

## Debt Relative to GDP; The *Austrian Enginomic* Debt Axioms

Is it possible that in isolation one may consume more than he can produce? The common-sense answer is NO. However, by the magic of modern macroeconomic theory, the answer is YES!! (Or is it?). This article will explore the common-sense “enginomic” view of debt and its relationship to output. My assertion is that, if inquiring minds understand the parameters of “Real Debt”, then they would recognize the magnitude of the debt illusions that exist worldwide. Discovery and correction of the level of aggregate illusory debt in existence today will be the primary cause of the upcoming depression. Governments or Central Banks cannot overpower this discovery process. They can only prolong or exacerbate it.

Following are the four “debt axioms” that are fundamental to understanding “Real Debt”:

### Austrian Enginomic Debt Axioms:

1. During the history of human existence, on average, one cannot consume more Goods and Services than one can produce in a lifetime, assuming inventory is not depleted.
2. During the history of human existence, on average, one cannot repay more debt for Goods and Services received than one can produce in a lifetime, assuming inventory is not depleted.
3. Interest payments and debt redemption defaults are included within the scope of the first two axioms.
4. Given the axioms above, on an ongoing real-time basis the aggregate real debt incurred cannot exceed output, otherwise an *incremental accumulation* of illusory debt in excess of output would develop over an extended period of time, which is impossible to repay, assuming again inventory is not depleted.

### Definitions...

Let’s start with some definitions. What is production? What is consumption? What are we producing and consuming? Within the context of this article, “Real Wealth” is what we are producing and consuming. So, what is “Real Wealth”?

### Production:

The creation or manufacture of goods and services. Note: Within the scope of this definition *savings* is recognized as a financial term. i.e. The *result* of saving may increase “production” and subsequent “consumption” of capital stock or human capital. This investment due to *savings* is included within production and consumption.

### Consumption:

The one-time retail acquisition of a finished good or service by a consumer. The acquisition method may be by purchase (private individual, business, or government), charity, theft, or any other means.

This definition stands in contrast to Webster’s traditional definition: 1. The act or process of consuming by use, waste, etc.; decay; destruction. [1913 Webster].

If a person desires to acquire a good or service, he may not necessarily use or waste it. Additionally, it may not be destroyed or experience decay (e.g. example gold or silver coins). In fact the person may have various motives including use, waste, hold for its utility value (exchange for another good or service), destroy, or simply let it decay. Regardless of his purpose, he initially had the motivation to *acquire* the good or service via exchange, charity, or etc. “One-time retail” means one cannot “consume” a good or service more than once. “Finished” means the good or service completed its final state of production prior to acquisition (consumption).

## **Real Wealth:**

*Real Wealth* includes:

- Natural Resources
- Human Capital defined <sup>(1)</sup> as: The stock of skills and knowledge embodied in the ability to perform labor so as to produce economic value.
- Goods and Services defined <sup>(2)</sup> as the outputs offered by businesses to satisfy the demands of consumer and industrial markets. They are differentiated on the basis of four characteristics:
  1. *Tangibility*: Goods are tangible products such as cars, clothing, machinery, and buildings. They have shape and can be seen and touched. Services are intangible. Hair styling, pest control, and equipment repair, for example, do not have a physical presence.
  2. *Perishability*: All goods have some degree of durability beyond the time of purchase. Services do not; they perish as they are delivered.
  3. *Separability*: Goods can be stored for later use. Thus, production and consumption are typically separate. Because the production and consumption of services are simultaneous, services and the service provider cannot be separated.
  4. *Standardization*: The quality of goods can be controlled through standardization and grading in the production process. The quality of services, however, is different each time they are delivered

*Note: “Real Wealth” is NOT Fiat Currency, Treasury Bonds, or other “paper” assets, and etc.*

### **What creates “Real Wealth”?**

- *Work...* (Human activity purposefully exerting strength or faculties to do or perform something)

*Note: Work Activity is NEVER recovered. Time cannot be reversed.*

It is impossible to create “Real Wealth” without work (with the exception of Natural Resources)! The reciprocal is not necessarily true. If work is performed, “Real Wealth” has not necessarily been created. e.g. one may work to dig a hole and refill it.

Treasury securities, fiat currencies, and all debt securities are, at best, contracts to acquire Real Wealth. They are not Real Wealth!!

### **Real Wealth is FINITE!!**

- Real Wealth will NOT increase in aggregate unless WORK is performed
- Real Wealth may be exchanged to enhance values to buyers and sellers (e.g. E-Bay and “White Elephant” Parties). These examples are methods of enhancing utilization and satisfaction in use of **existing** wealth, which is gratifying. We do, however, recognize there is a limit on how many times you can rearrange deck chairs to enjoy a greater experience.

Now, let's begin discussion on each of the Enginomic “Debt Axioms”...

## Debt Axiom #1 Discussion

### *Axiom #1:*

1. During the history of human existence, on average, one cannot consume more Goods and Services than one can produce in a lifetime, assuming inventory is not depleted.

### *Let's Begin with One Person on Earth...*

Is it possible to consume more than I produce? If I was miraculously created from nothing and dropped from the skies onto an island, then in order to survive I would have to “produce” food, clothing, and shelter to “consume” for survival. In my entire lifetime I would “consume” everything I “produce” based upon the definitions stated. It is impossible to “consume” more than I “produce” as the creation (production) of a good or service via hunting, gathering, fabrication, growing and harvesting, or manufacturing is a precursor to “consumption”. Importantly, I cannot physically “will” goods or services into existence to consume.

Regardless of the value I place on a good or service that I anticipate consuming in the future, I will have to produce it first. The greater value I place on the future good or service, the more likely my labor activity will be devoted to its production.

### *Next, Two People on Earth...*

Now we have two people, Adam and Butch, magically created simultaneously who live long lives and die simultaneously. They enjoy division of labor and free trade, and are better off economically as a result due to their unique skill sets and specialization. Is it possible for these two people to consume more than they produce in aggregate? The answer again is NO.

If Adam produced (harvested and prepared) a pineapple and Butch produced three bananas, and they traded (consumed) them, did they consume more than they produced in aggregate? No. In order to motivate the decision and action to trade the goods, each had to value the other's good more than their own. This trade motivation embodies the *Subjective Theory of Value*. There is no surplus of Real Wealth as a result of the trade. Each person conceded precisely what they produced and received precisely the produce of the other as a result of the transaction regardless of product valuations or perceived “surplus wealth”.

Another example is Adam dying of thirst and Butch with an abundance of water. Adam was willing to trade everything he owned on earth for a drink of water because he placed an unlimited level of value on that drink of water. Butch was in a position to exploit Adam's vulnerability. So, for a low-value jug of water from Butch's vast reserves he was able to gain ownership of Adam's entire estate. Regardless of the levels of value each placed on his respective good(s), assuming Butch was sympathetic to Adam's plight, the trade was consummated because they valued the other's possession more than their own. In this case they were both very happy because they each gained goods valued a multiple of times more than goods they were conceding in the trade. However, all things considered they did not consume more than they produced. No work was performed in the exchange.

### *Next, Two People on Earth Living in Overlapping Time Periods...*

The same logic applies as in the first two scenarios except there may be a residual inventory of goods left on earth produced by the dead person intended for himself that the survivor will utilize. In that case the use or utilization of the good by the survivor would be recognized as a secondary trade or acquisition, which would not violate the “one-time retail acquisition” consumption definition.

### ***Finally, All People During the History of Human Existence...***

Again, the same logic applies as above. We enjoy the residual inventory of goods passed from generation to generation, which has already been produced and consumed (by definition) by prior generations. We also enjoy the knowledge base from prior generations, which should increase as new work efforts enhance the base that will eventually pass onto the next generation.

### **Debt Axiom #2 Discussion**

Now let's move into defining DEBT...

Debt is "something owed" according to Webster. It is an obligation that a person or organization has to another person or organization. Debt may be in the form of a bond, note, mortgage, line of credit, or other financial instrument. Debt may be secured by assets, which means that the assets will be seized in the event of default, or be unsecured.

#### ***Axiom #2:***

**2. During the history of human existence, on average, one cannot repay more debt for Goods and Services received than one can produce in a lifetime, assuming inventory is not depleted.**

If you can accept the logic in Axiom #1, then Axiom #2 should readily follow. Imagine a person consumes (as defined previously) a quantity of goods and services output at various times during his life. Most of this consumption will require a payment of some kind. Some consumption such as charity, theft, or government transfers will not. That which requires payment may be immediate, some time period later, or increments of payment spread out over a time period (e.g. a car loan). In any of these cases there was at least an instant of time where the consumer "owed" the producer some form of compensation. The debt may have existed for an instant of time (e.g. paying cash one second after receiving a box of popcorn), or over a period of time (car payments).

In industrialized economies, each person rarely consumes his own work produce. An example would be a farmer consuming a few ears of corn for dinner from his massive produce. Within the context of this article, this minor amount of consumption will be viewed as insignificant. Therefore, the noted "average" consumer will have owed some agent on earth the equivalent of every good and service he consumed in his lifetime (less the noted exceptions above). It's only a question of the time required for repayment. Hence, on average, the cumulative debt incurred and paid from the person's lifetime consumption cannot be greater than the lifetime of production; one cannot owe and repay more than one produces. This represents the "real debt saturation" level.

There are millions of examples where one may owe and repay more or less than he produces, but it is necessarily a zero-sum-game. There will always be another person enjoying or suffering from the opposing condition. The next axiom addresses that issue which includes interest incurrence and payment.

### **Debt Axiom #3 Discussion**

#### ***Axiom #3:***

**3. Interest payments and debt redemption defaults are included within the scope of the first two axioms.**

Interest is another "zero sum game", and is a transfer of wealth rewarding the receiver compensation for his delay of consumption. All interest that is paid by one agent is received by another. Assuming there is interest charged for a debt repayment described in Axiom #2 the additional quantity of goods or services paid as interest is included as part of the repayment total. Hence, axiom #2 is still valid; one cannot owe and repay more than he produces in his lifetime, even when part of the repayment is interest.

Will some pay more interest in their lifetime than others? Of course, but there will be offsetting individuals that pay less interest in their lifetime as a result.

#### Debt Axiom #4 Discussion

##### *Axiom #4:*

**4. Given the axioms above, on an ongoing real-time basis the aggregate real debt incurred cannot exceed output, otherwise an *incremental accumulation* of illusory debt in excess of output would develop over an extended period of time, which is impossible to repay, assuming again inventory is not depleted.**

Axiom #4 assumes we begin with an established level of outstanding debt in a developed society that is at a saturation point. In other words after the saturation point debt increases incurred that are greater than output increases in aggregate create an illusion of debt, which can never be repaid. It's a "Catch 22". Any increased production designed to repay debt just creates new real debt for another agent. There exists an inescapable relationship between debt and production.

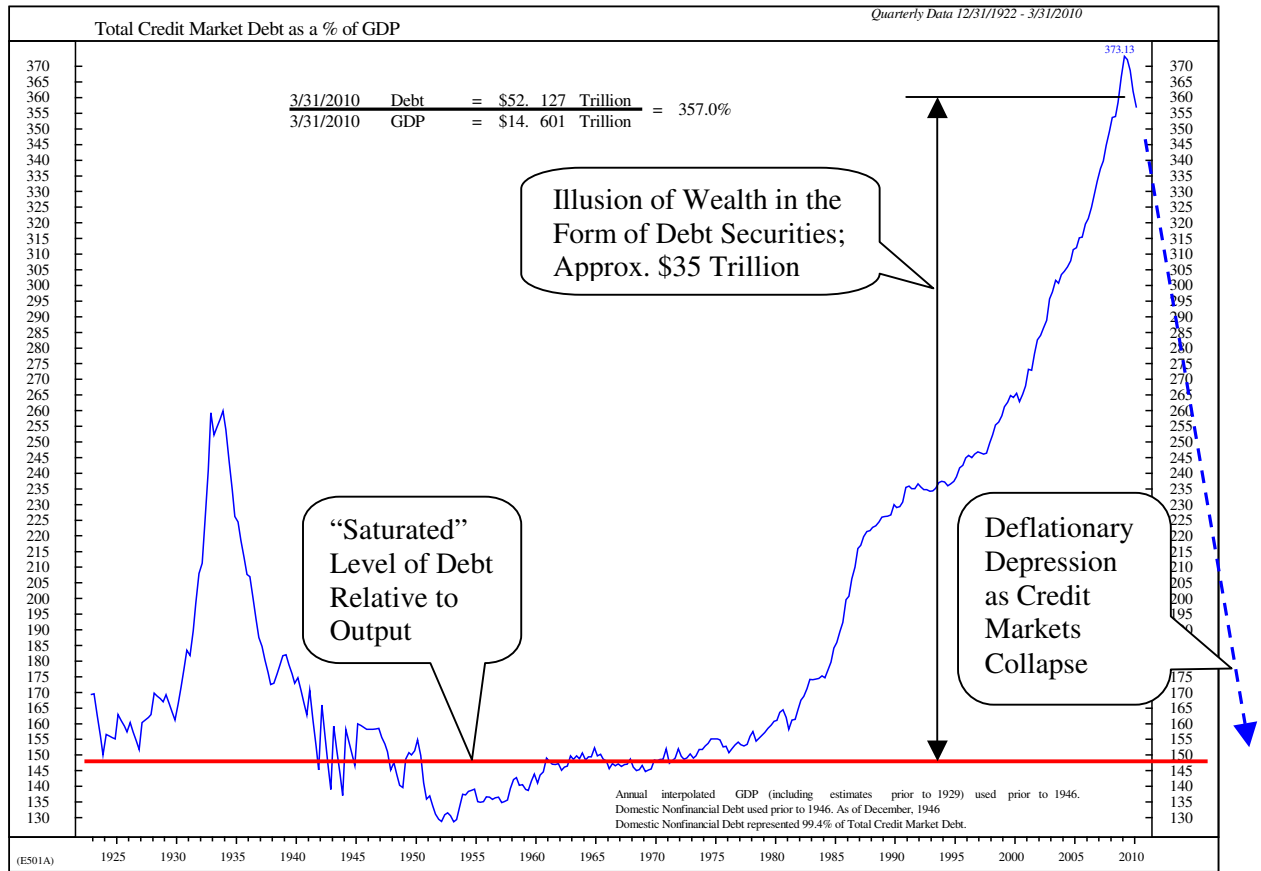
In the "caveman" days, there was no debt. Each person consumed what he or she produced to survive. Hence, increases in debt and total debt levels did not exist. As humans progressed into societies enjoying division of labor and trade, debt was incurred, but it was initially a fraction of that which was produced. Humans were still producing and consuming a large part of their own produce (e.g. hunting and fishing for their own dinner). Eventually, in modern society as stated earlier where Americans consume virtually none of the goods and services they individually produce, we begin to reach a condition I refer to as "debt saturation". As we progress through time in this modern state of division of labor and trade, we cannot physically incur more debt than we produce in aggregate. On average, we cannot owe and repay more than we produce. Again, the variable is only the timing of redemption.

My assertion is that during the time the U.S. was experiencing a reasonably stable period following WWII and operating on a partial gold standard from 1948 to 1971, the Total Credit Market Debt level relative to GDP was stable (see chart below). I.e. any increases in Output could be logically matched by an equal increase in debt, which would keep the line near horizontal in the chart below. After 1971 we entered the fiat currency world and in a relatively short period of time the magic of credit expansion without an accommodating increase in Output became a new normal. The misalignment of debt with Output reached extremes such that rate of credit expansion was 5-6 times the rate of Output expansion in 2006-8. The logic of the Debt Axioms suggests any increase of debt greater than the actual output increase in aggregate represents an illusion of wealth. i.e. Those holding U.S. debt securities all over the world will be extremely disappointed when the illusion discovery process unfolds.

We must not confuse the concepts of Stock and Flow of production and consumption. The absolute level of debt (Stock) has little correlation to the increase in debt (Flow) or increase in output (Flow). The discussion in this article constitutes Flow; i.e. the relationship between *increases* of debt and output, and not the absolute level of debt. Payment systems and redemption period variations greatly affect Stock data more than Flow data.

2008 marked the beginning of that debt illusion discovery process. The private credit markets have largely shut down and have been replaced by desperate government and central bank efforts to keep the illusory debt bubbles elevated. Of course, as holders of this expansive mass of debt (esp. government debt) lose confidence, they will no longer buy and even begin selling the debt securities. The result is massive increases in interest rates followed by sovereign defaults (e.g. Iceland, others at severe risk including Portugal, Ireland, Italy, Greece, Spain, and etc.).

Unfortunately, these defaults will become much more prevalent until the noted illusions have been diffused via restructuring or hyperinflation.



Note: Credit to Ned Davis Research, Inc. for Base Chart. All bubble annotations and arrows inserted by Russ Randall

### Conclusion:

The most extraordinary expansion of credit relative to output in U.S. history will soon come to a sudden and bitter end. I expect the secular bull market in bonds will end within a couple of years as we work our way through the upcoming depression. The question is how soon the debt monetization efforts (inflationary) of Central Banks will overwhelm the massive default collapse (deflationary) in the bond markets. Once debt monetizing gains the upper hand, then hyperinflation will ensue.

The concept of issuing paper debt assets at a pace far greater than output such that the total debt level increases outpace the total output level increases is a magical fantasy. It is the equivalent of dropping paper debt assets out of the sky into the laps of unsuspecting benefactors giving them the illusion of wealth. How sad they will be when the illusion discovery process unfolds.

by Russell M. Randall 7-26-2010

#### References:

- (1) Human Capital defined; Wikipedia drawing upon Adam Smith [http://maps.thefullwiki.org/Human\\_capital](http://maps.thefullwiki.org/Human_capital)
- (2) Goods and Services defined by the Business Encyclopedia; Encyclopedia of Business, by the Gale Group, Inc.

## Classroom Skit Example (for practical illustration of the axioms):

You raise pigs. I raise chickens. I want a pig party this weekend, but don't have any chickens available for exchange right now for one of your pigs in inventory. We agree that one of your pigs for 120 of my chickens would be an equitable exchange today. We negotiate a deal where you EXCHANGE your pig for my promise (debt contract) to pay 11 chickens per month for the next 12 months; 10 chickens per month to repay the principle (120 chickens total) and an extra one chicken per month (12 total) to pay "interest" or compensation for time preference concessions. A year passes and I've repaid 132 chickens as promised. We're both happy, and the enginomic debt axioms are proven valid.

Owed: 132 chickens                      Repaid: 132 chickens

Now what if something goes wrong???? Let's say...

I get run over by a bus after 6 months, and you have to "write off" the loss. You're unhappy, but the debt axioms are still valid. I did not owe and repay more than I produced!

Owed (after "write off"): 66 chickens                      Repaid: 66 chickens

**Note: If you fail to "write off" the other 66 chickens, the contract becomes an illusion of wealth.**

Or.... I repay the 132 chickens as agreed, but their relative value to all other real wealth on earth diminishes during the year due to an exogenous demand shock (chickens are declared unhealthy and their relative value drops). Receiving the diminished value chickens over time harms you, but the debt axioms are still valid.

Owed: 132 chickens                      Repaid: 132 chickens

Or.... You get run over by a bus and your Will designates all debts obligations will be forgiven; the debt axioms are still valid. I did not owe and repay more than I produced!

Owed (after debt forgiven): 66 chickens                      Repaid: 66 chickens

Or.... I repay you in currency (contracts to acquire real wealth) that is debased via inflation more rapidly than either of us anticipated. You are harmed precisely the degree that I benefit (Zero Sum Game)! The debt axioms are still valid.

Owed (assume \$1 per chicken): \$132                      Repaid: \$132 (of debased currency)

The world experiences billions of transactions over time that includes exotic complexities in derivatives and repayment options. In every case, the debt axioms are valid. One cannot "will" real wealth into existence. The flow of consumption cannot exceed the flow of production every moment of every day... Hence, the flow of debt redemption cannot exceed the flow of production... Getting repaid in increasingly devalued currency is equivalent to gradually writing down the loss on each payment...

Another teaching technique I use is to envision 100 years from today, then ask the question: Did we "consume" more than we "produced" during current times (i.e. 100 years ago)? Of course not! Did we owe and repay more than we produced during current times (again, 100 years ago)? No again. It becomes very easy to visualize the concept that real debt incurrence and real debt redemption must stay in lock-step forever. If "paper debt" (Total Credit Market) grows faster than Real Output, then a bubble has formed and those holding the "paper credit" will be very disappointed some day when the illusion is discovered!