

## **Karl Marx' Law of the Tendency of the Rate of Profit to Fall, Quantified**

Marx speaks of the Law of the Tendency of the Rate of Profit to Fall (LTRPF.) By this is meant, roughly, that as the forces of production develop—i.e., machinery, support services, efficiency and coordination of production improve, technological levels improve—the time of exertion of labor-power required for production of a given quantity of goods drops. And, with that, the rate of profit drops.

Marx says this is “the most important law of modern political economy, and the most essential for understanding the most difficult relations.”<sup>1</sup> His full exposition and proof of the law is found in *Capital*, Volume 3, chapters 13-15.

The effect is familiar. It is widely noticed that over time the prices of equivalent manufactured goods tend to drop. A TV set that once cost \$300 now costs \$100 and is a better TV set. Automobiles today, prices adjusted, cost about the same as automobiles in 1949. But they are greatly superior vehicles in all respects, more automobile for the money.

It is sometimes disputed as to whether or not Marx' treatment of the LTRPF is valid, whether or not he has proved his case, etc. It is also sometimes said that applicable statistics are missing. This last is mistaken. Once full statistical description is found and applied, the scientific character standing and correctness of Marx' analysis can no longer be challenged. It is essential to the understanding of the objective historical part played by the development of the forces of production.

As far as the United States is concerned, excellent statistics are available from a number of sources. The Bureau of Economic Analysis is the statistical agency of the United States Department of Commerce. The Bureau of Labor Statistics is under the Department of Labor. The Bureau of Census offers many demographic statistics. Authoritative financial statistics are available from the Federal Reserve System.

The North American Industrial Classification System (NAICS) is utilized by all of these agencies. It fits Marx like a glove. That is not too surprising. The conventional capitalist-oriented political economy at its best describes things very well. It falls to Marx to explain them.

NAICS defines twenty economic sectors. The first five are the goods-producing industries, often called the real economy. These are agriculture, mining, manufacturing, construction, and utilities.

To proceed: Marx analyzes the internal conflicts, i.e., contradictions, inherent to capitalist production. He argues that as the forces of production develop the contradictions are not resolved. They get worse. This paper will present statistical measures of the goods-producing industries of the United States as they apply to Marx' investigations.

Two fundamental laws of the Marxist political economy will be emphasized.

First, the Labor Theory of Value: the measure of value is the socially average time of expenditure of labor-power in a given quantity of production. If for example a Cadillac SUV is priced at four times the

cost of a Ford subcompact it is because four times as much socially average labor-power is required in the manufacture of the Cadillac.

Secondly, Marx proves that surplus-value, or new capital, is created at the point of production and nowhere else. Surplus-value can be understood as gross margin—the difference between the market value of goods produced over a period of time minus the capital required for production.

These laws are proven in *Capital*, Volume I, chapters 1 through 7.

Marx shows that surplus-value, i.e., new capital, new wealth, economic expansion, springs from the hand of productive labor. For example, during a working day of eight hours a worker is paid wages of \$200. However, the value created by the worker in that time is \$320. The additional value of \$120, i.e., surplus-value, is new capital. It belongs to the capitalist. The theory of surplus-value is the cornerstone of the Marxist/proletarian political economy.

The ratio of surplus-value to wages is called the rate of exploitation. In the example above it is  $\$120/\$200 = 60\%$ .

Marx focuses his analysis on manufacturing. The development of the forces of production since his time has brought the other four goods-producing industries within scope of his investigations. Therefore all statistical measures in this study are summed over the five goods-producing industries in the United States, except when otherwise noted.

In the context of the LTRPF Marx takes profit to mean surplus-value. He explains that, in its previous attempts to formulate the relations between the development of the forces of production and the rate of profit, political economy had failed. It had “never even considered profit in its pure form [i.e., surplus-value] as distinct from its different, independent components, such as industrial profit, commercial profit, interest, and ground-rent.”

Marx designates gross output as  $M'$ . In his terms, we have:

$M' = \text{Wear and tear on the means of production} + \text{Constant capital} + \text{Variable Capital} + \text{Surplus-value}.$

Marx uses letters to designate these branches of capital. He uses the term variable capital in reference to wages and salaries because the created value differs from the cost. Thus,  $M' = f + c + v + s.$

Marx's terms and the present-day usages correspond exactly. In present-day terms:

$\text{Gross Output} = \text{Fixed Asset Depreciation} + \text{Intermediate Inputs} + \text{Wages and Salaries} + \text{Gross Margin}$

Intermediate inputs are defined as the cost of all goods and services purchased by a given sector of the economy in pursuit of its business. The first three terms in total are the input costs of production; the last term is the gross margin of final market value minus costs of production.

The files giving statistics for each are given below. They are available on download from the Bureau of Economic Analysis (BEA) at <https://www.bea.gov> <sup>ii</sup>.

$M'$  = Gross Output; GDPbyInd\_GO\_1947-2017.xlsx

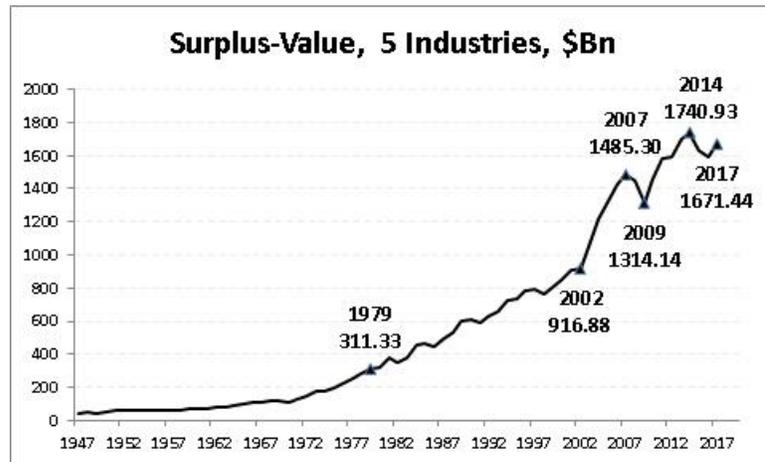
$f$  = fixed asset depreciation; Table 3.4ESI

$c$  = intermediate inputs; GDPbyInd\_II\_1947-2017.xlsx

$v$  = wages and salaries, or, variable capital; Tables 2.2A, 2.2B

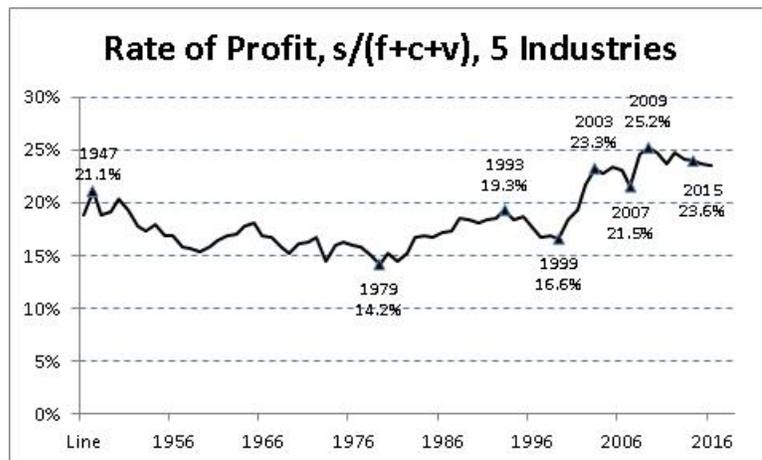
The BEA does not give statistics for surplus-value. They easily found:  $s = M' - f - c - v$ .

Figure 1, Current Dollars



Now we can calculate the rate of profit,  $s / (f + c + v)$ .

Figure 2



The rate of profit did different things! It generally fell between 1947 and 1949. It generally rose between 1979 and 1993. The trend after 1993 becomes pronouncedly uneven but rising overall, reaching its highest point at 25.2% in 2009, immediately after the great financial collapse of 2008.

The pattern does indeed present a task of understanding of the most difficult relations!

**Capital, Vol. III, Ch. 13: The Law As Such**

Marx gives a table of illustrative numbers in Chapter 13. The cost of labor-power is held at 100. The rate of exploitation,  $s/v$ , is likewise held constant at 100%, hence  $v=s$ .

The cost of materials worked up by the given amount of labor-power increases from 50 to 400, in reflection of the development of the forces of production.

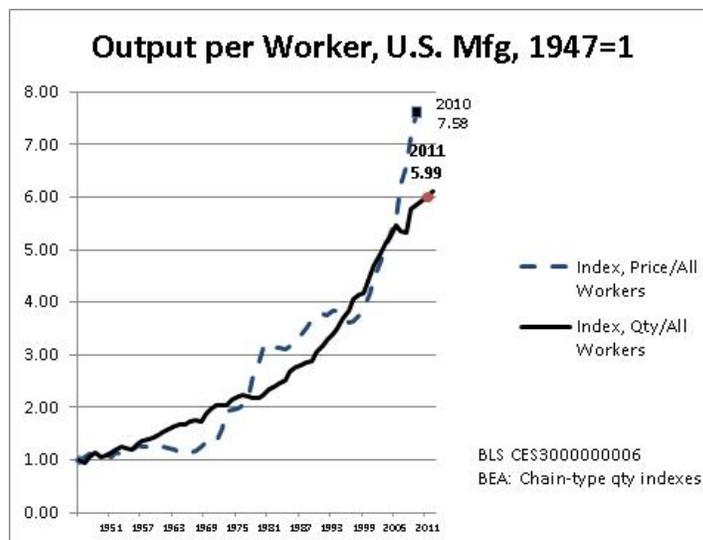
The cost of productive inputs, denoted as  $c$ , comprises fixed asset depreciation plus intermediate inputs. Since  $v = s$  the calculation is equivalent  $p' = s / (c + v)$ , surplus-value against the total costs of production.

- If  $c = 50$ , and  $v = 100$ , then  $p' = 100/150 = 66\frac{2}{3}\%$ ;
- $c = 100$ , and  $v = 100$ , then  $p' = 100/200 = 50\%$ ;
- $c = 200$ , and  $v = 100$ , then  $p' = 100/300 = 33\frac{1}{3}\%$ ;
- $c = 300$ , and  $v = 100$ , then  $p' = 100/400 = 25\%$ ;
- $c = 400$ , and  $v = 100$ , then  $p' = 100/500 = 20\%$ .

The illustration posits that, as the forces of production develop, the contribution of living labor falls in proportion to the total value produced.

To verify Marx it suffices to look at manufacturing. The quantity index below is a measure how much stuff is produced, independent of price changes. We will look at the quantity index since that is closer to Marx's method.

**Figure 3**



In manufacturing all employees are engaged in production: the non-supervisory production workers, management, accounting, etc. All are required for the overall process to function. Hence calculations are based on total persons employed.

Let us say that in 1947 one hour of manufacturing labor-power created one copper teapot. By 2011 the same hour created six copper teapots. Therefore the new value created by one hour of labor-power of 1947 was spread out over six copper teapots in 2011. That is because machinery improved, overall coordination improved, and great strides were made in efficiency, etc.

In Marx' terms, application of the U.S. government's own statistics show:

In 1947,  $c=50$  and  $v=100$ , and  $p'=66\frac{2}{3}\%$

In 2011,  $c=300$  and  $v=100$ , and  $p'=25\%$

Thus, the actual numbers found correspond to Marx' analysis.

As usual, a few caveats remain. The teapot is a finished product. Therefore its value represents the full production process going back to nature with the extraction of ore, whereas we have looked only at manufacturing. Mining only amounts on the average to about one sixteenth of manufacturing in value. Its inclusion would be too small to affect the conclusions.

Also, a significant amount of surplus-value goes into upper management salaries. It is shifted from  $s$  into  $v$ . That affects the numerator of the rate of profit. Thus the reported rate of profit would be lower than the real rate. Yet, the lowered rate still corresponds to Marx.

#### **Capital, Vol. III, Ch. 14: Counteracting Influences**

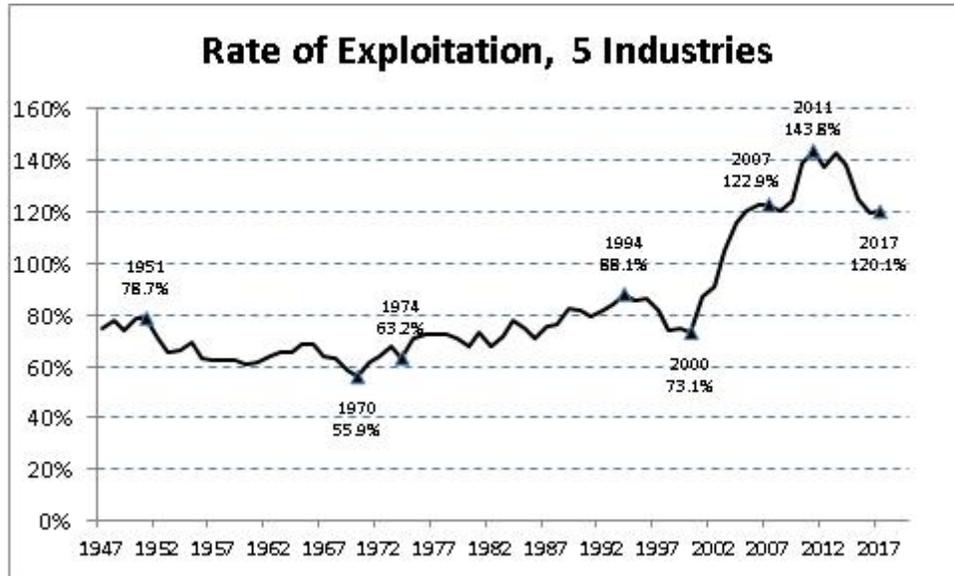
Marx says: "The rise in the rate of surplus-value is a factor which determines the mass of surplus-value, and hence also the rate of profit, for it takes place especially under conditions, in which, as we have previously seen, the constant capital is either not increased at all, or not proportionately increased, in relation to the variable capital. This factor does not abolish the general law. But it causes that law to act rather as a tendency, *i.e.*, as a law whose absolute action is checked, retarded, and weakened, by counteracting circumstances."

In order to raise the amount of surplus-value obtained from the same constant capital, the capitalist can do things like lengthen the day, or speed the labor process up, or employ female and child labor, thus to make the whole family work for its necessary money. Under some circumstances the capitalist can

decrease wages below their value, and leverage the excess of population over those needed for production to decrease wages. The object is always to gain more surplus-value for the same wages, that is to say, raise the rate of exploitation,  $s/v$ .

For all of these reasons the pattern of Figure 4 is very similar to Figure 2, the rate of profit. By raising the rate of exploitation the mass of profit can be raised. In this way the fall of the rate of profit is made to act, just as Marx understood, as a tendency.

Figure 4



As to how the rate of exploitation was raised, the author is indebted to Bennet Zurofsky, an attorney and labor advocate in New Jersey. His knowledge is based on decades of experience. He offers the following views.

“Legal actions taken to restrict the power of organized labor were undertaken in the Cold War period. One of the most damaging was the Taft-Hartley Act of 1947. Among the practices prohibited by the act are jurisdictional strikes, wildcat strikes, solidarity or political strikes, secondary boycotts, secondary and mass picketing, closed shops, and monetary donations by unions to federal political campaigns. It also allowed states to pass ‘right-to-work’ laws, a euphemism for banning union shops. The law also required union officers to sign non-communist affidavits with the government.

“The Reagan Presidency was a further watershed moment. His presidency exalted and successfully sold the idea that the USA is a nation of rugged individualism (code for Social Darwinism), rather than a community striving together for the common good (socialism, or the social contract.) When he not only broke the air traffic controller's strike but blacklisted all of the controllers, and there was no militant response from American Labor as a group, it became clear the Labor Movement had lost its fighting spirit and was not prepared to take on corporate power in any serious way.

“The Democratic Party has taken Labor's support for granted ever since, so there was no political power fighting for labor's cause in a meaningful way. Jimmy Carter was the last president (1976-80) who made any effort at all to pass a bill that would strengthen the rights of unions. However, the effort was sidelined by the FBI's Abscam sting operation. The rights of unions have since disappeared as an issue that the Democratic Party would fight for. Bill Clinton and the New Democrats are particular villains in this

piece. They embraced a wealthy corporate elite with socially liberal values as the center of their political positions, but never seemed to display the least interest in or understanding of organized labor, unionism, or the working class. Obama was no better.

“Economic rights for working people were more and more defined as individual rights rather than collective, or class-based, rights. Hence the focus was put on individual discriminators or victims of particular ‘bad actors’ rather than systemic discrimination. Statistical proof of discrimination became almost worthless in courts and legislatures. Retirement rights were individualized, defined benefit plans have all but disappeared in favor of Investment Retirement Accounts (IRA's), which each individual is expected to manage for themselves.

“Defined Benefit Plans must invest their assets under fiduciary standards that prize the return on capital above all else. Investment for the greater good of the beneficiary class is excluded, let alone that of the working class. The plans can be sued by disgruntled individuals.

“Corporations have been doing all that they can to shed employees and have individual contractors, or, failing that, leased labor. Healthcare continues to be tied to work, greatly limiting individuals' ability to leave for a new job or to risk striking. Moreover, corporate restrictive covenants have grown in acceptance by the courts further limiting individual freedom.

“The overwhelming value promoted by all economic policy has become increasing the return on Capital rather than improving the lot of ordinary people. Concentration of wealth is celebrated rather than consistently condemned as immoral. Basically, Reagan won the propaganda war as to the Nation's values.

“Unions and their members got too fat. Because their members were doing well, they became business unionists unwilling to risk what they had in the struggle to get more, especially if that more was for the working class more generally rather than just for their members. But even for members, there is a great reluctance to strike because of the lost pay while people were out and the members were comfortable enough to gripe about the failures of the union to do better for them rather than encourage their leaders to actually fight the bosses. Organizing the unorganized disappeared even as a value, except for a few unions like the Service Employees International Union, for the same reasons.

“In the absence of good political leadership, many bad trends affected the working class. Free Trade prevailed not only as a vehicle to escape employment of higher-paid domestic workers, and also to escape all environmental and socially oriented regulation, taxation, etc. Return on Capital uber alles. Most American workers (encouraged in their selfishness) were unwilling to fight against it unless it directly affected them. Then, as in Pastor Niemoller's famous quote, there was no one left to help them. They were too weak, and lacking in allies.

“It's a sad tale all around. The law reflected the political power of capital rather than the people. The law also reflected labor's lack of political power and its unwillingness to fight.”

This author has a reservation. The loss of worker solidarity is fully the responsibility of a union leadership that tied itself far too closely to the Democratic Party and got nothing for the workers in return. A change to a class-struggle leadership has become a real possibility in the face of today's crises.

But note how close a parallel to Marx' analysis is found in the sentence, "The overwhelming value promoted by all economic policy has become increasing the return on Capital rather than improving the lot of ordinary people."

### Capital, Vol. III, Chapter 15, "Exposition of the Internal Contradictions of the Law"

Here we find the full analysis of Marx' concept of capitalist overproduction. Perhaps the most famous passage of the Communist Manifesto speaks of the crisis of overproduction: "Industry and commerce seem to be destroyed; and why? Because there is too much civilization, too much means of subsistence, too much industry, too much commerce."

How can there be too much of these things? In this chapter Marx answers, says that the fall of the rate of profit "breeds over-production, crises, and surplus-capital alongside surplus-population."

First let us see how surplus capital comes into being. Recall that the only place where capital expands is the point of production. The amounts are the sums over the five goods-producing industries. The unit of measure is millions of dollars.

The gross output can be treated as the money in the bank realized in production at the end of the year. We focus on 2008, the year of the great financial collapse. In 2008 total revenues came to \$8.18Tn; only (!) \$5.35Tn was required for production in the following year. A staggering \$2.83Tn was left with no place to find profit without creation of new value. It is excess capital.

That amount is the sum of two terms: the \$1.45Tn of surplus-value created in 2008, none of which could be reinvested in production because of contraction; and the \$1.38Tn drop in productive investment. In non-crisis years investment increases year over year but never enough to absorb the surplus-value created in the prior year. Usually only about 20% of surplus-value is required for the expansion of production.

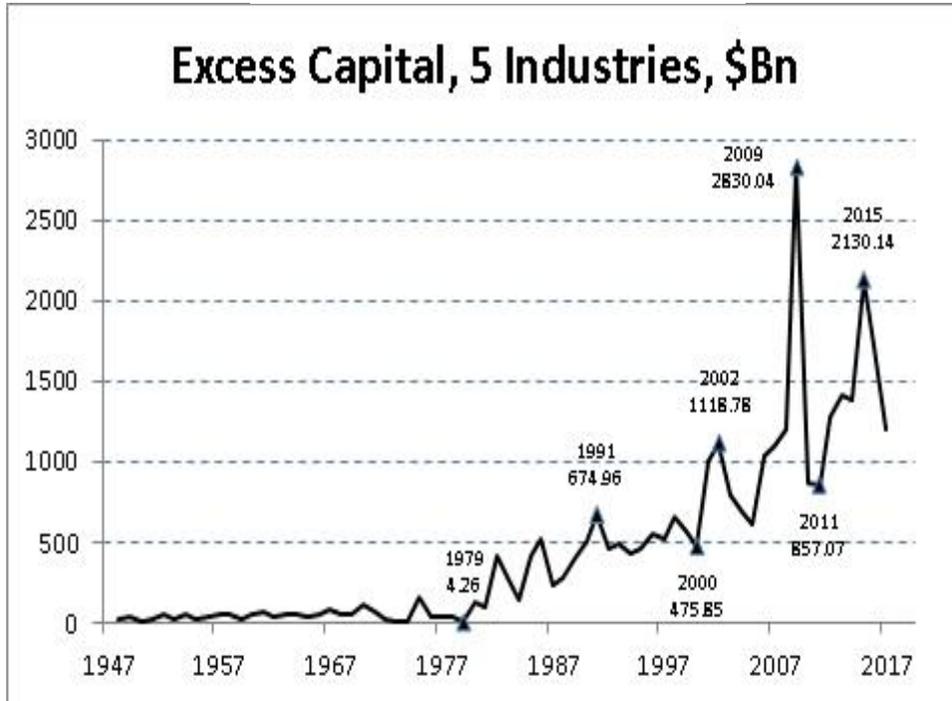
The stupendous quantity of excess capital takes on a life of its own. It demands that it be used to find profit without creation of new value. That is the common economic driver of the incurable housing bubble, the trillion-plus overpricing of healthcare, and the massive bloat of the unaudited military budget—among other things.

Fig. 5

Year	2007	2008	2009	2010
GO = f + c + v + s	7,940,417	<b>8,187,162</b>	6,671,266	7,260,337
T.I.P.=f+c+v		6,738,283	<b>5,357,125</b>	5,798,017
Excess Capital		1202134	<b>2830037</b>	873249

Figure 6 displays the total excess capital generated on the U.S. economy from 1947 to 2017. Note the much higher rate after 1979, the year of maximum employment in manufacturing.

Figure 6



We now turn to examination of the effects of excess capital, e.g., the consequences of finding profit on a huge scale without creation of new value.

### a.) The Housing Bubble

Lending standards for mortgages are lowered, i.e., people are lent more than they can safely be able to repay. Home prices are also jacked up through practices like overvaluation of sale assessments. That is how the housing bubble of 1996-2006 was created. By 2006 mortgage defaults caused the bubble to collapse, leading further to the general financial collapse of 2008.

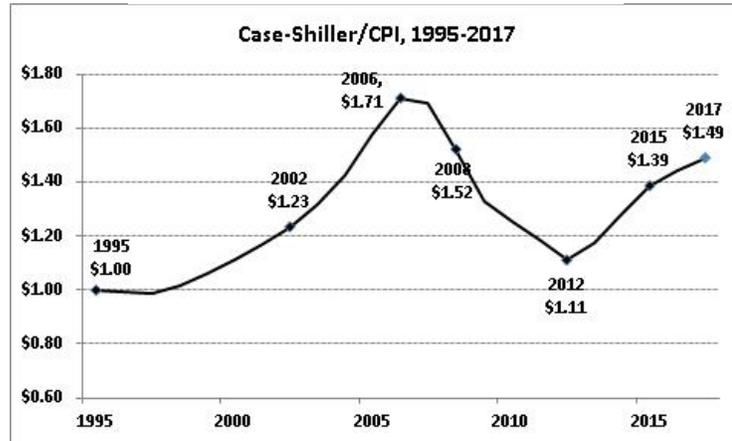
Apparently the bankers have not learned their lesson. Figure 7 shows the ratio of Standard and Poors Case-Shiller Housing Price Index<sup>iii</sup> to the Consumer Price Index<sup>iv</sup>, normalized to 1995. The Department of Labor calculates the housing component of the CPI on a rental-equivalent basis. Thus the CPI is insulated from the contortions of the mortgage market.

The value for 1995 means that in a homeowner got a dollar's worth of house for a dollar paid. That will be taken as the standard of parity. As the housing bubble took off in the 2000s, the market became overpriced due to manipulation by lenders. By 2006 the buyer had to pay \$1.71 for a dollar's worth of house. At that time total home mortgage debt outstanding had grown to \$10.6Tn. it was simply too

much for Defaults grew to such a scale that dominos in the financial system fell all over, and in 2008 the entire financial system suffered the worst collapse since the Great Depression.

Even so the home market never returned to parity. By 2017 the buyer had to pay \$1.49 for a dollar's worth of house. The bubble was back in full force.

**Figure 7**



That is only part of the story of household debt. By the end of 2019 total household debt outstanding, which includes mortgage, auto, credit card and student debt, exploded to \$16.1Tn. For the statistical average family of 4.4 persons that averages out to a debt burden of more than \$200,000. Given the average annual family income of \$61,000, that is completely insupportable.<sup>v</sup>

### **b). Overpricing of Healthcare**

Healthcare is an even larger area of overpricing, in fact the largest. The United States has no comprehensive national health service, which could impose price discipline. In its absence costs run wild, driven by the need of excess capital to find profit in the absence of creation of new value.

The U.S. Center for Disease Prevention and Control gives the following statistics for 2017:

Per capita national health expenditures: \$10,739

Total national health expenditures: \$3.5 trillion

Total national health expenditures as a percent of Gross Domestic Product: 17.9%<sup>vi</sup>

By contrast, Italy has one of the best national healthcare systems in the world. In 2017 its per capita expenditure was 2522.5 euros, about \$2900, or 27% of that of the U.S. By this comparison with Italy, healthcare in the United States is overpriced by 73% of \$3.5Tn, a tidy \$2.55Tn or so.<sup>vii</sup>

As to where it all goes, the healthcare insurance business is a prime culprit. It is colossal. The National Association of Insurance Commissioners reports \$707Bn in net premiums for 2018.

Excessive overhead in billings leads to enormous waste is excessive overhead in billings: “Each year, health care payers and providers in the United States spend about \$496 billion on billing and insurance-related (BIR) costs, according to Center for American Progress estimates presented in this issue brief. . . A 2010 report by the National Academy of Medicine (NAM) estimated that the United States spends about twice as much as necessary on BIR costs. That administrative excess currently amounts to \$248 billion annually, according to CAP’s calculations.”<sup>viii</sup>

The experience of countries that have government-administered universal health services shows that the great bulk of this overhead would be eliminated.

A further source of waste is that the insurance system leads to hospital “charge sheet” business practices, in which every last detail of service is noted and overpriced.<sup>ix</sup>

The Huffington Post reports that, “According to data from the national, independent, nonprofit organization FAIR Health, the national average charge for a vaginal delivery is \$12,290, and the national average charge for a C-section is \$16,907. . . To put this birth cost in perspective, France, Switzerland, Britain, Chile, Netherlands, and South Africa all pay less than \$5000 for vaginal deliveries in hospital and \$7000 for c-sections (in some cases much less). These countries do not, however, have poorer maternity care or infant and mother health outcomes. . . Midwifery care, on the other hand, puts birth cost at about \$2000-\$4000 depending on where you live.”<sup>x</sup>

Further, Individual/family policies are cost-ineffective. They are very expensive, hundreds of dollars per month per person covered. They are notoriously unreliable since the insured have little recourse if payment for an expense is denied, which is very common. The insurance system does not even cover the whole population. The percentage of people without health insurance coverage for the entire 2017 calendar year was 8.8 percent, or 28.5 million. Another negative result of the health insurance system is that uncovered medical costs are the largest single cause of personal bankruptcies in the United States.<sup>xi</sup>

The fee-for-service system is another source of waste. Healthcare providers and physicians are reimbursed on the basis of the number of services they provide or procedures they conduct. Patients find themselves undergoing the same examinations, the same tests, the same procedures with no relation to outcomes.

The prescription drug business is riddled with problems. In 2016 \$329 billion was spent in this area. A particularly objectionable practice is media advertisement of prescription drugs. The mantra is “ask your doctor,” while failing to mention of alternatives or side effects.<sup>xii</sup>

In 2015, per capita prescription drug spending in the United States came to \$1011. In Sweden it came to \$351. By this measure the overpricing is 65%, about \$214Bn.<sup>xiii</sup>

We could go on listing costs incurred for no value or benefit received practically forever.

Efforts at healthcare reform during the Clinton Administration in the 1990s came to nothing. The next attempt at reform was the Patient Protection and Affordable Care Act of 2010, known as “Obamacare.”

It was written by healthcare corporations. It offered cheaper plans and reduced the number of uninsured people.

In reality it did very little good because the cheaper plans that lower-income people could afford have very high deductibles. For instance, a \$15,000 deductible against a \$20,000 cost means the coverage is only \$5000. The patient must still pay the \$15,000 balance.

What do we get for \$3.5Tn per year in healthcare expenditures?

The Organization for Economic Cooperation and Development (OECD) provides the following figures in USD equivalents for 2019.

The country with the highest life expectancy at birth is Japan, at 82.7 years. The United is 28th at 79.3 years, 4.4 years less than Japan.<sup>xiv</sup>

Healthcare expenditures for 2019 in USD equivalents are: U.S.: 11,072; Japan: 4064

By this comparison U.S. healthcare is overpriced by 63%, even without consideration of life expectancy.<sup>xv</sup>

Public health suffers. Overweight and obesity in the U.S. are the highest in the world. "Charity" care and unpaid bills, neither of which exists in countries with national healthcare systems, also reduce the real discrepancies.

Nevertheless, in the final analysis the United States pays some hundreds of billions of dollars per year more than any real market value for services delivered. That we get seventy cents of services for each dollar paid is a generous estimate.

Setting moral indignation aside, and even assuming seventy cents of services for a dollar paid, the resultant \$1.05Tn shortfall of value in the healthcare market is by itself a crippling burden on the entire consumer economy. People can't take that vacation trip, they can't buy a new home, they make do with old clothes.

That \$1.05Tn or so goes for nothing received can only be explained by the presence of \$1.05Tn on hand with nowhere else to go, that is, \$1.05Tn in excess capital. We have already seen that the United States goods-producing industries do indeed create excess capital on that scale.

Thus an intense economic conflict interests arises between the financially-based sectors of the ruling class and those based in the productive-consumer sectors.

### **Auto Loans – overproduction of goods**

MarkerWatch reports that, "Some \$66 billion, or 5% of the outstanding loans, are over 90 days delinquent, up from \$57 billion for the same period last year and \$35 billion a decade ago."<sup>xvi</sup>

Unlike the home mortgage market or healthcare, the auto market remains highly competitive. It cannot be overvalued. Given that it should not be subject to the woes of the other two areas. What is going on?

All three rackets are driven by overproduction of capital. The auto loan market is also driven by overproduction of goods. In fact tens of thousands of newly produced vehicles are destroyed because they cannot be sold. This is an effect of the best-known aspect of Marx' theory of overproduction: the workers are not paid enough to buy back everything they produce. Given the presence of excess capital, the capitalists find the "perfect" solution: "Aha! We will loan the workers enough to buy back all the stuff!"

Hence such phenomena as the "sign and drive" contract: sign right here and drive that nice \$45,000 SUV out of the lot with no money down and no credit check.

It makes more sense than destroying tens of thousands of unused vehicles. Driving the craziness is the need to produce more and more goods while paying the workers proportionately less. That means increase of the rate of exploitation, the ratio  $s/v$ .

Once again the actual figures for gross output of goods and the rate of exploitation confirm Marx' analysis of the Law of the Tendency of the Rate of Profit to Fall. The conflict of economic interests once more arises between the financial and productive-consumptive sectors of the ruling class.

### **Student Debt: A Rapidly Growing Sector**

Student debt is the fastest-growing area of household debt, exploding from \$114Bn in 2006 to \$1.2Tn in 2018. Education is one of the most important sectors economically. It accounts for at least 5% of GDP. It includes kindergarten through post-graduate levels, both privately and publicly funded. The problem has grown so bad that young people graduating from college find themselves \$50,000 to \$60,000 in debt. Those who go on to careers in medicine often find themselves owing more than \$200,000 in debt by the time they obtain certification. The terms of repayment are particularly onerous. Millions of young people have had their economic prospects crippled from the outset by debts incurred for education. It was not always so.<sup>xvii</sup>

In no year did student debt grow by more than \$20Bn or so until 2008, the year of the great financial collapse, when it increased by \$52Bn. After that annual growth exploded, reaching \$153Bn in 2010. It remained very high after that, standing at \$92.5Bn in 2017.

Fig. 8 strongly indicates a connection between excess capital and student debt.

Figure 8

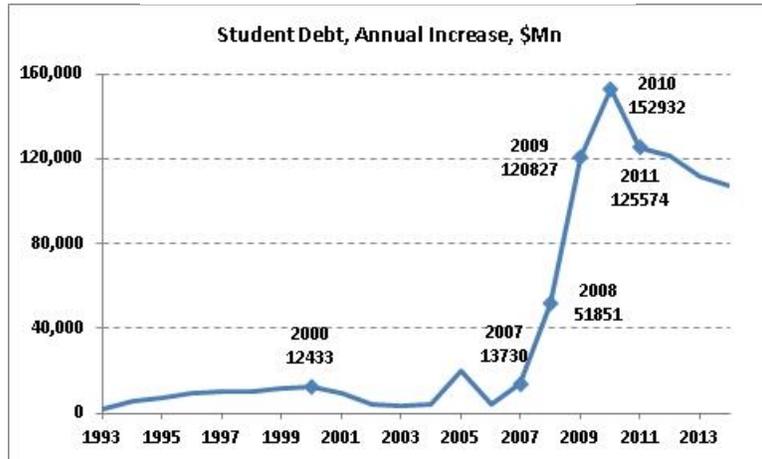


Figure 9 is very similar. In 2010 it soaked up an amount exceeding one fifth of excess capital. The ratio of student debt to excess capital remained high in succeeding years.

Figure 9

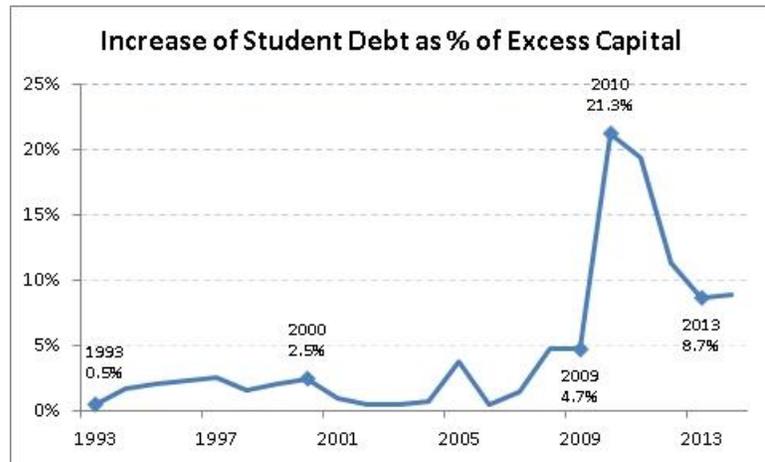


Figure 8 and Figure 9 both point to the same conclusion: a large part of the \$2.8Tn of excess capital left in the wake of 2008 was forced into student debt, thus to destroy the economic prospects of an entire generation.

### The U.S. Military Budget

Now we will turn to another vast cesspool of corruption that is hidden in plain sight: the U.S. military budget. It stands at \$732Bn for 2020, in a country where 50 million people live in poverty.

The way corruption traces back to excess capital lacks some detail because the military budget has never adequately been investigated. Nonetheless a great deal can be inferred.

The military budget was never audited until an attempt was made in 2018. Writing in "The Nation," Dave Lindorff reports that before that the Department of Defense (DoD) had been able to defy Congress about opening the books. On November 15 of that year the auditors announced that they could not complete the job. They found that DoD's financial records "were riddled with so many bookkeeping deficiencies, irregularities, and errors that a reliable audit was simply impossible."

To make things worse, the auditors said that "DoD has literally been making up numbers in its annual financial reports to Congress—representing trillions of dollars' worth of seemingly nonexistent transactions." <sup>xviii</sup>

Corruption and secrecy continue as before in spite of this and other widely noticed exposures, and in the face of the anger of the public. Only one conclusion seems possible: every year the corruption of the military budget serves to dispose hundreds of billions of dollars of excess capital.

## **Conclusion**

Quantification of Marx' investigation of the Law of the Tendency of the Rate of Profit, using statistics from bourgeois sources, removes all challenges to the scientific standing of the Marxist method. It addresses the practical economic struggles of the working class in ways that immediately answer the question, "what does theory have to do with me."

Actual numbers prove that over-production of capital has destabilized the domestic economy of the United States. The forces of production have become more powerful than the relations of production can bear. The same is true for any industrialized country—Germany, France, Japan, Czechoslovakia, whatever. Conditions vary considerably from one country to another but the problem is one of basis. That is the same for all.

The result is the worldwide outbreak of Great Depression II. It is a historical crisis of capitalism. The severity of the crisis is shown by the artificial hysteria over covid-19. It is an attempt to prevent people from thinking about capitalism at a time when all of its "eternal verities" have proven wrong.

We also see the emergence of dangers like a digital currency and an all-pervading digital surveillance. They threaten to wipe out every aspect of individual existence except for the super-rich few. These efforts only testify to the desperation of the capitalist class in every country at the prospects they face. They will fail.

Great struggles lie ahead. But the people are the real makers of history. They will find means to defeat every effort to impose high-tech slavery. They will reach the era of the new, higher and better society, the classless society of communism, in which "the truly human era of human history can at last begin."

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<sup>i</sup> <https://www.marxists.org/archive/marx/works/1857/grundrisse/ch15.htm>

<sup>ii</sup> <https://www.bea.gov>

<sup>iii</sup> <https://fred.stlouisfed.org/series/CSUSHPISA>

<sup>iv</sup> <https://www.bls.gov/cpi/data.htm>

<sup>v</sup> <https://www.federalreserve.gov/releases/z1/20200611/html/d3.htm>

<sup>vi</sup> <https://www.cdc.gov/nchs/fastats/health-expenditures.htm>

<sup>vii</sup> <https://www.statista.com/statistics/788710/per-capita-expenditure-on-health-in-italy/>

<sup>viii</sup> <https://www.americanprogress.org/issues/healthcare/reports/2019/04/08/468302/excess-administrative-costs-burden-u-s-health-care-system/>

<sup>ix</sup> [https://naic.org/documents/topic\\_insurance\\_industry\\_snapshots\\_2018\\_health\\_ins\\_ind\\_report.pdf](https://naic.org/documents/topic_insurance_industry_snapshots_2018_health_ins_ind_report.pdf)

<sup>x</sup> [https://www.huffpost.com/entry/the-real-cost-of-giving-birth-in-the-us\\_b\\_5a144a83e4b05ec0ae8445d3](https://www.huffpost.com/entry/the-real-cost-of-giving-birth-in-the-us_b_5a144a83e4b05ec0ae8445d3)

<sup>xi</sup> <https://www.census.gov/newsroom/press-releases/2018/income-poverty.html>

<sup>xii</sup> <https://www.actuary.org/content/prescription-drug-spending-us-health-care-system#2>

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xiv <https://www.oecd.org/berlin/47570143.pdf>

xv <https://data.oecd.org/healthres/health-spending.htm>

xvi <https://www.marketwatch.com/story/outstanding-auto-loan-balances-just-hit-a-new-record-and-delinquencies-are-on-the-rise-and-what-to-make-of-morgan-stanleys-acquisition-of-e-trade-2020-02-21>

xvii [www.bls.gov](http://www.bls.gov), Student debt file reference FGCCSAQ027S

xviii <https://www.thenation.com/article/archive/pentagon-audit-budget-fraud/>