

Excalibrator Logarithmic Floating Cybercurrency

Lighter than Air. Worth its weight in gold.

By

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My choice at the moment would be a legislated rule instructing the monetary authority to achieve a specified rate of growth in the stock of money. For this purpose, I would define the stock of money as including currency outside commercial banks plus all deposits of commercial banks. I

would specify that the Reserve System should see to it that the total stock of money so defined rises month by month, and indeed, so far as possible, day by day, at an annual rate of X per cent, where X is some number between 3 and 5. The precise definition of money adopted and the precise rate of growth chosen make far less difference than the definite choice of a particular definition and a particular rate of growth.

Friedman, Milton, *Dollars And Deficits*, Prentice Hall, 1968, p. 193.

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Prologue

At the 2008 USBIG conference one of the participants in my panel made the assertion that economics was not an objective science. This assertion was rattling around in my brain when I began to read “Reality” a book by philosopher Peter Kingsley. Kingsley takes you on a trip to the beginning of western rationality through the works of Empedocles and Parmenides. These two pre-Socratic thinkers are considered the originators of the process that led to the scientific method and the logical mindset that was the well spring of western thought. Kingsley does not question their importance, instead he argues that they have been mischaracterized and misunderstood. He demonstrates that both thinkers clearly state that the sources of their ideas reach far beyond human observation or reason. Empedocles and Parmenides found their inspiration in the supernatural world of the Gods. Logic and reason were seen as gifts to humanity from divine sources and can only be achieved through engagement with the mystery that is human existence. This presentation takes that idea seriously. Money is cosmic fire and it is only through interaction with the world of spirit and mystery that we can truly comprehend it and bring it under our understanding and control.

Taking a journey to “The Dark Places of Wisdom” such as Peter Kingsley describes can be a lonely and frustrating process. Thus I am deeply appreciative of the opportunity to present my ideas and the camaraderie provide by USBIG. My journey has also been guided by a constant companion, my grandfather Jasper. Jasper was a Wise Man. It is literally true. Jasper Newton Clark was born in Wise County, Virginia in 1878. He has anticipated and inspired this work in ways that are impossible to explain. This paper is dedicated to him.

Money and Ante-Money

I think our panel here today makes the point that the idea of giving an equal amount of money to the public at large is a concept that has many applications. USBIG concentrates in the area of personal income, but it is far from the only arena. We have witnessed the current economic meltdown in which the operators of our banking and finance structures have literally stolen everything that was not nailed down. They are now standing with their hands out pleading that they are too important to fail. The size of the bailouts that have been enacted and proposed now reach into the multi-trillions of dollars. This money is going to the principal actors who have wrecked the financial system and who made enormous profits from their dealings in the past decades. These bailouts have put into a new context proposals for the flushing out or replacement of existing institutions with \$30,000 to \$40,000 sized payments directly to the people. These would help those truly in crises without punishing the rest of us or rewarding those who are truly culpable for this debacle.

Giving all economic participants an equal amount of money is structurally unique not only in the way it affects the individual but also the economy at large.

First: Rationality. A universal equal grant of money eliminates the zero point. If the grant were \$1,000, the person who previously had nothing would now have a \$1,000. The new personal minimum point is at the level of the grant. Having an economic ladder in which many of the world's citizens do not even reach the first rung makes comparison between some economic actors impossible. Eliminating the zero point keeps money rational, that is the highest and the lowest now form a ratio. Rich and poor can now be compared, in either direction, and still generate rational numbers.

Second: Compression. Economic trade rewards the strong and punishes the weak. If the process is continued over time, the distance between poor and rich grows ever larger. History has shown us that if the process is taken to its logical conclusion the rich eventually own everything and the poor become slaves. If the economy were a motor, an equal grant of money would be a compression stroke. The compression stroke returns the piston to its original position so it may fire. Pushing people closer together causes those who hope to maintain economic power an incentive to work to maintain it. Without affecting the economic pecking order all participants are made relatively closer. If the grant were \$1,000 the person who previously had a \$1,000 would now have a \$2,000. The billionaire would have a billion plus a new thousand. He would still have \$4,999,999,000 dollars more than the other man, but instead of being a million times $(1,000,000,000/1,000 = 1,000,000/1)$ more powerful he is now only about a half million times more powerful $(1,000,001,000/2,000 \approx 500,001/1)$. If we allow the free market to continue without intervention it will eventually throw a rod.

Third: Sovereignty. It is the utilization of the sovereign right of the people to both institute and alter the money system under which they live. This is as fundamental as the

right to vote and the right to free speech. An equal cash grant is ante-money, money that precedes and out ranks the market.

These principles hold true if it is a onetime grant, a regular part of one's income, or some combination of the two. While the application of an equal cash grant is perfectly suited to correct and transcend an economic crisis or to establish a basic income, this is not the end of its usefulness. The equal cash grant also has a role to play in the design, structure, and function of money itself.

Most economists, the general public and many participants in USBIG treat money as a given. This is not wise. The basic economic rights of billions of our fellow earthers are currently held hostage by a monetary system that is corrupt and antithetical to every impulse that brings us together around the shared vision of a basic income. It is the money system itself that forms the main barrier to entry to our ideas. It is the money system itself that makes our ideas seem naïve and impractical. It is the money system itself that anoints the practice of unfettered greed and declares its acceptance as the only real world value that is dependable over time. These are errors that must be addressed and corrected if we are to proceed.

So come along with me as I take a look at a monetary system that doesn't have to be tweaked to allow for a basic income. It is a form of money that uses the basic income as its fundamental building block and its principal tool of measure. I speak of Excalibrator Logarithmic Floating Cybercurrency. Lighter than Air. Worth its weight in Gold.

But first a brief aside into the history of mathematics. It is worth remembering that we went to the moon with logarithm tables and the slide rule, not the computer.

The Transcendental Number e

John Napier

The transcendental number e is one of mathematics great wonders. Next to π it is one of the most important non-cardinal numbers. It is used in all sorts of relationships in which growth is involved. It is nature's constant of growth.

e was first implied by Scottish mathematician John Napier. Napier was the inventor of logarithms. In his 1614 book "Mirifici logarithmorum canonis descriptio" (A Description of the Admirable Table of Logarithms), Napier lays out a set of tables that would revolutionize mathematics and the sciences. He did something that no one thought possible; he turned multiplication into a simple process of addition. This speeded up calculation to such a degree that it caused an explosion in mathematics and the science. What used to take years now took days, what used to take days now took minutes. Napier made everyone in his world more efficient.

Eli Maor in his book “**e**: The Story of a Number” states that Napier’s line of thought was “If we could write any positive number as a power of some given, fixed number (later to be called a base), the multiplication and division of number would be equivalent to addition and subtraction of their exponents.”

Maor concludes that Napier came close to discovering **e**, but did not completely discover its full nature and potential.

Leonard Euler and Rene Descartes furthered the development of **e** but it was left to Jacob Bernoulli to fully comprehend its potential and power. Bernoulli was the first to note the connection between **e** and a question about compound interest.

He realized that if an account that starts with \$1.00 and pays 100% interest per year, at the end of the year, the value is \$2.00; but if the interest is computed and added twice in the year, the \$1 is multiplied by 1.5 twice, yielding $1.00 \times 1.5^2 = \$2.25$. Compounding quarterly yields $1.00 \times 1.25^4 = \$2.4414\dots$, and so on

Bernoulli noticed that this sequence can be modeled as follows:

$$\lim_{n \rightarrow \infty} \left(1 + \frac{1}{n}\right)^n = e,$$

where n is the number of times the interest is to be compounded in a year. Bernoulli also noted that e was the base of the logarithmic spiral (Wikipedia) $r = e^{aT}$ where r is the distance of a point on the spiral from its center, T is the angle through which the spiral has grown to that point, and a is a fixed quantity for a given spiral that describes how tightly that spiral winds itself at each turn. This spiral is plentiful in the natural world. Galaxies and Nautilus shells can both be described and plotted using the number **e**. The unique property of the unique form is that though it is growing its angle to the origin is constant and each portion of the new section is mathematically similar the one it supersedes. Bernoulli became so enamored of the shape that he had one engraved on his tombstone with the following inscription,

Beadem mutata resurgo, or “though changed, I shall arise the same”.

The Status Quo

Keeping Score, or can they Tally?

We learn how to play many games in our lives, baseball, soccer, football, chess, backgammon. We learn to keep score. We know what it takes to score a point. And we know how to count them and when they were scored fairly and when they were not scored fairly. And we especially learned who the cheaters were and most often quit playing with them.

Quite frankly I'd like to see the tab for the last twenty years.

1. How much money is there? Do you know? Do you have a guess?
2. Who creates our money?
3. How is money created?
4. Who gets created money?
5. What is the Average holding of money
6. What is the Median holding of money

If you can't easily answer these questions then you are at grave risk of being screwed, hoodwinked, robbed, swindled, conned, or if you will, pick pocketed. Currently there is no "market" for credit in the world. Interest rates are not some product of the interaction of supply and demand; rather they are strategically set by central banks who manage the money supply to their own advantage. While there is always a demand for money the supply of money is one of the most fungible of entities. It is an amalgamation of interlocking protocols in which privileged players pick the rest of us blind through currency creation and destruction. According to French Nobel Prize winning economist Maurice Allais, it is a glorified counterfeit scheme being operated on a global level.

Trying to find out how much money there is like belching in a large, very quiet room. You kind of hope no one noticed and go about your business. Then you remember you're being asked to suit up and play their stupid game of "market economy" as if your life depended on it, because it does. And you think to yourself, I know a thing or two about sports and these so and so's don't even know how to keep score. Or if they do know how to keep score they're the biggest bunch of chisellers and thieves ever to work the midway. They cheat. The game is rigged. They don't keep an honest tally. You know that when you play for money, or any other game that keeps score; it's not just how much money or how many points you have, it's how many everyone else has too. And it's not just that you never know where you are vis a vis others, it's that these inside operators create new money out of thin air. They give or loan it to their friends. It's like the ump stopping the world series and granting three runs to the home team, because they're a good risk. How did this happen?

Alexander Del Mar explains that modern money did not evolve, it devolved. Del Mar demonstrates historically that in the ancient world money was what the Greeks called Numerata, which maintained its value through a strict limitation of its volume, or number. Only the central authority had the power to issue, and they guarded that right jealously. Money could be made of anything, wood, leather, bone, or even paper, as long as the central authority had enough power

to limit the volume and prevent counterfeit. The political turmoil and volatility that surrounded the decline of the Roman Empire saw the end of Numerata systems. Barter replaced the money economy and precious metals, especially gold, began to circulate in much the same way that official currency bits had circulated in Numerata.

Gold as money became so entrenched in practice and in the medieval mind that the mediate value of money (exchange value) was directly tied to the immediate value of the precious metals of which it was now made. Since gold was heavy and subject to theft people began to pay others to safe keep their gold in strong houses. The people were issued certificates of receipt for their gold and soon these certificates began to circulate in lieu of the gold itself. The owners of the strong houses soon realized that the people were normally quite content to leave the gold in the strong houses for long periods. This meant that they almost always had gold on hand. They realized that they could issue extra certificates and loan them at interest. As long as everyone didn't show up at the same time this practice worked wonderfully. Not only did the owners of the strong houses make money, but the certificates gave their medieval towns a sorely needed circulating medium.

This sleight of hand became official policy when William of Orange sought a loan from the Bank of England in order to finance the overthrow of James II of England. He granted the bank a royal charter in 1694 and this has been the modus operandi of the financial sector ever since.

What's truly insidious about this practice is that the money created in the letting of a loan is a direct tax on existing money. It is the process of diminution. Its equally intrusive inverse is that when loans are called, money is destroyed. This destruction of money is a direct subsidy to all holders of cash. These two powers put banks in a position to dominate and loot entire nations and now the entire world.

To understand it properly, money must be stripped of its mystery. It must be completely transparent. Money really behaves almost exactly like common stock in a company. The company is a general holding and it is parted out by the issuing of shares of stock. The value of each share is dependent on two things, the value of the company and the number of other shares. If one person owns five shares of a common stock and there are only five other shares, he owns half of the company. If another person has the power to create five new shares for themselves, the first person now only owns one third. And inversely, if someone owns five shares and there are only five other shares, he owns half. If someone has the power to destroy the other five shares, he now owns the whole thing.

What's good for the goose is good for the gander (have no idea what that means) but it sure seems to me that if this game called "market economy" was a fair game, then everybody ought to have the same access to that new money, or else the game ain't fair. Capitalism is not the free market and it never will be until money is made into an honest public utility that shows fairness

to all and preference for none. If money were honest, we would discover just how many of the structures of capitalism are there to foil and circumvent the market.

The people of the United States and other countries are now being asked to save this financial structure that has looted the world. We are now on the hook for trillions upon trillions of dollars, with no end in sight. Now is the time to strike.

How do we keep it honest? How do we keep it fair?

We Tally and We Share

tal·ly *n. pl. tal·lies*

1. A reckoning or score. **2. a.** A stick on which notches are made to keep a count or score. **b.** A stick on which notches were formerly made to keep a record of amounts paid or owed. **3.** A mark used in recording a number of acts or objects, most often in series of five, consisting of four vertical lines canceled diagonally or horizontally by a fifth line. **4.** A label, ticket, or piece of metal or wood used for identification or classification, especially in gardens and greenhouses. **5.** Something that is very similar or corresponds to something else; a double or counterpart. **6. Nautical** A metal plate attached to a ship's machinery and bearing instructions for its use.

v. tal·lied, tal·ly·ing, tal·lies

v.tr.

1. To reckon or count. **2.** To record by making a mark. **3. Sports & Games** To score (a point or goal) in a game or contest. **4.** To label, as with a ticket, for identification or classification. **5.** To cause to correspond or agree.

v.intr.

1. To be alike; correspond or agree: *The report tallies with your description of the accident.* **2.** To keep score. **3. Sports & Games** To score a point or goal in a game or contest. [from Latin *tālĕa*, *stick*.]

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share¹  (shâr) *n.*

1. A part or portion belonging to, distributed to, contributed by, or owed by a person or group. **2.** An equitable portion: *do one's share of the work.* **3.** Any of the equal parts into which the capital stock of a corporation or company is divided.

v. shared, shar·ing, shares

v.tr.

1. To divide and parcel out in shares; apportion. **2.** To participate in, use, enjoy, or experience jointly or in turns. **3.** To relate (a secret or experience, for example) to another or others. **4.** To accord a share in (something) to another or others: *shared her chocolate bar with a friend.*

v.intr.

1. To have a share or part: *shared in the profits*. **2.** To allow someone to use or enjoy something that one possesses: *Being in daycare taught the child to share*. **3.** To use or enjoy something jointly or in turns: *There is only one computer, so we will have to share*. see sker-¹ in Indo-European roots.

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For Money to function it must tallied and shared fairly. It must be transparent and afford equal access to everyone. It must be something completely different than what now exists.

And now a monetary musical interlude from 1993. This was the first iteration of Excalibrator, though it did not have its name. It is based on the Lord's Prayer, the story of Zacchaeus, and Stock Options. As you'll see it has Jesus's Good House Keeping Seal of Approval. It is in the running for "The Official Money of New Jerusalem".

Daily Bread: A Monetary Fugue

By Stephen C. Clark

The Lord's Prayer

Zacchaeus, Pure and Justified

Alexander Del Mar's Theory of Money

Provisos

Frederick Soddy

Silvio Gesell

A.E. Orage

Shepard Tones

Recipe for Daily Bread

The Transcendental Number e

The Lord's Prayer

Our father which art in heaven, hallowed be thy name. Thy kingdom come, thy will be done in earth as it is in heaven. Give us this day our daily bread, and forgive us our debts as we forgive our debtors. And lead us not into temptation but deliver us from evil: for thine is the kingdom and the power, and the glory, forever, amen. Mathew 6, KJV

Our father which art in heaven, hallowed be thy name. Thy kingdom come, thy will be done, as in heaven so in earth. Give us day by day our daily bread. And forgive us our sins; for we also forgive everyone that is indebted to us. And lead us not into temptation but deliver us from evil. Luke 11, KJV

Zacchaeus, Pure and Justified

And Zacchaeus stood and said before the Lord, the half of my goods I give freely to the poor; and if I have taken anything from any man by false accusation, I restore him fourfold.

And Jesus said unto him, This day is salvation come unto this house. Luke 19, KJV

It was through a desire to be counted as a member of the House of Zacchaeus that I composed Daily Bread: A Monetary Fugue. My thought was that if we could all be as generous as Zacchaeus and put half of what we made into the common pot and be as humble as Zacchaeus and receive our share without pride, then we might share in the boon that Jesus gave to his House. We could all be in HOZ, the House of Zacchaeus.

Alexander Del Mar's Theory of Money

Money is a system. The unit of money is the sum of all money in that system. The number of dollars needed to purchase a house or a meal does not tell you its real price but the ration of a given number of dollars to the sum does. For money to be an objective tool of measurement and function as a medium of exchange the total number of dollars or yen or pesos must be public knowledge and not subject to secret manipulation. $\$/\text{sum of } \$ = \text{Real Price}$

Provisos

Frederick Soddy

Allowing banks to create money by letting loans under the system known as fractional reserves, and destroy that money by calling those loans makes money useless as an objective measure of value. Money has devolved into a tool of deceit and domination. Instead of a medium of exchange money is now the world's greatest impediment to exchange.

Silvio Gesell

To prevent its hoarding and encourage its circulation, money should deteriorate over time.

A.R. Orage

Individual initiative is only one aspect of economic productivity. Stewardship of our cultural and physical patrimony and social cooperation are of at least of equal importance and they are the heritage of all humanity.

Shepard Tones

In J.S. Bach's "Musical Offerings" there is a piece which Bach termed "Canon per Tonos". In his book "Godel, Escher, Bach, An Eternal Golden Braid" Douglas Hofstadter calls this The Eternal Rising Canon. It is a chord progression that returns to the original chord every six measures, except that it is an octave higher. Hofstadter put this together with "Shepard Tones" a phenomenon discovered by psychologist Roger Shepard, to create what he call a strange loop. Shepard tones are created by a series of rising scales an octave apart. Each scale begins softly on the low end increasing in volume through the middle range and fading out at the top. This gives the listener an impression of constantly rising scale. When combined with Bach's "Canon per Tonos" the beautiful fugue is a strange loop, constantly rising, yet always staying in the same place.

Recipe for Daily Bread

First: Print each day an amount of money equal to $1/365$ of all money in circulation and divide it equally between all people in society. This is the Daily Bread (DB).

Second: End Fractional Reserve Bank Credit. Impose 100% reserve requirements on all demand deposits (checking accounts). Banks may loan only that money which someone has deposited and given up their use of until the loan is repaid. This is what most people believe banks do now.

Third: Quote prices as a % of Daily Bread (DB). This compensates for the diminution of the value of the individual dollars, francs, or marks. These prices bear a constant ratio to the total money in the system, and will thus reflect the real price. For example from our table that follows we see that on day one $DB=\$100$ so that a price of $.25DB=\$25.00$ and $2DB=\$200$. On day 180 $DB=\$163.19$ so that $.25DB=\$40.80$ and $2DB=\$326.28$

Fourth: To avoid dealing with large numbers due to the diminution, create a series of currencies that follow each other in ratios of 1000 to 1, exactly as Mexico has done with its pesos and new pesos.

1000 Crowns = 1 Hope

1000 Franks = 1 Crown

1000 Rials = 1 Frank

1000 Dinars = 1 Rial

1000 Dollars = 1 Dinar

Shepard Tone Money, An Eternal Rising Canon. While the dollar figure of the Daily Bread is constantly rising, its relationship to the total amount of money is constant.

The Transcendental Number e

“In vain are all conjunctions unless we be of one body, joint heirs and fellow partakers of God in Christ.” John Napier, the inventor of logarithms.

By allowing daily bread to grow by $1/365$ each day, the annual rate of growth of money approaches the base of natural logarithms e .

Starting with a DB of \$100 and a population of 300,000,000 assumes a base monetary figure of approximately \$10,000,000,000,000. This will quickly replace the money eliminated through the termination of fractional reserve bank credit.

Daily Bread is just like life insurance except instead of assuming that everyone alive today will someday die, we assume that everyone alive today is living.

Post Script: A note on Method

I wrote “Daily Bread: A Monetary Fugue” in Oaxaca, Mexico in 1993. It was the culmination of nine years of interaction with what science fiction writer Philip K. Dick called Valis, Vast Active Living Intelligence System, what we know as God. I take responsibility for it, but not the credit. I didn’t invent it so much as I reverse engineered it from thoughts and structures that came into my consciousness fully formed. I guess that my main confirmation that I was on the right track was that when I combined the story of Zacchaeus (give half by doubling the money every year) and The Lord’s Prayer (do it on a daily basis), I came up with the transcendental number e , nature’s growth constant. Logos Rhythm. The true rhythm of the teachings of Jesus.

Philip K. Dick hearkened back to Empedocles and Parmenides in much the same vein that Peter Kingsley did, and he and Kingsley also followed wisdom up the Nile and into Persia and Mesopotamia. But PKD’s main emphasis was on the Jewish Prophet Jesus, and the Gnostic tradition that grew around him. This knowledge was lost until the discovery of the Nag Hammadi manuscripts in Egypt. They were unearthed in the 1940s. PKD considered Jesus the living representative of Valis on earth and that the gospels, all the gospels, were a map to free us from what PKD called the Black Iron Prison of the modern world and deliver us into the Palm Tree Garden paradise that is the goal of human existence.

Excalibrator Logarithmic Floating Cybercurrency

Daily Bread: Version 2.0

I first envisioned Excalibrator as a graft to be applied to the existing money system, but my experience over the last fifteen years has led me to believe that the parties who are in charge of the existing monetary system will never surrender their grip on the world, so I have come to the conclusion that it should be a start from scratch, stand alone currency. I will now examine how it would be started and how it would operate. I will describe how a vision of how it would function in the marketplace with particular attention to the basic measures that we live by, price, wage, interest, and rent. I will at every opportunity contrast it with the monetary system that we now live under.

The first problem that one must overcome when contemplating monetary reform is how to address the concept of money. Money has been steeped in mystery and double talk for so long that people have trouble getting a handle on what money is. Money should be thought of as shares of stock in a company. The company is a common asset of the stock holders. When new stock is issued it diminishes existing shares. When stock is destroyed it enhances the remaining shares. Excalibrator Logarithmic Floating Cybercurrency (ELFC) will take this process out of the shadows and into a realm of transparency that will allow all participants knowledge of what is being done and how it will affect them. Each currency unit issued by ELFC will be a share in the common stock of the entire economy. They are very similar to stock options.

Under the current regime of fractional reserve credit, certain privileged players, the banks, have the ability to create new shares and direct them as they see fit. They issue these shares in the form of loans that are let to people and corporations that they deem credit worthy. The purchasing power of these shares comes from diminishing the purchasing power of all other shares. This process is the systematic transfer of purchasing power from all other shares to the recipients of the loans.

Before we look at how ELFC will differ, a look at the structural components

The Measures

Daily Bread- DB The amount of monetary shares each person receives daily.

$DB = TCC / 365 / \text{Population}$

Total Capital Component-TCC The sum of all existing monetary shares.

$TCC = DB \times 365 \times \text{Population}$

Average Capital Component-ACC The mean number of monetary shares.

$ACC = TCC / \text{Population} = DB \times 365$

Median Capital Component-MCC Variable, determined through observation.

The e vapo rate

Daily Bread and the Total Capital Component both grow at $1/365^{\text{th}}$ per day, every day thereafter. This yields an annual rate of $(1 + 1/365)$ to the 365^{th} power, approximating the transcendental number e, $(1 + 1/n)$ to the nth power, as n approaches infinity.

Excalibrator Logarithmic Floating Cybercurrency will create new shares daily, but it will not direct them to privileged players, it will distribute them equally. This is a qualitatively different process than the letting of loans under fractional reserve credit. Expanding the number of money shares by $1/365^{\text{th}}$ each day will cause existing shares to lose $1/365^{\text{th}}$ of their purchasing power daily. Money is evaporating. But each player will receive an equal share of those created shares. Money condenses at exactly the same rate that it evaporates. The difference between ELFC and existing monetary practices rests in the fact ELFC shares condense in the pockets of everyone equally, whereas those shares are now directed to the pockets of insiders.

Day	Daily Bread	Existing ACC	DB as % of ACC
Day 1	1.000 Reals	365 Reals	0.27%
Day 2	1.003 Reals	366 Reals	0.27%
Day 255	2.003 Reals	731 Reals	0.27%
Day 1, Year 2	2.718 Reals	992 Reals	0.27%
Day 1, Year 3	7.389 Reals	2,697 Reals	0.27%
Day 1, Year 4	20.09 Reals	7,333 Reals	0.27%
Day 1, Year 5	54.60 Reals	19,929 Reals	0.27%
Day 1, Year 6	148.4 Reals	54,166 Reals	0.27%
Day 1, Year 7	403.4 Reals	147,241 Reals	0.27%
Day 1, Year 8	1,096 Reals	400,040 Reals	0.27%
1.000 Reals = 1,000 Gesells		365 Reals = 365,000 Gesells	
1.003 Reals = 1 Real, 3 Gesells		366 Reals = 366,000 Gesells	
2.003 Reals = 2 Reals, 3 Gesells		731 Reals = 731,000 Gesells	

2.718 Reals = 2 Reals, 718 Gesells	992 Reals = 992,000 Gesells
7.389 Reals = 7 Reals, 389 Gesells	2,697 Reals = 2 Del Mars, 697 Reals
20.09 Reals = 20 Reals, 90 Gesells	7,333 Reals = 7 Del Mars, 333 Reals
54.60 Reals = 54 Reals, 600 Gesells	19,929 Reals = 19 Del Mars, 929 Reals
148.4 Reals = 148 Reals, 400 Gesells	54,166 Reals = 54 Del Mars, 166 Reals
403.4 Reals = 403 Reals, 400 Gesells	147,241 Reals = 147 Del Mars, 241 Reals
1,096 Reals = 1 Del Mar, 96 Reals	400,040 Reals = 400 Del Mars, 96 Reals

1000 Hopes = 1 Emmanuel

1000 Jaspers = 1 Hope

1000 Del Mars = 1 Jasper

1000 Reals = 1 Del Mar

1000 Gesells = 1 Real

The shares of ELFC have a half life of around eight months and a mil life of around seven years. The DB will increase from 1 Real on Day One, to a little over 2 Reals on day 255. This means that the relative purchasing power of the DB received on Day One will have diminished to one half of its original by day 255. The DB will increase from 1 Real on Day One, to a little over 1 Del Mar on the first day of Year Eight. This means that the relative purchasing power of the DB received on Day One will have diminished to one thousandth of its original by the first day of the eighth year.

The DB is multifunctional. It is distributive: it is a quantity of shares that every one receives daily. It is referential: it maintains a constant ratio to average total money (ACC), and thus total money (TCC).

Our principal tool of measure is the Daily Bread (DB). It is the daily pulse of ante-money. Each day we create and tally an equal amount of shares into the accounts of every participant. The total of these shares is equal to 1/365th of all the other shares. This creates the reference point against which we compare everything else in the economy. Prices, wages, interest, and rents will all be measured in DBs. This concentration of focus on the DB will judge the power of the daily pulse of Excalibrator. Price stability takes on a whole new context.

Everyone starts in the middle, with an account of ELFC shares worth 365 Daily Breads (DB). ELFC does not predict or advocate egalitarianism or an equal outcome. There will still be an economic ladder, and where you end up on that ladder will depend mostly on your own effort and diligence. This will establish a new, regular and secure path to riches: providing affordable food, clothing, and shelter for those who previously had no money to buy. One fourth of the monetary wealth will flow through the poorest half of our society every year. This market will be competitive and stable.

There is an old adage that if all the money in the world were divided up equally and distributed to everyone, the money would be back in the same hands inside of a year. With some exceptions I believe this is true. The strong, talented, and lucky will rise and the weak, less talented, and unlucky will sink. The part of the story that isn't commonly told is that there would be an economic boom created by all those people working and striving to earn their way back to the top. But the reality must be faced; a competitive market means that some people will probably end up broke and living on their DB. This will decide whether ELFC will work or not. Will the economy offer food, clothing and shelter to these people without other assistance? The steady income that adjusts perfectly for inflation will likely make them good tenants and excellent customers at local restaurants. Putting disposable income into the hands of everyone everywhere will increase the opportunity to hire locally. It will make every community in the world prosperous. But those people who are not diligent or just plain unlucky will have less to spend than those who strive and deliver.

Price and Price Stability

Excalibrator has new approach to price. The currency divisions are expected to diminish over time. Prices will be quoted as a number of Daily Breads (DBs), accompanied by a daily updated listing of the currency level of the DB. Prices would be calculated by multiplying the number of DBs times that day's level of the DB. A conversion chart or computer program would aid in the calculations. The DB price should be extremely stable. It is the Ceteris Paribus price. If all other things remain equal the nominal price should increase by $1/365^{\text{th}}$ daily. For instance, if a pair of shoes sells for One DB on day one of year one it would cost One Real. Since the Reals have a half life of about eight months, the same shoes quoted at One DB would cost Two Reals after the eight month period because the DB has doubled. The purchasing power of the DB has remained constant, only the nominal price has risen. If the price has risen to Two DBs it would cost Four Reals and the purchasing power of the DB with respect to shoes would have fallen. If by the eighth month the price of the shoes has fallen to One Half DB, the shoes would cost One Real, but the purchasing power of the DB with respect to shoes will have risen.

This process may seem a bit convoluted but one must consider the present situation. Our money supply is expanded and contracted at intervals that are beneficial to insiders in the big casino that is now modern banking. We are encouraged to pay attention to the purchasing power of the Dollar, Yen, Euro, Peso and ignore the men behind the curtain. ELFC offers full

information on every purchase on the relative purchasing power of the DB and by reflection the purchasing power of the entire sum of money, which is, as Alexander Del Mar has noted, the real unit of money. This information makes us all insiders.

The DB price then becomes the expected price or the *ceteris paribus* price. If all other things remain equal, prices should rise in direct proportion to the DB and the total supply of money. But nothing ever remains exactly the same. Prices under ELFC will be allowed to float and reflect the interaction of supply and demand. Prices will be quoted in DBs. This will give a referent to both the amount of money that everyone is receiving daily and to the total number of shares. This will gauge the purchasing power of the DB and account for how much of it is simple monetary inflation and how much is increased demand or limited supply.

Wage

The person selling their labor in the market place will now have increased leverage with respect to employers. They will also be facing a market place that is altered beyond recognition. The presence of a regular income stream among the poor will allow them to hire each other for the provision of services that are now controlled by corporate interests. Wages would surely rise, but real competition would apply restraints and they should eventually stabilize. The main difference would be that employers, as with all purchasers, would pay strict attention to when they paid their employees. It might happen daily.

Rent

Rents would probable rise, reflecting the fact that the entire population would now be entering the real estate market. The earth is finite. Those people who previously had no monetary resources will now be bidding against everyone else for residential and commercial property. I would predict an end to ghost towns. Land rents would soar, and something similar to Henry George's Single Tax would need to be enacted to prevent a return to the present situation through a different means.

Interest and Investment

Excalibrator is a tax on liquidity. Excalibrator is also a subsidy. The DB will cover all purchasing power lost due to diminution on up to 365 DBs. That is, if you hold an average share of the total money, the DB will exactly compensate you for your loss of purchasing power. Money owned by an individual is an asset, but money from the societal point of view is actually a liability. It is a call on the community's real resources. Holding large amounts of cash or bank deposits accrues great benefit to the holder. Excalibrator imposes a cost.

The tax could be avoided by holding wealth in other commodities such as gold, wheat, real estate or stocks. But each of those has its own carrying and transaction costs. Imposing the liquidity tax makes money a commodity far more similar to stored oil or bread or gold or lumber

than any money existing today. The introduction of ELFC will not change the types of investments available, except that holding cash will not be the zero point. Common Stock, Preferred Stock, Private and Municipal Bonds, even the dreaded bundled mortgages would all be instruments that could be sold and bought under ELFC.

The interest rate on borrowed money would be established in the market place. Money is now managed so that the purchasing power of the currency divisions is held steady and that there is a positive return on loaned money. Under Excalibrator the zero rate would be 0, or referring back to Bernoulli's equation, 100% interest per year, compounded continuously. This would return to the lender the same purchasing power at the end of a year that he surrendered at the beginning. But would this be the rate?

Whereas now lenders can safely sit on cash, the market for money under Excalibrator would be full of strongly motivated lenders. Holding great quantities of cash for long periods would be foolish. There will still be desperate borrowers, but their bargaining position would be on more of an equal footing with lenders. Some lenders may ask for the zero position, 100% per annum, compounded continuously, but could they get it? Is there a natural positive rate of return on money? I suspect not. I believe that the market would have a large range of interest rates. Some would make the lender whole by returning all the purchasing power surrendered in the loan. But some would split the difference. A loan of 10 DBs for a year might be paid back 8 DBs. The lender is better off than if he had let the money set idle, but he has lost purchasing power. The bigger the risk the higher the rate, and vice versa.

Under Excalibrator money would take its place in the world of investment as a tradable commodity and not a gate keeping master to all who would use it.

Initiating Excalibrator

1. Establish affiliated Local Boards of Directors to manage Excalibrator. Responsibilities include issuing currency, creating security protocol to prohibit counterfeiting, and hiring staff for banks.
2. Open banks to handle the deposit of Daily Bread and handle the transactions of the new currency when people begin to buy and sell. These are narrow banks. They do not let loans or manage investments, no fractional reserve credit. 100% reserve requirement on all deposits. Banks would support themselves on transaction fees of between 2 and 5 percent.
3. Sign up customers.
4. Create, Issue, and Distribute Excalibrator
5. Process purchases and transfers of customers
6. Open trade window with all other currencies.
7. Customers begin transacting business with their shares

Lighter than Air, Worth its Weight in Gold

Excalibrator is designed to provide two tools to society, a precise measure of exchange value to facilitate trade and a guaranteed minimum access to money to eliminate or at least ameliorate the ravages of poverty. By maintaining a constant ratio to the All Money, Daily Bread is the perfect price referent. By being an amount that every person receives every day, Daily Bread serves as a negotiation platform and a social safety net. It combines price and affordability in the same measure. If Excalibrator empowers workers to say no to dangerous or degrading jobs or demand adequate compensation for the difficulty or danger involved, it will have succeeded. If Excalibrator provides the producers and consumers of food, clothing, shelter, health care, and education with a stable and predictable market for everyone, it will have succeeded.

Excalibrator will rid the world of a terrible misconception; that scaring someone with the prospect of poverty is somehow similar to financial reward as a motivator. The fear that poverty engenders destroys both the rich who use it to dominate the poor, and the poor who are dominated. Where poverty exists there is no free trade. Under Excalibrator money will base its value on the full productive capacity of humankind.

Opportunity, education, shelter, health care, even one's very ability to function fully in a community are all profoundly affected by the size of one's bank account. Regular access to a stable and steady level of monetary support will improve every aspect of a person's life. The top half of our societies in the west already has these supports and they are the world's most productive citizens.

Money is made up of numbers. It has no existence other than what we give it. It has no weight other than the weight we give it. We are going to tally shares on an infinite virtual nautilus shell. Each day we will mark each share with care and diligence. These shares begin to shrink the next day and every day after that at a steady and predictable rate as they are joined by new shares that grow at the same rate the others shrink. The cells of this virtual nautilus form a new type of negotiation space that will lead humanity into....

