The Fundamental Principle of Conservation of Physical Money: Its Violation and the Global Financial System Collapse

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Abstract: This paper presents the fundamental principle of conservation of physical money of the global financial system that guarantees its equilibrium and stability. Similar to the principle of conservation of mass-energy systems and based on the commodity money concept, then the physical money cannot be created from nullity nor can be destroyed. As a result, violation of such a system will lead to a deficit in the financial system which cannot be paid off. Additionally, violation of gold standard and the breakage of the Bretton Woods system are the reason behind the current world financial crisis. Paying interest on money loans will violate this principle as well. The international banking system is volatile and over-valued since it is based on the fractional banking technique that banks do not actually need to have the money to back up the deposits their clients have made into their accounts. Instead, the banks are required only to keep a small fraction of such deposits on hand. Moreover The Bank of International Settlements (BIS) in Switzerland has recently reported that global outstanding derivatives have reached 1.14 quadrillion dollars: $548 Trillion in listed credit derivatives plus $596 trillion in notional OTC derivatives. Furthermore, by 2007 credit default swap total value has dramatically increased to an estimated $45 trillion to $62 trillion. Additionally, subprime mortgage crisis, credit crisis and banking closure all have resulted from the violation of conservation money. Taking into the account that the World's GDPs for all nations is approximately $50 trillion and all of the asset value of the world is only $190 Trillion, it can be seen easily that the $1140 trillion financial derivatives system will lead in the near future to the collapse of the international financial system.

Keywords: conservation of money; fiat money; commidty money; gold standard; fractional banking; money derivatives; credit default swap; ponzi scheme

1 Introduction

In the last two years world has exposed to a financial tsunami waves that rocked the financial systems and nations all over the world. Many international banks and companies have bankrupted, nations has sank into a severe debts obligations. Layoff has almost cracked all sectors, millions of home mortgage have been closed, and millions of individuals had claimed bankruptcy. What a financial crisis has the Globe witnessed! What are the major reasons have caused it? This paper introduces the fundamental principle of conservation of physical money of the global financial system. Based on the commodity money concept, the physical money cannot be created from null nor can be destroyed. Violation of such a system will lead to a deficit in the financial system which cannot be paid off. The change in the net physical money in a financial system is equal to the amount of money transferred to the system (gained) minus the amount transferred out of it (lost). In other words, the law of conservation of money can be stated that the change in your current balance must be equal to the difference between the credits to your account and the debits to it. For this reason paying interest on money loans will violate this principle as well.

Additionally, violation of standard gold and the breakage of the Bretton Woods system are the reason behind the current world financial crisis. The international banking system is volatile since it is based on the fractional banking technique which means that banks do not actually have the money to back the deposits their clients have made into their accounts. Instead, the banks are required only to keep a small fraction of such deposits on hand. Moreover, data on the five-fold growth of derivatives to $1140 trillion in five years comes from the most recent survey by the Bank of International Settlements in Switzerland. Furthermore, by 2007, credit default swap total value has increased to an estimated $45 trillion to $62 trillion. Additionally, subprime mortgage crisis, credit crisis and banking system run all have resulted from the violation of conservation money. Taking into the account that the World's GDPs for all nations is approximately $50 trillion, it can be seen easily that the $1140 trillion financial derivatives system will lead into the collapse of the international financial system.

This paper is organized as follows, in section II, basic

definitions of money and standard gold are presented. Section III introduced the principle of conservation of money. Meanwhile, fractional banking system is descryibed in section IV, then Madoff (Ponzi) scheme is presented in section V. Section VI shows how the financial derivatives are overvalued, in section VII credit default swap explained. Section VIII gives summarizes the mortgage crisis. Banking closures and US debt challenge are detailed in section IX and X, respectively.

2 Money and Gold Standard

Money can be defined as is anything that is generally accepted as a payment for goods and services and repayment of debts. The main functions of money are distinguished as: a medium of exchange, a unit of account, a store of value, and occasionally, a standard of deferred payment. In 1875, economist William Stanley Jevons described what he called representative money as money that consists of token coins, or other physical tokens such as certificates, that can be reliably exchanged for a fixed quantity of a commodity such as gold or silver. The value of representative money stands in direct and fixed relation to the commodity that backs it, while not itself being composed of that commodity. Money originated as commodity money, but nearly all contemporary money systems are based on fiat money[1,2].

2.1 Commodity Money

Commodity money is money whose value comes from a commodity out of which it is made[3]. It is objects that have value in themselves as well as for use as money. Examples of commodities that have been used as mediums of exchange include gold, silver, copper, salt**.** The system of commodity money eventually evolved into a system of representative money. This occurred because gold and silver merchants or banks would issue receipts to their depositors – redeemable for the commodity money deposited. Eventually, these receipts became generally accepted as a means of payment and were used as money. The gold standard, a monetary system where the medium of exchange are paper notes that are convertible into preset, fixed quantities of gold, replaced the use of gold coins as currency in the 17th-19th centuries in Europe. These gold standard notes were made legal tender, and redemption into gold coins was discouraged. By the beginning of the 20th century almost all countries had adopted the gold standard, backing their legal tender notes with fixed amounts of gold.

2.2 Fiat Money

Fiat money is without value as a physical commodity, and derives its value by being declared by a government to be legal tender; that is, it must be accepted as a form of payment within the boundaries of the country, for "all debts, public and private". Fiat money or fiat currency is money whose value is not derived from any intrinsic value or guarantee that it can be converted into a valuable commodity such as gold. Instead, it has value only by government order (fiat). Usually, the government declares the fiat currency (typically notes and coins from a central bank, such as the Federal Reserve System in the U.S.) to be legal tender, making it unlawful to not accept the fiat currency as a means of repayment for all debts, public and private[4].

2.3 Standard Gold

Gold Standard: Not such a long time ago paper receipts for gold in storage were used as currency, and people would trade these receipts because it was more convenient than carrying around a lot of gold.

Over time, those who held the gold and issued the receipts noticed that physical gold was seldom claimed even thought the receipts changed hands several times. The temptation to issue more receipts than the gold in storage became too large to resist, and fractional banking was invented. This allowed the issuers to charge interest and increase the amount of currency in circulation.

The scheme would work as long as everyone did not claim his or her gold at the same time. Those issuers (or later, banks) who egregiously abused the system suffered from bank-runs, in which receipt holders claimed their gold. Since there was not enough gold to cover all the outstanding receipts, only the first folks through the door would get any gold.

The system was based on the faith the public had in the gold receipts, with all issuers not being equal. The Federal Reserve Bank was therefore created to regulate the system and stand ready to bail out any bank that could not meet its obligations. Fractional banking was allowed to continue subject to additional regulation and scrutiny, but the system is still based purely on the faith and confidence that people have in pieces of paper.

So instead of the most conservative extreme of a gold standard without the ability of debt creation, let's consider what would happen if we accepted fractional banking, but just took away governments' right to seigniorage. If we add together all the currency in circulation (notes and coins) in the US, Japan, China, Britain, Canada, Russia, Australia and the European Union, converted to US dollars for simplicity, we arrive at $2.6 trillion. These countries represent roughly 80% of the world's GDP so by extrapolation we can estimate that all the currency in circulation in the world today is approximately $3.25 trillion.

Total historical gold production is about 5 billion ounces and most of it is still around. If all the gold in the world were converted to money to replace existing notes and coins, it would imply a gold price of $650 an ounce.

Back in the 1940s the United States alone held about

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one third of all the gold in the world and two thirds of the official reserves (gold held by governments). At the time, governments held approximately 50% of all the gold. If we assume that only half the gold in the world could be converted into money then it would imply a gold price of $1,300 an ounce.

2.4 Bretton Woods System

The **Bretton Woods system** of monetary management established the rules for commercial and financial relations among the world's major industrial states in the mid 20th century. The chief features of the Bretton Woods system were an obligation for each country to adopt a monetary policy that maintained the exchange rate of its currency within a fixed value in terms of gold and the ability of the IMF to bridge temporary imbalances of payments[5].

2.5 Nixon Shock

Then, on August 15, 1971 the United States unilaterally terminated convertibility of the dollar to gold. This action created the situation whereby the United States dollar became the sole backing of currencies and a reserve currency for the member states. In the face of increasing financial strain, the system collapsed in 1971. The **Nixon Shock** was a series of economic measures taken by U.S. President Richard Nixon in 1971 including unilaterally canceling the direct convertibility of the United States dollar to gold that essentially ended the existing Bretton Woods system of international financial exchange. Because of the excess printed dollars, and the negative U.S. trade balance, other nations began demanding fulfillment of America's "promise to pay" - that is, the redemption of their dollars for gold[6].

Switzerland redeemed $50 million of paper for gold in July. France, in particular, repeatedly made aggressive demands, and acquired $191 million in gold, further depleting the gold reserves of the U.S. To stabilize the economy and combat runaway inflation, on August 15, 1971, President Nixon imposed a 90-day wage and price freeze, a 10 percent import surcharge, and, most impor- tantly, "closed the gold window", ending convertibility between US dollars and gold. In May 1971, inflation- wary West Germany was the first member country to leave the Bretton Woods system unwilling to deflate the Deutsche Mark to prop up the dollar Still Switzerland withdrew the Swiss franc from the Bretton Woods system.

3 Principle of Conservation of Physical Money

This paper presents the fundamental principle that the financial system must be based on so as to keep it in an equilibrium state. The change in the net physical money in a financial system is equal to the amount of money transferred to the system (gained) minus the amount transferred out of it (lost). In other words, the law of conservation of money can be stated that the change in your current balance must be equal to the difference between the credits to your account and the debits to it. Based on this principle it can easily be seen that paying (or taking) interest on money loans will definitely violate such a fundamental principle.

Every single financial transaction on your account must obey this law, which is the fundamental law of accountancy and book keeping. This is based on the fact that money is discrete and countable. Every physical transaction obeys the law of conservation of mass-energy principle and presents the fundamental law of bookkeeping in nature. For any global financial system the gross physical money is conserved and equal to the sum of all sub-systems amounts.

For a global human financial system, the physical money cannot be created from null nor can be destroyed. Violation of such a system will lead to a deficit in the financial system which cannot be paid off.

4 Fractional Banking System

The banking system is called a fractional banking system because banks do not actually have the money to back the deposits their clients have made into their accounts. Instead, the banks are required only to keep a small fraction of such deposits on hand. When something with inherent value, such as gold, is used for money banks often go bankrupt under a fractional banking system since they do not have sufficient reserves to repay their depositors' money. However, in a fractional banking system based on fiat money banks need never go bankrupt, since the central bank can create an unlimited amount of new money to repay any demands from depositors. The limiting factor is only the public's acceptance of fiat money.

In the absence of a fractional banking system all the money in the system is physical money, such as notes and coins. We would know at all times exactly what the money supply is: it is the total of all the notes and coins. We would also know exactly what the inflation rate is: it is the rate at which the total amount of notes and coins increases. In such a system inflation can only occur by the creation of more physical notes and coins, whether it is fiat money or hard money, such as gold. However, in a fractional banking system defining what constitutes the money supply is not so simple, which is why it is such an enigma and why the real inflation rate is so obscure. While central banks can influence the money supply directly, most of the money that is created is actually created by commercial banks when they make loans to borrowers.

5 Madoff (Ponzi) Scheme

A **Ponzi scheme** is a fraudulent investment operation

that pays returns to separate investors from their own money or money paid by subsequent investors, rather than from any actual profit earned[7]. The Ponzi scheme usually entices new investors by offering returns other investments cannot guarantee, in the form of short-term returns that are either abnormally high or unusually consistent. The system is destined to collapse because the earnings, if any, are less than the payments to investors. While the system eventually will collapse under its own weight, the example of **Bernard Madoff** illustrates the ability of a Ponzi scheme to delude both individual and institutional investors as well as securities authorities for long periods: Madoff's variant of the Ponzi Scheme stands as the largest financial investor fraud in history committed by a single person. Prosecutors estimate losses at Madoff's hand totaling $64.8 billion.

6 The $1140 Trillion Money Derivatives Bomb

A derivative is a financial instrument whose value depends on something else such as a share of stock, an interest rate, a foreign currency, or a barrel of oil, for example. One kind of derivative might be a contract that allows you to buy oil at a given price six months from now. But since we don't yet know how the price of oil will change, the value of that contract can be very hard to estimate. One method simply adds up the value of the assets the derivatives are based on. In other words, if my contract allows me to buy 50 barrels of oil and the current price is $100, its "notional value" is said to be $5,000. Since that's the value of the assets from which my contract derives. The "notional value" of the world's over-the-counter derivatives at the end of 2007, according to the Bank of International Settlements is around $1140 trillion. Over the counter derivatives refer to contracts that are negotiated between two parties rather than through an exchange.

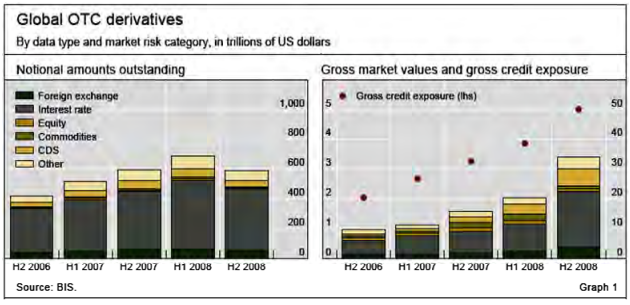

Figure 1. Global Over-the-Counter Derivatives Estimated by BIS

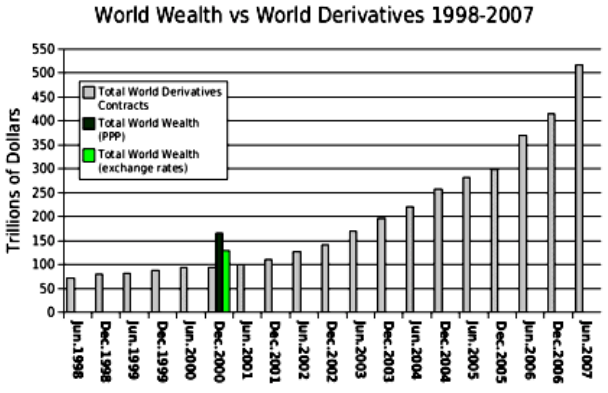

Figure 2. Total US Derivatives and US Wealth 1995-2007 Compared to total World Wealth in Year 2000.

But the notional value is not usually a very good representation of what a contract might really be worth to the parties involved, or how much risk they are taking. And it isn't easily compared with other measures of financial wealth—after all, owning the right to buy $5,000 worth of oil isn't the same as actually owning $5,000 of oil. Within that $596 trillion there are derivatives that effectively relate to the same assets[8]. For example, if you have a contract to buy Euros in January and I have one to buy Euros in April, we may end up buying the same currency, but its notional value will get counted twice.

The Bank of International Settlements, which seems to be the only institution that tracks the derivatives market, has recently reported that global outstanding derivatives have reached 1.14 quadrillion dollars: $548 Trillion in listed credit derivatives plus $596 trillion in notional (over-the-counter) OTC derivatives. Two thirds of contracts by volume or $393 trillion fell into the category of interest rate derivatives. Credit Default Swaps had a notional volume of $58 trillion, seeing the sharpest relative increase after a volume of $43 trillion a year earlier. Currency derivatives reached a volume of $56 trillion. Oh, and every grand balance sheet comes with a trash can. Unallocated derivatives with a notional amount of $71 trillion. Data on the five-fold growth of derivatives to $596 trillion in five years grew into a massive bubble comes from about $100 trillion to $596 trillion by 2007.

Over-the-counter (OTC) derivatives are contracts that are traded (and privately negotiated) directly between two parties, without going through an exchange or other intermediary. Products such as swaps, forward rate agreements, and exotic options are almost always traded in this way. The OTC derivative market is the largest market for derivatives, and is largely unregulated with respect to disclosure of information between the parties, since the OTC market is made up of banks and other highly sophisticated parties, such as hedge funds. Reporting of OTC amounts are difficult because trades can occur in private, without activity being visible on any exchange. According to the Bank for International Settlements, the total outstanding notional amount is $684 trillion (as of June 2008). Of this total notional amount, 67% are interest rate contracts, 8% are credit default

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swaps (CDS), 9% are foreign exchange contracts, 2% are commodity contracts, 1% are equity contracts, and 12% are other. Because OTC derivatives are not traded on an exchange, there is no central counterparty.

Therefore, they are subject to counterparty risk, like an ordinary contract, since each counterparty relies on the other to perform. Exchange-traded derivatives (ETD) are those derivatives products that are traded via specialized derivatives exchanges or other exchanges. A derivatives exchange acts as an intermediary to all related transactions, and takes Initial margin from both sides of the trade to act as a guarantee. The world's largest derivatives exchanges (by number of transactions) are the Korea Exchange (which lists KOSPI Index Futures & Options), Eurex (which lists a wide range of European products such as interest rate & index products), and CME Group (made up of the 2007 merger of the Chicago Mercantile Exchange and the Chicago Board of Trade and the 2008 acquisition of the New York Mercantile Exchange). According to BIS, the combined turnover in the world's derivatives exchanges totalled USD 344 trillion during Q4 2005.

Some types of derivative instruments also may trade on traditional exchanges. For instance, hybrid instruments such as convertible bonds and/or convertible preferred may be listed on stock or bond exchanges. Also, warrants (or "rights") may be listed on equity exchanges. Performance Rights, Cash xPRTs and various other instruments that essentially consist of a complex set of options bundled into a simple package are routinely listed on equity exchanges. Like other derivatives, these publicly traded derivatives provide investors access to risk/reward and volatility characteristics that, while related to an underlying commodity, nonetheless are distinctive.

The new derivatives bubble was fueled by five key economic and political trends:

- Increased corporate disclosures and government oversight
- Federal Reserve's cheap money policies created the subprime-housing boom
- War budgets burdened the U.S. Treasury and future entitlements programs
- Trade deficits with China and others destroyed the value of the U.S. dollar
- Oil and commodity rich nations demanding equity payments rather than debt

To grasp how significant this five-fold bubble increase is, let's put that $516 trillion in the context of some other domestic and international monetary data:

- U.S. annual gross domestic product is about $15 trillion
- U.S. money supply is also about $15 trillion
- Current proposed U.S. federal budget is $3 trillion
- U.S. government's maximum legal debt is $9 trillion
- U.S. mutual fund companies manage about $12 trillion
- World's GDPs for all nations is approximately $50 trillion
- Unfunded Social Security and Medicare benefits $50 trillion to $65 trillion
- Total value of the world's real estate is estimated at about $75 trillion
- Total value of world's stock and bond markets is more than $100 trillion
- BIS valuation of world's derivatives back in 2002 was about $100 trillion

BIS 2007 valuation of the world's derivatives is now a whopping $596 trillion

7. Credit Default Swap Crisis

A **credit default swap** (**CDS**) is a swap contract in which the buyer of the CDS makes a series of payments to the seller and, in exchange, receives a payoff if a credit instrument (typically a bond or loan) undergoes a defined 'Credit Event', often described as a default (fails to pay). However the contract typically construes a Credit Event as being not only 'Failure to Pay' but also can be triggered by the 'Reference Credit' undergoing restructuring, bankruptcy, or even by having its credit rating downgraded. Credit default swaps may be used for emerging market bonds, mortgage backed securities, corporate bonds and local government bond[9,10].

The first credit default swap was introduced in 1995 by JP Morgan. By 2007, their total value has increased to an estimated $45 trillion to $62 trillion. Although since only 0.2% of investment companies default, the cash flow is much lower than this actual amount.

J. P. Morgan continues to dominate the world of derivatives. It has derivatives contracts tied to $90 trillion of underlying securities. Of that, $10.2 trillion are credit-derivatives contracts. Those mind-boggling totals are somewhat misleading. They reflect what is called the "notional" amount in the world of derivatives, based on the underlying amount of the contract, not its current value. When offsetting contracts are taken into account, that figure is whittled down to a much smaller—though still enormous—$109 billion of derivatives, of which $26 billion are credit derivatives.

8 Subprime Mortgage Crisis

The **subprime mortgage crisis** is an ongoing real estate crisis and financial crisis triggered by a dramatic rise in mortgage delinquencies and foreclosures in the United States, with major adverse consequences for banks and financial markets around the globe. The crisis, which has its roots in the closing years of the 20th century, became apparent in 2007 and has exposed pervasive weaknesses in financial industry regulation and the global financial

system[11,12].

The value of USA subprime mortgages was estimated at $1.3 trillion as of March 2007, with over 7.5 million first-lien subprime mortgages outstanding. The value of all outstanding residential mortgages, owed by USA households to purchase residences housing at most four families, was US$9.9 trillion as of year-end 2006, and US$10.6 trillion as of midyear 2008.

By August 2008, 9.2% of all U.S. mortgages outstanding were either delinquent or in foreclosure. By September 2009, this had risen to 14.4%. Between August 2007 and October 2008, 936,439 USA residences completed foreclosure.

9 Banking Closure Crisis

9.1 Banking Closure

A **bank run** occurs when a large number of bank customers withdraw their deposits because they believe the bank is, or might become, insolvent. As a bank run progresses, more people withdraw their deposits, the likelihood of default increases, and this encourages further withdrawals. This can destabilize the bank to the point where it faces bankruptcy[14]. The year 2010 has also started on a bad note for the US banking industry with eleven banks closing down so far this year, in the first two weeks which bring the total banks closure up to 140. The US regular had come out with a list of over 450 banks which were below the standard capital adequacy norms, in August 2009. Historically, at least 20% to 25% of these banks go bankrupt in the subsequent year. So we can expect the total bank closures in 2010 to be at least 90 to 130 banks.

9.2 U.S. Bailout, Stimulus Pledges Total $11.6 Trillion

The following table details how the U.S. government has pledged more than $11.6 trillion on behalf of American taxpayers over the past 19 months, according to data compiled by Bloomberg. It includes a $787 billion economic stimulus package. The Federal Reserve has new lending commitments totaling $1.8 trillion. It expanded the Term Asset-Backed Lending Facility, or TALF, by $800 billion to $1 trillion and announced a $1 trillion Public-Private Investment Fund to buy troubled assets from banks. The U.S. Treasury also added $200 billion to its support commitment for **Fannie Mae** and **Freddie Mac**, the country's two largest mortgage-finance companies[13]. Table is as by Feb 24, 2009.

10 US Debt Crisis and Volatile Fractional Banking

The U.S. government does not issue U.S. currency - the Federal Reserve does. The Federal Reserve is a private bank owned and operated for profit by a very powerful group of elite international bankers. If you will pull a dollar bill out and take a look at it, you will notice that it says "Federal Reserve Note" at the top. It belongs to the Federal Reserve. The U.S. government cannot simply go out and create new money whenever it wants under our current system. Instead, it must get it from the Federal Reserve. So, when the U.S. government needs to borrow more money it goes over to the Federal Reserve and asks them for more called Federal Reserve Notes.

	Outlay	Returned
Total (Billions)	$447.76	$75.33
Capital Purchase Program	$204.55	$70.56
General Motors, Chrysler	$79.97	$2.14
American International Group	$69.84	$0.00
Making Home Affordable Program	$23.40	$1.13
Targeted Investment Bank of America	$20.00	$0.00
Targeted Investment Citigroup	$20.00	$0.00
Term Asset-Backed Loan (TALF)	$20.00	$0.00
Citigroup Bailout	$5.00	$0.00
Auto Suppliers	$5.00	$1.50

So that is how the U.S. government gets more green pieces of paper called "U.S. dollars" to put into circulation. But by doing so, they get themselves into even more debt which they will owe even more interest on. So every time the U.S. government does this, the national debt gets even bigger and the interest on that debt gets even bigger.

As you read this, the U.S. national debt is approximately 12 trillion dollars, although it is going up so rapidly that it is really hard to pin down an exact figure. So how much money actually exists in the United States today? Well, there are several ways to measure this.

- The "M0" money supply is the total of all physical bills and currency, plus the money on hand in bank vaults and all of the deposits those banks have at reserve banks. As of mid-2009, the Federal Reserve said that this amount was about 908 billion dollars.
- The "M1" money supply includes all of the currency in the "M0" money supply, along with all of the money held in checking accounts and other checkable accounts at banks, as well as all money contained in travelers' checks. According to the Federal Reserve, this totaled approximately 1.7 trillion dollars in December 2009, but not all of this money actually "exists" as we will see in a moment.
- The "M2" money supply includes everything in the "M1" money supply plus most other savings accounts, money market accounts, retail money market mutual funds, and small denomination time deposits (certificates of deposit of under $100,000). According to the Federal Reserve, this totaled approximately 8.5 trillion dollars in December 2009, but once again, not all of this money actually "exists" as we will see in a moment.
- The "M3" money supply includes everything in the "M2" money supply plus all other CDs (large time de-

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posits and institutional money market mutual fund balances), deposits of eurodollars and repurchase agreements. The Federal Reserve does not keep track of M3 anymore, but according to ShadowStats.com it is currently somewhere in the neighborhood of 14 trillion dollars. But again, not all of this "money" actually "exists" either.

It is because our financial system is based on something called fractional reserve banking. When you go over to your local bank and deposit $100, they do not keep your $100 in the bank. Instead, they keep only a small fraction of your money there at the bank and they lend out the rest to someone else. Then, if that person deposits the money that was just borrowed at the same bank, that bank can loan out most of that money once again. In this way, the amount of "money" quickly gets multiplied. But in reality, only $100 actually exists. The system works because we do not all run down to the bank and demand all of our money at the same time.

According to the New York Federal Reserve Bank, fractional reserve banking can be explained this way: "**If the reserve requirement is 10%, for example, a bank that receives a $100 deposit may lend out $90 of that deposit.** If the borrower then writes a check to someone who deposits the $90, the bank receiving that deposit can lend out $81. **As the process continues, the banking system can expand the initial deposit of $100 into a maximum of $1,000 of money** ($100+$90+81+$72.90 +... = $1,000)."

So will the U.S. government come to the rescue? The U.S. has allowed the total federal debt to balloon by 50% since 2006 to $12.3 trillion. During the administration of President George W. Bush, the total debt increased from $5.6 trillion in January 2001 to $10.7 trillion by December 2008, rising from 54% of GDP to 75% of GDP. During March 2009, the Congressional Budget Office estimated that public debt will rise from 40.8% of GDP in 2008 to 70.1% in 2012[15].

The total debt is projected to continue increasing significantly during President Obama's administration to nearly 100% of GDP. The 2010 U.S. budget indicates annual debt increases of nearly $1 trillion annually through 2019, with an unprecedented $1.0 trillion debt increase in 2009. By 2019 the U.S. national debt will be $18.4 trillion, approximately 148% of 2009 GDP, up from its approximately 80% level in April 2009. Further, the subprime mortgage crisis has significantly increased the financial burden on the U.S. government, with over $10 trillion in commitments or guarantees and $2.6 trillion in investments or expenditures as of May 2009, only some of which are included in the budget document. The U.S. also has a large trade deficit, meaning imports exceed exports. Financing these deficits requires the USA to borrow large sums from abroad, much of it from countries running trade surpluses, mainly the emerging economies in Asia and oil-exporting nations.

- U.S. official gold reserves, totaling 261.5 million troy ounces, have a book value as of 30 November 2009 of approximately $11 billion, vs. a commodity value as of 17 December 2009 of approximately $288.5 billion.
- The Strategic Petroleum Reserve had a value of $69 billion as of December 2009, at a Market Price of $104/barrel with a $15/barrel discount for sour crude.
- Total U.S. household debt, including mortgage loan and consumer debt, was $11.4 trillion in 2005.
- By comparison, total U.S. household assets, including real estate, equipment, and financial instruments such as mutual funds, was $62.5 trillion in 2005.
- In 2008, $242 billion was spent on interest pay ments servicing the debt, out of a total tax revenue of $2.5 trillion, or 9.6%. Including non-cash interest accrued primarily for Social Security, interest was $454 billion. Total U.S Consumer Credit Card revolving credit debt was $931.0 billion in April 2009.
- Total third world debt was estimated to be $1.3 trillion in 1990.
- The U.S. balance of trade deficit in goods and services was $725.8 billion in 2005.
- The global market of all stock markets of the World Federation Exchanges was $32.5 trillion by end of 2008.

11 Is Food Crisis on Doors?

Similarly, Britain's New Statesman newspaper links derivatives and rising food and commodity prices: "This latest food emergency has developed in an incredibly short space of time – essentially over the past 18 months. The reason for food "shortages" is speculation in commodity futures following the collapse of the financial derivatives markets. Desperate for quick returns, dealers are taking trillions of dollars out of equities and mortgage bonds and plugging them into food and raw materials. It's called the "commodities super-cycle" on Wall Street, and it is likely to cause starvation on an epic scale. The rocketing price of wheat, soybeans, sugar, coffee is a direct result of debt defaults that have caused financial panic in the west and encouraged investors to seek "stores of value". These range from gold and oil at one end to corn, cocoa and cattle at the other; speculators are even placing bets on water prices.

For example, according to Business Week: "President George W. Bush has bestowed on his intelligence, John Negroponte, broad authority, in the name of national security, to excuse publicly traded companies from their usual accounting and securities-disclosure obligations."

12 Conclsuions

In this paper the principle of conservation of physical money has been introduced. Examples of international

crisis such as mortgage crisis, credit default crisis, debt crisis, financial derivative crisis, banking closures all resulted from the violation of such a principle. Although the international financial system is very complex and fixing it would not be that easy, but the future will witness the collapse of such an existing system and a rush to reserve gold and silver. The proposed solution to avoid such an international financial Tsunami is to freeze all financial derivatives, implement zero interest rate and apply the gold and silver standard.

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