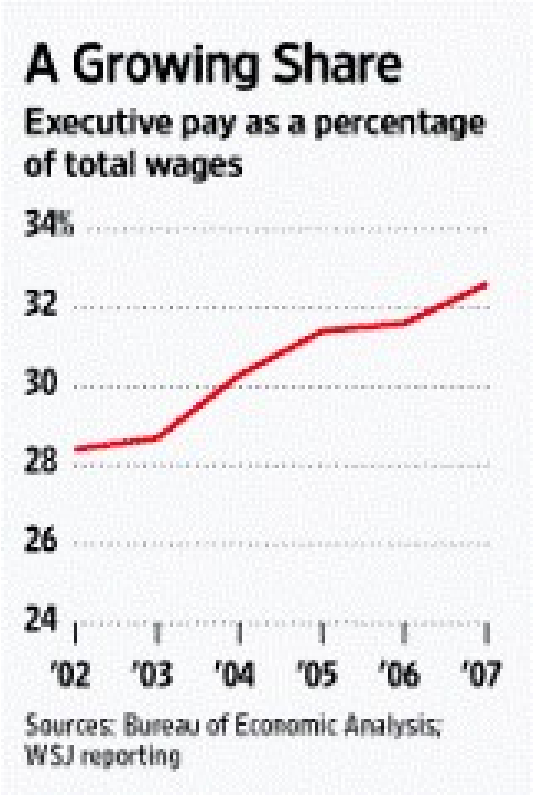
A simple healthy change would be to call GDP Gross Domestic *Price*. GDP is compiled by adding the prices of all the goods and services produced in a year. GDP is a summation of prices. The value of those products is an entirely different matter. Understanding GDP as Gross Domestic Price will encourage us to find ways to reduce it. More value at lower prices is better than less value at higher prices. We already want higher values at lower prices. This has happened with computers.

The first desktop that I bought in 1982 cost $3,000. It was an Apple IIe with 48k of RAM, no movement keys, an external floppy disk drive whose disks held 300k of memory, and an amber monitor. I was delighted to have it in place of my Olympia manual typewriter that I used to type the 1979 American Iceberg manuscript. The computer I have now has 2 gigabytes, that's billions, of RAM, two color monitors, access to the internet, an internal hard drive with 288 gigabytes, and an external hard drive with 465 gigabytes. It cost $600. I now have a computer with much more value at a much lower price than the one I bought in 1982. We all want the highest value at the lowest price – otherwise, we would never want to shop at a sale, certainly not at a yard sale.

Huey Long quoted figures for 1929 that 504 men had more income than 2,300,000 farmers. Here is the situation in 2009 as posted on alternet.org.

Executives receive one third of all pay in the U.S.

Posted by Pat Garofalo, Think Progress at 5:00 AM on July 22, 2009.



Executives and other highly compensated employees now receive more than one-third of all pay in the U.S., according to a Wall Street Journal analysis of Social Security Administration data — without counting billions of dollars more in pay that remains off federal radar screens that measure wages and salaries. Highly paid employees received nearly $2.1 trillion of the $6.4 trillion in total U.S. pay in 2007, the latest figures available. The compensation numbers don't include incentive stock options, unexercised stock options, unvested restricted stock units and certain benefits.

Between 1979 and 2006, the inflation-adjusted after-tax income of the richest 1 percent of households increased by 256 percent, compared to 21 percent for families in the middle income quintile. Despite these numbers, Democratic leaders, "bowing to unease among lawmakers and governors in their own party," are reconsidering the House Ways and Means committee's proposal to implement a surtax on the richest one percent of Americans as a way of financing a portion of health care reform.

Inequality in 2012 is much greater than it was in 1979, leaving not much left for the "99 percent" as the Occupy Wall Street movement has proclaimed. The debt inequality inflation problem, though not yet appreciated, started on Wall Street in 1789 as we have seen with the First Congress in Federal Hall at 26 Wall Street with Treasury Secretary Alexander Hamilton, founder of the Bank of New York at 48 Wall Street. We can correct the design defect in our money supply. How is the subject of the next chapter.

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SMALL CHANGE

It used to be
Save your pennies
And watch your dollars grow.

Now it's
Save your dollars
And watch your twenties go.

RB 1979

Back to TOC

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Chapter 12

What Now?

I am a doctor, not a doctor of the human body; I am a sociologist, a doctor of human society. I am not an economist. Economists are specialists, but specialists with a serious handicap; economists have no general perspective from which their partial view is derived. Their theory is exclusively economic. Other aspects of society are treated as externalities that interfere with the operation of free market forces of supply and demand. They are like physicians who specialize in heart problems but who know nothing about bones and brains. The advice of a physician with no knowledge of how their specialty related to the larger system of which it was a part would not be very trustworthy.

As a sociologist, I am a generalist, like a physician who is a general practitioner. I decided to become a sociologist when I took my first sociology course in the fall of 1958. So I have been

studying and doing sociology now for more than 50 years. The forecasts contained in the 1979 American Iceberg manuscript have been shown by history to have been correct, giving support to why you should take what I am recommending here with a good measure of confidence.

You were introduced in Chapter 6 to part of the general information chain theory of communication and cooperation that led me to realize that money was a medium of communication. In that chapter, we compared speech, writing and money as a progression from a medium that communicated large volumes of information short distances, namely, speech, to a medium whose purpose is to communicate small volumes of information effectively and efficiently long information chain distances, namely, money.

Realizing that spoken and written messages communicate well to the extent that the words are defined and understood by everyone along the chain, it became obvious that money did not have a definition of its unit of measure and, therefore, cannot communicate accurately as it should. That led me to watches and work time as the missing measuring instruments and unit of measure. Adoption of the Hour I see as completing the evolution of money, now in a state of arrested development.

When people are seriously ill and they seek the advice of a physician, they are sometimes told what they do not want to hear, both in terms of the physician's diagnosis and the prescribed treatment. However, most of us have come to understand that the physician's job is to tell us the truth about our illness and the truth about what we must do to become healthy again. So as I tell you what we must do, I ask you to get past any initial reaction like, "Oh, no! We can't do that!" This point is so important that I repeat it here: it is what we must do.

Let me be clear that we cannot solve the debt problem by continuing to do what we have done up to now. Someone once defined insanity as doing the same thing over and over again expecting a different result. I am going to tell you as clearly as I can what I think we must do now and anticipate what can happen a few years into the future to overcome the debt imperative that has built the American Iceberg. As with your physician, I am not asking you to suspend your own judgment. You should ask the why and how of every suggestion I make. Because I understand that you will be making your own judgment about what I recommend, I will tell you why I am recommending each action and the means to implement them.

Steps to Healthy Money and a Healthy Economy

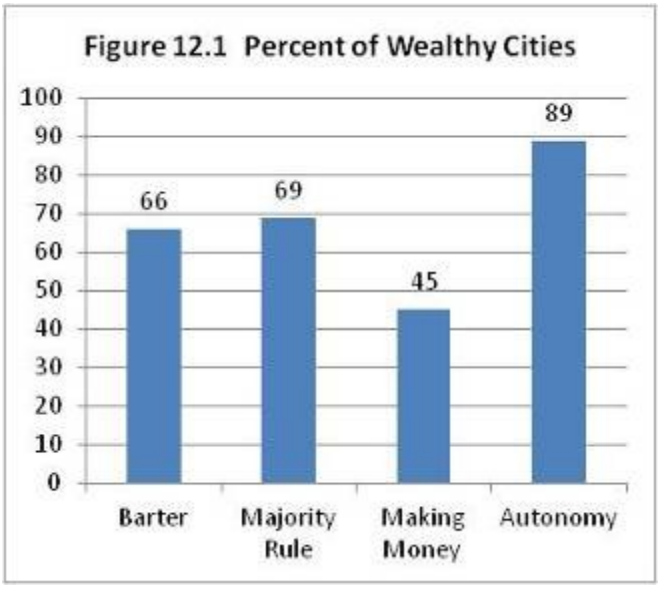
First, we convert our own prices to work time. Why? To diagnose any problem correctly, we must use accurate measuring instruments. A physician would not use an elastic ruler to measure a person's height, so why are we using money without a reliable definition of its value? So our first step must be to convert existing prices, including wages, salaries, rent, etc., into their work time equivalent. You can do this immediately for your own finances without permission from anyone or the passage of any law. Simply translate your own finances into hours by dividing the prices of what you buy or sell by the number of dollars you earn per hour. If you earn $18 per hour, a $3 loaf of bread costs you 17 percent of an hour ($3/$18), or 10 minutes of work (60 times .17). This conversion will put your finances into a form that will enable you to see your own economic situation in real terms.

Second, share the idea with your friends. Why? With a physician, it usually takes only the patient and sometimes another family member or friend to decide to take the medicine the physician prescribes. However, with the reforms required to solve the debt problem, we need the support of a lot of people like you in order to develop the political clout to convince the politicians and the vested interests who may want to maintain the status quo that these reforms are essential. You have everything to lose if we fail and much to gain when we succeed. So it is important for you to suggest to your friends that they convert their finances by dividing every price they pay and every price they charge by their wage per hour. If you have savings, divide them by the hourly wage you received when you saved that money. Do the same if you are on a fixed income. Use the wage per hour when you earned that income.

Network with your neighbors to let salesmen, clerks, proprietors, bankers, and others know that you think that prices should be set at labor time cost. Tell bankers that interest should be replaced by a fee for service. Express your rent in Hour terms and use that information when you negotiate rent with your landlord. If you are buying or selling a house, think of price in terms of the labor required to build and maintain the house. Avoid trying to "make money" on your house, because "making money" means that you pass on a greatly enlarged debt to some person like yourself, which just continues the escalation of debt. Encourage people to think of reselling their homes for less than they paid, to take account of the wear and tear from use of the homes. These and related policies would be best practiced by everyone, not just you and me. We need to get everyone to set accurate prices, so that a few who set fair prices are not taken

advantage of by those who do not. Our thinking in terms of fair prices needs to become public policy.

Third, play *Cooperation: The Wealth of Nations Game*. Why? It is a simulation. We use simulations to teach pilots to fly because it is safer than having them learn first in an actual airplane. We test automobile and other vehicle designs in wind tunnels to see how they perform under carefully controlled conditions. For the same reasons of safety and careful control, Bob Gill and I developed *Cooperation: The Wealth of Nations Game* with sociology students beginning in 1975. The game helped them to identify and compare the strengths and weaknesses of barter, socialism, and capitalism (money capitalism). From those simulations with student feedback from their experiences of each system, we were able to develop Autonomy (real capitalism), a system that combines the strengths and avoids the weaknesses of the other three. Playing by the rules of Autonomy, my students were able to produce more wealthy cities than they could under the rules of Barter, Majority Rule, or Making Money (Figure 12.1)



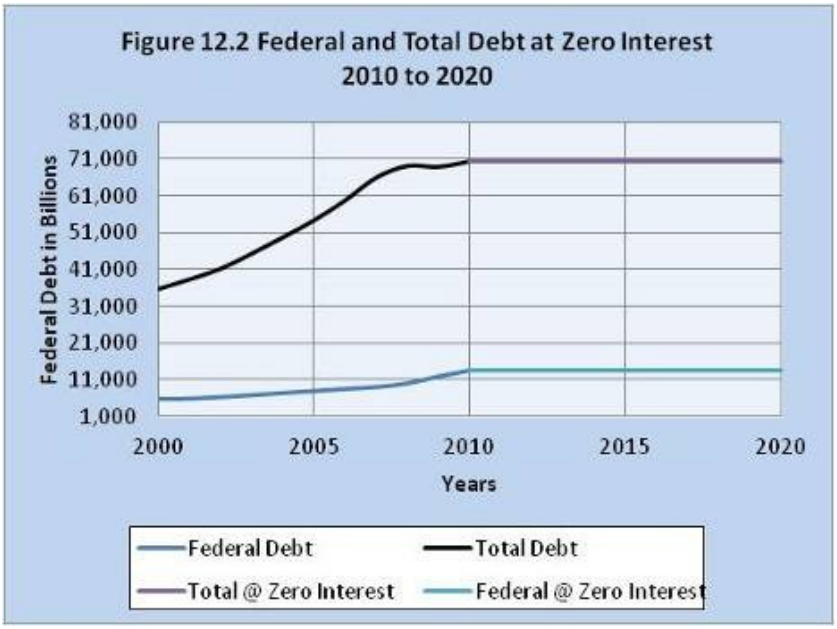
Cooperation: The Wealth of Nations Game is available both as a board game and as a computer game. You can download the computer version free from http://hourmoney.org or http://www.hourmoney.info/ How better to learn the value of what I am saying than to actually participate in a simulation of what it could be like with the system changes I am asking you to support.

The next three goals need to be pursued simultaneously. Why? Because they are interdependent, they can be pursued simultaneously.

Fourth, we need to persuade Congress to prohibit percentage compounding interest rate charges. Why? Compounding interest is not a miracle; it is a mirage, a mathematical equation that knows no bounds until it causes the universal calamity that Congressman James Jackson warned of in 1790. The physical world has limits; compound interest has none. The pen of history has made that perfectly clear.

Recently I explained the root of the debt problem to a gathering of senior adults with the recommendation that interest be reduced to zero. A retired teacher in the audience protested that she had worked hard for her savings and would not give up receiving interest on them. It reminded me of a remark by oceanographer and environmentalist Jacque Cousteau that our market values encourage "retail rationality and wholesale insanity." Decisions to let our savings earn compounding interest benefit us as individuals but you have seen from evidence presented in earlier chapters that they are adding up to mutually assured financial destruction.

I understand her reluctance to give up that interest. What she may not realize is that her principal is at risk. It is true that many seniors depend on interest to supplement their cost of living. Ending interest because of its unlimited compounding property requires that we rethink other policies as well, social security for example. We need to set up a national pension policy that gives all seniors security and a decent income in retirement. The immediate task is to stop total debt from exploding any further. To do that we must put an end to interest. If we do, total debt will stop requiring more growth (Figure 12.2).



The fuel driving debt growth is interest. Interest is the accelerator. We must take our foot off the accelerator. Doing so will stop total debt as well Federal debt from pressuring us to take on more debt insofar as that pressure is being caused by interest. The Federal Reserve has shown us the way by reducing what they charge banks to borrow from the FED to zero to ¼ of one percent until at least the end of 2014.

While Figure 12.2 shows total debt and Federal debt leveling off, we can expect other debts to not only stop growing but to begin to be paid down. Take for example, mortgage debt. Instead of large amounts of each monthly payment going to pay interest, with interest eliminated, those dollars would pay down principal of household debt. I gave you an example earlier in Chapter 5 where a $100,000 mortgage could be paid off in 14 years instead of 30 years with the bank receiving a total service fee for handling monthly payments of $6000 instead of $127,000 in interest, more than the total mortgage.

Fifth, we need bankers to change from charging their customers percents to charging them dollar service charges. Banks run for profit from interest have created the American Iceberg of debt to the point now where our debt is surpassing all possibility of growth in GDP to catch up with it. It is important that bankers understand the nature of the mathematical problem and realize that banks can run successfully on a not-for-profit cost basis. A cost basis would pay all overhead, wage, and salary expenses. A cost basis does not mean that banks lose money. It means that they get paid fairly for everything they do for us, no less and no more.

Sixth, we need our own and other national governments to adopt an hour of work as their base money unit. Why? Because everyone everywhere needs to be using the same correct unit of measure in order for money to communicate prices accurately across the width and breadth of the vast networks of cooperation in which we live and work in the modern world. The immediate focus for those of us in the United States must be Congress and the Federal Reserve. They are cooperating now and that needs to continue.

If you are not already, become politically active. Write to your Congressmen and women. This is still an important avenue of influence. Write many of them including those outside your own district or state. Write often. Ask candidates for public office to support Hour money. Let them know that your support for them depends upon their support for both Our money and Hour money; Our government issued money denominated in Hours.

As events worsen in the months ahead, do not be distracted by every crisis that comes along. Keep in mind that the general cause is two design defects in our money; it is based entirely on debt and has no definition of its value printed on it. In 1979 I wrote, "Understand that in the years ahead all the numbers in the economy will continue rising exponentially." Today I think debt growth has crashed against its ceiling, which means that bankruptcies will be epidemic. Resistance to more debt is strengthening. We are dealing with a problem whose long-standing cause has escaped notice, the decisions of the First Congress to base the money supply on debt and to define money in a now obsolete weight of gold and silver.

Fund the Economy

Hamilton did not fund the United States economy; he used its debt as what he called a *substitute* for money. Proper funding requires putting in place a debt-free and interest-free money supply. Compare funding the economy to supplying the human body with a proper blood supply. The average adult has 10 pints of blood in his or her body. That blood is not borrowed; it does not cost interest. In the same sense, a society needs a proper money supply.

I wish I could tell you how much money is the proper amount, but I do not know what it is. I know that we now have none. Worse, we owe $70 trillion – that's $70 million millions: $70,000,000 times $1,000,000. Simultaneously, some of us own that $70 trillion of debt. We are a nation of more than 100 million households divided and dividing further along a continuous distribution of unequal incomes. We can start the healing reunion process by replacing the debt money supply with a non-debt money supply. A debt iceberg of 222 years of compounding interest is sinking our ship.

If total debt were relatively small, we could simply buy the debt with new United States Notes denominated in Hour Dollars. This would replace unhealthy money, unhealthy because it demands on endless stream of new debt to sustain it, with healthy money that simply circulates facilitating the exchange of goods and services. Unfortunately, total debt is astronomical. So we need to proceed gradually, infusing healthy money in small amounts at a time until we see that the money supply is adequate. Inflation should not be an issue because the money will be denominated in Hours. Instead of prices rising, we can expect them to gravitate toward the actual work time price of all goods and services. Inflation in the past has always been because money had no unit to define its value. Hour money is what we need to end inflation and deflation.

Here is what I propose. Let Congress infuse United States Hour Dollars into the economy. They can be designated "Citizen Shares" to signify that they are owned and authorized by the real capital of the nation, its citizens. Owners of corporations hold shares to signify that they own them; similarly, citizen should own, not rent, the money supply of the nation. These Citizen Share Hour Dollars can be infused into the economy in three ways.

First, Congress can authorize the Treasury to send every registered voter $100 of new Citizen Share Hour Dollars per month for one year, with one Citizen Share defined as worth $50 per hour of skilled labor, a total of $1200. For the 150 million registered voters, that would come to a total of $180 billion. In this case, the recipients would decide by their purchases how to "invest" the money.

We could not do this if our economy already had an adequate money supply, but it has none now. We have an anemic patient, the United States, with no citizen owned base money supply. We need to and can safely infuse small amounts of healthy Citizen Share Hour money, like treating a patient with a desperately low blood supply, until its vital signs signal that the supply is adequate. At the end of the year, assess how that $180 billion infusion has affected economic conditions.

Second, have the Federal government begin paying people with United States Citizen Share Hour Dollars to produce goods and provide services that promote the general welfare. These would be "investments" decided by the Federal government. It would include all kinds of infrastructure projects including roads, bridges, schools, parks and playgrounds. We taxpayers through our Federal, state, and local governments could pay people to go to school, especially for training in occupations where they are especially needed such as health care and education. Such infusions would encourage students to become expert in needed occupations and to become teachers so they can pass on their skills to each new generation.

Third, end all interest. The end of interest will cause creditors to begin spending their principal. Those expenditures will get into the hands of debtors who will be able to use them to pay down their debts. As I pointed out earlier, no amount of money "velocity," back and forth payments from debtor to debtor, helps debtors; only spending by creditors can allow the velocity of debt money to help reduce debt. Payments of Citizen Share Hour Dollars for infrastructure and other public goods and services will infuse healthy money into the economy. The Hour denominator will encourage and help people to charge accurate prices for what they sell and

what they receive in wages and salaries. Citizen Share Hour Dollars will immediately infuse the money needed to increase demand and support supply. Our motto should be, "Supply the demand."

In the most basic terms, the American Iceberg was produced by unequal exchange. We must correct all our exchanges so that they are equal, *quid pro quo*, this for that, of equal price. There is no need for blame. We are all victims of decisions made 222 years ago. We now have the duty and the opportunity to correct those decisions. Before the Hour can be adopted, many people will need to understand the debt problem and what we must do to solve it. Ultimately, the issue will be decided in the United States by whom we elect to the House, the Senate, and the Presidency.

The critical issue in adopting the Citizen Share Hour is selecting the conversion factor. Adoption of the Hour as the standard unit for money is a matter of definition, a matter of stating clearly on the money the exact quantitative meaning of the numbers on it. When gold was adopted as the money standard, a certain weight of gold was stated to be equal to a certain number of dollars. Similarly, adoption of the Citizen Share Hour Dollar is a matter of stating clearly how much it is worth in hours.

The general principle I recommend for conversion is to use what statisticians call a measure of central tendency. Why? Choosing a center of the distribution of wages and incomes would minimize the amount of adjustment that conversion would require. Using your wage per hour works for you but it cannot work for everyone because wages and income vary. It is unfortunate that the range of variation has become so vast because major adjustments will be needed to bring that range down to something reasonable. Conversion of dollars to Hours would reveal how much higher and how much lower incomes are from that center.

Let me be clear, the goal would *not* be absolutely equal incomes. The goal would be to make the *range* of income differences more reasonable by highlighting how huge the differences in wages and salaries have become when compared to the hours worked to earn them.

Pierre-Joseph Proudhon (1809-1865) advanced the general principle that “One day’s work equals another day’s work” (Edwards, 1969:64). Recognizing that people are unequal in faculties, he proposed a more reasonable range of inequality in these words:

> To be sure, the individuals who make up society are unequal as far as faculties are concerned, in the same way as they are equal in dignity. What

> must we conclude from this? Only one thing: namely, that being certain of our equality, we must, to the best of our ability, size up our inequalities. …
>
> These differences of greater and lesser do not go on to infinity but remain within fairly restricted limits ….
>
> As in the case of the thermometer, therefore, we will have both extremes and a mean in our measurements of intelligence and strength. The mean is the point which the majority of people will reach. Those who go to the extremes above it or below it will be very rare. … the distance between the two extremes is quite small; in fact anyone who had enough strength for two or three average men would be a veritable Hercules, and anyone who was intelligent enough for *four* [emphasis in the original] would be a demigod (Edwards, 1969:66).

With incomes of CEOs now as much as 500 times larger than those of other workers, the idea of limiting the range of wages to a maximum of four to one, the top wage being no more than four times the lowest wage, seems extreme to us. However, it is the present range of variation that is extreme. Proudhon's range in modern terms would be from "half time" to "double time" per hour. The Provisional World Parliament adopted the same principle in 2004 at its session in Lucknow, India. It specifically provides that the highest wage shall be no more than four times the lowest wage. http://www.worldproblems.net.

The measure of central tendency that I recommend is a new one. It is GDP per hour of work. As I noted earlier in this report, GDP is compiled by adding the prices of all goods and services produced in a year. I recommended there that we understand GDP as Gross Domestic *Price*, not Gross Domestic Product. Given GDP as total price, GDP per hour tells us the general price level of any economy. Just as we add all the prices of a standard market basket of household goods to construct the Consumer Price Index, adding the prices of everything produced in a year gives us a measure of the price level for the economy as a whole.

The GDP of the United States in 2010 was $14.58 trillion. The goods and services produced in 2010 cost us 14.58 trillion dollars. Those goods and services were produced by 130 million workers. Assuming a 40 hour work week for 50 weeks, that is, 2000 hours per year per worker, those 130 million workers worked 260 billion hours. The GDP cost us 260 billion hours of work. Dividing $14,580 billion by 260 billion hours equals $56 per hour. The price level of the

entire economy in 2010 was $56 per hour. Let us round $56 to $50 to simplify the conversion math.

The conversion of dollar prices to Citizen Share Hours would be done by dividing every price, whatever its form, salaries, wages, housing prices, etc. by $50. For example, a house with a price tag of $150,000 would equal a work time money price of 3,000 Hours. Sellers and buyers can judge the appropriateness of the price in terms of 3,000 hours of work. The question, is the house worth the seller's asking price, can be judged much more objectively in hours than in dollars. (It can also be judged by the buyer using their own wage per hour to evaluate the price. Here I am using the general price level.)

Changing mortgage math would also bring financial healing to the housing sector. A 20 year mortgage of 240 payments at a bank fee of One Half Hour for each payment ($25) would add $6,000 for a total cost of $156,000 for the house. The monthly payment could be $650. That would be affordable housing. Instead we have home prices lost in the nether land of trial and error supply and demand market forces that have driven some home buyers "under water" with mortgages bigger than the comparative price of their house.

Consider how converting incomes of millions of dollars into their work time equivalent illuminates their astronomical size. At $50 per hour, one year's income is $100,000. To earn $1 million would require 10 years. To earn $10 million would require 100 years. To earn $100 million would require 1,000 years. Using $50 per hour, you can convert millions to years by adding a zero to the number of millions of dollars.

When we hear that a CEO or anyone else has an annual income of $100 million, we can see it immediately as equivalent to 1,000 years of income at $50 per hour. I think that the conversion would make it difficult to justify such a large income, and that for just one year! Even more startling is the fact that a billionaire owns the equivalent of 100,000 years of work or, assuming that the average person works for 50 years, over 2,000 lifetimes.

Andrew Carnegie (1835-1919), one of the richest men in American history, wrote "the man who dies thus rich dies disgraced." In a memo to himself he wrote:

> Man does not live by bread alone. I have known millionaires starving for lack of the nutriment which alone can sustain all that is human in man, and I know workmen, and many so-called poor men, who revel in luxuries beyond the power of those millionaires to reach. It is the mind that makes

> the body rich. There is no class so pitiably wretched as that which possesses money and nothing else. Money can only be the useful drudge of things immeasurably higher than itself. Exalted beyond this, as it sometimes is, it … plays the beast. My aspirations take a higher flight. Mine be it to have contributed to the enlightenment and the joys of the mind, to the things of the spirit, to all that tends to bring into the lives of the toilers of Pittsburgh sweetness and light. I hold this the noblest possible use of wealth
>
> http://en.wikipedia.org/wiki/Andrew_Carnegie .

Carnegie's legendary philanthropy was voluntary. He did not go as far as he might have. He might have stopped accumulating money when he had reached a reasonable level of enough.

Architect and philosopher John Ruskin (1819-1900) in 1879 proposed an upper limit on wealth and income, which he saw having the following benefits.

> The temptation to use every energy in the accumulation of wealth being thus removed, another and a higher ideal of the duties of advanced life would be necessarily created in the national mind; by withdrawal of those who had attained the prescribed limits of wealth from commercial competition, earlier worldly success and earlier marriage with all its beneficent moral results would become possible to the young; while the older men of active intellect, whose sagacity is now lost or warped in the furtherance of their own meanest interests, would be induced unselfishly to occupy themselves in the superintendence of public institutions, or furtherance of public advantage (Ruskin, 1879).

I have repeated several times that the goal need not be absolutely equal incomes. People could always negotiate deviations from strict economic equality. That is the beauty of money; it decentralizes decision-making. Deviations from one hour of money for one hour of work would be negotiated by employers and employees. With one hour of money for one hour of work as the standard, it would be difficult for anyone to justify deviations of the astronomical magnitude we see today.

The median weekly earnings for wage and salary workers in 2011 was $764. That is $19 per hour. That converts to $19/$50 = .38, on an hour percentage scale, 38 cents. This tells us

that most current wages are far below the general price level. Current GDP says that $50 per hour could be the current National Wage Standard. Wages could vary below and above that standard, but we would want and expect wages to move up and down closer to that standard in the years ahead. Seeing millions of dollars in years of work would help us all to see the fairness of allowing top incomes to move closer toward that standard.

Congress

Make $50 per hour the National Wage Standard

Would a $50 per hour standard be inflationary? We hear that question answered in the positive for increases in the minimum wage, now about $8 per hour. Why is that? CEOs, athletes, movie stars, and heirs to fortunes receive hundreds of millions of dollars sometimes in a single year and we do not hear cries that such overpayment is inflationary. Yet, offer a few more dollars to the lowest paid workers and we hear cries that it is inflationary! Those cries are not coming from people paid the least.

Aside from the highly selective and biased perception of what causes inflation, let me note that taxes would need to be paid from the $50 per hour. A 30 percent Federal tax rate would reduce $50 to $35 per hour after taxes. Subtract the Social Security payroll tax and state and local income, property, and sales taxes and the discretionary income from $50 per hour would be further reduced to somewhere less than $25 an hour, a much better discretionary income than the same deductions on a gross wage per hour of $10, but much less "inflationary" than it may at first appears. Keep in mind that those taxes would pay for goods and services that benefit us all, such as infrastructure for water and transportation. As such, they are not reductions in our income - they are shared costs for what we need.

Consider the effect of a national wage standard of $50 per hour on tax revenues. All levels of government would see their tax receipts rise substantially. Those taxes would not be a loss to the worker who in fact would see a rise in discretionary income; the increased tax revenues would be used to buy public goods and services and be paying down Federal, state and local government debt. It is a win-win proposition.

Conversion by dividing all prices by $50 to convert them to Hours can be done immediately, right now, today. It's just simple arithmetic. The Euro was adopted after banks used it for two years to become familiar with the Euro's value relative to the several existing currencies that were being replaced. After two years, the Euro currency was put into circulation. In the same

way, we can all make the conversion to hours to become familiar with how Hour prices compare to Dollar prices. It would help for Congress to publish conversions for everyone to see.

After a period, say, of two years or before, Congress could order the Bureau of Engraving and Printing to print Hour equivalents on our currency. The $50 bill would have One Hour printed on it, etc. As dollars wear out, they could be replaced with the new Citizen Share Hour Dollars.

Congress could require that Hour equivalents be stated on the price tags of all commodities along with their dollar prices, the way we publish both customary units of measure with their metric equivalents. A grocery store could post both the dollar and cents price and the same information in Hours and minutes or, to keep the system decimal, in percents of an hour. The sticker price on automobiles could be the dollar price and the hour equivalent, and so forth.

Currency Exchange Rates

The GDP divided by hours of work method is convenient for converting all national currencies into Citizen Share Hours. Citizens are the real capital of all nations, not just the United States. Citizens should, by right published on the money itself, own the money supply of their nation.

The International Monetary Fund publishes GDP in each member country's own currency on line 99b of the country pages of its monthly publication, International Financial Statistics and the number of people employed on line 67e to estimate hours worked to produce that GDP.

Denominating all currencies in Hours would bring fairness to wages and prices within and between all countries. It would encourage local production and consumption because prices would reflect actual costs. Today, transportation costs are underestimated because of the wide wage disparities caused by currency exchange rate disparities between, for example, China and the United States that make it appear to be economical to transport goods half way around the world. Expressing prices accurately in work time would equalize wages and expose where long distance transportation is wasteful as well as where it is necessary.

Capitalism and Socialism

Hour denominated currencies can increase economic justice in money capitalist countries and increase freedom in socialist ones by encouraging their movement to real capitalism. The supreme value for capitalists is freedom. Capitalism, because it is governed by money, protects and preserves the freedom of individuals to dispose of their economic resources as they see fit,

without appeal to any higher authority. The problem is that money has no unit to define its value, so it cannot operate as a standard of fair wages and prices.

The supreme value for socialists, on the other hand, is the satisfaction of human needs, the same value as of real capitalism. Socialists use the power of government to manage the economy to satisfy human needs. Put money in its proper role, communicating actual prices in a unit that all participants understand as fair and equitable, and economies will move to real capitalism from both money capitalism and socialism. Capitalists fight for freedom against the threat of government control by socialists. Socialists fight for justice against the unequal exchange endemic to capitalism. They can rendezvous at real capitalism.

The current impasse exists because there has seemed to be no way to have a system with freedom and justice. Hour denominated money provides the way out of the impasse. Hour denominated money would encourage people to buy and sell at labor time cost, encouraging fair prices in capitalist countries and freedom in socialist countries by putting the standard of fair prices directly in the hands of people in their everyday affairs. It would not be necessary for a central authority to try to micro-manage the economy. Adoption of the Hour as the money unit would promote justice in capitalist countries and freedom in socialist countries. Time would be on everybody's side.

Imagine the great achievement of combining the virtue of capitalism, freedom, with the virtue of socialism, satisfaction of human needs. It would free the world from the fear of "mutually assured destruction" in a global nuclear holocaust between these now irreconcilable partisan ideologies. It must be done. We cannot rely on the balance of terror to keep the world safe. There is no other place to go. Planet Earth is home. Great resources would be released and redirected for peaceful purposes as we dismantled the arsenal of horrible weapons presently deployed around the globe.

The adoption of the Hour as the money unit is one of the most important objectives of human history. Money is the way modern societies are governed. Money is the key instrument of social order. Reforming so important a mechanism will require persistence and understanding. We must begin by fully appreciating the enormity of the issue and prepare ourselves accordingly. With debt problems on everyone's mind, monetary reform could come quickly.

Internationally, we need to share the information in this book with the leaders and citizens of every nation because, while we have focused on debt in the United States, other nations have the same problem. We can lobby Directors of the International Monetary Fund and Delegates to the United Nations and World Bank. Every nation could use the same GDP per hour of work calculation to convert their currencies and prices to Hours.

The technical procedures, in short, pose no serious problems. We can adopt the Hour as our money unit - and do so without disturbing anything in the national household. As this adoption takes effect, we can expect prices to move in the direction of economic justice, fair pay for a fair day's work, with the satisfaction of human needs as the paramount purpose of economics. Other countries could follow our example. The same process of adjustment could occur in all countries. People throughout the global household could make their own decisions about when and where to adjust prices in light of their new understanding of money, encouraged by an objective, accurate and stable money unit.

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Chapter 13

American Renaissance

The labor force of the United States is more than 130 million persons. In real terms, this labor force represents more than 130 million years of productive power annually. Each year together, we have the enormous fund of more than 130 million years of labor power to produce the goods and services that we need. Properly used, this fund could bring about a complete national recovery and launch us into an unprecedented improvement in our general well being. Note that the goal is improvement, not growth.

We have solved the problem of production in the sense that we know how to produce whatever we need. We have technological expertise recognized around the world; we have vast resources across the land. Our failure has been in our understanding of money. We have been caught up in irrationalities that are causing the moral and economic bankruptcy of our institutions and our people. Our cities cannot maintain essential services including schools to deliver the best possible education; we have become the biggest supplier of weapons in the world; our plans for the future include wasting vast resources to “modernize” nuclear warheads that can never be used without ending civilization. We have one of the highest rates of infant

mortality of industrialized nations. Our senior citizens are facing conditions of extreme hardship with little economic security. The crime rate in our cities is shameful, with many of our citizens in prison and those of us on the outside fearful of the future.

Our farms are the most productive in the world. Today, farmers face serious economic losses when they produce a bumper crop. The market trial and error method is too sloppy to drop the price just enough to take into account the larger crop; when the market drops prices too low, farmers work at a loss. By using a work time money unit, farmers can know with certainty how much to charge for their crops in order to repay them for their labor and to meet their actual and legitimate expenses for machinery, feed, fertilizer, and so forth. Farmers need no longer be penalized for being productive.

At the root of these irrationalities is an irrational money system. Rationalizing that system would turn our situation around and once again give us confidence and hope for our future and the future of our children. With Citizen Share Hour Dollars based on a work time unit of measure, our future would be limited only by our imagination, natural resources, and our willingness to work.

Inequality - The Real Threat to Freedom

There is inequality that is *not* a threat to freedom. That is the inequality that corresponds to differences in how much people work. If a person works hard for long hours and earns more money than the person who works little, the resulting inequality represents what each deserves. People who work more should be compensated more. To do so, encourages work. People should be paid what they justly deserve to reinforce that most essential motive to all wealth, the willingness to work productively.

The inequality that threatens freedom is undeserved inequality, inequality that results from the operation of a mathematical formula built into financial contracts and nothing else. The vastly unequal salaries in the United States have been produced by compounding interest that produces the inequality that is the serious threat to freedom.

One result of worsening salary inequality is decreasing job mobility. There is a decrease in upward job mobility. The people at the top, because their financial stake increases exponentially, become deeply entrenched in their positions. They are less and less willing to relinquish their job to others. Reinforcing this reluctance is the problem of finding alternative employment should they give up their high paying job. And an alternative employer is unlikely

to want to hire an executive whose present salary is in six, seven, or eight figures. So the free movement of management personnel declines.

As housing costs rise by the force of inflation and interest rates, geographic mobility slows down. The employee who might otherwise be willing to move to a new location becomes reluctant to do so when faced with the task of selling a house with a huge price tag only to confront the problem of finding a new home elsewhere with a higher price tag. Better to stay put, unless the new offer is a huge increase in income.

Academics move less. Instead of a healthy flow of personnel among colleges and universities, the top ranks grow rigid with tenured old men and women drawing large salaries. Younger men and women without tenure seek to acquire tenure as soon as possible, perhaps never to move again. Education can stagnate as a result.

Many problems of our society can be traced directly to economic inequality. The newest buildings in many cities are banks. Why? Because bank owners grow rich by compounding interest while schools and governments go bankrupt. In many suburbs of our nation, children go to excellent schools, schools that use the best equipment and have excellent teachers. For such children, America is indeed the land of opportunity and life is good and wholesome. For the children in many of our inner cities, life is a hell hole. Police patrol the school corridors, teachers are assaulted by students, children come to school hungry, and crime is endemic. Busing is no answer to such problems; greater economic equality is the answer.

It is a simple mathematical fact that if a given quantity of work is distributed equally among a group of people, the per capita amount of work required of each person is minimized. If everyone is required by the equal distribution of work to do a minimum of work, you and I and everyone else would all be free that much sooner to play and enjoy life, our natural cultural heritage. Inequality has just the opposite result; work falls more heavily on some persons - leaving them little free time - while others may not work at all - being free all of the time. Creditors, as such, do no work. Our natural cultural heritage is to have more free time with a minimum of work.

Unemployment can be transformed to full employment by reducing the work week by the rate of unemployment to make more jobs available for the unemployed with no reduction in weekly earnings. Wages were far below the price level of the economy in 2010 as shown by a median wage of $19 per hour and a GDP of more than $50 per hour. We can have more free

time working less with higher wages for the necessary work that remains to be done (See J. W. Smith, 1994, for many ideas on how to reduce the unnecessary work many of us are now required to do to maintain our incomes).

Extreme inequality causes economic stagnation. The United States is stagnating economically because of it. Freedom must be restored; people must once again become mobile, geographically and occupationally. We have already witnessed the results of extreme inequality in the riots that destroyed large sections of our cities in the 1960's.

What about now? What can you do immediately?

The good news is that we now have the opportunity to fund our economy with a permanent debt-free and interest-free money supply and reap the benefit of the vast amount of seigniorage that funding will gain for us all. It will be like being part of the First Congress but this time funding the economy properly. While we can expect there to be opposition, we need not assume that it will take long. Because debt has hit a ceiling, problems will grow in number and severity quickly, in months rather than years.

We are in a most serious period of American and world history, perhaps the most serious. Never before have debts gone up so much so fast. The conditions during the General Depression were not as potentially devastating as our present situation. This period involves great dangers. We can expect crime to increase as people use desperate means to survive. We could see increased social disruption, strikes, riots, interrupted food supplies, and spreading anger and discontent.

This period also offers great opportunity. Only in this kind of period are people attentive to suggestions for fundamental change. Back in the 1950's it would have been impossible to interest anyone in monetary reform; no one would have believed that anything was wrong. Congressman Wright Patman (1893-1976) understood the problem but was unsuccessful in getting the needed changes. Read about it at http://dissidentvoice.org/2009/03/wright-patmans-prescription-for-healing-the-cancerous-us-banking-system/ . Notice that this 1964 article was published in 2009 because today everyone is aware of problems with debt and the value of the dollar. This generation of Americans is thus faced with the awesome responsibility of currency reform. When we are successful, we can look forward to a more just, humane, prosperous, and peaceful national and global household than now seems possible. Everyone stands to benefit from such a change. And it can be brought about by peaceful means.

You can help. Tell the people in your circle about Hour Money. Give them samples. I can send you some. Visit my websites; http://www.siue.edu/~rblain and http://hourmoney.org/ and http://www.hourmoney.info/ to learn more. Tell people about this book. In 2008 we crashed against the American Iceberg. How many men, women, and children must lose their lives before we correct our course?

I have been printing and passing out examples of what Citizen Share Hour Money could look like. I enjoy saying to people, "I make my own money and give it away." Here is the front and back of two versions that I have given to people.

Citizens are the real capital of nations.

Citizen Shares can be the money that citizens use to share the work and share the wealth their work produces.

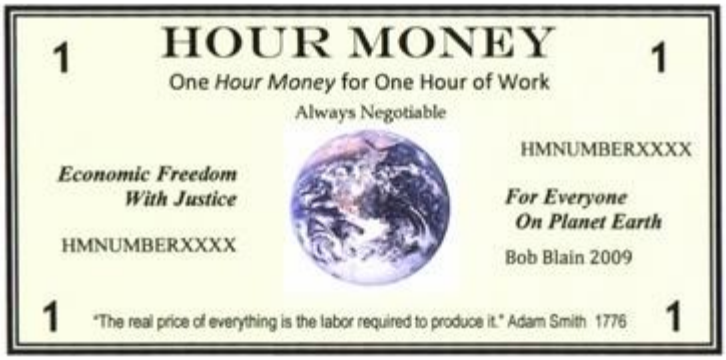
The government can decide how many Citizen Shares to issue or pay into circulation and report on its website the facts necessary for citizens to know if they are achieving well-being for everyone.

Citizen Shares can circulate debt-free and interest-free.

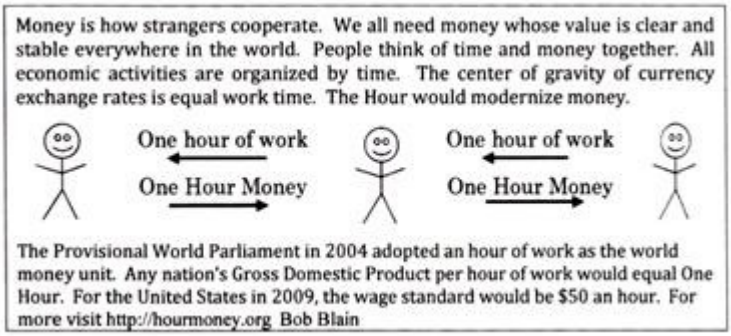
Existing national currencies can convert to Citizen Shares at the nation's Gross Domestic Product divided by the hours of work that produced it.

http://www.hourmoney.info/ Bob Blain, Ph.D. Sociologist

Put the Hour on money everywhere in the world.



Time money everywhere.



Then adjust accordingly.

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About the author:

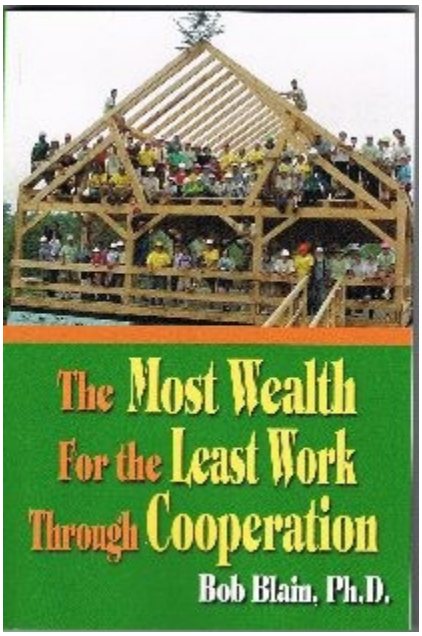
Bob has a Master's degree from Harvard and a Ph.D. from the University of Massachusetts, both in sociology. He taught sociology at The Ohio State University for two years then taught for the rest of his 40+ year career at Southern Illinois University Edwardsville. He has spoken on monetary reform at the American Monetary Institute in Chicago, on month long tours of New Zealand in 1991 and Australia in 2006, and in Warsaw, Poland, Tripoli, Libya and Lucknow, India as well as at economic and sociological conferences in the United States. St. Louis

Magazine in April 2007 published "A conversation with Bob Blain" about his trip to India and his work to change the world's money unit to hours.

Photo courtesy of Adam Scott Williams St. Louis Missouri

Other books by Bob

The Most Wealth: For the Least Work Through Cooperation



This book explains how we can achieve full employment and genuine social security with more free time to realize our natural destiny on earth, which is well-being and free time to enjoy life. It is a free 2012, ebook from Smashwords.com.

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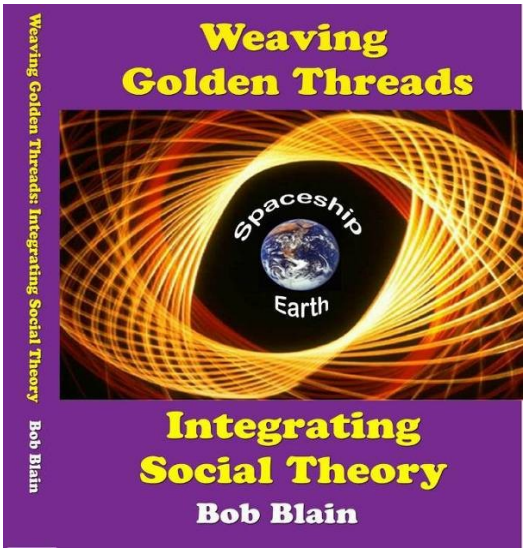
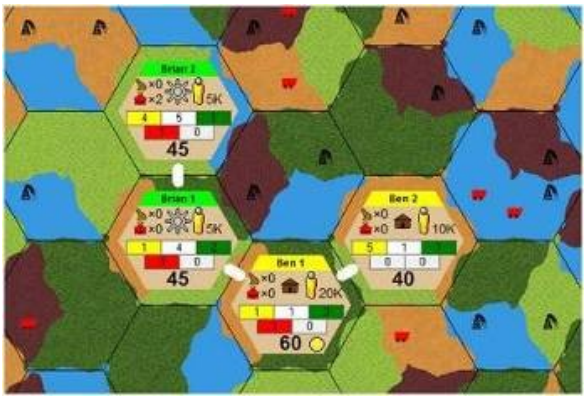
Weaving Golden Threads: Integrating Social Theory, a textbook,



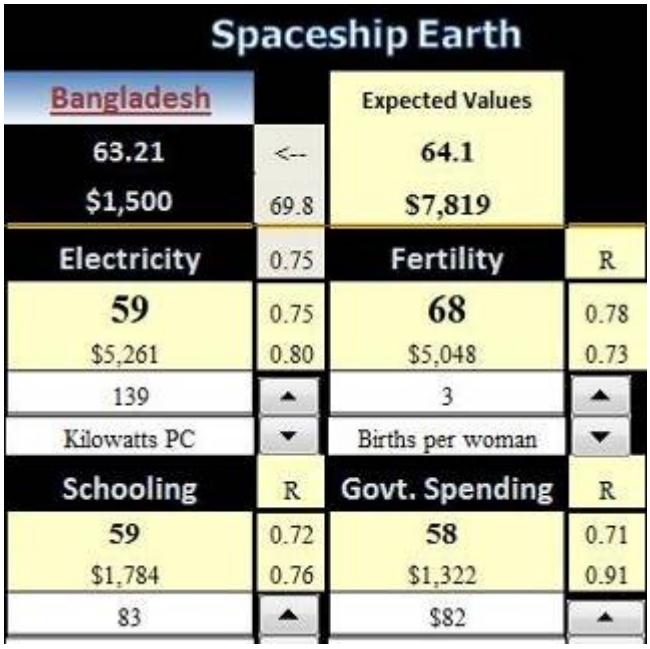
This textbook weaves central concepts from across the social sciences into a coherent fabric of relationships and tests them with data from all the countries of the world in 1986 and 2008.

Going beyond concepts and data, it offers the reader two simulations to see how the variables in the fabric of golden threads influence each other. One is *Cooperation: The Wealth of Nations Game*, for players to compare barter, capitalism, socialism, and a system that incorporates their advantages and avoids their weaknesses called autonomy. It is available as a board game and as a computer game that you can download free from http://hourmoney.org/ and http://www.hourmoney.info/

Above students are playing the board game. Below is a picture of the computer game screen.



The second simulation offered with *Weaving Golden Threads* is An Instrument Panel for Spaceship Earth shown below. You select countries and try different changes to see how they affect national well-being.



The combination of concepts from many social sciences, data from all the countries of the world, and two simulations is probably unique among textbooks in the social sciences. It is available from the Institute for Economic Democracy, Pamplin, Virginia.

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The End of This Book.