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Wheat-Gold Currency How to Make Large-Scale Grain Storage Possible

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WHEAT-GOLD CURRENCY
HOW TO MAKE LARGE-SCALE GRAIN STORAGE POSSIBLE

By

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INTRODUCTION

The United States has a National Oil Reserve but no food reserve. Just as the oil reserve is designed to buffer unforeseen disruptions in the critical supply, the nation should also have a food reserve for at least the same purpose.

The United States and other developed nations have little or no food reserve beyond the typical demands between growing seasons. Marvelous production achievements in agriculture beginning in the early 1960s and known as the "Green Revolution" are now leveling off. Food production, suffering from such negative side effects as reduced water tables, is being outstripped by population growth (Bourne, 2009).

In 2006 through 2008 the US and world drawdown of wheat and other grain stocks, together with agricultural events such as droughts in various parts of the world, caused grain reserves to hit historically low levels. The resulting lack of supply created significant disruptions, including record high prices (Figure 1) (Good and Li, 2010, USDA - Foreign Agricultural Service, 2011), countries refusing to export, riots, and famine (CNN.com, 2008). The need for higher world grain stocks seems clear. Higher grain stocks should result in lower price volatility and higher food security in Utah, the US, the UK, and internationally.

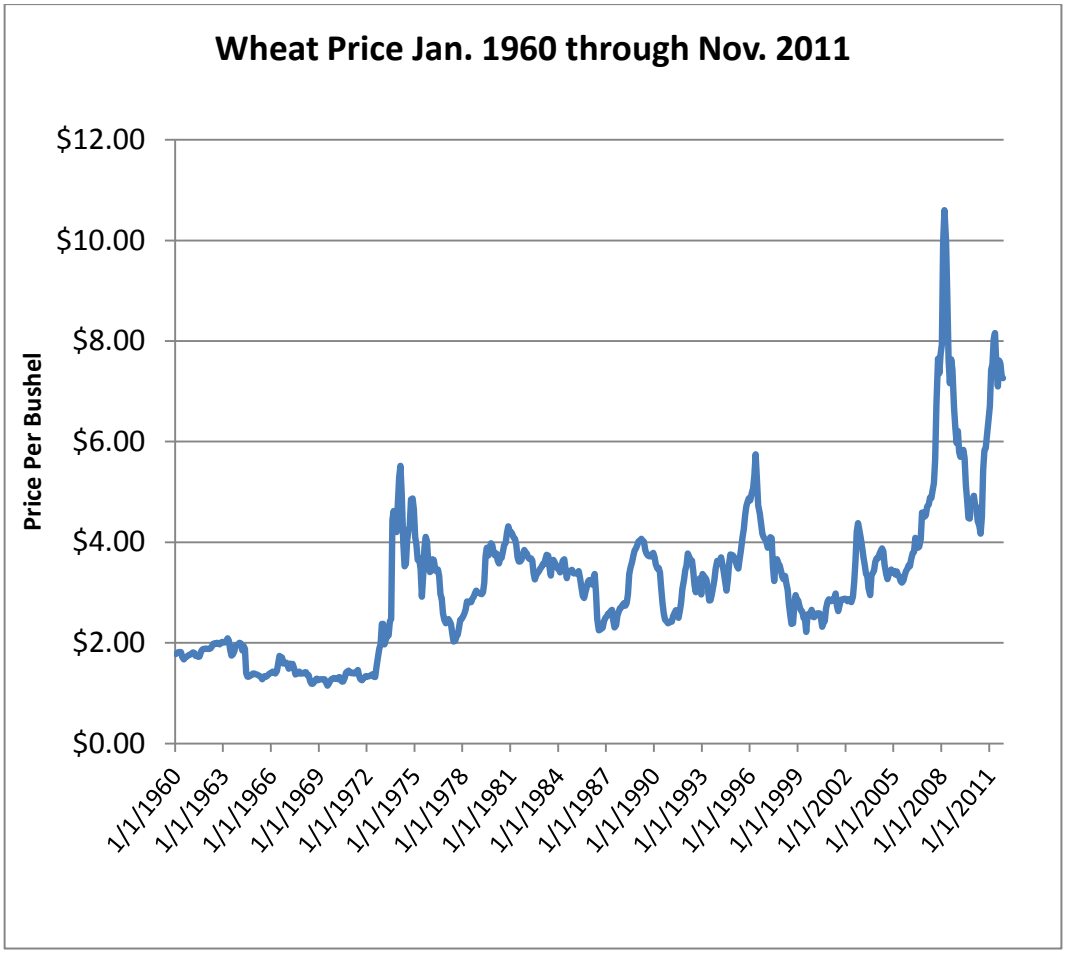

Figure 1. The price history of wheat from 1/1/1960 through 11/1/2011. (FARMDOC, 2011)

STATEMENT OF THE PROBLEM

The problem is that Utah, the United States, and other nations, including the United Kingdom, need stored food supplies, but it is not profitable to store such supplies. In addition, the system of fiat currencies has no intrinsic value and tends to be unstable. We propose a means of creating an economic reason to produce food for storage by creating a rules-based commodity-backed currency called "Wheat-Gold" that could be traded domestically and/or internationally. Our proposal would encourage grain stockpiling by removing impediments associated with storage and giving producers a financial incentive to produce food for storage. In addition, the Wheat-Gold currency would stimulate economic activity where it is needed most – at the production level.

THE WHEAT-GOLD PROPOSAL

The Wheat-Gold Proposal consists of issuing a new additional precious metal currency which would be 100% backed by grain in storage and precious metals, intrinsically.

Objectives

Create an emergency store of essential food grains with minimal government support, cost, or intervention.

Create a method to acquire and store essential food grains that is financially feasible for grain producers by providing a benefit to produce grain for storage.

Assist government in its prime mandate to protect its citizens by including a "call" feature for the release of stored grains for distribution during a food emergency.

Begin an effective financially feasible food storage method that could be a prototype for complimentary or similar food storage programs in other states or countries.

Description

The Wheat-Gold Proposal is a method to encourage production of grains for storage in Utah, the United States, or the United Kingdom, through financial incentive in the form of a new currency called "Wheat-Gold." Wheat-Gold is a gold coin that includes a special stamp or mark that acts as a claim on a specific amount of wheat in the store. Grain producers receive payment for storage production in Wheat-Gold currency. The currency trades freely in the marketplace as any other currency. The Wheat-Gold currency is backed by the intrinsic value of the coin plus the wheat in store. This issuance of Wheat-Gold

creates an incentive to produce for storage. The stores of grain are held in facilities suitable or specifically designed to minimize cost on a long-term basis. Stores are held for multiple years and are released from storage only for emergency consumption or emergency export, redemption of Wheat-Gold, or for rotation. The grain store will be rotated on an as needed basis, possibly every 10 to 20 years.

The store will accumulate grain from current production which will create demand leading to overproduction during the accumulation period which could be 10 to 20 years. Producers will be compensated with the Wheat-Gold currency as grains are delivered to the storage facilities.

A non-profit authority would be created to manage all aspects of the grain storage. A name such as the Utah Grain Bank (UGB) would be suitable. Reserved URLs are www.utahgrainbank.com or www.utahgrainbank.org.

The accumulation period will be determined by the UGB with an objective to minimally impact grain markets. The UGB will publish all accumulations and rotations to the public well in advance. The accumulation quantities may be published years in advance.

The accumulation period will last until the store reaches a predetermined level, then the store will continually expand at a rate equal to the population growth. The store will be permanent and the distribution of Wheat-Gold currency will be permanent.

The store of grain in Utah would be used for emergency distribution in the state of Utah, nationally, or internationally. Emergency distribution from the store should only happen on rare food emergency occasions.

Government Involvement

Utah government authorities have a “call” privilege on stored grain in declared emergencies. The government call feature would require the government to pay non-Wheat-Gold precious metal currency in exchange for the Wheat-Gold currency at a premium over the current Wheat-Gold value or other premium compensation when the call feature is exercised for the amounts of grain called from the store. The UGB will determine a method to randomly designate Wheat-Gold to be called if voluntarily redemption fails to meet quantities required for emergency relief.

The government “call” privilege will additionally provide the government an audit requirement to assure grain stocks match outstanding Wheat-Gold currency issue. Further, the audit would increase public confidence in the Wheat-Gold currency.

The storage facility will be built by investors seeking tax relief. A traditional tax-shelter will be authorized by the federal and state government for this purpose.

Utah Grain Bank

The Utah Grain Bank (UGB) will have authority to manage, create policy for, and distribute Wheat-Gold currency in exchange for grain. The UGB will have some predefined authority to buy and sell grain other than for storage on a limited basis, perhaps a maximum of 1-5% of stored holdings. This authority to buy and sell in the open market will be given to create income for the store.

The storage facility will be rented to the UGB from tax-advantaged investors. Rents will be paid to the facility owners (investors) from currency transaction fee income earned by the UGB.

The UGB will acquire currency transaction fee income though fees charged for electronic trading of the Wheat-Gold currency. Any shortage of income will be made up through sales from the store. Wheat-Gold coins can be vaulted and traded electronically in whole or fractionally through the UGB relationship with electronic transaction vendors. UGB receives transaction fees similar to fees generated by other electronic currency trading banks or vendors similar to the current practice of Visa, MasterCard, Discover, or American Express.

Wheat-Gold

One might look at the Wheat-Gold concept as a precious metal currency with a premium value added in the form of a claim on the underlying grain.

The grain store will issue gold and silver coins cast with the UGB emblem and other suitable designations (Wheat-Gold) to grain producers in exchange for grain. These Wheat-Gold coins will be unique from other gold and silver coins. They will contain the UGB emblem and will easily be identified as special premium coins that contain the claim for a specific amount of grain in storage at the UGB. Wheat-Gold currency is a claim on the stored grain in addition to the intrinsic value of the coin itself. The amount of grain reserved in the store will back the Wheat-Gold coins issued by a factor of 100%. Each Wheat-Gold coin will be a claim on a certain quantity of grain in the store.

Wheat-Gold will be issued as a sum of the designated quantity of gold or silver plus the designated quantity of grain. For example, a typical coin might be 1 ounce of gold plus a claim for 1 ton of wheat. That coin might have a FRN (Federal Reserve Note) value of approximately $1,600 (1 ounce of gold) + $265 (1 ton of wheat) totaling FRN$1,865.00.

Another example might be a 1 ounce of silver plus a claim for 1 bushel of wheat. That silver 1-ounce coin might have a FRN value of approximately $30 (1 ounce of silver) + $7.20 (1 bushel of wheat) or FRN$37.20. Wheat-Gold coins then would represent a premium value coin over similar gold and silver coins of the same weight but not including the claim on stored grain.

The Wheat-Gold currency will, by the nature of the underlying grain store, be a rules-based currency[1]. The rules for issuance will be a function of the maximum amount of reasonable storage per capita that the UGB directors feel is appropriate. For example, the UGB may feel that a 2 year supply of wheat based on 2012 total national usage is the appropriate storage base amount. They may further decide to accumulate the store over a 15 year period. Once the 2 year storage level has been reached, Wheat-Gold currency will only increase by a population growth factor.

Wheat-Gold is intended to become a competitive alternative currency to FRNs (Federal Reserve Notes). Wheat-Gold is not intended to replace FRNs. Both currencies should function side-by-side.

If Wheat-Gold currency owners exercise their claim for underlying grain, the owner presents the coin for grain redemption. The owner receives the stated amount of grain. The UGB then replaces the redeemed Wheat-Gold coin for a coin of equal weight in simple non-Wheat-Gold gold or silver coins less a transaction fee. The redeemed Wheat-Gold coin

[1] By "rules" we mean a predefined set of rules governing the issuance of currency as opposed to "discretion" which is as Dr. Lawrence White describes a group of "wise men" charged with the responsibility of determining when and how money supply should be increased or decreased such as the Federal Reserve (WHITE, L. H. 1999. *The Theory of Monetary Institutions*, Blackwell Publishers Inc.).

is then recast or virtually recast as a regular coin without the claim on the store. Total claims for grain of all circulating Wheat-Gold coins should equal the grain in storage.

Issuance of Wheat-Gold creates new money at the agriculture producer level of the economy and at the gold mining production level. Wheat-Gold is EDF-5 – Main Street vs. Wall Street.[2] Its impact is as if it were EDF-1 (Ledoit, 2011).

Constitutional Authority

Wheat-Gold will base its authority to exist as a currency on the Utah Currency Act of 2011 as amended; and the United States Constitution, Article 1, Section 10, which authorizes the various States to designate gold and silver coin as legal tender. Wheat-Gold coins may be freely traded as currency meeting The Utah Currency Act of 2011 and amendments criteria.

Rationale

The Wheat-Gold Proposal's food store adds security to a food system that operates on a "just in time" basis. "Just in time" is an outgrowth of continual pressure for market efficiency and cost reduction. Food production and distribution systems have for years squeezed out inefficiencies and excess costs maximizing profits and further squeezing margins. However, food is essential to survival and highly dependent on exogenous factors, such as weather. Cultures that exist without food stores are vulnerable to food shortages.

The Wheat-Gold Proposal strengthens national security for the same reasons by giving the nation a supply of food similar to the supply of energy known as the US Strategic

[2] The acronym "EDF" is defined as "economic distance from the FED" and is more fully explained in the below section, The Redistributive Effects of Monetary Policy (LEDOIT, O. 2011. The Redistributive Effects of Monetary Policy. University of Zurich - Department of Economics.).

Oil Reserve. It is curious that the United States realizes the need for an oil reserve but ignores the need for a food reserve.

The Wheat-Gold Proposal strengthens international relations and provides the US or UK with a strong ability to intervene in international food crises. The reserve should be large enough to meet crisis needs of other nations. This should be determined by the UGB.

The Wheat-Gold Proposal meets this need for security without taxpayer burden, except to the extent that storage facilities are constructed using the tax shelter method of financing. Government involvement is sidelined with the minimal exception of standard business regulation including an audit. The free market food production system, coupled with the Wheat-Gold rules-based precious metals based currency, effectively runs the system to create and maintain a secure food store.

The Wheat-Gold Proposal should minimally impact markets, except during the accumulation period which impact may be minimalized by long lead time public disclosures of the storage facilities intentions to buy or rotate. The Wheat-Gold Proposal is not intended to interfere with grain production or to have impact on grain prices. Impacts are minimized as the UGB carefully accumulates the grain store over a long period of time.

The Wheat-Gold Proposal is a variation of, and an intellectual descendent of, the commodity reserve currency proposals by some of the leading economists and business leaders including Benjamin Graham and others.

Historically, interest in preparedness for a crisis drops over time. This is illustrated by the recent tsunami in Japan. The time to prepare for a crisis is long before a crisis occurs.

World population growth and economic growth in less developed countries are having strong impacts on the demand for food. Proponents of climate change argue that effects on production are already having a negative impact on food supply and that these negative effects will increase in coming years. The waning of the "green revolution" is further inhibiting food production. Instances of world agriculture impact from natural disasters such as strategically placed volcanoes can be found in ancient and modern history.

Commodity currencies have the potential to add competing value to any monetary system as currency debasement has become a standard practice. Competing currencies within a nation add pressure to monetary authorities to keep monetary values stable.

ANALYSIS

Food Storage for Security

It only seems natural that we feel more secure when we have personal reserves, whether it is money, a full tank of gas, or a pantry full of food. It also makes sense to have those or similar reserves as a state or a nation.

In 2010 I visited the Grain Elevator & Processing Society (GEAPS) Conference in Kansas City to learn as much as possible about current gain storage techniques. As I visited a display sponsored by a long-term storage silo manufacturer, I told the representative that my interest was in "long-term" gain storage. He indicated that his product was manufactured for that purpose. I then asked him what the maximum amount of time was that grain could be suitably stored in one of his newly constructed facilities. He responded that it could easily be "as long as six months or even longer." I realized that I was not asking the right question so I then said, "How about 10 years? Would it work for that time frame?" A bit startled he looked at me somewhat askance and said, "Ten years? Why would *anyone* want to store grain for that long?"

Storage is Not Profitable

It is difficult to promote grain storage in the US and elsewhere because storing food is not profitable. As Keynes said,

> The competitive system abhors the existence of stocks, with as strong a reflex as nature abhors a vacuum, because stocks yield a *negative* return in terms of themselves. It is ready without remorse to tear the structure of output to pieces rather than admit them, and in the effort to rid itself of them. (Keynes, 1938; italics in original)

Over time any economic profit created by agricultural innovation is quickly removed as other producers acquire the new innovative processes. Food is a commodity, and producers are generally considered "price takers," not "price makers." That means the profit margin for commodity production is very small, and storage simply adds to costs. In the highly competitive agricultural environment, added costs put producers at a disadvantage. It is easy to see why commercial business minimizes stocks, but what about individuals? If keeping reserves gives one a feeling of greater security, why do so few individuals store food?

Disconnecting From Previous Generations

It is beyond the scope of this paper to analyze why the general public seems to store very little food supplies. However, historical events leading up to the recent tsunami disaster in Japan, which occurred on March 11, 2011, seem to offer some insight into human behavior that might be applicable to this question.

Hundreds of stone tablets are found on the northern coast of Japan warning of tsunamis. But over time, in spite of these centuries' old warnings, many people built their homes and villages in harm's way. The March 11, 2011, tsunami stopped 100 meters below the marker shown in Figure 2, sparing the small village of Aneyoshi (Fackler, 2011). Yet Aneyoshi represents one of only a few villages that escaped the tsunami's destruction in spite of the centuries' old warnings written on 100s of ancient stone warning markers that dot Japan's northern coast.

Translated, the inscription on this stone tablet reads:

"High dwellings are the peace and harmony of our descendants . . . . Remember the calamity of the great tsunamis. Do not build any homes below this point."

Figure 2. Ancient Japanese Tsunami Warning

In this March 31, 2011 photo, A centuries-old tablet that warns of danger of tsunamis stands in the hamlet of Aneyoshi, Iwate Prefecture, northern Japan. Hundreds of such markers dot the coastline, some more than 600 years old. Collectively they form a crude warning system for Japan, whose long coasts along major fault lines have made it a repeated target of earthquakes and tsunamis over the centuries. (AP Photo/Vincent Yu)

Writing for the *Newsville.com,* Jay Alabaster(2011) quotes Fumihiko Imamura, a professor in disaster planning at Tohoku University in Sendai, a tsunami-hit city. "It takes about three generations for people to forget. Those that experience the disaster themselves pass it to their children and their grandchildren, but then the memory fades."

But in some villages longstanding warnings were heeded. In the tightly knit community of In Aneyoshi, Japan, the community intentionally built their houses above the stone marker.

> "Everybody here knows about the markers. We studied them in school," said Yuto Kimura, 12, who guided a recent visitor to one near his home. "When the tsunami came, my mom got me from school and then the whole village climbed to higher ground." (Alabaster, 2011)

Without a serious food shortage in the United States, most individuals have zero experience with the results of real hunger. For the most part, it is likely that Americans at least are way past the three generation threshold suggested by Dr. Imaura above. Lack of storage on the part of individuals may be as simple as those individuals not having experienced any real food shortage for generations. Developed countries, and notably the United States, would seem to fit into this description.

Food is Perishable

In addition, food is perishable. Storing food has its limitations in time. As an asset with a limited life, food requires special handling and care to avoid and minimize deterioration. Wait too long and one runs the risk of the asset losing value or of losing the asset altogether. Managing for the perishable nature of food only adds to storage costs.

Some foods, however, can be stored for lengths of time suitable for long-term storage. For example, recent research at Brigham Young University has concluded that if stored properly many grains, including wheat, can last 30 years or longer (Weaver, 2008).

The "Green Revolution" is nearing its end.

The so called "Green Revolution," which has increased food production to extraordinary high levels since the early 1960s, has met the needs of the steadily expanding modern world population. Norman Borlaug, a primary contributor to this Green Revolution is credited by former President Jimmy Carter with reducing world hunger and saving hundreds of millions of lives through his innovations in grain production (Carter, 2009). But the production increases spurred by the Green Revolution may soon be over.

Calculations by the Earth Policy Institute show that up until 1996 the world was making progress on reducing world hunger (Earth Policy Institute, 2007). However, since 1996 the amount of chronically hungry and malnourished people has been steadily rising (Brown, 2011). The Green Revolution appears to be close to maxing out its production increasing capacity and coming to an end (Bourne, 2009). In the future a new round of innovation will be required to keep up with relentlessly increasing world population, and until then pressure on existing stocks and ongoing production is mounting.

Today, thoughts of famine or even the most elementary food shortages are virtually unknown in developed countries. In the United States, for example, the focus is not on the basic acquisition of food but issues of taste, quality, production methods, nutritional value, and other food properties. Yet, in the 2006 through 2008 timeframe, the world had not seen grain stocks so low for at least 30 years (USDA - Foreign Agricultural Service, 2011). Just as ancient stone markers served the village of Aneyoshi, we might learn from some ancient historical accounts that might be worth remembering.

Ancient Food Storage

Egypt in the Days of Joseph

Sometime between approximately 2000 – 1600 BC the Pharaoh of Egypt dreamed a dream. Since none of his magicians could interpret the dream he called upon a Hebrew prisoner named Joseph whom it had been reported could interpret dreams. The Biblical text records,

> And Pharaoh said unto Joseph, In my dream, behold, I stood upon the bank of the river. And, behold, there came up out of the river seven kine,

fatfleshed and well favoured; and they fed in a meadow. And, behold, seven other kine came up after them, poor and very ill favoured and leanfleshed, such as I never saw in all the land of Egypt for badness. And the lean and the ill favoured kine did eat up the first seven fat kine. And when they had eaten them up, it could not be known that they had eaten them; but they were still ill favoured, as at the beginning. So I awoke. And I saw in my dream, and, behold, seven ears came up in one stalk, full and good. And, behold, seven ears, withered, thin, and blasted with the east wind, sprung up after them. And the thin ears devoured the seven good ears: and I told this unto the magicians; but there was none that could declare it to me.

And Joseph said unto Pharaoh, The dream of Pharaoh is one: God hath shewed Pharaoh what he is about to do. The seven good kine are seven years; and the seven good ears are seven years: the dream is one. And the seven thin and ill favoured kine that came up after them are seven years; and the seven empty ears blasted with the east wind shall be seven years of famine. This is the thing which I have spoken unto Pharaoh: What God is about to do he sheweth unto Pharaoh.

Behold, there come seven years of great plenty throughout all the land of Egypt. And there shall arise after them seven years of famine; and all the plenty shall be forgotten in the land of Egypt; and the famine shall consume the land; And the plenty shall not be known in the land by reason of that famine following; for it shall be very grievous. And for that the dream was doubled unto Pharaoh twice; it is because the thing is established by God, and God will shortly bring it to pass.

Now therefore let Pharaoh look out a man discreet and wise, and set him over the land of Egypt. Let Pharaoh do *this,* and let him appoint officers over the land, and take up the fifth part of the land of Egypt in the seven plenteous years.

And let them gather all the food of those good years that come, and lay up corn under the hand of Pharaoh, and let them keep food in the cities. And that food shall be for store to the land against the seven years of famine, which shall be in the land of Egypt; that the land perish not through the famine. And the thing was good in the eyes of Pharaoh, and in the eyes of all his servants (Moses).

Joseph recommended to Pharaoh that grain be stored from current production. He suggested that one fifth part of all grain be stored during the seven years of plenty to be

distributed in the seven years of famine. Pharaoh followed Joseph's advice and according to the scripture, saved the land of Egypt during the seven years of famine. In addition, surrounding regions came to Egypt to buy during the famine period, giving Egypt a distinct advantage over areas with no storage. It was during that famine period that the remainder of Joseph's family was finally restored to him after years of separation.

China in the Days of Yi Yen

Although the evidence is indirect, grain storage in China may have begun as early as the Yin Dynasty (also called the Shang Dynasty), 1766-1122 B.C. (Lee, 1921). Mabel Lee, in her comprehensive "*The Economic History of China*," comments in the following text and footnote:

> (There was)...a great dearth with seven years of drought in the first reign of the dynasty (curiously, as pointed out by Western historians, coinciding with the date of the famine in Egypt in the days of Joseph and the Pharoahs), which conditions of famine were remedied by the measures of the emperor and his prime minister, Yi Yen*, who invented Chu Tien, or the system of stripping land so as to retain and preserve the moisture in the soil.
>
> *Chinese literature is full of references to Yi Yen and his conquest of the drought. He is usually mentioned together with Great Yu, who relieved the distress resulting from the nine-year flood…
>
> Chinese writers of later periods are always citing Great Yu and Yi Yen for having relieved conditions of flood and drought and asking why it is that in their own days the same conditions cannot be similarly remedied. Their one answer is that in the time of Great Yu and Yi Yen there was a surplus supply left for such emergencies, whereas in later periods there was no such surplus. (Lee, 1921)

The footnote suggests that Yi Yen might have been a contemporary of Joseph in Egypt. Bible scholars support the date estimate of Joseph in Egypt as during the Second

Intermediate Period of Egyptian history, ca. 1786-1570 BC (Cohen, 1999), but no matter whether he was on not, the historical record illustrates the impacts of political leaders who had the foresight to protect their people from the risks of famine. For example, Bruins and Bu (2006) records that storage was advocated from the 8th to the 5th centuries BCE and warns of consequences to governments that don't prepare:

> The ancient Chinese Book of Rites, which dates to the 8th–5th century BCE, contains the following remarkable text (cited in English translation from Crook, 1997): ''*a country without (food grain) stocks for nine years requirements has insufficient reserves; with less than six years reserves the situation becomes tense; and with less than three years of stocks, the government will not survive*" (emphasis added).

One of the government's duties was to prevent famine. "…they were heirs to the Confucian/Mencian ideological claim that the failure of the ruler to prevent famine was just cause for rebellion…" (Li and Alison, 1999). Preserving order appears to have been a significant objective for historical Chinese storage, at least in later periods and possibly stemming from earlier times. Popular unrest seems to have been a key motivator:

> The remarkable aspect of the Chinese record is rather the success with which food security for an extraordinarily populous capital was maintained over so many centuries . . . but in fact following log-established Chinese practice, the Qing emperors and their officials planned assiduously to protect Beijing from any popular unrest (Li and Alison, 1999).

Some modern writers, like the Institute for Agriculture and Trade Policy's Jim Harkness, are strong advocates of a US grain reserve similar to China's, citing China's example as the inspiration for the successful New Deal farm programs (Zelizer, 1999).

It is unknown whether China practiced grain storage on a continual basis. However, Bruins and Bu list a series of famines in China, which probably did not include storage, or at least for which any storage was inadequate (Figure 3.) (Bruins and Bu, 2006).

Historically recorded drought and famine cases in ancient China

Chinese dynasties	Historically recorded drought cases	Average drought cases per century	Historically recorded famine cases	Average famine cases per century
Shang 1765-1122 BC	6	0.9	0	0
Zhou 1121-249 BC	35	4.0	10	1.1
Qin 248-207 BC	1	2.4	4	9.8
Han 206 BC-AD 220	112	26.3	76	17.8
Wei-Jin 220-580 AD	192	53.3	195	54.2
Sui 581-618 AD	11	29.7	13	35.1
Tang 618-960 AD	232	67.8	150	43.9
Song 960-1279 AD	388	121.6	386	121.0
Yuan 1279-1367 AD	212	241.0	533	605.7
Ming 1368-1644 AD	328	118.8	437	158.3
Qing 1644-1911 AD	1030	385.8	1388	519.9
TOTAL	2547		3192	

Source: after Bu and Bruins, 2004.

Figure 3. Chinese Droughts With Little or No Grain Storage

China Stores Grain Right Now

Today China is still firmly committed to grain storage. The head of the State Administration of Grain has said, “The grain issue has a direct bearing on China’s economic development and national security as well as international grain security. Chinese government always attaches great importance to the grain issue” (State Administration of Grain, 2002).

Zhang Ping, minister of the National Development and Reform Commission said that China’s current grain reserve has now reached 40 percent of annual consumption which is significantly higher than the 17 to 18 percent general world standard. At a press conference he further stated that China’s wheat reserve stands at 100 billion kilograms, which is equivalent to a year’s output (Xinhua News Agency, 2011).

Key Components of Modern Chinese Grain Storage

Currently there are five major categories of storage in China. Each category functions distinctly in Chinese society (Hsu and Gale, 2001).

Table 1. Summary of Chinese grain reserves

1. Central government (state) reserves. In 2000 the State Administration of Grain Reserve separated policy-formulating entities from grain trade business operations. This government reorganization set up 14 grain companies in designated production and consumption areas. These companies became operational in 2000. Grain companies now control and operate 2,800 grain warehouses with an estimated storage capacity of 25 million tons.
2. Government-owned grains in circulation. These government owned reserves include purchases based on protection (procurement) prices, which are then resold at market prices. About two-thirds of the government procurement is circulated each year, including supplies for military and government facilities. These grains in circulation could be as high as five times the 2 million ton government reserve.
3. Local government-owned reserves. These stores protect against region grain shortages. Immediately, alleviation of shortages due to the poor transportation infrastructure is the goal. One of China's goals is a separate local grain reserve for county, township, and village areas as a buffer against short-term price fluctuations. The government target is 20 million tons, equivalent to a one to one and one half month's consumption.
4. Retail and wholesale grain reserves. Private enterprises (wholesalers) and small retailers (including processors and food retailers) purchase grain directly from farmers. Retail and wholesale grain reserves exist in many places. These stores are considered to be "free market" grain in the commercial pipeline. Consumers pay premium prices for this fresh high-quality grain. No government surveys were conducted for this part of the total storage.
5. On-farm grain storage. Producers can store their own grain at home or at local mills when home storage space is limited. Statistical publications in China indicate that grain storage kept by rural households range from 350 to 400 kilograms (770 to 880 pounds) per capita. China's Grain Bureau estimates that on-farm storage was 90 million tons for 1995/96, which was a 300-percent increase from the early 1980s.

Source: Hsu and Gale, 2001

Chinese farmers may sell an unlimited supply of excess grain to the state and receive "protection" prices. These are government-set price supports (Tuan and Hsu, 2001).

Commodity Currency

Major world currencies have no backing other than public confidence and the internal commitment by underlying governments to limit money creation. Currencies with no backing, known as "fiat" currencies, are intrinsically worth only the paper they are printed on. Many governments have responded to the deflationary financial crisis of 2008 by increasing the money supply, and in some cases to levels not seen before (US Treasury, 2010). This, coupled with fractional reserve central banking and high national and international debt levels, has created some significant currency inflation risks.

For years many countries relied on gold and silver as currency itself or as reserve backing for currency for exchange and international settlements. Commodity-backed currencies, based on precious metals, have been common in the past and appear to be on their way to becoming popular again in the United States. The State of Utah, for example, has passed legislation to introduce US minted precious metals coins as legal tender (2011). As many as twelve other states either have or are initiating similar legislation (Clark, 2011). In addition, some countries such as Switzerland and Malaysia have introduced or are introducing precious metals currencies in addition to current fiat currencies (Hilton, 2011a).

The Malthusian Debate

Two hundred years ago, Thomas Robert Malthus, in *An Essay on the Principle of Population* (Malthus and Flew, 1970, 240-244), declared that the human population would always grow at an exponential rate, while food production would only grow at an arithmetic rate. He argued that the consequential famine would always check human population growth.

World population increases are running consistently higher than 1% per year until at least 2020 (Census, 2010). UN projections say there will be 8 billion humans by 2025 and that demand for grain for human food will increase by 47% in the developing world by the year 2020. At the same time, current livestock producing cost estimates forecast the potential demand for grain for livestock to jump 101% during the same period (Manning, 2000).

The rate of food production is not fixed, however. Ronald Bailey (2000) argues that humanity can and does escape the Malthusian trap through human innovation and mental progress. Basically, we are outrunning Malthus' predictions because we are intelligent beings and have invented ways to produce more food as demand has risen -- at least for now.

One such human innovation is the "Green Revolution," which doubled the world's grain outputs. For example, Green Revolution methods enabled India's farmers to become self-sufficient, in spite of predictions that they would not meet consumption demands (Bailey, 2000). India even exported surplus grain in the early 1980s as a result of the dramatic increases in production directly related to Green Revolution methods and

technology (Bailey, 2000). The phrase "Green Revolution" was coined by William S. Gaud, Administrator of the US Agency for International Development in 1968 and is based on the advanced application of fertilizer, pesticides, irrigation, and better developed seeds to increase yields (Bourne, 2009). The Green Revolution was largely the work of American plant breeder Norman Borlaug, who won the Nobel Peace Prize in 1970 for his efforts. By then, his Green Revolution techniques had travelled beyond India to benefit food production worldwide (Hesser, 2009).

The Waning of the Green Revolution

The advances of the Green Revolution, especially plant breeding, created a massive increase in food production. However, some regard these practices as not sustainable, and harvest rates are leveling off (Manning, 2000, Bourne, 2009). In Punjab, one area most positively affected by the Green Revolution, yield growth has essentially flattened since the mid-1990s, partially because their 1.3 million wells have depleted the underground water supply.

An important part of the Green Revolution has been the use of irrigation to maximize outputs. Irrigation draws from surface water or pumping from underground water supplies. Water, especially pumped water from non-recharging or slowly recharging aquifers, are running wells dry around the world. An example is the Saudi Arabian wheat production. After 20 years of self-sufficiency, Saudi Arabia announced in 2008 an end to wheat production. The reason is the depletion of their underground water source. By 2012 Saudi Arabia will be importing 100% of their wheat supply for 30 million people (Brown, 2011, 21). Saudi Arabia is not the least bit alone in their water problems. Since 40% of the

world's grain crops come from irrigated lands, meeting demand becomes even more difficult as water tables decline.

In an article entitled, "The End of Plenty," Joel Bourne, Jr. (2009) addresses the projected end of the Green Revolution and its potential impact on the world as populations increase and current production technologies hit maximized levels. He sees the dramatic price increase in wheat, corn, and rice between 2005 and 2008 as a sign that food consumption has been exceeding food production, thus depleting stockpiles. As a result, in 2007 stockpiles fell to only 61 days of global consumption, the second lowest recorded level. From a market technical standpoint, the price advance shown in Figure 1 represents a "breakout" to the upside in pricing that is significant. After at least 40 years or more of low grain pricing, that breakout signals a long-term trend change that is likely to be with us for many years to come (Bourne, 2009).

As the Green Revolution reaches its maximum output, the world will run up against the top of its current technology production envelope. To continue to forestall the Malthusian prediction, new technologies are needed. However, any new technology must come during the heightened challenge of increasing agricultural production, in spite of such Green Revolution legacies, while at the same time facing a reduced water table and salinized, waterlogged soils. Shortness of time is a concern. To quote Bourne (2009), "We . . . need another green revolution, and we need it in half the time."

The need for fallback solutions such as storage becomes more and more important. Just as any financial budget must have a reserve for unforeseen emergencies, the world will need the same for food emergencies. To have a food reserve in place as agricultural

resources fail, would do much to promote food security until new technologies or another Green Revolution is in place. Policy makers who have a vision of this are likely to receive support as world food conditions deteriorate.

Disasters and Catastrophes

Natural disasters act to reduce both the supply of food and the capacity for its adequate distribution. Floods and storms, drought, volcanoes, and earthquakes with their resulting tsunamis numbering hundreds per year disrupt the supply of agricultural products and thus provide a strong argument for food storage. Today one severe drought is enough to disrupt international trade in food (Smith, 2004). Multiple droughts in widespread areas can be expected to create even greater disruption, further augmented by increased globalization of markets.

Floods and storms have been the most frequent natural disasters in the first part of the twenty-first century, comprising 70-75% of the total disasters (Smil, 2008). Next most frequent are earthquakes, tsunamis, and extreme temperature events such as droughts, fires, heat waves, and frost (Smil, 2008).

Flooding

Floods account for about one-third of all recorded disaster events (Smith, 2004). A large proportion of damage by flooding is to agriculture, as in India where “almost 75% of direct flood damage has been crop losses” (Melik, 2011). In Bangladesh, river bank erosion of farmland and villages destroys crops and leaves up to one million people homeless and landless every year (Smith, 2004). The year 2010 was a dramatic example of the impact of

flooding. A massive flood the size of both France and Germany combined inundated Australia (Melik, 2011).

Drought

Drought differs from other more sudden environmental hazards in that drought develops slowly and may last for years. In addition, the severity of a drought's impact may vary, depending on the resources of the affected countries (Smith, 2004). As a multi-based phenomenon, drought can be categorized as meteorological, when precipitation doesn't meet the long-term average; hydrological, when extended meteorological drought causes lack of surface and groundwater in the area; agricultural, when the stress on soil moisture causes crop yields to drop; or socioeconomic, when severe, continued drought cripples the economy and society (Smith, 2004).

Agricultural drought results in reduced crop yields. In 1988, an agricultural drought in the Midwest United States destroyed more than one-third of the corn crop, a loss of $4.7 billion. This caused the world grain storage to fall to a 63-day supply, and the resulting shortage disrupted international trade in food. Drought resulting in famine can ultimately cause mass fatalities from starvation. Additionally, famine can lead to other hazards. Many deaths connected to African droughts are actually caused by disease spread in refugee centers with little water and health care facilities (Smith, 2004).

Grains most important to world nutrition, such as rice and wheat, are some of the most sensitive to dry conditions. Rice, which provides more than half of the daily dietary calories for most of the world, is possibly the most drought susceptible of the important food crops (Boken and Heathcote, 2005). For example, in 1876 a drought is credited with

the loss of up to 30 million lives in China, India, and other parts of Asia (The Earth Institute at Columbia University, 2010).

Wheat is the third most produced food crop in the world. Wheat productivity generally decreases as temperatures rise above 30°C or 86°F; therefore, it's mostly grown in temperate areas of the world. Wheat provides food for both humans and livestock (Boken and Heathcote, 2005).

Grain storage for use during drought periods is intuitive. It is not hard to imagine the impact if the 2010 drought in Russia had occurred in the US. On a level never before recorded in Russia, 40% of the Russian wheat crop was lost due to this rouge drought. Had the same drought hit the US (one of the largest wheat exporters in the world), the impact would be serious and far-reaching. If the same 40% loss impact occurred, the lost wheat supply for the U.S. would be 160 million tons – a loss greater than the entire 100 million ton Russian wheat crop, even in a fully producing year. Moreover, world stocks of grain would have fallen to levels significantly below the low of 2007-2008, with the resulting of a grain price spike likely much higher than shown in figure 1 (Brown, 2011, 12-13).

Rhythmic fluctuations of atmospheric and ocean masses, like the El Niño Southern Oscillation (ENSO) in the Pacific basin area and the North Atlantic Oscillation (NAO) in the northern hemisphere, are chronic hazards. They can have great impacts on agriculture worldwide, such as the heavy rainfall and flooding ENSO causes in some areas and the drought and crop failure in others (Smith, 2004). The influence of ENSO can cause severe, long-lasting droughts (Boken and Heathcote, 2005).

Earthquakes

Earthquakes account for 10% to 15% of disastrous events (Smith, 2004). There are also several secondary earthquake hazards, including landslides, avalanches, tsunamis, and soil liquefaction (when water saturated soil loses its strength, due to strong shaking, and behaves like a fluid). The economic cost of an earthquake can be very high. After the 1993 earthquake in Maharashtra, India, over 50% of agricultural assets, like animals and equipment, were destroyed, making it difficult for survivors to recover (Smith, 2004).

The United Nations Food and Agricultural Organization (FAO) reports, of the Indian Ocean earthquake and tsunami of 26 December 2004, estimate that 30% of Indonesian farmland in the northeast coast and 70% in the west coast were affected, with about 20% permanently damaged (Srinivas and Nakagawa, 2008). The tsunami impacted the countries of Thailand, Sri Lanka, and Maldives in similar ways. Generally, it was found that seawater intrusion of up to 3 km had contaminated inland waters and affected the medium to long-term fertility of the soil (Srinivas and Nakagawa, 2008). The 2011 Japanese tsunami farmland damage is yet to be determined; but graphic video of the event, showing seawater moving miles inland, has shown the destructive power of these events on coastal agriculture assets.

Volcanoes

Throughout history, volcanic eruptions have had powerful and devastating effects on human life. Since 1600 A.D., about 260,000 people have died as a result of volcanic eruptions, including those who died in the resulting famines (Schmincke, 2003). Volcanic

eruptions continue to affect humans today; about 60 of the approximately 550 active volcanoes on Earth erupt every year.

Volcanic eruptions can have global climatic effects. SO_2 (sulfur dioxide), which is expelled into the stratosphere, causes temperature change. Volcanoes are responsible for a significant amount of the sulfur in the atmosphere. However, there are still many questions about how volcanoes influence long- and short-term climate change (Schmincke, 2003).

Though volcanoes cause fewer disasters than earthquakes or severe storms, volcanic explosions can still create many hazards, including threats to agriculture caused by volcanic ash (Schmincke, 2003) (Smith, 2004). Even light ash falls can hold toxic chemicals that contaminate farmland and water. Heavy falls can cover crops. After Mount Pinatubo erupted in 1991, ash covered agricultural land up to 30 km away and affected 500,000 farmers. Volcanic ash can also globally affect weather (Smith, 2004). Volcanic activity causes about 5% of all tsunamis (Smith, 2004).

535 AD Climate Event

In his book, *Catastrophe – A Quest for the Origins of the Modern World*, David Keys (1999) discusses the impact of the most spectacular of catastrophes ever known, the 535 A.D. climate event. The actual cause of the event is controversial, some suggesting a comet or asteroid impact while others think a massive volcano. Keys points to the eruption of a volcano proto-Krakatoa, which occurred at the same place as Krakatoa in 1883 but on a much more massive level with a climate impact lasting over a decade (Keys, 1999). A ten-year diminishing of the sun's light levels, as recorded in tree ring studies around the world, confirm the event. It is not difficult to imagine the depth of impact on world agriculture

should the 535 AD event occur in our day. Keys suggests that an event of that magnitude would likely create massive starvation and take the lives of many millions of earth's inhabitants, likely hundreds of millions (Keys, 1999).

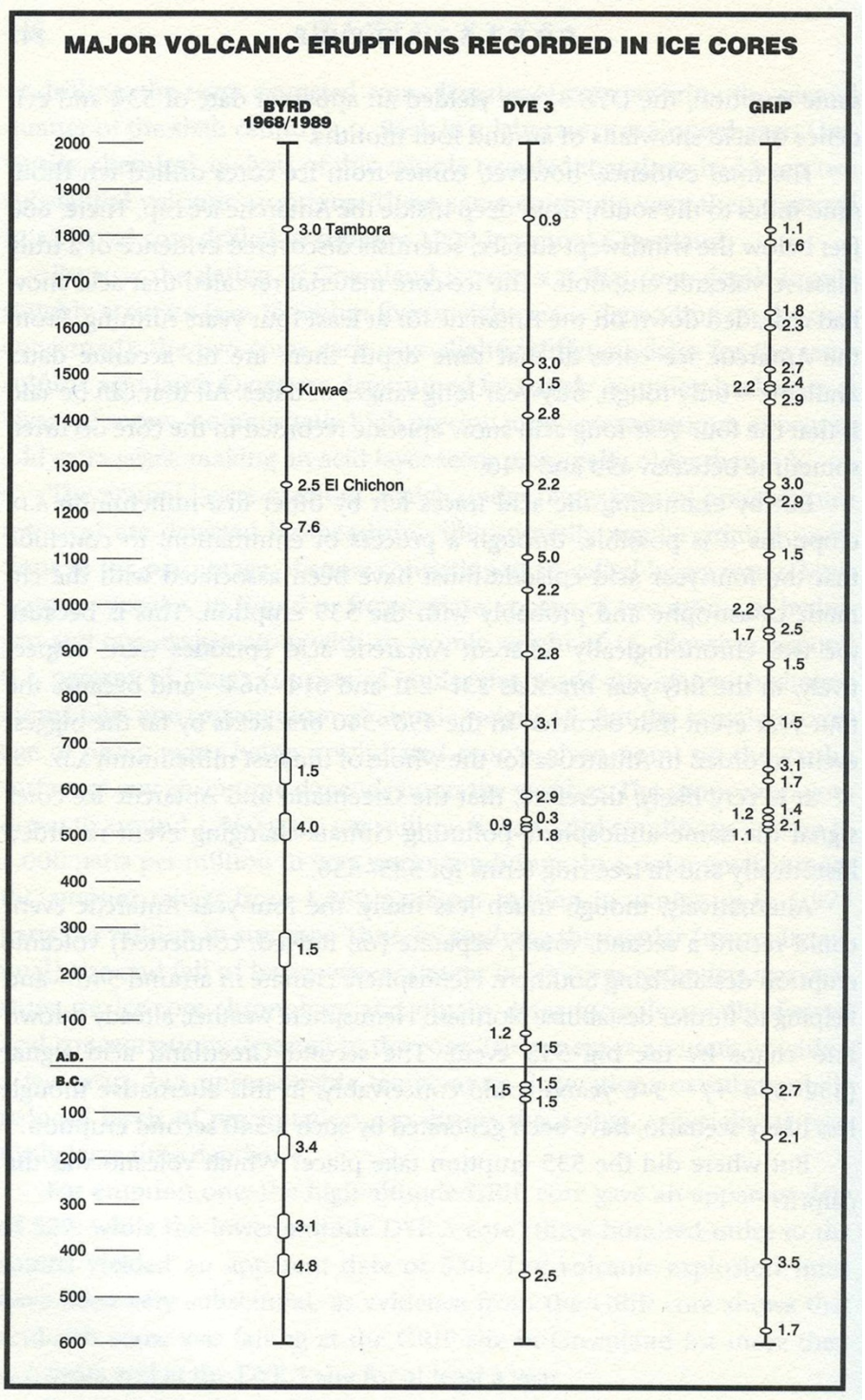

Figure 4. Years of volcanic-originating acid precipitation. Source of data: C. U. Hammer et. al., *Climate Change*, Volume 35, 1997; and H. Clawson et.al., *Journal of Geophysical Research*, volume 102/C12 1997. (Keys, 1999, p. 248)

One important illustration found in Key's book (Figure 4) that relates to our study is found on page 248 and includes the results from three separate ice core studies: two conducted in Greenland (GRIP and DYE 3) and one in Antarctica (Byrd 1968/1989). "Buried . . . below the surface of the Greenland and Antarctic ice caps is a telltale layer of ice contaminated by sulfuric acid of volcanic origin . . ." (Keys, 1999, 245). These studies measured the "volcanic-originating acid precipitation," which accompanies large volcanoes that likely had large impacts on climate and subsequently agriculture. Although confirmation of the actual agricultural impact is uncertain, it is reasonable to conclude that major agriculture impacts likely occurred, at least for many of them. For example, the year 1816 is referred to as "the year without a summer" which was one year after the volcano Tambora erupted. Tambora is one of the last shown events in the Byrd ice core sample (Trigo et al., 2009) (See Figure 4).

The following poem illustrates some of the impacts of Tambora.

> It didn't matter whether your farm was large or small.
> It didn't matter if you had a farm at all.
> Cause everyone was affected when water didn't run.
> The snow and frost continued without the warming sun.
> One day in June it got real hot and leaves began to show.
> But after that it snowed again and wind and cold did blow.
> The cows and horses had no grass, no grain to feed the chicks.
> No hay to put aside that time, just dry and shriveled sticks.
> The sheep were cold and hungry and many starved to death,
> Still waiting for the warming sun to save their labored breath.
> The kids were disappointed, no swimming, such a shame.
> It was in 1816 that summer never came.
> -- Eileen Marguet (Marguet, unknown)

The 1453 South Pacific eruption, known as the Kuwae, is projected to have dimmed the sun's light for as long as three years, as well as stunted tree growth around the world

from Europe to China. During subsequent years, corn tithes (a form of taxation) in Sweden went to zero as the eruption likely affected a global climate change with severe impact on agriculture (Pang, 1993).

Disaster Rate Increase Due to Climate Change

According to the US Climate Change Science Program, "...in about 30 years, CO_2 concentrations are expected to have increased about 60 ppm (from today's 380 ppm to about 440 ppm), and temperatures over the contiguous United States are expected to have increased by an average of about 1.2 degrees Centigrade" (Backlund et al., 2008). These figures are alarming for their implications of a rising sea level; but with respect to agriculture, the dire predictions of rising temperature and increasing atmospheric CO_2 will, to some extent, offset each other, and little change in agricultural production is expected for the next 30 years (Backlund et al., 2008).

The US Climate Change Science Program (2008) goes on to say: "However, the outlook for the next 100 years would not be as optimistic if rise in temperature and CO_2 continue, because the C_3 [plant growth] response to rising CO_2 is reaching a saturating plateau, while the negative temperature effects will become progressively more severe" (Backlund et al., 2008, 70). Long-term climate outlook suggests a need for storage to counteract decreased agricultural yield and thus reduced food availability. Although food storage does not solve the climate change problem, it would provide a short-term temporary supply while other climate change solutions are investigated.

A way in which the current climate change projections do support food storage is in predicting increasing numbers of "extreme events" (Backlund et al., 2008), with "extreme

events" being the types of natural disasters known to negatively affect food security and international food markets, some of which have been mentioned above.

Excess Capacity for Grain Production

Grain Storage requires an excess above ongoing demand. Such an excess may already be on hand, however; and demand for storage, if financially feasible, would use that capacity. There is evidence (Figures 5 and 6) that excess wheat for storage exists today and that the US has the production capacity to increase output by about 10%.

USDA. projections for world and US year-end stocks show a wheat surplus for both the U.S. and the world and that, in the case of world stocks, it may increase by more than 20% over the next eight years (Figure 5) (ERS/USDA, 2010). It therefore appears that wheat storage would be feasible today and in the near future. Moreover, there are approximately 30 - 40 million acres that are idle or 9 - 10% below what is currently planted (Orden and Blandford, 2009, Vesterby, 2001), indicating a production reserve that could be tapped.

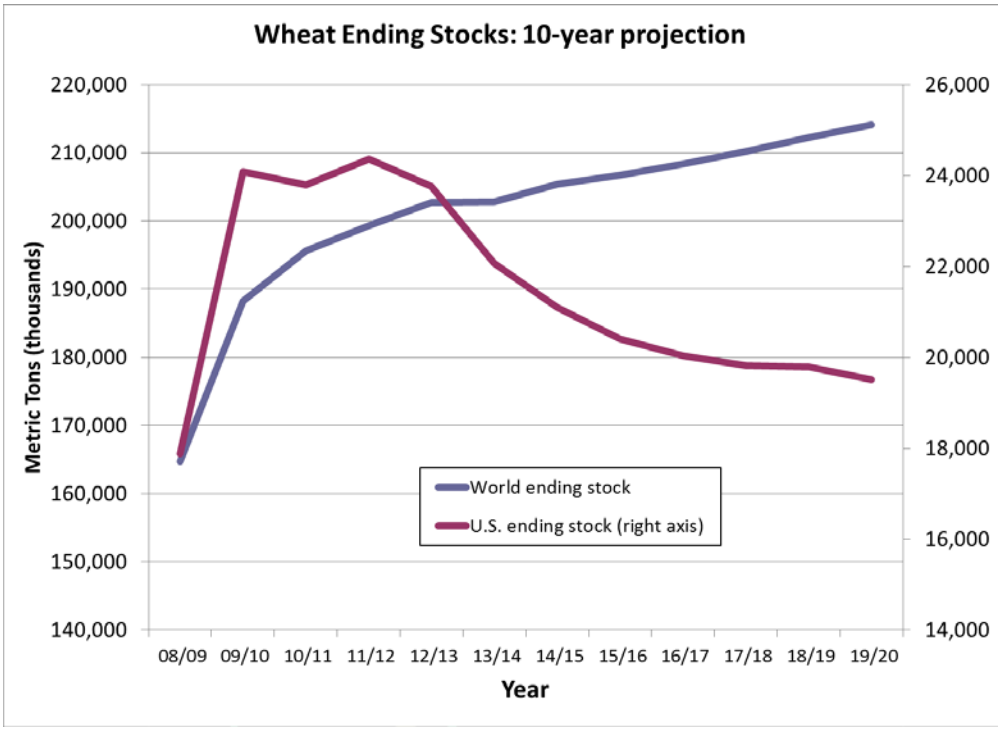

Figure 5. USDA projected global and U.S. wheat surplus for the years 2010 to 2019. Data are from International Agricultural Projections: Supply and Use Tables, 2010-2019, OCE-2010-1, 2010

Limiting Agricultural Production

The US is currently producing grain at less than full capacity. In the past, the role of federal policy was large, beginning with federal restrictions first imposed during the Great Depression. In 1933, at the height of the Depression, Congress passed the Agricultural Adjustment Act (AAA) as part of President Franklin D. Roosevelt's New Deal (Rowlinson, 1999). Designed to raise commodity prices by removing cropland from cultivation, the act produced the desired effect by the next year, 1934. The removal of approximately 45 million acres raised prices and increased farm cash income by $1,700,000,000 over 1932 levels (Rowlinson, 1999). Commodity price support through cropland idling continued in the US until 1996, when the Federal Agriculture Improvement and Reform (FAIR) act (1996)

replaced the practice with other subsidy types. Today such governmental manipulation of agriculture has fallen significantly out of favor, is considered "distortion" of market forces (Anderson, 2009), and is now kept within bounds by World Trade Organization (WTO) (1995) regulations.

Since a substantial grain storage program assumes the existence of adequate grain supply in excess of immediate need, today about one tenth of US cropland (approximately 30 million acres) is idled by the federal Conservation Reserve Program (CRP) (Orden and Blandford, 2009, Vesterby, 2001). The USDA reports that in 2002, of the 442 million acres of cropland in the lower 48 states, 40 million or 9.0% of existing cropland is idle (see Table 2) (Lubowski et al., May 2006, 4). Moreover, the US has had idle cropland in each land use survey since at least 1945, ranging from 4. 5% to 14.7% (see Figure 6 and Table 2).

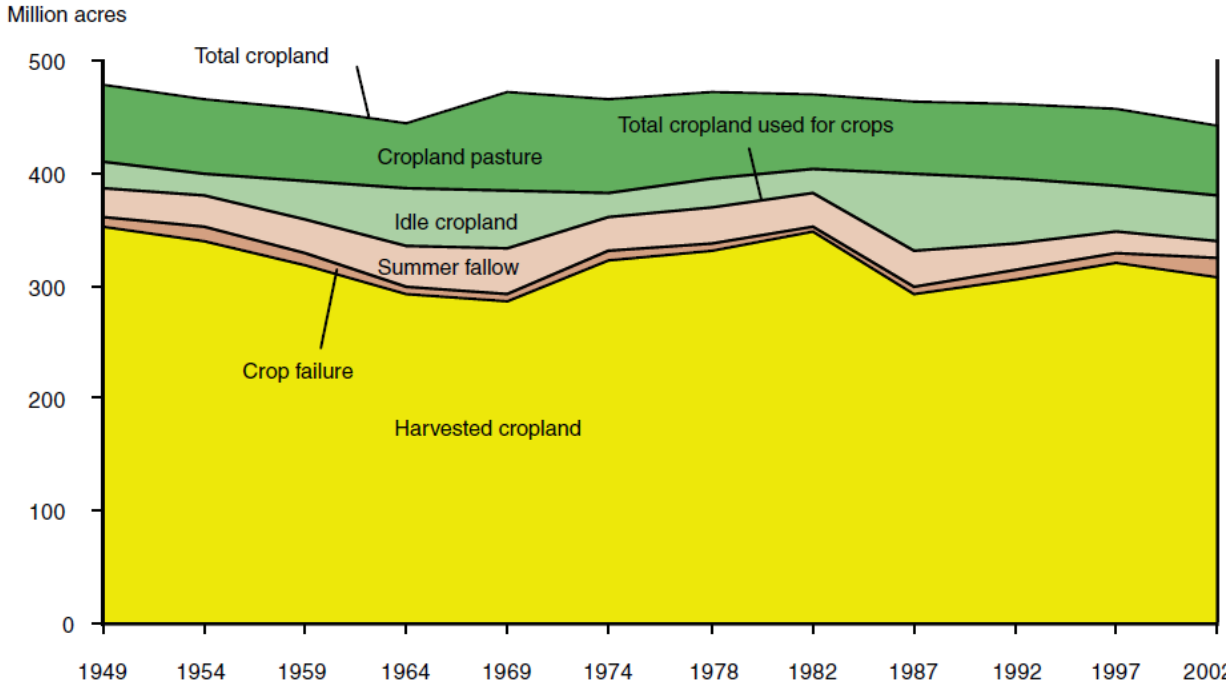

Figure 6. Major Uses of US Cropland.

Sources: Estimates prior to 2002 are from Daugherty, 1991, 1995; Frey, 1973, 1979, 1982; Frey and Hexem; Frey et al., 1968;Wooten et al., 1962; Vesterby and Krupa; Wooten and Anderson, 1957; and Wooten, 1953a.

(Lubowski et al., May 2006, 3).

Land Use	1945	1949	1959	1964	1969	1974	1978	1982	1987	1992	1997	2002
Cropland	451	478	458	444	472	465	471	469	464	460	455	442
Cropland used for crops	363	383	359	335	333	361	369	383	331	338	349	340
Idle cropland	40	26	34	52	51	21	26	21	68	56	39	40
Cropland pasture	47	69	66	57	88	83	76	65	65	67	68	62
Percent Idle:	**8.9**	**5.4**	**7.4**	**11.7**	**10.8**	**4.5**	**5.5**	**4.5**	**14.7**	**12.2**	**8.6**	**9.0**

Table 2. US Idle Cropland
(Lubowski et al., May 2006, 5)

United States Public Policy

Erratic Nature of US Policy

> "The underlying rationale and specific goals of agricultural support policies in the United States have long been subject to political debate. This policy churn is reflected in multi-year farm support legislation, nearly annual decision reconsiderations by Congress, and continuous adjustments to program administration by executive branch agencies. The most recent farm bill was incubated in the legislative process for more than two years and the final act runs to nearly 700 pages" (Orden and Blandford, 2009a).

Historically United States government grain reserves have been motivated primarily by price supports, price stabilization, and foreign aid. Since 1929 when the US government attempted to support prices by buying and storing large quantities of surplus gain, the government has been in the markets trying to accomplish as much good as possible. It is controversial whether or not they have done much good at all. The quote above illustrates just how difficult and inevitable bureaucratic methods become when conflicted by politics. A full history of government efforts to store or intervene is beyond the scope of this paper; however, with motives based on foreign aid and price support rather than on actual

storage, it is hard to believe that there is much hope in an appeal to government to store for emergency use on a consistent basis.

In 1954 grain stockpiles motivated the first US policies for sending grain to other countries as foreign aid (FAO, 2010). But even as the foreign aid policy of distribution persists today, the US has virtually no backup stockpile (Eichengreen and Flandreau, 1997, Boeckh, 2010). Figure 7 shows from 1975 to 2008 how volatile stockpiles are. For use as an emergency source our national stockpiles would limit potential emergencies to a narrow timeframe. (Helleiner and Kirshner, 2009).

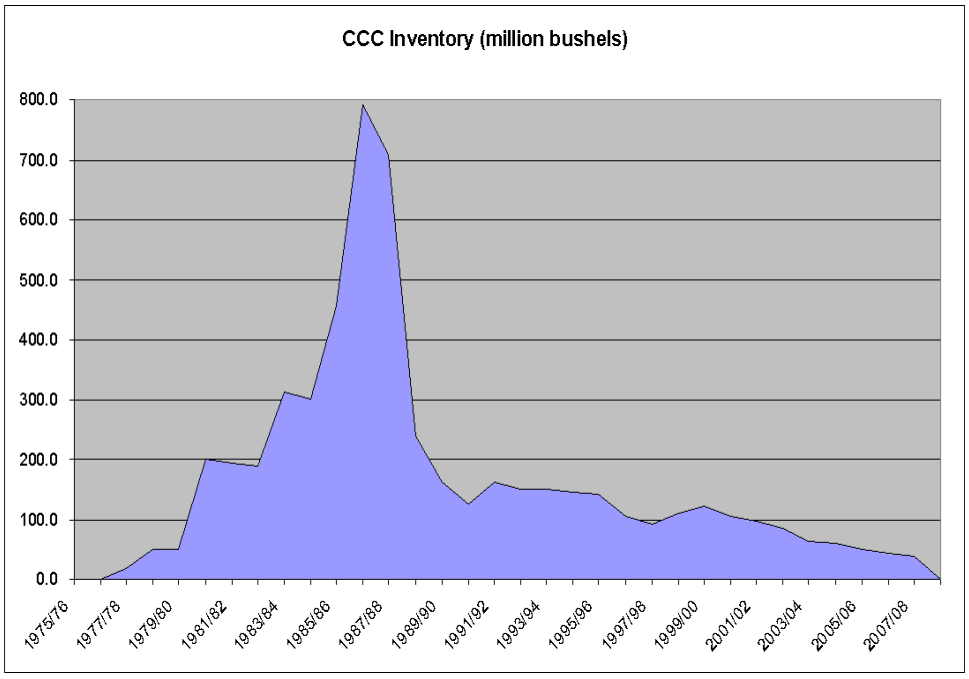

Figure 7. US Grain stockpile 1975 - 2008

Commodity Reserve Currency

The Ever-Normal Granary

Benjamin Graham's (1937, 1944) books are foundational to understanding the concept of linking commodities to currencies. His first book, *Storage and Stability – A Modern Ever-normal Granary,* proposed in 1937 the concept of linking 20 basic commodities to currency (Graham, 1937a). The preface of the work, written by Graham in October 1937, lays out the volume and the purposes of his proposal. These are primarily "to cope with glut and storage [and] is vested with the allied function of reasonably stabilizing prices." Graham considered his proposal, to use a basket of commodities to back currency, was driven at least partially, by the economics of the day. Below is a paragraph from his preface which could be extracted from our own financial crisis of 2008. Graham's view of the problems of 1937 could easily be superimposed on 2012.

> The idea of storage as a solution of economic problems at least has the support of common sense. It is diametrically opposed to the topsy-turvy Alice-in-Wonderland reasoning that has marked so much of our depression thinking and policy. It rejects the argument that prosperity may be promoted by scarcity; that purchasing power may be showered in a gentle rain of greenbacks from heaven; that collapse due to excessive debt may be remedied by incurring new and larger debts; that our foreign trade may be strengthened by deliberately weakening our currency. The Storage concept leads us away from all these absurdities into the region of the tangible, the sound and the well-established (Graham, 1937b).

Readers of Graham's book will sense the parallels of our first Great Depression with those of our current and ongoing Great Recession. We think that times, although not duplicative, are strikingly similar as well as government reactions. As Mark Twain is reputed to have said, "History does not repeat itself, it rhymes" (Volokh, 2005).

Graham believed that the Gold standard was being undermined, that paper currency, "bristles with dangers and difficulties as yet unexplored," and that currency backed by "stored basic commodities" would possess an "intrinsic soundness" that would be better than gold or paper currencies (Graham, 1937b).

Graham also believed that there was a fundamental and solid principle in the commodity basket concept. For example, he believed that "stored plenty, as the concrete source of an ever-rising living standard for all the people of this land," was an additional fundamental part of the plan. He wrote that the concept "is the essential insurance that storage affords against drought and flood and all visitations of nature." Moreover, commodity storage "has incalculable value as an element of our military defense." He also pointed to the storage plan as contributing strongly toward solving international trade and international debt problems (Graham, 1937b).

Alvin Johnson, in the forward to the book written by Graham (1937), describes the commodity reserve. He writes:

> The invention is of such startling simplicity that everyone who examines it must feel that he once had the idea himself. Base the money on the commodities themselves, safely stored away in warehouses. You put in commodities and take out money, or put in money and take out commodities just as formerly you exchanged gold for gold certificates or gold certificates for gold. Gold and paper based on it fluctuated in their value as measured by power to purchase staple commodities. Mr. Graham's standard cannot fluctuate in purchasing power because it consists of the commodities themselves (Johnson, 1937).

Johnson points to the idea that since wheat and similar commodities are in the pool, they "bear a positive relation to human life, while the value of a fixed amount of gold might conceivably dwindle to nothing" (Johnson, 1937). In other words, stored commodities represent what we actually use and consume in living while gold is, for the most part,

simply used as a monetary tool. However, his assertion that the standard "cannot fluctuate in purchasing power" seems overly optimistic in hindsight. Commodities do fluctuate in relation to each other while some commodities may cease to be used and others gain importance.

Further, he cites a feature of the plan that is similar to our own proposal, that Graham's commodity reserve does not require abandonment of the currency in use but a gradual shift, and in many respects a free market shift, to the commodity currency. Johnson feels that Graham's proposal will gradually "drive out the bad money" (Johnson, 1937).

The contribution of *Storage and Stability* to our proposal is important. Graham's long evaluations of the key points, of using commodities to back currency, are directly applicable to our idea. The important difference is that Graham proposed using a basket of commodities, while we propose just a few at first, starting with one such as wheat coupled with the monetary tool itself, gold or silver. Graham's proposal foresaw price stability as a key reason for his proposal. Depression-era price instability was taking a toll on the US agriculture industry. Although price volatility remains today, our priority is on storage for the sake of preparedness and the ever rising risk of shortage. Price stability may be a pleasant side effect, but price stability is not a primary objective in the Wheat-Gold Proposal. Our objective is first to prepare for the unforeseen rising risks of population expansion, disaster, and rising risks of production. We look to the new currency portion of our proposal to create a financial incentive to store. Graham points to that also, but not as a primary reason to link currency to storage.

World Commodities and World Currencies

Graham's second book on the subject was written in 1944. The preface was written by Graham in September 1944, just months before the end of the WWII. The book opens with an important quote by then Under Secretary of the Treasury, Daniel W. Bell, which appears to be one of Graham's justifications for his ongoing commodity reserve proposal. Bell writes:

> To help society achieve more fully the promises of abundance implicit in our capacity to produce; to help maintain output and employment at a level more nearly corresponding to our true productive potential; and to secure this at a price that a peaceful democracy can pay -- that will constitute the greatest task of practical statesmanship in the post-war world (Bell, 1943).

Graham's work then focused on the issue previously proposed but with the added implications of World War II. Graham, in the first paragraph of the preface, stated, "Thus the book is essentially the application to the international sphere of the proposals developed in *Storage and Stability*, published in 1937" (Graham, 1944b). It is then the same proposal but reemphasized and modified to be much more aimed to the international application of the commodity reserve idea.

Graham appears to justify the proposal by now shifting somewhat the priorities of the program. He states in the second paragraph of the Preface that the reserve has importance in major areas of economic policy. "The first, obviously, is the building up of raw-material stockpiles for national safety and well-being." No doubt the influence of WWII clearly showed the importance of emergency stores. He goes on to point out that using stockpiles for peace was his aim. In addition, his aim now shifted to "the establishment of a sound, adequate, and stable world currency." Graham goes on to recommend that

industrial materials be added to his buffer stocks proposal and that all be incorporated into the international monetary system. He believed that ". . . we could thus achieve the fourfold objective of foreign-exchange stability, reasonable price stability, protective stockpiles, and – most important of all – a balanced expansion of the world's output and consumption of useful goods" (Graham, 1944b).

In the conclusion of *World Commodities and World Currencies,* Graham summarizes his previous book. "In Storage and Stability we summarized the terms of our plan in a single sentence: 'It proposes to accord a composite group of basic commodities exactly the same monetary status as was formerly given to gold'" (Graham, 1944a, 121). The commodity unit again is the central theme of Graham's proposal, except the proposal now shifts to an international arena.

International Commodity Stockpiling

"In mid-1945, Stanford University accepted a grant of funds from Benjamin Graham and the Committee for Economic Stability to cover costs to be incurred by the Food Research Institute in 'an over-all evaluation of the Commodity-Reserve Currency proposal' as set forth in Graham's World Commodities and World Currency, published in 1944"(Bennett, 1949, Foreword and Acknowlegements). The above quote is from *International Commodity Stockpiling As An Economic Stabilizer,* a book by Merrill K. Bennett (1949), which describes the objective of the work and its origins.

International Commodity Stockpiling As An Economic Stabilizer is a review of Graham's proposals. In Note E of his book, Bennett also summarizes the high points of

Graham's program in a concise manner that we quote below. This again reprioritizes the program or may reflect the view of the authors as to what they thought was important.

Prior to listing some similar proposals he wrote:

No proposal thus far put forward, however, seems to have incorporated all of the features of Graham's CRP. Those features were: (a) it requires international agreement and action; (b) it embodies the buffer-stock concept – steadying prices by non-private purchases for and sales from commodity stockpiles; (c) it deals with commodity units – predefined basket of commodities – rather than with individual commodities; (d) it contemplates a maximum of automaticity in operation, with relatively little scope for administrative decision; and (e) it incorporates a 'coinage principle,' involving issuance of currency or credit on purchase of stockpile, and retirement of currency or credit on sale of stockpile. To these may be added: (f) its dominant objective, as we interpret it, is reduction of the amplitude of fluctuation of the economic cycles (Bennett, 1949, 178nE).

The Wheat-Gold Proposal Compare and Contrast

The six points made above encapsulate the Commodity Reserve Proposal (CRP) and deserve consideration within a compare-and-contrast framework, next to our Wheat-Gold Proposal (see Table 3.).

	CRP summary as summarized by Bennett(1949, 178 n E)	Wheat-Gold Proposal
a	Requires international agreement and action	Wheat-Gold does not need international agreement. It can expand nationally, then internationally. It may also begin in multiple nations independently and gradually interact internationally. It can, with minor exceptions, operate independently of government.
b	Embodies the buffer-stock concept	Does not consider the buffer-stock concept but substantial stores on hand for emergency use would likely have a buffer stock effect as the full complement of storage is reached.
c	Deals with commodity units – predefined basket of commodities – rather than the individual commodities	Deals with a few individual commodities on a summation basis. It couples a monetary commodity (gold and silver coin) with a commodity store for emergency.
d	Contemplates a maximum of	Administrative decision would likely be broader

	automaticity in operation, with relatively little scope for administrative decision. Automaticity in the Graham proposal applies mostly to the mitigation of the business cycle.	during accumulation period. Automaticity would be applied mostly to commodity rotation and total stores based on population. We think that "automaticity" is synonymous with a set of governing "rules." The CRP was actually then a rules-based currency system. This would be the same in many respects.
e	Incorporates the "coinage principle," involving issuance of currency or credit on purchase of stockpile and retirement of currency or credit on sale of stockpile.	Envisions the issuance of the Wheat-Gold currency, including electronic trading of currency linked to production grains put in storage. This currency is not envisioned as a replacement for currency of the underlying countries but as a form of competitive currency. It could still depend on local currencies to function internationally until adopted internationally, and it could utilize other currencies for settlements.
f	Dominant objective, as we interpret it, is reduction of the amplitude of fluctuation of the economic cycles	The primary objective is to create a method in which storage can be accomplished and held with minimal government support, cost, or intervention except for a "call" feather for the release of stored grains in an emergency.

Table 3. CRP vs. Wheat-Gold Proposal

Other Views of the Graham Plan

The Case Against An International Commodity Reserve Currency (Grubel, 1965) is an excellent paper to draw attention to the obstacles to an international commodity reserve currency and was written in direct response to a variation of the idea, as put forth by Albert G. Hart, Nicholas Kaldor, and Jan Tinbergen. The Hart-Kaldor-Tinbergen proposal was submitted to the United Nations Conference of Trade and Development in January 1964. Gruble (1965) calls attention to the monetary impact of the proposal in relation to world product, cites the concentration of power which would reside in the proposed Commodity International Monetary Fund (CIMF), remodeled along the lines suggested in the Hart-Kaldor-Tinbergen plan, shows the gigantic logistical issues involved, and covers the very

large cost to implement the plan. He further makes a case that fiat money does not include virtually any of the drawbacks and can be controlled in and of itself in a more flexible and compelling way to enhance world trade. He considers a commodity currency a step back in time (Grubel, 1965).

In our opinion, the logistical issues and costs cannot be understated. Anyone reading the Graham books no doubt independently questions these same issues brought up by Grubel. He also puts forth some calculations to support his point about costs. He projects forward to year 2000 and points out the overwhelming stores and costs necessary to make the proposal work. Although the Grubel critique is of a different plan, the author states that the plan is "a variant of the plans proposed by Benjamin Graham and Frank D. Graham during the Second World War" (Grubel, 1965).

One very salient point is made in the last paragraph as Grubel argues, "Relative price changes among commodities will always be necessary for the efficient allocation of resources." We also feel that a system whose aim is to stabilize price might inadvertently misallocate resources as a negative side effect. This argument supports the Wheat-Gold Proposal to the extent that price and maintaining price stability is not the primary issue.

In his paper, *The Case for and Against International Commodity Reserve Currency,* Hart rebuts some but not all of Mr. Grubel's points. Hart is one of the authors of the original Kaldor-Tinbergen-Hart paper proposed to the UN Conference on Trade and Development. Hart acknowledges some criticism but particularly feels that Grubel's cost estimates are high and that the point is overemphasized (Hart, 1966).

The paper, *Commodity-Reserve Currency,* by Milton Friedman (1951) is a comparison and contrast of the gold standard, fiat currency (as defined in a previous paper by Dr. Friedman), and the commodity reserve currency monetary systems. He concludes that the commodity reserve system is not a system likely to succeed and is a compromise between a fiat system and a gold standard system which he calls the "extremes."

Friedman points out that the system may run the risk of being torn between two masters as he writes:

> More generally, proponents of commodity-reserve currency are somewhat disingenuous when they claim the availability of commodity stocks to meet special needs as an advantage of the plan. Either the plan is an essential part of the monetary system designed to be stable and to operate under definite rules, in which case the commodity-reserve stocks must be determined by monetary considerations alone, or it is purely an excuse for an *ad hoc* government intervention. One cannot serve two masters at the same time (Friedman, 1951).

Although the Wheat-Gold Proposal allows the government a "call" on the commodities in emergency situations, it would not likely disrupt the currency system already in use since it is not aimed to replace it, but compete against it. Moreover, when storage is called away, it would likely happen at the time when monetary additions to the economy would be advantageous.

Friedman also points out the risk that "For over the long run, agriculture, like the other industries involved, would expand to a larger size than in the absence of the monetary demand" (Friedman, 1951). The Wheat-Gold Proposal also works in a similar way, except that when the stocks reach their full complement, then the agricultural growth to accumulate stocks slows to population growth levels as accumulated stocks reach maximum complement. This risk is also valid for the Wheat-Gold Proposal, and ways to

mitigate that risk would need to be invented such as long lead times in public disclosures of accumulations.

Although Friedman seems sympathetic to the Graham proposal, he does point out some weaknesses. Friedman felt that it was effectively too grandiose to be successful even if it did contain many useful and valuable features. His concluding remarks probably best summarize his feelings:

> In seeking to gain the countercyclical advantages of a fiat standard while retaining the physical base of the gold standard, commodity-reserve currency seems to me to fall between two stools and, like so many compromises, to be worse than either extreme. It cannot match the nonrational, emotional appeal of the gold standard, on the one hand, or the technical efficiency of the fiat currency, on the other (Friedman, 1951).

The paper, *A Commodity Reserve Currency* by F.A. Hayek (1943), is strongly applicable to this thesis and is the closest thus far to the ideas we put forth. Within this short piece the ideas of a commodity currency are promoted and references to two important books on the subject are listed. Hayek cites Benjamin Graham and Frank Graham and promotes their work of describing a currency tied to a basket of raw commodities. He briefly explains how this would be done and addresses a few of the basic concerns of the idea. His conclusion is that a commodity currency is feasible and carries more benefits than detriments to sound monetary policy. He likens the commodity currency to the virtues of the gold standard which he says are "an international currency without submitting . . .to the decisions of an international authority; made monetary policy in a great measure automatic . . .; and the changes in the supply of basic money . . . were on the whole in the right direction" (Hayek, 1943). He contrasts these virtues with some of the faults of the gold standard, such as the fact that gold has almost no real purpose other than

to act as money. Further supply issues, such as when a new country adopts the gold standard, cause embarrassments rather than benefits. He also cites the fact that in times of difficulty individuals want to hold gold which can increase demand dramatically. The rise and fall in demand for gold itself impacts prices.

Hayek (1943) cites the countercyclical attribute of the CRC as one of its most impressive features: "It is, in fact, one of the great merits of the scheme that it provides an automatic check to any expansion before it can become dangerous." The countercyclical attribute of the CRC would only be a minor and possibly a non-existent part of the Wheat-Gold Proposal.

His enthusiasm for the CRC is reflected in the last sentence of the paper: "If this can be combined with the reconstruction of an international monetary system, which would once more secure to the world stable international currency relations and a greater freedom in the movement of raw commodities, a great step would have been taken in the direction to a more prosperous and stable world economy" (Hayek, 1943).

The Wheat-Gold Proposal vs. the Graham CRC

The underlying fundamental motives for the Graham CRC are different than the Wheat-Gold Proposal. The Graham plan puts the stored commodities as service to the monetary system and the business cycle. The Wheat-Gold Proposal reverses the priority. The monetary benefits of the Wheat-Gold proposal are secondary to the emergency store. Friedman criticized the Graham proposal on this issue. He said, "Either the plan is an essential part of the monetary system . . . or it is purely an excuse for *ad hoc* government intervention. One cannot serve two masters at the same time" (Friedman, 1951, 217n15).

Since the Wheat-Gold Proposal is primarily driven by the need for storage to protect life in food emergencies, a "call" of the food in storage is granted to the government. This call feature serves two purposes. First, the call feature enables government to fulfill its mandate to protect its citizens and would allow government to call food from storage in exchange for precious metals currency or national currency with a premium. The call feature would only be exercisable under specific circumstances, such as a declared food emergency and not a monetary crisis or other emergency that did not create a loss of food availability.

Secondly, the call feature would naturally allow the government authority to have an audit privilege, the results of which would be published publicly and include a reconciliation of the actual food in storage, with the issued currency in circulation, thereby assuring that the Wheat-Gold in circulation is 100% backed by the food in storage. In fact, it would be useful if the government were actually *required* to audit the UGB. This audit would also serve to give the public confidence that the Wheat-Gold is fully backed and that underlying electronic transactions can be made with confidence. Thus, the audit would bring confidence in both the Wheat-Gold and the government's ability to assist its citizens in a time of food emergency. The Wheat-Gold then would serve an additional purpose to assist the government in a primary governmental function, which is to protect its citizens. However, the call feature would not give government authority to run the UGB, only to assure that the Wheat-Gold backing was in place.

The Graham CRC is driven by the objective of subduing the business cycle. This is primarily accomplished through:

(a) the purchase of commodities (increase of the money supply through the creation of warehouse receipts) when the economy cycles down and lowers the underlying prices of commodities, or

(b) the selling of commodities (lowering of the money supply by retiring warehouse receipts) when the economy cycles up through the selling of commodities.

This then acts to increase money and revive the economic activity or to decrease money and restrain economic activity at counter cyclical times. Although the motive is good, we feel that the motive is insufficient to overcome the barriers to the CRC. By comparison, the Wheat-Gold proposal would increase the money supply during the accumulation period. There would be no decrease even if stores were called for emergency purposes since the government would replace the Wheat-Gold with an equal and higher premium. Then, after that, accumulation would again begin further increasing money supply. In addition, the Graham plan puts the government once again in control. Currency debasement is likely to follow again just as during the days of the gold standard when governments issued more currency than was actually backed by the underlying gold.

In that case The Graham CRC and subsequent models use a basket of commodities to form an index. This index then forms the basis for the operations of the CRC. Over time, commodities will form either greater or lesser influence in the general economy as technologies change and industry use of one commodity grows or shrinks. When the CRC purchases commodities, the CRC must store the commodities in quantities matching the index and likely modify the index to suitably reflect the current stores. All of this is complex. The Wheat-Gold Proposal, on the other hand, begins with just a few

commodities, grains plus precious metals. It requires no index computation or issuance of certificates based on an index. It is simpler to begin with but can still be expanded if demand requires.

Graham's CRC ultimately ties all currency, both national and international, to the CRC. The Wheat-Gold Proposal does not. This then ultimately puts the Graham CRC in the same hands as the current fiat currencies. The Wheat-Gold Proposal can rely on national in-place currencies for international settlements. The Wheat-Gold Proposal places the currency in the hands of a private organization, the UGB, and limits government to public audits. Moreover, as the Wheat-Gold Proposal expands to other nations, international settlements may then avoid the use of existing national currencies and settle directly between nations using the UGB or similar organizations.

The Graham CRC is overwhelming in its scale and would put into storage vast amounts of commodities. Friedman said, ". . it is hard to believe that any nation would deliberately decide to devote so large an amount of its resources to the accumulation of stocks of useful commodities with the definite expectation that they would never be used" (Friedman, 1951, 224). The Wheat-Gold Proposal can be started small on a State basis such as the single state of Utah. It can be expanded to multiple states, the United States as a whole or just focus on a few states. Further, it would accommodate a single country or multiple countries such as the US and the UK.

Combining Two Commodities

We have not seen a proposal other than the Wheat-Gold Proposal that combines by summation two commodities – one with intrinsic value and one with a claim on a

commodity in storage. The Wheat-Gold currency, since it is based on rules, creates limits around issuance while a simple precious metals currency lies open to unlimited production. It is possible that were the precious metals currency to become dominant over FRNs, the Wheat-Gold currency might become a competitive check to precious metals just as the precious metals are anticipated as becoming a check to over issuance of FRNs.

When Grain is "Called" From Storage

What happens when grain is drawn from the store in an emergency? For example, suppose the United States through the Utah State government needed to help an important ally. Perhaps a global drought had reduced production and an important ally was facing severe food shortages. The state would then exercise its call option, the UBG would release the grain, and the Wheat-Gold holders would be compensated at the current market value which would likely be higher than usual, due to a shortage of the grain called, plus an additional premium. There would be no drawdown of money in circulation. In fact, the premium would add to money in circulation. As soon as possible, thereafter, the USB would begin a new accumulation cycle, thereby adding additional Wheat-Gold currency to the money supply.

It might be reasonably expected that calls from storage would likely happen during global or regional economic or food crisis since the call would come at a time of emergency. The increase in money stock generally stimulates economic activity. This would likely happen at a time when that increased economic activity may be offsetting reduced activity and would act to benefit the economic cycle. Moreover, the re-accumulation of grain

would do the same, both stimulating grain production and adding Wheat-Gold currency into the system.

THE UTAH LEGAL TENDER ACT OF 2011

The most pivotal event opening the door for the Wheat-Gold Proposal began in late 2010 as legislation introduced to the Utah Legislature, known at the time as House Bill 317 and named, "The Utah Legal Tender Act." It was passed by both the House and the Senate in early 2011 and was signed into law by Utah Governor Gary Herbert in March 2011. We suspended research on this paper to engage this event which appeared, at the time, to be something that would open the door to the actual implementation of the Wheat-Gold Proposal.

The Act makes the use of precious metal coins issued by the United States government, legal tender in the State of Utah. Although these coins are already legal tender, the Act allows the coins to be valued and used as money at their precious metals content value. For example, a 1 ounce silver coin issued by the US government has a stated value of "One Dollar" stamped on the coin. However, the precious metals in the coin are valued in Federal Reserve Notes (FRNs) at over $30 today. The Act then allows that the One Dollar silver coin be used as currency at a value around FRN$30. Further, the Act disallows capital gain taxation of the varying values of the coin since it is a currency.

Moreover, the Act recognizes that the State of Utah has the right to make gold and silver coins legal tender under the Constitution of the United State of America. Article 1 Section 10 of the US Constitution reads (in part), "No State shall enter into any Treaty, Alliance, or Confederation; grant letters of Marque and Reprisal; coin Money; emit Bills of Credit; make any Thing but gold and silver Coin a Tender in Payment of Debts; pass any Bill

of Attainder, ex post facto Law, or Law impairing the Obligation of Contracts, . . ." Note that States cannot actually coin money, but can make gold and silver coin legal tender. (See Appendix B for this author's article in *Forbes* online regarding the Act.)

Utah has actually passed state legislation to do so. It is recognized that Utah is the first state in taking this action. News reports suggest that additional states are watching Utah on this issue and intend to follow suit (Loftin, 2011). It appears that growing dissatisfaction with FED actions have created an increased risk of inflation in the US, with resulting national interest in precious metals based monetary systems (Danker, 2011). At least one US presidential candidate, Ron Paul, is even including discussions of a return to the "gold standard" as a campaign issue (Paul, 2012).

The legislation was introduced to the Utah Legislature by Representative Brad Galvez and was initially written by attorney Larry Hilton, a constituent of Rep. Galvez. As of this writing additional amendments to the law are being considered to implement the Act into economic practice in the State of Utah. These amendments will help define standards of precious metals coins, resolve taxation issues, address vaulting and deposit issues, and address other issues associated with the actual use and practice surrounding the practical use of this alternative currency in the State of Utah.

Why the Utah Legal Tender Act Is Important to the Wheat-Gold Proposal

Without a means to make grain a tradable currency we must then find some other financially feasible method to promote production for storage. If trying to make grain a currency fails, we are left with using some sort of tradable warehouse receipt to create the

financial incentive to store. Tradable warehouse receipts may work but by making grain in storage a backing linked to an actual currency makes the proposal much more viable.

The Utah Legal Tender Act eliminates state capital gain taxation on any precious metal coin including a premium value coin, such as one holding a numismatic value which, in effect, adds a premium to the value of the coin above and beyond the precious metal value. The premium value then is a summation of the precious metal value plus the rarity value of the coin. For example, a silver one-half dollar coin minted in Philadelphia in 1955 has a silver content of approximately FRN$15. However, it will normally sell between $20 and $40 depending on its condition (e-Bay, 2012). The difference is the rarity of the coin. But the important point is that the Utah law ignores this added premium value attributed to the coin's rarity and allows it to act as currency at its increased value. We then rely on this same treatment for the added value of the claim on grain.

Warehouse receipts would not allow for capital gain tax relief as is afforded a currency. It is not likely that warehouse receipts would ever attain the marketability of a currency. In addition, any state is much less likely to create special accommodations for taxation issues for warehouse receipts as it will for a currency, which would further limit the possibility of use by merchants.

Utah Monetary Summit

The 2012 proposed amendments to the Utah law were preceded by an international summit held in Salt Lake City called the Utah Monetary Summit. The summit was organized by Larry Hilton. Garrett Capital, Inc. was one of the major sponsors of the Summit held at the University of Utah on September 26, 2011. Approximately 100-150 attendees from the

United States and other countries attended. Attendees included academics, legislators for Utah and other states, precious metals commercial interests, local Utah government officials, and others.

The intent of the summit was to bring together many interests to prepare for the 2012 amendments that will further enhance the Act. Most attendees signed the Utah Monetary Declaration supporting principles of sound money including the use of precious metals coins and statements of sound money principles (Hilton, 2011b). This Utah Monetary Declaration was approved in committee and sent to Utah House on February 13, 2012. (See appendix D)

The Redistributive Effects of Monetary Policy

One of the outcomes of the Utah Monetary Summit was the subsequent presentation of an academic paper at Utah State University by Dr. Olivier Ledoit of the University of Zurich, Department of Economics to the Utah State University economics faculty. Dr. Ledoit's paper explores what is known as the "Cantillon effect," named for an 18th century Irish businessman who succeeded in speculating in fiat money. Cantillon wrote a treatise entitled, *Essay on the Nature of Trade in General*, and was cited by economist Adam Smith in *Wealth of Nations*. Although the Cantillon effect was a well-known and accepted concept in the 18th and 19th centuries, his idea is largely unknown today.

The Cantillon effect simply stated is that, "when money is artificially created, the first persons to lay their hand on it can spend it to increase their consumption before prices have risen, but it is the exact opposite for the last persons to lay their hand on the newly

created money, so they must decrease their consumption accordingly" (Ledoit, 2011 (Non-technical Summary, page 1)).

Dr. Ledoit uses an acronym called "EDF" for "economic distance from the FED" and discusses the impacts, based on a person's distance, economically, from the Federal Reserve. The paper shows empirically that a person categorized as EDF-1 (close to the FED) such as Goldman Sacs that transacts business for the FED, will receive the benefits of money creation immediately, while main street business categorized as EDF-5 will not. The point being that the further one is from the economic manipulations of the Federal Reserve the less one benefits, or does not benefit at all, and in fact is hurt by the actions of the FED to increase money supply.

The paper has compelling implications for Wheat-Gold currency. While the financial centers of the United States are EDF-1, the agriculture producers and miners are generally much economically farther away, say EDF-5. The Wheat-Gold currency would have the opposite impact. Wheat-Gold would transfer the initial economic benefits to the grain producer and the miner at what might be called the opposite end of the economic food chain. The farmer and miner now become effectively EDF-1 and the FED becomes EDF-5. (Perhaps we could restate the acronym as "Economic Distance from the Farm.") Instead of "Wall Street" benefiting from the introduction of new money, "Main Street" benefits.

Establishment of the Utah Precious Metals Association

Subsequent to the Utah Monetary Summit, certain commercial interests and summit leadership including myself, helped establish the Utah Precious Metals Association (UPMA). Organizational committees were formed and one committee, the UPMA Standards

committee, met on January 13, 2012, to establish basic standards of weight, size, composition, and thickness of coins (Association, 2012).

The concept of a "Quintessimal Specie Standard" standard (Appendix A – Patent Pending) was proposed and accepted by the committee, including basic standards of the system. This is the system that will be proposed in legislation before the Utah legislature in 2012 and represents a step-by-step process in bringing the new Utah precious metals currency into fruition. Wheat-Gold could simply be a premium variation of this standard and would be introduced at a later time after the standard is established into law.

IMPLEMENTING GRAIN STORAGE THROUGH WHEAT-GOLD CURRENCY

We acknowledge that many of the issues relating to this proposal originate with this author and stem from our personal point of view and opinion. Yet, we point out that we are not alone in our forward looking assumptions regarding world food supply. It is sound logic to project the potential positive impacts of storage. Moreover, is it a matter of historical record that the United States and other developed nations have little in the way of the storage that logic tells us we need. There remains then the issue of how to acquire food storage for emergency use.

Is Wheat-Gold Revolutionary, Evolutionary, or Devolutionary?

Since 1985 the term “Back to the Future” was popularized by a movie of the same name (Zemeckis, 1985). The phrase generally implies that we can create something better for the future from something in the past. The Wheat-Gold Proposal seems to fit.

The use of paper bills as a substitute for precious metals may have had its origins as long ago as 1631 known as “Inland Bills” in England which relieved merchants of the burdensome necessity of continually transporting large quantities of gold and silver to pay for transactions (Rowlinson, 1999, P. 56). Over time this paper technology morphed into paper money backed by gold and silver, became popular, and serves a monetary purpose even today. Paper money served as a substitute for the specie and enabled users to engage in business and consumer transactions much more easily. Over time the paper technology replaced even the underlying gold and silver and became money itself. But now a new technology, electronic book entry, is replacing paper money. Electronic book entry is the

medium of choice for more transactions today than paper bills. Paper replaced specie, electronic transactions are replacing paper. If we continue on the present course we may replace paper money altogether with electronic money.

Yet abuse of the paper technology is driving many in Utah and other states to hearken back to using the specie once again, either directly as gold or silver coin, or coupled with the newest technology, electronic transactions, thereby skipping over paper altogether. Proponents today wish to vault specie and apply the electronic technologies of today in combination with the perceived stability of the past, gold and silver, all for the future.

The Wheat-Gold Proposal takes the concept one step further. Although the step itself is minor, that of coupling precious metals with grain; it can be likened to stepping off the lunar module, *Eagle* onto the moon when Astronaut Neil Armstrong said, "One small step for man, one giant leap for mankind." Wheat-Gold is similar. It has the appearance of being a revolutionary idea yet it is a rather small step. If this new technology can be accepted, it could provide for the storage of life saving food supplies for millions of people. Thus one might consider the Wheat-Gold Proposal a bit of revolutionary, evolutionary, and devolutionary, all in one package.

Impediments to the Wheat-Gold Proposal

Four impediments are identified that could stop or postpone the implementation of the Wheat-Gold Proposal. They are public acceptance of Wheat-Gold as a currency, government acceptance of the need for food storage, taxation issues, and the additional complexity of adding at least one more currency to the system.

Public Acceptance of Wheat-Gold as Legal Tender

We consider this to be the primary and overwhelming challenge to the Wheat-Gold Proposal. It is unknown how likely it is that lawmakers or the public will become seriously interested in emergency grain storage without the motivation of a serious food crisis. However, if the public accepts Wheat-Gold as a currency without a motivating food crisis, then the acceptance of the underlying storage is secondary or moot. The acceptance of the Wheat-Gold commodity currency concept by the public is crucial. Without public acceptance and willingness to use the Wheat-Gold currency we do not feel the proposal will get off the ground.

There are some historical suggestions that would lead to a likelihood of acceptance. For example the $1 certificate shown, (Figure 8) dated 1957 and in my possession, was redeemable for $1's worth of silver bullion held by the US Treasury (Figure 9). The practice of actually redeeming the certificate for the underlying commodity was discontinued in 1964 (U.S. Department of the Treasury, 2011). A commodity currency (in this case the commodity was silver bullion) was more than a proposal. It was an actual practice in the US and other countries for many years.

Figure 8. US. Silver Certificate

Figure 9. US Silver Certificate (enlarged)

In addition, the Wheat-Gold combination must be acceptable to both the commercial mining and minting community and the grain producer. Both must be willing to work together to combine their commodities prior to issuance of the new currency. However, without regard to economies of scale the costs of minting the currency should generally be no more than an ordinary gold or silver coin. In a personal visit to Mr. James Little of Regency Mint in Salt Lake City, it was clear that the actual minting of Wheat-Gold coin would be welcome. Virtually all precious metals mints have the capacity and

willingness to create custom products including a premium Wheat-Gold coin or a multiple round coin similar to the UK two pound coin as shown below in figure 10.

The Utah Legal Tender Act has gained national attention. As the Act is implemented in Utah and as additional States enact the same or similar laws, public awareness and acceptance is expected to grow. The UPMA has announced that it will actively promote the use of precious metals coins to businesses in Utah and in United States. Another clue to possible acceptance is the recent introduction of gold and silver coins in Malaysia.

Zeno Dahinden of Basel Consulting Group, Basel, Switzerland, is a consultant to the province of Keletan, Malaysia, and attended the Utah Monetary Summit and is a member of the Utah Precious Metals Association. In comments to the Association in January 2010, he stated that approximately 5,000 businesses now accept gold and silver coin in Keletan Province, Malaysia, since the coins were introduced in 2010. He stated that the success was gradual as businesses posted signs or symbols in store shops indicating willingness to accept gold and silver coin. Electronic transaction use of the coins is scheduled to begin in Keletan in 2013.

Governments Acceptance of the Need for Food Storage

Without government acceptance of the need for food storage, the legal issues in creating a tax-advantaged investment framework for the construction of suitable storage facilities would likely fail. This is an important part of the Wheat-Gold plan. Without the tax advantage the cost for storage may become prohibitive to the proposal. Generally current grain storage facilities are constructed for high levels of throughput rather than long-term storage. The ongoing throughput requires more expensive configurations to maximize

utility for fast input, output and mixing of grains. Facilities designed for long-term storage will be significantly less expensive.

Although the lack of willingness by government to audit the Wheat-Gold stores may not be fatal to the proposal, the audit adds significant credibility to the currency and its ongoing use. For example, our current Federal Reserve Bank's unwillingness to submit to outside audits is one of the causes of ongoing criticism. The lack of accountability by the FED is contributing to its failing credibility. Proponents of the Utah Legal Tender act point to the lack of an audit as at least one reason to be distrustful of FRNs. An agreement with government for a regular audit is important.

Taxation

The passage of the Utah Legal Tender Act in 2011, and ongoing amendments to the Act are the crucial first steps in the future acceptance of Wheat-Gold. The Act establishes a precedent for precious metals coins to trade as currency apart and independent from Federal Reserve Notes (FRNs). One of the key parts of the Act is the state's acknowledgement that sales taxation be based on the underlying currency used, rather than FRNs and that there be no state capital gains tax on the gold and silver coins. The removal of the capital gains tax opens the door for the gold and silver coins to be considered a currency on the same level as FRNs. The Wheat-Gold coin should follow and be based on the same principal. However, for full success gold and silver coins including Wheat-Gold currency must receive the same treatment on a national level. Currently three Senators are sponsoring a bill which provides the same tax treatment on a national level (Editorial, 2011). This Act known as the Sound Money Promotion Act would duplicate the

tax treatment on gold and silver coins that Utah now has in effect (DeMint, 2011). If this bill were to fail it would create a problem for the gold and silver coins as currency since users would still owe capital gains tax on a national level.

Wheat-Gold is an Additional Currency

Because the value of Wheat-Gold is the sum of two separate commodities, wheat and gold, the net effect is the creation of at least one additional currency on top of gold and silver coin currencies. This adds an additional level of complexity to the currency issue. Gold and silver coins by themselves are effectually two additional currencies on top of FRNs. It is anticipated that it will take time for consumers and businesses to incorporate these additional currencies into their thinking and transaction processing. For example, it has taken about two years for acceptance of gold and silver coins to be widely accepted in Keletan Province, Malaysia and electronic transaction are still pending.

Further, electronic transaction processing capabilities in multiple currencies would need to be expanded to accommodate the vaulted Wheat-Gold coins. This presents another level of programming in multi-currency transaction development. However, our own early queries to potential electronic transaction vendors indicate that adding additional currencies to transaction processing, which is already aimed at accommodating multiple currencies, is actually part of their upcoming offerings (Welch, 2012). Developers seem to be forward looking and basically positioning themselves to handle any number of currencies.

Additional Research Needed

Consumer Survey

The most beneficial research will be to determine public acceptance for the Wheat-Gold currency. We suggest careful public surveys in states that would seem to be most likely to embrace the proposal such as Utah and states with high grain output. Utah, with its cultural background of personal food storage may be the most likely to embrace Wheat-Gold, however grain producing states such as Kansas may also embrace the concept.

Utah has a high population of members of The Church of Jesus Christ of Latter-day Saints (LDS). The LDS Church has for years encouraged all members to store at least one year's supply of food against emergencies. This encouragement is combined with Church resources to create infrastructure to assist members in accumulating person storage. For example, home canning facilities are strategically located in various parts of the state (and nation) based on member population. These facilities allow members to purchase and insert various commodities into storage containers for personal storage.

States such as Kansas might look to the economic stimulus brought on by higher levels of grain production during the accumulation years as a reason to embrace the Wheat-Gold Proposal. These states would in theory benefit most from the introduction of new currencies by being effectually EDF-1 (See The Redistributive Effects of Monetary Policy.)

Facilities Research

Determining the best and least cost method to hold grains is important to the success of the Grain Bank. Research into detailed costs, configurations, and placement of storage facilities is important.

For example, we twice interviewed Mr. Jim Williams, Grain Storage Manager of Deseret Mills. Mr. Williams is responsible for 30 large grain storage units (silos) spread over the United States which hold very long-term grain storage for the LDS Church. He stated that his "rule of thumb" for storage is the placement of facilities north of 40 degrees latitude due to the temperature effects on pest control. Further placement studies would be necessary to evaluate emergency distribution of stores in distances from population centers, possible disruption of transportation lines, etc. in times of emergency.

The interaction of the UGB and tax-advantaged investors will need to be carefully projected. Accumulation periods will need to be determined. Rotation schedules will need to be planned. Technologies to manage electronic transactions, vaulting of coins, redemption of grain, allocation of calls, and other operational questions will need to be part of the initial organization of the grain bank. These issues and many more should be part of the early preparation of the Utah Grain Bank and further studies should be a part of the early organization.

Getting the Utah Grain Bank into Business

The establishment of the Utah Grain Bank (UGB), as a non-profit authoritative organization to manage storage of grain and the associated issuance of Wheat-Gold currency is an important first step. The UGB should be a member of the UPMA and adhere

to UPMA standards. The UGB would act as intermediary in addressing any and all issues regarding the currency with state authorities. The UGB would create procedures to meet required calls for emergency distribution and also create procedures for redemption of Wheat-Gold currency if voluntary redemptions do not meet emergency demand. The UGB would receive ongoing funding through transaction fees charged by electronic exchange vendors. For example, a charge of 2% or more, based on the transaction amount is commonly paid by merchants for the convenience of credit card transactions. A similar fee would be charged and paid to the UGB when electronic transactions are done in Wheat-Gold.

The establishment and acceptance of a Wheat-Gold standard by the UPMA is an additional important step for Wheat-Gold. The objective of the Utah Precious Metals Association is to become the key organization to establish coin standards not only in Utah but other states as well. For example, the Utah Precious Metals Association requires that precious metals coins contain at least three anti-counterfeiting measures in each coin (Association, 2012). These and other key standards meeting the UPMA's criteria will be incorporated into the premium Wheat-Gold coin proposal by the UGB.

Proper government involvement and relationship with UGB is key for the permanent success of the Wheat-Gold currency just as in any currency including FRNs. It will be important for the UGB to gain assurance from federal and state officials that:

1. The UGB is the authorized organization to issue and manage the Wheat-Gold currency;
2. Wheat-Gold currency has the same legal status as non-Wheat-Gold currency;

3. Tax shelter investments for storage facilities be taxed in a manner promoting the building of the storage facilities and meeting UGB storage standards; and
4. State officials audit UGB operations.

UGB agreements with precious metals producers for the mining, minting and delivery of Wheat-Gold coins, as well as the redemption of the coins, will be required. The precious metals miners must also be willing to accept the Wheat-Gold currency.

Securities and investment firms will need to underwrite tax-advantaged investments in order to build or acquire initial storage facilities managed by the UGB. These facilities must be tailored for long-term storage to minimize storage costs and effect emergency distribution and long-term rotation when needed, all managed by the UGB.

The UGB will contract with electronic exchange vendors. These vendors are now forming and expanding to meet demand for precious metals coins. These vendors offer and will offer vaulting or deposit services and in turn electronic transactions. Ultimately, gold and silver coin owners will be able to spend their holdings via a credit card-like transaction. For example, a merchant might price his wares in FRNs (dollars), Pounds, Gold, Silver, or Wheat-Gold. A buyer could pick the currency to pay in and swipe his card. If his account was insufficient in the chosen currency he could pick another or convert on the spot.

Establishing the Utah Grain Bank itself will be easy enough. Staffing it with creative and energetic people to meet the challenge of brining grain storage to Utah will be another.

SUMMARY AND CONCLUSIONS

Any natural disaster that results in agricultural loss to the point of starvation suggests the consideration of increasing storage. The 535 climate event, Tambora, and ice core studies imply that major world volcanic disaster impacts are likely to repeat. That coupled with drought, earthquake, climate change, war, etc., raise the question of why developed countries are not agriculturally prepared with adequate grain storage.

World population continues to grow. Malthusian predictions of populations outstripping agricultural production have yet to come to pass, due to technological innovation which leads to major agricultural advancements such as the 1960s Green Revolution. We believe that the free market process and demand for food will continue to spur future innovation and additional agricultural achievements will likely feed the world. However, in the meantime just as in India, prior to the Green Revolution, starvation and shortage of food may take the lives of many people (Bourne, 2009). If the modern world does not innovate quickly, it could face a point of no return wherein storage may not be achievable due to current demands for food.

Climate change appears as a wild card. In 2010 approximately 40% of the Russian wheat crop was destroyed by a heat wave on a level never before recorded (USDA - Foreign Agricultural Service, 2011). Also in 2010, Australia's flooding covered a region the size of France and Germany combined, wiping out massive amounts of agricultural production (Melik, 2011). Some scientists insist that the world impacts of climate change are already upon us. Ardent environmentalist Lester R. Brown (2011, 10) writes, ". . . I had long

rejected the idea that food could be the weak link in our twenty-first century civilization. Today I think not only that it could be the weak link but that it is the weak link" (Brown, 2011, 10).

No one is alive today who remembers the climate or agriculture impact of the Tambora volcano which happened in 1816 or the resulting "year without a summer." If a similar volcanic natural disaster were to happen in our day, with world populations consuming food supplies close to the limit every year, the impact could be severe. Historical evidence shows that the possibility of a year or two without a growing season is real and no doubt will come at some time in the future.

The world financial crisis which began in 2008 has drawn attention to the fact that world fiat currencies are not backed by anything except good faith and the skill of the underlying government's appointed wise men, and the confidence of the people. As the United States deteriorates further into debt and deflation the US government and Federal Reserve continues to create new money to spend in an effort offset deflation and to revive our sinking economy (US Treasury, 2010). Similar actions by other developed countries raise the same risks. With so much spending and financial stimulus, many believe that future currency inflation is almost a certainty in years to come.

Utah and other US States are taking actions to prepare for this predicted inflation. The Utah Currency Act of 2011 to be amended in 2012 creates the ideal environment for the introduction of the Wheat-Gold currency. This legislation has become a model for similar legislation in at least 12 additional states in the United States (see Appendix C for additional news articles). This act creates an actual competitive currency to Federal Reserve

Notes and has been signed into law in the State of Utah. Further legislation to enhance and implement the Act is now pending before the legislature in the State of Utah.

Part of future Utah Currency Act amendments may create the standards for gold and silver coins, such as weight and size of each coin (see Appendix A). The Wheat-Gold standard could use this standard to create the claim on grain storage with a separate stamp or possibly an additional round similar to the UK two pound coin (Figure 10).

Figure 10. UK Two Pound Coin - 2005

Benjamin Graham's proposals for a commodity backed currency were widely read and reviewed in the mid-twentieth century. The proposal called for a basket of commodities, such as grain, lumber, oil, gold, etc., to be stored to back a domestic and international currency. His proposal was primarily aimed at stabilizing prices and the business cycle. The concept was revived, polished up, and put forth again by Nicholas Kaldor (1964). Although the proposal was never realized, it did receive significant discussion and critique in economic circles. Much comment and critique were favorable to the proposal; however, criticisms point out the difficulty in implementing the CRC. The fact that it has never come about illustrates the magnitude of the barriers to the CRC. Wheat-

Gold can be viewed as simplified and a unique variation of the theme and one with much more potential in our day.

What seems clear is that linking a commodity to a currency is possible. Moreover, a transaction system is possible and is considered by some to be ideal enough to replace the fiat monetary system for the US and the world. The Wheat-Gold Proposal is a step in that direction, one that can be implemented on a smaller scale, and is motivated by a need beyond that of an improved monetary system alone. But more importantly, it is motivated by the basic and fundamental security need to eat in a world of shrinking food supplies and rising risks to our food production.

The argument for storage of food seems strong and logical. The method to compensate the food producer with spendable currency is also logical. Moreover, the practice of using a commodity currency is not new. Warehouse receipts or “Certificates” based on commodities were common for many years in the United States.

RECOMMENDATIONS

We recommend that Utah, the United States, the United Kingdom, and other nations and states store grain for emergency use. Reviewed literature confirms that disaster, climate change, expanding populations, and other unforeseen events will likely put a continued strain on the world's food supply in coming years. If national and international stocks remain low, surprise events such as drought, disaster, or other events could push the world into serious shortages, even in developed nations. National security is also at stake. In food emergencies nations and states with adequate food storage will be in stronger positions. Moreover, common sense should prevail in the matter of food reserves, just as in energy reserves.

Starting the Wheat-Gold Proposal is a free-market method that provides financial incentive to store grain. This method introduces a grain-backed precious metals currency into the United States through the Utah Legal Tender Act of 2011. The new currency called "Wheat-Gold" should be introduced in addition to the ongoing introduction of Utah's new precious metals currency. Wheat-Gold can and should be part of coming legislation and be introduced in Utah, the United States, and the United Kingdom.

Appendix A – UPMA Quintessimal Specie Standard (Patent Pending)

Draft UPMA Quintessimal Specie Standard

The proposed UPMA Quintessimal Specie Standard combines conventional bullion embodiments with a novel treatment of smaller denominations. The standard calls for 916 (22k) fine gold and 900 silver (traditional U.S. coin alloys) down to the quarter ounce level. From that point on, the Standard breaks with tradition by using a 50/50 copper/precious metal alloy for 10th, 20th and 100th ounce rounds. This assures adequate sizing for the smaller pieces as well as a contrasting penny-like hue. Consider the alloy compositions below:

Alloy Name	Gold	Silver	Cooper
Coin Gold	91.67%	3.00%	5.33%
Quint Gold	50.00%	0.00%	50.00%
Coin Silver	0.00%	90.00%	10.00%
Quint Silver	0.00%	50.00%	50.00%
Four-9s Gold	99.99%	0.01%	0.00%
Three-9s Silver	0.00%	99.90%	0.10%

The Quintessimal standard draws its name from the 100th ounce piece, which is one exactly one-fifth of a pennyweight. Accordingly, that piece is dubbed one "quint", which the dictionary defines as one of a set of five. The quintal theme is carried, not only by virtue of five quints to a pennyweight, but also five pennyweights to a quarter, which is the smallest of the three-piece Coin Gold/Silver alloy series.

Fortuitously, "quint" rhymes with "cent". Because the quint contains exactly 1/100th of a troy ounce of fine precious metal this system incorporates the advantages of the centesimal system currently used for most modern currencies. To enhance usability, the reverse of both the Coin and Quint alloy series shall incorporate the following features in the design:

1. The quint count numeral prominently displayed;
2. The term "Quint" in close proximity to the quint count;
3. "[One | Half | Quarter] Ounce Fine [Gold | Silver]" for the Coin alloy series; and
4. "[One | Two | 1/5] Pennyweight Fine [Gold | Silver]" for the Quint alloy series.

The following weights and measures apply as well:

Gold Rounds

Alloy	Diameter	Thickness	Net Ounce	Net DWT	Net Quint	Gross
Coin Gold	32.10mm	2.65mm	1.00	20.00	100	33.931g
Coin Gold	25.10mm	2.20mm	0.50	10.00	50	16.966g
Coin Gold	20.10mm	1.80mm	0.25	5.00	25	8.483g
Coin Gold	16.10mm	1.30mm	0.10	2.00	10	TBD
Quint Gold	22.50mm	1.40mm	0.05	1.00	5	TBD
Quint Gold	17.90mm	1.40mm	0.01	0.20	1	TBD

Silver Rounds

Alloy	Diameter	Thickness	Net Ounce	Net DWT	Net Quint	Gross
Coin Silver	38.10mm	2.87mm	1.00	20.00	100	33.931g
Coin Silver	32.50mm	2.15mm	0.50	10.00	50	16.966g
Coin Silver	27.50mm	1.95mm	0.25	5.00	25	8.483g
Quint Silver	25.00mm	1.75mm	0.10	2.00	10	TBD
Quint Silver	23.00mm	1.75mm	0.05	1.00	5	TBD
Quint Silver	20.50mm	1.75mm	0.01	0.20	1	TBD

UPMA Certification

The UPMA will certify specie produced according to the foregoing specifications so long as the following additional requirements are met:

1. Designs must:
    1. incorporate at least 3 anti-counterfeiting measures in each piece;
    2. not include any likeness of U.S. coin or of the Utah state seal;
    3. have UPMA Weights & Measures Committee approval; and
    4. be altered at least annually between productions runs.

2. The following items are to be lodged with the UPMA for each production run:
    1. chain of custody documentation from refiner to mint to depository;
    2. all applicable designs and schematics; and
    3. two samples of each piece.

Quint Cards

The UPMA will also certify "Quint Cards" (which may include advertising copy/logos in the designs) so long the producers adhere to the foregoing certification criteria, as well as the following additional requirements:

1. Tamper-proof encasing of either three-9s silver or four-9s gold round or rectangle;
2. Encasement fabricated with standard credit card length, width and thickness;
3. Quint count on obverse of precious metal piece along with the word "Quint";
4. Anti-counterfeiting engravings on the reverse of the precious metal piece;
5. Certificate of authenticity on the back side of the card including:
    1. Ounce, pennyweight, and optionally, gram weights;
    2. Unique serial number and bar code.

Appendix B – A Gold Standard That Makes Sense in Utah (*Forbes*)

Note: The original article did not make reference to the "Gold Standard" in the Title. In fact the article points out that returning to a "gold standard" of some kind is highly unlikely. Nevertheless editors at Forbes used their discretion and change the title, possibly because the term "gold standard" is recognized and would draw more readers.

Forbes

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7/28/2011 @ 1:31PM | 2,168 views

A Gold Standard That Makes Sense In Utah

David L. Garrett, Contributor

Discussions about the U.S. going back to the "gold standard" are floating in the media and with politicians. Gold is trading at historically high levels fueled in part by inflation fears and recent actions of the Federal Reserve.

Precious metal ETFs like the SPDR Gold Trust (GLD) or the iShares Silver Trust (SLV) have seen dramatic annualized gains, as have mining ETFs, such as the Market Vectors Gold Miner ETF (GDX) and the Global X Silver Miners (SIL).

Aside from the stunning investment gains, what substance is there behind gold standard chatter?

First, if we seriously believe we need to return to a gold standard, which one are we supposed to go back to? And, will this really help? Economists agree that of all the gold standard adaptations, the pre-1914 classical gold standard worked best: when the price of an ounce of gold was tied to a specific amount in a nation's currency.

This was the case in Britain, where the Pound Sterling was tied to gold as early as the eighteenth century. Since Britain was the world's center of finance at the time, it was in the best interest of other nations to tie their currencies to a specific weight of gold as well, if they wanted to do business with Britain.

Trade flourished with this free market international monetary standard. When it came time to settle accounts, nations settled in gold. It was the international currency. If one country started to inflate its currency, the natural effect would be that other countries would be drawing down the inflating country's gold reserve. It would compel the offending country to turn off the printing press or face the loss of its gold reserve or go off the gold standard altogether and lose business with Britian.

No doubt the pre-1914 classical gold standard is the gold standard to invoke, if we can, but even if the U.S. were to tie the dollar to a specific weight of gold, how would we get the rest of the world to follow? And even if they do, would we blow up the dollar in the process? The classical gold standard seems to have worked because virtually all nations

adopted it and settlements between nations seemed to have been one of the big factors in keeping them from debasing their own currencies. The pre-1914 gold standard would require a lot of international cooperation to get going again.

The new Utah currency law sidesteps this international problem while providing State residents with a choice that could avert a disaster in local trade for products and services, and it accomplishes this swiftly and safely. The Utah currency law does not fix the dollar to any weight of gold or silver. Each would stand as a separate currency. If the dollar starts to inflate it won't affect the precious metals since there is no direct tie. This also means that inflation of the dollar now has a check in the form of State monetary competition. Instead of a foreign currency tied to gold as a check, we have a check against federal monetary abuse by the States.

Utah's currency law won't require additional nations to get involved to make it work since the new currency is a competitor to the dollar on the dollar's own ground. If the Federal Reserve and the Treasury inflate the paper dollar beyond usability, citizens will simply shift to the precious metal legal tender alternative. Life goes on. Moreover, trade goes on. Having an alternative to our paper dollar when risks seem to be growing almost daily is reassuring.

Also, either the dollar or the precious metal can be redeemed at any time for one another at the market price anywhere in the state. This puts them in competition with one another without either replacing the other, except as freely used by the public. There will be no massive currency changeover or mind boggling convoluted monetary issues.

You want to spend paper dollars? Fine. You want to spend precious metals? Fine. Transactions in gold or silver can occur using a credit card. Just hand your card to the store clerk like you do now. Technology would allow for as smooth and efficient transaction handling as we have right now with dollars.

If this concept is adopted by the other States — and at least twelve are considering it right now – over time it would make precious metal coins more stable in relation to anything we buy. Gold and silver prices would begin to stabilize in relation to goods and services. Merchants could begin pricing in both dollars and the precious metals. Americans would become arbitrators between the dollar and the metals by just living their lives and buying and selling on a day-to-day basis.

Moreover, the Utah currency is a 100% backed. Redeemability is 100% at any time because there is nothing to redeem to. Unlike the gold standards prior to 1971, when the public was actually prohibited from redeeming paper dollars for precious metal, this currency *is* the precious metal. There is no issuance of paper currency tied, or as it were, untied to gold or silver somewhere in a vault.

Finally, the new Utah currency law comports with the U.S. Constitution, whose framers authorized the states to make gold and silver coins legal tender, as well as authorized the federal government to do the same *plus* issue paper money. The door was left open for paper currency in the event of a national crisis, such as the War for Independence.

Authorizing gold or silver and paper currency as legal tender within states creates balance between state and federal monetary authority, note Larry Hilton, a consulting attorney to Utah gold currency proponents, with Rich Danker, economics director for the Washington-based American Principles in Action. Having states authorize gold and silver coins *in addition* to the national government actually fits more closely the intent of the founders than money solely being issued by the Federal Reserve.

It's hard finding any significant fault with the direction Utah is taking with the passage of this law, which is why other States are considering following Utah. Congress is now considering complementary legislation supporting Utah's move with the DeMint/Lee bill to remove federal taxes on gold and silver legal tender.

Sometimes big things start with little beginnings. This might be one of them.

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This article is available online at:
http://www.forbes.com/sites/greatspeculations/2011/07/28/a-gold-standard-that-makes-sense-in-utah/

Appendix C – News Articles - Utah Legal Tender Act

Utah House Passes Bill Recognizing Gold, Silver as Legal Tender

Published March 04, 2011 | FoxNews.com

Utah took its first step Friday toward bringing back the gold standard when the state House passed a bill that would recognize gold and silver coins issued by the federal government as legal currency.

The House voted 47-26 in favor of the legislation that would also exempt the sale of gold from the state capital gains tax and calls for a committee to study alternative currencies for the state.

The legislation now heads to the state Senate, where a vote is expected next week. Under the bill, the coins would not replace the current paper currency but would be used and accepted voluntarily as an alternative.

If the bill passes, Utah would become the first of 13 states that have proposed similar measures. The others states are Colorado, Georgia, Montana, Missouri, Indiana, Iowa, New Hampshire, Oklahoma, South Carolina, Tennessee, Vermont and Washington.

Backers of Utah's bill say they want to send a message to the rest of the country. "People sense that in the era of quantitative easing and zero interest rates, something has gone haywire with our monetary policy," said Jeffrey Bell, policy director for the Washington-based American Principles in Action, which helped shape the bill. "If one state recognizes gold as a valid currency, I think it would embolden people not just in other states but in Washington," he said.

The U.S. used the gold standard from 1873 until 1933, when President Franklin D. Roosevelt outlawed the private ownership of gold amid the Great Depression. President Richard Nixon abandoned the gold standard altogether when he announced in 1971 that the U.S. would no longer convert dollars to gold at a fixed value.

Critics of the gold standard say it limits countries' control over its monetary policy and leaves them vulnerable to financial shocks, such as the Great Depression. But supporters argue that the current financial system's dependence on the Federal Reserve exposes the value of U.S. money to the risk of runaway inflation.

http://www.foxnews.com/politics/2011/03/04/utah-house-passes-recognizing-gold-silver-legal-tender/

Forbes

Rich Danker, Contributor
I write about economics and politics

ENTREPRENEURS | 7/20/2011 @ 11:33AM | 1,075 views

The Legislative Beginnings Of A Modern Gold Standard

While most of their colleagues in Congress have sat on their hands as Ben Bernanke's Federal Reserve has brought out the worst in the paper dollar monetary system, three U.S. senators recently began a legislative effort toward hard money. Republicans Jim DeMint, Mike Lee and Rand Paul have introduced the Sound Money Promotion Act, which removes taxes on gold and silver coins declared as legal tender by the federal government or states.

If that sounds like a narrow change, consider Sen. DeMint's statement with its introduction. "Thanks to the government's reckless over-spending, continued bailouts and the Federal Reserve's easy money policy, this year the purchasing power of the dollar hit an all-time low in the several decades since we went off the gold standard," he said. "In order to rebuild strength and confidence in our economy, we need both the fiscal discipline to cut wasteful spending and the monetary discipline to restrain further destructive monetizing of our debt. This legislation would encourage wider adoption of sound money measures, and that's a step in the right direction."

Today there is approximately $20 billion worth of U.S.-minted gold and silver coins in circulation, most of which have been demonetized owing to the 28% tax slapped on them by the IRS. Since the U.S. abandoned the gold standard, they have gone from money to collectibles on par with rugs, stamps, and bottle caps in the eyes of the taxing authority. Because they are undervalued at their face definition and the tax wedge discourages them from being used at their fair market value, the coins are sidelined as "good money"

while the U.S. dollar (a worthy foil as “bad money”) reigns supreme.

But times are changing. Start in Sen. DeMint’s home state of South Carolina, where Rep. Mike Pitts introduced H.B. 4128 legislation that makes gold and silver coins legal tender in the state. It drew 13 co-sponsors, including House Majority Leader Kenny Bingham. Senate Banking and Insurance Committee Chairman David Thomas introduced a companion bill. The point is to encourage the use of the coins as money, which is why the bill also eliminates state taxes on them. It derives its legal authority from Article I, Section 10 of the U.S. Constitution, which says no state may “make anything but gold and silver coin a tender in payment of debts.”

Although South Carolina had proposed similar bills before, H.B. 4128 was important because it followed the passage of the Utah Legal Tender Act in March. Utah became the first state in more than a century to recognize gold and silver coins as legal tender. Plans are underway to open a local depository that will allow customers to make everyday purchases with a debit card linked to their coin holdings at fair market value. Citizens will have a way to avoid the diminishing buying power of the dollar through money that retains its worth.

If multiple states adopt legal tender legislation, depositories open, and the DeMint-Lee-Paul bill becomes law, there will be an alternative monetary system. For some that system could become the way of doing business. But for most it will probably be used as a form of protest against the dollar. That’s why the use of gold as money and the backing of the dollar with gold are compatible and necessary.

The gold standard, where a dollar is defined by a weight unit of gold, will enable people to use the same currency at a secured value. If there becomes reason to question that value, people can switch from dollars to gold currency (most easily through electronic payment systems like debit cards). The monetization of gold through legal tender laws and removal of taxes will restrain the government from reneging on the gold standard by putting gold on an equal footing with the dollar. When the dollar is as good as gold and gold as good as the dollar, we’ll have a sound and efficient monetary system worthy of the American economy.

Rich Danker is Project Director of Economics at American Principles in Action, a Washington policy organization

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Utah Legislature goes for gold, silver as currency options

Seen as hegde against dollar slide

By Stephen Dinan - The Washington Times Thursday, March 10, 2011

STORY TOPICS

Politics
Congress
Gary R. Herbert
Brad J. Galvez
Utah State Legislature

The Utah Legislature on Thursday passed a bill allowing gold and silver coins to be used as legal tender in the state — and for the value of their precious metal, not just the face value of the coins.

State backers said they hope the move will help insulate Utah from a potential monetary slide as countries question the value of the dollar. Others, casting their eye nationwide, said it could spur a broader move by Congress or states to readopt a gold standard.

"Utah, if the governor signs this particularly, they're going to change the national debate on monetary policy and get us back to basics," said Jeffrey Bell, policy director for Washington-based American Principles in Action. Mr. Bell has been in Utah to help shepherd the legislation through.

Utah's bill allows stores to accept gold and silver coins as legal tender. It also exempts gold and silver transactions from the state's capital gains tax, though that does not shield exchanges from federal taxes.

The legislation directs a state committee to look at whether Utah should recognize an official alternate form of legal tender which could become a path for creating a formal state gold standard.

A spokeswoman for Gov. Gary R. Herbert, a Republican, said he has not yet taken a public stance on the bill.

State Rep. Brad J. Galvez, the chief sponsor of the measure, said he views it as a preliminary step on the path toward securing Utah's business climate.

"If the dollar continues to fall, what this will do will help stabilize the value of the dollar in Utah, so it helps stabilize the economy," Mr. Galvez, a Republican, said.

While similar legislation has been proposed in nearly a dozen states, Mr. Galvez said that if Mr. Herbert signs his bill, Utah will be just the second state to official recognize the coins as legal tender. Colorado has

View results

recognized gold and silver for decades, he said.

Opponents questioned why a state would need to come up with an alternative money system. According to the Deseret News, one lawmaker joked that the state should establish salt as legal tender, since Utah has so much of it.

Other opponents said the state capital gains tax break could distort investing decisions and push people to choose gold and silver over other investments.

Utah's move on gold comes at a time when states across the country are seeking ways to push back against the federal government on everything from environmental regulations to health care.

But the instability of the U.S. dollar also has sent some states scrambling to try to come up with alternatives or to pass measures designed to spur federal action.

In Virginia, Delegate Robert G. Marshall, a Republican, successfully pushed through a bill — not yet signed by the governor — that authorizes the state to mint gold, silver and platinum coins. He said that there is probably a good market for collectors who would prefer not to have to buy federally minted coins and said state-minted ones would create a backstop against inflation.

"I'm looking at Congress, and I'm looking at what the Chinese are doing, and I don't have a lot of confidence in what's going on there," Mr. Marshall said. "This is one way where Virginia can help our citizens as a security hedge against the inflationary action of Congress."

He also wrote a resolution authorizing a study on whether Virginia should adopt an alternate currency so it would not be dependent on Federal Reserve notes. That resolution did not pass.

The U.S. was on the gold standard and then a gold-exchange standard for much of the 20th century, but President Nixon finally decoupled the U.S. money supply from gold in 1971. Many investors, though, continue to believe it holds value better than other investments.

COMMENTS

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March 10, 2011

Appendix D – Utah Monetary Declaration

Utah Monetary Resolution

WHEREAS, the unalienable rights to life, liberty and the pursuit of happiness require for their full enjoyment the indispensable right to honorably acquire, use, hold and transfer property;

WHEREAS, money, serving as a medium of exchange, a unit of measure, and a store of value, facilitates the free exercise of inherent property rights, both individually and collectively;

WHEREAS, natural money arises from reliable value stemming from a medium's intrinsic uniformity, divisibility, durability, portability, desirability and scarcity;

WHEREAS, sound money promotes the general welfare of society by maintaining stable purchasing power over extended periods of time;

WHEREAS, circulating money only functions when the exchange of one form of legal tender for another is proportional between denominations, free of taxation and of debilitating regulation;

WHEREAS, government should never compel payment in a form of money inconsistent with the intent of transacting parties, except with respect to amounts directly payable to government itself;

WHEREAS, the extent and composition of a person's monetary holdings should never be subject to disclosure, search or seizure except upon strict adherence to the safeguards of due process; and

WHEREAS, for a check and balance on congressional monetary authority, states retain the constitutional right to make gold and silver coin a legal tender for payment of debts:

NOW, THEREFORE, BE IT RESOLVED that the state of Utah support the legal and commercial frameworks conducive to constitutional, well-functioning, monetary systems which:

1. feature gold and silver coin as natural, sound, circulating money;
2. protect against any impairment of financial contracts; and
3. ensure the security and equal protection of the people's monetary holdings.

BE IT FURTHER RESOLVED that a copy of this resolution be sent to the Secretary of the Treasury of the United States, to all members of Utah's congressional delegation as well as to the chief executive and legislative officers of the nation and each state therein.

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