

The Oil Drum: Campfire

Discussions about Energy and Our Future

The Dollar, Euro, Peso, Yen, Pound in your pocket

Posted by [Nate Hagens](#) on February 1, 2009 - 9:34am in [The Oil Drum: Campfire](#)

Topic: [Miscellaneous](#)

Tags: [alternative currency](#), [campfire](#) [[list all tags](#)]

This is a guest post by TOD reader HoustonB outlining one possible future trajectory of 'virtual currency'. Though this post is a bit longish for Campfire standards (by a factor of 6), the author poses an interesting solution to one of our core problems - fiat currency as a marker for real capital. I hope it generates discussion on this thorny topic. HoustonB is an independent software engineer and technologist with more than two decades of experience, currently specializing in Microsoft DotNet database web development. Previous clients include Lehman Brothers (Prime Broker), The London Stock Exchange, Coca-Cola, United States Department of the Interior and other household names.

If content is forthcoming from readers, the Campfire series will attempt to have Wednesday nights (US EST) highlight 'practical/local solutions' type essays and Saturday pm with 'what-if' big idea type content. If you have something appropriate, please email the editors at address on sidebar. Sharon Astyk on deck.

Executive Summary - The Money in Your Pocket

Jan. 30 (Bloomberg) -- "The steepest decline in Mexico's peso in 13 years blindsided everyone", Jan. 29 (BBC) -- "Zimbabwe abandons its currency", Jan. 30 (BBC) -- "Wall Street has suffered its worst January on record". 30% of Iceland's population likely to emigrate. The US dollar and UK pound continuously lose value. On a daily basis the news clearly illuminates the San Andreas fault in modern economies - and yet nobody talks about the elephant in the room; are sovereign currencies such a good idea? If not, then what are the alternatives? Read on for a strong argument in favor of using modern peer-to-peer network technologies to implement something that addresses all the deficiencies of the money in your pocket.

The Dollar, Euro, Peso, Yen, Pound in your pocket

Preamble

Maybe it is true that money is the root of all evil. If so, then perhaps we should explore a new alternative that has the potential to negate the shortcomings of traditional money.

One needs to consider currencies on a global scale and the implications of having so many currencies. In addition, one needs to be cognizant of the long term trends common to all currencies; over protracted periods they lose value and eventually cease to be. This is also true for currencies that are gold backed, note that the value of gold can swing wildly.

At the core of the following essay is the idea that if something can be traded then its value can also be manipulated. It is important that you understand the concept of leveraged or highly geared trading using a margin account. In a nutshell, if the asset you are trading lacks liquidity then the gearing would be extremely low. For example, a house typically takes many weeks to sell (convert to cash) and has the lowest asset-liquidity of all. At the opposite end of the spectrum is cash itself in any currency.

If you were trading houses and you use your own fully-paid-for house as collateral, then you might be allowed to trade one-time or two-times the value of your house. When you are trading currencies the gearing might be over one-hundred-times collateral, this means for each \$100 of your own money put into the trading account, you can trade \$1,000. This type of leverage amplifies the potential to make a profit (or loss) on relatively small movements in exchange rates.

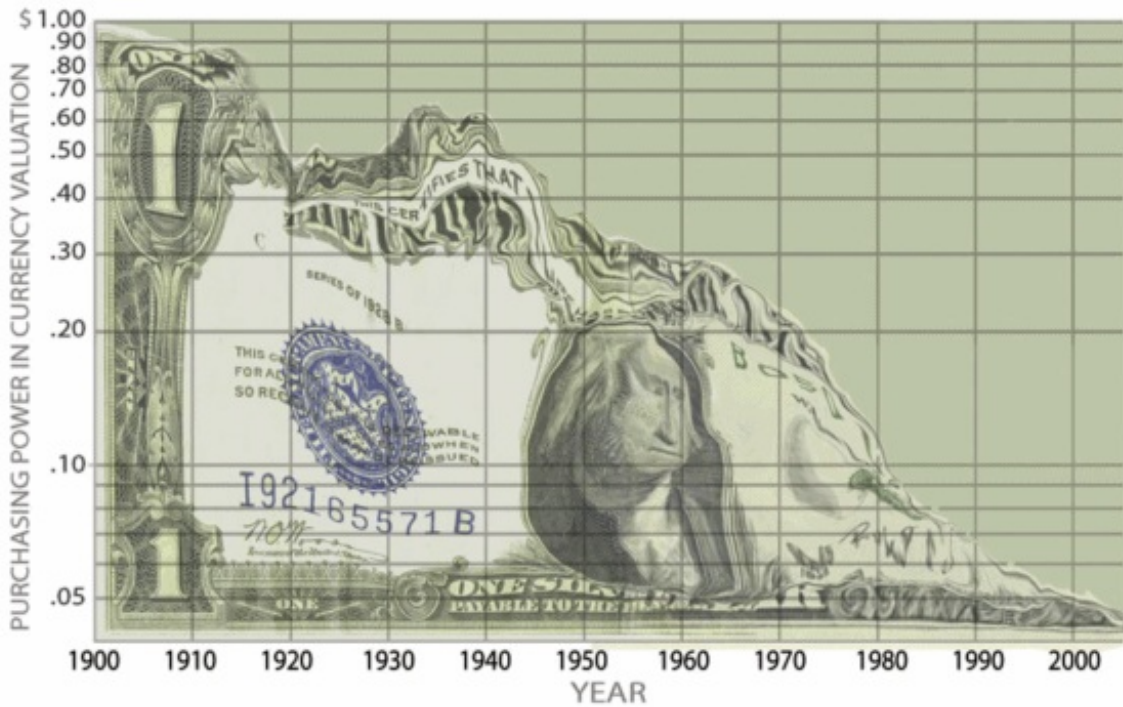
The majority of systems are dependent upon a set of variables whose initial states are random. Were you born in the tropics, the frozen north or a green and pleasant land? Perhaps you were born in a country with a lot of oil or other natural resources, precious metal or gem stone deposits. The variables are not conducive to harmony or finding long term equilibrium. The reality is that even if you are born in a land with oil you are unlikely to benefit as much as the corrupt ruling elite (Nigeria), or the monarchy (Saudi Arabia). Do you suppose the people of South Africa feel the wealth of their gold and diamond deposits has been distributed equitably?

In the grand scheme of things, money is just another variable, but it need not be so.

An international long term race to the bottom

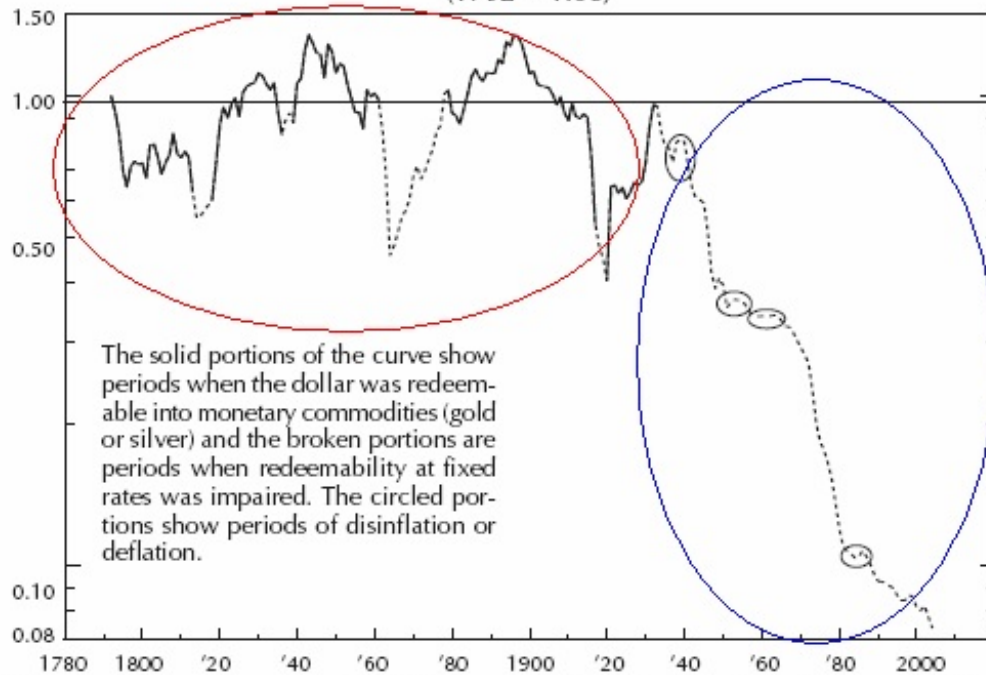
The following graphs are self explanatory, they are not all identical but the sentiment is clear, the purchasing power of the dollar has been unremittingly eroded:

PURCHASING POWER OF THE US DOLLAR DURING 1900 - 2005



PURCHASING POWER OF THE DOLLAR

(1792 = 1.00)

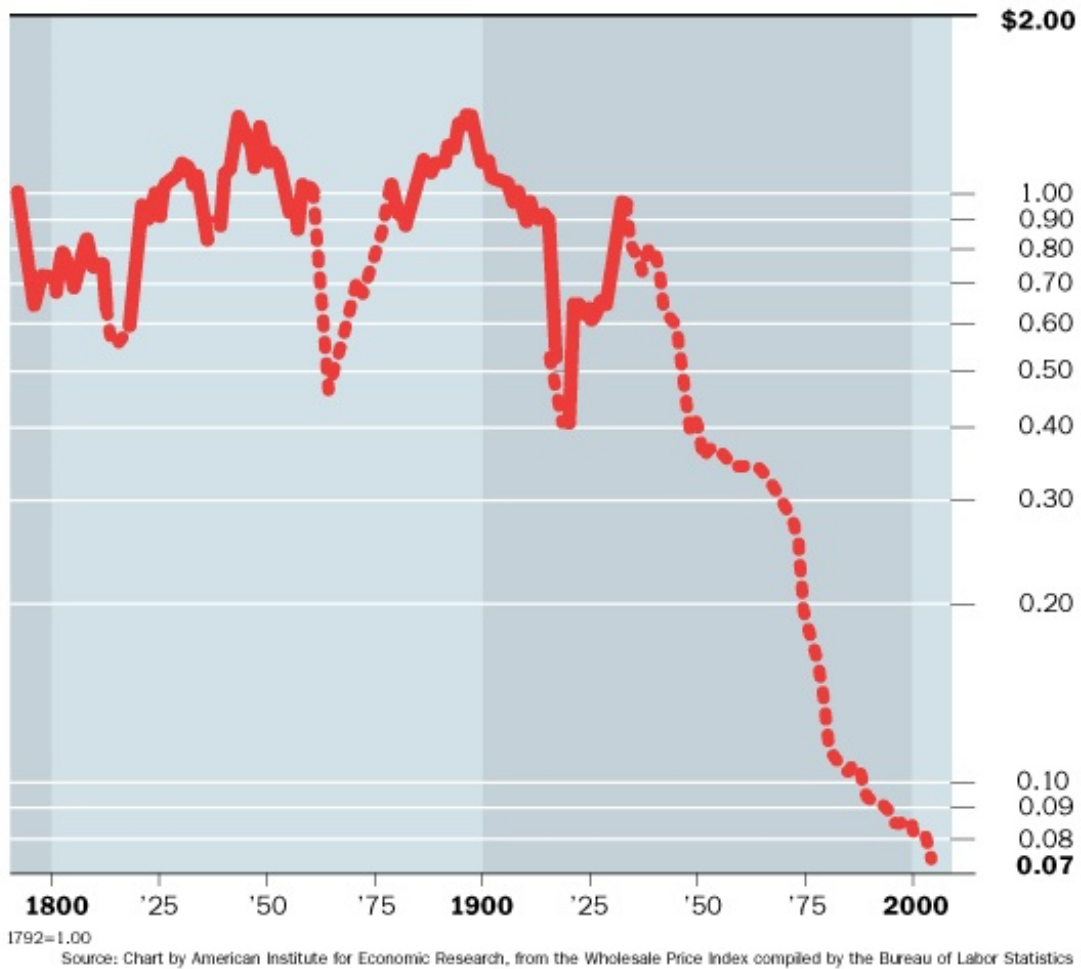


The solid portions of the curve show periods when the dollar was redeemable into monetary commodities (gold or silver) and the broken portions are periods when redeemability at fixed rates was impaired. The circled portions show periods of disinflation or deflation.

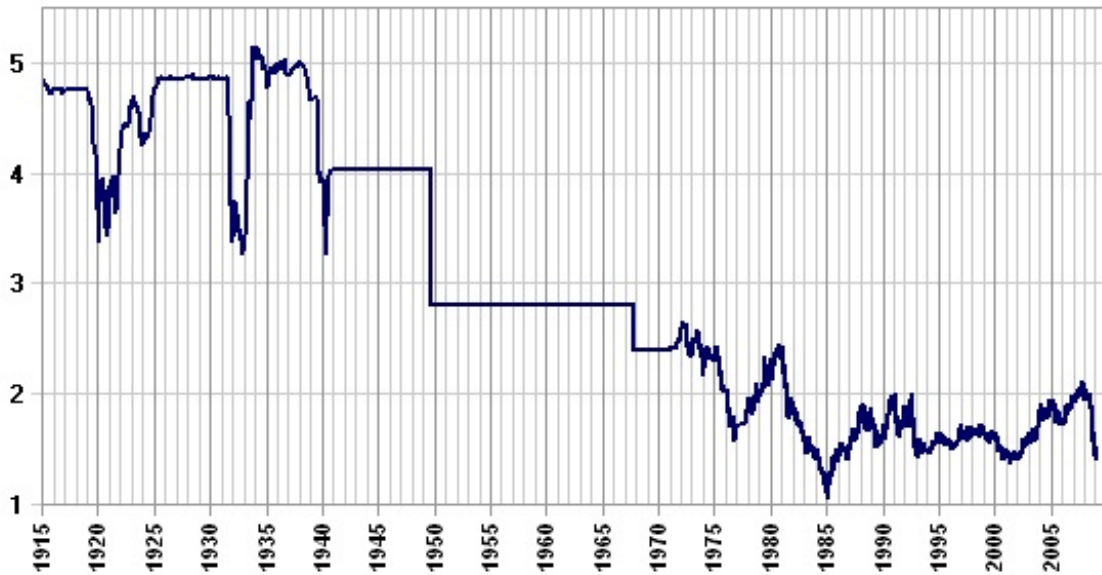
Note: Purchasing power was calculated from the Wholesale Price Index (source: U.S. Department of Labor).

The Greenback's Purchasing Power

This log scale chart of the purchasing power of the dollar begins with an index value of 100 at the passage of the Mint Act of 1792. The solid lines present periods when the dollar was convertible into a specific quantity of gold, and the fluctuations represent changes in the purchasing power of gold. The dotted lines present periods when the dollar was not pegged to gold, during and after the War of 1812, the Civil War, World War I and World War II. There was limited convertibility from 1945 to 1971, but the dollar lost purchasing power during the period. The last link between the U.S. currency and gold was cut in 1971 and the loss of purchasing power accelerated. By 2004, the dollar had lost more than 92% of its original purchasing power.



The following chart shows the UK pound descend from a high of approximately \$5 in 1915 to \$1.36 today.



100 Year GBP to USD (Chart by Mike Todd, click chart for source).

If the dollar has fallen more than 90% in value since 1913 and the UK pound has gone from \$5 to today's \$1.36, then relative to the dollar it looks like the pound has fallen by a factor of 350 from its once lofty heights.

Admittedly the purchasing power of any currency cannot be considered in a vacuum. One also needs to consider the increase in wages and the efficiencies afforded by modern technology and manufacturing practices. However any increase in wages etc. is likely offset by considerable increases in taxation and an increase in the cost of living. The increase in the cost of living results from, for example, new medical procedures that were impossible 100 years ago in tandem with elevated personal expectations - 100 years ago a typical working person might have aspired to own their own bicycle, these days it is a bloated Sport Utility Vehicle (SUV).

Where we are today compared to 100 years ago is arguably irrelevant. A more pertinent question might be, where could we be? It is much more difficult to answer that question when money is a variable.

Sovereignty of currency carries a very heavy price and this price is bankrupting the UK. Bear in mind that the US dollar itself has been in terminal decline for the last 100 years and then you might see the dilemma unfolding in the following five year chart of the British Pound against the US Dollar:



The UK Pound has gone off the proverbial cliff. Consumer confidence is no longer the correct attribute to measure. We should be measuring fear, for surely this must be rising to a quick boil.

When a currency loses all value and hyperinflation ensues, the result is extreme hunger for many and starvation for others. It is not written anywhere that this only applies to countries like Zimbabwe. January 29 2009, Zimbabwe officially [abandons its currency](#).

As a society we play fast and loose with a tool that should be one of the most precious to us, not because it has any intrinsic value, but rather because of its utility. Recognizing or negotiating a fair price is difficult if one day your currency is a chicken and the next day it is a goat.

Since inception, governments have constantly tinkered with their (our) currencies - pegging, unpegging, increased / decreased supply, gold backed, free floating - and which is more apt free-floating or free-fall?

Why the need to constantly tinker? Because the absence of trade deficits and a positive balance of payments are key to a countries long term economic prosperity especially in a world where all countries are playing the game of devalue-our-currency. It does not upset anyone when bread doubles in price, if salaries have tripled. The game is up, for many years salaries have not kept up with the rising prices stemming from the triple punch of currency devaluation, natural resource depletion and over population.

Governments manipulate the value of their currencies by direct buying or selling on the international markets or by adjusting their interest rates. Iceland attracted considerable foreign investments by offering unsustainable interest rates above 10%. The net losses on [Icelandic bank] accounts opened in the UK and the Netherlands may exceed the Icelandic GDP. UK and Netherlandand governments are demanding that the Icelandic government repay a substantial portion of the losses. The likely outcome would be sovereign default.

Consider a situation where the UK wishes to devalue the pound to make UK exports cheaper, it chooses to do so by a combination of increasing the supply of pounds in circulation, thus diluting

the value of those already present and also through the purchase of immense amounts of foreign currency in exchange for gold. One would expect the price of gold to slide or at least halt any increases. The foreign currency being purchased is however subject to upward price pressure. If the currency subject to upward price pressure is yours, then your government would likely want to correct matters to ensure that the price of your exports are not adversely effected. If the UK chooses to sell its reserves of US dollars to acquire pounds, then this doubles the potential impact.

It quickly became apparent to governments that instability and endless adjustments are not desirable resulting in things like like the [European Exchange Rate Mechanism](#). and ultimately the Euro. Alas there are still [over 170 currencies](#) to play with.

Governments of all persuasions do not restrict themselves to just tinkering with currencies, they also manipulate key statistics. Unemployment figures no longer count all of the unemployed, the criteria to be counted is constantly changing. The determination of inflation is worse, the inclusion of [hedonics](#) ought to be enough to convince any sane person that we now live in a farce.

Inflation in the sense of increasing the money supply that is chasing a finite supply of goods resulting in higher prices - is itself a grotesque abstract contrivance and if you read further you will see that is is completely unnecessary.

All countries fully understand the rules and are experts, unfortunately a global consensus on how to stop the madness is unlikely to appear.

Motivation for Systemic Change

Cultural shifts - at an organizational level, [NASA](#) learned that it is beneficial for Scientists and Engineers to be using the same units of measurement and that internal competitiveness is not better than internal cooperation. In New York on September 11, 2001, the collapse of the [World Trade Towers](#) resulted in the discovery that the CIA, FBI, NSA etc. were also more likely to be competing than cooperating. There are numerous cases where communication failures and lack of cooperation between social services and police have had tragic consequences. In the west and especially in the USA we live in a society where competitiveness is deeply ingrained at an individual level and yet at an institutional level we expect the opposite.

It is profoundly unfortunate that it takes real disaster to spur the changes that are critical and beneficial. For NASA it was the loss of space probes and the loss of Challenger with all crew. For the USA national security agencies it was the loss of the World Trade Towers in New York.

The magnitude of the current economic crisis combined with the sheer size and number of institutions involved is more likely to lead to failure than the discovery of the crucial changes that need to be made. Politicians run around like headless chickens, temporarily abandoning their campaign for president, while they rush back to Washington to deal with emergency bail outs, with the mistaken belief that they can make political capital out of an Everest of excrement.

We are being ripped off. This is especially the case for the last couple of decades in the UK. A glance at the prices on the back of books, music CD's etc. will invariably reveal that the price in GB pounds is remarkably similar to the price in US dollars, despite the fact that the exchange rate for the majority of the period was better than 2 to 1. The price difference for German made cars

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purchased in Germany compared to the price in the UK was even more shocking, to the extent that people were prepared to go to Germany to purchase a car and arrange for it to be imported into the UK. Many people routinely made trips into France and returned with their vehicles packed to the rafters with wine, alcohol, cigarettes, etc.

Again we are being ripped off. The banks and most large corporations are determined to screw us into the ground. How is it equitable that late payment of a utility bill can result in an increase in the interest rate on ones credit card? This state of affairs is intolerable with millions of people subject to swingeing charges.

The institutions have failed us. In the USA the government, the Treasury, the regulators (SEC etc.), the Federal Reserve System, The Office of the Comptroller of the Currency - that is supposed to regulate the banking and credit card industry - and the banks have all proved irrefutably that they are either incapable or have no desire to represent the interests of the people.

The need for a stable predictable financial system is recognised by all. "What our industry needs is first and foremost a functioning financial system," Tom Enders Chief Executive officer of Airbus Industries [told the BBC](#) at the January 2009 World Economic Forum.

There is little doubt that President Obama is likely to be one of the best presidents ever to occupy the highest office. However it is much harder to believe that in the time available it will be possible to move the entire culture and philosophy of America to the place it needs to be. The challenge is bigger than America, it is global. Presidents and Prime Ministers across the globe will be too busy fighting fires. The United Nations is now completely preoccupied with escalating humanitarian disasters. The only hope of a working solution is if it comes from people across the entire planet.

Stability in Flawed Economies

Across the board, stability has long been recognized as desirable. January 23 2009, French President Nicolas Sarkozy called for [fixed prices for multiple raw materials](#) including crude oil. Stating that this is good for both producer and consumer. Fixed or stable prices, determined by some agreement or mechanism are all well and good, until someone figures out a way to game the system.

Sarkozy could have transcended the simplistic recognition that stable prices for raw materials are desirable. It is equally desirable that prices of all commodities be stable, especially food, energy and shelter. It is lamentable that non discretionary spending for the majority should be exposed to the full force of a deeply flawed market economy.

For an example of 'deeply flawed', consider a recent change (October 2008) made by JP Morgan Chase Bank. As a service (their words not mine) to its credit card customers Chase reduced the grace period between statement creation and due date from 25 days to 20 days. There are three ways this reduced grace period could have been implemented:

- Move both dates closer to each other.
- Move the statement creation date closer to the due date.
- Move the due date closer to statement creation date.

Choosing the last option is the one most likely to catch the greatest number of customers that miss the notification of a change to the grace period. Miss the due date by even an hour and Chase will happily reach into your pocket and take a staggering \$40 late fee and also charge interest on any balance. Which option do you suppose was chosen by Chase?

There are probably millions of Chase customers that are paperless - everything is done on-line. As a software engineer, and web developer in particular, I know how easy it would have been for Chase to notify all [paperless] customers of the change to the grace period and also to obtain specific and unambiguously confirmed acknowledgment of the change. They did no such thing. The notice of change was at the bottom of the PDF version of a single monthly statement hidden in the small print under the staple. You should note that it is not necessary to view the PDF version of statements, since all information is accessible in the normal web pages. The collection of normal web site usage data would mean that Chase knew before hand the number of customers that regularly view the PDF version of statements.

It is likely that a substantial number of Chase customers that chose to be paperless were not adequately informed. Chase probably obtained in excess of \$100 million fraudulently and a number of Chase customers likely transitioned from head above water to drowning. The banks screw us repeatedly and yet we bail them out instead of crucifying them.

Other examples of deep flaws would be enough to write a substantial book - the lack of integrity in ratings agencies, the inability or reluctance of regulators (SEC) to find anything wrong with [Bernard Madoff](#) after numerous investigations, the list could go on for a very long time. Who can possibly argue that there are not deep and profound systemic flaws?

There is one more banking example that has to be mentioned, it is identical in nature to Chase's behavior above. Many people will be familiar with this: An individual has \$50 in their account, on the same day four checks are processed by the bank. The checks are for \$55, \$2, \$2 and \$7. Who can guess the order in which the bank will process the checks. Of course, by design, it is the largest check first, because that causes an overdraft and now all four checks can result in \$100 or more of charges. Say again how banks have nothing but good will for their customers.

It would be impossible to regulate every contrived technique used by the banks and large corporations to "prevent" them taking advantage - it would be nice however if it was easier to prosecute them and make them think twice thereafter. The time for such niceties has passed. Prosecution is not supported by our paid-for representatives and institutions.

Stability continued

Many European Union countries, Italy, Spain, Portugal, Ireland, etc. are only able to maintain some semblance of normal civilization because they share a single currency that protects them against the vicissitudes of wild currency exchange rate swings.

It would be bad enough if tinkering with the value of currencies was restricted to governments and central banks. Alas, we also need to consider professional gamblers such as [George Soros](#).

In September of 1992 Soros made 1 billion in profit on a single deal because he bet successfully

[The Oil Drum: Campfire | The Dollar, Euro, Peso, Yen, Pound in your pocket](http://campfire.theoil drum.com/node/5011)<http://campfire.theoil drum.com/node/5011> that the UK pound would need to leave the European Exchange Rate Mechanism (ERM). The bet that Soros made was so big that it manipulated the market and became self-fulfilling. There is something immoral about a system that allows one man to gamble and effectively take \$30 in winnings from every man, woman and child in the UK. The UK Treasury estimated the cost of Black Wednesday in 1992 at £3.4 billion. Probably the Chancellor Lord Norman Lamont's worst day.

Lamont's announcement followed by talking head analysis

The recent and ongoing civil unrest in Iceland, Slovakia, Bulgaria, Greece, Ukraine, et al. is only a hint of what lies ahead if stability cannot be regained.

There are two ingredients at the heart of modern economic instability. The first is the existence of multiple currencies subject to the whims of authority and also the opportunity (through highly leveraged bets) for speculators like George Soros to pit one currency against another. The second, to a lesser extent, is a combination of offshore tax havens and the fact that it is not illegal to move money to these locations - the only reason it is legal is because the powers-that-be are the primary beneficiaries.

Possible Alternatives

What are the possible solutions? Perhaps curtailing the currency speculation simply by an international consensus banning it - but anyone familiar with financial derivatives and complex financial instruments knows that this is much easier said than done. Metaphorically speaking, the whole house would need to be pulled down and rebuilt. Any interaction with off-shore tax havens should simply be made illegal.

A [paper currency with integrated inflation that encourages liquidity](#) - this is a [Scrip currency](#) possibly first conceived by [Silvio Gesell](#) I leave it to the reader to follow the links and familiarize

The Oil Drum: Campfire | The Dollar, Euro, Peso, Yen, Pound in your pocket<http://campfire.theoil Drum.com/node/5011> themselves with this concept. This alternative shows how deeply ingrained and accepted inflation has become.

Local paper currencies - January 24 2009. The town of Lewes in the UK has reintroduced its own paper currency ([BBC News Link](#)). No doubt there have also been a few sales of high quality color printers associated with a new interest in high quality digital photography. The creation of local currencies is not the answer.

[On-line virtual currencies](#) - In some on-line games virtual currencies are beginning to gain social acceptance because of mass adoption. Unfortunately, in one case this is flawed because it is exchangeable with sovereign currencies resulting in some countries stating an interest in taxing transactions ([BBC News, November 2008, Sweden tax law clarification](#)). Perhaps this is a reflection of how truly desperate the situation really is.

A Better Alternative

The argument here is not for a single world wide currency in the sense of a traditional sovereign currency controlled by a central bank or group of central banks.

Much better would be an international peer-to-peer network based virtual currency that lies outside the domain of any sovereign state - but most importantly this virtual currency must never have any physical manifestation and must never be convertible to or from any sovereign currency.

If a virtual currency cannot be converted into a physical currency and lies outside the domain of any sovereign state, then it cannot be subject to a King's tax - this is the catalyst that created an independent America in the first place and the corner stone on which all people should build. Civic infrastructure and government can still exist without income tax, sales tax and VAT.

A virtual currency gaining widespread international acceptance with no generally recognized and accepted mechanism to convert to or from a physical currency - may over time make physical currencies irrelevant. This will not please those people that have billions sitting in numbered Swiss bank accounts, nor will it please the Swiss people. It would also definitely not please George Soros or the executives of any bank.

How happy will the Marcos families or Robert Mugabes' of the world be, if their ill gotten gains are invalidated.

Countries and companies (De-Beers) that rely on either serendipity or monopoly for the creation of wealth may find the ground moving beneath them as precious metals and gems lose some consideration as a store of value. People should wear pretty things because the things are pretty, not because they pray at the altar of conspicuous consumption.

You might wonder how such a virtual peer-to-peer networked based international currency could get started, given that there is no way to exchange into the system from existing physical currencies.

The answer is simple. Everybody starts with a zero balance. Any transaction between two parties

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For example, a farmer wishes to employ some people to work in the fields. Assuming any positive, zero or negative starting balance - the farmer posts to the network a desire to employ people to work in the fields and the amount required. Others that have "community links" to the farmer on the network give permission for the facility, in effect an overdraft. In reality the farmer is free to use the facility to pay people working in the fields or to buy seed, fuel, fertilizer, animals, equipment, food, etc.

Transactions can originate from computers connected to the internet or from cell phones.

For cell phones the transactions could be performed by text message instructions or the use of applications running on smart cell phones. In Japan cell phones are already used for a considerable number of financial transactions ([DoCoMo financial transactions](#)). Each transaction would require two matching instructions and would be done in real-time. No more waiting several days for funds to be 'cleared' while the bank plays on the international markets with your money (and apparently at your risk).

Buyer / Seller

The buyer sends an instruction specifying the amount and the public identity of the seller's account. Example:

"Pay 45 to HB", this could be abbreviated to "P 45 HB" or "P45HB".

The seller sends a matching complimentary instruction that also specifies the amount and the public identity of the buyer's account . Example:

"Receive 45 from XM", this could be abbreviated to "R 45 XM" or "R45XM".

When the system has received both instructions and successfully matched them to each other, then the transaction is performed immediately and a confirmation message is sent to both parties. Instructions not successfully matched after some [user determined] time will result in negative acknowledgments sent to both parties.

It may be insufficient for the system to rely solely on the senders cell phone number to identify the source of instructions, since Internet Protocol (IP) telephony can spoof a phone number. Whether IP telephony can be used to generate [SMS](#) messages is unclear. For example an SMS message originating from Yahoo Messenger or Windows Live Messenger does not appear to originate from a number that would be generally recognized as a phone number. This issue could be addressed by appending a predetermined Personal Identifying Number (PIN) or secret word to the end of the instruction. The use of an application running on a smart phone renders this issue moot.

The reliability of instruction matching for instructions originating from smart cell phones could be aided by assuming close temporal proximity.

Employer / Employee

The employer sends one instruction specifying the amount and the public identity of the other account to credit. The employee sends a matching complimentary instruction. The remainder of the process is the same as that above.

Account Identities

Accounts would have a public identity that can only be used to increment the account and a private identity used for management of the account or querying account activity, balance, etc.

Instruction Security

Using computers or smart cell phones that support the use of applications provides the highest level of security. Plain text messages on cell phones are less secure. Rudimentary research using Google indicates that SMS messages on both [GSM and CDMA](#) cell phone technologies are sent as plain text and it is possible for these to be picked up over the air, or with ease by the telecommunication provider - though (in the USA) in both cases a court authorized wire tap would be required.

Acknowledgments could be sent as plain text if they are limited to "Transaction succeeded".

Simply lobbying cell phone manufacturers to integrate encryption of sms text messages is not a solution, since the encryption and decryption algorithms or keys would need to be common to all cell phones i.e. public knowledge.

The other issue with cell phones that needs to be considered is [cell phone cloning](#).

System Security : The Transparency / Privacy Balance

Obviously there are now some readers that are pondering how the system could be defrauded.

One simple approach to reduce the potential for fraud, is complete transparency. If one stands in line at a super market and purchases haemorrhoid cream, then for most of us there is little expectation of privacy. In most countries it is a trivial matter for the authorities to peruse bank, credit card and phone data. When you are interviewed for a job, you may be asked what are your weaknesses and like sheep most of us will meekly inform our potential employer everything they could ever want to know.

The place for privacy is in your home, in your bathroom, in your bedroom and in your mind. The following is contentious, but why should knowing a persons salary or spending habits be considered an issue of significant personal privacy. Why should anonymous and uncaring bureaucrats know more about you than your friends and family. Would Eliot Spitzer, former Governor of New York state, have committed adultery with a prostitute if we all knew about it within a matter of minutes. Would there be potential to bribe high ranking officials if all transactions are transparent. Obviously bribes using physical gifts e.g. precious metals or a new car would still be possible, but you cannot put a new car in a Swiss bank account. How would

With regard to transparency, this does not need to be an all or nothing affair. If I am at a yard sale and wish to purchase something, then the seller will not likely be interested in my history and is only interested in not being cheated. Real-time clearance of transactions with immediate confirmation makes that possible and definitive.

Transparency could be controlled by the user. Entering into a significant economic relationship with another party might entail providing access to your transactions etc. People that choose to hide their transactions and suddenly appear to be living outside of their means would be subject to community query. We all effectively become the bankers, the financial police and the federal reserve, without any of the overhead or costs and obvious risks normally associated with such infrastructure.

Users should also be free to determine how long the system maintains a history of transactions - no history means no risk of audit. The corollary is that the account holder may be less trustworthy. People should be free to make their own choices and assessments.

With the option of anonymous transactions and no transaction history then there is no difference between a virtual currency and cash.

System Security : The Technology

An obvious requirement for a virtual system that is meant to be outside the domain of any sovereign state, is that it should not facilitate easy access by existing authorities. This pretty much is an opposite requirement to complete transparency.

If I do not tell the authorities my unique network identity then the only way they 'might' be able to obtain it, is if they have someone inside the network that undertakes a transaction with me (and my account's public identity would not be of much value anyway). This automatically raises the cost to the authorities to the point that they would need extremely good reasons to go to such lengths. With millions of people in the network it becomes practically impossible for any authority to gather significant amounts of data.

Eavesdropping on electronic communications is easily protected against with encryption, and if the encryption key is unique to each individual or even each transaction then little is gained by authorities successfully decrypting a single transaction.

Authorities visiting a server location can also be addressed by partitioning, encrypting and distributing data. The partitioning of data can be thought of as slicing and dicing. It is a trivial matter to take a data table, think of them as fully populated spreadsheets, and slice the table into separate parts. The term often used in database parlance is vertical and / or horizontal partitioning. The addition of temporal partitioning, geographical dispersion and extreme normalization results in a database that is very difficult to recombine en-masse back into anything meaningful or useful. The addition of modern peer-to-peer networking would make it an exercise in futility.

It is also a trivial matter to limit or cap the number of inquiries that can come from a discrete

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node on a network. Simple traffic analysis can completely negate the attempt to extract data from multiple nodes concurrently - since we cannot be in two places at one time. If you can only see the universe through a pin hole, then you will not have much of a view.

The primary defense against intrusion is to create a moving and dynamic goal post. Make the effort to get into the system great and the reward negligible. As with all computer related security issues, the primary weakness is social in nature and not technical.

The use of anonymous pay-as-you-go cell phones would facilitate semi anonymous transactions - useful for criminals and the paranoid. Completely anonymous transactions could also be facilitated, if deemed necessary by a majority, through the use of one-time transaction numbers, akin to a [single use credit card number](#). There are very few tools that have been created that do not offer both beneficial and nefarious uses.

In addition to all of the above, an international virtual currency on an international peer-to-peer network, need have no head office, and no central control - there is no head to cut off. The absence of a head is something that paralyzes authority. Oppressive regimes will likely try very hard to block all access to such a network - this would effectively be a case of selecting extreme self imposed isolation from the rest of the world.

The Benefits

Your virtual currency is international, you can visit another country and nothing changes except perhaps local prices. You can know the real cost of a hotel, food, taxis and the cost of living on the the other side of the planet in terms that you use on an everyday basis. Wave goodbye to exchange rates and multiple charges by Bureau de Change, also wave goodbye to international ATM charges and ATM's. A virtual currency would also be ideal for on-line payments of any magnitude - wave goodbye to PayPal and wave goodbye to the hidden 3% charge included in the price for credit card payments. People that think the absence of interest or annual charges signifies a free credit card are sadly mistaken - if you cease to use a credit card for all transactions then it becomes free.

Families dispersed across many countries would never have to consider sending money home - since the same currency is shared across borders and moving money between accounts is a trivial matter (free of wire-transfer charges and complications). Wave goodbye to Western Union and Money Gram.

There are many countries like the Philippines where opening a bank account is a luxury for a wealthy minority and many members of families regularly send money home to parents. The fact that Western Union has a de facto monopoly and the Philippines government does nothing about it, is nothing short of criminal. People that are already relatively poor, pay 10% commission to Western Union to send money home, how can this be acceptable to anyone?

Opening an account should not be the preserve of the well endowed or fortunate. Anti-money laundering requirements in the UK mean that you cannot open a bank account without a utility bill, even a passport is not sufficient - it has become truly absurd.

Would it be nice if you controlled the savings you have in the bank? You get to decide if your

savings are available for loan to others and the terms. If you decide not to make any of your savings available to others, then there is no risk to you, therefore there is no need for any insurance. There is no bank that can become insolvent or suffer a 'liquidity' crisis.

If there is no physical bank, then there are also no bank charges and no executives rewarding themselves with your money. If negative balances are as common place as positive balances, then the notion of an overdraft is invalid, as are the fees and charges associated with such.

Bad checks and check fraud are confined to history.

If there is no physical bank, then there can be no run on a bank. No fat cats sitting in ivory towers, no private jet, no luxury yacht. If the financial gurus of the world want to get rich they will need more meaningful jobs - surgeon or farmer springs to mind.

For too long, banks have been able to get away with immoral charges that are definitively disproportionate to the actual underlying cost of any service. The charges are, more often than not, capricious and egregious, only if someone is prepared to kick up a sufficient fuss is there the possibility of a refund. The UK has seen [significant recent legal challenges](#) brought against banks and their charges.

This essay describes how it is possible to start again. To render credit card banks irrelevant. To make credit scores redundant. An end to identity theft and the idea that you are defined by your social security number, your date of birth and your mother's maiden name. We should be defined by who we are, not the result of a calculation by a ratings agency.

International trade is simplified. Goods on the slowest boat from China will not change value while they are in transit. It is no longer necessary for international traders to hedge against currency fluctuations since they no longer exist.

International trade dependent on letters of credit becomes a thing of the past.

Finally, it is impossible to counterfeit a virtual currency.

The Biggest Benefit - Absolute Stability

In addition to lacking the infrastructure, burdens, costs and risks of a physical currency, another benefit of an international virtual peer-to-peer network based currency that has no exchange mechanism - is that it cannot change value, it cannot appreciate or depreciate, it is not subject to inflation, deflation, stagflation or speculation. It cannot be manipulated by the change of an interest rate nor diluted by an increase in the speed of the printing press. The net amount in virtual circulation is always zero. It cannot be traded or manipulated by authority. In the truest sense possible it would be a fiat currency that belonged to the people. Stability is an entirely reasonable expectation, it should not cost the Earth - it should be a right!

If the deal of social security, retirement and pensions is nothing more than a fraud, then it is time to start again from scratch and cut out the evil cancer at the heart of modern economics.

If the future is one where localization is a predominant factor in a post peak oil world, then a stable virtual currency is a foundation on which to maintain communities. Communities that

The Oil Drum: Campfire | The Dollar, Euro, Peso, Yen, Pound in your pocket<http://campfire.theoil drum.com/node/5011>
desire to build or maintain civic infrastructure can still do so - the difference is that the funds will be given (by mutual agreement) as opposed to taken. The world's biggest and most convoluted tax code - rest in peace.

The Cost

Expressed in US dollars at today's value and based on the assumption of complete adoption, the cost to develop and maintain the software would be less than 1 cent per annum per user. Developed as open source software (the preference) the cost would fall closer to zero in relative terms.

Hardware and operational costs are largely distributed to the user base itself, since it is a peer-to-peer network, and as such these costs are deemed too negligible to warrant further elaboration.

Entry level hardware requirement for a user could be reduced to a (shared) smart cell phone or use of a computer in an internet cafe, that is, if computers in an internet cafe can be trusted not to have virus or key logging software. This would mean that people in the third world would not be excluded. See above for issues relating to the encryption of SMS messages. The hope would be that the cost of smart cell phones can drop considerably. If encrypting the text message instructions is not deemed critical then the minimum entry level cost drops to the price of the cheapest cell phone.

Obstacles

In the USA, the biggest obstacle would be the screams from authority about the loss of the US dollar as the world's de facto trading currency - this would be a lie since in reality they are much more concerned about anything that might undermine their wealth, authority and power over you. The rest of the world may soon be screaming louder.

The only other obstacle is you.

Conclusion

This essay is not comprehensive and is not meant to detail every eventuality. For example there is no mention of individuals or businesses creating multiple accounts and attempting to game the system. These issues and numerous other social issues can also be readily addressed but describing everything in depth here would be too great a task.

One final thought. A virtual currency that cannot change in value should be reflected in very long term stable prices and ought to be the perfect compliment to a steady-state sustainable economy. People will be able to save for some kind of retirement with a degree of certainty about the future price of bread or their favorite indulgence.

Hyperinflation for the USA looms on the immediate horizon. Business as usual is no longer a choice. China recently made the Yuan an international currency that can be used for trading and held in reserves. Will the Chinese Yuan supplant the US dollar as the preferred international currency?

It would be interesting to see if others see any merit in the system described above. My hope is that the foregoing will strike the majority as a spirited, compelling and cogent argument in favor of something radically new.

It is time to start again. Thank you for reading. If anybody cares to translate this essay into French, Spanish, German, Tagalog, etc. then please feel free to do so.

The Author

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His world wide public account identity is HB.

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