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Escaping the Polanyi matrix: the impact of fictitious commodities: money, land, and labor on consumer welfare

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Abstract
Karl Polanyi's concept of land, money, and labor as "fictitious commodities" are found in his book *The Great Transformation*. He pointed out that the attempt to commodify these factors, which he said was necessary for a market economy, would demolish people, business, and nature if some mitigating steps were not taken. The impact of these fictitious commodities will be analysed in the modern market economic context to show their detrimental impact on consumer surplus and welfare. The author introduces the term "Polanyi matrix" to describe the system of unseen rules whereby land, money, and human labor are commodified, are never questioned, and are at the root of many economic problems. The author contends that commodification of land, money, and labor are not necessary for a functioning market economy, and in fact are detrimental to it. For example, land can be placed in trusts, money can be administered as a public utility, and people can reclaim sovereignty over their own labor. The concepts of socially responsible business, green economics, sustainable economics, the creative economy, natural capital, steady-state economics, caring economy, solidarity economy, cooperative economy, or any other suggested solutions, have no chance of succeeding in creating widespread prosperity or sustainability, unless the operating system of the economy can be reformed in these three crucial systemic ways. We can use Polanyi's insights to address the fundamental roots of the problem in commodity land, money, and human labor.

Introduction

In his classic 1944 book, *The Great Transformation*, Karl Polanyi provided the key to understanding how to escape from the current unsustainable economic system. He reviewed the historical transformation from a feudal society to a market society. He noted that it was necessary for all factors of production to be sold in markets in order to make them available for production. However, he made the observation that land, capital, and labor are "fictitious" commodities, since they are not "produced for sale on the market" (Polanyi, p. 72), and therefore their prices are not equilibrated by supply and demand. He pointed out that the attempt to commodify these factors would demolish people, business, and nature if some mitigating steps were not taken. The book documents the various steps undertaken by local communities, feudal landowners, the church, government, and society as a whole to compensate for the negative impacts that took place when these factors were attempted to be put into an unregulated market economy, which he believed could never actually be realized. At the time, results were described by the writer Charles Dickens and others as "satanic mills" of the industrial economy in 18th and 19th century England. Due to centuries of labor organizing, satanic mills are mostly gone in developed countries, though they still exist in developing countries. What is still with us is the attempt to treat land, money, and human beings in their labor role as commodities. In the neo-liberal dominance and globalization of the last few decades, deregulation of all three factors has taken place to a great extent. What Polanyi thought could never actually be realized has come closer to reality. The treatment of land and money as commodities for generation of unearned income through asset bubbles has become sacred. “Flexible” labor markets are also promoted in the neo-liberal ideology of our time because they are good for business, but not necessarily for human beings who comprise labor.

In Adam Smith’s “invisible hand” theory, developed further by theorists of the firm (microeconomics), firms seeking profits enter existing markets as long as economic profit[1] is greater than or equal to zero. Competition lowers prices and consumers benefit. If economic welfare is equated with consumption, consumer surplus and welfare are maximized. This does not take place for markets in land, money, or labor. Market entry by investors in land and money create asset bubbles and busts, as well as massive debt. Treating human labor as a market commodity results in dehumanization and deprivation through wage slavery and periodic unemployment. In order to compare market commodities with Polanyi’s “fictitious commodities” we can use the concept of consumer surplus to analyse benefits or losses to consumers. It is the attempt to commodify land, money, and human labor which is at the root of many economic problems, and this the author is calling the “Polanyi Matrix”, the system of unseen rules we live by creating much of the misery and degradation around us. Commodification of land, money, and labor are not necessary for a functioning market economy, and in fact are detrimental to it. For example, land can be placed in trusts, money can be administered as a public utility, and people can reclaim sovereignty over their own labor.

The concepts of socially responsible business, green economics, sustainable economics, the creative economy, natural capital, steady-state economics, caring economy, solidarity economy, cooperative economy, or any other suggested solutions, have no chance of succeeding in creating widespread prosperity or sustainability, unless the operating system of the economy can be reformed in these three crucial systemic ways. We can use Polanyi’s insights to address the fundamental roots of the problem in commodity land, money, and human labor. We will start with a discussion of competitive markets for products resulting in consumer benefits, and then analyse each of the fictitious commodities from the standpoint of consumer surplus. Then we will consider remedies for the commodification of land, money, and labor. Next we will look at the impact of the 2008 financial crisis on the three false commodities. Finally we will look at various economic solutions proposed and document how they fall short due to the lack of consideration of Polanyi’s insight.

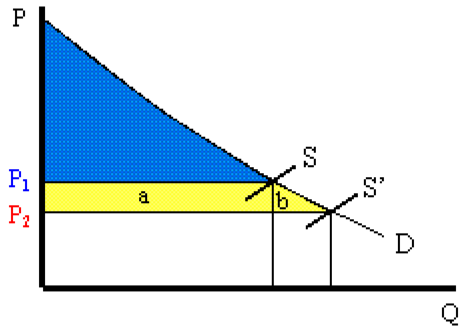
Microeconomics, consumer surplus, and fictitious commodities

The principle of consumer surplus is associated with neo-classical economics, “laissez-faire”, and Adam Smith’s “invisible hand”. The concept is that individuals expressing their market preferences and maximizing their utility will draw forth resources into production at the lowest possible price. Firms will enter the market and compete for market share until prices are bid down to the lowest level, and normal profit is zero[2]. This will maximize consumer surplus, and therefore consumer welfare because it will provide the greatest amount of products at the lowest possible price, thereby maximizing consumption, which supposedly maximizes human utility. Details can be found in any microeconomics textbook.

[1] Economic profit is defined as revenue minus alternative returns foregone by using the chosen inputs.
[2] Normal profit is an economic condition occurring when the difference between a firm’s total revenue and total cost is equal to zero (http://www.investopedia.com/terms/n/normal_profit.asp)

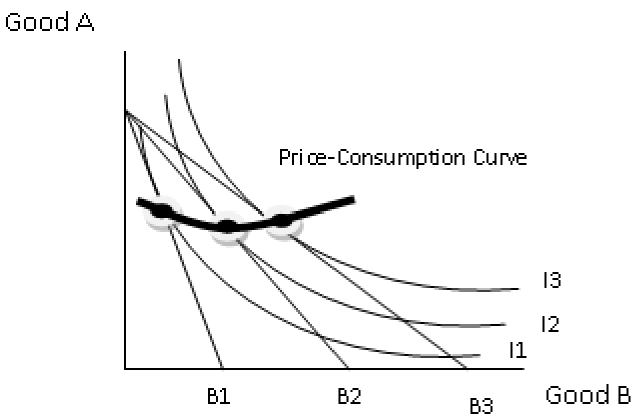
Prerequisites for microeconomics are: perfect competition (free entry and exit), a homogeneous product, factor mobility, and perfect information. There are a large number of firms so each firm is a price taker, and Pareto optimality is enforced (no one is supposedly made worse off). As long as there are economic profits, then firms will enter the market, increase the supply of products, and push prices down until there are no economic profits. This circumstance has a resemblance to reality in the case of some industries, but is completely untrue in the case of the fictitious commodities. Although Polanyi did not discuss consumer surplus, we can use this concept to compare the consumer welfare of products "produced for sale on the market", with the three fictitious commodities as defined by Polanyi.

Figure 1 Increasing consumer surplus with increased supply and subsequent drop in prices



On a chart of consumer surplus, dropping prices are depicted as rising consumer surplus. The supply curve moves to the right from S to S' as manufacturers can produce a larger quantity at a lower price. This drops the equilibrium price from P1 to P2. The consumer surplus, which is the area above the line P1-S moves to the P2-S' line, and therefore consumer surplus is increased by the area of a+b.

Figure 2 Rising Consumption increases utility



When the price of Good B goes down, this is depicted as a change in the budget line (B1 to B3 above), allowing greater consumption of the item, or more money available for other items. Also the utility curve moves to the right (I1, I2, I3), increasing the consumer's utility for every reduction in price.

The invisible hand and computer chips

We are first looking at items produced for sale on the market, and in particular a competitive market. The conditions for maximizing consumer surplus are approached in some industries. The most obvious one is the microelectronic industry, where Moore's law has prevailed for many decades since first stated in 1965[3], doubling computing power at the same price every 18-24 months. Competition between Intel, Samsung, Qualcomm, Micron, etc. is fierce, dropping prices, while improving performance. The Top 10 manufacturers in 2013 from Wikipedia with market share are:

1	Intel Corporation	USA	14.8
2	Samsung Electronics	South Korea	10.5%
3	Qualcomm	USA	5.5%
4	Micron Technology	USA	4.5%
5	SK Hynix	South Korea	4.2%
6	Toshiba Semiconductor	Japan	3.9%
7	Texas Instruments	USA	3.6%
8	Broadcom	USA	2.6%
9	STMicroelectronics	France Italy	2.5%
10	Renesas Electronics	Japan	2.5%

No company has a majority of market share, so monopoly is avoided, and the industry remains competitive. Competition may not be perfect but it is substantial, and entry and exit is limited mainly by investment capital. Many of the products are homogenous and interchangeable, for example processors on mother boards. Globalization has resulted in extreme factor mobility as companies move factories and resources around the world for the most favourable location, mainly to reduce labor costs. Information may not be perfect, but the technology for producing microelectronics is widespread. Therefore the pre-requisites for maximizing consumer welfare are present in microelectronics and the facts support it.

Many electronics-based products have declined in price. According to Yahoo finance[4] the following reductions have occurred: televisions (down 77.9 percent); computers (down 88.3 percent); audio equipment (down 39.3 percent); and videocassettes, video discs and other media, including rentals (down 20.4 percent). Over the last decade they also document a 6.6 percent drop in the price of new cars and trucks, 44.4 percent drop in the price of toys, 11

[3] Moore, Gordon E. (1965). "Cramming more components onto integrated circuits" (PDF). Electronics Magazine. p. 4. Retrieved 2006-11-11.
[4] http://finance.yahoo.com/news/pf_article_106259.html

percent drop in clothes, and the cost of a timepiece fell 6.2 percent. Reducing prices result in individuals having greater income to spend on other items, which from a purely consumption standpoint increases their welfare. In these cases the "magic of the market" actually works to create greater consumption and prosperity. Polanyi conceded that even though commodification of labor imposed severe cultural and social costs to workers and their families, it also contributed to economic "improvement" and growth.

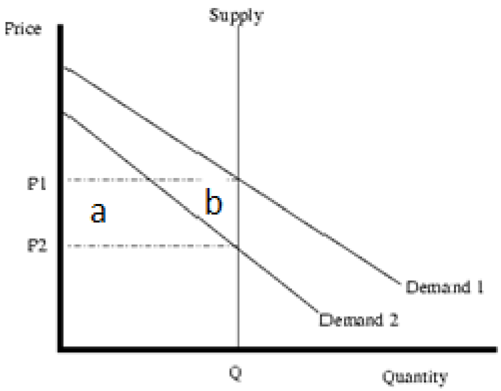
The three false commodities and consumer surplus

Land and money supply curves

Now we will look at consumer welfare in the case of the three false commodities. In contrast with computer chips, land and money do not fulfil any of the criteria of competitive market goods as there is not free entry and exit, a homogeneous product, factor mobility, or perfect information. Firms may be price makers, not takers, and Pareto optimality cannot be enforced, as they are zero-sum games with winners and losers. They are dominated by economic rents (unearned incomes), rather than economic profits, and when firms enter the market they do not increase the supply of the product and bid the price down. Instead they increase demand for a relatively fixed supply driving prices up, resulting in capital gains until prices crash. This phenomenon has been known back to the days of the "tulip mania" in Holland in 1636.

These items are assets with vertical or near vertical supply curves, subject to bubbles, which reduce consumer surplus and result in less societal welfare. Compare the action of demand on land and money to that of computer chips. Since land or financial products have limited supplies, as demand increases, prices are bid up in a bubble (see figure 3). Consumer surplus is reduced by area a + b, and consumer welfare is therefore decreased. This is true for currency, stocks, bonds, commodities, or any other financial asset since a limited number of shares are available, and for land, since it is fixed in quantity. Prices continue to rise until factor payments and interest crowd out the rest of the economy and asset prices crash.

Figure 3 Supply curve of land or financial assets



Labor and consumer surplus

In the case of labor, it is an entirely different problem. There is free entry and exit, a relatively homogeneous product, factor mobility, and reasonably good, though not perfect information.

Some explanation is called for. Free entry and exit means that human beings are generally free to enter the labor market at the wage offered if there is a job opening, and free to leave. There are no structural barriers to entering the labor market as long as they have the skills required. Labor is fairly homogenous for any particular job as laborers generally have similar skills within any particular profession or trade. There are certainly outliers, but human beings generally have two arms, two legs, and a brain, so are homogenous from that standpoint. Factor mobility means that people are free to move to seek higher prices for their labor. Good information means that people are informed about what the job entails and what the wages will be prior to agreeing to supply labor to the labor market. So labor fulfils most of the criteria for market entry by a firm, where we are comparing the supply of a firm's product to a product market with the supply of person's labor to a labor market.

Labor fulfils the criteria of the invisible hand and laissez faire almost perfectly. Competition due to market entry by new laborers does cause the price of labor supply to be bid down, just as market entry by firms increases supply of products and thereby lowers prices. Lowering the price of labor thereby lowers the price of products using labor, and increases consumer surplus. Therefore treating labor as a market commodity increases consumer welfare.

There is only one problem with this equation, which is that the price of labor as a factor of production is simultaneously the wage of labor. Therefore the "magic of the market" in labor results in driving down the income of labor. Labor in their role as consumers desiring low prices, are directly in conflict with labor in their role as workers desiring high wages. Also, in the case of recession due to the collapse of asset bubbles in commodity land and money, massive unemployment results, which would result in homelessness and starvation if not for social or governmental provision of emergency measures such as unemployment insurance, welfare, food stamps, housing, etc. Workers' labor may be for sale, but workers and their families are not. It is labor as a social being that makes the commodity function of labor contrary to its economic function. Perhaps the best illustration of this is WalMart, where the company has perfected the ability to exclude unions, maintain employees at minimal wages, and keep their working hours below what requires the payment of benefits. Walmart has what is called an extremely "flexible" labor market, meaning it is extremely market driven with little government interference. Employees are trained how to obtain government benefits like food stamps and welfare, demonstrating Polanyi's point that unregulated labor markets would cause starvation and deprivation without social measures provided by government, or other non-market institutions. Walmart also follows Henry Ford's famous policy of turning employees into customers, only in reverse. Henry Ford paid his workers high wages so they could afford to buy cars, while Walmart keeps their employees so poor, they can only afford to shop at Walmart.

The three false commodities in the financial crisis

Fred Block states "The theory of market self-regulation rests on the pretence that the supply and demand for these fictitious commodities will be effectively equilibrated by the price mechanism just as if they were true commodities. But as Polanyi insists: 'in regard to labor, land, and money such a postulate cannot be upheld. To allow the market mechanism to be sole director of the fate of human beings and their natural environment, indeed, even of the amount and use of purchasing power, would result in the demolition of society…no society could stand the effects of such a system of crude fictions even for the shortest stretch of time unless its human and natural substance as well as its business organization was protected against the ravages of this satanic mill'" (Polanyi, p. 73).

Buying and selling property and financial assets simply transfers money from one person to another, while inflating asset values, allowing banks to collect greater interest, and contributes nothing to the economy. No good or service is produced. We might call it anti-free enterprise or anti-capitalism because it siphons money from real production to speculation. The entire Finance, Insurance and Real Estate (FIRE) sector is a parasite on the productive part of the economy. In 2008, we nearly had the demolition of the economy, if not society, as Secretary of the Treasury Hank Paulsen warned Congress that without non-market government intervention to the tune of a $700 billion taxpayer bailout, there would be economic Armageddon. As President Obama told the leaders of Wall St. in 2009, "My administration is the only thing between you and the pitchforks."[5] In order to demonstrate the impact of the three false commodities in the financial crisis we can look at asset prices for land and money, and unemployment for labor during the financial crisis.

Land as a false commodity

When looking at real estate prices it is important to remember that rising house prices reflect rising land values, not buildings. Buildings depreciate as they wear out. Their replacement price may increase due to the normal inflation rate, and their value may be maintained by investments in repair and maintenance, but buildings do not increase in value on their own. By contrast, land values are what are subject to rising real prices.

There are three important problems with land as a market commodity. First, periodic booms and busts of land prices due to speculation are extremely disruptive of the economy and cause recessions and massive unemployment. The crash of 1929 was due to an asset bubble including real estate, and it is widely understood that the "sub-prime mortgage crisis", i.e.; a land bubble, was behind the global financial crisis in 2008, as real estate prices rose to unheard of levels historically, and then crashed.

Second, land prices rise faster than incomes driving average wages to subsistence due to mortgages and rents crowding out other expenditures by average wage earners. Housing costs rise to unaffordable levels, and households respond by putting both partners to work, increasing working hours, or working multiple jobs so they become trapped by debt peonage.
Third, rising land values, or the economic rent of land, are generated by society and not by the individual land owner. Therefore society has the right to recapture it. Allowing some members of society to benefit from social progress and leaving others behind is inequitable. So there is a moral component as well, since landowners accumulate capital gains from land while doing nothing to earn them. "Did you ever consider the full meaning of the significant fact that as progress goes on, as population increases and civilisation develops, the one thing that ever increases in value is land?" (George, 1887)

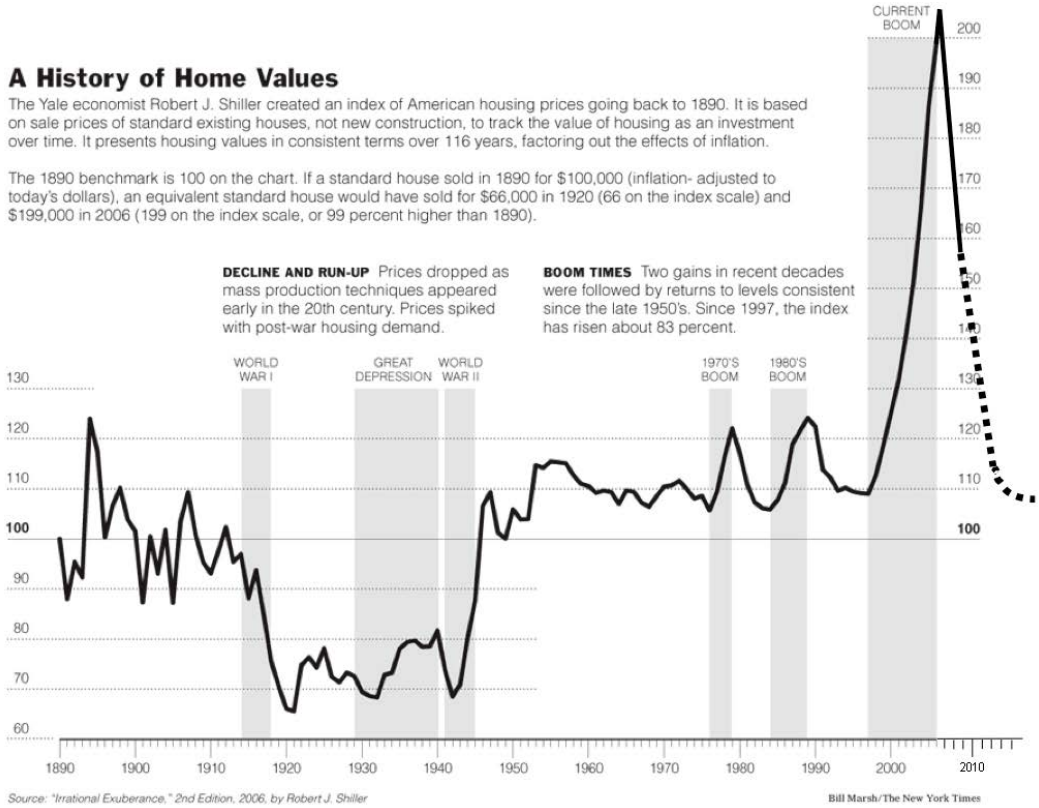
Furthermore, it is a zero-sum game. For every person who makes unearned gains from land someone else must pay. Rising prices and rent benefit land owners, while renters must pay

[5] http://abcnews.go.com/blogs/politics/2009/04/obama-to-banker/

ever increasing rents. These factors sum up the essential problems with the privatization of land rent, and commodification of land.

Boom and bust

Figure 4 Case-Shiller index



Using the 2014 table for the Case-Shiller index for real, inflation-adjusted home prices[6], we find that the index went from 124.41 in Feb 1, 1997 to 217.31 Dec. 1, 2005. This is an average annual increase in the real price of 6.52% per year, and a total increase of 75% in 8 years. The graph above in figure 4 shows the same trend up to 2012. The repeating booms and busts in real estate, especially the land boom leading to the global financial crisis in 2008, demonstrate the diametric opposite of the invisible hand leading to consumer welfare. In this case rising demand and competition lead to higher prices, rather than lower. Investors attempt to purchase a limited supply of land as the price is rising, in order to receive the "free-lunch" of rising home prices, or capital gains. Those who purchase at the peak and suffer the drop in value, end up "underwater", with their mortgage higher than the property is worth at that time. It may be many years before they recover the purchase price if ever.

Furthermore, this is a worldwide phenomenon as demonstrated by Gavin Putnam in his article entitled, "*From the Subprime to the Terrigenous: Recession Begins At Home*"[7], revealing the

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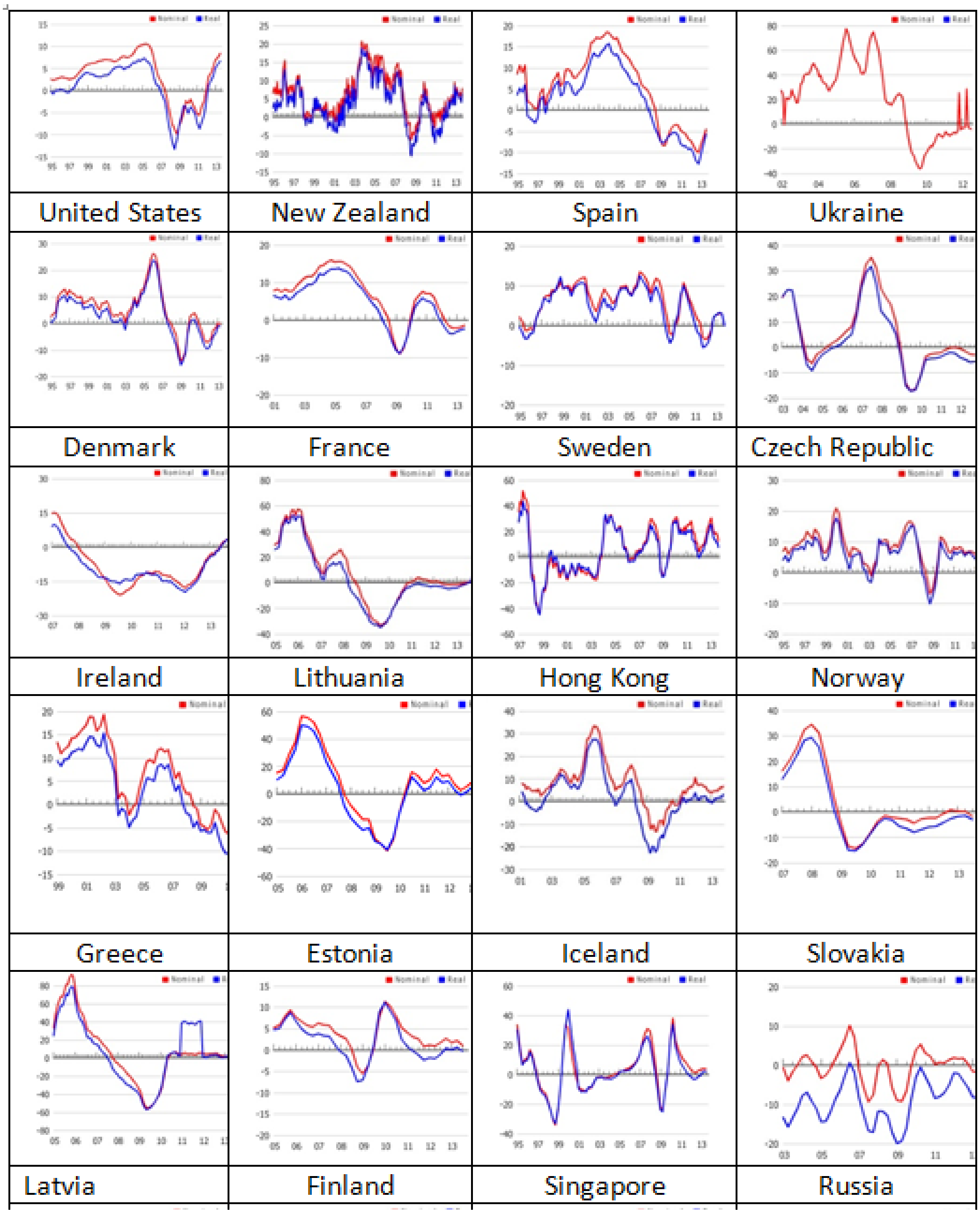
[6] http://www.multpl.com/case-shiller-home-price-index-inflation-adjusted/table?f=m
[7] http://blog.lvrg.org.au/2009/06/from-subprime-to-terrigenous-recession.html#terrig.seq

drop in housing prices in 31 countries during 2006-2008. See figure 6. Putnam summarizes the drop in property values followed by a recession in each of these countries in figure 5.

Figure 5 Fall in property, then recession (from Putnam)



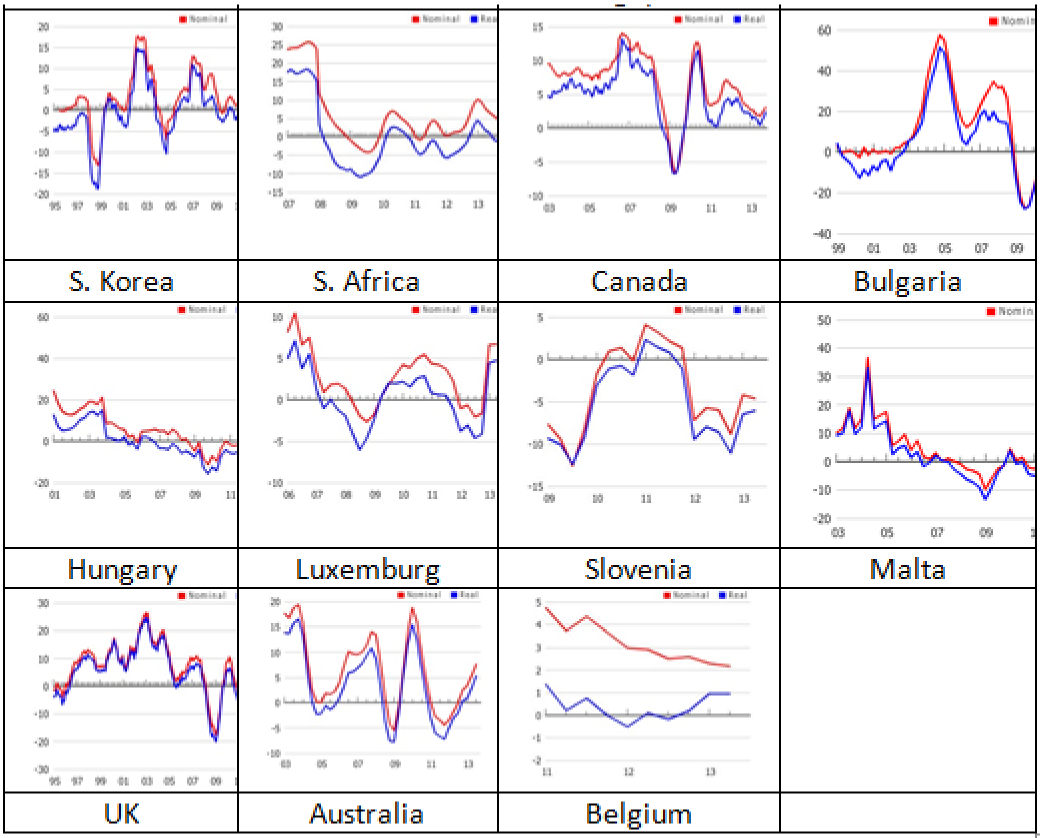

S. Korea
S. Africa
Canada
Bulgaria
Hungary
Luxemburg
Slovenia
Malta
UK
Australia
Belgium

Figure 6 Fall in property price worldwide[8]

Group 1: Parallel recessions

The following table is in chronological order, sorted first by the fall in property values (V), then by the fall in turnover (T or t), then by the onset of recession (R or r).

```
        Year| 2005  | 2006  | 2007  | 2008  | 2009
     Quarter|1 2 3 4|1 2 3 4|1 2 3 4|1 2 3 4|1
------------|-------|-------|-------|-------|-----
USA         |    T  |V      |      R|       |
Denmark     |       | t  V  |      R|       |
Ireland     |       |    T  |V      |R      |
Greece      |       |       |V      |       |r
Latvia      |       |       |T V    |R      |
S. Korea    |       |       | tV    |      r|
Hungary     |       |       |   V   |  R    |
UK          |       |       |T   V  |    R  |
New Zealand |       |       |  T V  |R      |
France      |       |       |    V  |  R    |
Lithuania   |       |       |  T V  |    R  |
Estonia     |       |T      |      V|R      |
Finland     |       |       |  t   V|    R  |
S. Africa   |       |       |      V|      R|
Luxembourg  |       |    t  |       |V   R  |
Australia   |       |       |    T  |V     r|
Spain       |       |       |     T |V   R  |
Sweden      |       |       |      T|V R    |
Hong Kong   |       |       |      T|V R    |
Iceland     |       |       |      T|V   R  |
Singapore** |       |       |    T  |  VR   |
Canada      |       |       |       |T V   r|
Slovenia    |       |       |       |  V   r|
Belgium     |       |       |       |   V  R|
Ukraine     |       |       |       |    V R|
Czech Rep.  |       |       |       | T  V R|
Norway      |       |    t  |       |  T V R|
Slovakia    |       |       |       |  T V  |r
Russia      |       |       |       |    TVR|
Bulgaria    |       |       |       |  T   V|R
Malta       |       |       |       |    T r|
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In figure 7 we compare median monthly income with monthly mortgage payments required for the median house or flat in eight capital cities to test for affordability. This does not include insurance or property taxes. Average (mean) incomes are often skewed upwards due to some very high incomes, therefore median income is a better statistic. The last year of available data is 2011. We will assume a typical home or flat owner finances 95% of the value and calculate the mortgage payment at 5% interest on a 30 year mortgage. We find that people would need to spend 51.9% to 108.8% of their monthly income to pay for a house and 43.3% to 81.4% of their income for a flat (unit). Using the standard limit of 30% of income, houses and flats are unaffordable in every major city in Australia for an individual wage earner. Treating land as a commodity is definitely not helping Australians to own property.

[8] http://www.globalpropertyguide.com/real-estate-house-prices/A

Figure 7 Housing affordability in Australian cities[9]

House Transfers	Median Prices June 2011	95% mortgage	Monthly mortgage at 5% interest for 30 yrs	2010-11 monthly median income, single wage earner	30% of monthly median income	% of median income needed to pay mortgage or rent	Monthly Income gap needed to pay mortgage or rent at 30% of income
Sydney	$595,000	$565,250	$3,034	$2,788	$837	108.8%	$2,198
Melbourne	$501,000	$475,950	$2,555	$3,198	$959	79.9%	$1,596
Brisbane	$442,000	$419,900	$2,254	$3,498	$1,049	64.4%	$1,205
Adelaide	$395,000	$375,250	$2,014	$3,014	$904	66.8%	$1,110
Perth	$485,400	$461,130	$2,475	$3,027	$908	81.8%	$1,567
Canberra	$540,000	$513,000	$2,754	$4,144	$1,243	66.5%	$1,511
Darwin	$500,000	$475,000	$2,550	$3,907	$1,172	65.3%	$1,378
Hobart	$330,000	$313,500	$1,680	$3,236	$971	51.9%	$709
Units (flats)	**Dec, 2011**						
Sydney	$445,000	$422,750	$2,269.41	$2,788	$837	81.4%	$1,433
Melbourne	$425,000	$403,750	$2,167.42	$3,198	$959	67.8%	$1,208
Brisbane	$375,000	$356,250	$1,912.43	$3,498	$1,049	54.7%	$863
Adelaide	$320,000	$304,000	$1,631.94	$3,014	$904	54.1%	$728
Perth	$395,000	$375,250	$2,014.42	$3,027	$908	66.5%	$1,106
Canberra	$420,000	$399,000	$2,141.92	$4,144	$1,243	51.7%	$899
Darwin	$395,000	$375,250	$2,014.42	$3,907	$1,172	51.6%	$842
Hobart	$275,000	$261,250	$1,402.45	$3,236	$971	43.3%	$432

Privatization of rent

The three causes of commodity land increasing in value are 1) natural features and proximity to amenities; 2) Public investment in infrastructure: transportation, education, police, fire, parks, etc.; 3) Economic development and population growth in the vicinity. So when we look at a real estate bubble, we are really looking at a land bubble. “Flatters, Henderson, and Mieszkowski [1974], and Stieglitz [1977] have shown that in a simple spatial economy, where

[9] Median Wages from: ABS 5673055003_1A, Median Houses ABS 6416.0 and domain.com.au
Unit prices from: http://www.genworth.com.au/docs/lender-resource-centre/rp-data-2012-report_low-res.pdf amortization from: http://www.amortization-calc.com/

the spatial concentration of economic activity is due to a pure local public good and where population size is optimal, aggregate land rents equal expenditure on the pure public good. This result has been dubbed the Henry George Theorem (HGT)…" (Arnott and Stieglitz, 1979, p. 471-471).

There is a moral argument that homeowners do nothing to earn their capital gains, which are all created by society, and therefore society is entitled to the gain through taxation or value recapture. This was a well-known principle historically, although forgotten by most neo-classical economists. The first economists known as the physiocrats in France advocated this principle. Ricardo's principle of economic rent on agricultural land is based on it. Thomas Paine wrote a famous essay to the French government entitled "Agrarian Justice" advocating the government to collect "ground rent". Adam Smith remarked that landlords grow richer in their sleep without working, risking or economizing, and therefore land rent belonged to the public. John Stuart Mill said the "unearned increment" belongs to the public. Cherbuliez, Hilditch, and Proudhon were other advocates. Henry George was the most famous advocate for collecting land taxes. But the desire for unearned capital gains has trumped them all, violating the basic principle of "free markets" that competition will drive down prices and consumers will benefit. Clearly the opposite is true for land. Land markets are anti-capitalist driving prices up and harming consumer welfare.

Solutions to commodity land

Treating land as a market commodity destroys consumer welfare, and creates boom-bust economic cycles. For a sustainable economy, land must be removed as a commodity leading to asset bubbles. There are several ways this could be done. Municipalisation, taxation on economic rent of land, and community land trusts. In Singapore, Hong Kong, and formerly in Canberra, Australia all land is owned by the city and leased out on long term contracts such as 99 year leases. Covenants restricting profit on resale would be necessary to avoid turning land into a commodity.

Arnott and Stieglitz sum up another solution to the land problem as follows: "…since a confiscatory tax on land rents is not only efficient, it is also the 'single tax' necessary to finance the pure public good" (Arnott and Stieglitz, 1979, p. 471-471). If holding costs are less than the annual capital gains, then financiers will continue to speculate on land and housing. If land tax or capital gains taxes removed the unearned income from real estate, then land would no longer be subject to speculation or bubbles.

Another viable method of removing land from the market is to place land in community land trusts, where land is owned by a non-profit organization, and is leased to homeowners who own the buildings. Limited or shared-return contracts on homes prevent homeowners from capitalizing land prices into their house prices when sold. They are most often used for affordable housing, but can also be used for commercial, industrial, or agricultural uses.

These three methods essentially remove land from speculative markets, and remove the distortionary impact of land from markets of all goods and services containing a land component.

Money as a false commodity

> "…the market administration of purchasing power would periodically liquidate business enterprise, for shortages and surfeits of money would prove as disastrous to business as floods and droughts in primitive society." (Polanyi, 1944, p. 73).

The administration of purchasing power, in other words creation of the money supply, is currently regulated by quasi-private central banks such as the US Federal Reserve Bank, but is mainly controlled by private banks. According to a recent publication by the Bank of England, private banks create 97% of the money supply through the issuance of loans to borrowers[10]. "This confirms that banks create money when they grant a loan: they invent a fictitious customer deposit, which the central bank and all users of our monetary system, consider to be 'money', indistinguishable from 'real' deposits not newly invented by the banks. Thus banks do not just grant credit, they *create* credit, and simultaneously they *create money*" (Warner, 2014, p.74). "Central banks increase money supply by purchasing government bonds with money created for that purpose" (Farley et al, 2013), so-called monetizing the debt. This central bank money is often called "vertical money", while money created by the banking system is called "horizontal money". So the entire money supply is essentially administered by the market as Polanyi stated as a requirement of a market society. The money supply is very flexible as determined by demand for credit, but every dollar creates interest payments to banks, which increases the cost of items purchased such as homes, and decreases consumer welfare.

Market administration of the money supply and other financial products also violates the theory of consumer welfare, the invisible hand, and the magic of the market. Greater demand for currencies, credit, and financial products, rather than leading to market entry and lower prices, leads to rising asset prices until the bubble bursts. Hyman Minsky called the end stage of financial capital the "Ponzi stage", where there are no more productive investments available to be made in the economy, so finance goes mainly into speculative activities, driving up asset prices (Minsky, 1992, p. 9). While asset prices are rising, banks are willing to extend rising amounts of credit, increasing the money supply, but when asset prices are falling banks call in loans and reduce lending, thereby shrinking the money supply. This is referred to as pro-cyclical monetary policy, which exacerbates recessions and unemployment due to shrinking demand in times of falling asset values. What is needed is counter-cyclical monetary policy. Some control is exerted by central banks through adjustment of reserve rates, interest rates and open market operations, but they don't directly control the money supply.

Since monetary policy is out of the hands of governments, in order to address monetary contraction they often respond with Keynesian expansionary fiscal policies to address monetary contraction. That is the only tool they have at their disposal. By additional spending or reduction of taxes, governments are able to inject more money into the economy, and counteract some of the pro-cyclical trends of bank money. This goes directly against the principle of market administration of purchasing power, and is an example of one of the mitigating responses to pure neo-liberal, laissez-faire policies that Polanyi devotes his entire book to explaining. "Grave evils would be produced in this fashion unless the tendencies

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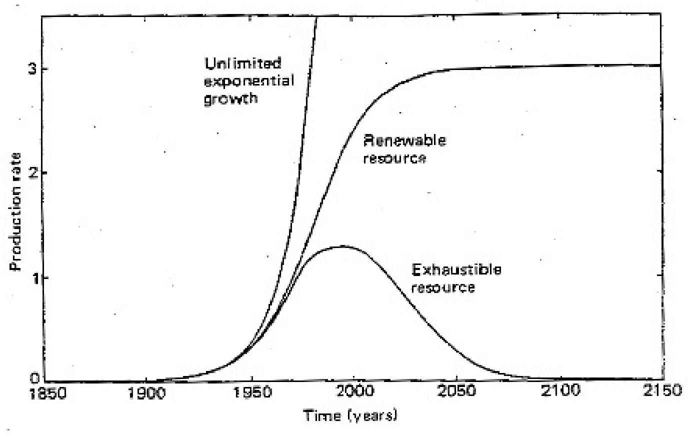
10 http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q1prereleasemoneycreation.pdf

inherent in market institutions were checked by conscious social direction made effective through legislation" (Polanyi, 1944, p. 129).

There is also a biophysical limitation to the infinite emission of credit by private banks. All bank credit is issued with interest compounded continuously or annually as a condition of loans. Therefore, the money supply must continually expand and the economy must grow in order to obtain the funds to pay back interest on the entire money supply. This creates a perpetual growth imperative, which has resulted in the 2014 ecological footprint measured at 50% overshoot of the planet's biocapacity[11]. "Robbed of the protective covering of social institutions…Nature would be reduced to its elements, neighborhoods and landscapes defiled, rivers polluted, military safety jeopardized, the power to produce food and raw materials destroyed (Polanyi 1944, p. 73). And thus it is today as planetary overshoot has already exceeded boundaries for biodiversity and the nitrogen cycle (Rockström 2009, p. 472), and the climate destabilizes from excess greenhouse gasses.

Marion King (M.K.) Hubbert identified the basic problem with our current debt and interest based monetary system in his essay entitled, "Exponential Growth as a Transient Phenomenon in Human History".

Figure 8 Hubbert growth curves



Three types of growth (Hubbert, 1974b, fig. 1)

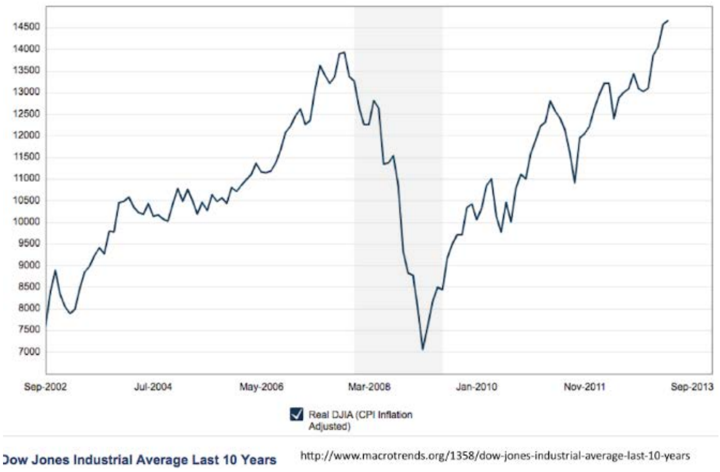
"The lower curve represents the rise, culmination, and decline in the production rate of any non-renewable resource such as the fossil fuels, or the ores of metals…The third (upper) curve is simply the mathematical curve of exponential growth. No physical quantity can follow this curve for more than a brief period of time. However, the sum of money, being of a non-physical nature and growing according to the rules of compound interest at a fixed interest rate, can follow that curve indefinitely." Since the entire economy is based on fossil fuel extraction, the growth curve of oil must track the growth curve of the money supply at compound interest. However, conventional world oil peaked in 2005, and more expensive, harder to extract, unconventional oil is nearing its peak as well. Hubbert predicted a "cultural crisis" when the curve for oil and curve for money diverged, which could be argued happened in 2008 when the GFC occurred. Debt has increased worldwide in order to continue the

[11] http://www.footprintnetwork.org/en/index.php/GFN/page/world_footprint/

pursuit of growth in the real economy, but in actuality these debts can never be paid. Many countries have total debt/GDP ratios over 100% including Japan which is approaching 400%.

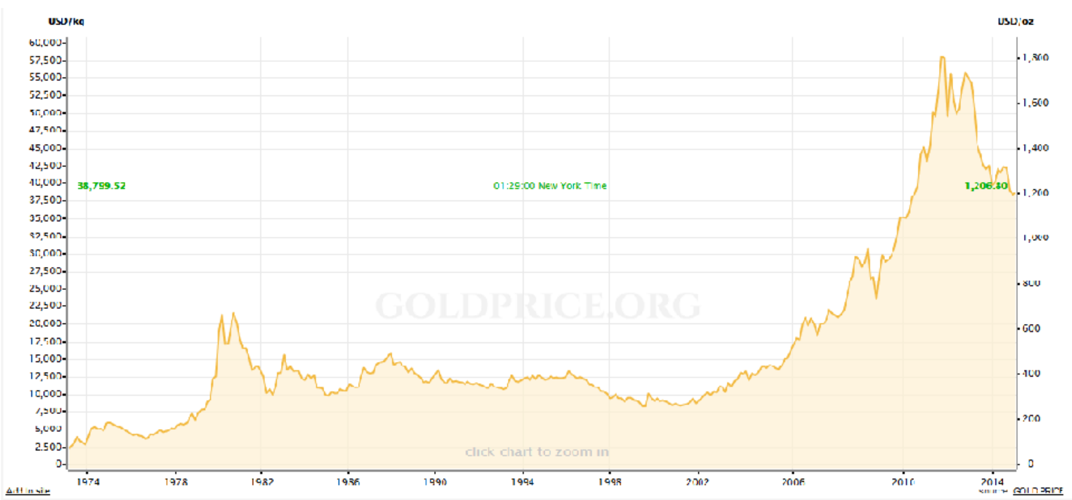
Fictitious money in the financial crisis

Figure 9 Dow-Jones Average 2002-2013



The value of stocks on the Dow-Jones Industrial Average fell in half during the financial crisis in 2008. The recovery in stock value since then has been due mainly to the huge influx of money to banks from the Federal Reserve's quantitative easing program, and the repurchase of their own stocks by corporations. It does not reflect the real value of productive enterprises. Due to the commodity nature of money, the value of stocks are disconnected from the real world. The value of stocks is primarily determined by the availability of credit to purchase them, as quantitative easing to banks simply provided additional resource for them to invest in financial assets and drive up their prices.

Figure 10 Price of gold in dollars[12]



[12] http://goldprice.org/gold-price-chart.html

The value of money itself can be measured in foreign exchange rates or the value of currency in gold or other commodities, which fluctuate widely, and has no relationship to a manufactured commodity. The value of the US dollar in gold fluctuates widely, and reflects the flood and droughts of money that Polanyi referred to.

Over time, due to our debt-interest based money system, the value of money declines, making products more expensive. This perpetual decline in the value of money has resulted in one dollar in 2014 being worth the equivalent of four cents in 1913 (bls.gov), a total depreciation in 100 years of 25 times its value, or -3.16% per year compounded annually. The most stable currency in the world at the time, the Deutch Mark was worth 20 cents (pfennigs) in 2001, based on a 1950 starting point of one Deutch Mark[13]. This constant reduction in the value of money due to the debt-interest money system, results in perpetual price inflation, which is accounted for in economic models as an annual rate of 2-3% inflation. For consumer welfare prices should be going down, not up. Constantly depreciating currency results in prices always rising and labor needing to constantly sell itself for higher wages on labor markets.

Since land is usually appreciating faster than wages, this creates a treadmill for the average worker trying to keep up with constant consumer price and land price inflation. If the value of money was constant, then competition in real commodities would decrease prices benefitting consumers. In reality economists look at deflation with horror as it decreases demand and results in recession, and makes loans harder to repay due to increasing value of money compared to income. Since nearly the entire money supply is issued through commercial loans, it would create default and monetary crisis if there was constant price deflation. By using the concept of “real” prices adjusted for monetary inflation, we can disaggregate the portion of prices due to increased product costs, and the portion due to currency depreciation. Since nominal prices of microelectronics have declined without adjusting for “real” prices, this is an even more impressive achievement. It means that the prices of microchips have declined faster than prices have increased due to currency deflation. So if prices are inflating at 3.16% per year due to currency depreciation, that means that the price of microchips are declining in real terms faster than 3.16% per year.

Solutions to commodity money

The fact that 97% of the money supply is created by interest bearing loans is the crux of the problem. It adds the cost of interest to everything, and causes a growth imperative due to the need for economic expansion to provide the money for interest payments. Many economists and writers over the years have recommended 100% reserve requirements, most recently in an IMF working paper by Jaromir Benes and Michael Kumhof, called “The Chicago Plan revisited”. This refers to the plan by U of Chicago economists led by Frank Knight in the 1930’s and also supported by Irving Fisher and Henry Simons, to require 100% reserve requirements on all bank loans, which would transfer to government the function of creating the money supply through 100% vertical money, ideally interest free, by spending it on public goods. Lincoln’s Greenbacks were a successful example of interest-free government money. Greenbacks were created interest-free to pay Civil War soldier’s wages. With 100% reserves banks would just become intermediaries between savers and borrowers.

[13] http://margritkennedy.de/media/pre_moneypres_56.pdf

Several intermediate steps have been proposed. The JAK bank in Sweden issues loans interest free which would decrease the perpetual growth imperative, and perpetual inflation. However, the JAK Bank lends out only money it has on hand and does not add to the money supply. Coincidentally, JAK stands for Jord, Arbete, Kapital in Swedish – or Land, Labour, Capital in English. Public Banks such as the Bank of North Dakota have been proposed as a way to transfer some seigniorage to the public sector. Banks are able to create credit while states are prohibited by the US Constitution. The Bank of North Dakota receives all deposits of state revenues, and uses them to leverage many loan programs for agriculture, industry, commerce, and student loans. Even more decentralized would be a system of municipal public banks creating credit for their infrastructure needs, at minimal interest, and paid back by tax money, with revenue going to the municipality instead of to banks. A voluntary decentralized approach is also possible. Around 70-80% of all bank loans in the US are for mortgages. If non-profit financial institutions were formed to take on the financing of non-market land in community land trusts, then we could begin to escape the Polanyi matrix. These banks could establish credit on the basis of the JAK bank which takes equity in properties instead of interest, and can begin to remove the use of money as an extractive commodity.

For the problem of monetary speculation, a financial speculation tax or Tobin Tax has been proposed worldwide as a means to reduce the level of speculation in financial assets, but would not change the creation of money. To eliminate the commodity nature of money, the creation of the money supply would have to be transferred to government, and maintained at a stable price level.

Labor as a false commodity in the financial crisis

The third of Polanyi's false commodities, labor, is a special case. As factors of production, people are no longer human beings, but are commodities bought and sold in labor markets, so called wage slaves, or "human capital". Without unionization or government intervention, labor is generally at a disadvantage to the owners of business, except in the case of highly skilled labor, as labor is normally overabundant, and easily reproducible by a very enjoyable process. In Polanyi's words, "Robbed of the protective covering of cultural institutions, human beings would perish from the effects of social exposure; they would die as the victims of acute social dislocation through vice, perversion, crime, and starvation (Polanyi, p. 73). As a factor of production, it is in the interest of business to minimize wages to labor. As consumers, laborers benefit from low prices resulting from reduced labor costs, which act directly against their interests as employees seeking higher wages.

There are several specific results of labor as a market commodity. During bust cycles, labor is hit with unemployment, leading to many of the social consequences pointed out by Polanyi. Due to globalization, labor has not been compensated for its increased productivity contribution since 1975 in the US. Also, as a result of treating labor as a market commodity, Polanyi predicted starvation and crime would result, without social intervention. We can evaluate these results in light of the 2008 financial crisis.

Boom bust cycles

Figure 11 US Unemployment rate[14]

As shown in the graph above the unemployment rate during the financial crisis rose from 4-9.1%. Many analysts feel that this number is grossly understated, as US unemployment figures do not include discouraged workers, who have used up unemployment benefits, and who are now most likely living on welfare and food stamps.

As proof that unemployment statistics are not accurate, analysts point to the labor force participation rate (figure 12), which cannot hide discouraged workers, and note that it is at its lowest level since 1978 when far fewer women were in the workforce as a percentage of the population. The explanation given by US officials is the retirement of "baby-boomers" and their withdrawal from the workforce, but that is blatantly false as the over-55 age category is the only one where the workforce has not declined, as seen in figure 13.

So we can see the impact of the financial crisis on labor, seven years after it began. When unemployment results, such as from the financial crisis, human beings will starve without other means of support. So the idea that labor should be managed only subject to the price mechanism in "flexible" labor markets is untenable as Polanyi contended.

[14] https://www.frbatlanta.org/cenfis/publications/notesfromthevault/1110.aspx

Figure 12 Labor force participation[15]

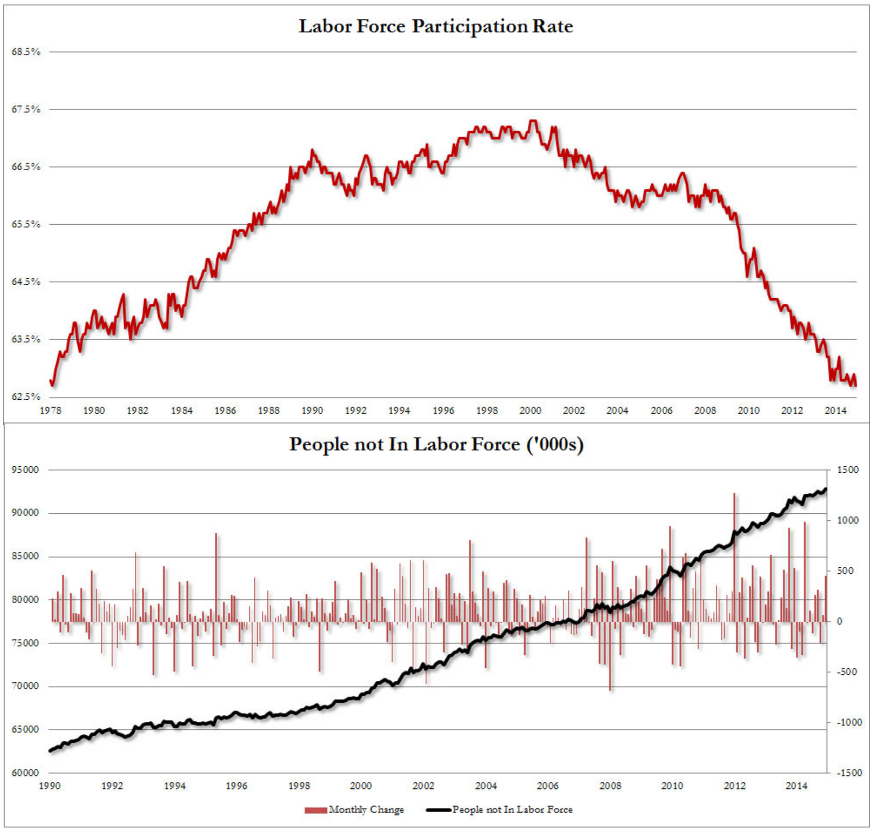
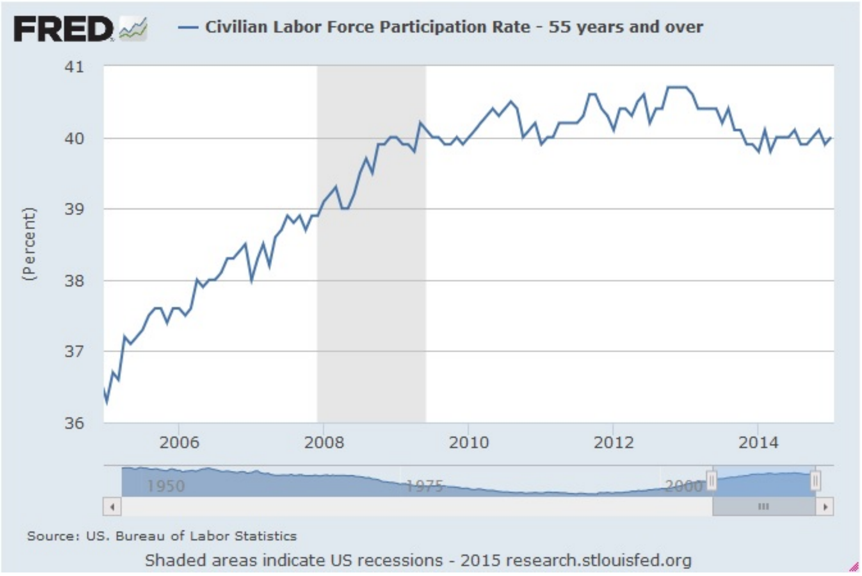


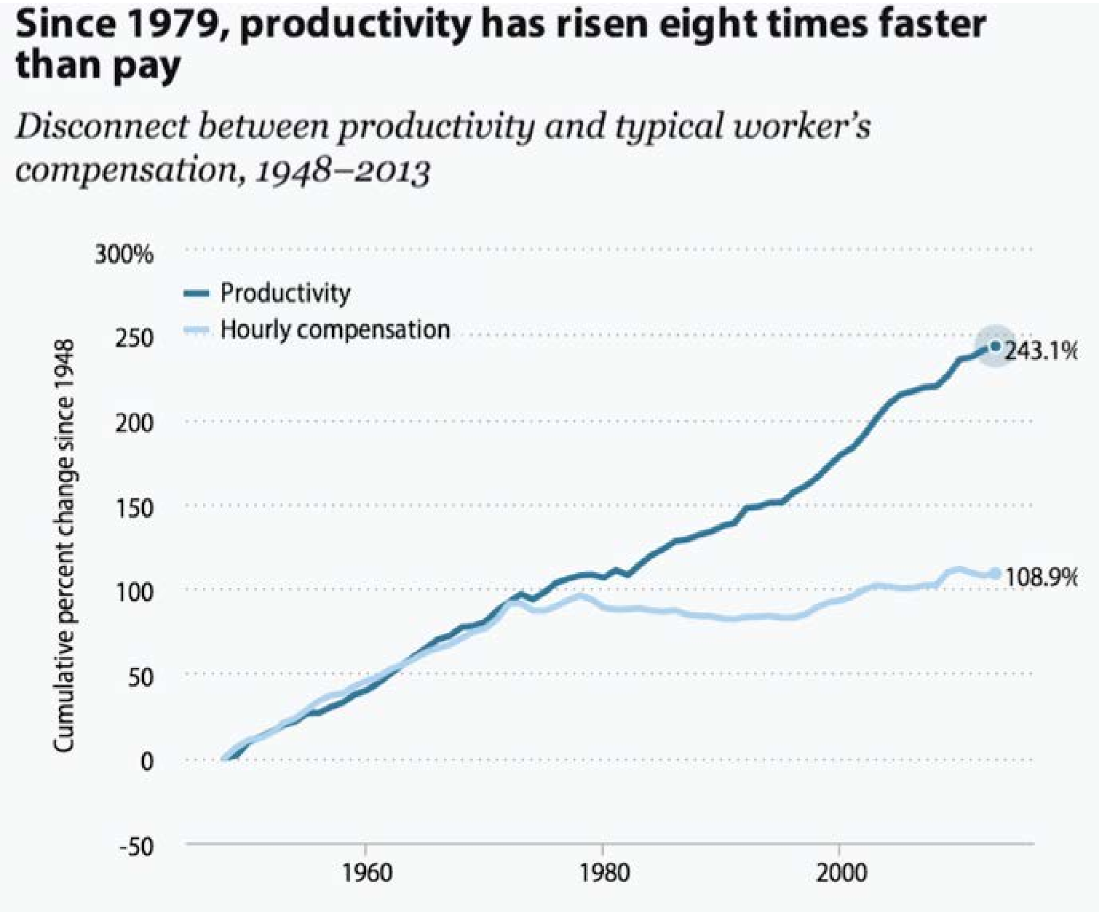
Figure 13 Over 55 labor participation rate[16]



15 http://www.zerohedge.com/news/2014-01-10/people-not-labor-force-soar-record-918-million-participation-rate-plunges-1978-level
16 https://research.stlouisfed.org/fred2/series/LNS11324230

Wages not commensurate with labor productivity

Figure 14 Productivity and wages[17]



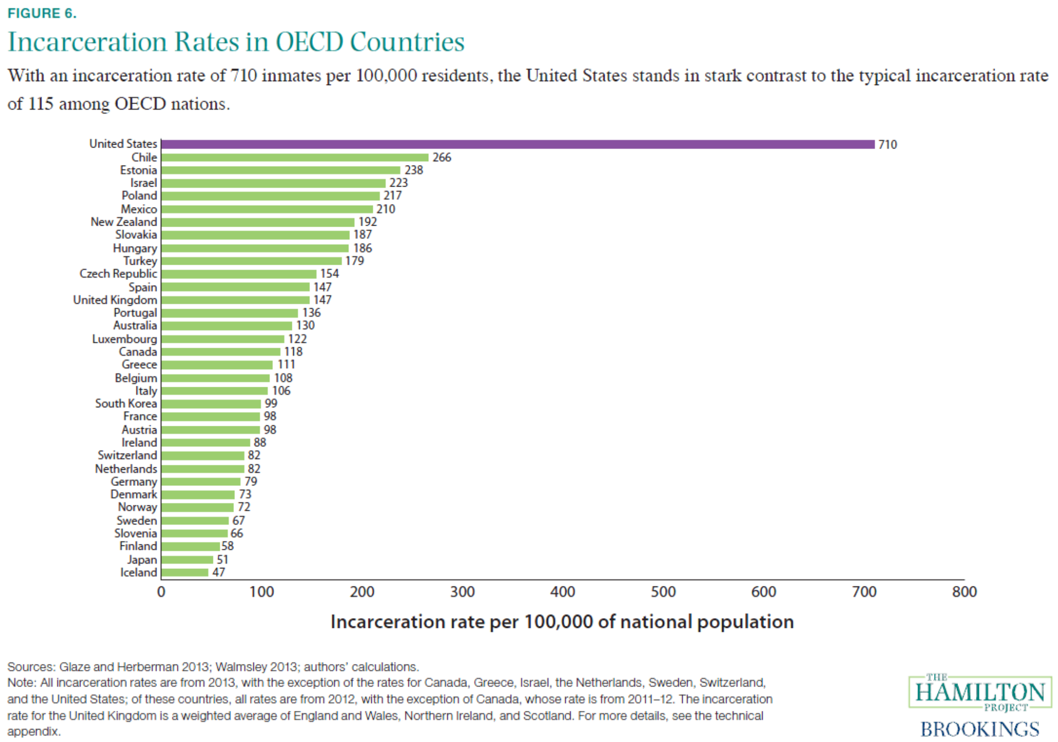
Since 1975 workers have received almost none of the gains of increased productivity, which has increased by 143% since around 1975 (figure 14). In other words, productivity has more than doubled, while workers received none of the gains. This can be explained by the deindustrialization of the US economy, as heavy industries followed by manufacturing in general were exported to Asia. Due to this trend there was a huge decrease in unionization which went from 39% in 1940 to around 10% in 2014. During the same period there was a trend toward part-time work and contract labor, mergers and acquisitions, with downsizing and layoffs. The Reagan revolution and Republican "Contract with America" both served to remove power from the working class and transfer it to corporations. One of Reagan's first acts as President was to break the Pilots and Air Traffic Controllers strike (PATCO), replacing them all with military personnel. That was the final nail in the union coffin. The Democratic Party in 1992 through the Democratic Leadership Conference chose to seek the same corporate and Wall St. money as the Republicans, and from that point on effectively stopped serving the working class. All these factors led to the reduction of bargaining power and political power on the part of labor, and can help explain the stagnating real wages during this period of time.

[17] http://www.epi.org/productivity-pay-gap/

Crime and starvation

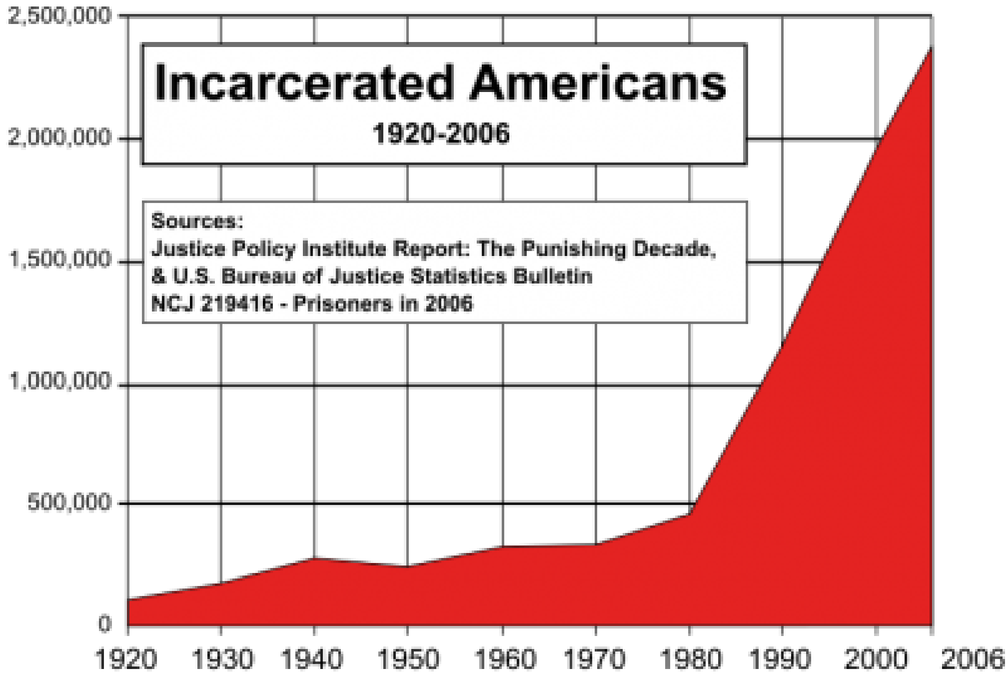
Subject to an unregulated free market for labor, Polanyi believed that "workers would die as the victims of acute social dislocation through vice, perversion, crime, and starvation". The US has the most "flexible" labor market of all OECD countries, meaning the freest market for labor, with the least intervention by government or social institutions, as defined by Polanyi. "Essentially, to get high ratings, a country must have low marginal tax rates, a low minimum wage, a high degree of flexibility in hiring and firing, a small amount of centralized collective bargaining, and low unemployment benefits" (Lawson, Robert A. & Bierhanzl, 2004 p. 122). Advocates of laissez-faire "free market" policies believe that the threat of starvation will motivate people to seek employment. The number of people on food assistance reached an all-time high after the 2008 financial crisis, and currently in the U.S. around one of six people in the country (14% as of Jan 13, 2015, US Dept. Ag[18]), and one in five of children (US Census Bureau, Jan. 28, 2015)[19] are on the Supplemental Nutritional Assistance Program (SNAP), formerly known as food stamps. Polanyi's claim that without mitigating social institutions, an unregulated free market in labor would result in starvation is proven to be true. Without SNAP these people would starve.

Figure 15 Incarceration rate[20]



18 http://www.statisticbrain.com/food-stamp-statistics/
19 http://www.census.gov/newsroom/press-releases/2015/cb15-16.html
20 http://www.brookings.edu/~/media/multimedia/interactives/2014/10_facts_crime/crimeFig6.png

Figure 16 Increase in incarceration with neo-liberal era[21]



The United States has 5% of the world population and 25% of the prison inmates. The incarceration rate is more than double all other OECD countries. It is noteworthy that the era of neo-liberal supremacy began with the election of Ronald Reagan in 1980, and accelerated with the collapse of the Soviet Union in 1991. Policies in the US became more consistent with unregulated markets than ever before, in accord with Margaret Thatcher's claim that "There is No Alternative" (TINA), to the "Washington Consensus" of privatization, liberalization, free trade, free movement of capital, structural adjustment, and all the other policies promoted by market fundamentalists since 1980. There was an inflection point in 1980 when US incarceration rates began to increase drastically (figure 16). Before that time the US was in line with other OECD countries. This increased incarceration was not a result of an increase in violent crime as the violent crime rate dropped during this same period. Although it cannot be directly blamed on flexible labor markets, this increase in incarceration rate is consistent with Polanyi's claim that treating labor as a market commodity will result in "crime and starvation".

Solutions to commodity labor

One of the responses to critiques such as Polanyi's of labor as a market commodity was Marx's prescription of a "dictatorship of the proletariat", and state ownership of the "means of production". It turns out that one dictatorship is no better than another. Also owning the means of production does not necessarily eliminate land or money as commodities, although presumably putting labor in charge of managing industrial production would give them more

[21] http://staticd.discourse.net.s3.amazonaws.com/site/wp-content/uploads/2013/01/US_incarceration_timeline-clean-fixed-timescale.svg_-400x267.png

sovereignty over their work lives. In reality during Soviet communism, laborers remained commodities ruled by party elites. More recently the Mondragon cooperatives have demonstrated a more cooperative form of labor management, still within the market system, but with good results. In the US Louis Kelso originated the idea of Employee Stock Ownership Plans (ESOPs), which would ideally turn all employees into capitalists by giving them a share of stock in the company. This has had limited success. Many ideas for returning power to workers have been proposed in recent years. Community land trusts often employ development and construction companies for housing construction and renovation. Therefore, combining community land trusts with worker-owned construction companies is feasible. Gar Alperovitz has promoted many structural reforms including, "the traditional radical principle that the ownership of capital should be subject to democratic control" (Alperovitz, 2013). This refers to worker ownership or participation in their own workplaces, a very different proposition than state communism or state capitalism. Democratizing the workplace is a great unfinished business of society.

What few reformers have advocated directly is to remove labor as a factor of production sold in labor markets. It is probably a lack of imagination that prevents us from imagining an economy where labor consists of human beings doing meaningful work in alignment with their skills and interests. Aboriginal and tribal people managed to do it, through non-simultaneous reciprocity. Even in feudal times according to Polanyi, labor was tied to feudal estates and was remunerated according to social relationships, not according to labor markets. Surely we can find an approach embodying something like Sen's capabilities approach that respects the humanity of labor, while still remunerating them for their work. We need to find a way for laborers to gain control of their lives and work according to their capabilities, instead of simply selling their labor in markets.

Evaluating proposed economic reforms

There are many current proposals for a "new economics" that will supposedly solve our economic problems. These include Corporate Social Responsibility (CSR)[22], Green Economics[23], Sustainable Economics[24], Natural Capital[25], Creative Economy[26], Caring Economy[27], and Solidarity Economy[28]. These are non-solutions since they don't address the three false commodities comprehensively, or at all in most cases. By contrast, Herman Daly has proposed the following ten policies for a steady state economy[29] which begin to address the Polanyi matrix:

1. Cap-Auction-trade
2. Ecological Taxes
3. Min/Max Income
4. Flexible work time
5. Trade Regulation
6. Reformed WTO

[22] https://www.ceres.org/
[23] http://www.wri.org/blog/2011/04/qa-what-green-economy-0
[24] http://www.sustainable.org/economy
[25] http://www.naturalcapitalproject.org/
[26] http://creativeconomy.britishcouncil.org/
[27] http://caringeconomy.org/
[28] http://socialeconomy.itcilo.org/en
[29] http://steadystate.org/top-10-policies-for-a-steady-state-economy/

7. 100% reserve banking
8. Public Trusts
9. Stable Population
10. Reformed GDP

These tenets come the closest to addressing all three false commodities. Cap-auction-trade and ecological taxes put prices on environmental costs and operate within the market framework. Public Trusts for natural resources remove them from the market and could create a non-market mechanism for use of land and resources. 100% reserve requirements, we have already noted, removes the power of banks to create the money supply as a commodity for their profit, and returns the function to government, which it could use as a public utility for the greater good. Min/max income, flexible work time, trade regulation, and reformed GDP could all help to address the commodity nature of labor sold in labor markets. It doesn't create an alternative mechanism for human beings to actualize their potential and receive a livelihood without selling their labor, but it points in that direction.

Conclusion

Commodity land, money, and labor remain a largely unseen matrix as they have been part of the market economy since "The Great Transformation" from a feudal to market society. Market competition raises the price of land and money through increased demand for fixed assets, rather than lowering it through increasing supply as in the case of microchips or other competitive product. Commodity labor in flexible labor markets normally results in wages being driven down due to the oversupply of labor. Labor is also subject to periodic unemployment and loss of income during recessions resulting from booms and busts in commodity land and financial products. Therefore commodifying land, money, and labor reduces consumer surplus, and lowers economic welfare. It is entirely unnecessary, as all three can be managed outside of markets. None of the major proposals for economic reform address the three false commodities identified by Polanyi, except for Daly. Combining solutions developed in this article and Daly, by implementing 100% reserve requirements and public banks, community land trusts, and housing companies set up with worker ownership and management, all three fictitious commodities could be addressed. Since 70-80% of commercial loans are for real estate, this would comprise a huge portion of commodity money, land, and labor. Only by addressing the Polanyi matrix can the fundamental problems of inequality, poverty, environmental destruction, boom-bust monetary cycles, exorbitant housing prices, and many other problems be solved.

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