

THE CURRENCY



James King

PARADOX

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JAMES KING

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TABLE OF CONTENTS

[How Do You Tackle a Big Idea?](#)

[On Bitcoin](#)

[The Paradox of Fiat Currency](#)

[The Debt-Driven Economy](#)

[The Fundamentals of Exchange](#)

[The Wealth Psychosis](#)

[Time \(and Effort\) is Money](#)

[Better Money](#)

[A New Idea Addresses Some Old Problems](#)

[Not One Money, But Two](#)

[Smarter Money](#)

[Health is Time](#)

[Passion > Incentives](#)

[The World Beyond Capitalism](#)

[The Final Frontier](#)

[Time is Running Out](#)

[Why It Matters](#)

[Not the End, but the Beginning](#)

[For Further Reading](#)

[Connect With James King](#)

How Do You Tackle a Big Idea?

It took me over two years to decide how I was going to write this. The first challenge is the topic: economics. If you've ever tried to read anything related to economics, you know that the subject can be so ponderous and laden with charts and mathematical formulas it feels like your brain has eaten a ten-course meal. Being a layman, I have neither the inclination nor expertise to build an empirical case. This is simply an idea, but one that I think has far reaching implications. I'll leave it to the experts to decide.

The second challenge is that I am not a writer by trade. I tend to be stream of consciousness when it comes to my writing; it is often very unstructured. I like to have flow in my writing, but this idea required me to think more structurally about its presentation. I didn't want it to be didactic; I wanted something more prosaic and easy to read. In the end, I felt that writing it as an essay would be the best course. You won't find charts in this work and only enough endnotes to support whatever facts I think I absolutely have to verify. Other than that, this is a 14,500 word thought exercise, so read at your own risk.

On the other hand, those very knowledgeable about economics or finance may find this essay simplistic but, hopefully, not inaccurate. As I've stated, my interest in economics is personal rather than professional. My goal is to present information regarding a very complex topic in as simple a way as possible. That means I paint in very broad strokes, enough to accurately present my points while not distorting the facts related to the topic.

A caveat: the insights may not be original but, hopefully, the perspective will be. It's tough to cover things related to

capitalism, currency, and the economy that haven't been addressed before. It is my perspective on those topics that I hope you'll appreciate.

I decided to start this essay with my thoughts on a current technological and financial phenomenon, Bitcoin. Some people consider it the future, but I think is a waystation on the road to a better idea.

On Bitcoin

There's been a lot of press recently about Bitcoin. What exactly is it? The simple answer is that it is a virtual currency. However, what makes it unique is that it is also an astounding innovation in computer protocols, akin to HTTP, SMTP, and other core Internet technologies. The Bitcoin protocol eliminates the need for a trusted third party when performing electronic payment transfers. Rather than entrusting (and paying) a third party to handle a payment transaction between two parties, Bitcoin allows two parties to transmit currency, in the form of bitcoins, to each other near instantaneously and at very little costs.

What is exciting about Bitcoin is its speed, security, and low costs associated with payment. Its infrastructure maintains a perfect record of all transactions and has proven to be impervious to any malicious electronic attack. Proponents are excited by its potential to financially empower billions of people without access to banking resources or for whom money transfer is expensive.

While a tremendous achievement in a technological sense, Bitcoin is highly unlikely to be effective as a currency. For the most part, the important qualities of a currency are efficiency, elasticity, and its ability to store value. How does Bitcoin measure up?

For practical purposes, consider "efficiency" to mean the ease with which currency is used for payment or transferred. Is Bitcoin solving a problem related to the efficiency of modern currency? Not really. Granted, transferring Bitcoin is extremely fast, inexpensive, and secure, but it lacks the comprehensive infrastructure of today's fiat currency. Literally, trillions of dollars are

transferred between parties for payment or foreign exchange using the current system, which is mostly electronic and largely frictionless. In this respect, Bitcoin and other so-called “crypto-currencies” aren’t solving a problem. As it relates to efficiency, the fiat currency system as it exists is “good enough.”

In regards to “elasticity,” fiat currencies are very flexible relative to the needs of the market. The money supply can be expanded or contracted as needed by governments or central banks. “Elastic currency” allows a central authority to address excessive inflation, deflation, recession, or other distortions in a capitalist economy. Is Bitcoin more “elastic” than today’s fiat currencies? Absolutely not.

Indeed, Bitcoin suffers from many of the same problems that make gold impractical for modern use as currency. Similar to gold, Bitcoins are electronically “mined”; as more are created, the computational resources required to mine them increases. The net effect is that relatively few Bitcoins are produced. This causes Bitcoin to more closely resemble commodity money, mirroring the same deficiencies. The fact that the total supply of Bitcoins is always a known absolute quantity and that new ones are slow and resource intensive to produce encourages price volatility that actually greatly exceeds gold. However, the most damning aspect of Bitcoin is the fact that only 21 million units will ever be produced. Whatever beneficial qualities they have will paradoxically encourage them to be hoarded, artificially limiting supply. Right now, over 60% of Bitcoins have never been transferred or exchanged. As the absolute limit of its supply is reached, Bitcoin transactions could potentially slow to a crawl. Demand could exceed supply so greatly that Bitcoins will become

obsolete; losing whatever perceived value they have as people flee to a less scarce, more flexible currency.

Some make the argument that Bitcoins are infinitely divisible, making the elasticity issue moot. However, the likelihood is that dividing Bitcoins will create the problem of “infinite denominations,” producing a substantial amount of complexity in matters of accounting. Also, dividing a currency does not truly address circumstances in which actual expansion of the money supply is necessary. It is the equivalent of stating that a bucket of water can be stretched by using an eye-dropper for distribution rather than a cup. No amount of rationing from one bucket of water will solve the problem of needing another bucket of water.

Finally, currency should be a relatively good “store of value.” In other words, a particular currency should be generally accepted as having a certain level of worth in current circumstances and a relatively high chance of having a certain level of worth in future circumstances. Not only is this criteria very difficult to meet with today’s fiat currency but it is a difficult standard to meet with virtually any currency. However, the “store of value” problem is circumvented in a pretty interesting way with fiat currency ... its value is more or less imposed by force. Governments make the determination of what the common money will be and then use force, implied or actual, to ensure the money’s stability. This creates an interesting correlation between a country’s currency and the power of its armed resources relative to the population. It’s likely not a coincidence that the world’s most powerful country militarily also has the dominant fiat currency. The bottom line is that the government of the United States of America has the legal

apparatus and force of arms to ensure and reinforce the acceptance of the dollar as legal tender for resolving debt among its population. More importantly, U.S. dollars are the only form of currency accepted by the U.S. government for taxation. The act of taxation provides strong validation for fiat currencies and ensures their value; this concept is historically referred to as “chartalism.”

Is Bitcoin an effective “store of value”? It is a largely unregulated, pseudo-commodity created completely electronically, controlled and validated by no central authority. Its value is determined entirely by the market. So it is worth something as long as people think it is worth something. The main problem with Bitcoin is that it has no real-world analog with which to reference. They have no intrinsic value of which to speak and not even the benefit of force of arms with which to impose their value. They are created from thin air and the very equipment used to create them can only be purchased with government-backed fiat currency. There is nothing to indicate that Bitcoin is an effective store of value.

Some claim that Bitcoin’s intrinsic value lays in the protocol that enables it. This is reasonable thinking if there were no acceptable substitutes and Bitcoin had evolved as the sole means of making payments or transferring money electronically. But, the global currency market can and likely will continue to evolve without the Bitcoin protocol. An object, system, or protocol must not only be essential, but also unable to be practically substituted or duplicated for it to be credibly claimed to have high “intrinsic” value. For instance, what effective substitute can there be for indoor plumbing? Bitcoin does not meet that criteria; the global currency system already processes trillions of dollars

in payments and exchanges and will likely continue to do so indefinitely without it.

Whatever its technological merits, Bitcoin fails utterly to meet the basic criteria of a currency. It is possible that other crypto-currencies can and will solve the problems of efficiency and elasticity, but it is highly unlikely that any crypto-currency will solve the problem of being an effective store of value. While the technology underlying crypto-currencies will surely make an indelible mark on the overall technological landscape, it is doubtful that Bitcoin or its copycats/derivatives will succeed in the long-term as currencies.

The Paradox of Fiat Currency

There are a lot of fancy definitions for currency, but I prefer to think of it as the “blood” of an economy. Much like blood transports oxygen and nutrients to the cells in a human body, currency flows in an economy to transport goods and services from the people who provide them to the people who need them.

However, currency itself is only a placeholder for real goods and services. Without the backing of central authorities, fiat currency has no real value. Fiat currency is a paradox, being inherently worthless yet able to be traded for things of actual worth. This is a fundamental flaw in the capitalist system. Let’s examine this in detail:

Does money have an exact or even near exact correlation to the amount of goods and services available at any given moment? Those who believe in the efficiency of markets will generally say yes, but it is highly unlikely. To illustrate: one person may be willing to pay \$100 for a cow, one may be willing to pay \$1,000 for it, however, does the cow itself alter in any way if someone pays more for it? Does the same cow become a better cow if someone pays more for it or a worse cow if someone pays less for it?

The belief is that the market is self-correcting; that, in the end, fair value for that cow is established as an aggregate of what the market is willing to pay for it. But, under any conditions, market pricing is highly arbitrary. It is actually an aggregate of what many people with many different levels of understanding and/or need related to price and value are willing to pay. In many circumstances, people may pay radically different amounts for the same item or service. On top of that, items can be (and often are) priced

by their supplier (businesses) to appeal only to a limited segment of the population, placing it beyond the financial means of a majority of people who may actually desire that particular item or service. Luxury items are notable examples. Quality is often stratified by means; higher quality items are reserved for those who can afford them. In this manner, quality of life itself is stratified. In the situation of the cow, it is unlikely that the person who can only pay \$100 dollars for the cow has similar financial circumstances relative to the person who can pay \$1,000 for it. Also, it doesn't matter how many cows are offered for sale, the person who can only offer \$100 will likely always lose to the person who can offer \$1,000 for the cow. Targeted pricing by suppliers and variations in the knowledge and the means of the population creates pricing distortions in which items and services that may be very similar intrinsically have radically different values as measured in currency.

A more significant problem exists when it comes to financial and speculative markets, such as commodities. To illustrate: soccer is a universal game and millions around the world play it ... but what are the odds that a group of moderately skilled players will be able to defeat a team of professionals? The professionals are separated from the moderately skilled players by a number of factors such as talent, ambition, long hours of practice, and a love or understanding of the game that gives them insights that less skilled players do not possess. The professional soccer player has an advantage over the moderately skilled player that is substantial in the short-term and practically insurmountable over the long-term. It is possible that some of the moderately-skilled players could achieve a high level

of proficiency at the game with intense practice, but the actuality of that is highly unlikely. The reality is that, among the millions of people who play and enjoy soccer, only a relative handful has the unique combination necessary to become truly excellent players. Those players will always have an advantage against lesser skilled players.

The same can be said of financial markets as well. There is a relatively small group of “professional” capitalists with the particular combinations of talent, experience, insider knowledge and circumstances to have distinct advantages over others who participate in those markets. These circumstances create distortions that are similar to professional soccer players playing against lesser players. Rather than both teams winning an equal amount of times over the long-term as statistics would generally dictate in situations with 50/50 odds, the professional team will defeat the team of lesser players the overwhelming majority of the time. Many markets are likewise skewed, with the people possessing expert skills and/or insider knowledge having an indelible advantage over those who do not have them.

These conditions make economics as a discipline an inexact practice. As a result of naturally occurring distortions in market dynamics, it is practically impossible to know the value of money in an economy -- as an accurate measure of goods, services, and productivity -- at any given time. The reason for that is because market economics guarantees that nothing can ever have an absolute, permanently-fixed value defined in currency. Indeed, there are substantial advantages for professional capitalists that such conditions exist.

This brings us to the matter of money supply. In theory, central banks or governments can create an unlimited amount of fiat currency. Fiat currency is an artificially created commodity which, by the very fact that it can be produced practically without limit with relatively little effort, is worthless. Yet, every unit of fiat currency can be exchanged for real goods and services. In other words, something that is inherently worthless can be exchanged for things of actual worth. Central authorities get around this by letting markets determine what currency is worth in any given circumstance, but, as shown, this is a symbolic exercise. Does believing that money is worth something actually make it worth something? Also, what actual choice do markets really have? Fiat currencies are standards codified by laws which are then protected with implied or actual force. It is impossible to live in a modern society without having to use fiat currency, especially considering its use for taxation purposes. As a result, people who control the production and lending of money wield an incredible amount of power and have a ridiculously unfair advantage over those who do not.

From a syllogistic standpoint, the following conclusion can be drawn: without a way to precisely correlate fiat currency to actual goods and services, the fiat currency system is very similar to theft. As previously stated, fiat currency is inherently worthless, yet can be exchanged for actual goods and services the moment it is created. Those responsible for producing and lending it benefit from legal monopolies that are protected by force.

On top of that, even in an economic environment in which markets set its value, the constant production of fiat currency slowly erodes its purchasing power to zero. This

in itself would not be an issue if the decrease in money's purchasing power were offset by relative increases in the amount of money people earned as a result of providing their services in the form of work. However, that is not the case. Globalization and technological advancements have depreciated the overall value of work by shifting labor costs from more expensive, highly-developed labor markets to less-expensive, developing labor markets. In other words, the earned incomes of workers in highly-developed regions are stagnant or falling as a result of their being displaced by technology as well as workers in developing regions, whose incomes are commensurately rising. The net effect is the leveling of most incomes across all regions to a common lower baseline. The improvement in the standard of living for some is coming at the expense of the standard of living for others.

This can be seen in the growing glut of labor supply in highly-developed regions taking the forms of high unemployment and underemployment. Because people, for the most part, cannot opt-out of the fiat currency system, the bargaining power of most workers is severely compromised; as the overwhelming bulk of necessary work doesn't require advanced skills, there is always a ready pool of people willing to take the lowest level of compensation in order to survive. Efforts to destroy, severely hamper, or suppress collective bargaining in many developed regions has also greatly contributed to stagnant or falling earned income. The net effect is a system in which workers must compete individually against, not only each other, but also a massive network of corporations and institutions that control the overwhelming bulk of the

planet's wealth and resources through the fiat currency system.

This condition could be offset if people could retreat to an alternative economic system outside of the fiat currency system. But such a system does not exist in a practical manner. There does not seem to be an alternative economic system in the world ready to claim the billions of people currently being economically exploited or neglected by the fiat currency system.

Massive unemployment and underemployment, widespread poverty, and escalating income inequality are the clearest evidence that the fiat currency system is a sophisticated form of theft; by correlating real work to an inherently worthless commodity and then deprecating the purchasing power of that commodity over time, the fiat currency system isn't just an extremely efficient system of theft of goods and property, but one for theft of something far more important ... time.

The Debt-Driven Economy

In order to get into the heart of the current economic system, it's best to start with a simple question: why does the fiat currency system exist?

Some conspiracy theorists think that its purpose is global enslavement, that a cabal of the super-wealthy and powerful has created the fiat currency system to control the world. If there is indeed a conspiracy controlling the financial system, then:

- 1) it has beaten all odds by keeping such a thing relatively secret for presumably decades to hundreds of years;
- 2) Even still, the odds are very much against such a group maintaining this type of secrecy indefinitely;
- 3) Even if everything goes more or less exactly as this cabal plans, something completely unexpected will occur that will tip the apple cart. A perfect crime may indeed be possible, but not an ongoing one that lasts hundreds of years.

A simpler explanation is that the fiat currency system exists because it is practical and, for the most part, it has worked. It has been exceedingly effective as a mechanism for the advancement of the human species.

The fiat currency system is complex in its intricacies, but simple conceptually. It is actually similar to a game of "hot potato." Basically, when money is created, it is immediately loaned to a person or entity with the expectation that the borrower will pay it back with interest.

In many instances, the money initially borrowed is loaned out again at a higher interest rate to another party. The initial loan can change hands several times or not very much at all but, ultimately, a borrower without the means or inclination to pass the debt must invest time and effort to produce the goods or services that can be exchanged for the money to repay the debt. In this manner, value is actually created. It can be stated that this is the engine on which civilization runs.

However, there are signs that the system has reached the limit of its utility. The likelihood is that debt has exceeded the total capacity for human production so much that it can no longer drive real growth; debt has simply accumulated far beyond the practical ability for it to be repaid with productive effort. To illustrate:

Since fiat currency is created by central banks in massive quantities, it can be loaned very cheaply; this is normally accomplished when they buy assets or securities from governments or large financial institutions, often ones native to the region in which the currency is produced. In some instances, such as China, the government itself acts as the central bank. When central banks or governments purchase securities from large banks, the funds are added to the institutions' reserves and then used as the basis for what is known as "fractional-reserve banking," a practice in which the bank is able to lend a greater amount than what it retains in actual monetary reserves. Critics of the fractional-reserve model claim that it creates money "out of thin air" and they are, for the most part, correct. However, the problem isn't necessarily the money created through fractional-reserve banking, but the debt obligations created by the demand for interest on the money that is loaned.

To account for potential defaults and to make profit, banks charge interest on their loans, the rates of which are generally inversely related to the amounts loaned. In other words, money is cheap to borrow in large quantities and becomes progressively more expensive to borrow as the loan amounts decrease. This condition is mostly circumstantial; banks lend money based on the assessment of risk for default. Institutions and individuals that already control massive amounts of capital are seen as better risks when lending large sums of money. The less capital that is controlled by an individual or institution, the more it is perceived as a risk for default relative to the amount to be loaned. Even those with an excellent repayment history will be limited to how much they can borrow simply based on their capital levels. The greater the perceived risk for default, the higher the amount of interest that is charged for a loan. This creates the paradoxical situation in which the entities with the least amount of resources to repay loans have greater debt obligations in relation to those resources when they borrow money.

The likelihood is that debt creation has outpaced the practical ability for it to be repaid with work. Estimates place total world debt at roughly \$224 trillion USD. Split evenly among the roughly 7.13 billion people on the planet, that places the estimated debt burden of everyone at about \$31,417 USD. A considerable figure, but maybe not as intimidating as some would think. However, consider the following:

Using the average world salary in Purchasing Power Parity (PPP) dollars of about \$18,000 annual (the equivalent in USD), it would take every individual about two years to pay off their share of the debt. However, this can only be

done if nobody pays for anything else, such as food, water, shelter, or clothing. If you assume that everyone will have a relatively generous 15% left over as disposable income after paying their necessities, this leaves about \$2,700 per year to address the debt issue. Based on that number, it would take over eleven years for each person pay off their share of the debt. For many, that still may not seem like a particularly excessive burden until you take these factors into account:

That debt burden is for everyone: man, woman, and child, from newborns to those only seconds away from death, not exclusively working age adults. Working age people in the U.S. make up roughly a third of the population; applying that proportion worldwide, the debt load for each working age person is \$94,118 USD. It would take a bit over five years for each person to pay off their share of the debt provided they paid no other expenses. Using the disposable income figure of \$2,700 per year, it would take each person about thirty-five years to pay off their share of the debt;

Over two billion of the 7.13 billion people on the planet live on less than \$2 PPP per day. Multiplying daily income (\$2) by the number of business days for a year (260) yields an annual income figure of \$520. At that annual income, it would take over sixty years for the members in this group of two billion to pay off their \$31,417 share of the debt while not paying any other expenses. At 15% disposable income, it would take each of them over four hundred (400) years to settle their portion of the debt. However, this assumes a complete workforce of 7.13 billion people. If we confine the debt to a working-age group of roughly 1/3 the size of the total population, it would take about one hundred eighty (180) years for each working-age person in

this group to pay off their share of the debt provided they pay for nothing else. At 15% disposable income, it would take each of them over twelve hundred (1,200) years to pay off their share of the debt;

These figures assume a static debt. However, the debt is actually growing at a rapid pace. Almost every new piece of fiat currency created carries a debt burden (there are exceptions, U.S. minted coins being a notable one). Debt creation is not standing still.

However, things aren't all bad ... global wealth is estimated to be about \$241 trillion . Operating under the premise that one dollar of wealth destroys one dollar of debt, subtracting total global debt from total global wealth leaves the world with \$17 trillion net wealth. Not too bad, right? But ...

Using the current distribution of wealth, the top 1% of the population will control 46% of what's left while the top 10% will control 85%. Of the \$17 trillion left, the top 1% will control about \$7.82 trillion or about \$109,677 per "1 Percenter." The next 9% would control about \$6.6 trillion or about \$10,285 per person, rounding out the top 10%. This leaves \$2.55 trillion dollars for the remaining 90% of the world, a little over 6.4 billion people. That equals about \$397 per person or slightly over \$1 per day over the course of a year.

While this is definitely a simplification of the debt situation, it should provide a pretty accurate sense of its scale. It takes real effort in the form of man-hours to pay off debt and the scale of the debt created by the fiat currency system is staggering. The debt situation facilitates tremendous financial inequality, as those with the knowledge, skills and connections starve the fiat currency

system of money by accumulating it in huge quantities through profit and capital gains and using it to control massive amounts of natural resources.

The net effect is that fiat currency has likely outlived its usefulness as a practical means for managing an economy. In other words, the fiat currency system has simply become too expensive. For instance, even with massive advancements in technology, debt and inflation have made funding large- to massive-scale efforts such as actually returning to the moon or sending a manned mission to Mars economically unfeasible. Some may think that such efforts are unimportant, but, as I will explain later, the very survival of the human species relies on our ability to fund projects of a massive scale.

The Fundamentals of Exchange

At their most basic level, economic systems are simply methods of exchange between parties. At the root of every exchange are the basic principles of the credit and the debit. In every exchange of value, one or more parties act as the creditor (the one supplying the goods or services) and the debtor (the one procuring the goods or services). In our current economic system, most exchanges at the personal level are resolved immediately to the satisfaction of both parties, so most people do not understand that debt is a part of every exchange. To illustrate:

If you go into a convenience store and decide to buy a candy bar, once you pick it up with the intention of purchasing it, you have assumed a debt. At that moment, the owner of the convenience store has become your creditor and you are a debtor. Most people usually have the means of resolving their debts immediately in the form of physical fiat money or another debit payment, such as an electronic debit card. When you pay for your candy bar, you have resolved your debt to the owner of the convenience store. If you use an electronic debit card, it is possible to resolve the debt with maximum accuracy and the most efficient exchange will take place. However, if you use physical fiat money, it is possible to inaccurately resolve the exchange. In other words, you may give a larger payment than what is being demanded for the candy bar. In that instance, the difference between what is being demanded for the candy bar and what you paid for it becomes a debt for the convenience store owner and you become the creditor. In order for the convenience store owner to resolve their debt to you, they provide you what is

colloquially known as “change.” The transaction ends when all credits and debits equal zero.

When you understand the nature of exchange it is easier to understand the concept of wealth. What wealth provides is the ability to instantaneously resolve much larger debts. The wealthy live in a world of fast-to-very-fast debt resolution as well as fast-to-very-fast wealth creation. Debt resolution and wealth creation becomes progressively slower for those who control less capital.

However, the true key to understanding wealth is understanding that it is simply a construct of value perception. As shown earlier, market pricing is basically arbitrary because it is based largely on means and the perception of value. Is a \$100,000 car actually better than a \$25,000 car? There may be some objective factors that indicate that a \$100,000 is “better” than a \$25,000 car but, for the most part, it is merely the perception of value that allows certain cars to be sold for \$100,000 or more. The value of a \$100,000 car to most people is simply that some people can actually afford it at that price while it is well beyond the means of the overwhelming number of everyone else. The value is almost entirely a symbolic one.

The desire for great wealth is simply a construction of perception. It is more than possible to live comfortably and responsibly without the ostentations of wealth, even for the very wealthy. Warren Buffett, one of the richest men in the world, lives in what most in the developed world would consider a very modest home. Mark Zuckerberg, the billionaire creator of the world’s largest social network, Facebook, drives what most would consider a very modest car. Steve Jobs, builder of what many consider the world’s

greatest company, Apple, lived in a beautiful, but unremarkable home in the San Francisco Bay area. There comes a point in the accumulation of wealth that a very high standard of living has been achieved. Once that level has been reached, value perception largely becomes one of symbolism. Larger homes, faster cars, and more expensive goods are not essential to a comfortable, fulfilling life; they simply serve as symbols to others that one has achieved a certain status, which is also just a perception.

But why? Why is it important not only for some to achieve great wealth, but also for some to advertise it? For a very simple reason: poverty sucks. Our current economic system does actual harm to billions of people every day. Millions of people in the developed world are either unemployed or working in low paying, unfulfilling jobs that keep them barely at the subsistence level. If this were not hard enough, politicians and the wealthy elite routinely scapegoat them, blaming them for their own misfortune while benefiting from a system designed to ensure that every cent they make ends up in the coffers of the wealthy.

To be financially unsuccessful has physical, psychological, and emotional ramifications that affect every aspect and corner of society. From unhealthy food that facilitates obesity and disease, to long working hours in dangerous or demeaning conditions, to the daily stress of trying to have a high quality of life in a system that thrives on the creation of debt, even the people in developed nations bear the brunt of an economic system that is rigged to exploit their time and effort for the benefit of an “elite” few.

These people are made to believe that they have a choice, that their success is tied directly to their effort, but the truth

is that the primary factor for great financial success today is simply luck. The opportunity costs for cultivating the skills for success are becoming overwhelming for some, particularly those obtaining privatized, advanced education, which generally leaves them with crushing student loan debt. These same persons end up having to compete against people from poorer regions with high-quality, subsidized educations, who will often accept less compensation and do not carry high, education-related debt. Additional challenges from automation and technological advances further marginalize workers, increasing labor competition and suppressing incomes. Even educated workers live in a world of increasing uncertainty and the stress created fuels billion-dollar industries of legal and illicit drugs and intoxicants.

However, the challenges for educated workers in developed countries pales in comparison to those of less educated workers worldwide. Billions of them live in modest to truly impoverished conditions. In those conditions, crime and humiliation fester like open sores. Sex trades, voluntary and forced, trap thousands in cycles of abuse and degradation. The fight to survive often breeds violence and misery. Even for those for which crime and violence aren't frequent occurrences, the fiat currency system makes life tedious, demeaning and unfulfilling. To them, "an honest day's work for an honest day's pay" is mostly an empty euphemism. The reward for doing the grunt work of society is not appreciation, but scorn and disdain. In a society that supposedly values work and adherence to the rule of law, the working poor are treated as burdens, moochers, or freeloaders, particularly if they require any form of public assistance to supplement their income. Their wages are

artificially suppressed in the so-called market system for the benefit of business owners, traders and investors. They are treated as replaceable cogs in a machine that feeds the fortunes of a select few.

The Wealth Psychosis

It is through the crucible of poverty that the concepts of wealth and privilege are forged. Ostentation related to wealth and privilege is a visceral response to the indignity created by the current economic system. Very few people have jobs or careers of which they can be proud. As previously stated, over two billion people live on about \$2 per day. Capitalism as it is practiced today, while beneficial in many regards, has spawned a rash of societal ills, such as crime, violence, and substance abuse. Factoring in debt burdens, the overwhelming majority of people live their lives at subsistence levels relative to the prosperity of their country.

Many of the financially powerful are aware of these conditions at least on a primal level. Their lives have become a celebration of being beyond the struggle associated with acquiring the means for a high standard of living. Their lives reflect what they view as “victory”; victory from hunger, strife, suffering, premature death, and, most importantly, indignity.

The further down the financial chain you are, the more likely you are to experience the effects of living in a world that demands your effort, but vilifies and humiliates you for the simple act of survival. Fear of that suffering causes those higher on the chain of financial success to ruthlessly judge those below them. This creates a self-justifying, self-perpetuating cycle of feigned superiority and shame.

For those who work long hours struggling to provide a high quality of life for themselves and their families, the current economic system de-incentivizes them by severely penalizing them for whichever course of action they take.

Attempting to be responsible by doing productive work often leads to long hours, both in the work itself and the related commute. Work (in the developed world) also leads to work-related expenses such as car ownership (resulting in car payments, gas and maintenance costs) or other transportation costs, child care, and business-related clothing and other incidentals. Actually having a job oftentimes is more stressful and financially draining than not having one.

The alternative is unemployment; social safety nets in developed countries ironically provide a slightly more attractive option than working for many people. While politicians often criticize welfare and food assistance programs as de-incentivizing work, it is often the arduous, low paying work itself that is the culprit. Faced with the choice of humiliation either through low paying work or no work at all, many will choose to at least have the relative freedom that welfare programs provide. In a world where the only commodity that every person possesses is time, the value of other people's time, in the form of quality of life, is often not respected by people who place a great deal of value on their own.

Crime, violence, and substance abuse are direct results of the shame created by the struggle to build a life of high value. Those who overcome that challenge or are fortunate enough to be born beyond it still experience it at a primal level. Many of the wealthy tend to live their lives in a state of perpetual celebration of victory over the struggle, while still secretly fearing that the victory is only temporary.

It is often stated that the poor hate the rich, but it seems as if the opposite is true. Many of the rich see in the poor the

vagaries of fate. The difference between poverty and great wealth is largely the roll of the dice. We can't choose our parents or how their genes mix to create a living being with a high level of innate ability to perform certain tasks that may give them an advantage in the current economic system. Could Giselle Bündchen choose to be beautiful or Warren Buffett choose to be born with the innate ability to manage capital? Can we choose what, if any, lessons are imparted to us to encourage the habits and perspective to become financially successful? What about the chance encounters that create the virtuous circle of friends, associates, and confidants which often fuel financial success?

The wealthy likely understand this at least at an existential level. In this regard, the less fortunate remind them of a world they cannot control, but desperately want to. In the less fortunate, they see their own faces which create fear and loathing. That isn't to say that all people of means feel this way. But, it is very possible this feeling is what drives many of the wealthy to not only care little about the challenges faced by most people seeking to build lives of high value and quality, but also to ruthlessly operate against them.

Wealth, particularly as it has manifested in modern times, is a reaction to the suffering, shame and indignity created by the struggle to fulfill our basic needs. Many of the "winners" flaunt their success through ostentation. Is it necessary to own mansions, cars, or yachts that can cost millions of dollars? What about other lavish displays of wealth, such as grand parties taking place in exotic locales ... are such things truly necessary at the scale at which they are done? It's an odd phenomenon that such displays of

privilege are often showcased in media for all to see. What is even more telling is the response that such displays often engender: it is colloquially known as “hate.” Privilege that is conspicuously advertised is often greeted with anger and derision. The ones who display this privilege often lash out at the sources of these negative responses as “haters,” ones who are jealous of those advertising their good fortune.

However, let’s look at this from a different perspective: why would someone conspicuously advertise their good fortune? What purpose do overt displays of ostentation or privilege serve? It’s tough to truly understand the motives of people who conspicuously display their good fortune but it’s very easy to read such displays as acts of contempt. They serve to remind others that their lives often are not as “fun” or “exciting.” Why posts photos and videos of your good fortune if not for the purpose of reminding others of their ill fortune? Technology makes sharing those moments strictly with family and friends a trivial matter, so why make them available for all to see? When those moments are advertised publicly it is easy to interpret such actions as being pointed against the less fortunate. This is what likely creates “hate,” an aggressive backlash against those who conspicuously advertise their privilege publicly or in social and/or mainstream media. The reaction is not necessarily jealousy per se, but a reaction against what is perceived as an unnecessary emotional attack. People with difficult lives do not have to be reminded that their lives are difficult. The responses of the less fortunate to these displays can be interpreted as the “hate” that hate makes.

The position of many of the wealthy is that those lower down on the economic chain desire an equality of outcomes rather than an equality of opportunity. Let’s set aside the

notion that either is possible in the current economic environment because they are not. The wealthy increasingly exist in a stratified world in which their children, through benefit of the best, most expensive educations, develop social networks that lock out those on the lower rungs. The rich feel no obligation to support the value perceptions of those on the lower levels of economy. As far as the financial elite are concerned, the system justifies itself; if the less fortunate are not satisfied with their lot in life, then it is not the obligation of the wealthy to change that. It doesn't matter if the system is unfair or not, this is simply the way the world is. There are winners and there are losers. It's not a perfect system, but it is not just the best we have, it is the best we'll ever have.

The rich are 100% correct in one respect: the value perceptions of the less fortunate should not be accommodated. However, they are absolutely wrong in another respect: our current economic system is not the best we can do. The key isn't to guarantee that we all have an equal standard of living. The key is to raise the economic baseline so that the minimum outcome for anyone who acts lawfully, responsibly, and productively is a stable, secure, and dignified standard of living. Rather than being penalizing, degrading, or humiliating, our economic system should value all work as intrinsically important.

The notion that some work is more essential than other work is a fallacy. The goal of our economic system should be equitability for all rather than equality. You may be able to make the argument that all people should not be rewarded equally, but you can't make the argument that everyone is not entitled to live their lives with dignity.

Building a system that values the dignity of every person is the key to building a sustainable future.

The fundamental flaw of capitalism today is fiat currency. The paradox of fiat currency allows for a level of imprecision in determining value that has severely distorted the capitalist system. To perfect our economic system, we must perfect the money. My proposition is a concept called ... the chron.

Time (and Effort) is Money

Currently, money is created by banks making loans. In this fashion, money is created “top down” in the sense that it is created on the supply-side and “trickles down” through an economy. For all intents and purposes, money is exchanged for the promise of goods and services. In other words, banks loan money so that debtors can then procure and/or produce goods and services; the debtors promise to repay the bank the sum of the loan (denominated in fiat currency) plus interest. In order for the loan to be repaid, the debtor must either engage in one or more processes of exchange, known as trade or commerce, or some type of productive physical or intellectual effort, known as work, for which they are compensated. That compensation is then used to repay the bank. In this process, money is created first and value is produced afterwards.

However, what if money were created “bottom up” from the demand-side? What if money were created as a result of effort rather than vice versa?

The chron is money created as a result of productive effort. The simplest way to describe the chron is that it is the basic denomination created from a single minute of work.

Unlike other time-based currency systems, the chron is an actual currency that can be represented physically or electronically and operates exactly like fiat currency. In other words, the chron can exist in physical or electronic form and be exchanged like fiat currency. However, its unique advantages relative to fiat currency have the potential to completely change the world’s financial and economic systems.

Better Money

Regarding the criteria for useful currency, the chron is very close to the ideal:

Regarding elasticity: It is better than elastic currency because, rather than being expanded and contracted to suit market conditions (and distortions), the chron is a pure, absolute measure of actual production represented in the most universally accepted and accurately assessed unit of measurement on the planet -- time. Money goes from being created by banks to being created by individuals as a direct result of work. In other words, the payroll system becomes the means for creating money. Rather than being compensated in dollars, euros or other local/regional fiat currency, people are compensated in their own time as "chron." These chron are direct replacements for fiat currency. To illustrate:

A person works eight hours per day; rather than being compensated an hourly wage or salary, they are paid 480 chron (8 x 60 chron (= minutes of time/effort)) per day. These chron are "printed" as a result of actual work performed rather than the promise of work.

To put it simply: everyone creates their own money through productive effort. Rather than a central banking system, a "validation" system is established to authorize entities, such as businesses and individuals, to validate the production of effort. The production of that effort is converted into the currency called chron rather than dollars or other fiat currency. Since chron have a direct correlation to both time and effort, the net effect is a system that allows

a very high level of precision regarding the measurement of economic production.

Regarding efficiency: Time is the most accurately assessed unit of measurement in the world. It would make the ideal currency as it is already a universally recognized standard. The chron is not only compatible with the current financial infrastructure; it can also be integrated effectively with the Bitcoin protocol to form the basis of a truly efficient, universal currency system.

Regarding the chron as a store of value: the store of value problem is one faced by every currency. A currency must not only be worth something today, but tomorrow as well. That means it should be able to be stored indefinitely with little to no degradation to its physical form. People should also be able to agree that it has some form of intrinsic value that protects its long-term worth.

There are some things with such obvious intrinsic value that their worth cannot be questioned such as food, water, shelter, and warmth (fire). However, in the modern world, such things make poor mediums of exchange. We use currency to make the exchange of goods and services efficient. However, because it is pretty much impossible to determine the absolute value of goods and services using today's fiat currency, can any fiat currency accurately represent and retain the value of goods and services as measured both now and in the future? The reality is that they can't. Because value is subjective, attempting to encapsulate the short-term and long-term value of goods and services using a designed currency is arbitrary thus a relatively useless exercise. Doing so, using fiat currency, has forced us to live in a world of vague economic

understanding where even our best mathematical models are nothing more than gross approximations subject to varied interpretation. There is no true precision in our economic models and can't be due to the nature of fiat currency.

However, what if it were possible to have a completely objective currency, one with intrinsic value that is already universally accepted? The most effective store of value is time. The sum of the efforts of humanity is stored in its history and can only be severely altered or destroyed through cataclysmic events. Once an event takes place, it cannot be altered and its effects, for the most part, can be measured. Time is the most precious commodity in existence for a human being, so much so that we continuously strive to create more of it. We yearn to use time productively, for both work and leisure, yet our current economic system prevents true efficiency by subjecting it to market forces. Time as a commodity is both potentially infinite and definitively scarce from the human perspective; it is "mined" by existing and continuing to exist for as long as possible. Time is the ultimate resource.

By encapsulating time as a currency that is created from productive effort, we can physically and conceptually embody its value as a tangible resource. Instead of exchanges being subjective and largely arbitrary actions based on perceived value, they become ones of actual, objective value because the chron represents effort that has already taken place, the value of which is already established as a result of productive action.

The defining concept of the chron is that it is based on the premise that all productive effort is intrinsically valuable.

In our current economic paradigm, markets supposedly determine the value of work in its various forms, but, as previously stated, market determination of value is arbitrary. Some forms of work are valued more highly than others based on the scarcity of skillset. But, the failure of that system is that it is impossible to judge the true value of work based on context.

For instance, most people would accept that, based on training and skillset, doctors should be paid more than the janitors who ensure that the hospitals at which they both work are clean and sanitary. However, what is the intrinsic value of clean and sanitary medical conditions which enable the doctor to be effective at their job? It can easily be argued that the work of ensuring a clean and sanitary hospital is vitally important. The market assumes a glut of low-skilled persons capable of fulfilling the role, but what the market can't anticipate or value is the motivation necessary to perform the job. In other words, the market cannot properly assess the value of people who want to do the job versus those who can do the job. A janitor who is diligent and takes pride in their work not only does the job, but does the job correctly. What is the intrinsic value of someone who does their job well?

The reality is that it is impossible to truly quantify the value of a job well done. For example, let's look at a common occupation such as waitress or server. It's indisputable that there are many, many people who are qualified to fulfill those roles, but how many of them are suited to performing them well? What is the intrinsic value of a server who is courteous, personable, and diligent versus one who is taciturn, disrespectful, and laggardly?

How much better is the experience provided by the former versus the latter?

Let's look at the example of the drive-through cashier at fast food restaurants: would you rather interact with one who is amiable, respectful, and performs their job with accuracy and diligence or would you prefer to interact with one who is sullen, brash, slow, and gets your order wrong? To judge the value of work based on scarcity of skillset completely ignores how vitally intrinsic the experience of all work is. We don't just benefit from work done; our greatest benefit is derived when work is done with pride, care, pleasure, and attention to detail. In that respect, all work has the potential for great value.

Another problem is when people choose not to perform essential, valuable work because it doesn't pay enough. School teachers immediately come to mind. Nothing positively impacts the learning of students more than an excellent teacher, but how many people forgo the profession because of inadequate compensation? When people are not empowered to devote their energies to the things for which they have the most aptitude and passion, it creates inefficiency by nature.

The chron respects the value of all work by turning the precious commodity that is spent performing it, time, into a spendable resource. Nothing is more valuable than time, especially when it is used for productive effort. By moving beyond a compensation model for labor, which the institutions of capital are always motivated to undermine, a validation model allows people to utilize the commodity with which everyone is born as a truly fungible currency. In that respect, every individual, through productive work, can

create their own money allowing truly objective, value-for-value exchange using current fiat currency metaphors.

Even as a thought exercise, the chron reveals some interesting realities about the current economic system; it provides unexpected answers to questions regarding the nature of money as well as a few interesting insights.

A New Idea Addresses Some Old Problems

The chron was conceptualized to solve the biggest problem in capitalism: labor costs. Controlling labor costs to maximize profitability has unleashed the forces of capital against the world's population. Globalization is a direct result of capital institutions' need to control costs and undermine the bargaining power of workers in developed regions by creating competition with workers from less developed regions. Implementation of the chron will eliminate labor costs for capital because people will essentially pay themselves through their effort. It will also eradicate the exploitation of workers in developing regions. As a universal standard, the chron will enable people from all regions to be paid to a common standard. It will immediately lift the standards of living for billions of people and facilitate the transformation of our world into one in which the benefits of modern civilization can be enjoyed by all.

Right about now, critics are probably foaming at the mouth or simply incredulous at the idea of paying people in their own time. "Sounds like another crazy socialist idea," is probably the thought. If we pay everyone with their own time, then everyone will essentially be paid the same amount relative to how much they work regardless of what job they perform, right?

Yes ... and no.

Not One Money, But Two

The issue of taxation always brings into question for whom and at what rates would it be most fair. Should the rich be taxed more? Are the non-rich shouldering their fair share? The chron answers a couple of interesting questions regarding taxation. The first one is: what is the fairest way to tax earned income?

The answer is: You don't. Ever.

Everyone owns their own time. To place a tax on something that fundamentally belongs to the individual can only be considered theft. If I turn my time into productivity and thus currency, society already benefits from my efforts; what right does anyone, particularly a government, have to claim any portion of that? Only the threat of force makes such a proposition remotely feasible. In this respect, libertarians are correct. What is earned as a result of a one's effort should not be able to be claimed by any other entity. In other words, taxation on income that is earned, particularly if it is in a currency like the chron which is simply a validation of something which already rightfully belongs to the individual, is fundamentally criminal.

That's great! So that nips the whole taxation thing in the bud, right?

Actually, no. In the world of the chron, taxation will still be very necessary. So how would taxation be handled in a "chronist" economy?

Like fiat currency now, not all chron will be earned. Many will be acquired as a result of exchange for goods and services. Chron acquired in this fashion would be taxable as they were created as a result of passive rather than direct

effort. However, unlike taxation in its current form, taxation of chron will serve a specific, critical purpose, which will later be examined.

So, there are actually two kinds of money in the world, that which is earned through work and that which is accumulated through exchange. Chron which are earned are called “eChron” as in “earned chron.” Chron that enter into the process of exchange are called “xChron” or “exchanged chron.” The chron lifecycle involves two main processes: the first is the creation of chron through work and the second is the exchange of chron for goods and services.

The basic premise of the chron from a taxation standpoint is that any chron which is earned as the result of work, or eChron, should never be taxed in any way. A person’s time belongs to them; the idea that any entity can claim another’s time as a tax is anathema to this premise. However, once eChron have been exchanged for goods and services, they become part of the greater exchange economy and thus are converted to xChron. In the exchange economy, profit acts as a tax on the consumer by creating a surplus which is claimed by the provider of goods and services in most commercial exchanges. As profit is the net of revenues minus expenses, there is no effort truly associated with it. The best way to describe profit is “a convenience tax,” a determination of value and demand for payment by the provider of goods and services simply for having conveniently provided those goods and services. This is not necessarily a negative thing as profit acts as the incentive that drives the market economy.

However, profit is, for all intents and purposes, “free money”; it can be used in many ways, from making

business improvements to increasing incentives to rewarding investors. However, in an economic environment featuring the chron as currency, the major expense of labor is eliminated, greatly increasing profit potential. Since chron represent actual value as opposed to potential value, ensuring their responsible use is essential. To prevent irresponsible accumulation and encourage responsible use, taxation can be a very effective tactic. As the chron in the economy accumulate, taxation may even become vital to their guaranteed productive use in society.

What's important to understand about the chron is that its use does not preclude the profit motive. Unlike the bartering and pseudo-bartering of other time-based currency systems, the chron is actual currency. It can be utilized exactly like fiat currency and is perfectly compatible with current models and methods of trade and commerce. In other words, the chron is perfectly compatible with market-style economics. For example:

Regarding the earlier "socialism" question of people essentially being paid the same amount relative to how much they work regardless of what job they perform, the answer was both yes and no. The chron is an elegant solution because everyone will essentially make the same amount of earned chron for their work, regardless of what job is performed. So, both the doctor and the janitor in a hospital will make the same number of eChron if they work the same number of hours. Salaried workers in any discipline will make the exact same amount of eChron if they have negotiated the same work week in hours (note: the chron can be applied to both wage- and salary-based compensation models).

However, people with skillsets in higher demand can be compensated with additional xChron which would come directly from the revenues of the organization hiring for the skillset. For instance, while a doctor and janitor will make the exact same 2,400 eChron over a forty hour work week, the hospital may choose to compensate the doctor an additional 1,200 xChron per week for a total of 3,600 total chron per week. The chron system has a built-in failsafe to prevent excessive supplemental xChron compensation because all xChron are taxable. Taxation on xChron can be applied in a variety of models tailored specifically to address overcompensation or over-accumulation.

The chron is the ideal currency for a market-style economy. It is far superior to fiat currency because it fundamentally makes markets smarter.

Smarter Money

What if, rather than selling you an item for \$5, I sold it to you for 5 minutes of productive effort? Wouldn't that type of transaction create a more intimate understanding of the relative value of the transaction? Wouldn't it allow you to have a greater understanding of the exchange relative to the time and effort required to complete it? For example:

If I loaned you 500 xChron and charged 24% interest, would you feel comfortable repaying back an additional 2 hours of your time and effort on top of the 8 hours and 20 minutes required to repay the principal of the loan? What if the interest was 99%? Also, extending the loan itself requires little effort, however it will, in the best scenario, take about a business day of actual work to repay. Would you say that you have a better understanding of how the debt directly impacts your time and effort?

In our current economic system, it is difficult to correlate money to time and effort when it comes to resolving debt. Money is an abstraction that prevents a true understanding of value because it is an inherently poor measure of value. In other words, money is a particularly dissociative concept because it isn't worth anything in and of itself and only arbitrarily measures value for any given circumstance. So, borrowing money often doesn't seem like that big a deal.

However, the figures mask the real burden of debt. Using the example of the \$500 loan at 24% interest, a person making the worldwide average of \$18,000 USD per year with 15% disposable income would need to perform roughly eleven weeks of productive effort to repay the loan.

In this instance, the loan represents almost three months of time converted into productive effort.

When you think of it from this perspective, it's clear that, when you are given a loan, you are actually being "advanced" your own time. So what then does the interest on that loan represent? It is basically a tax on your time and effort; it is the time and effort you give freely to a creditor for the convenience of converting the time and effort you already own into a fungible asset called "money."

So, what could be considered a "fair" amount of interest on a debt? Historically, the act of collecting any interest on debt has been considered a negative practice called "usury." Usury was considered to be an unethical practice that indentured or even enslaved those in debt by saddling them with an interest burden that was excruciatingly difficult or even impossible to repay. It's difficult to determine in any given circumstance what a "fair" amount of interest on a loan is.

However, the chron creates a direct correlation to time and effort that allows individuals to have more useful information in any transaction. When you know exactly how much something costs in relation to your own time and effort, you are more likely to make better financial decisions. The chron also exposes the predatory nature of compound interest; would people tolerate a tax on their time and effort that compounds?

By having currency directly correlate to time and effort, people will be able to make financial decisions with a better understanding of their ramifications. The chron significantly reduces the need for people to have extensive knowledge of finance to effectively manage their own

money; it allows for a perpetual real-world understanding of how all financial transactions entered into by a person will affect that individual in time and effort.

Health is Time

As previously stated, the chron allows a level of precision in economic mathematics that would be unprecedented. The move from multiple currencies that are valued subjectively and arbitrarily to one that is objective and precisely measured will allow very detailed insights into work, standard of living, and enterprise, the likes of which have never existed in economic study.

The chron is particularly useful when it comes to value setting and pricing models. Setting prices with fiat currencies is by its very nature grossly imprecise. From resources and materials to labor, all facets of determining value with fiat currencies are arbitrary as a result of being set by markets. However, almost all facets of production can be measured in time with strong correlation to effort; complex or inefficient methods of production or productivity will generally be more time intensive while the reverse will be true for highly scaled and efficient methods of production or productivity. For the most part, setting the value for products or services is a simple equation of time invested in production or effort plus profit denominated as chron.

However, the chron exposes one particular area of the economy for which pricing is inherently difficult and results in severe distortions. In fact, the distortions are so great in the U.S. that the entire system has just undergone a very unpopular overhaul ... the area is health care.

If you envision a world in which productive effort as measured in time is currency, then it is clear that health is probably the single most important factor to an economy. It's no secret that the staggering costs associated with

health care motivated the creation of the Affordable Care Act, more famously (or infamously) known as Obamacare. The hope was that, by subjecting health insurance costs to greater market forces, substantial reductions in those costs would result. However, the chron reveals that the value of life simply can't be fairly quantified. How do you fairly price health tests or treatment? When it comes to improving health or saving lives, what is fair market value for services? If a doctor saves your life, is there any price that can be paid to even the scales?

The answer would have to be no. A physician could realistically lay claim for anything you produce after the fact as a result of having saved your life. In some ancient cultures, saving a life resulted in the person whose life was saved becoming indentured to the person who saved them. Even in chron, a person would have to pay a lifetime's worth in order to equalize the scales and that would be counter-productive to actually having been saved in the first place. Even in the event that a health-care worker is not saving a life, what is the value of preventative medicine, physical therapy, or convalescent therapy?

What the chron reveals about health care is that it should be performed as a public service. It validates the concept of single-payer health care. In a chronist system, all health care would be provided on a completely not-for-profit basis. This should not preclude the use of xChron for additional compensation to attract doctors or others with valuable skillsets; it just means that the goal of hospitals and other such entities should be to price their services in such a manner as to only cover expenses and liabilities.

What about veterinary services? Can the life and health of a pet truly be quantified? It's likely that, for most people, particularly pet owners, the answer is no. For that reason, such services should also be offered on a not-for-profit basis.

Passion > Incentives

The previous section regarding health care begs the question: what will keep the world from settling into a cozy stagnation of everyone performing low-skilled work to make a basic yet dignified living in chron? The answer is the same thing that motivates everyone who does something they love for free which ends up positively affecting others. The simple fact is that people like to be productive and contribute. Many are motivated to tackle the challenges of the world not because of the promise of wealth, but simply for the chance to achieve. The need to validate ourselves is part of our inherent psychological profile as a species; humans simply seem to feel better about ourselves when we make useful contributions that benefit ourselves, our families, our communities, and our society.

Our current economic system is likely stifling massive amounts of intellectual and creative power. The chron was conceptualized partly as a way to unleash that power by leveling the psychological and emotional barriers erected by the current economic paradigm. With the relative guarantee that our productive effort will, at minimum, ensure a dignified, relatively secure life, the fear and shame created by the capitalist/ fiat currency system will then be channeled collectively into a force that will transform our planet. With the collective energy of our inspirations and passions unfettered, humanity will be prepared to fully achieve its potential and take our place among stars.

The World Beyond Capitalism

In case you hadn't guessed it, there is a greater purpose to the conceptualization of the chron than just creating a more equitable world. What are the ultimate benefits of a chronist economy and why is such a change essential?

The chron is really a pretty simple concept: it seeks to resolve the contradictions of the current economic system by creating an objective, absolute currency system for true value-for-value exchange. In the end, it obsoletes the grossly imprecise and arbitrary practices of market pricing by encapsulating the value produced in society as a result of effort directly into the currency. The chron represents "time + effort"; time is an objective measure while any productive effort related to that time is valued as intrinsically equal to all other productive effort as its true value is beyond quantification. By creating money from the bottom up, the capacity for a dignified standard of living is possessed by everyone. With the shackles of the stress and shame of struggling for the basic necessities of survival removed, the full weight of human power and innovation can be brought to bear on the challenges we face in ensuring our continued survival as a species.

The chron will herald a new era of "smart" money by personalizing it and, thus, tying it directly to the concept of responsibility. It has the potential to alter perceptions and decision making in profound ways. For instance, consider political campaign finance ... would people accept the spending of billions of chron, their time and effort, for the grossly distorted and negative political theater produced in today's economy?

Also, would people accept a small cadre controlling massive amounts of realized productive value for their own benefit? Billions of chron would represent tremendous amounts of productive human effort. It stands to reason that people would demand that those chron be used for more than the personal enrichment of another. They would want those chron to solve problems and tackle big challenges because, indeed, the human race has many.

In the end, the chron may be the key to the continued survival of the human race.

The Final Frontier

Conceptually, once a chron is produced, it can never be destroyed. Indeed, the human experience is built on the collected experiences of every event that has ever happened and it has been shown that fate has often turned on the simplest of words or actions. The chron produced by an individual will affect the existence of humanity long after their originator has passed away. Much as the artistic value of a great painting can long outlive the one who painted it, chron will continue to circulate and build our society beyond lifetimes. More importantly, everyone, regardless of their immediate impact on society, has the potential to positively impact history. The less ambitious need feel no guilt as to how they use their lives; as long as they have engaged in productive effort, their time can be reused for great things even after death. In the form of chron, time can be “re-spent” indefinitely. In this fashion, the chron is a form of immortality.

Right about now, some may wonder at the practicality of the inflationary aspect of the chron. If chron are never destroyed, won't their value essentially become worthless?

The chron, though inflationary, will be subjected to the deflationary pressure of population decline. As Buckminster Fuller so astutely determined, increases in quality of living conditions correlates directly to decreases in birthrate. In other words, the better people live, the fewer children they produce. The chron will facilitate widespread improvements in the standards of life for billions around the world which will subsequently cause the overall world population to drop, placing deflationary pressure on chron production.

Chron production can also be controlled in other ways, such as mandatory ages for entering into the workforce and retirement as well as fewer mandated hours per work week. It's also likely that, with a high standard of living being far more attainable in a chronist economy, some people will just work less and devote more of their time to leisure pursuits.

Likely, the most effective way of dealing with chron supply will be taxation. The amount of productive effort, both actual and potential, of which society is capable is immense; chron production will likely quickly outpace society's ability to absorb them. To ensure the proper balance of chron in society, chron can be removed via taxation and "deactivated." Much as kingdoms of the past used treasuries to store surplus wealth, national treasuries can store chron and release them strategically for a variety of purposes. For instance, there will be many people who, as a result of accident or disease, are not able to do productive work. In these instances, a government provided "social safety net" could easily cover their treatment and/or living expenses. In this fashion, the work of society can be used to support those who are truly less fortunate without negative impact.

A vitally important aspect of the chron is that it is an impeccable store of value because it represents value itself. It stores the value of productive effort just as history does. The chron is inflationary, debt-free money that will always be intrinsically valuable. In the years ahead, that will be tremendously important.

Time is Running Out

Whether we understand it or not, we are in a race against time. At this point in history, the statistical odds of the human race going extinct at some point are 100%. The only way to improve those odds in our favor is to become a space-faring culture. It is imperative for the human race to embark on a scientific and technological endeavor to colonize other worlds. With fiat currency saddled by debt, it is tremendously expensive to fund such a purpose in our current economic system. The forces of the market have barely motivated us to duplicate the space exploration achievements of almost half a century ago. The cost is too high and the pace of development is too slow in our current economic paradigm to ensure we can develop the technology and lifestyle necessary to avoid extinction. Our efforts must be accelerated to give ourselves a fighting chance.

The chron guarantees the funding necessary to meet that challenge. As an inflationary currency, the chron money supply will grow quickly enough to create the surpluses needed to fund the massive-scale projects necessary for extra-planetary colonization. As the chron is also inherently debt-free currency, future generations will not be saddled with the burden of repayment and the subsequent destruction of time/effort value. In other words, the chron allows us to shoulder the financial demands of these endeavors “up front.”

In the world of the chron, technology will still play a vital role. But rather than deprecate work and displace the worker, its role will become clearer as a tool that serves society rather than drives it. It will play a vital role in

performing work that is too tedious or dangerous to be performed by humans. It will facilitate the elimination of fossil fuels as our primary energy source thus reversing centuries of ecological damage. The advancements of technology will bring a standard of living to billions of people that they could only have hoped to enjoy in our current economic system. And, ultimately, it will lead us to other worlds; massive new machines will allow us to terraform worlds while nano-machines will augment our immune systems, providing protection against extraterrestrial microbes as humans reach distant planets and expose ourselves to alien ecosystems. While the institutions of capital used technology always with an eye on driving down labor costs and creating new consumers, technology as an industry will finally get the chance to fulfill its purpose as a force for unambiguous, positive change.

Capitalism was once essential, but now we have outgrown it. It's time to embrace a new economic system that will not enslave our children with debt and shame. It's time to embrace a new economic system that will unlock the potential of the human species and allow us to save the home we have while enabling us to find new homes among the stars.

Why It Matters

The truth is that the chron is not inflationary, it is expansionary. The chron will initially alter the complexion and psychology of the world by eliminating poverty and empowering people to fulfill their potential. As surpluses are developed, it will be used to incentivize people and groups to develop the technology necessary to spread humanity into outer space. In other words, the abundance of chron will actually motivate the expansion of the human race.

A new class of social elite will develop. They will be vanguard of humanity, the ones who personally assume the challenge of developing and using the technologies that will expand the human race to the universe. They will be engineers, scientists and explorers. They will have grown up in a world without want, one that allows art and culture to flourish because human potential is allowed to grow and breathe. Strong traditions will develop again and, as the psychology of the world changes, families will learn to be closer to one another again.

Everything won't be roses though. Beautiful ground is just as fertile a place for weeds as it is for flowers. Bigotry and prejudice may flourish in a world where people have the time to truly contemplate perceived differences. Will the new elite be revered as pioneers or envied for the wealth and status they will accumulate as a result of being the trailblazers for humanity?

It is highly unlikely the chron will solve every problem faced by humanity. However, what it will do is let the genie out of the bottle. We live in a world in which our economic system thrives on the concept of scarcity though technology

defeated it not too long ago. Using technology, our planet has more than enough resources to comfortably provide for everyone, everywhere. The sad truth is that we are perpetually fighting a psychological war against poverty. Not just including the rich but especially the rich. We are terrified of want, but we've already won the war. Capitalism served its purpose, now it is time to let it go. Our economy is designed for scarcity, yet there are practically infinite resources in the Universe. Our economy should reflect the reality of our existence ... that there is a great, big Universe out there waiting for us to experience it. If we are going to save our species and give our progeny a chance to survive, it is imperative that we end capitalism and implement a better way.

Not the End, but the Beginning

I wrote this essay because it needed to be written. I think it is apparent that there are fundamental problems in our current economic system and I decided to devote a few brain cells to figuring out how to fix it. Maybe the chron isn't the answer, but I hope it will get people to really think about the question in fundamentally different ways. We live in perpetual boom and bust cycles. Despite the amazing progress made in the last few centuries, the world is still plagued by crime and misery. Albert Einstein once stated that the definition of insanity was to do the same thing over and over again expecting a different result. It's time to do something different to change the result.

Capitalism is a fundamentally amoral system. It doesn't care if harm is done as long as profit is achieved. We've created a system of laws to rein in its worst impulses, but many of them still slip through the cracks. Most crimes are simply extensions of capitalism, the forces of competition involved in creating supply to meet demand. The illicit drug trade is one such stark example. Many other crimes and vices are a result of the psychological distortions created by capitalism. Frustration and hopelessness created in an economic environment that has no respect for the value of time and life motivates indulgences in a variety of forms. "Sex, drugs, and rock and roll" are a mantra; escapism is not only a way of life, but big business as well. The forces of capital built up the world and the collateral damage was acceptable because it brought us so far, so fast. But everything has a price. Global warming, pollution, and devastating ecological damage are the results. In a world in which we are all connected, the need to create profit

commoditizes the most important “capital” of all: humanity.

I wanted to conceptualize a solution that invests everyone. Industry and commerce should appreciate the chron for removing labor costs from the equation. Libertarians and those on the economic right should appreciate the chron for its self-deterministic qualities that encourage personal responsibility; it offers no free rides, people still have to work to make a living. The chron emphasizes that social safety nets should, at the very least, be voluntary; no government should be able to mandate how someone uses their time and effort. It also has the potential to obsolete some social safety nets by removing the competition between capital and labor entirely. Proponents of the left should appreciate how the chron places money creation directly into the hands of the people, finally giving them the power to set their own course. Social conservatives should appreciate the chron because of its potential to severely reduce crime, indulgence, and social excess. Governments should appreciate the chron because it still requires central authorities to manage the validation process. With less economic tension worldwide, governments and militaries will likely shrink. People will then be invested in making sure the people representing them are actually “thought leaders,” people who can truly guide the collective efforts of humanity to greater heights of development and civilization.

I’ve barely scratched the surface of the chron in this essay. There is so much more it can reveal about our society. For instance, the chron presents a natural solution for the death penalty. Rather than execution, a reasonable alternate is that a person can become an indefinite ward of the state.

Such persons could be utilized for excessively dangerous work by the state or otherwise have their productive effort utilized. They could never own their own time again.

In this vein, restitution rather than punishment could be an acceptable alternative for economic crimes. For instance, thieves could make financial restitution to their victims in chron through prison work programs. Rather than being incarcerated for specific terms, criminals convicted of economic and financial crimes can work off their debt until it is fully paid. Such a system would likely discourage large-scale theft.

The chron is also a powerful concept in cases of wrongful conviction. In the event such an injustice is committed and the person is exonerated by new evidence, they can then claim their chron back from the state. With the chron, the value of a person's lifetime efforts are always preserved; even one wrongfully convicted could rebuild their life with the chron created by their work in prison.

A chronist economy also greatly improves the chances for rehabilitation of criminals by reducing recidivism. In a world in which labor pays for itself, many jobs that were once too expensive for capital to assume, particularly those associated to resource reclamation, can be performed by former prisoners or others who may not be able or willing to perform other types of work. Reclamation efforts, such as mass clean-ups or deconstruction of fixed capital, such as old factories or even whole cities, will have a massive, willing pool of labor who will not have to bear a stigma for performing an honest day's work. In the capitalist system, former prisoners struggle to find their place in a world that is hostile to them even after they've paid their debt to

society. In a chronist economy, their efforts will be welcomed, giving them the real opportunity to start anew.

Maybe I'm wrong, but I think the chron is an amazing concept with stunning possibilities. I intend to write more about how it can be utilized for a variety of pricing and economic models. Applying the chron to the areas of writing and book publishing is an interesting challenge. I've already created a scenario allowing the chron to be applied effectively to blogging and journalism. I hope that others, particularly economists, will find value in this concept and expand on it.

So this is the end ... or the beginning. The chron may not catch on right away, but it is more than likely that a cataclysmic event, such as a world-wide economic collapse, will cause everyone to rethink the sense of our current economic system. I wrote this essay for that day. If the chron finds widespread acceptance sooner, that would be great. However, if not, I hope this serves as a place to start if the worst should ever happen.

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