# OUR ECONOMY AFTER 2008


JAMES ALEXANDER WEBB

Sept. 22, 2009 (revised Dec. 8, 2015, June 21, 2017)

Depictonomics.com

……

***"I'm tired of seeing government spend money it doesn't have,***
***to fix problems created by people spending money they didn't have."***
…Viewer of ABC News

## Contents:

# Our Economy

Conventional following in economics saw a need for a central bank and government management of the economy to moderate fluctuations in economic activity. We can now put this proposition into perspective by considering the free-market and free-banking perspective.

In 1913 Congress established the Federal Reserve System (Fed). As a central bank it was purported to moderate what seemed to be naturally occurring financial crises. But now the evidence is in: prior to the centralization of the control of money and banking by government intervention these occurrences were not prolonged or as severe as after 1913. Under the Federal Reserve we have experienced a Great Depression, suffered the stagflation of the 1970's, a recession in the early Eighties, and now a financial panic and Great Recession beginning in 2007.[1]

Moreover, sooner than later looms a crises from over production of dollars made easier by dollar exportation around the globe. This too results from political control of money.

Some critics of the Fed have proposed turning over the power to expand the money supply to the Treasury, out of the hands of the Fed. While thereby limiting control by the Fed (a quasi-private institution) we will see that this is no substitute for a true market disciplined monetary system based on free banking and dollar convertibility.[2]

---

[1]Federal Reserve Chairman Ben Bernanke attempted to make a case blaming foreign savings for contributing to the recent equity and real estate bubbles in the U.S., but, as economist George Reisman has demonstrated, not only were these sources of funds insignificant when compared to bank credit expansion from the mid 90's on, they aren't transitory in their effect as is artificial credit.

[2] (Mises [1912] 1971 and Mises 1966) Mises's treatise on money was used as an economics text on the Continent. Mises, in 1922 was called on by the Austrian chancellor for his expertise in monetary policy to successfully remedy what remains a historically defining period of inflationary crises in Europe.

## Methodology

Economics is a discipline that begins with human actions and interactions; physical sciences study inanimate objects. Attention to what is already known in a science of acting groups and individuals allows economists a head start compared to physical scientists. Inquiry starts with the unknown when it comes to the behavior of units of action such as atoms or molecules. The laws of behavior must be discovered by experimentation and observation of regularities in the physical sciences. But we know that behavior is purposeful in actions undertaken by people. This allows for starting analysis not at the rudimentary physical level of the world of inanimate objects but at a human level, a social level. Baseball can be understood much sooner if we already have insight to the rules of the game, than if we start out trying to discover the rules only by observing regularities in behavior. In economics, unlike the physical sciences, we can arrive at useful precepts more readily through deductive investigation than by inductive.

Correlation is not causation. Strong statistical correlations between facts and outcomes have been misinterpreted. The population of people who spend more has a high correlation coefficient with those who are wealthy. But we know that one does not become wealthy by simply increasing his/her spending. Yet precisely this reasoning is employed by economists who subscribe the consumptionist fallacy that finds the cause for prosperity in consumption. Here economic logic is needed to sort things out. We will see how understanding that the transaction between buyer and seller of final goods while 70% of final output, is only perhaps 40% of total economic activity. Diverting spending from consumption to investment spending aids in the growth of output over time.

Yet in mere logic there is treachery. There are an abundance of superficial causes proposed to explain movements in variables such as GDP, credit conditions, standards of living etc.

Models need to be internally consistent logically, with realistic assumptions. As in geometry, axioms lead deductively to contextually useful propositions. A good theory may only apply to one period or set of events, it may be relevant in one case and not another. But we should not expect to arrive at a theory from looking at or testing against the data available.

Indeed, we may have more to go on than in the physical sciences that only have inanimate objects and data to observe. We know that people act employing means to achieve ends. Fruitful analysis starts with knowledge about real individual people, their subjective assessments, motivations, quirks, etc. True, we acquire behavioral understanding about market participants inductively; we employ certain self-evident attributes arrived at by our life experience. But the analysis goes from (known) cause to effect.[3]

Applying insights deductively, for example, leads us to derive general propositions about money as a means to relieving human needs.[4] As we will see, dramatic changes in subjective preferences for money (demand for money), usually initiated by policy actions controlling trends in money supply growth, may cause such dramatic events as a boom ending in hyperinflation or a bust and hyper-contraction or deflation.

This approach avoids sterile equations or equilibrium assumptions that too easily ignore the human element in our most basic unit of analysis. We are aware that economic participants never enjoy certainty of knowledge, and that there are therefore uneven and unpredictable periods of adjustment. At the same time we see that the free market out performs centralized command systems, even though absent perfect competition or perfect knowledge. Lack of these artificial constructs or hypothetical conditions of perfect competition or perfect knowledge in no way diminishes the viability of freedom in markets. Markets can be perfectly rivalrous without meeting the artificial criteria of perfect competition, hence, contrary to received doctrine, absence of a multitude of competitors in a market is no indicator of market failure.

Economics has been characterized as the *dismal science*. We might all agree to characterize economics as the dismal science, not because of the famous but only narrowly applicable Malthusian fear of population pressure keeping the masses at subsistence, rather because reality makes us face the need for work, to seek information, understand markets, exchange etc. to gain what we don't have. Economics makes use of the fact of scarcity, is about scarcity.

---

[3] Mises (1949), and (1957).

[4] Note that we are not talking about strictly material needs, or "economic" man, but man who has the capacity to choose even non-material or market valued ends.

Alternatively, we may object to the term “dismal” and see the pursuit of higher levels of satisfaction as the essence of life–but we therefore admit of dissatisfaction and scarcity.

In an “ideal” world abundance would make products virtually as free as air, but in our world shortages rule. Every good or service with a price is a good or service in short supply. We face scarcity in goods, information, time and resources to satisfy unlimited ends.

## Money Inflation

Under conditions of monetary inflation, the newly injected money flows in a systematically uneven manner through the economy. The first recipients of spending, few in number, face uninflated prices. The majority of people experience little effect from the spending stimulus only to later face prices bid up to their disadvantage. Think of counterfeiters spending new money. Each of the rest of us loses just a little as they gain what we lose. We will see below how credit expansion distorts business growth from a sectoral standpoint.

Under monetary inflation markets adjust imperfectly. Expectations involve lags. It is like getting a train up to speed. Rising prices reduce the value of money balances. Asset prices rise to accommodate eventual falling desire to hold money balances (as demand for money falls), and credit expands generally. It is an uneven dynamic process, the net result of which only later is revealed as a negative-sum game. Bubbles can develop. Rising asset prices such as real estate, equities and commodities also signal owners and prospective owners that the trend is up; these price increases can outstrip the general rise in prices. Owners, due to wealth effects tilt their spending habits more towards the luxury end of the spectrum. Against the incentive to continue investing is the “rise in prices of complementary factors of production and the rate of interest on the loan market.”(Mises, 1966, 586)

Over time risk averse behavior tends to diminish as the memory of the last crises fades. It is impossible to separate out the degree to which monetary easing spurs these effects. What can be concluded is that unnecessary policy stimulus from outside the market contributes to exacerbating the boom cycle. There is a balance. Advanced economies must make use of reasonable levels of trust and

confidence in financial transactions, for credit availability, long-term loans to business etc. Without such a vehicle as general price inflation, an attribute of central bank fiat money economies, the spreading of euphoria throughout the economy must depend on the unlikely occurrence of an entrepreneurial *cluster of errors* (Rothbard, 1972).

Unsustainable asymmetric distortions in the production structure result from the easy credit conditions and uneven infiltration through the spending chain. Price increases are inhibited by non-uniformly distributed long-term contracts, rent agreements etc., disrupting forces of adjustment.

During monetary inflation, as prices rise unexpectedly, perceived rates of profit rise also as the margin between earlier purchasing cost and later revenue increases. Incentives for accumulating commodities, inventories, and for leveraging ownership of assets such as real estate also follow from rising prices. When finally the buy/sell price differences adjust as relative price disparities subside a reversal of these artificial gains occurs even without the need for any price deflation, but only with a leveling off at a higher level in general.

Mises masterfully detailed the processes of monetary expansion. Too much overlooked was his insightful reference to the lack of awareness on the part of bank lenders and central bank authorities that interest rates continue to be too low even after they turn back up in the beginning of the boom. They are low because the premium attached to the interest rate lags the increase in actual price inflation. Real rates are lower than observed rates. “Money” remains “easy.” Some of the boom distortions are not reversed but extended inadvertently. (Mises 1966, 551). When considering that the higher profit rate just mentioned—increases real rates, then there is even more of a disparity between the observed interest rate and the targeted lower rate (Reisman, 1998).

Thus gradual money inflation that caused gradual price inflation sets the stage for asset booms and busts. The resulting secular value erosion of money holdings elicits a search for alternative vehicles easily convertible into money. The extended credit market contraction after 2008 can be seen as a result of decades of inflation (more than 90% dollar depreciation since WWII). This constitutes more than adequate evidence of the failure of hierarchical management replacing the discipline of consumer choice in money.

## Credit

As with money, credit assists in moving the economy closer to a state of abundance and reduced dissatisfaction. Credit existed even before a money economy. One could grant credit in a barter economy. Credit assists market exchange over time.

Credit transactions allow for present use of a good or service, or money, in exchange for a promise to return to the lender a future equal value that includes a payment for time preference (interest). Each side expects to reduce his/her present/future allocation imbalances. Sometimes business activities require more credit, sometimes less. Elasticity and diversity of credit availability characterizes a well-functioning economy.[5]

Under the assumption of perfect knowledge, forecasting errors (by definition) don't exist and credit defaults or contractions would be a thing of the past. In our world of imperfect knowledge the extension of credit bears default risk.

In addition to credit expansion carried out by policy, expansion of the volume of financial assets results when a person or corporation shifts more funds into less liquid investments (such as stock equity or real estate and mortgages). Funds may have shifted out of more liquid assets such as currency, bank accounts or CDs. Again, extension of credit and/or financial assets usually stimulated by easy monetary policy can be undertaken by the private sector as investor confidence grows over time. As we have seen this can be characterized functionally as a *decrease in the demand for money,* or from another perspective it could be said that the public expands its subjective comfort level as to what constitutes liquidity (money) to include a mix of near monies, or even include money attributes of almost any asset. Transferring checking account funds into savings and loan

[5] The Real Bills Doctrine held that bank credit should be confined to collateralized bills that would represent loans for goods in process for 90 days or less, to be extinguished when the good was marketed. Following this principle a mortgage also has economically similar properties. Both are collateralized loans and as such both are subject to the risk of loss in the future value of the collateral, although the level of risk may be different. Mises revealed that bank policy of lowering loan rates will encourage credit expansion through all of these channels (Mises, 2006, 103ff.)

accounts or other non-bank thrift institutions is referred to as a form of *intermediation*.[6] Thus the functional supply of money can expand.[7]

## Credit Control

Expanded credit infuses through various channels and mechanisms outside of the purview and control of authorities. Even under the best of regulatory regimes an attempt to control credit resembles attempting to keep floodwaters out when only some of the levies work. The flood still occurs at full force unless levies are improved to 100%. Credit will find a way to flow from creditor to debtor so long as each perceives profit to be made. For example, real estate was financed through owner financing outside of normal channels in the 1980's when mortgage rates were 16%. More recently, banks in the euro zone, under greater strictures for mortgage loans than in the U.S., managed to get record credit out to business despite greater European loan restrictions. Consequently in early 2009 corporate debt in Europe was at 95% of regional output as compared to the U.S. corporate debt at 50% of GDP.

Usually periods of expansion are not simply credit expansions. A fall in the demand to hold money balances (or in money demand) expands investment into inventory or asset ownership, not only through lending and borrowing. This is from increased trust in the liquidity or safety of these forms of wealth.

## The Business Cycle

Think of a particular investment in a large shopping mall, only economical if continued low cost financing can see the project through to the more distant future point of final use. Initial funds are made plentiful through easy money policies, such as quantitative easing (i.e. money supply increases) or lower interest rates, only consonant with an elevated rate of saving. But the economy actually has lower savings than the artificially distorted signals of easy credit indicate. As

[6] Technically such shifts out of desire to hold money never reduce the narrowly defined supply of money (M1); rather they transfer ownership of money and increase the prices and or amount of other credit or real assets. An individual financial institution that loses deposits faces *disintermediation.*

[7] Financial institutions innovate work-arounds (regulatory arbitrage). Collateral rehypothecation amplified leverage from securitized mortgages for example.

the economy eventually adjusts to the actual lower saving rate, the stream of new credit is deflated over time as prices in general rise.[8] Then without the continuation of the easy credit supply the mistakes become evident. Liquidation of specific malinvestments set off secondary spending readjustments. Real losses to the economy are revealed. Some projects have to be abandoned half completed.

The redirection of resources can't be sustained; these (factor) income recipients' spending to saving ratio has not decreased. So funds from savings flowing back to the loan market are inadequate; funds from artificial credit expansion are self-limiting as increased prices in productive sectors deflate the corresponding real values. The policy induced credit levels falter; spending in the earlier capital demanding stages falls back to pre-credit-expansion levels forcing back down factor incomes and employment in those sectors.

Although spending has fallen in the higher (earlier) stages (e.g. auto component suppliers, building suppliers), factor prices in these lines, wages especially, don't fall so easily. Resource prices or commodity prices can fall (for example crude oil fell from $140 per barrel in 2008 to its early 2009 price of $40), inflated land values fall much less easily. Only after comparable properties have had to be sold from distress do owners capitulate. This takes months or even years. Labor also adjusts slowly. Total wages may fall but the wage rate only falls after reality sets in. During the Great Depression wage rates (not total wages) rose as unions became more powerful. Credit collapses occur much faster than booms, but readjustment takes time; as markets fail to clear the result is unemployment and idle capital and resources.

Confidence in financial assets falls. Deleveraging of investments occurs. Now, before the economy can get back on its feet (i.e. before supply and demand can clear at the lower prices) spending falls generally due to feedback loops, which in turn produce general reduction in demand and further sets the market clearing wage rate even lower. Housing and other assets that were overproduced now face demand lower than pre-expansion levels in a spiral downward. Unfortunately at this time simply stimulating everywhere, fails to allow for the needed relative corrections. This fall in spending is a breakdown of the boom era market. This

[8] As we have seen above Mises noted that bank credit policies can continue expansive as market interest rates fail to incorporate a price premium as prices begin to rise. Price expectations are known to experience lags of sometimes a decade or two.

downturn is no simple increase in the demand for money or drop in the supply of money with consequent deflationary discontinuities. Take housing for example: if too many houses were constructed over the last ten years of the boom period, this bubble can't just be liquidated. Not until the prices for houses fall considerably will there be any demand for new construction. It's not a matter of putting more money in the hands of the public; it's not a simple case of inadequate aggregate demand.

Unfortunately orthodox neoclassical economics can't look beyond deficient aggregate demand because the models employed fail to incorporate the structural nature of the economy. A model that uses one stage of production to represent producers and one aggregate value to represent capital won't do. Economists who model the economy after a retail store commit the error of the fallacy of composition. Spending on consumer goods in the store increases economic activity for that store, helps employment demand etc. Such models fail to note that restraint from spending on a consumer good releases funds available for spending on upgrades in factories producing products that both reduce cost to the retail store but also provides for additional employment.

Understandably, just as economists claimed that the money supply might collapse and so the need to increase FDIC coverage, they also feared a collapse in aggregate demand. In the context of our legislatively engineered fractional reserve banking industry, this could have been a reality. But, as we will see, these outcomes bring into question the viability of such a system; the fix isn't so simple. Measures of aggregate spending fall, but most spending is not consumer spending, therefore aggregate demand stimulation can't help restore the economic landscape.[9]

Economies have a capital structure. A more roundabout process involves diverting present consumption potential to produce capital equipment or undertakings of more capital intensity. Stages of production organize in a structure where the higher stages are the most remote from the consumer, such as plant and equipment.

[9] See below the discussion on the mistaken use of GDP as a measure of total spending. In brief, GDP measures final additional output, not total spending that includes spending by business on intermediate goods. Thus, while consumer spending may be 2/3 of GDP, GDP is less than half of economic activity.

Government spending in aggregate may in part influence higher order stages, but would not be supportive of the same configurations of higher order goods. Other non-stimulated sectors would suffer even more by having factor prices once more bid higher keeping their costs high.

Stimulus spending in areas not seen as profitable by the market result in permanent losses. What is more, any massive borrowing crowds out funds needed elsewhere. On a larger scale this eventually can get to look like one of the disastrous five year plans under Stalin, while, aside from intentions, was doomed to failure. Even an army of bureaucrats will never replicate the coordination of the price system nor replicate market appraisement and incentives that ownership provides. There are only three ways government can get the money to spend: taxing, borrowing, or printing money, none of which adds new wealth.

Any positive effect on confidence that this program contributes to the markets must be balanced against the discounting of present values due to anticipated future tax burdens. By 2009 the markets were beginning to adjust without the stimulus. The general fall in spending had veered away from inessentials such as stylish clothing, coffee shops etc.–while essentials continue to be demanded and produced. In that sense the economy was not collapsing but retrenching. This is a process made necessary by the excesses of spending on instant gratification during the boom brought about by the over-indulgence in debt by the monetary and the financial industrial complex. But by 2010 there was a reticence to embark on projects as the economy faced a higher tax and regulatory oriented future.

## Effects of Credit Expansion

Since it is always easier to think in terms of macro-economics, rather than the details of micro-economics when explaining gross economy-wide swings in economic activity, employment etc., effects of changes in profit and the financial climate tend to be thought of in aggregate terms—as if a uniform change in the perceived availability of funding evenly and universally affects all lines of business. The result is the misimpression that the economy has periods of overheating, periods of too much spending in general, or not enough spending in downturns. Thus the misperceived need to have government deficits (borrowing) increase current spending outlays, and the need to have more spending of newly printed dollars to stimulate the economy, even if the long run effect on prices is

inflationary; it is thought that because output is falling no harm can come from an expansionist policy that doesn't cause a net increase in prices in the short or intermediate run.

A look at the economy micro-economically reveals more. In cross section, we see horizontally different sectors such as entertainment, agriculture, sectors in manufacturing of autos, houses, goods, or services. Vertically we see streams of processes for each sector from the original raw materials, labor, etc. down to through stages of improvement until the final consumer good is wholesaled and then retailed. The highest stages encompass the most fixed capital (machines, etc.).

On close examination, we will see asymmetric non-uniformity in effects on business from disturbances of the price system, from outside stimulus, from easy money policies, from lower interest rates. We see that land and capital-intensive enterprises respond more to such stimulation by being more oriented towards the future due to the nature of capital, machines, etc. as long-term horizon investments.

It is self-evident that point source effects of new funds advantage earlier recipients over later, regardless of location in the production structure. Less evident are the effects that occur simply from the linkages of a complex economy where there exists more than an input-output relationship between all enterprises, but a structure of production that is then not only horizontal but also vertical in dimension.

In the orthodox view the capital structure of production is a given, timeless fund, behaving as if it were one stage only. Such over-simplifications may allow for ease in constructing elegant mathematical expressions, but remain unhelpful to understanding economic discontinuities, and even more, lead to erroneous under-consumptionist propositions that, for instance, more consumption spending doesn't reduce investment spending but increases it; or that adding to consumer goods output involves no trade-off against capital and intermediate goods output. But "there was and is always the choice between maintaining, increasing or consuming capital." (Fritz Machlup 1943, 580)

If we accept that the real economy finds itself somewhere in between these two descriptions, that the economy arranges itself to some extent in stages, we

must admit of a degree of non-uniformity or asymmetry throughout the linkages. For example, encouraged expansion in any one business or stage has the effect of providing more output to the next stage towards the consumer, and thus lowering supply prices in that direction, while raising prices for the inputs coming from the other direction (i.e. from suppliers to the stage in question in response to increased demand).

We know that steady infusions of money and credit can produce a general easing in credit and loan markets. But, to the extent the economy has this 'stageness' it responds to stimulation of all stages unevenly, just as in a case where one decides to shorten each rise in a set of stairs from 9 inches to 8 inches. Here we find that the adjustment of the highest stair, the staircase coming down to a fixed ground level from above is more than the middle stair while the adjustment of the lowest stair is even less, and further, an extra stair is added in a stair case of eight steps to make a ninth step, the highest step being lowered enough for the extra step. While the staircase is adjusted to reach the same elevation it has been stretched horizontally. Similarly we have dimensional rather than uniform changes in the economy. When readjusting back to the original sizing of steps, we thus have much more to do than simply resizing each step. We have to deal with the cumulative distortion in the whole staircase where the effects become more pronounced at the top of the staircase than the bottom. In effect the whole building is at the wrong level.[10]

During the expansion, temporary excess (cheaper) credit stimulated the new spending in the vertically higher order capital-intensive processes. Consequent falsely inflated values in assets-equities, houses, etc., spurred consumer spending in durables, and through the wealth effect in consumables. Laws of conservation of energy apply; consumption and higher consumer durable investment are sustained only by crowding out and eating into capital wealth. No new savings was provided or sacrificed out of consumption. The initial spurt in capital and more remote stage spending flows to, and employs more, original factors: land (real estate and resources) and labor. Note that this prolonged gradual redirection of labor and resources involves not layoffs or idle resources, but bidding of factors away from other established employments.

[10] See F.A. Hayek (1937), and more recently investigation by Robert Mulligan (2006).

As aforementioned, under normal boom phases of easy credit, underwritten by government guarantees and stimulated by credit and money supply expansion, business investment becomes oriented toward longer more capital-intensive chains of production only viable under the easy credit environment.

Mises illustrated the process with examples of investment decisions made by entrepreneurs based on projected rates of return. At any time there are always more opportunities for projects than investors available. When funds are available at lower interest costs more of these projects look profitable, those that make a rate of return in excess of the cost of funds can be embarked upon. But if later on the lower cost source of funds isn't sustained, such projects may have to be abandoned.[11]

## The Bust

The boom appears healthy up to the end. In a boom rising prices attract speculators looking to get in on the gains but who bail as soon as the price rise stalls and asset prices (real estate especially) level off; sources of funds attracted to appreciating values dry up. When speculators pull back, asset prices begin to fall and purchasers begin to desire liquidity. In the downturn, increases in demand for money balances can originate from a staging-ground that starts with the assets throughout the general economy. Suddenly it is not money, but goods, inventories and assets (including extended credit) that are in excess (at current prices).

Unlike the boom initiated by money supply injections slowly seeping in at specific points in the economy, assets are already dispersed; everyone can act at once. This is why it is called a panic; it is like a train wreck, it can happen in days or weeks. This spectacle, added to the fear of a run on deposits, is what spooked the monetary authorities in the last months of 2008. Just as in the polar case of a free-fall in the demand for money balances that characterizes hyperinflation, the upper limit (liquidity trap) for a rise in the demand for liquidity characterizes what we could call a hyper-deflation, or a hyper-credit contraction.

---

[11] Note that this is not the same as saying that the most productive projects are chosen first and then the less productive, creating a diminishing marginal utility function of capital that co-determines the interest rate with saving propensities. Hence it seems reasonable that productivity doesn't affect the amount invested. Instead it would be reasonable to look to changes in time preferences for a change in funds available; a lower interest rate changes the order of most to least remunerative projects.

The dynamics of increasing money (liquidity) demand also disrupts markets; all prices cannot fall readily, in labor markets especially. When the labor market cannot clear, unemployment results along with declining productivity and disruption of spending patterns etc. Falling prices leave debtors with a greater burden, as loans must be paid back with money of increasing value–further exacerbating loan defaults.

For earlier (pre-1933) contractions, busts or panics produced a run on the banks for currency. In 2008 transfers out of uninsured bank deposits and other lending instruments, corporate bonds, or stock equity etc. to safer and more liquid assets were mostly into short term Treasuries or to bank deposits now protected by FDIC, which was quickly extended to stem a perceived possible run on banks.

We know that cycles result from information deficits, from errors in business decisions. Under (hypothetical) conditions of (never attainable) perfect information, asset prices would be in balance with expectations. Supplies and demands would be in perfect equilibrium (even with shortages of goods); no opportunity for speculative profit or loss would be available. So any regular or systematic disruption in markets would be suspect as the culprit in economy wide business irregularities.

In the case of a sudden contraction an increase in the demand for liquidity corresponds to a change in perceived information. What had seemed to be good information in the credit expansion has been discovered to be erroneous. Investors are disappointed. We can safely surmise that no useful economic model should assume that attenuated markets automatically possess functionally adequate or correct information. This should be no surprise when the market's choice of a stable money has been undermined by an unstable, easily manipulated, fiat money by the power of the state. Inflationary dislocations, and unsound depository practices add to the information deficits.

Such conjectures also conform to the facts. Historically, credit crises have been preceded by credit inflation initiated after exogenous money inflows from outside of the economy. The Tulip bubble occurred in the 1630's as the Dutch experienced a massive influx of gold from the new world. The fiat money inflation under John Law's influence contributed to the Mississippi and South Sea bubble in the 1720's. The 1923 German collapse followed massive hyper-dilution of the Reich mark. In

the U.S. the 1930's great depression followed a 1920's easy money policy that enhanced bubbles in real estate and the stock market (French 2009).

Thus money and credit were always stimulating in the major cycles. Cycle durations might be prolonged by interventionist rigidities preventing markets from adjusting back to normal. By 1929 stringent credit policies along with progress of the Smoot Hawley Tariff in Congress combined to trigger collapse of equity and credit markets. During the 1930's tax and regulatory burdens hampered business recovery turning a sharp contraction into an extended depression. In comparison, under periods of less intervention other significant corrective contractions, such as the panic of 1819, the crash of 1907, or 1921 were of short duration.

We have suggested that systemic volatility in markets arises from lack of perfect information regarding future prospects for investment profits. Under these conditions incomplete information is supplemented by observation of others' actions. A degree of volatility is expected. There will always be periods of confidence followed by periods of sobriety–periods of increasing risk-taking followed by the day of reckoning, but modified by risk aversion and error-learning.

Once again we recognize that real estate speculation need not be based on an entrepreneurial contribution. Simple price appreciation produces conditions that magnify trends. Bubbles develop in real estate due to appreciation in land prices where mitigation could easily be accomplished in with expense-based fee structures that include charges for utilities, road maintenance, proximity to public facilities such as schools, libraries, mass transit or subway stations, and access to fire and police services commensurate with those external benefits.

Moreover, municipal revenue streams tax improvements, labor income and consumption, more than site values. Business expenses increase over time as legislatures churn out more programs, more complicated tax laws and regulatory agencies, more rules and licensure impediments, almost as a function of time rather than common sense.

Legislated intervention from all levels opens conduits of power exploitable by vested interests. But more than that, interventionist policy can unwittingly postpone self-correction by markets until needed adjustments grow too large. Financial institutions evolve in a landscape of guarantees and government

underwriting of risk. We have a good parallel in the now discredited policy of fire suppression in managed forests. In both cases intervention created disastrous unintended consequences, as debris (credit) was never allowed to be subject to small fire (market) corrections. Now best forest management policy precludes fire suppression in many wilderness areas.

This suggests precluding intervention in normal market corrections. We know that the Fed had massively infused the banking system with new credit money. Latest figures on the monetary base show unprecedented rates of increase since 2008.[12] It was argued by officials that some of the measures taken were essential to avoid descent into the precarious world of a global contraction and a second great depression or worse, as deposits and investments were poised to fall to a fraction of their level. In this way we may have been on the way to a super depression, just as managed forests have experienced conflagrations.

During the euphoria of the extended boom banks increasingly leveraged reserves and capital. Deposits were virtually all lent back out, not being handled or honored by the banks as literal deposits at all, but as loans. The problem with this is in trying in effect to have two owners for the same funds, (1) the depositor, who expects the money to be in the bank at his disposal, and (2) the bank that lends it out as if the same money belonged to the bank.[13]

Swift action by monetary authorities were claimed to have averted a run on depository institutions and fallout that would have meant a further loss of asset values. Thus, to cover deposits amounting to greater than $2 trillion above $100,000, FDIC insurance was extended to $250,000, including coverage of money market funds, just in time to stem a purported run on these deposits that appeared underway the week of the rescue bill's passage, and was to prevent a collapse of money well below possible market clearing levels.

In effect a de-facto conversion of bank deposit reserves from marginally fractional to a much larger fraction has transpired at the expense of the taxpayer. In that behaviorally, banks and depositors were already functioning as if the deposit were 100% insured or backed, the support action produced no shock to the markets. (We must keep in mind that such backing is only with fiat money

[12] Moving from $850 billion in 2008 to more than $4 Trillion by 2015.
[13] 100% reserve advocates maintain that deposits should be treated as titles and thus never loaned out.

promises, with far less long-term security than would have been the case under 100% commodity standard money backing.) The damage to the economy had already transpired over the decades of credit expansion.

We have noted that Austrian economists contend that influxes of money, by reducing credit costs, not only caused unsustainable investment spending, but did so in a way that distorted the economy by causing over-extension in more lengthy processes and under-extension elsewhere. Under a return to normal credit conditions, restructuring revealed real losses. The unrecognized problem had been malinvestment, not overinvestment.

Thus money supply expansion, endemic to central bank economies,[14] may initiate misdirection in the stock market or real estate, and acts as a catalyst for credit market expansion, intermediation, and excessive leveraging. In contrast a system of free banking was more conservative and subject to market discipline in issuance of bank notes, and in maintaining reserves or bank capital against deposits.

## Monetary Management

Naturally, as a boom gets underway credit or debt financing expands and confidence builds. During a credit expansion boom what appears to be simply over-indulgence or over-extension is more typically an insidious misdirection of investment or expenditure. The downturn becomes inevitable. It is not too much production, wealth, or real savings, but rather not enough where needed and too much where not needed. Unsound investing becomes self-reinforcing as price appreciation occurs in certain types of capital, land, or assets occur at the expense of investment in more fruitful lines of production.

Models limited in dimensionality fail to analyze these effects. Models must decompose variables such as national income, capacity utilization, and investment, and so on to reveal significant variations otherwise undetected in averaging or aggregating.

[14] Keeping in mind that Central Banks are creatures of legislated interference in the commercial world of banking.

Given the reality of over-stimulating credit market policy over the last decade, some market correction was inevitable, but as we have seen policy makers were not about to capitulate to an unmanaged market correction. Continuing proactive interim measures by the Treasury and the Fed to stabilize the existing market landscape, were inevitable in 2008 and beyond.

Policies such as tax relief on productive activity or encouragement of investment through reducing capital gains taxes, are likely to be limited. There is every danger of permanent extension of control adverse to financial markets. Orchestrating the default on General Motor bonds undermined confidence in financial contractual obligations, unhelpful at a time when credit markets remained frozen. Dodd-Frank introduced costs disproportionately among businesses.

Measures to moderate deflation of prices in sectors such as real estate prevent a return to balanced affordability of home ownership.

Action was taken to avoid the disruptive effects of a functional money supply collapse. The alternative of no action would have relied on market adjustments alone requiring prices to fall by 25% or more. In the 1930's Great Depression, such price deflation was disruptive—labor costs (wage rates) could not follow suit to allow markets to clear.

This is best seen with the quantity theory of money, (MV=PT). It is useful for this purpose even if deficient in revealing relative or sectoral distortions during and inflationary boom. The formulation nevertheless illustrates the macroeconomic effects of impacts on the money supply relevant in the Great Recession. For markets to clear, when the functional money supply and or velocity (V) falls precipitously, prices and or transactions would correspondingly fall precipitously and disruptively.

The economy has long been in an untenable state. Abrupt withdrawal of government support for long dependent financial institutions may contribute to collateral damage to the whole economy and also may elicit unwise political over-reaction from Congress. Not for over 75 years had there been such a potential for depositor loss of confidence in the banking system. What is more, a Roosevelt style bank holiday that could well involve suspension of credit card transactions

needed on a daily or even hourly basis would have been disruptive and unworkable for a modern economy.

Nearly a century has transpired since banking and monetary decisions were of largely market forces. As intervention increased, there were assurances at each step away from market discipline that the congressionally created quasi-government–banking system would bring stability. Yet after years of stimulation and over-extension the result was less stability. In the realm of legislated regulation less is more.

Federal over-regulated, or mis-regulated depository institutions has been anything but accidental over the decades following the Great Depression. As we will see, without the imprimatur of federal protection, mechanisms inherent in the competitive market would have provided a check on bank deposit excessive-leveraging.

Mainstream (Neoclassical) economists put complete faith in central planning of the monetary sphere. Here alone they uncritically embraced a total marriage of money and state. Government was allowed nearly total command over the sphere of money, no less so than in otherwise repudiated socialist, national socialist, or corporatist regimes.

The modern economy relies on the functioning of a number of elements in its infrastructure. Loss of any one element, whether the electric power grid, oil, interstate highways, the Internet, or the monetary system, can jeopardize the entire system. Unlike the monetary system, other key elements of the infrastructure enjoy redundancy provided by the competitive system. But once government controls any element, an inflexible monopoly structure emerges. We have no redundancy in money provision in this economy. This element of the infrastructure constitutes an experimental scheme oriented towards short-run political goals.

The replacement of market discipline with a regime of political and vested interest influence has resulted in unusual and unexpected phenomena. For instance, today's enormous derivative markets of hundreds of Trillions of dollars arose out of the need to insure securitized mortgage instruments against risk in currency fluctuations, and interest rate fluctuations. In contrast, under the global gold standard, because it was a global currency, there was no need for a futures

market in currencies. Another outcome of the replacement of market corrective forces was the secondary mortgage market primarily spurred on by policies of Freddie Mac and Fannie Mae, government sponsored entities.

Derivatives in currency futures arose entirely as a result of the growing influence of nation states and their abandonment of the gold standard. Likewise, price fluctuations and interest rate fluctuations generated by fiat money regimes have produced record numbers of credit market derivatives. Naïve proposals to return to erecting protectionist, mercantilist barriers to trade run the risk of instigating currency wars, as well as fomenting military ventures to secure access to markets and resources, and repeating the mistakes leading up to World War II.

We have unwittingly subscribed to a monetary system concocted in bank boardrooms and prestigious economics journals rather than defending the system handed down by centuries of choice selected by commerce. Insurance derivatives emerged as a consequence of untying currencies from each other and from the discipline of a monetary commodity. Markets needed a substitute for loss of confidence in reasonably stable price levels, interest rates, and currency exchange rates. Should major holders of these instruments, such as China, decide to dump their holdings on the market the economic outfall could raise interest rates. Fear of a U.S. default on these obligations through inflation, or fiscal irresponsibility by over issuing Treasury bonds, may be the catalyst.

## Banks

Despite several attempts during the 1800's to permanently establish a central U. S. bank, banks remained politically unorganized as an industry. As a consequence individual banks were not immune to bank runs whenever their depositors were made aware of weaknesses of the bank's loans and assets. Some banks kept up to 50% of deposits on reserve to avoid bank runs. But this meant they could only lend half of their deposits keeping the other half idle, not earning interest. (We will see shortly that what is good for a bank alone, more deposit credit money, is not any benefit for the economy). Including bankruptcies, 19$^{th}$ Century depositors and fixed income recipient's losses were minor compared to welfare losses from than the toll taken by price inflation in the 20$^{th}$ Century under the purview of the Federal Reserve.

Pre-1913 bank failures, and especially the panic and correction of 1907, spurred support for new bank regulatory protection, even though regulation was problematic for bank stability. Banks were already weakened by prohibition of branch banking in the Nineteenth Century and already protected from market discipline by policies that permitted banks to suspend specie payments to avoid bankruptcy. The opportunity was seized upon by the larger banks. They consorted to gain the establishment of a federal central bank as lender of last resort and to organize bank note clearing house functions allowing individual banks to reduce reserve holdings. In collaboration with political insiders they pushed through the Federal Reserve Act of 1913.

The Federal Reserve Act also empowered Treasury borrowing by floating bonds. In practice the Fed could buy other bonds in the market while paying for them with newly created Fed IOU's used as money by the banks. These Fed IOU checks end up in banks when deposited and allow for expanded bank lending. As bonds are sold to the Fed new reserves are added to the credit markets that counteract higher interest rates caused by the extra treasury deficit borrowing. This practice of *monetizing* of the debt was adopted by European central banks to facilitate deficit financing as an alternative to less popular tax increases, just in time to provide financing that enabled prolonging the debacle of World War I.

Open market operation purchases by the Fed's FOMC (Federal Open Market Committee) can increase the nominal money supply. The banking system as a whole receives new deposits that automatically allow for increased interest earnings on the new loanable funds. Banks thereby enjoy an unearned source of income. Because these gains have already been priced (capitalized) into bank equity shares, present owners of bank equity by and large recoup only marginal benefit from this form of seigniorage. They would have something to lose however if it were discontinued.

Recent stimulating Fed policy included payment of interest to banks for parking reserves at the Fed. Additionally discount window borrowing from the Fed allows banks to gain from the carry-trade interest rate differential between the cost of funds and higher interest earnings from bank investments in Treasury bonds.

As discussed above under money inflation, what first appears to be a period of growth in available financing for business later turns out not to be, but only

revealed after a lag in interest rates adjusting to belated higher price expectations. The illusion eventually disappears as input prices rise. Prices will rise enough to adjust the ratio of the real money supply (after the money depreciates in proportion to price increases) down to its uninflated level in the economy. Although the economy is never the same thereafter, this adjustment back to its supply in real terms underscores the fact that money's usefulness to an economy remains essentially the same regardless of how much the nominal supply, or how many units of money, remain extant.

To see this suppose two isolated countries A and B, have identical resources, population, and production of goods and services. But B has twice the amount of money as A. One could expect that the price (and wage) level in B would be roughly twice that in A. The country with twice the money supply (B) would also have each unit of money representing roughly half the purchasing power as the units of country A. If country B's economy were twice the size of A's then the price levels would be roughly similar. Note that any measure of the total economic activity of either country would need to be deflated by a price index.

After 1913, under the new Federal Reserve System, banking interests succeeded in reducing reserves to nearly 10%, avoiding the earlier substantially higher market determined reserve ratios. This new, more extended fractional reserve system, underpinning and enhancing the credit bubble of the 1920's, was marked by its contribution to the calamity of the early 1930's that brought down thousands of small banks. In the six years (1914-1920) just after the new central bank regime, total bank deposits grew from $14 Billion to $29.4 Billion (Paul and Lehrman 1982, 119-122).

Productivity gains moderated price inflation in the 1920's. (The experience of falling prices during increased output and real income constitutes growth deflation.) Narrowly defined money supply totals did not show undue money supply expansion. However, such measures do not reflect the greater credit expansion induced by policy nor the reduction of demand for liquid and risk averse assets and money. Clearly, just as was the case leading to 2007-2008, overinvestment occurred in real estate and stock equities. Following the events of that period leading to the Great Depression the cry went out for even more protection. As a result Congress implemented FDIC guarantees in 1934.

After the 1930's, Federal Reserve Bank credit expansion supplied the monetary base for the leveraged growth in bank deposits based on the reserve ratio. This dilution of the U.S. money supply eventually undermined the 1944 international Bretton Woods gold exchange system. Its breakdown, punctuated by the 1971 U.S. default on dollar convertibility to gold promised to foreign central banks, ended reliable currency exchange rates and marked the onset of an enormous compensatory market in derivatives. These policies also directly resulted in the greater than 10-fold increase in prices by the end of the 20th Century.

The history of government regulation gives us little hope that more of the same can protect us from a credit collapse. More such regulation produces greater moral hazard and risk and not so coincidentally benefits elite and powerful elements in the financial sector. Current unprecedented unrestricted power to spend over and above revenues, given to the Treasury (without oversight), appears to be geared to promote even more concentration by the banking oligopoly. Once again, just as in the "progressive era" the ruse of regulation sets up the means for industry leaders to eliminate competitors, and avoid the market's internal regulation that would have included the threat of bank-runs.

Partial deregulation may not always move the economy closer to free markets. Not uncommon is a semantic conflation of deregulation with free markets. The introduction of FDIC in the 1930's was deemed liable to promote moral hazard for deposit banking. Glass-Stiegel was to put legal limits on commercial bank expansion into investment banking as a way to make up for the loss of market discipline removed by the new FDIC regime. Naturally, removal of regulations in the 1990's was likely to result in the furthering of distortions caused by FDIC intervention in the market. This result of "deregulation" of glass-Stiegel in 1999, while an argument against partial deregulation, hardly constitutes an argument against free markets, but rather in favor of free markets. It argues more so against the earlier removal of market strictures. Genuine free banking entails regulation by the discipline of the market, (i.e. the ability to withdraw deposits). Economic performance under free-market governance exceeds that under political governance. The recent Fed purchases of toxic bank assets (securitized mortgages) that rank as worthless simply translates as gifts to these institutions. The near $Trillion that the Fed acquired through fiat by 2009, growing to $4.8 Trillion by 2015 in the form of bank credit, has no precedent.

## Consumption and Spending

During the boom, resources and capital were being squandered in higher consumption. This may seem counter to our finding that business investment spending was over-stimulated. But these excesses rather than being quantitative are qualitative. Changes in capital are compositional, not in the amount of capital. It is evident that productive effort was redirected. Not overspending but the skewing of spending ensued. As perceived wealth and assets were over-appraised, spending on consumption also increased; both involve malinvestments stimulated by encouragement of expenditure on durable but uneconomic projects.

While we see that spending for (consumer goods) under easy credit conditions occurs also in booms, spending on present goods is only part of consumer expenditures. This is misunderstood simply because aggregate measures of consumption obscure the details. Standard practice separates household income and expenditures from business. But these are not economic categories, rather social categories. So by choosing the social category of households that exclude business we artificially construct categories that are less useful for analysis.

We think of credit card spending as a form of present goods spending (as opposed to investment goods) emphasizing indulgence and wastefulness. To the extent that this occurs, i.e. that spending is for goods and services used up in the current year such as vacations, expensive dining, stylish clothing, etc., that indeed accounts for some of the real loss to future economic output that would not have been the case without the over-optimism and lower risk assessments for debt that accompany the boom.

If we look at all spending, including consumer spending, not simply from the viewpoint of who does the spending, but rather from the functional viewpoint of what the spending is for, we see a spectrum of spending all of which could be called investment spending. This spending spectrum ranges from immediate, used-up or ephemeral consumptive investment, to long-range consumer durables and business capital invested in provision for the future. Another way to see this is to think of present consumer spending and future consumer spending, or to see that the time element permeates spending decisions. Spending for future consumption we think of more as investment spending.

Expenditure on a consumer durable such as a washing machine constitutes more of an investment in the future productivity of the economy than a business investment in a soft drink vending machine. Likewise personal spending on new tires might be more of an investment than a business expenditure to advertise a stay in Los Vegas. The future productive capacity of the economy depends on what kind of expenditure we undertake, not whether it is a household expenditure or a business expenditure.

For a progressing economy more saving and investment promotes growth, but the composition of investment must not be distorted by impermanent financing misconstrued by borrowers to be permanent as a result of the false saving of money injections. Thus, under boom conditions, the consumer (investor) also spends with the misapprehension that effects of a plentiful flow of funds into the loan market will continue. Thus, vacation homes were deemed to continue to rise in value. Credit was extended easily to unqualified consumers for investments in cars, houses etc., that were not necessarily for present consumption (investment) but simply too ambitious for the subprime individual investor looking to invest in his future. Likewise for a business investing in automation that required continued investment no longer affordable at higher interest costs. Again, these malinvestments were out of line with the reality of credit risks and actual savings available.

What is more, it would be wrong to condemn prime investors in real estate for simple greed. How much of such investing occurred from the fear of loss of value in more liquid financial assets such as CD’s under conditions of endemic dollar depreciation (i.e. secular price inflation)? Housing especially was vulnerable to price appreciation after the 1997 extension of its capital gains income tax exemptions from 100 to 500 thousand dollars.

With the failure of Congress to remove capital gains taxes imposed on other competing investments, distorted overinvesting in real estate ensued. Even consumer spending can be misdirected in a boom. Considering mortgage interest deductions, there was no free-market to blame here.

If the over-simplified idea that aggregate spending drives the economy were true, the economy should have been all the more healthy as debt was increasingly taken on over preceding decades to allow more absolute spending. What we have

instead is an economy in distress. What matters is the composition of spending not the amount, and especially not the amount of consumptive spending alone.

In early 2009 Congress passed a spending stimulus bill that amounted to almost a trillion dollars.

With misplaced understanding we are to believe that spending on current consumables must be increased in a recession, when common sense tells us that first you produce more, and then as a result of more income and wealth spending increases. Economists used to know this as Says' Law.

Today politicians and even economists too often favor any kind of irresponsible spending to boost demand, if the economy is less than at full capacity, to encourage more production. GDP can always be boosted by profligate debt spending on consumables just as one can increase his present comfort by warming his house by burning more fuel even if it is one's antique furniture. As we will see GDP incompletely measures economic performance and is no overall measure of economic activity.

During the 2008 credit contraction, regardless of whether or not one believes there could be a drastic collapse of spending in all sectors of the economy, there was no simple remedy. Further unwarranted debt spending, this time by government, failed to provide the needed corrective reallocation of resources. It now is clear final goods spending, as measured by the GDP was down 6.3% in the fourth quarter of 2008 and 6.4% in the first quarter of 2009.[15] This certainly was no drastic emergency calling on desperate infusions of random spending. Although some dramatic fixes were necessary in monetary policy, and some support for key financial institutions were perhaps excusable to avoid unnecessary panic, no such need existed in fiscal policy, especially not for spending for spending's sake.

We should expect a reduced GDP given that saving rates increased briefly and we had a shift away from final goods demand and output that followed the reversal of unrealistically inflated asset prices. This was unavoidable and a sign of the economy adjusting to disequilibrium brought about by the boom, not a panic

[15] By 2010 measured GDP had become positive.

collapse of division of labor, exchange etc. Had the money supply dropped 25%, as in the Great Depression, then such a general collapse might have occurred.[16]

Outwardly, spending reductions on the part of the consumer seemed to reduce economic activity. But sustaining artificially high wealth consumption through debt creation that characterized the preceding several decades only would slow adjustment. To the extent this debt spending used up previously saved wealth or its assets (capital depletion), continuation was a relative foundational loss for the future economy.

Growth theory generally has established that increasing the capital base, increasing investment and saving over consumption grows economies and by contrast consuming resources and the capital base impoverishes economies. What separates third-world economies from first is not lack of will to improve, or lack of access to technology, but lack of capital and the legal customs that ensure individuals and businesses can avoid predation, whether from individual or collective sources.

With the government in the role of a big irresponsible consumer, not only did we see more billions allocated to numerous wasteful programs, we saw the diversion of resources from profitable sectors or businesses; the bidding away of those resources from the rest of the economy. The former is spending easily seen, the latter (foregone spending) is spending not seen, that might have been, had input prices for unstimulated sectors not been bid higher. Government spending can be characterized as "capital consumption." (Mises, 1966, p.850)

The mechanisms of such fiscal policy economic distortions, if not easy to follow are at least fathomable. For the average observer, monetary policy distortions are more difficult to comprehend. This leads us to the arguments consistent with the theory that monetary policies initiate business cycles through easing credit to accommodate over expansion of the economy.

---

[16] The economy came under both demand side and supply side shocks that added to the 1920's malinvestment boom readjustment starting in 1929. Thus, added to the correction for distorted investment brought about by easy bank credit in the 1920's was the collapse of the money supply. The banking system, based on government promoted fractional reserves, imploded. Economically draconian tariffs, new taxes and new disruption of competitive markets through regulation provided the supply side shock. (Rothbard, 1963)

As we have seen the unhealthy expansion goes undetected because analysts only see warning signals from consumer price inflation, or aggregate output indicators. These measures may be unresponsive due to productivity increases that tend to reduce prices while at the same time the easy credit distorts the economic landscape by redirecting spending from its ultimate consumer driven course, such was the case in the 1920's leading up to the Great Depression.

## GDP a Conceptual Calamity

The common perception that consumptive spending drives the economy ranks as one of the most indefensible propositions in economics.[17] First it is an error of causality and second an error in measurement.

Consumption constitutes the act of extinguishing or using up goods and services. It is limited to what is currently produced and what has been set aside from previous production. The urge to consume exceeds what is available. But no causal connection can be inferred from consuming to economic activity. Higher long-term consumption results from increased production. Consumptive spending can increase in a boom environment at the expense of normal maintenance of, and additions to, capital and savings, but this hardly drives the economy–rather such expenditure is possible because of the permissiveness of credit. Again, one can burn his mahogany furniture for heat to increase present measures of economic activity and utility but such capital consumption subtracts from future utility.

As an accounting identity, consumption expenditures (one side of an exchange) equal goods sold (the other side of the exchange). Thus, this accounting connection is made based on the dollar ratio of consumption to GDP, a measure of final output. But consumption making up two thirds of this measure no more causes two thirds of GDP than would a municipal water uptake of 2/3 of a stream influence the upstream rate of flow.

Yearly final goods output measured by GDP enters into total spending. But business spending actually exceeds consumer spending, GDP is no measure of

[17]It has led to the supposed "paradox of thrift" familiar to students of economics as an under-consumption problem but rejected by Austrian economists: "This doctrine is as old as it is bad."-Mises (1966 p.432)

total economic activity or spending. No logical basis can be offered to express the economy as represented simply by GDP. Existing assets and capital, for instance, must be continually re-committed to productive tasks just to maintain the same level of output from period to period; these are not final goods or services, neither are intermediate goods that are exchanged between businesses. The market involves what is possible, it can't recognize the near infinite desire for goods and services which does ultimately motivate economic activity. The market economy only knows what is offered in exchange for them. The amount offered depends on vendible resources produced or available.

GDP can be contextually useful to compare performance of one economy against another, to measure performance over time. It may also lead to nonsensical conclusions such as that the Great Depression was ended just because GDP rose as government war outlays boosted this measure, but with no improvement of living standards. Measurements during the war were also distorted as price indexes needed to deflate output values were held down due to price controls. GDP, as defined, is an arbitrary measure.

The absurdity of using GDP (final goods and services) as an approximate measure of economic activity can be illustrated in taking the case of an economy where all goods and services are dedicated only as inputs to further production. Here all housing and food would be seen as input costs, and whatever R&R activity or socializing also seen as essential inputs to maximizing production where everyone has personally incorporated as a business, so that all income is business income and all expenditures are business expenditures. Then in this economy, if for instance production remained the same every year with no net investment or addition to durable goods (these are counted in GDP), we have the useless result that no GDP could be measured since there are no final goods or services as defined. Whatever one wishes to call such an economy it certainly is not devoid of economic activity. Such is the absurdity of using GDP as synonymous to economic activity.

Because any measure of the economy is in dollars, we also see that without a money supply increase, prices would generally fall with economic growth; any attempt to arrive at a real measure of growth would require inflating measured nominal growth through use of a price index.

## De-leveraging

We can recap the foregoing by revisiting the downturn. The boom ran out of steam. The Sept. 29, 2008 economic rescue act of Congress attempted to ease credit conditions at the point in time where markets recognized that rising price trends in certain asset classes had reversed. Once price increases leveled off, under the inexorable laws of mathematics, investments that depended on built in appreciation had to lose value.

Markets reacted strongly to decades of credit expansion and promotion of home financing partially encouraged by secondary mortgage market GSE's (government sponsored entities) such as FNMA, GNMA, and FHLMC, the Community Reinvestment Act of 1977. And further encouraged by the interest cost deductions tax shelter and increased (1997) exemptions of home value appreciation from capital gains taxes and FHA insurance. Seldom mentioned is the imputed rental income exemption from taxable income enjoyed by home ownership (Gaffney 2009: 114-116): If I move next door and rent your house, and you rent mine, each of us receive rental income that is taxable. We escape this tax by owning what we in effect rent from ourselves.

Hence, we had overspending in one favored sector at the expense of other sectors.

At this stage, investors reacted to asset and equity depreciation, and even default risk, by selling investments; businesses reacted by reducing inventories. In economic terms this can be seen as an *increase in the demand for liquidity*, or alternatively a subjective reduction of confidence in assets that previously served as sources of liquidity and a narrowing of assets considered near money. Investors have either increased holdings of other investments of lower risk such as U.S. Treasury bills or short-term T-bonds, or increased holdings of FDIC insured bank deposits. This constitutes a flight to liquidity and is price-deflationary.

De-leveraging has a life of its own. The withdrawal of funds by person (A) from a thrift institution reduces loanable funds to the economy. Person (A) is paid with a check drawn on the thrift's bank account which is debited, A's checking account is credited. Total bank demand deposits stay unchanged but the original savings account or CD of the thrift has been closed and no longer a source of funds for lending by the institution. If (A) keeps this money in the form of his checking

account a contraction in loanable funds has occurred. This process is a form of *disintermediation*.[18]

Should (A) lose faith in deposits and withdraw currency, to hold for safety, then even demand accounts are reduced and thus are loanable funds of the bank further reduced. Such a bank-run in some cases could be avoided by extension of FDIC coverage.

Falling equity prices in the stock market and falling real estate prices reduce perceived wealth. Falling equity values in a bear market affect all owners of a stock. In this way wealth can seemingly evaporate. But this wealth was only on paper. As we have seen in boom periods some asset prices can be bid up not from monetary or credit expansion, but simply notionally once an atmosphere of rising values spreads through the market bidding process. Similarly some asset prices can deflate, not from monetary or even credit contraction, but simply from notional changes, and liquidity preference needs.[19]

At the same time that demand for assets falls and demand for money rises, the desire to borrow decreases also, and loan demand falls and so counteracts the upward pressure on interest rates in the loan market due to the reduced availability of loanable funds. Reading too much into interest rate moves can be misleading as both the demand and supply of loanable funds fall. What is more, when price expectations are negative, real interest rates may be higher than apparent (nominal) rates. Only months later after price data are available is the real rate discernable.

Perceived default risk for loans restricts credit. Because clearing systems work in an extensive credit environment, restricted credit in turn reduces the use of the credit market to transact clearinghouse adjustments to meet payment needs (Mises 1912). The clearing function normally assists transactions in what would otherwise require a higher level of money availability. Loss of this results in even more need for the already diminished availability of liquidity, compounding the

[18] This term, if applied only to a single bank, would be used to indicate the opposite effect, (i.e. moving money out of its deposits to other institutions, the funds lost from one bank increasing the deposits of another bank). A single bank can lose deposits, but not the banking system as a whole.

[19] Even so the historical record shows that more significant bubbles occurred following outside stimulation of a monetary nature. See Douglas French (2009).

increased demand for the smaller pool of assets considered to be acceptable as money in the broader sense, and so is further price-deflationary.

De-leveraging can and has been countered by a massive increase in the monetary base by the Federal Reserve. This will only potentially produce more demand deposits and thus more potential for bank credit. By early 2009 the Fed had infused hundreds of billions of dollars into the banking system, in 2010 bank lending continued to be restrictive. To the extent banks use the new Fed credit to increase their reserves such policy has been compared to pushing on a string. As we have seen, banks enjoy a carry-trade advantage as they have been able to borrow from the Fed at a lower rate than can be earned on T-bonds. Bank reserves kept at the Fed earn interest. Fed policy has accomplished one thing: the restoration of bank capital for major players. The restoration of balance sheets clearly took place because banks had acted unpropitiously up to the crises under and atmosphere created by the expectation of just such rescue of the too big to fail.

Contrary to pronouncements by the mainstream financial press, the problem we faced following 2008 was lack of savings, not lack of spending. Both business and consumer spending, especially for more durable investments, were skewed in the boom. Spending was out of line with means. More debt, even if originating from government borrowing, will be counterproductive to the purpose of working back to affordable spending for the economy as a whole. Excessive debt spending made housing prices unaffordable as well as allowed for unsustainable purchases of expensive auto's and other non-essentials and the bidding up of equity prices. Policy should not have been aimed at reestablishing boom prices in these assets.

Printing money provides no real wealth either. Prices will be higher than would be otherwise. For most consumers falling prices at least provide some relief in cost of living expenses and affordability in housing.

Ostensibly, this Fed policy of increasing the monetary base and creating the potential for future price inflation could be just as easily reversed by the opposite action on the part of the Fed (tightening credit) once the crises is over. If, however, interest rates begin to rise as price deflation gives way to price inflation, then the pressure on the Fed will be to continue an easy money policy to keep interest rates down, especially if the economy is in recovery and not up to speed. Then the resulting continued inflation would bring on the next policy dilemma and crises

similar to the 1970's period of inflationary recession. An alternative would be for an increase in reserve requirements that would nullify the inflation potential while serving to continue its original purpose of backing deposits. [20]

We have seen that a bank run, or flight from demand deposits into currency, can reduce demand deposits and loanable funds as well, but it is to be emphasized any bank run remains unlikely as long as trust remains in FDIC insurance and bank bailout policies. We recall that the need for FDIC only arose because of the artificial government construct of fractional reserve banking.

Not surprisingly after banking industry leaders achieved their government-banking partnership created by the Federal Reserve Act of 1913, banks increased their deposit leverage. This system became insulated from free-market discipline even more after 1933 with FDIC, bank holidays, too-big-to-fail bailouts, and monetary base injections. In this regard correction of these effects does not necessarily imply that it would be prudent to pull the rug out from under our monetary system. Contrary to seemingly appropriate solutions in competitive money proposals by some free-market advocates, as we will see, there would be costs in abandoning what integrity remains of our dollar-based money.

## The Bailout

A market system is a profit and loss system. In the real world prevention of losses forestalls efficient change. Bailouts including the TARP (Troubled Asset Relief Program) unquestionably negate normal restraints by enhancing moral hazard and affecting credit transactions as if there were freely provided default risk insurance. As a whole this will allow for greater future risk taking than would otherwise be the case, just as Federal insurance encourages rebuilding in flood prone areas where private insurance is unavailable.

Some jump to the conclusion that speculation itself should be banned, even though speculators are the first to discover prices out of adjustment and so act to bring markets into line sooner than would otherwise be the case. This does not mean that speculation on the part of the public never overshoots, but expecting

[20] That such a policy in 1937-38 contributed to a sharp downturn fails to prove that such a policy may be inadvisable today.

participants not to take their best shot in a world of uncertainty is off-base. During the recession following 2007 we had trepidation in the private sector over a deteriorating business environment due to expectations of tax increases. Speculators had discounted equity values based on these expectations. We should remember, as pointed out by Mises, that all entrepreneurial activity is speculative whether we like it or not. The future is never given.

Those championing regulation by government edict often unrealistically (1) attribute unwarranted prescience on the part of the regulator and (2) envision that the power given the regulator will be employed in some definite beneficial way.

Unlike bureaucracies and politicians, markets have their own regulators. These are actual market participants who either perform successfully or drop out. This kind of regulator, with his/her own money at stake performs differently from a manager detached from the consequences of his/her decisions.

There is an evident tendency to overlook smokescreen regulation instituted under the urging of crony oligopolists to further their own ends in stymying upstart competition (John Allison, 2013).

Swings in confidence occur even in free markets, but free markets have persistently outperformed government-managed economies. Few disagree that much of what goes on in the hype and frenzy to make money in an economic boom deserves opprobrium, and is why bailouts of any kind meet with resistance in public opinion.

## Reform

Some have proposed monetary reform by setting a future date to target the dollar to gold at a range around its market price at that time as reflected in the futures market. Such a reform has been promoted as a step toward long-run dollar stability. An announcement could be made, for example, that in 60 days hence, monthly open market operations designed to change the monetary base by X percent would be automatic. At that time futures market prices could be used to target gold at the market price (dollars per ounce), then a deviation over $20/ounce at the end of the next month in futures prices would call for adjusting

the monetary base either higher for falling gold prices or lower for rising. Once confidence became widespread that the dollar would not be in jeopardy from over-expansive policies, other currencies could find a similar monetary haven in gold (Lewis, 2007).

Coupled with such proposals has been the scheduled decommissioning of the Federal Reserve System. This presumes that no outside imposition of a central bank need be foisted on the free market; banks need have no government-sponsored indemnification, but rather should be under market discipline. Money could include banknotes with whatever backing the market would accept. The Treasury would be unable to issue Greenbacks. Without the Fed or a monetary authority, the money supply would not be subject to the same degree of manipulation as would otherwise be the case. As with the states, no easy avenue for money expansion would exist.

Various observers have surmised that the monetary authorities will give up on the dollar and even try to nullify debt. In one conjecture the dollar is replaced 10 to 1 with new dollars, and debt is reduced by the same ratio. Others would posit only the reduction in value of U.S. Treasury debt and currency by that amount. A return to pegging gold at several times its current value at the same ratio as the dollar devaluation is seen as a solution by those who maintain that other prices would follow the gold price. But such conjecture is based on their mistaken view that gold is the real money. Such a default on obligations would need to be a convincingly one shot action that would see a permanent reconnection to gold–to a re-monetization of gold. All of this is of low probability due to the disruptiveness of, and lack of authority for, such drastic measures.

Reforms could be phased in. This argues for resurrection of the dollar, not its demise, nor its abandonment through “choice in currency.” Under an extensive market dominated by a single currency, such as in the U.S., new money regimes would not be expected to succeed in replacing the existing dollar regime either by imposition or spontaneity, at least not without a thorough-going breakdown of the social order first. Thus, as Murray Rothbard (1976) reminds us, the dollar is “our money” and needs no competitive environment to survive. It has already proven itself under the process of the emergent market order. Austrian economists have demonstrated that free market economies have built-in stabilizers that are only made weaker, not stronger by government intervention.

Some ideas for avoidance of future real estate bubbles have been proposed. Innovative ideas often are found in the private sector. In privately developed and managed residential communities association fees are contractually arranged to provide utility and common use amenities for the member property owners. To the extent that fees put a drag on house price appreciation the intensity of any bubble is moderated. Similarly, higher land value taxes by municipalities and local jurisdictions can contribute to the same effect, especially if much of what has been seen in appreciation can be attributed to underlying land appreciation in the boom so that structures would not face rising tax rates. A concomitant reduction in taxes on improvements has been suggested by economists favoring this kind of change to promote better development planning without the need for objectionable zoning regimes, but with the advantage of incentivizing urban renewal and dis-incentivizing urban sprawl.[21]

Free market proponents could embrace other policies. Certainly a phased reduction and replacement of taxes on capital gains, production, and wages, with fees on resource and land use, would not only be seen by some as more equitable, but would improve credit market confidence in investing and provide for future damping of real estate bubbles. While such tax shifts could be revenue neutral, overall a tax burden reduction would assist in recovery by not taxing productive effort.

Alternatively, the U.S. could face a showdown with a loss of confidence in the dollar worldwide. Price inflation would then result simply from the collapse of the demand for money (or increase in velocity of money "V" in the equation MV=PT) which would be destabilizing.

## Free-Markets are not enough

Free market reform described in such a tract as this should not be applied out of context. Free markets, where voluntary interactions between assenting adults such as in trade and exchange is defended as an application of the Golden Rule, or more precisely as the Law of Equal Freedom (John Locke): '**One has the**

[21] …http://commonground-usa.net/. This site has a Georgist slant. It includes invaluable articles on the palpable successes of such tax reform, but not exclusive of somewhat more questionable articles on economic reform classified as 'progressive' but likely to result in unintentional regressivity.

**freedom to do as one wills, provided one does not infringe on the equal freedom of any other**.' In this sense, all interactions take place because each participant expects to gain–thus a positive sum game (ex-ante).

Yet context is everything. If this social contract is introduced out of context of existing conditions then '**equal freedom**' may be meaningless. If through fraud, deceit, aggressive force, or conquest, the 'any other' has been long deprived of land to stand or live on, then no scope remains for his freedom.

So ownership titles to land, resources and what has been traditionally the 'commons' must be weighed and found compatible with long-accepted customary standards. A feudal society, although unjustly denying commoner property titles, nevertheless had a regime of complex rights and duties that provided stability, yet it had its beginnings in conquest or similar coercion.

Likewise, contemporary 'equal protection of the law' unequally protects ownership titles at least to some extent. A simple illustration is privatization of the airwaves. It conveys title to collect rent to the highest bidder at an initial government auction for a piece of the electromagnetic spectrum, instead of a perpetual arrangement of fees to be refunded to the public or commons representing everyone equally.

This principle, although not always easy to implement, has been explored elsewhere in some of the geo-libertarian literature stemming from the ideas of Henry George (1949). For present purposes, mention of this matter was meant as a caution against applying free market reform exclusive of larger contexts.

## Concluding Remarks

Following the abrogation of free markets and free banking that resulted from installation of the Federal Reserve, and following the process of price inflation and money dilution managed by this monetary regime, the economy suffered significant disruption of coordination in the price system. Moreover, secondary effects of such monetary policy driven expansion, mainly occurring in the loan market, encouraged leveraging in the financial markets and over-confident redirection of business spending. Easy credit stimulated longer life durable asset investments such as autos and housing.

The train of events that produced post World War II price inflation began in money inflation, in the dilution of the money supply affecting specific prices differently. Unobserved effects on a micro-economic level produced asymmetric macro-economic dislocations in production. By using oversimplified models with aggregated variables modern textbook aggregate demand models failed to integrate these micro-economic effects and so failed to signal internal damage to the economy. For instance, a variable that measures the totality of capital stock misses important changes in its relative composition. Similarly, employing a single measure for the price level and spending fails to give weight to important asymmetries.

Decades of credit or financial stimulus initiated false confidence in investment returns. For every overinvestment seen there was an underinvestment not seen; bailouts and special legislation encouraged moral hazard excesses and risk in bubble prone areas such as equities, housing and financial intermediation– regulation through market discipline was thus postponed. Stresses inevitably grew until imbalances reached a critical state. Just as we saw that fire suppression contributed to eventual catastrophic fire events, so do we see accumulation of higher levels of risk prone debt, banking carried out under the umbrella of federal guarantees, and a Federal Reserve System over-reach making for magnification of market excess and correction: as Mises warned repeatedly, every artificial boom has its reckoning.

Fed policy now appears to have been too accommodative in the first half of the 2000's decade. Price inflation was mistakenly deemed under control because of

incomplete attention to some of the real estate and equity market appreciation not factored into price indexes. Indexes were also subject to a decade of unexpected productivity increases that provide a natural downward bias to average prices (growth deflation). But such softening of the price inflation numbers did not prevent the effects of money injection or price inflation elsewhere. This means that the normal non-inflationary price level trend should have been allowed to be negative.

Contributing to the boom, to the credit stimulus and over-extension, were money unit supply increases as well as money demand reductions, along with progressively greater confidence in debt financing. Clearly, the gradual infusion of bank credit money was instrumental in producing a climate favorable to debt and eventual development of asset bubbles. This was only possible under artificial constructs such as the Fed and FDIC taxpayer backstops that produced the endemic erosion of purchasing power of the dollar since World War II.

Absent perfect knowledge of the future, economies unregulated by market discipline will continue to progress, but with volatility. Natural tendencies towards optimism or pessimism cannot be eliminated even by well-intentioned renewed intervention. A regulatory authority has no better source of information than does a market player.[22] Further, a regulatory body lacks competitive checks and balances over its powers, does not risk its own capital, and possesses no inherent automatic process for eliminating its own unsuccessful contribution, as is the case for market participants.

What is more, the far-reaching policing powers of the state, have a history of succumbing to influence and to being too often subject to capture by private interests hoping to profit from special favors and from laws they promote to suppress new competition.

One need not advocate that the government immediately pull the rug out from under all of the economic props that have been erected. A run on banks that could ensue without FDIC backing. It would upset markets accustomed to our money

[22] For advocates of more regulation this does not mean that some regulation does not have success in limiting irresponsibility under the presently structured regime of jurisprudence. There currently exists a lack of adequately developed consumer and environmental protection, even though, as some would argue, such protection might have been more likely to evolve in a business environment relying only on insurance and tort action uninhibited by statutory supremacy.

system which, even though mismanaged and flawed would need to remain functional during any transition.

Fiscal and monetary policy of stemming downturns may have been suppressing true recovery for decades, supporting a false economy that continued to be diverted into boom type malinvesting, and outsourcing along with transnational corporate avoidance of the world's highest corporate tax rate. Since taxes can be raised for the top tier that constitutes owners of these corporations, there need not have been high corporate taxes to achieve the same revenue outcome. There is some validity in the idea that all of the income to the rentier-proprietary class is not earned but some rests on privilege. After all, corporations own most of the high-rent urban property square-footage that escapes its true share of cost from myriad locational external benefits of infrastructure etc. paid by municipalities.

An excellent point made by LVT (land value tax) proponents is that corporations cannot escape site value tax burdens by out-migration. In the last decade, small-business–with high labor to capital ratios, have been beaten down by statutory encumbrances initiated to advantage the corporate giants who now own Washington and enjoy scale economies in tax and regulatory compliance and litigation.

Fomenting the last bubble in finance on Wall Street were complex regulatory work-arounds and seemingly unintended loss of control from agency oversight. Given that for decades policy makers have been anything but hands-off, with ever increasing paper-work and time diversion requirements repressing productive business, the whole Main Street economy has underperformed. Because this more severely impacted the smaller or aspiring enterprises with higher marginal costs, employment suffered.

Hence, it is no surprise that although the organs of propaganda are towing the line for more regulation in general—more turns out in the end to be effectively less. New legislation invariably ends up covertly advantageous to the crony-oligopolist corporate cabal, while the real discipline of risk aversion has been waived by decades of too-big-to-fail bailouts and rescue for those at the top.

Those that say they want to put the disposition of our monetary system under the free market mean that it should be handled by those who would be literally

responsible, by banks on their own, individually facing the possibility of disciplinary bank runs–a veto power wielded by the people. [23]

On the other hand, whether bureaucrats, appointed officials, or congressmen and senators are handling monetary affairs, they are not as responsible as those with a direct personal stake in the losses.

We cannot eliminate waves of credit and asset appreciation and correction, but we can let the small fires burn and reintroduce regulation in its most effective form: market discipline. John Kenneth Galbraith, no champion of the market, notes (1990) that little can be done to prevent the next crash: **"Regulation outlawing financial incredulity or mass euphoria is not a practical possibility. If applied generally to such human condition, the result would be an impressive, perhaps oppressive, and certainly ineffective body of law."**

[23] Implementation of a supermajority requirement for new legislation, coupled with sunset provisions for existing laws, would protect in some measure a wide range of activities that could be left to the people and their (more flexible) common law civil resolution of disputes. A reminder that it is the efficacy of the legislative democratic process in lawmaking responsible for the Drug-War and its depredation on minority poor with the highest incarceration rate of any regime in the world. A tort oriented system of jurisprudence never concerns itself with private non-violent non-fraudulent matters between consenting adults because no damages can be claimed when there is no plaintiff.

# BIBLIOGRAPHY

Allison, John A., 2013. *The Financial Crisis and the Free Market Cure*, New York: McGraw Hill.

Auerbach, Robert D. 2008. *Deception and Abuse at the Fed*, Austin, Texas: University of Texas Press.

Barnett, William II, and Block, Walter. In Defense of Fiduciary Media–A Comment, *The Quarterly Journal of Austria Economics* (Summer 2005) 55-69.
Bresciani Turroni, Costantino. 1968. *Economics of Inflation*, New York: Augustus M. Kelly.

French, Doug. 2009. *Early Speculative Bubbles and Increases in the Supply of Money*. Auburn Alabama: Ludwig von Mises Institute.

Gaffney, Mason. 2009. *After the Crash: Designing a Depression –Free Economy*. Chichester, U.K.: Wiley-Blackwell.

Galbraith, John Kenneth. 1990. *A Short History of Financial Euphoria.* New York, NY: Penguin Group.

Garrison, Roger W. 1992. The Costs of the Gold Standard, 61-79, in Llewellyn H. Rockwell, Jr. (Ed.) *The Gold Standard*. Auburn, Alabama: Ludwig von Mises Institute.
_____.1994. Hayekian Triangles and Beyond, in J. Birner and R. van Zijp, (eds.), *Hayek, Coordination and Evolution: His Legacy in Philosophy, Politics, Economics, and the History of Ideas.* London: Routledge.
_____.2001. *Time and Money: The Macroeconomics of Capital Structure.* New York, London: Routledge.

George, Henry. 1949 [1879]. *Progress and Poverty,* New York: Robert Schalkenbach Foundation.

Hayek, Friedrich A. von. [1935] 1967 *Prices and Production*. (2nd ed.) New York: Augustus M. Kelly.
_____.1941. *The Pure Theory of Capital*. London: Routledge & Kegan.

Huerta de Soto, Jesús. 2006. *Money, Bank Credit and Economic Cycles*. Auburn, Ala: Ludwig von Mises Institute.

Hülsmann, Jörg G. 1998. Toward a general theory of error cycles, *Quarterly Journal of Austrian Economics* 1, no. 4: 1–23.
_____. 2000. Banks Cannot Create Money. *Independent Review* 5, no. 1: 101–10.
_____. 2003. Has Fractional-Reserve Banking Really Passed the Market Test? *Independent Review* **7,** no. 3: 399–422.

Lewis and Wiggins. 2007. *Gold: the Once and Future Money.* Hoboken, N.J: John Wiley and Sons, Inc.

Machlup, Fritz. 1940. *The Stock Market, Credit and Capital Formation*. (Translated from a revised German edition by Vera C. Smith) London: William Hodge.
_____.1943. Professor Knight and the "Period of Production", *JPE* 43(5) p.580.

Mises, Ludwig von. [1912] 1971. *The Theory of Money and Credit.* Irvington on Hudson, New York: The Foundation for Economic Education.
_____. [1930] 1970. *Money, Method and the Market Process.* Norwell, Mass: Kluwer Academic Publishers.
_____.1966. *Human Action*. Third revised addition, Chicago: Henry Regnery Company.
_____.1969 *Theory and History,* New Rochelle, New York: Arlington House.
_____.2006. *The Causes of the Economic Crises*, Auburn Ala: the Ludwig von Mises Institute.

Mulligan, Robert. 2006. An Empirical Examination of Austrian Business Cycle Theory. *The Quarterly Journal of Austrian Economics* Vol. 9, No. 2 (Summer 2006).

Paul, Ron and Lewis Lehrman. 1982. *The Case for Gold*, Washington, D.C.: Cato Institute.

Reisman, George. 1998. *Capitalism A Treatise on Economics.* Ottawa, Illinois: Jameson Books.

Rothbard, Murray N. 1962. *Man Economy and State*, Los Angeles, Nash Publishing.

_____. [1963] 1972. *America's Great Depression,* (2nd edition). Los Angeles: Nash Publishing.

_____. 1976. *What has Government Done to Our Money*? Santa Ana, California: A Rampart College Publication.

_____. 1994. *The Case Against the FED,* Auburn Alabama: The Ludwig von Mises Institute.

_____. [1973] 2006. *For a New Liberty.* Auburn Ala.: The Ludwig von Mises Institute.

Skousen, Mark. 2010. *Economic Logic* (revised 3rd Edition). Washington D.C.: Capital Press.

Spencer, Herbert. [1850] 1970. *Social Statics.* New York: Robert Schalkenbach Foundation.

Tannehill, Morris and Linda. 1970. *The Market for Liberty.* Lansing Michigan: Morris and Linda Tannehill.

Timberlake, Richard H. 1993. *Monetary Policy in the United States.* Chicago: The University of Chicago Press.

DEPICTonomics.com