Information Currency:

The New Green

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Abstract:

The purpose of this book is to define information currency as it currently exists and where technologies and markets may direct its progress. The advent of virtually free information brought forward the possibility of a new currency that needs definition and application. This book documents a ten year research project by Ruffin Trading Company that shows evidence that transactions using the dollar have a high cost. The research showed that information about specific product values and availability made to market allowed for trade and barter transactions that were not possible with dollars. This book explores what may happen as the market finds out that information has become less expensive, more valuable and more dependable than our money. The book presents a way forward toward using information as a currency.

This book is important because an understanding of the dynamic of information as a currency will allow our philosophies of economics and information technologies to adapt for the next monetary age. A technology "Item Banc" is proposed in this book to enable an information currency.

Contents:

Introduction:

This book reviews the impact of growing accessibility of pricing and availability information of products, together with their categorization, naming, and standardization on markets, leading toward product commoditization. The book explores the impact of, and the potential harnessing of this information, using a technology called "Item Banc" specifically toward the development of a pure information currency, where by making use of barter transaction structures, a new kind of information currency can be born. This book documents the impact of a lack of information in markets in a ten year research project related to products that were non-productive in markets, and their repositioning in barter/trade markets with new market information. The subject of this book is of immediate necessity, as it offers a concept of new market efficiencies that can boost economies using information technologies. Bernard Lietaer, instrumental in the creation of the Euro, writes of urgent currency issues, as the dollar's store of value becomes an impediment to medium of exchange (creating boom-bust cycles), how the "tools of empire" complicate value, and how currency speculation interferes with standard of value. He calls for a "reprogramming of the invisible hand". (Lietaer, 29) The purpose of this book is to do exactly that: to encourage development of super productive information currency instruments, such as the proposed "Item Banc". This book explores the possible impacts of information currency, opens the possibility of a new and urgently needed field of information and economic science and ends with an implementation example for a nation and its potential economic benefits.

Item Banc Technology

Item Banc is a technology tool designed to bring information currency to markets. A demand for information about value is at the core of every business proposition. Item Banc Technology focuses on delivering this information to the market and capitalizing on its delivery to consumers, industry, the financial sector, and governments.

It is a most advantageous time to introduce Item Banc because the world economy needs new technologies that can deliver efficiencies to market. World markets are seized up by a downturn in available credit and in addition the international trade economies are looking for a new currency valuation methodology that can deliver fair market value to all countries. Businesses need commodity-type market prices for products to operate profitably in a world economy. Consumers continue to demand pricing and value information in order to make better buying decisions.

Item Banc will deliver to the consumer marketplace a pricing and product valuation engine. To industry the engine will deliver commoditization of products and valuation technology. Financial markets will use Item Banc information to capitalize businesses, individuals and countries. Item Banc will provide valuation to currency technology to governments. The most significant contribution of the technology to market is that it will deliver the systems structure to operate a global bank for a new paradigm of information currency.

The demand for Item Banc technology is dependent on a two-part proposition that first,

the market has a continuing need for greater and broader information about product availability, pricing and value. Second, the market need for Item Banc technology is based on the existence of incorrect information about the value or relative value of products reported by central bank currencies. When the price of a product is irrelevant to market then this may be an indicator that the central bank currency has “failed”, and is producing incorrect or insufficient information to market.

In a tight economy consumers are more value driven and look for more price information. In fact, these consumers can become aggressive about the fair market value of products. For this reason we can guess that they will be willing to share and enter price information discovered about products into our pricing engine. It is a great time to bring consumers more product pricing and value information.

Overwhelmed by a world stage, Industry now needs a hard-connect to the market value of product in order to survive. A shortage or overrun of product on another continent can now have a near-term impact on local product value. Information companies that have taken the stage to produce market (standard) pricing of products seem to have had an easy market entry as demand continues to increase and broaden. The current lack of credit in the world economy puts pressure on Industry to calculate each purchasing decision more precisely. This market need provides a market entry point for Item Banc.

In the middle of a credit crisis, Item Banc technology can deliver the information required for financial institutions to capitalize transactions in new ways; by securing valuation information about individuals, companies and governments based on our

information technology that can commoditize products.

The valuation to currency portion of Item Banc technology may bring new trade freedom to countries that are experiencing a trade disadvantage based on a currency-challenge brought to bear by foreign governments. Commoditization of products by Item Banc may also give currency-challenged economies new sources of capital for international transactions at a time when their central bank currencies cannot compete in the world market. Finally, as tax revenues shrink, government entities can use Item Banc to manage reported inventory information to leverage their own economies in new ways.

Item Banc technology essentially creates commodities of items for the purpose of leveraging this valuation information for the long run goal to use this information as a currency.

In the way that gold, corn, coffee, and oil are commodities, (products with known value around the world), the technology creates information about other similar products and their value and availability with a goal to arrive at an average, known value. And in the same way that commodities are more liquid and tradable because of their known value, other items will also begin to have that effect as their prices and availabilities are known, or “commoditized”.

To achieve this goal, an intelligent system needs to know how to “name” or call similar items, and then search out their price and availability information, then create averages of such. This then is published in a form where it can be used in relative value algorithms to assist in transacting goods in barter trade form.

Background and Commentary

I worked in my head for almost twelve years on this theory of information currency. I remember when it started and that first eureka. My mother called from Africa to tell me about email. She was so excited. I recall how she explained the internet and how it was used by educators. When I told her that I knew nothing of this she exclaimed, "You're in the computer business and don't know about the internet?" Really, back then, few did! As she explained this new power of accessing information freely, this eureka came to me in full force…free information will enable a shift in currency because currency IS information, and information IS currency.

I have to admit, I've had an obsession with currency theory since I was eighteen. A really good class in 20th century history gave me a dose of the depression-era and the collapse of currency that I just couldn't forget. I didn't understand how a currency could fail. I didn't want this to ever happen again. My fascination pushed me to choose a college degree in Economics.

After college I worked for a systems consulting company. This means that I worked full time figuring out how software could specifically address the inventory and accounting needs of my clients. Sometimes I had to write or edit software programs. I worked heavily in databases and how systems categorized data. The other focus was valuation and costing of inventories and the options available to business owners. All of this training helped me later to have a deeper understanding of information as currency and how to apply technology toward this goal.

But then there was another conceptual interruption. BARTER. I remember reading an article about a big trade of Reebok tennis shoes for Russian vodka. Deep inside I felt some solution coming for the currency issues. I was ready to drop everything to work in and learn about trade and barter. (I'll call it "trade" from here forward). After a few days of phone calls I drove straight to Fifth Avenue in New York City to try my first million dollar trade. That one didn't work but five years later one finally did. The experience was everything. I wanted to feel trade. I needed that visceral assurance of reality.

Then the theory of information currency in the form of an Item Banc began to sink into my thoughts and for the next ten years of my life it became a part of every day's obsessive thinking. I wrote the theories and algorithms down and then worked with a patent attorney in Charlotte, NC for six months. The patent-pending was over seventy pages long. Three years later an investor agreed to fund the creation of a business plan and to test the theory for the Item Bank software. I decided that the first practical step was to prove that trade bridges worked between economies. If, I postulated to myself, these trade bridges can work then the software will be viable in action. It took ten years of testing barter at multiple levels of distribution and internationally to feel completely confident of this theory.

We are in what I believe is a paradigm shift related to currency that I will explain this in this book. In my opinion, without this theory or my words, this world will move closer every day to this new paradigm of information as currency with or without our consent.

Basic Objections

If I can start by defining a word that I will need to use a lot, the word is “commodity”. A simple definition is a product or service with a known value around the world. Sometimes the definition gets into the closer aspect of how the products need to be similar or homogenous. This is to me one of those “true but not true” statements as commodities are never really exactly the same. Coffee is a commodity and highly differentiated. So are corn, pigs, yellow grease, wheat and on and on. Also, even though corn or wheat or coffee or oil may have a commodity price per barrel or per pound or bushel or head, this does not mean that that will be exactly the selling price for each transaction. So why is it necessary or important to have a commodity price? Commodity value and relative value information (to other products or in time) allows us to have a better understanding of the buying power of our currency. The technology of Item Banc is designed to provide valuation information and to commoditize products. Transaction sets related to price as products are exchanged is a different application.

Another objection is when one cannot understand the dollar as purely information. Even some monetary theorists rest on the concept of the dollar simply as “credit”. Though I may agree that the dollar can function as credit, what it IS matters here, and it IS and has proven to BE information. The dollar has a value…is a value that changes relative to what it can buy. The dollar today, you could say, functionally gave you credit to buy that cup of coffee selling for $1. The dollar tomorrow, maybe, might not give you credit to buy that SAME cup of coffee because now it costs $1.10. In our reality it seems that it is

not the fault of the dollar—that it is the fault of the seller who raised the price from yesterday. But yet, from the perspective of a trader, or someone who is not used to using currency, it is evident that it is exactly the dollar that has changed because now it takes more of them to satisfy the owner of the coffee. An example may work here. If you took ten eggs to the owner of the coffee yesterday and got the coffee, and today it took eleven, then there must be something less valuable about your eggs today relative to the value of coffee than yesterday. So since we are so wired to measure the information about the value of goods and services based on a constant "1" dollar, we have been fooled into thinking that its value never changes. So how, then is the dollar information? Let's go back to the eggs. When we had to pay one egg more then we had specific information that eggs now are worth less relative to the value of coffee. If eggs were used to pay for everything, then we'd know a whole lot about the value of eggs relative to every kind of good and service. All that the eggs end up doing is providing information about value. Yes, they function as credit to get coffee. But if we began to log the relative value of eggs compared to all kinds of goods every day and how this changes we would then know derived information, such as, if we traded eggs for pigs, then we might get a better deal by trading pigs for eggs. This information about relative value is so lost in our carrying of the dollar that we become washed up and only see the dollar as a vehicle for credit… its function… not how it gets there or if we should even use it!! It was to my benefit that some economics professor insisted on our universal definition of money in three parts: Unit of Measure, Store of Value, and Medium of Exchange. So can the egg be a unit of measure, store of value and medium of exchange? Yes! Sure! Even an egg can provide information about relative value of goods and services. Now that we have experienced

credit cards and exchange of goods and services based on a numbered and named account, we have already seen this piece of information related to held or stored value... information about value… I should say “relative value” as the dollar tomorrow may not store so well and buy that same cup of coffee.

Packed up with the set of “basic” objections is that trade (barter) feels like it can’t and does not work. To most people it’s just not real. I totally understand this objection but have so much trouble relating that it is hard to get around it. The difference is that I determined to answer that question on my own. I’ve traded for about everything that it takes to live except gasoline and other energy-related items. Also what I didn’t know before I started to trade is how massive the trade (barter) industry is in America and abroad. The facts speak for themselves. The Trade and Barter Industry is a fourteen billion dollar industry. Trade (barter) is legal in the USA, and recorded for tax purposes on a 1099B since the TEFRA act.

The theory of information currency is first about a source of information related to relative values of goods and services that may be more dependable than the dollar. The information, in fact, would also be a credible source to create relative value to a currency. This technology is built into the Item Banc. It seems to look like transactions could evolve from this set of information and would be trade based, if we define trade (or barter) as any transaction that does not use a currency. Or we could say that the information available related to the relative value and availability of goods and services IS the currency. From this we can call it “information currency”.

Paradigm Changes

Evidence of the paradigm change in currency is everywhere. First, I want to start with the basic piece of information about valuation that is now free and accessible to anyone. It may seem just every day and normal to think of something that you want to buy and then look it up on google or any price engine (like NexTag.com) to get an IDEA OF THAT ITEM'S VALUE. This information is a critical beginning piece to information currency, that is, that items are becoming commoditized as more and more information about availability and value are made known.

Known values then drive markets. Markets soon become slave to expectations, and consumers make choices based on values that they demand. The more information about value and availability of items, the more consumers shift and pressure markets to meet a rational equilibrium.

As items become commodities they can be used and leveraged for trade without a dollar. It soon is clear how a dollar can interfere in a balanced transaction. Anyone who has traded can relate to this. A dollar transaction has an inherent cost in addition to the transaction. Another way to explain this is that a transaction using dollars is more expensive- often significantly more expensive and less efficient than a barter or trade transaction. This is easy to feel in a micro economy. A business person may be willing to trade services for a nice dinner. In fact, that same business person would not even think of spending his dollars on such an expensive dinner. Also, the restaurant owner was unable to afford the business person's service. In trade, both are affordable and allow for new business efficiencies and luxuries that are not possible or affordable with dollars.

The cost of the dinner in dollars may be $100. This is unaffordable. If the cost of the dinner is some services, this is affordable and gains a new customer. The recorded dollar "value" of that dinner then is in many ways inaccurate because it does not reflect the "value" of the dinner on trade. If values become comparable in trade, the inefficiencies of the dollar will soon be made completely obvious.

The new paradigm of information currency will become more evident as commoditization of products and services happens. This means that we will have more and more information about what is available where at what price and will know the value of that product or service. As this change continues we will learn more about the relative value of our dollar.

Radical Money Theorists see the Future of Money in Commodity Information

"Cashless Trading" as Tom Greco designates the functions of barter, trade, and community currency organizations, "is a revolutionary innovation in reciprocal exchange that might be compared in importance to the invention of the printing press, which empowered masses of people by making literature widely and cheaply available and freeing them from dependence on scribes and scholars"….he goes on to say, "Cashless trading has, over the past thirty years, gone through a stage of experimentation, trial and error, and small –scale application analogous to early letterpress technology. The principles of credit and exchange are now better understood: as they are more effectively applied, the tremendous possibilities will become generally apparent, sufficient amounts of resources will be allocated to their further development and implementation, and the world will be forever changed." (Greco, 24)

Thirty years of exchange practice with very basic information currency tools in what has now become a ten billion dollar industry leads us now to a new era in exchange where the commoditization of information about products, implemented with cashless exchange practice, will revolutionize our money systems.

Greco sees a coming transition to an "objective measure of value and accounting unit", and that we would need to "denominate local credits in some independent, objective, nonpolitical unit of account based on a concrete standard of value, and….that this value unit…is objectively defined in terms of valuable, commonly traded ***commodities***." He believes that, "Such a unit will facilitate trading across national borders by obviating the

need for foreign exchange and eliminating the exchange rate risk, and will be immune to the inflationary and deflationary effects that beset national political currencies." (Greco, 24) explains his position by writing, "There is an important distinction to be made between using commodities as a standard for defining an accounting unit on the one hand, and using them as backing for the issuance of a currency on the other. It is not necessary that a currency be redeemable for the specific commodities in which it is denominated. So long as the standard commodities are actively traded, they can provide a benchmark for measuring value." (Greco, 24)

The leap in thought from leveraging commodity information to "back" a currency compared to leveraging commodity information as an information currency is the conceptual connection to the new monetary technology era.

Market Demand for Price Information

An indicator of the natural movement toward an information currency is the demand for price information that will lead to increased commoditization of products. In an article by Bizreport in 2003, “A survey of 1100 Dealtime.com shopping search engine users in late December 2002 found that the main reason for using shopping search services was to compare prices quickly (73%), followed by wanting to compare products (54%) and to find stores selling the products they were interested in (45%).” (Bizreport, 10)

Though clouded by distracting market forces, most popular search engines and internet consumer hubs continue to focus and develop products to have “commodity” information. Google Product (Google, 11), Amazon.com (Amazon, 12), and Ebay (Terapeak, 13).

When a consumer inquires about a product the contemporary form is to list the lowest price from the displayed store and then follow additional stores with their corresponding price.. The current players include more than ten powerhouses, including: Amazon.com, Googleproduct.com, Terapeak.com, Raser Technologies (Raser, 14), NexTag.com (NexTag, 15), Pricegrabber.com (Pricegrabber, 16), mysimon.com (MySimon, 17), Kelkoo.co.uk (Kelkoo, 18), dealtime.com (Dealtime, 19), and bizrate.com (Bizrate, 20). (Searchenginewatch, 21)

In the management echelons of distribution and manufacturing telecommunication and systems management, there has been a movement for the last ten years to standardize product data, naming and categorization systems. One of the early pioneers was Trade Service, dating back to 1931 when their pricing “pages” were passed around the industry.

Trade Service is still a product pricing technology leader in the electrical, hardware, and industrial equipment industries. (Trade Service, 22) A former not for profit organization in the electrical industry is now the for profit venture, Idea Corporation (Idea, 23). This corporation makes a living communicating product data along the supply chain primarily in the electrical industry. The concept ten years ago of “standard” or “market” cost has bled into and over many other industries. This concept is just the foundational thinking for information currency and the movement just keeps going forward with technology.

The demand for price information, specifically toward “standard” commoditized product pricing is also leveraged by a large sector of building materials distributors who use the services of the company “Random Lengths” to provide market “value” of the week for sheet goods and lumber. From this weekly market price these dealers establish their pricing for the week. (Random, 32)

The current industry and consumer demand for market price information and the spread of product commoditization may be the catalyst for information currency.

Understanding Information Currency:

Capitalizing Information

It is possible to capitalize information in the same way that legal title to land and buildings are used to make capital. Some economists contend that it is the formalizing of legal title to capital that differentiates the first from the third world. It is this efficient legal set that empowers banks and other venture partners to loan. If the third world could create these efficient legal sets to allow businesses to capitalize on land and building assets then some believe the third world, with dead capital valued at over nine trillion dollars, might no longer be third world. (DeSoto, 2)

From this compelling thought we can move to recognize that the first world might just leverage into a new world as well if we could legally capitalize on information assets. It can begin with businesses, where the live stocked inventory and pricing information alone will give a business an immediate line of credit. It can begin when restaurants can get new signage based on their new menus. It can begin when manufacturers can get loans not just based on a contract for production but for what they have already produced. It can begin when a contractor gets a loan as soon as he becomes certified to construct. Each one of these items is currently “dead capital”. We follow the third world failure to leverage dead stock land and buildings when we fail to leverage information as capital.

Creating capital from information is often practiced in retail barter economies. A retail barter house operates like a trade bank for various (typically local) businesses. When a new business joins it is usually issued a standard line of credit, one thousand dollars, for instance. Without selling anything the company can begin to buy from the other

businesses that are members of the trade group. The reality of managing a retail barter economy, however, includes instances where a business runs in excess of the standard line of credit. Often a decision is made to extend additional credit to the business based on the standard or market valuation of the goods and services made available or stocked by that business. This decision reflects the formation of capitalizing information; a building block for an information currency.

Understanding Information Currency:

How Information Can Function as a Currency (Basics of Barter)

Information can operate as a currency in a simple, informal barter (trade) transaction, through a retail trade exchange, or even directly by a corporation or government. A restaurant provides dinner to a customer who washes dishes. A sign company trades a sign to a lighting showroom for new florescent lights for its manufacturing area. A British shoe manufacturer trades a container of shoes for Russian Vodka. It does not matter what currency the trade is denominated in, euros or dollars, the fact is that the trades above were not in euros or dollars. The trades above operated with information as a currency. The specific information in these trades included what was available for trade at what agreed value and from whom.

Over the last ten years the retail trade exchange industry has moved more and more of this specific information about trades available to an internet platform. The information about trades available are typically accessible exclusively to members of the trade exchanges. Some trade exchanges are now grouping to include a larger number of available trades. Companies that build software specifically for trade exchanges continue to encourage cooperation among all of their trade houses so that the opportunities are bigger for all. The Universal Currency (UC, 3) was created in 1988 by IRTA (The International Reciprocal Trade Association), a non-profit organization dedicated to providing just and equitable standards of reciprocal trade and raising the value of reciprocal trade to businesses and countries worldwide. (www.ucci.biz) In (2009) IRTA reported that ten billion dollars transacted in trade, which we designate in this

paper as a form of information currency. (IRTA, 4)

In these examples, information functions in some way as a currency. But our objective is to move to an increasingly more determined and effective style of information currency. One method to do this is to create a *free* Item Banc. Though many of these in some form actually exist today on the internet, this would represent a VISA style of agreement (Hock, 5) where the function and form of the Item Banc is agreed to by a group of professional members and within trade industry and circles. The reason for the agreement is that the function and form of the Item Banc must be consistent, verifiable, and integrated. The Item Banc takes this data to another level, as explained later in this document.

Information currency is operating in some form today all over the world and even in your city. Our objective is to work to move information currency forward to a form that can solve increasingly greater economic challenges. A structure for information currency such as Item Banc, combined with the mechanics for transactions used in the barter industry, are building blocks to an information currency.

Understanding Information Currency

Commoditizing the Market

The goal and objective of information currency is to create information about value specific to items to achieve commodity status for as many items as possible, and to use this information capital to create relative value systems across economies to achieve rational equilibrium and efficiencies in markets. “Relative value systems” and “rational equilibrium” will be reviewed later in this paper.

Commoditization of markets will occur by the diffusion of intellectual capital related to information about value (information capital) necessary to make markets efficient. Goods that formerly carried premium margins for market participants will become commodities.

The goal is that any good that is supplied without a significant qualitative difference across a market must be challenged at market with competitive commodity information about value. “***Commoditization occurs as a goods or services market loses differentiation*** across its supply base ***often by the diffusion of intellectual capital*** necessary to acquire or produce it efficiently. As such, ***goods that formerly carried premium margins for market participants have become commodities***, such as generic pharmaceuticals and silicon chips.” “…one of the characteristics of a commodity good is that its price is determined as a function of its market as a whole.”

The etymology of the word “commodity”: “The word commodity came into use in English in the 15th century, it came from the French, “commodite”, to benefit or profit. Going further back, the French word derived from the Latin commoditatem (nominative commoditas) meaning “fitness, adaptation”. The Latin root commod- meant variously

“appropriate”, “proper measure, time or condition” and advantage, or benefit.” The more common understanding of a commodity is in the first definition: “A commodity is some good for which there is demand, but which is supplied without qualitative differentiation across a market. It is the same no matter who produces it.” (wikipedia, 1)

Information currency leverages commodity information about value to make markets reach rational equilibrium. Information currency is enabled when infrastructure for trade is built (including international trade bridges, corporate trade organization, retail trade organizations, and community currencies). Information currency is capitalized when the technology to harness, analyze, and report this information is created and activated.

Understanding Information Currency

Missing Monetary Theory: Currency is Information

Monetary Theory historically gives money a definition in three parts: Unit of Measure, Store of Value, and Medium of Exchange. (Wessels, 6) The historical definition of money lacks one of the biggest parts of its function: information about value. US currency is a primary standard of information about value and relative value of every kind of good and service, including other currencies. Defined this way, we can see the good and bad information that this type of currency delivers. The dollar carries bad information when the interest rate on saving the dollar is not relevant to the market. The dollar carries bad information when our basic source of stability, the value of our homes, suddenly falls or rises for irrational market reasons.

The dollar lacks information, or carries "bad information" when product has near-zero value because it has become non-productive on business shelves or food in restaurants is not sold. How can this be proven? The barter industry, a 14 billion dollar industry proves this every day as the products and services that represent "dead" or non-productive are quickly consumed on trade at full retail value. Take, for example, the hotel with extra rooms, the accountant with extra time, the restaurant with extra food that will spoil, the distributor with excess, dead, or non-productive stock. The barter industry provides information in an organized manner about these excesses and they are consumed at full value by those who also are willing to provide their information about excess. Since its beginning, the internet has made available more value and availability information to the market than ever in history. This information has made massive changes to industry

structure and has brought in and put out of business those who contribute or do not contribute to market information efficiently. These changes were necessary for business to move into an age of information via the internet. As the internet has become the technical base for moving information about value and availability, concepts of currency structure have new frontiers.

David Woodruff provides an interesting historical account and analysis of the rise of barter in Russia (1924-1998). His conclusions embody a theory that the rise of widespread barter in Russia was driven by firms that felt forced to cut prices, were unable to do so in nominal terms, and so embraced barter. What followed were, in his words, "attempts on all sides to exploit those accepting nonmonetary means of payment at their nominal value, and attempts to resist this exploitation. Fragmentation of the price system made it harder to define economic advantage precisely, but as a result it was pursued all the more vigorously." (Woodruff, 31)

Economists have always contested whether there is a real market value (as conceptually distinct from "price") for items and services. But some of the legends in economic thought including Adam Smith (labor) and Karl Marx (commodity capital and land) favored an argument that market value is real and it is the price that is arbitrary. As economists study the science of scarcity one basic thing for sure has changed. Information is no longer so scarce. From this we can be sure that our expectations for and our definition of money as a carrier of information about value will soon change.

Understanding Information Currency

How to Compare Information Currency to Central Bank Currency

In his most recent work on Community Currency, Thomas Greco noted that for the record, not all of our founding fathers wanted to create a “Bank of England” style central bank. This is helpful history so that there is not an impression that a new currency reporting system would brand the developers as unpatriotic. Secondly, older than theories of central bank currencies are alternative models built on trade. This is said to those who feel that there is no other way. Third, in a time where the world economy feels fragile it is timely to present new ideas and technologies. The objective of the information currency platform is to create sustainable market efficiencies for the greater good of all people.

Alexander Hamilton may have had a grip on the danger of a central bank with the power to print money. Without clear rules related to a solid proof of backing to a currency, a central bank with the power to issue legal tender currency is in plain English a blank check with the name of the citizens of this country and their children and children’s children as payee. It may be considered to be an area of government under our control based on our trusted system of electorate. It is not. Our central bank is privately held and the issuance of our currency and its value is cloaked in methods and language that are not always very well understood. In fact, the abuse of the currency and its power is felt much more from our international neighbors. Citizens in struggling economies still may not realize how colonized they really are, and how they perpetuate their colonization every time they exchange into another country’s currency. The loans taken from other countries are their bondage, and America is beginning to experience what this feels like.

How does one compare Information Currency to Central Bank Currency? Under central bank currency the citizens who work to produce products may only see one tenth or one twentieth of the value from their work. This is based on the ability of the government to "print money" or adjust interest rates or the value of currency at will. In a world with Information Currency, value is value without a secret derivative of interest or depreciation. Can we "give to Caesar what is Caesar's" and pay tax if we operate with Information Currency? Definitely, Yes. The government can have even better information about what is produced and what should be taxed. In fact, the government can also win with an Information Currency platform since the pie is bigger based on increased market efficiencies. Information Currency is also potentially much less affected by speculation from Wall Street or even your street. Values are deeply grounded based on world information.

Information Currency delivers information about value from products and services at market. This compares to central bank currency which is symbolic of a value that we cannot really know. In a more perfect model, information currency finds a base value by attaching directly to production of commodity BHN (basic human needed products).

Understanding Information Currency: Moving to Rational Equalibrium

The impact of "live" availability and value information by item made available for free to the world is that efficiencies will happen by force of market. "Live" price information by item will make commodities of these items which will allow the market to find rational equilibrium (approaching "value") not only with the commodity items but also to general market equilibrium.

We can define rational equilibrium as the balance of averages of prices by location and around the world experienced when information about value and relative value of items are known. If even one item, a lumber commodity, for instance, a pine 2x4-8 has a commodity (or known) value and shows downward price pressure, then the prices of other lumber products move toward rational equilibrium in the markets.

When information systems around the world can begin to work together to create naming systems and category conventions for items, and when prices of these items become known, then the items transform into commodities. Commodities have market power in that they can prove relative value within markets leading them toward rational equilibrium. The information systems that bring rational equilibrium to market may bring small business some efficiency that only large corporations had in the past. Small business can know when prices are off market. Large corporations may not be able to take market advantage when the consumers know market value. This is the result of rational equilibrium brought to market by new commodity information.

Rational equilibrium will potentially affect international markets by identifying the fair market value of goods and services that this country brings to the world. Exchange rates for currency will be considered separately from the fair market value of a country's products and services. This will give advantage to the developing world in that the rational, or fair market value of their products and services will be offered to the world in a separate context from their currency. Currency exchange will also have new value to currency information gathered from relative value data of goods and services produced in this country as compared to another. Details on this idea are reviewed in the final implementation example of information currency in the last section.

The markets have already begun to find rational equilibrium as information about product manufacturing cost and distributors cost are now published. This has affected the distribution chain and brought rational equilibrium to markets too heavy with middlemen or off-market profits.

Understanding Information Currency:
Capitalizing BHN Producers with Tokens

Key to an information currency is the knowledge of "what is available where at what relative value". Item Banc can offer a starting point for recording "what is available where" and can capture the relative value information at market needed to bridge the gap necessary to capitalize the market for information currency.

The successful market function of gift cards is a good *example* of how this can function in real markets. Initially it may appear that gift cards are denominated in US dollars… but behind the curtain is the real fact that gift cards are NOT US dollars. A holder of a gift card actually traded their US dollars for a specific set of capital in goods or services. Typically if a trader wants their dollars back they will receive a discount on their dollars spent amounting to ten percent to eighty percent less than the dollars that were originally traded for the capitalized gift card. Companies like CardCash calculate relative value of the capital to dollars and publish it on the internet. This capitalization process commoditizes the goods or services for market and produces a form of pure information currency… that is, what is available where at what relative value. The new relative value to market is used to then directly trade gift card for gift card—capital for capital. This is an example of functioning information currency.

The next market challenge related to this entry point for information currency is to provide greater liquidity to market. A very obvious method would be to simplify the exchange of capital for capital (one gift card for another) by making assignment of the

holder easier to manage and transactions easier for the holder to manage. This can happen if a card issuer can allow multiple gift cards to reside on one assigned card holder and also allow the holder to independently and easily transfer gift cards for other gift cards and gift cards to other holders.

This is an *example* of how value building can work with crypto (gift-card-like) tokens backed by production of basic needed products. With this then the banks and capital markets can move to the next level of information currency: more definitive commoditization and capitalization of items and companies which can provide relative value broadly to markets.

Understanding Information Currency

Example of Currency Failure:

Non-Productive Inventories

An unemployed worker is a non-productive service in a society. We can define goods that have not moved from a shelf for twelve months as non-productive stock. If we could only focus on one city in the US, take all of the details of this non-productive stock and put it in a spreadsheet, what would it be worth? It is hard to believe that our dollar has valued all of these items at ZERO. How can we make this claim? Because our only legal tender exchange mechanism has failed. What is the proof of this?

If you told one of these unemployed workers that you would give him his standard value in pay in the form of his favorite restaurant coupon would he work for a couple of hours? Probably so. If you asked the building supply business if he would trade his entire wall of unsold hand tools for their retail value in five power tools would he say yes? Probably so.

In fact, an entire industry exists based on dollar failure. This would be the barter (or trade) industry.

Why is the dollar not working? The bottom line is that there are not enough dollars, or enough credit in the system to operate our economy at full capacity. But it is important to look at the value all around us. Can we even imagine what resources we have right here that are wasted, including our own human capital?

What is the value of an information currency? We propose that it would be equal to the value of ten to fifty percent of the non-productive stocks and services in the entire world

minus the cost of implementing the technology and infrastructure plus the exponential growth of this found capital in years to come.

What is the estimated value of the non-productive stocks and services in the entire world? We can start with the estimated value of non-productive stocks residing with hard goods distributors in the United States. Our research has shown (on average) that fifteen percent of inventories are non-productive (meaning they have not turned in twelve months). For a single distributor this can be from $10,000 to $100,000 in inventories per location (valued at average cost.) The answer to the question for every industry over the entire world seems beyond calculation.

We are held hostage to market failures evidenced by non-productive stocks and services without value and availability data that could be provided by an information currency.

Ruffin Trading Research: Value Failure Non-Productive Inventories

To understand a fraction of the size and scope of value failure possibly derived from a lack of information, or "bad" dollar information, Ruffin Trading Company set out to research non-productive inventories in the building materials industry. The thinking was that items that had not sold in a year must have a near-zero currency value; and that this information about item value and availability, captured and communicated via the dollar, was incorrect. The barter industry almost completely operates and profits on non-productive (including excess) products and services with mis-assigned or near zero value in dollar markets based on a lack of information.

In late 2001, Ruffin Trading Company, LLC of South Carolina USA completed research on the following building supply distributors and was able to analyze 3.7 million dollars in NPI (non-productive inventories; defined as stock keeping units that did not turn over a period of twelve months) directly out of the information systems in these businesses from a total of 48 locations.

The test client information is as follows:

Company	Location	# Stores
Grayco Building Centers	Lady's Island, SC	5
Cassidy Jones Lumber	Longview, TX	13
Baily Lumber & Home Centers	Gulfport, MS	8
Kildare Lumber	Paxton, NE	7
MSI	Frederick, MD	3
Hedgecock Lumber	Kernersville, NC	1
Guy C. Lee Building Centers	Smithfield, NC	11

Analysis on the NPI inventories in these samples produced data on NPI/SALES and

NPI/CATEGORY and NPI/REGION. These statistics provided learning that 2% of sales or 15-20% of inventories were economically non-productive.

To extrapolate from industry statistics estimates of the value of NPI in this year we use census data showing building materials distribution industry (NAICS code 444) sales in 2002 that show $246 billion in wholesale, non-garden related sales. From this sector alone in the US economy, at 2% of sales, the NPI at market in this year can be estimated at almost five billion dollars (4.92 billion). (US Census, 7)

To conclude, this research shows five billion dollars of non-productive product in this market sector alone in the USA. This value of product is unassigned by the dollar, meaning, the dollar was unable to designate a value to the product as there was not sufficient information about the products available to the market and this is why these products were non-productive. The next market test created by Ruffin Trading Company was to prove that these products specifically could attain a market value with information, and transact or be exchanged in trade or alternative external currencies.

Ruffin Trading Research: Value of NPI in Cashless Supply Chain or External Economies

In a now completed nine year test between 2001 and 2009, the Ruffin Trading Company contracted with building supply distributors to take their NPI stocks in trade for other business purchases that were pre-allocated cash expenditures.

For the first two years the company primarily sent NPI to Jamaica. It took eighteen months for the overseas sales to show profits. NPI was sent to a large Jamaican building materials retailer in Montego Bay where the NPI products sold for Jamaican dollars at standard retail values. The company purchased Jamaican Blue Mountain Coffee with these dollars and cashed out the coffee in the US.

In the next phase Ruffin Trading Company set up discount building supply stores that sold the NPI wholesale in small towns in South Carolina, USA. The NPI products found markets in these towns at standard discounted supply house values.

Starting in 2002 Ruffin Trading joined three regional retail barter exchange organizations including BXI (ITEX, 8), NuBarter (NuBarter, 9), and Barter Brokers International (NuBarter, 9). This allowed business members of these exchanges to buy NPI building materials with trade credits at standard retail market value. Ruffin Trading accumulated these credit balances. The final completion of market testing began in 2008 when Ruffin Trading tested paying back contracted NPI providers with products and services generated from the credit balances in the regional retail barter exchange organizations.

NPI providers were able to purchase CPA services, computers and printers, printing, worker uniforms, local ads, and local meals. In one instance a NPI provider was paid with a trip to Jamaica earned from NPI purchased from hotels on the island.

In conclusion, the Ruffin Trading Model proved market value of NPI products overseas and at various levels of distribution in a standard and cashless supply chain. This ten year market test evidenced that non-productive products that were formerly unable to transact in the US based on a lack of information in dollar markets were able to transact using the information currency in barter (trade) markets, in new dollar markets, and in foreign currencies of external economies.

This test was conducted with a large sample set of products (in excess of 20,000 SKUs) over a ten year period and at multiple levels of distribution in national and international markets. The benefit to this research is to indicate the value of information currency to markets and encourage further research and information systems development.

Ruffin Trading Research: How to Build Infrastructure for A New Trade Currency

Ruffin Trading Company was designed to test the bridge for information currency. The thinking behind this company model is based on a belief that brick and mortar must balance information technologies and that the foundation and function of this technology had to be tested in the real world for proof of concept before anyone could depend on it.

Ten years were invested to test each and every functioning part of this physical model. Based on this experience the model was built to include some unexpected functions; an implementation and integration of community, retail stores, a balance of purchased inventories to acquired ones, and a more open, co-dependent relationship with the barter industry. The model is a powerhouse for trade that can live within its own walls. The model is also adaptable to a micro economy and can flourish in a failed one. The model can be built with almost nothing to start and survive by self capitalizing, or it can function as an economic bullet train given the right resources. The model teaches how a business never can win alone and how correct economic growth really looks. It is impossible to erect the Ruffin Trading Model without positively affecting communities and individuals in an exponential way.

The most fascinating finding through ten years of researching and testing this model is the evidence of how powerfully intertwined markets, cultures, businesses and people truly are and need to be. The less connected markets are and the more independent and self-minded we become the less secure we become. Ruffin Trading is a structure

intending connectivity, interdependence, and blending of cultures and minds.

The Ruffin Trading Model builds trade bridges that can bond businesses and communities, countries and peoples, products and services in its first home and all over the world.

Ruffin Trading Research: Leveraging Non-Productive, BHN Stocks as New Capital

In this test the capital that is required to move the Model is generated from non-moving inventories that specifically fall in the category of basic human needs (BHN Stocks) and are in the form of hard goods. The Model uses excess and non-productive stocks as leverage for trade into new economies. Cash sales of these stocks provide the overhead needed for expenses. In this way the model self-capitalizes.

The Trading Company signs corporate trade contracts with the companies that own the non-productive inventories to move title and possession of these inventories to the Trading Company. The contract obligates the Trading Company to pay back the customer in trade at the average cost value of the contracted merchandise. The customer is immediately assigned these trade credits to spend down over a period of three years. The customer may volunteer to write off these trade credits in a tax reporting method almost identical to writing off inventories. Some contracts can require the customer to pay a percentage in cash for each trade spend event. For instance, if a customer wants to buy ten thousand trade credits on a truck of molding, the contract may require that the customer pays half in cash and half in trade credits.

The Trading Company takes these non-productive inventories to a central warehouse and creates information from and organization to the merchandise. Often dead stock comes with an information problem. Once this is resolved the Company breaks off homogeneous portions to sell off in cash wholesale or trade wholesale markets. Other

portions are sent to retail stores to raise profitable cash or retail trade margins. Significant portions are moved to overseas markets where the merchandise is sold for local currency.

BHN stocks include hardgood food, building materials, paper products, and basic clothing. The benefit to leveraging BHN for trade is that this leverage is basic and needed in almost any environment. This means that the Trading Company has a currency for all environments.

Trading in BHN items brings a valuable product set for the foundation of the information currency.

Ruffin Trading Research: Building International Trade Bridges

The Ruffin Trading Model focuses on building trade bridges into currency challenged economies. The trade bridge creates an exchange of BHN products between international economies and this will be the foundation for information currency to move in international markets.

In this Model, the Trade Company sends inventories to a designated country where they are sold for local currency. The Trade Company then positions to buy indigenous goods and services with the local currency, and then exports these products back to the USA to cash out (sell for US dollars). The Trade Bridge model operates as a counter trade model. The goal is to balance trade and to take payment in local currencies. Typical international trade pays in foreign dollars and demands payment in foreign dollars. If the currency challenged country imports more than they export then they have a currency disadvantage with a cost to trade that can range from 20% to 80% of the value of the trade. The Ruffin Trading Model works to free economies from this cost.

Trade bridges are a necessary infrastructure to implement an information currency. When goods are traded with central bank currencies then the information about value generated from Item Bank technology can only provide information about the value of and true costs to trade. This information would not include the 20% to 80% additional cost to trade. Trade bridges begin the physical process of moving goods and services between economies with valuation systems based on the economies into which the goods and services are sold (the information produced by the Item Banc). For an example of this

trade bridge process, a container of building materials is sent to Jamaica and is sold within that economy for value in Jamaican dollars. The Jamaican dollars remaining (after expenses to sell the goods are paid) are used to buy Jamaican Blue Mountain coffee for value in Jamaican dollars. The coffee is then shipped to the USA and sold for US dollars based on the valuation of the coffee in the US market in US dollars. The values used in this countertrade transaction should be near to the values generated using Item Banc technology.

In a typical international transaction model the US would send building materials to Jamaica and demand payment in US dollars based on US dollar valuation in US markets. Then in a separate transaction the US would buy Jamaican Blue Mountain coffee tendering US dollars based on US dollar valuation in US markets. This is where the inefficiencies and cost to trade are built. This is where a currency challenged economy pays a 20% to 80% premium on trade to the world.

When the Item Banc is fully functional it will be able to operate over trade bridges which will enable information currency. Based on fair market value valuation models generated by Item Banc, trade credits for traders can be generated external to central bank currencies. AS in the example above, Jamaicans can buy building materials for fair market value credit in the Item Banc and Americans can buy Blue Mountain coffee for fair market value credit in the Item Banc. It must be noted that pricing for product is still dependent on the market of buyers and sellers, but the fair market value will be established in the Item Banc system for reference.

As proof of concept, in the current Jamaican market, the Japanese negotiated a trade of

Toyota Vans for Blue Mountain Coffee years ago. It was this trade that to this day maintains the fair market value of Blue Mountain Coffee in international markets, and is one of the products where the country can fight off the cost to trade based on their currency challenge. It is the trade bridge between Japan and Jamaica that brought fair market value of Jamaica Blue Mountain Coffee to the world.

The trade bridges built using the Ruffin Trading Model will create a similar infrastructure for trade that will enable information currency.

Ruffin Trading Research: Corporate Trade and Wholesale Trade Distribution

IT is not possible to transact wholesale quantities of goods and services under a specified currency if goods and services are not *available to transact* in wholesale quantities under a specified currency. Goods and services become available to transact in wholesale quantities under a specified currency *if they were originally purchased with this specified currency*, or if the same organization that is selling the goods in the specified currency bought in *or paid for expenses in a same or greater quantity* than the value of the contract to sell goods or services wholesale in the specified currency. The only other mechanism that would allow for a transaction of wholesale quantities of goods and services under a specified currency that were not originally purchased or expensed by a specified currency as above is *an external exchange mechanism* that creates value rules for the direct exchange of one currency to another.

The role of a distributor of wholesale quantities of goods and services is elemental to the infrastructure for trade necessary to implement information currency. Based on the treatise above, the Trade Model requires that goods and services are traded in wholesale quantities under the specified currency, information currency, or exchangeable into other currencies.

An example of this issue exists in the current barter industry organized by the trade association, IRTA. The trade industry is broken out into two main sectors, the Retail Trade and the Corporate Trade divisions. Currently, the Retail Trade exchange

companies have members that are primarily small businesses which operate in retail markets. An average retail transaction is under $100. The Corporate Trade companies primarily service manufacturers with trades rarely transacting at a value less than $1,000,000. There is *almost no distribution at all* connecting the Corporate Trade to the Retail Trade. This lack of intersection that is typically the function of the distribution (wholesale) sector *is the most significant gap for trade (information based) currency*. Ruffin Trading Company over a ten year span provided proof of concept that filling this gap in trade distribution allowed for the specified currency, the trade information currency, to be used to pay for and sell traded goods wholesale. Ruffin Trading Company was able to pay for wholesale goods using the trade information currency by the sum of smaller sales in the trade information currency to Retail Trade customers. What exactly was the trade information currency? It was the commodity value information related to building materials.

The Ruffin Trading Model requires sufficient wholesale distribution to manage the movement of goods traded under the specified currency, information currency. Given the nearly complete lack of distribution in the trade industry, it is most efficient to distribute BHN commodities as a start to guarantee the leverage that can complete a higher percentage of transactions in the trade information currency.

Ruffin Trading Research: Connecting Retail Barter Exchange Companies

The ultimate currency for trade, information currency, will have an incrementally greater ability to function for each step of connectivity brought to bear within the Retail Barter Exchange Industry. Every exchange operates in a form of information currency; the ITEX dollar tells information about ITEX members and their products and services. The NUBarter dollar tells its members information of theirs. Exchange managers sometimes offer their own members products or services from another exchange and Universal Currency operates as the clearing house for exchanges. But every single effort and incremental opening of information about products and services available to trade between Retail Trade exchanges begins a pathway to building a much larger market.

The infrastructure needed to run an information currency would function best with a single database of all products and services on the market from all Retail Trade Exchanges. Transactions between exchanges would need to be fluid to the point where the business or Crypto Currency customer can join an exchange but purchase from any without interference from the managers of the local trade exchange. This would require a much more robust form of industry organization related to naming systems for products and services and data management. It must be *only one standard* of information in the industry to successfully connect, and this standard is embodied in the technology of Item Banc. The standards must not be Trade Industry dependent. Naming and Categorization conventions must connect to the conventions in the primary transaction markets where central bank currencies dominate. This infrastructure will allow an opportunity for the trade information exchange companies of today to become the trade

information currency “cities” of tomorrow. These “cities” or information currency transaction hubs will connect to the world and be responsible for its new trade system.

Connecting Retail Barter Exchanges can enable possibly the most efficient new technology of our time. The Retail Barter Exchange Industry has an opportunity to enable an ordered information currency transaction system that can bring values and efficiencies to market that have never existed in the history of the world. The information currency transaction systems will provide the greater market with an ability to see and function in value markets that were unavailable in their own central bank currencies. By connecting, cooperating, and functioning under a single standard of information, the Retail Trade Exchange Companies will be able to move out of excess and non-productive markets and into primary markets with a preferred currency backed by fair market value information.

Ruffin Trading Research: Testing Item Banc BHN Platforms

Our initial testing of the platform was in the building materials category. The initial Platform for Item Banc Building Materials Data required a dataset of building material categories and named items representing the 60,000 building supply item set. The category and item naming conventions are not critical in the choices made, but simply that the original set is decided on as standard.

(Set 1) Item Banc Building Materials Data Standards

Based on an existing program design for Item Banc, in late 2000 a team of programmers wrote the coding for the categorization and naming system software that reads in the datasets from each building supply distributor and reorganizes this data to connect to new data formats. The data includes item number, description, major category, minor category, quantity, unit of measure, price and average cost. The new format means that each item will be moved out of its original category into a preferred category and the item number will receive a new name with descriptor. Given category and naming consistency, the data is then prepared for Item Banc algorithms. This software can be set up again to operate under a Linux operating system environment. Dual host machines and an encrypted exchange server must be purchased and set up along with the virtual network connections to the client distributors. The platform for Item Banc requires significant data storage and working data management. The relational database selected will greatly impact the timeline and quality of this project.

Data In:

(Set 2) Item Banc Building Materials Data USA
(Set 3) Item Banc Building Materials Data Jamaica
(Set 4) Item Banc Building Materials Data Canada

Data Out in Compliance with Standard:

(Set 5) Item Banc Building Materials Data USA to Standard
(Set 6) Item Banc Building Materials Data Jamaica to Standard
(Set 7) Item Banc Building Materials Data Canada to Standard

The next set of coding required would be specifically to apply Item Bank algorithms to the data to create relative value information. This code would run on a separate server and publish to an additional server that holds exclusively value to currency data. The Item Banc algorithms are first applied to the new client distributor data, and then the results are run through the relative value engine. The value to currency data is then published out. Relative Value maps and charts would bring visual identification to data patterns, and the Engineering Team would focus on system data reliability tests while this new technology is enabled.

The resulting RV (relative value) sets are as follows:

(Set 8) Item Banc Building Materials Data Global (Set =5,6,7)
(Set 9) Item Banc Building Materials Global RV
(Set 10) Item Banc Building Materials USA to Global RV
(Set 11) Item Banc Building Materials Jamaica to Global RV
(Set 12) Item Banc Building Materials Canada to Global RV

The final RV sets are directly used to calculate exchange rates between economies. The Item Banc Information Systems Team would be responsible to report relative value data weekly with comparisons to central bank currency exchange rates. The Team would be responsible to audit client sites once per quarter

Ruffin Trading Research: Valuations for BHN Basket of Building Materials in Jamaica

An example of Item Banc data can come from the building materials industry.
This basket qualification has already been reviewed. Since the data on these ten to sixty thousand items needs to be live, and constantly updated, the data target would be building materials distributors. A stock status report with pricing can be run at end of day, and this report then can be called from the main data host system.

Two to three building materials distributors from each country (representing a central bank currency) must be named for data sourcing. Given that it would be easier to manage data if inventory control systems were similar, the building material distributors could be incented with a free software system and conversion with participation in the data provision. Full conversion and full function may take a year. During this time Item Banc Categorization and Naming technology would be run on the various inventory sets to complete a path for system synchronization. In most cases a Virtual Private Connection to the system would be run for system support and live data access.

How practical is this proposal? This first project was tested in Jamaica for one building supply distributor. Project coordination was with an existing software company that dominated the building material distributor market.

What is the power of this data basket base? Even one captured data set from a currency-challenged nation, for example, empowered with relative value technology from Item Banc, will make a new currency valuation set available to this country. If an exchange

rate for currency is one USD to a hundred Jamaican dollars, the data may actually show a relative value of one USD to twenty Jamaican dollars. Then by integrating a European country, we might show two Euros to one USD and 100 Jamaican dollars to one Euro. This data will bring relative value to a currency. This information may encourage currency-challenged countries to build trade bridges that will enable information currency technology to bring fair trade.

Understanding Information Currency

Redefining Currency: Proof of Concept for Information Currency: Medium of Exchange

How can information be the instrument or medium of exchange? It already is. Currency is information and its function as a medium of exchange is in degrees. Some monetary theorists may claim that the dollar is eighty percent information. The dollar is a symbol of value and that symbol carries an identity with a certain amount of goods and services. This is evident when you visit another country and at the point where you go to purchase an everyday item you cannot begin to decide how much of that foreign currency to use. If it were dollars, then the language of value is familiar including a value assignment. The only way to manage is to translate one currency to another. This language of exchange and dialect of value enables the information from currency to function as a medium of exchange.

An example of an exchange of pure information would be a direct trade, or corporate trade. In this example tennis shoes are traded for vodka, coffee is traded for Toyota trucks, or housekeeping is traded for food. In these cases the currency does not need symbol and is pure information.

Another example of pure information as a medium of exchange would be a trade through a retail barter house. The retail barter house accounts for the balances between members. Members see lists of other members and their goods offered for trade. The retail barter house operates as a third party record keeper, but the members go on to purchase what they need when based on the information of items and services available. The records are

denominated in “dollars”, but no dollars are exchanged, only points. The retail barter house may later charge the members real dollars for their services to provide information related to record keeping and available goods and services. But the bottom line is that in the retail barter environment, information is the medium of exchange.

In these examples, when information operates as a pure medium of exchange, there is often a moment of confusion on the part of the traders. “How do we value these transactions? Do we just sell what we can and buy what we need?” they say. Often these trades are for dead stock, and the traders know that the dead stock has a zero dollar value. All of a sudden, when trade demand arises, now there is a new valuation question. The information that the dollar carried was wrong. Now we need new valuation technologies. When information operates as a pure medium of exchange we demand more information, specifically valuation technologies.

Understanding Information Currency

Redefining Currency: Proof of Concept for Information Currency: Unit of Measure

The history of currency operating as a unit of measure can be easily understood by looking at coins where literally the measure of the metal (gold or silver, for instance) was actually the value of the coin. Central bank currency like the US Dollar can be considered to function like a unit of measure (one dollar), but actually it is fiat money (not commodity backed), it fluctuates on a daily basis in value, and must have legal tender status to even begin to carry a set or unit of value. In American culture the value of the dollar in everyday life is almost a given and feels like a true measure of value. How? A dollar can buy standard things that we all know, like a Hershey bar, a bag of chips, a half gallon of gas, a dozen eggs, etc. In this way it is a measure of value. We fail to recognize that ten years ago a dollar would buy two Hershey bars, two bags of chips, a whole gallon of gas, a whole gallon of milk, or two dozen eggs. We consider also a foot ruler to be a unit of measure consisting of twelve inches. Has a ruler changed in the last ten years? How would our culture respond to a changing size of an inch? Wouldn't we have a bit of chaos? What are the standards of measure related to valuation systems that we can most rely on?

It would be moving backward to work to define Information Currency using the same conceptual field as the value of a coin. We need to jump into an entirely new way of conceiving measure of value because Information Currency is not merely representative of a value, information currency is purely information about value. Ideally, a standard should be unchanging, as in the analogy of the twelve inch ruler. Information Currency

enables direct value systems to products and services and related to net worth. In the old world we needed representational value because we lacked information. Now we can expect commodity type valuations on most items and services in society including net worth on businesses and individuals. Given the increasing amount of information available about values of goods and services, entire industries and physical distribution methods have changed. As this information becomes better organized we may begin to see additional distortions and inefficiencies in the economy caused by bad information carried like a virus by the dollar and other central bank currencies. The enabling of information currency, and an organized system of information about value, will open efficiencies in markets and will begin to shut down the spread of the dollar virus.

International markets can open when we have a currency that delivers a more accurate measure of value. It seems obvious that the measure of value of the goods and services in a country should not be swayed by investors that bet on the stock market. The measure of value of a country's goods and services cannot be measured accurately by politics that affect the exchange rate. We need to enable an information currency that delivers a more dependable measure of value. This currency is information about the relative value of goods and services produced by this country compared to specific comparisons of similar goods and services produced abroad and the commodity information that results.

Understanding Information Currency

Redefining Currency: Proof of Concept for Information Currency: Store of Value

If gold coins were a legitimate store of value, then how would this compare to the US Dollar? We can save and store dollars until we retire and then find that those dollars cannot buy half of what they used to. Dollars can store value but are they a dependable store of value?

Information currency stores value by providing relative value information for goods, services and capital at market. Information currency does not have to pass through symbols of value to reach market, but instead by reporting value at market protects value. An example of how information stores value is how it is applied directly to report value on items to elevate them to commodity status. The price of a dozen eggs, gallon of gas, gallon of milk, ¾ plywood, or Levis Brand Jeans can be averaged and reported. In this reporting the values are stored and known. Additional technologies will enable relative value reporting for central bank currencies using algorithms that compare product information sets all over the world. Information currency does not store value in a traditional sense, by encouraging interest-incented market players to hoard market capital in an age there are no benefits to hoard capital, only to directly invest in productive market engines. Value no longer resides in symbols of value, only in functional and used market capital. The concept of Store of Value, though historically central to currency definition may one day not seem to be realized in symbolic currencies, as the real value is the information about value, which does not need to be stored, just reported, sorted, and assigned. Only information currency can properly deliver this.

Introduction to Item Banc

Our currency is the dollar, and our banks keep accounts of dollars. In this paper it is proposed that our new currency will be information about product valuation and availability. Our banks will keep accounts of this information. Item Banc is a proposal for the structure of these information banks.

On the surface, Item Banc collects information related to item, price, quantity available, and location. There may be an Item Banc for food related items. There may be another Item Banc for clothing. The building materials industry would have an Item Banc.

Each nation may have its own collection of Item Bancs. This data becomes very valuable to the nation state as it is representative of its industry and also of the country's value set. Item Banc technology makes this data instrumental for developing and maintaining international trade.

With this information collected in the Item Bancs, as partially established in the electrical (Tradeservice, 22) and building materials industry today (Randomlengths, 32), Item Banc technology will be able to publish valuation information to enable trade and greater market efficiencies. It is the collection of pricing and availability information that is the base for these valuation technologies.

Item Bank Technology 1: What Statistics Understand about a Collection of Pricing Data

Economists probably will never give up the discussion comparing price to value, fair market value, and real market value. At the bottom of this bucket is some evidence of settling, and we can find this in the Generally Accepted Accounting Principles (GAAP) that govern the majority of our business valuation systems at the bottom line. Statistics that yield averages are considered by most cultures to be somewhat dependable. In fact, in the majority of automated pricing and accounting systems in the world, pricing and valuation are a function of average cost. It may be somewhat safe to say that in our age and culture, valuation is most often a function of average cost. What statistics (related to averages) seem to understand about value is directly related to how our new information currency technology systems are implemented. The Item Bank technology takes a collection of pricing data and (generally) calculates weighted averages to arrive at *value*.

Equally as important is a statistical deviation from the mean. What statistics can understand about a collection of pricing data is that the prices that are significantly distant from the "middle" can be cut out of the equation. Item Banc Valuation Technology separates the "significantly deviant" prices to be sure that they are not considered in the equation for *value*.

Item Banc Technology demands appropriately sized sample sets of pricing data to indicate valuation information. If the sample sets are not of adequate size then the data is not considered. In fact, the statistics can understand and create valuation for a collection of pricing data most thoroughly when the data is in very large sets. The technology will

be unable to validate small sample sets.

Most interesting, and in fact, probably most valuable, are what statistics can then derive and understand about *relative value* from a collection of pricing data. The Item Banc Technology can use *Relative Value Systems* to derive regional, industry, and other valuation information based on comparing value averages across various price groupings. These are called *Cross Average Costings*. In this way statistics can allow us to understand market information and demand more efficient market results.

From a collection of Pricing Data we can use the Item Banc Technology to produce *Relative Value Systems* that will enable the functioning of an information currency.

Item Bank Technology 2: How Statistics Applied to Pricing Information can be a Base (Backing) to a Currency

A gold standard for currency at one time provided a semi-constant in a value equation for our central bank issued currency. Another concept for a backing to a currency is a basket of goods theory, where a standard commodity set is used like a gold standard. (Greco, 24)

Similar to the concept of backing a currency with a "basket of goods", we can collect pricing information from a reliable commodity group that is large enough for statistical sampling and from this derive pricing averages that can be used as a backing to a currency. One reliable commodity group selected includes the 60,000 items in the category of building materials. By using pricing information in this category from a wide sample set we can derive value information and from this create *relative value to a currency*.

If these same statistics were applied to pricing information over the same basket of goods of 60,000 building materials items in another country then we could derive a comparable value set and create a relative value to this foreign currency. From this we can take another step to derive an exchange rate into this foreign currency. The direct benefit of interpreting an exchange rate based directly on goods and services is that we can see an independent functioning of information currency in the markets. For this a currency-challenged country can find a new comparable as the country's production can become a measuring stick for its value to the world.

Item Bank Technology 3: Applying Structured Software Technology and Data Methods

Methodology to manage vast quantities of data related to item, price, quantity and location are critical to Item Banc and its delivery as an information currency technology. The first structured software design relates to categorization methods delivered by an artificially intelligent software engine. The engine relies on item descriptors to automatically categorize and subcategorize data into their proper group. In the Ruffin Trading research, a sample software design was tested on mass quantities of unedited data from the forty five separate stores with independent categorization methods, naming systems and descriptive standards. It re-categorized the raw data with a manual edit rate of 5%.

The second structured software design depends on a data method to name and categorize each product or service to carry a unique language common to all items in the database. Identification opportunities that carry barcodes or universal symbols will make naming systems innate.

Finally, intelligent search engines can be built to interpret naming systems for products and can specialize in hunting prices on the internet to validate imported data based on live, ongoing price hunting. Systems will alert operators when internet waves of values move in a direction other than reported from the engine.

Turning it ON: Item Banc Live Valuation Systems

This model for securitization of cryptocurrency involves smart contracts that assign or stake the crypto to an asset against the currency. The crypto is issued (created) by smart contract when the BHN asset is staked and the crypto is burned when the asset is sold. The crypto can be exchanged for any goods or services or fiat or other crypto. The incentive to contract an asset for the crypto is essentially to profit from the liquidity, (more spend as additional assets are staked to the crypto) and also to make additional markets for the asset. In a preferred model the staked assets are commodities and BHN (basic human need) hard goods of a minimum value ($1000 and up, for instance). An example is that a manufacturer stakes production of 100,000 t-shirts. Once the t-shirts are sold then that value amount of crypto is burned. The staked assets would be published by smart contracts on the blockchain and also can be published on a central site and organized by asset category, location, and original contracted value. This live information is uploaded into the Item Banc Engine to calculate relative value information.

The opportunity with the Item Banc method of Proof of Stake is the ability to allocate distributed governance for the crypto based on the percentage of asset staked to the whole. So who governs this new currency? The producers and manufacturers and the holders of the currency.

Turning it ON: Implementing Item Banc and Exchange Cities

An Item Banc Federation would operate as an independent, non-profit NGO. This information technology group would be responsible to create or adopt existing categorization and naming information and manage data imported from Item Bancs around the world related to BHN item, quantity, price, and location. Funding for the organization would primarily be from allocations by the Item Banc entities in each nation and via non-profit groups that support technologies and strategies to improve currency technology. Some funding may come from governments of countries who have significant currency challenge and need proof of value and a mechanism to leverage out of their condition.

Once the basic categorization and naming systems are built, the system will work on integration into BHN information sets. Testing will be performed between countries with trade bridges to see initial data.

IRTA, the trade industry association, can be pivotal in promoting and coordinating Retail Trade Exchange companies to work together on a single system of exchange to enable information currency exchange into new businesses. This network can be the backbone of a new business support that can use Information Currency.

Crypto currency organizations can manage consumer banking related to information currency. The businesses that back crypto currencies could join the Retail Trade

Exchange network or community currency networks to advertise their company's products for sale in Information Currency. The exchange can send information currency crypto back and forth from consumers. Community or national banks could be the first organizations to capitalize (value) consumer and business profiles for credit based on new valuation systems and offer crypto-secured loans.

Item Banc will be organized and implemented by nation. The full implementation of information currency is dependent on a new array of trade market balance. Trade bridges must be built. Finally, the exchange system needs to incorporate exchange into national currencies and into other crypto currencies.

Turning it ON:

Item Banc Technology Builds Information Currency for National Economic Security

There is a historical pattern that when central bank currencies crash, alternative trade currencies appear. (Evans, 25) (Kasera, 26) (Weisbrot, 27) (Woodruff, 30) During a severe economic recession or depression, how the national government handles its debt to the world becomes a protracted problem while the citizens quickly scramble to find some method to keep on living.

This time we might consider inverting the historical pattern. Instead of the citizens creating an alternative currency as our central bank currency loses leverage, the national government could have an alternative currency in the wings. Governments could be ready with an entirely new system of exchange that is ready to go. Lessons could be learned. An emergency plan can be put in place for an information currency technology, as discussed in this paper, that might even provide an economic advantage. Why not begin to build a new system of currency while a country is disadvantaged by international debt anyway? Nations can build Item Bancs, infrastructure, exchange systems, management rules, and security systems. We can be ready. A new technology for currency might lift a nation out of an apparent dead-end. With this plan, currency-challenged nations could build a new economic order. How can this begin? A national government can determine to capitalize its information as outlined in this paper by collecting detail on-hand inventory and pricing data from companies in digital format to capitalize production. This data would be the foundation for the Item Banc. The government could assign NGO's (non-governmental organizations) in each industry to make decisions related to

industry standards for naming and data categorization. A technology group would set up securitized systems to manage and run algorithms on the data. The basic systems to create value to items and commoditize products could then be functional.

Governments could create targeted tax incentives for private companies to build the infrastructure for trade “bridges”, trade distribution facilities, and retail outlets for trade specifically and first for BHN (Basic Human Need- food, shelter, clothing) hardgood items, as tested by the Ruffin Trading research discussed in this paper.

Finally, the information systems that structure information currency (such as Item Bancs) would be developed to integrate with existing retail trade exchange houses, external community currencies, and other information currency transaction systems. New trade prototypes which are social-network oriented, invite individual consumers, and operate under significantly lower fees, could create mass for trade.

The impact of harnessing product and service value and availability information; captured, capitalized, commoditized and secured, is that this super-productive information currency instrument may allow us to effect transactions with this data. The technology of an information currency may further “reprogram the invisible hand” (Lietaer, 29) to bring back rational equilibrium to markets and create an economic insurance policy against currency failure.

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APPENDIX

Quantifying Efficiencies

To analyze the efficiency of transactions that are enabled by barter, there are two sets of analysis necessary. One study would hold the variable of increased transactions based on barter still. A second study would quantify the efficiencies based on increased (or decreased) transactions due to a trade/barter environment.

In the first study we consider the following transactions and compare:

Where Vendor1= (X) and Vendor2=(Y),

Transaction 1: "unnatural"
X → $Y and Y → $X

Compares to:

Transaction 2: "natural"
X → Y and Y → X

Transaction one would represent a "dollar based" transaction and transaction two represents an information based barter transaction. It seems immediately clear that there is an extra coefficient in Transaction one and that there is additional work to get that dollar versus no additional work in Transaction 2.

In an analogy to an island where there are no dollars, imagine the extra work and trade necessary to get them:

One can get dollars by exchanging your currency—this could represent a huge

loss, and by definition could diminish the value of your own currency.

Get a loan in dollars and pay an interest rate

Perform inefficient and costly transactions to get dollars

So due to the extra work involved in Transaction 1, we can label this the "unnatural" transaction, and Transaction 2 the "natural" one.

For example, when the island without dollars needs computers from a nation with dollars, this may be easy if the nation with dollars needs something that the island makes (bananas, coffee, wood carvings, etc.) If the dollar nation is not able to operate in Transaction 2 then the island would have to then acquire some very expensive money. How?

For the island to buy dollars it needs to trade excess capacity. What if the island does not have excess? Then an interest rate must be paid to borrow dollars. The more scarce (higher in demand) the interest rate is, the higher the rate. It is imperitive for the island to keep its trade balanced and find a product to trade out, or a trade "partner" (nation) to buy on behalf of the dollar nation.

The analogies of natural and unnatural transactions with nations can be brought down to a micro level and understood to affect individual transactions using dollars.

In a second study, we can simply look to quantify how many more transactions could occur without the extra work imbedded in the dollar based transactions.

If excess capacity is not spent on inefficient transactions then they are available to spend

on efficient ones. If goods and services are pushed to an efficient place where they will produce more goods and services then the market can grow. If instead these transactions are spent on interest and extra work then economies will be forced to cycle based on the starts and stops of banks and governments, the whims of spend based on those who have excess and not need, and the misplacement of value from the pockets of wealth generated from inefficient markets. These pockets of wealth tend to bid up value in odd and unproductive places, including the cost of using the dollar.

So what exactly is the coefficient of work to use the dollar? At a microeconomic level this rate may be represented more as an opportunity cost associated with each dollar-based transaction. A lost opportunity for efficiency is almost impossible to quantify, unless we can speculate that at full efficiency all of us would be rewarded fairly for the work that we contribute to society.

ITEM BANK: Principles of Relative Value Systems

Economic Inefficiencies Created by Contemporary Central Bank Currency: Efficiencies Introduced with Information Currency (IC)

1. Contemporary currency contributes to inefficient distribution of goods within a regional economy because this currency does not create information about value that speaks well of or reaches much beyond existing knowledge centers of availability and value.

    Information Currency

        Information currency creates knowledge of value and availability. This knowledge breaks patterns of regional knowledge-owners and the inefficiency that is related to it.

2. Contemporary currency contributes to inefficient distribution of goods external to and among other economies because it is dysfunctional as a value instrument external to its own economy and so it misrepresents goods and services which restricts trade potential.

Information Currency

New value instrument opens extra-currency-economy trade communication of common items with value comparisons and creates an environment of order that encourages trade.

3.Contemporary currency restricts consumption to “X” circle of buyers. The currency needs a salesperson to tell “who has what where” and at what price.

Information Currency

Opens consumption and value information to all consumers by telling exactly who has got what where and FMV (fair market value).

4. Contemporary currency drives production in a saturated market. Artificial demand is created in closed economies and value is not properly re-assigned.

Information Currency

Reads and reports market saturation of specific goods and services. Information about value notifies producers using value data to slow down production of specific goods and services.

5. Contemporary currency creates barriers to entry for new goods and services based on lack of information regarding newly available products.

Information Currency

Information currency introduces and encourages new goods of services with free and fair data regarding competitive/new products.

6. Contemporary currency limits market potential as the consumer set represents existing target markets for goods and services.

Information Currency

Information Currency creates IO (Information Opportunity). Information Currency opens consumer set to unexpected and unanticipated buyers.

7. Contemporary currency creates a demand market for failure. An interest rate on

currency is an incentive to save but is also the percentage expectation and demand for market consumption failure.

Information Currency

Information currency is structured such that market information of the good and service is often as valuable as the good or service. Saving is not valued but investment in actual goods and services is.

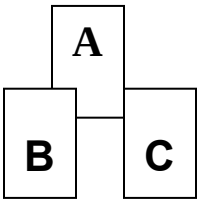
8. Contemporary currency as a value symbol teaches that value is in perception and not real.

Information Currency

Information Currency creates confidence not in the currency instrument but actually in the goods and services.

Item Bank: Principles of Relative Value Systems

Currency Mechanism Failure between Economies



Item A **Items A, B, C**

Economy 1 **Economy 2**

Item A has more value in Economy 2 because given more sources of consumption, there is more spend or consumption opportunity (CO).

Economy 2 has more value than Economy 1. Taken as discrete sets, simply the additional CO creates value.

(1) Example:

If exchange was taking place at a "teepee" within Economy 2, and Item A was candy, Item B was a hammer, and Item C was a legal service it would be evident that the holders of candy would not give it away without a hammer or a legal service. If a child entered into Economy2 and wanted additional candy than currently in supply, the economy may not allow for more candy to be produced without the parent introducing good "D". The parent could also contribute to increasing production quantity of B & C.

An additional means for new production of Item A would include introducing or opening Economy1 (see next example.)

(2) Example:

If Economy 2 opened up to Economy 1, the value of Economy 1 would immediately increase, and the value of Item A (candy) would increase in

Economy 1. The value of Economy 2 would also increase as there is now new CO (Consumption Opportunity). This CO would also increase even if Economy1 offered Item B, and this addition would open up new opportunity to produce Item A.

Variable: Item A Saturation

If the consumers in Economy 2 did not or could not absorb more candy, then with this knowledge the market would likely self adjust, i.e., given the additional CO new goods would be the outcome.

Introduce Currency

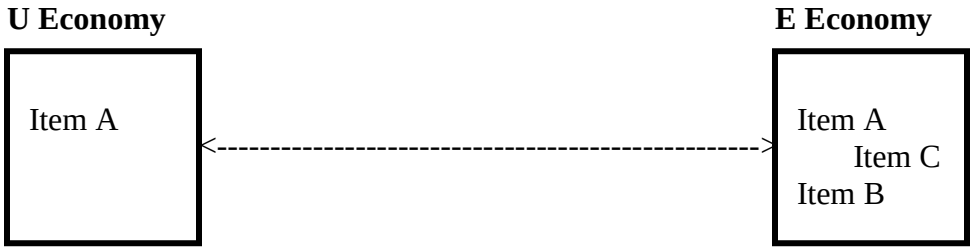
If separate, traditional currency instruments were used to represent each economy, Economy 2's stronger currency would consume at discount Economy 1 product. Economy 2's production of Item A (candy) would most likely slow down. Problem is that the currency instrument would disallow the separating out of information about Item A, so Economy 2 is in a position to continue to take advantage. This, however, is destructive for both economies as Economy 1 can not then afford items B & C in Economy 2, and so we see here economic "transfer" without true new production or value (CO).

Item Bank: Principles of Relative Value Systems

Fair Market Value and Liquidity with Closed Markets

Holding other variables still, and given more items to consume, each item has more value:

Look at independent economies U & E



Even though Item A is the same item in Economy U & E, Item A has more VALUE in Economy E because it has more opportunity for exchange (or liquidity).

Given separate and closed economies, a true (but separate per economy) information currency reflecting true value in each discrete economy would create an environment where; For Example: Item A might cost 1 unit and Item A in the U Economy is the exact item that is 10 units in Economy E.

This simple situation creates a barrier to trade as Economy E is in a position to dominate the market buy out all of Economy U Item A's for an unfair price (not reflecting value) and Economy U has very little purchasing power into Economy E.

Item Bank: Principles of Relative Value Systems

Fair Market Value and Liquidity With Open Markets

(Assume that an open market can be created between economies)

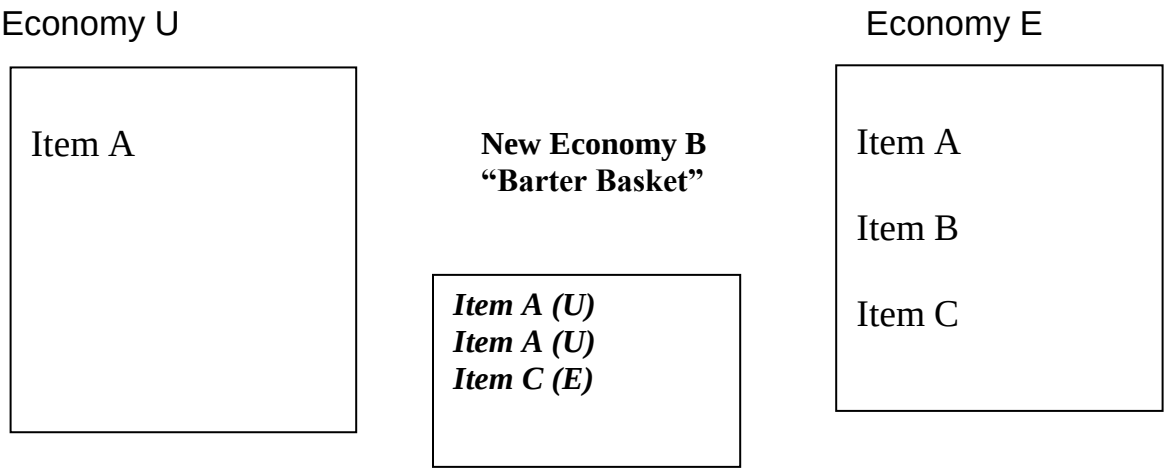
To create an Information Currency that reports Fair Market Value (FMV), we need a mechanism that can consider the whole market.

If we could allow Item A to show value with respect to the whole (global) market then we would open up trade opportunity and with respect to this alone, Item A could show greater value in Economy U due to new information opportunity (liquidity).

U Economy	**E Economy**
Item A **Item B** **Item C**	

Item Bank: Principles of Relative Value Systems

Merging Two Economies Using Barter Economics



Barter businesses operate without standards for item value, or mechanisms to compare value. In the above example, an item's value follows the expectations from the economy it originated in. The result is that trade has an information deficit as the "currency" (trade dollar) does not tell about relative value, except from the economy where it sourced, and relative to other "known" goods in the "basket".

Without a strong information mechanism, (relative value tool) the barter transactions clog up in "manual" or iterative, inefficient auction-type environments. The environment created by the barter industry as it exists is not dissimilar to creating a new economy which only finds relevance to the goods within that system (See example 2, "new economy B")

The environment in the barter economy has added transaction stress due to expectations of value sourcing from external, unrelated economies. (As above, Item C Value is driven

by expectations sourcing from Economy E which may not be relevant to the Economy B (Barter Basket) or to those in Economy U.)

This proves out why barter companies speak of “liquidity” as only including the space and scale of goods offered within their system.

Item Bank: Principles of Relative Value Systems

Merging Two Non-Trading Economies

Claim 1:
The workability of this example with respect to two different economies is a new challenge. If we assigned the same beginning value to a similar item and built values from this point we would create/keep value within each economy but not properly complete or make progress toward relative value between economies.

Why?

There would still exist a “disfunction” relative to comparative value between economies.

Example:

Economy U	Economy E
Item A = $50 (scarce) Item B = $5	Item A = $2 (excess) Item B = $2

Our example above (claim 1) would function fine if these two economies intend to remain separate.

Item Bank: Principles of Relative Value Systems

Relative Value Between Trading Economies

Claim 2:
Item A in Economy U is the same item as Item A in Economy E. Item B is the same item as Item B in each economy. If we issued a new currency within each economy where Item B = 1 Unit, we then could establish relative value in a new currency denomination within each economy.

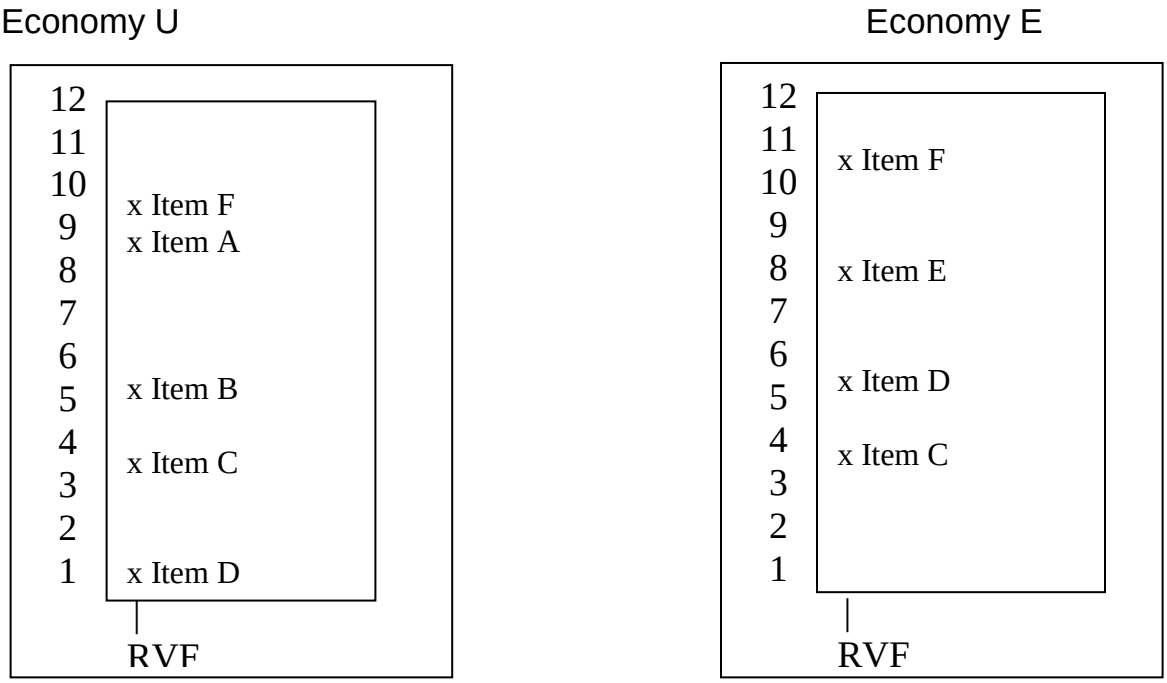
Example:

Economy U	Economy E
Item A = $10 Item B = $1	Item A = $1 Item B = $1

Where is the disfunction in merging these economies? The information regarding the relative value of Item A is not just " off", it is wrong because in this example, Item A is the identical item. (Remember that we distinguish "value" from price).

Item Bank: Principles of Relative Value Systems

Merging Two Economies: Chart of Currency Mechanism Failure



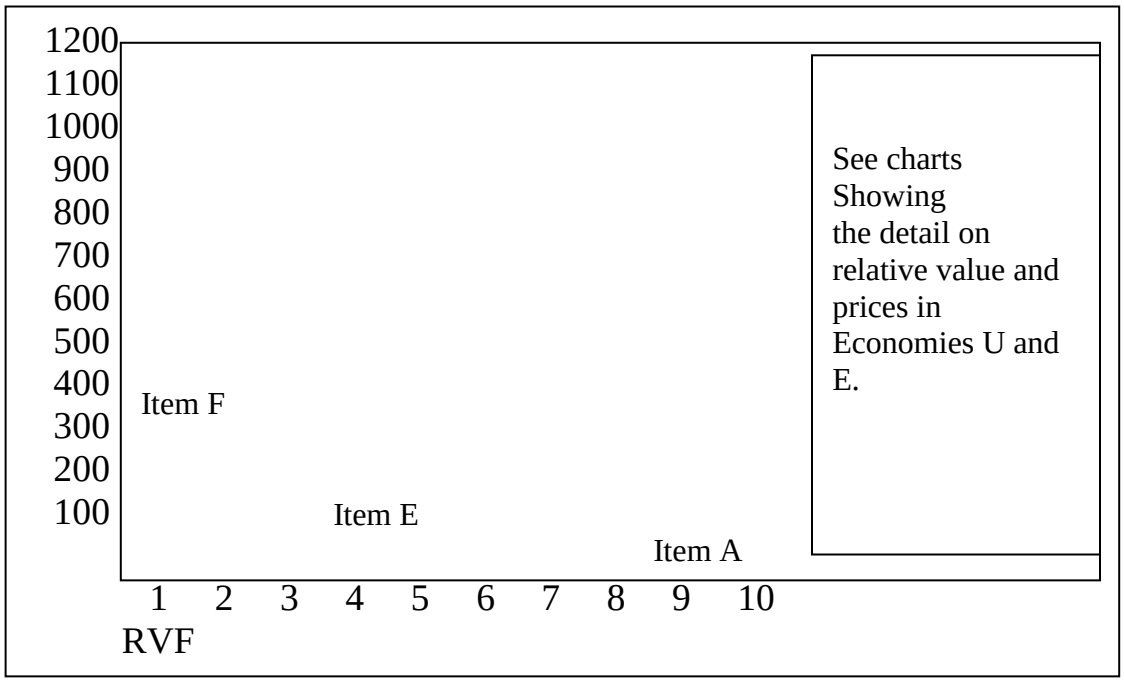
Given a currency value not scaled to real related value, notice the linear path of RVF (Relative Value Factor) when two economies must exchange goods based on a single currency exchange. The problem is there is not exception given to the differences in relative values of goods within that economy.

The disparity, for example, of value in Item A ($1) in Economy E, and ($9) in Economy U (due to relative value within each economy) is not addressed as we convert currencies. The mechanism failure in this exchange environment creates and prolongs bad information and makes markets inefficient. Essentially, this mechanism failure disables trade potential between two economies because there is no relevance or understanding of business efficiencies without manual research.

Item Bank: Principles of Relative Value Systems

Merging two Economies: Chart of Fair Market Value

FMV (Fair Market Value) Chart ***(Data from Economy U and E)***



Given that Economy U and E with to trade, we need a mechanism to provide information that compares quantity available with respect to discrete (by item) Relative Value in each economy.

The Information Value System needs to report that the Value for Item A in Economy U = the Value for Item A in Economy E.

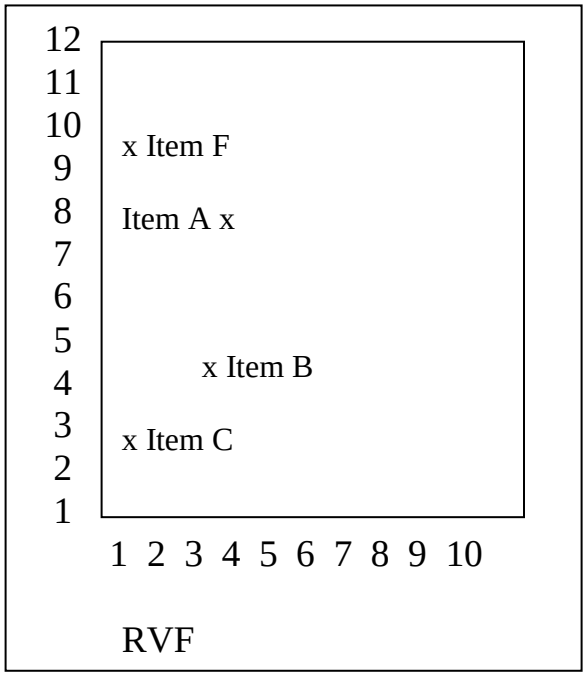
Given Two separate economies, a methodology for combining valuation over discrete points can be borrowed from the GAAP standards. This leads us into an option to use average costing methods. Similar to the way average costing has been used in the past to capture different values over time, we can capture different values with respect to different and discrete relative values referencing different Economies.

Item Bank: Principles of Relative Value Systems

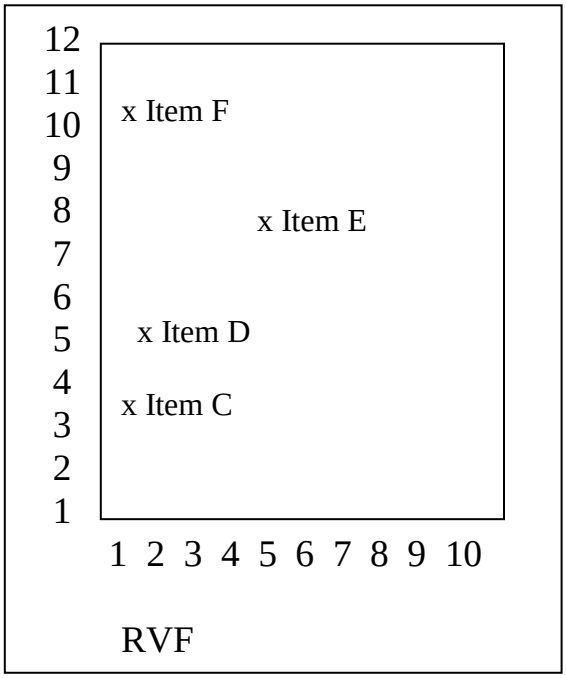
Merging Two Economies: Chart of Relative Value Model

New Information Currency Creates a new RV model

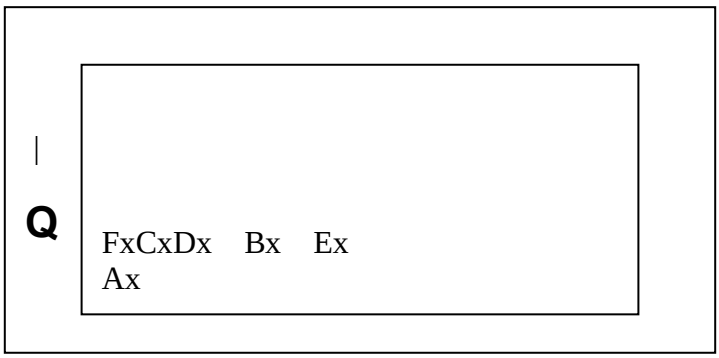
Economy U



Economy E



RVF factors are determined by the proportional value of each similar item to the other economy.
Example:
RVF of Item E = 8/2 = 4
RVF of Item D = 6/3 = 2
The sample above shows the impact of relative value analysis and how different the values within each economy are by item. With the Additional Information regarding quantities available, the Supply Side can be addressed representing the Q axis below. (Fx = Item F, etc.)



Item Bank: Principles of Relative Value Systems

Information Backed Currency: Economy Sample Set

Given an information value set of proper statistical sampling of Economy E Value in a specific industry as a ratio to value of "global value" (same set across other economies), an exchange rate to value can be determined. The exchange rate can enable relative values of goods and services in Economy E that do not fall within the information value set.

Example: If the **information value set equals building materials**, then (restricted by common items)

$$\textbf{Economy E} \quad \frac{(QE\alpha)\text{Item A} + (QE_B)\text{ Item B} + (QEc)\text{ Item C} + (QEd)\text{ Item D}}{TQE}$$

$$\textbf{RVS} = \frac{\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad}{\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad\qquad}$$

$$\textbf{Global}$$

$$\textbf{"All economies"} \frac{(QE\alpha)\text{ Item A} + (QE_B)\text{ Item B} + (QEc)\text{ Item C} + (QEd)\text{ Item D}}{TQE \qquad \text{(where E equals Economy E)}}$$

Where "QE" represents the quantity of that item in Economy E. Laws of algebra allow us to cancel out the two equal denominators above, which leave us with the equation below:

$$\textbf{RVS} = \frac{(QEa)\text{ Item A} + (QEb)\text{ Item B} + (QEc)\text{ Item C} + (QEd)\text{ Item D} \quad \text{Economy E}}{(QEa)\text{ Item A} + (QEb)\text{ Item B} + (QEc)\text{ Item C} + (QEd)\text{ Item D} \quad \text{Global}}$$

$$\textbf{x}$$

$$\textit{RVS} = 1 \frac{\textit{Z Ecomomy E}}{\textit{1 Z Global}} \; \textit{(QEx) CACe Item X} \; \textbf{x} \; \textbf{(QEx) CACg Item X}$$

(Where X = Total # of building materials items in Economy E where Q > 0

Where CACe represents the Cross Average Cost of Item X in Economy E

Where CACg represents the Cross Average Cost of Item X in Global Economy)

RVS then representing the summation of values of building materials items within Economy E as a ratio of the summation of corresponding building materials items' global values.

So the RVS (Relative Value Set) creates a ratio that can then be used against any other good in Economy E.

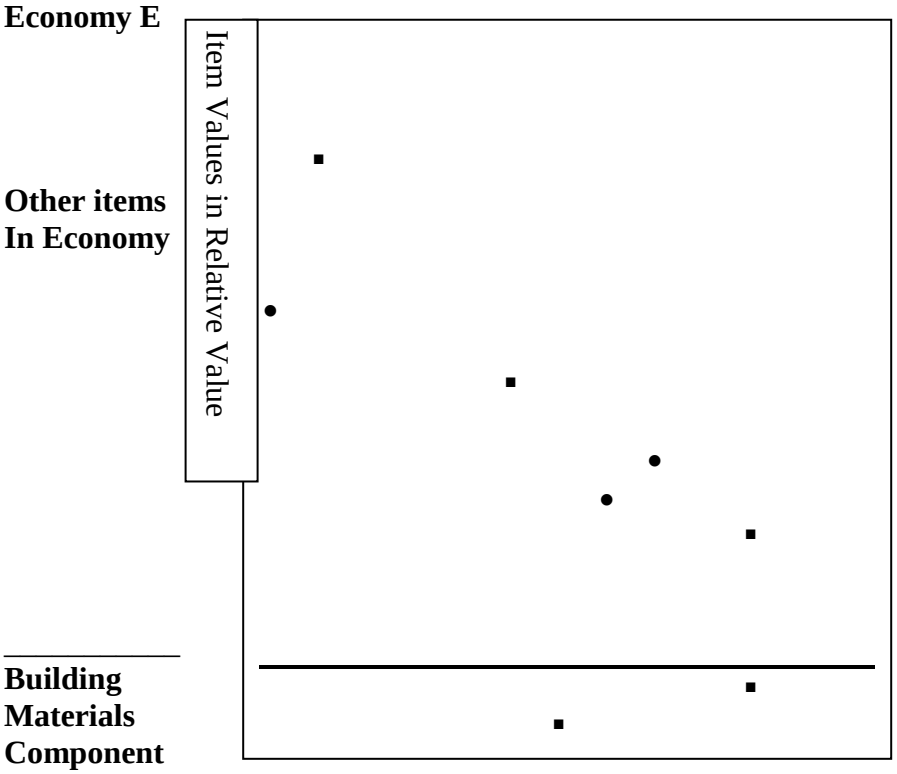
Item Bank: Principles of Relative Value Systems

Information Backed Currency: Using RVS to enable Barter Economy

Given RVS for Economy E, any new item for trade can be valued from Item Bank formulas:

Example:
Economy E produces Item F. Item F is a non-building material item. To calculate new value using IC (Information Currency);
IC value for Item F = RVSe (Item F Market Price).

The model above seeks to overcome Relative Value error in currency mechanics that appeared in both traditional currency conversion (see page___), in working with a limited basket of goods (see page ___), and in building relative values with a single starting point (see page ___). This model lifts the error map by the percentage of the market that building materials consumes and provides IO (information opportunity) in addition. See chart below:



Discrete Item Values Relative to Outside Economies (RVF)

Item Bank: Principles of Relative Value Systems

Information Backed Currency: Choosing a Sample Industry for RVS

Building Materials, as member of the set of Basic Human Needs, are a primary industry candidate for relative value systems which would be built to calculate Relative Value to a Currency. Reasons for this choice model the other BHN categories and are as follows:

1. Building materials are economy essential. We need a RVS that will guarantee that these types of items exist and that there is demand in any economy.

2. Building materials are generally locally created and distributed. RVS will be most likely items generated by that economy (imports may skew values).

3. The sample set of building materials is diverse but also typically generic and stable. RVS need a very large sample set of similar, replaceable items to preclude speculation, market controls, and IO functioning to open market.

4. Building materials represent “hard goods” (as apposed to perishables). Hard goods are required so that value in a reasonable time does not arbitrarily return to zero.

5. Building materials represent a relatively steady consumer market. Though housing starts affect building materials consumption, demand is often replaced by renovation construction.

6. Building materials are not highly differentiated. Plywood is plywood and lumber is lumber, drywall functions and looks very similar as do shingles, cement, and rebar.

Proposal for Currency Value Systems:

Creating Information Currency Using Item Banc Engine Technology

We currently have a top-down fiat nation-controlled system of value creation.

The circulating currencies of our era have been nation-issued fiat instruments. The nation entity ultimately decides how much of the currency value will be made available for members of society so that they can have incentive to work and produce.

The limits on the nation and its ability to control value come forward as it deals with other nations. The exchange rate of one national currency into another is primarily in the hands of currency traders. The traders anticipate the relative rise and fall of currency values based on markers like national debt to other countries, trade balances, oil wars and threats of war, technology and pure speculation.

This proposal for currency value systems is based on traditional barter methods practiced for centuries.

The proposal is based on basic barter thinking that real value is in work and products. The technology leverages information about needed products to create value systems within a nation and to create value systems for exchange information to use between nations.

This proposal is definitively bottom-up and defined in two ways. First, Value is defined as basic needed goods available for consumption within a nation. Second, Value is secured with a specific category of goods further defined as Basic Human Need products.

There is a perceived limit to this definition of value.

Economists have proposed two similar theories. First is the Law of One Price (LOOP). This theory is basically that similar goods should have a similar price in markets. The theory of Purchasing Power Parity (PPP) rests on this assumption and calculates exchange rates between countries based on the prices of a basket of similar goods in each nation. A perceived limit to this definition is the decision related to what goods are in the basket, and also how this relates to the relative consumption in each nation. The perceived limit is exhausted when this consideration relates to more than two nations as the comparison between multiple nations is further complicated by the question of what basic goods belong in the basket for each nation.

Big Data and Technology can offer a best solution for valuation.

To start this solution there must be a realization about the Law of One Price, because it is really not “Price” that should be the goal, but Value. The solution requires that we look at the concept of commoditization of products as this is possible to achieve with large sample sets of market data. Theoretically, large sample sets of basket data prices of basic needed items (BHN) in all countries can be analyzed. The average weighted values (prices counted as often as the quantity of each named product exists at market) can be calculated and then it is possible to commoditize each named product in the baskets of each nation all together. The outlier prices can be discarded. The result would be an international commodity value (market value) for each named BHN product in the basket.

Relative Value Systems Compare a Nation’s BHN Basket to International Commodity Values.

To finish this solution the weighted value of a nation’s specific basket of BHN goods is calculated as a percentage of International commodity Values. This allows each nation to have a unique basket mix yet create its relative value to the commodity values in the world.

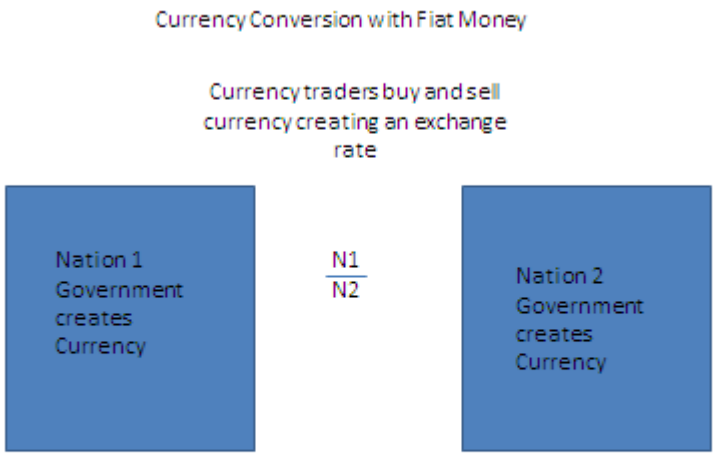
The exchange rate between countries is calculated by a relative value to standard of one nation as compared to the relative value to standard of another.

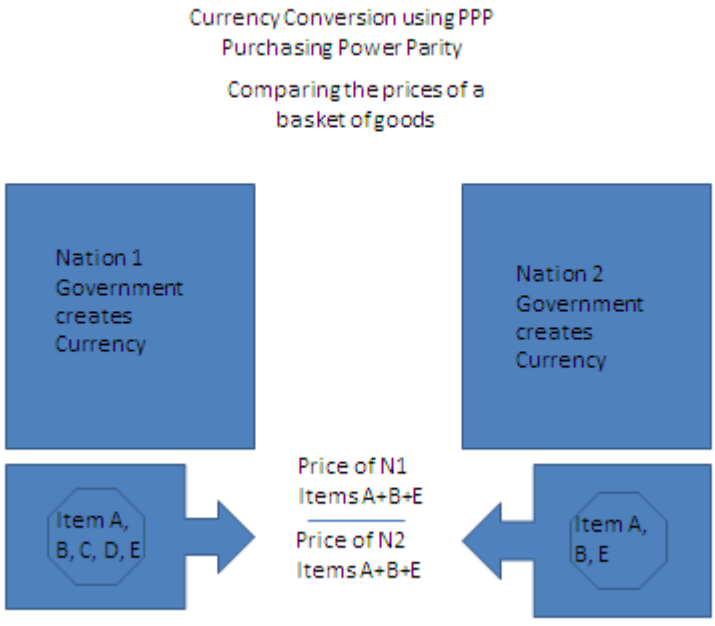
The Technological function of Item Bancs is to capitalize Production.

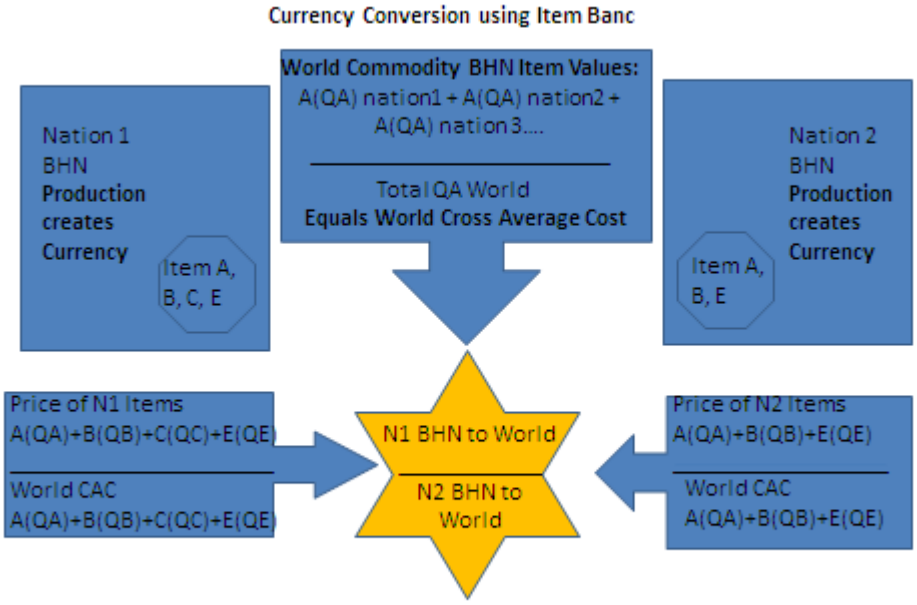
Using smart contracts on the blockchain it is possible to capture production of BHN products and value them at the point in the supply chain where these products are made available for market consumption. This information can supply the Valuation Engine (Item Banc Engine) with live valuation data about BHN on the ground. Production can be capitalized in two ways. It is capitalized because the information about what is available where at what value is publicly recorded. It can also be capitalized by creating crypto currency value for the producer as BHN products move from producer to market. The crypto value is burned when the products are sold to the consumer.

The End Goal is to Create Information Currency.

The Item Banc Engine is designed to publish information about what BHN products are available where (in what nation) at what value. With this output each nation can achieve a capitalized representation of value as a solid base and backing for Information Currency.


Currency Conversion with Fiat Money
Currency traders buy and sell currency creating an exchange rate
Nation 1 Government creates Currency
N1
N2
Nation 2 Government creates Currency


Currency Conversion using PPP Purchasing Power Parity
Comparing the prices of a basket of goods
Nation 1 Government creates Currency
Nation 2 Government creates Currency
Item A, B, C, D, E
Price of N1 Items A+B+E
Price of N2 Items A+B+E
Item A, B, E


Currency Conversion using Item Banc
World Commodity BHN Item Values:
A(QA) nation1 + A(QA) nation2 +
A(QA) nation 3....
Total QA World
Equals World Cross Average Cost
Nation 1
BHN
Production
creates
Currency
Item A,
B, C, E
Nation 2
BHN
Production
creates
Currency
Item A,
B, E
Price of N1 Items
A(QA)+B(QB)+C(QC)+E(QE)
World CAC
A(QA)+B(QB)+C(QC)+E(QE)
N1 BHN to World
N2 BHN to
World
Price of N2 Items
A(QA)+B(QB)+E(QE)
World CAC
A(QA)+B(QB)+E(QE)