HOW THE FED BANKRUPTED THE INSURANCE INDUSTRY

BY DESTROYING ITS CAPITAL EFFICIENCY

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"There's no business like insurance business"

According to Warren Buffett the best business in the world is the insurance business. It is the only one with a negative cost of capital. The premium-income collected by the insurance company is put in capital accounts as if it were owned outright. Of course, ultimately that sum is paid out in claims. But in the meantime the insurance company pockets the return to capital ⬜ which is what makes its capital cost negative. Insurance premiums held by the company as reserves before claims are coming in (maturing) is called the 'float'.

In recent years through QE (Quantitative Easing) and ZIRP (Zero Interest Rate Policy) the Fed has succeeded in bankrupting the entire insurance industry. Through a peculiar ignorance of mathematics (in which it is supposed to be eminently strong) the industry has failed to take notice of the capital destruction to which it has fallen victim.

The underwriter of a life insurance finds the regime of irredeemable currency beneficial for the bottom line. It collects premium in moneys of higher purchasing

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power while paying out benefits, perhaps decades later, in moneys of lower purchasing power. Warren (in contrast with his father Howard) is loath to criticize the highway robbery that the regime of irredeemable currency really is. Along with Keynes, he considers the gold standard a "barbarous relic". Be that as it may, the destruction of capital, our subject here, is quite different from pilfering and plundering through currency depreciation. The latter operates through inflation; the former, through deflation.

Capital efficiency enhanced through compound interest has been called one of the great miracles of the world. What is much less talked about is the companion miracle, counterpoint to compound interest: the destruction of capital efficiency through a falling interest-rate structure.

Suppressing the rate of interest increases the debt burden

Before describing the devastating effects of a falling interest-rate structure I wish to make a point on semantics. The language describing the ongoing suppression of the rate of interest in *additive* terms (spelling out "by how much") is inappropriate. It should be described in *multiplicative* terms (spelling out "how many times"). Don't say "the rate of interest was reduced from 1 percent by one half of one percent". Say "the rate of interest was cut in half from 1 percent to one half". The difference is significant. In the former case repetition will sooner or later bring interest down to 0 percent where the process stops. By contrast, it *never* stops in the latter case. Cutting interest in half can be repeated any number of times, still leaving the rate of interest positive. Zero interest will never be reached this way, yet each halving causes great damage to the economy. Zero interest is an oxymoron since interest is positive by definition. Negative interest is a misnomer confusing safe-keeping charges with the refusal to pay interest due.

Cutting the rate of interest destroys the capital efficiency of cash flows. We must carefully distinguish between the present value and the capital efficiency of a cash flow. The present value of a cash flow is defined as the sum of individual payments, each discounted at the current rate of interest for the period between now and the time when it falls due. Paradoxically, a *decrease* in the rate of interest will *increase* the present value of the cash flow for the simple reason that whenever we discount by *less* we end up having *more*!

With capital efficiency the case is the exact opposite. Capital efficiency of a cash flow is defined as the benefit derived from it whether in the form of a consumption stream, or whether in the form of amortization. Amortization could be compensation for losses due to wear and tear, or it could be amortization of financial capital such as repaying a loan through the cash flow of a blended payment of principal and interest.

How can a decrease in the rate of interest have the effect of destroying the capital efficiency of cash flows? Well, the present value of the cash flow is just the price one must pay when buying it. Paying a higher price for the same cash flow is a clear indication of the decrease in the efficiency of the purchase. It shows that the terms of trade of the purchaser has deteriorated. In spite of the utter simplicity of this concept it has been the source of great confusion and theoretical errors. We shall illustrate this fact through three examples.

(*a*) the rate cut increases the liquidation value of debt

A cut in the rate of interest increases the price of bonds. Along with the increase in bond prices the *liquidation value* of bonds (that is, the amount the debtor must come up with if he wants to prepay, or *liquidate,* his bond) is also increased. This is just the other side of the coin as it is seen by the debtor.

The concept of a bond incorporates the right to liquidate the underlying debt at any time of the choosing of the debtor who can always purchase his bond back in the open market. Clearly, this right is meaningful only if the bond's marketability is unimpaired. That condition is satisfied as long as the rate of interest is stable. But no sooner had the central bank been given unlimited power to manipulate the rate of interest downwards through buying government debt than the right of the issuer of the bond was badly compromised. The debtor is no longer able to buy his bond back at a price anywhere near to the sum he received when he sold it. He will have to pay *more*. Here is the chain of events involved.

(1) The central bank buys government debt in the open market.

(2) The rate of interest is cut automatically and instantaneously.

(3) The rate-cut increases the present value of all bonds outstanding to the benefit of all creditors (bondholders), but to the detriment of all debtors (issuers of bonds).

The price of cash flows is increased unilaterally. Bond issuers will have to pay more, perhaps substantially more, if they want to get out of debt ahead of schedule in buying back their bond before it matures. The effect goes beyond the circle of bond issuers. All debtors who have borrowed at a fixed rate find themselves in the same hole. They are all trapped. There is a stealthy and indiscriminate transfer of wealth from debtors to creditors.

To add insult to injury, debtors are bombarded by government and central bank propaganda. "Stand still little lamb, the 'haircut' is good for you! You will love the lower interest-rate environment that is yours free of charge!" The truth is that, in effect, a great injustice has been perpetrated. A huge transfer of wealth from debtors to creditors has been put into effect underhandedly.

Debtors lack sufficient education (especially in mathematics) to realize that they have been taken for a ride. They meekly accept the 'haircut of the rate cut' as necessary. They swallow the propaganda. They may even feel gratitude towards the central bank for ameliorating their lot through Quantitative Easing, so called.

To recapitulate, the present value of the cash flow of interest income is arbitrarily increased by the rate cut, penalizing debtors. Indeed, it is this present value that they must pay if they want to retire their debt ahead of schedule, that is, if they want to buy back their obligation to pay interest. The destruction of the capital efficiency of interest payments is seen through the fact that the price they are coerced to pay for this privilege could be raised unilaterally without offering the slightest advantage in exchange. The terms of trade of the debtor has deteriorated. The burden of debt has increased. *We express this by saying that the liquidation value of debt becomes higher as a result of the rate cut.*

This is a veritable revolution in finance. The economic and ethical consequences of the policy of Quantitative Easing should have been analyzed by the media, academia, as well as the juridical and canonical authorities. To the eternal shame of these institutions, they all remained silent spectators of this unprecedented travesty of justice.

(*b*) the rate cut makes labor's terms of trade deteriorate

No less, the present value of the cash flow of wages is increased by the rate cut, penalizing wage earners indiscriminately. In our conception the cash flow of wages comes about as a result of bargaining whereby the wage earner purchases the cash flow of wages against the delivery of his labor. The purchase price of the cash flow has just been increased by the cut in interest rates. *There is no adjustment on labor's side of the bargain:* the wage earner is supposed to deliver as before. This

means that labor's terms of trade has deteriorated as a result of the rate cut by the Fed. Lowering interest rates is a clear setback for labor.

A simile may clarify this. Let us visualize the wage earner running on a treadmill the speed of which has just been stepped up. The increased speed of the treadmill is equivalent to increasing the present value of cash flows in the wake of the rate cut. *The wage earner has to run faster just to keep abreast.*

The Fed is making unemployment grow indiscriminately through the rate cut. Marginal wage earners are laid off. Machinery financed at a lower rate, peddled by the central bank, replaces human labor for no better reason then the prolongation of the moribund regime of irredeemable currency. The bargaining power of labor is grievously undermined.

To make the case even worse, the wage earner and the labor movement are kept in ignorance about the true state of affairs. Pretense is maintained that our enlightened government has given a New Deal to labor which now has the legal right to collective bargaining through the agency of its unions, as well as to strike action if the former fails. The facts show a different picture. In a grave violation of the Constitution (talking about the situation in the United States) the right of people to silver and gold coinage has been taken away. Irredeemable paper currency has been foisted on labor and the issuer of that currency, the Fed, has been allowed to usurp unlimited power to purchase government debt, thereby cutting the rate of interest in half any number of times. As we have just seen, each halving of the rate of interest is tantamount to making labor's terms of trade inferior. Irredeemable currency is the ultimate cause of unemployment, as the central bank's monetary policy makes the marginal productivity of labor rise, thereby making marginal wage earners dispensable.

Labor is kept in total ignorance about these anti-labor policies. A monetary system that denies the right of the people to have their silver and gold converted into the coin of the realm at the Mint, one that enforces legal tender laws pretending that irredeemable government debt is the ultimate extinguisher of debt, and one which forces labor to accept irredeemable currency in settlement of wages ― is the slave driver of latter-day slavery.

To add insult to injury, wage earners are bombarded by government and central bank propaganda. "Stand still little lamb, the 'haircut' is good for you! You will love the lower interest-rate environment that is yours free of charge, courtesy of the Fed!" The truth is that, in effect, a great injustice has been inflicted on all wage earners. They have been victimized. Wage earners and their unions lack the necessary educational background to see through the ploy.

To recapitulate, an increase in the present value of wages reduces the capital efficiency of the cash flow of wages in the wake of the reduction in the rate of interest. Labor is penalized as a higher price for the same cash flow of wages is exacted without a commensurate reduction in the intensity of labor delivered. *We express this by saying that labor's terms of trade has been rendered inferior as a result of the rate cut.*

Incredibly, there is total silence in the quarters of the media, academia, the juridical and canonical authorities. Moral indignation at the sight of pauperizing labor should cry to heaven for justice. Instead, we have connivance. These quarters have become accomplices of the usurper of unlimited power, the Fed, in tormenting labor. They will not escape the guilty verdict when the day of judgment arrives.

(*c*) the rate cut makes depreciation quotas fade

The present value of the quasi-cash-flow of depreciation quotas is also increased by the rate cut. This penalizes entrepreneurs, the owners of the material factors of production: plant and equipment. The depreciation quota of a given factor of production is the amount periodically paid into the depreciation fund to cover losses through wear and tear. These recurring payments constitute a quasi-cash-flow the present value of which is obtained through discounting. The depreciation schedule will not be met, however, because the rate at which discounting takes place is now lower, thanks to the rate cut. As a consequence, worn or obsolete capital is not renewed. This is capital destruction ☐ as I point out in my recent paper *The Counter-productive Monetary Policy of the Fed*, sowing inflation, reaping deflation (see References below).

The government is an accomplice in the fraud of undermining sound book-keeping principles. Its regulatory authority to stop it has never been invoked. Capital is being destroyed across the board unobtrusively and indiscriminately. It makes no difference whether firms are managed well or poorly, they will all go bankrupt for reasons of impaired capital. When the day of reckoning arrives, wholesale economic collapse follows. The culprit is the Fed's open market purchases of government bonds that has the effect of cutting the rate of interest leading to capital destruction across the board.

To recapitulate, as a consequence of the increase in the present value of the quasi-cash-flow of depreciation quotas, the capital accounts of productive firms are falsified. Present value is the price firms are paying for the benefit of amortizing losses due to wear and tear. This price is arbitrarily increased by the rate cut without making any changes in the benefit schedule. The capital efficiency of firms is reduced. *We express this by saying that the rate cut makes the depreciation quotas fade.*

Our productive firms have been the champions of great breakthroughs in science and technology. They recruited the best brains money can buy. It is well-nigh incredible that with all this brain power at their disposal they have remained blind to their own victimization through 'Quantitative Easing', destroying their capital efficiency. They are babes in the wilderness who have been charmed by the money-magic of impostors, dispensing uncounted trillions from the printing presses of the Fed.

The destruction of capital efficiency of the cash flow from underwriting

We have just seen three examples showing how a rate cut by the central bank destroys the capital efficiency of cash flows. It is no different in the case of the cash flow of insurance premiums accruing to insurance companies. The latter are hit indiscriminately by QE and ZIRP. Since 2008 the rate of interest has been cut in half several times through the Fed's open market purchases of government debt. In each instance the capital efficiency of the float has been seriously undermined. As a result the ability of the insurance companies to increase their capital base has been destroyed. The diagnosis is that the industry is a dead man walking. The prognosis is 'sudden death syndrome'. When it becomes known that it has been denuded of capital, the industry will follow Lehman Brothers to Hades (where the god of the dead, Hephaistos, reigns).

An *ad hominem* argument can be made that this scenario is indeed inevitable. The rate of interest is reduced through Fed open market purchases of government debt. Thereafter the account carrying insurance premiums will be compounding at a reduced rate. It will increase more slowly. In addition, the capital efficiency of the industry is ruined. It has to pay more for generating the same premium-income while getting no relief in the form of risk reduction. In effect, the insurance

industry is forced to shoulder ever more risks without the possibility of increasing premium income. Insurance companies are forced by Quantitative Easing, so called, to take ever greater risks just to keep abreast. But there is a limit to this imprudence. At one point the industry will find that it could no longer meet claims. Under ZIRP insurance companies are deprived of *any* return to assets with no compensation in the form of a reduction of liabilities.

We include Excursus #1 and #2 to lay out the mathematics involved for the benefit of those readers who are not satisfied with the *ad hominem* argument.

Excursus on Mathematics #1.

Let us calculate the present value of a cash flow under the assumption that the rate of interest is $p\%$ per annum. The present value of $1 payable a year from now is obtained by discounting the sum of $1 at $p\%$ to get

$$q = 1 - \frac{p}{100}$$

called the *discount factor.* The present value of $1 payable two years from now is

$$q - q\left(\frac{p}{100}\right) = q\left(1 - \frac{p}{100}\right) = q^2$$

The present value of $1 payable three years from now is

$$q^2 - q^2\left(\frac{p}{100}\right) = q^3$$

and so on. In general, the present value of $1 payable n years from now is q^n.

The present value of the cash flow of $1 per annum discounted at $p\%$ is the sum of an infinite geometric series (mark that $0 < q < 1$):

$$1 + q + q^2 + q^3 + \cdots = \frac{1}{1-q} = \frac{1}{1-\left(1-\frac{p}{100}\right)} = \frac{100}{p}$$

We conclude that the present value of the cash flow is *inversely proportional to p*. In particular, if the interest rate is cut in half by the Fed, then the present value of the cash flow is doubled. $p' = \frac{1}{2}p$ forces the discount factor to increase:

$$q' = 1 - \frac{\frac{1}{2}p}{100} = 1 - p/100 + \frac{1}{2}p/100 = q + \frac{1}{2}p/100 > q, \text{ and}$$

$$1 + q' + q'^2 + q'^3 + \cdots = \frac{100}{\frac{1}{2}p} = 2\frac{100}{p}.$$

What does this mean for the capital efficiency of the cash flow? Well, it has been destroyed by the rate cut. The price the insurance company has to pay for the cash flow of premiums has been increased without any adjustment in coverage.

How to skate on ice twice as thin

In practical terms the insurance company is forced to accept twice the amount of risk in exchange for the same cash flow of insurance premiums. It is forced to skate on ice twice as thin. Here are the details.

The insurance company is hit twice. On the one hand its float is earning but half what it did before the rate cut. On the other, the capital efficiency of the cash flow of premium income has been halved.

As we have seen, the present value of the cash flow has doubled. Recall that this present value is the price the insurance company has to pay for the privilege of collecting monthly premiums. Now this price has arbitrarily been doubled without countervailing reduction of risks underwritten.

The entire industry is hit indiscriminately, regardless of the quality of management. Quantitative Easing had better be renamed 'Quantitative Squeezing' in so far as the insurance industry is concerned. Alas, all this is happening at a time when the

industry is entering its 'soft period' when, thanks to lower demand for its services, it is not in a position to increase premiums to compensate for the capital erosion.

Presently the Fed announced the end of QE in the midst of much fanfare and hoopla. It was a hoax, a mere propaganda ploy. At any rate, the plight of the insurance industry will not be mitigated until ZIRP is unconditionally rescinded once and for all. To save the industry the effective rate of interest must be restored to a positive level commensurate with the risks underwritten. Unfortunately, such a change is not likely, given the obtuseness of the leadership at the Fed. A meaningful rise in the rate of interest would devastate the rest of the economy, especially the financial sector. Under the regime of the irredeemable dollar plummeting bond prices, a concomitant of rising interest rates, would make the thinly capitalized banking industry totally insolvent.

Basic accounting principles thrown overboard

This is not idle theorizing about the future of the insurance industry. The danger is very real. The deterioration in the industry's terms of trade becomes clear if we contemplate that the monthly payments of insurance premiums compound more slowly in the lower interest-rate environment. Funds may not be available to pay compensation when claims start coming in − to say nothing about the increase in risks the industry is forced to take. When the bad news is out, potential clients may draw the necessary conclusion about the wisdom of buying policies underwritten by insurance companies tottering at the brink of collapse.

Correct book-keeping demand that the insurance industry ought to augment its capital every time the rate of interest is cut by the central bank, in order to compensate for the reduction of capital efficiency. However, current practice ignores prudent guidelines. No such augmentation has ever been considered.

Where did Warren Buffett go wrong?

Chances are that Warren Buffett is unaware of the danger threatening his insurance empire. He appears to have been an enthusiastic supporter of Q.E. He likes 30-year fixed-rate mortgages calling them 'incredibly attractive' − according to Stansberry&Associates (see References below). We quote: "Buffett says it is a win-win situation. If interest rates go up after you got the mortgage you win because you are locked in for 30 years at a great rate. And if interest rates go down, you win as well – because you can easily refinance at the lower rate."

Assuming that the Sage of Omaha is quoted correctly, he has goofed. He made a most embarrassing mistake. If interest rates go down, you don't win. You lose, and lose big, like all other Americans who listened to the siren sound and refinanced their fixed-rate mortgages at the lower rate. Rate cuts are 'haircuts' for all mortal debtors, including Buffett. The cash flow of debt-servicing payments amortize at a slower rate in the wake of the rate cut. As a result either the maturity of the mortgage must be put off or, if this is not an option, then the periodic payments on the mortgage must be increased.

Excursus on Mathematics #2.

We work out an example to show that, contrary to the allegation of Buffett, refinancing a fixed-rate mortgage at a lower rate of interest is disadvantageous. Suppose that Buffett has a 10-year mortgage at $p = 4\%$ on a shopping mall with principal sum $10 million $= 10^7$. Further suppose that the contract calls for payments at the rate of one per year covering interest only, with no amortization (so that in 10 years' time the entire principal of $10 million $= 10^7$ will fall due). The discount factor is $q = 1 - \frac{p}{100} = 0.96$. To get the present value of the cash flow we can write:

$$10^7(1 + q + q^2 + q^3 + \cdots + q^9) = 10^7 \frac{1 - q^{10}}{1 - q} = 10^7(25)(1 - q^{10})$$

since

$$\frac{1}{1 - q} = \frac{1}{\frac{p}{100}} = 25$$

where we have used the formula for the sum of a geometric progression.

Suppose now that the Fed cuts the rate of interest in half: $p' = 2\%$. Then the new discount factor is $q' = 0.98 > q$. To calculate the present value of the same cash flow in the lower interest-rate environment we write:

$$10^7(1 + q' + q'^2 + q'^3 + \cdots + q'^9) = 10^7 \frac{1 - q'^{10}}{1 - q'} = 10^7(50)(1 - q'^{10})$$

It can be seen that the present value of the cash flow of mortgage payments at 2% interest is $\frac{2(1 - q'^{10})}{1 - q^{10}}$ times that of the same cash flow at 4% . A quick recourse to the pocket calculator reveals the approximate value 1.106. Refinancing the mortgage at the lower rate will cost that many times *more*.

In refinancing his mortgage at the lower rate Buffett will have to pay the present value of the cash flow of the mortgage payments at 2%. Since this is greater than the present value as calculated at 4%, he didn't win. He lost.

Warren Buffett is in distinguished company. Along with him all of academia, all of the media and the financial writers also believe that refinancing a fixed-rate mortgage at the lower rate is 'good for you'. By implication, they also believe that falling interest rates are good for home-owners as well as businesses. *Well, they are not.* The Fed is playing with loaded dice. The Fed is a liar. The Fed is a plunderer, fleecing all debtors under false pretenses, through its ill-conceived QE and ZIRP.

As the saying goes, you get the government you deserve.

We may add that, for the stronger reason, you get the Fed you deserve.

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We conclude that the present value of the same cash flow calculated at the lower interest rate of ½p% is $M = 2\frac{1-q'^{n+1}}{1-q^{n+1}}$ times that calculated at the higher interest rate of p%. We write

$$M \;=\; 2\left(\frac{1-q^{n+1}+q^{n+1}-q'^{n+1}}{1-q^{n+1}}\right) \;=\; 2\left(1+\frac{q^{n+1}-q'^{n+1}}{1-q^{n+1}}\right) \;=\; 2\left(1-\frac{q^{n+1}-q'^{n+1}}{q^{n+1}-1}\right) \;=\; 2(1-N)$$

where
$$N \;=\; \frac{q^{n+1}-q'^{n+1}}{q^{n+1}-1} \;=\; \frac{1-\left(\frac{q'}{q}\right)^{n+1}}{1-\left(\frac{1}{q}\right)^{n+1}} \;\ldots$$

Let us get some estimates:

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