CAUSES AND CONSEQUENCES OF KONDRATIEV'S LONG-WAVE CYCLE

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Summary for the busy executive

Here we offer a new theory explaining the causes of Kondratiev's long-wave economic cycle in terms of gold and the hoarding of commodities. Our description of the cycle itself is also novel and very different from the conventional. We shall be talking about a huge oscillating money-flow to-and-fro between the bond market and the commodity market. When the money-tide begins to flow at the commodity market and ebb at the bond market, we have the inflationary phase of rising prices and interest rates. When the tide is reversed and it begins to flow at the bond and ebb at the commodity market, we have the deflationary phase of falling prices and interest rates. In one word, Kondratiev's long-wave cycle is the manifestation of the fluctuation in the propensity to hoard. The key question is this: what causes this fluctuation? Is it a natural phenomenon outside of man's control or, perhaps, it is induced by wrong-headed government policy?

Economic Cycles

Economists recognize four major cycles, or regular fluctuations, in the economy as follows:

(1) Kitchin's short-wave cycle of average duration 3-5 years, discovered in 1930;

(2) Juglar's cycle of average duration 7-11 years, discovered in 1862;

(3) Kuznets' medium-wave cycle of average duration 15-25 years, discovered in 1923;

(4) Kondratiev's long-wave cycle of average duration 45-60 years, discovered in 1922.

J. Schumpeter, who was born in Austria and came to the United States where he also served as President of the American Economic Society in the 1950's, was an outstanding student of economic cycles. He believed that the various cycles are inter-dependent, in contrast with the view of others such as Forrester, who believed that the cycles act independently of one another. Schumpeter baptized three of the four cycles by naming them after their discoverers. The exception was Kuznets' cycle, which he did not recognize.

At any rate, Kuznets got a “consolation prize” for being passed over by Schumpeter, namely the Nobel Prize for economics. Moreover, he is the only Nobel-laureate among the four name-giving economists. Kuznets noticed that residential and industrial buildings have an average useful life of 21-23 years. His medium-wave cycle is about fluctuations caused by the amortization-cycle and the problem of replacing ageing buildings. It is interesting to note that all the students of cycles among the four whose name begins with a K were Russian.

Kondratiev’s Long-Wave Cycle

The long-wave cycle in the capitalist economy was discovered by the Soviet economist N. D. Kondratieff (1892-1930) in 1922. He had been anticipated by J. van Geldren in 1913 and, even earlier, by Jevons in 1878 and H. Clarke in 1847, among others. Independently of Kondratiev, De Wolfe proposed a theory involving the idea of a long-wave cycle in 1924.

As we have noted above, some important students of cycles believed that they were inter-dependent. In particular, they noted that the average length of each of the four cycles is slightly longer than double the length of the immediately preceding shorter cycle. In the 1930's historians F. Braudel, F. Simiand, ands E. Larousse looked at changes in the “secular trend” that was taking place roughly every 100 years. This suggests that Kondratiev’s cycle might also be followed by a centennial cycle of approximately twice the duration.

Kondratiev’s methodology involved the analysis of 21 statistical series, that is, 21 economic indicators such as the price index, the rate of interest, wage rates, rents; volume of production, consumption, exports, imports, employment, etc., as well as their standard deviations. In studying volumes Kondratiev used per capita data. He calculated deviation from the trend through the method of least squares. In order to filter out noise caused by the shorter cycles he employed nine-year moving averages. He took his data-base from the French, British, German, and the U.S. economy.

Only in 6 of the 21 series could Kondratiev not confirm the presence of a long wave-cycle. Significantly, in the case of the price level and the rate of interest the evidence was strong. Kondratiev’s ultimate conclusion was that he obtained sufficient empirical basis to support the hypothesis of the existence of a long-wave economic cycle in the capitalist economies he studied, with an average duration of 54 years. He allowed a 25 percent deviation from this average. In particular, Kondratiev identified three historic waves:

i. First wave: rising phase from 1780-90 to 1810-17; falling phase from 1810-17 to 1844-51.

ii. Second wave: rising phase from 1844-51 to 1870-75; falling phase from 1870-75 to 1890-96.

iii. Third wave: rising phase from 1890-96 to 1914-20; falling phase started 1914-20.

Kondratieff was exiled to Siberia by Bolshevik officials who flatly rejected his conclusions. To the faithful there could only be one falling phase of the capitalist economy, followed by the socialist revolution and the dictatorship of the proletariat. And, following that, there was to be only one rising phase, leading to eternal bliss under communism.

Kondratiev died in the Gulag in 1930 at the age of 38. His work was later updated by other economists using his original methodology. They found that the falling phase of the third wave ended 1947-48, and that there is a

iv. Fourth wave: rising phase from 1947-48 to 1973-80; falling phase started 1973-80.

Jackson's Linkage

In 1947 the British-born Canadian economist Gilbert E. Jackson studied the behavior of just two economic indicators, that of the price level and the rate of interest. He found that the two are linked. Sometimes the price level leads and the rate of interest lags; at other times, the other way around. In his own words just like two hounds on a leash holding them together, while one can get a little bit ahead, they cannot come apart, the leash obliging them to follow the same path, uphill or down. Jackson's calculations yielded the same long-wave cycle established by Kondratiev. He called this phenomenon "the linkage".

Jackson was probably unaware of Kondratiev's work. Therefore it is quite remarkable that two economists working independently came to virtually identical conclusions. Yet Jackson's contribution is all the more significant as he focused on just two economic indicators instead of twenty-one, to get the same conclusion. Jackson's methodology used British data, namely wholesale prices in Britain and the yield on British consols for a period of over 150 years from 1782 to 1947. In order to iron out short-term fluctuations in the data-base due to the business cycle and other factors, Jackson replaced the raw figures by eleven-year moving averages. He then charted both indicators in the same coordinate system showing two curves with the rising trend of both curves indicating an inflationary spiral, and their falling trend the deflationary spiral, alternating with one another. We reproduce Jackson's original chart at the end of the paper. As the chart clearly shows, sometimes prices lead, and sometimes they lag the rate of interest. Neither Jackson, nor anyone else who studied the phenomenon of linkage, could offer a full theoretical explanation. The most they could say was that it appeared to be an "accidental coincidence".

Jackson's results were published in 1947 in a paper *The Rate of Interest* that was barely noticed by the profession at the time. By now it is largely forgotten in spite of the renewed great interest in Kondratiev's long-wave cycle to which Jackson's linkage is closely related. Nobody ever bothered to update Jackson's chart using his original methodology.

Since prices and interest rates are by far the two most closely watched and studied economic indicators, the possibility of a connection between the two has attracted a great deal speculation among economists. A host of excellent thinkers such as Knut Wicksell, Wilhelm Röpke, Gottfried Haberler, to mention only three who have studied it, found the phenomenon of linkage "puzzling". Irving Fisher went as far as saying that "it seems impossible to interpret [the linkage] as representing an independent relationship with any rational basis". In their 1932 book *Gold and Prices* G. F. Warren and F. Pearson claimed that they have found the causal relationship explaining linkage. They asserted that rising (falling) prices are the cause, and high (low) interest rates are the effect. They argued that creditors note the rise in the price level and demand compensation from debtors for the loss of purchasing power in the form of higher interest. Conversely, when the price level falls and the purchasing power of the currency rises, competition of creditors forces reduction in lending rates.

Jackson rejected this line of reasoning. He pointed out that linkage works both ways. While sometimes the price level leads and the rate of interest lags giving impetus to lenders to change the lending rate, at other times the rate of interest leads and the price level lags. Do Warren and Pearson suggest that lenders are clairvoyants who can divine what direction prices will take in future years?

The Propensity to Hoard

Mainstream economics bypasses the problem of hoarding altogether. It suggests that in the modern economy with a well-developed capital market hoarding is either non-existent, or if it is practiced at all, then the practice is confined to boorish and uninformed people whose action can be safely ignored as unimportant. However, economists can dismiss the phenomenon of hoarding and its consequences only at their own peril.

There may be more to hoarding than boorishness. It is well-known that informed producers regularly use sophisticated inventory-management techniques involving the speeding up or the slowing down of input and output at either end of their production line. The means of hoarding are just as ingenious as its objects are varied. The practice is certainly not confined to housewives buying more sugar to fill up their pantry, nor to small-time smugglers holding contraband merchandise in mountain-caves. They also include big multi-national firms using the most up-to-date techniques such as inventory-padding or the deliberate use of leads and lags in warehousing. In recent times cutbacks in production quotas of highly marketable goods such as crude oil have been utilized for the same purpose with dramatic effect. The Japanese are known to import far more lumber and coal from Canada than they need for current consumption. Having treated the excess with an impregnating solution, they sink the lumber and coal to the bottom of their mountain lakes. Nor is hoarding of fuel confined to energy-poor countries. The U.S. government is filling up disused salt mines with crude oil. They call it “strategic stockpile”, but in the vernacular it is called hoarding, even if the word has a pejorative or boorish connotation. The supertanker construction boom in the 1970's was not an exercise in efficient transportation. Its purpose was to build floating warehouses. The supertankers filled to the brim with crude set sail without the captain having the slightest idea of its final destination. If the highest bid for the crude in the tanker was not high enough, no problem. The supertanker just had to keep cruising a little longer. Futures and options trading opened up new avenues for the general public to participate in the hoarding game. These examples illustrate the phenomenal increase in the propensity to hoard in the period preceding 1980, which was manifested not only in rising prices but rising interest rates as well. Since 1980 the world has been experiencing a fall in the propensity to hoard, and even “dishoarding” previously hoarded goods. The process of reducing stockpiles at falling prices, which have been built up in expectation of higher prices, is a painful one.

It would be an impossible task to estimate, however tentatively, the size of existing stockpiles of goods held not for impending consumption but, rather, for some other reason, notably in protest against low interest rates, reckless government spending, and the banks’ plundering the savings of individuals. This is where the statistician must plead ignorance. The only way to grasp the hoarding instincts and habits of people is through theoretical understanding

The divorce of hoarding from saving took place in response to the conspiracy of the banks, aided and abetted by the government, in order to defraud and dispossess the saving public. Over long periods of time the propensity to hoard has been gaining ground as an independent economic force at the expense of the propensity to save (i.e., save money) in response to deteriorating bank practices, in particular, the banks' sheltering of illiquid government debt in their balance sheet, and the government's protecting the banks against depositors withdrawing the gold coin.

By now the U.S. has reached the point that the savings rate is negative. It is wrong to blame the American people for this unfortunate state of affairs. The blame should be assigned to American politicians and officials who have corrupted the monetary system to such an extent that people refuse to put their savings into instruments the banks have to offer. No one knows what the savings rate would be if the value of marketable goods hoarded by Americans could be calculated.

Gold as the Monetary Metal

What makes gold the monetary metal *par excellence* is that it is the most hoardable commodity. This means that the opportunity cost of hoarding gold is lower than that of hoarding any other commodity. Gold is held in the balance sheet even if the promise of return to capital is nil. No other commodity is held in the balance sheet unless there is some promise of return to capital. This property puts gold outside of the power of governments. The pronouncements of the government about the "demonetization of gold" is empty gesture. More anti-gold propaganda will only increase the propensity to hoard gold.

Consider the proposition that the greater is the propensity to save, the lower will the rate of interest be. This proposition in itself is not controversial. The mechanism whereby the flow of savings regulates the rate of interest under a gold standard is quite transparent. Savers who feel that the rate of interest is too low will exchange their bank notes and deposits for gold coins. In this manner savers retain direct control over the level of bank reserves as they confront the bank with the choice of either raising the lending rate or contracting bank credit. Thus the mechanism that regulates the rate of interest is the savers' privilege to hoard gold. Any effort to tamper with this mechanism is certain to introduce distortions in the economy.

Governments in their wisdom have removed the gold coin as a regulator of bank reserves. They did this in order to disenfranchise savers who no longer have a say in setting the rate of interest. The government and the banks usurp this privilege. The government wants to project an image of itself as a "do-gooder" in keeping the rate of interest low, purportedly in order to benefit the general public. The banks, in their turn, want to pursue a credit policy motivated by political rather than economic considerations. No cost-and-benefit analysis has ever been carried out, and the costs have been conveniently ignored. To be sure, there are costs connected with pushing gold out of the monetary system.

As the government has assumed power over monetary policy in contemptuous disregard of the expressed wishes of the savers (to say nothing of the provisions of the Constitution), it aggrandizes power. Since by its very nature the power to issue money is unlimited, the new monetary regime flies in the face of the principle of representative government of limited and enumerated powers.

But for our purposes more important than the destruction of the gold standard is the abridgement of the savers' rights and privileges that has predated their total disenfranchisement by several hundred years. The banks have always kept a bag of tricks on hand (other than raising the rate of interest) to dissuade their depositors from taking the gold coin. When they reached the end of the rope, they could always count on the government "to go off gold" in order to save the banks' face — and skin — in declaring the banks' bad liabilities legal tender. Thus the banks were rewarded, rather than punished, for their wrong-headed credit policies. No wonder that more credit abuses were heaped upon credit abuse for the centuries.

Double Standard of Justice

The legal right of savers to demand gold coins in exchange for their bank notes and deposits whenever they get worried about the condition of banks or about the profligate spending habits of the government is eminently just and equitable. It is the little man's protection against the powerful and mighty without which, as history has made abundantly clear, the former would get plundered by the latter for all his worth.

This protection has been compromised by a double standard that was surreptitiously introduced in contract law. Creditors were free to press for the liquidation of firms that have failed to perform on their contractual promises. Originally there were no exceptions. Later, however, the banks got exempted from this provision of contract law. They were made immune against the wrath of their creditors, including depositors. A bank that refuses to pay gold on its sight liabilities could no longer be sued for breach of contract.

There is no defensible justification in jurisprudence for extending special privileges to banks, or for protecting them against the consequences of their own folly. A law setting up double standard of justice is bad by definition. The argument that bank failures cause too much economic and social pain is spurious. All should stand equal before the law. Compromising this principle lets the bad effects of bank policy accumulate and will ultimately cause far more harm and economic or social distress than the immediate punishment of the bank that has gone astray.

Later the banks got still more protection from the government in the form of compromised standards of inspection. When they overstate the value of their assets and understate that of their liabilities, bank examiners look the other way. "See no evil, speak no evil". Banks can get away with fraudulent accounting practices that would trigger harsh punitive action if practiced by other firms. Bank examiners exonerate guilty banks upon the tacit approval, if not at the outright request of the government.

Economists are not famous for their curiosity about this peculiar tolerance for fraud that governments the world over have displayed for centuries. Yet the explanation is rather simple: “If you scratch my back, then I shall scratch yours.” The banks have ample opportunity to return the favor of the government when they are expected to buy up treasury paper, which the market is no longer willing to take at the yields offered, and to deliver similar sweetheart deals.

It would be naive in the extreme to assume that the savers meekly acquiesced in such acts of double-dealings and coercion. They could not prevent the government and the banks from sabotaging and ultimately destroying the gold standard. But they could do something about it. Instead of (or in addition to) hoarding gold, savers thereafter started hoarding other marketable commodities. The list of marketable goods is endless. There are the conventional ones such as salt, sugar, spices, spirits, tobacco, tea, and coffee. To this, one has to add the non-conventional ones, energy carriers such as crude oil, and narcotics such as heroin and cocaine. (Note that as long as governments tolerated the gold standard there was little problem with drug trafficking. The suggestion cannot be easily dismissed that the escalation in illegal drug trade in the twentieth century was in direct response to the destruction of the gold standard.)

Causes of the Kondratiev Cycle

We can now present our own explanation for the linkage and, simultaneously, our own description of the genesis of Kondratiev’s long-wave cycle. Frustrated savers sell their bonds and put the proceeds in marketable commodities. Thus rising commodity prices and falling bond prices are linked and they reinforce one another. The linkage is best described as a huge speculative money-flow. The money-tide begins to flow at the commodity market while ebbing at the bond market. This epitomizes the inflationary phase of Kondratiev’s long-wave cycle.

But falling bond prices are tantamount to rising rates of interest. Thus a rising price level and a rising interest-rate structure, if they do not march in lockstep, at least they are closely linked. The money-flow from the bond to the commodity market, while it can go on for decades, will not last indefinitely. Holders of commodities will find that it is not possible to finance ever increasing inventories at ever increasing rates of interest. At one point they will panic and sell. Not all can get through the exit doors at the same time, however. Some will get trapped. Inventory reduction is a long-drawn-out and painful affair.

This means that the speculative money-flow has reversed itself. Now the money-tide begins to flow at the bond market while ebbing at the commodity market. Prices of commodities fall while bond prices rise. Again, rising bond prices are tantamount to falling interest rates. The falling price level and the falling interest-rate structure are linked and they reinforce one another. This reversed money-tide epitomizes the deflationary phase of the Kondratiev cycle.

Note the role of speculation in all this. Speculators are prominent in both the inflationary phase in which they go long in the commodity and short in the bond market, as well as in the deflationary phase in which their long and short legs are switched around. Just about the only way to make money in a depression is to speculate in the bond market on the long side. The bull market in bonds in a deflation is completely ignored by mainstream economists. Yet this is the key to the understanding of the reversal of the money-tide. Speculators do arbitrage between the bond and commodity markets. When they think that the saturation point has been reached, they reverse their position. They replace their existing straddles with the opposite ones. That is, they enter their long leg in the commodity and short leg in the bond market. This then heralds the end of the deflationary and the beginning of the inflationary phase.

The linkage and Kondratiev's long-wave cycle are explained in terms of fluctuations in the propensity to hoard. Since hoarding gold, the natural conduit, is obstructed by the banks and the government, the propensity to hoard manifests itself as the hoarding of other marketable goods. Already in 1844 Fullarton recognized that gold hoarding is just a protest-vote of the savers against low interest rates, the banks' loose credit policy, and profligate government spending. Nevertheless, almost a hundred years later John Maynard Keynes looked at gold hoarding as a psycho-pathological aberration. He invoked the authority of David Ricardo. But Ricardo had also missed the economic significance of gold hoarding, and he proposed the gold bullion standard to combat it.

To explain gold hoarding with psycho-pathology is nothing but scientific obscurantism. Keynes had a hidden agenda. He wanted to forge a weapon against the gold standard out of the fact of gold hoarding. The British economist was a bully. He was determined to sell the idea that the gold standard was unworkable, first to F.D. Roosevelt, and then to the rest of the world. In this he did succeed.

Mainstream economics is still at the retarded level of Keynes when it comes to assessing the gold standard. It refuses to recognize the protest-aspect of gold hoarding, it is forgetful about the axiom that saving must precede spending, and it ignores the fact that without saving there is no economic development. Gold is the leash on which the frugal must keep the prodigal. It is this leash that the banks and the government have always wanted, and eventually managed, to escape from when they first sabotaged and then junked the gold standard. Although the sabotage started several hundred years ago, the world economy being run entirely without the leash of the gold standard has only a brief history of barely 30 years. It is not a glorious history.

In the great tug-of-war between the frugal and the prodigal the former appears to be the perennial loser. This is explained by the fact that the playing field is not level but tilts against the frugal, that is, the saving public. This includes not just creditors but, above all, the little man who is forced to keep his meager savings in the form of cash, i.e., paper money open to plunder by the prodigal which is the consortium of the banks and the government. In spite of this bias we cannot take it for granted that the tug-of-war will end with the ultimate defeat of the frugal, just because the prodigal has succeeded in knocking the weapon of the gold coin out of his hand. The frugal has something else up in his sleeves. It is the propensity to hoard, an extremely efficient weapon which, however, is not free from some very dangerous side-effects.

A jump in the propensity to hoard can siphon off enormous amounts of money from the bond market. This will make the rate of interest jump, too. The last time it did that was in the years 1971-81. Those ten years that shook the world heralded the deflationary spiral in Kondratiev's long-wave cycle, the spiral that is still continuing.

Contra-Cyclical Policy

As already noted, the rise in the propensity to hoard has its limits. The hoarding of goods reaches its saturation point when it dawns on people that a high price structure and a high interest-rate structure cannot be maintained in the presence of high inventories. Declining marginal utility kicks in, ending the inflationary and ushering in the deflationary spiral. The long and painful process of inventory liquidation begins. The money-flow from the bond to the commodity market makes an “about face”. The deflationary spiral may turn into a depression in which innocent firms start falling like dominoes.

Keynes’ contra-cyclical policy should properly be called “counter-productive policy”. It has been dogmatically applied by central banks since the 1930's only to make things worse. Following the Keynesian script, during the deflationary spiral the central bank is trying to contain weakening prices through open market purchases of bonds. Bond prices rise, in other words, the rate of interest falls. Bond speculators take the clue and they buy the bonds, too. Linkage causes the price level to fall (or at least stay weak). The central bank is unable to stem the deflationary tide of money flowing from the commodity to the bond market. In fact contra-cyclical monetary policy just pours oil on the fire.

Exactly the same is true of the inflationary spiral. The main worry now is the high rate of interest. To bring it down the central bank resorts to open market purchases of bonds. In doing so it puts new money into circulation which it hopes will flow to the bond market. Instead, it quickly finds its way to the commodity market and bids up prices there. Linkage does the rest. Higher prices bring about higher interest rates. Contra-cyclical policy fails in this case as well.

In the deflationary spiral the central bank combats weakening prices. This causes the rate of interest to fall, which leads to still lower prices. In the inflationary phase the central bank combats high interest rates. This causes prices to rise, which leads to still higher interest rates, all because of the linkage. The contra-cyclical policy of Keynes backfires in either case. For example, during the 1947-80 inflationary spiral the rate of interest rose five-fold and the price level ten-fold in the United States, in spite of vigorous contra-cyclical intervention by the Federal Reserve banks. Dr. Keynes prescribed medication that made the condition of the patient worse. He was ignorant of the linkage.

To recapitulate, the long-wave economic cycle is caused by a huge speculative money-flow back-and-forth between the bond and commodity markets. The flow is further aggravated by mindless contra-cyclical intervention. The oscillating money-flow is induced by fluctuations in the propensity to hoard. It is futile trying to correct these money flows. At best one can re-direct them into channels where they can do no harm. Keynes was so obsessed with gold hoarding that he missed the hoarding of other marketable goods, a problem potentially far more menacing. Keynes was the high priest of anti-gold agitation. He preached that if “the gold coin was kept away from man’s greedy palms” then there would be no gold hoarding, no economic contraction, no deflation, no unemployment. His was a colossal mistake, the kind that only a doctrinaire could make.

After the destruction of the gold standard by the government hoarding did not cease. It only changed form. The benign tumor turned malignant. Not only did the withdrawal of gold coins from the monetary bloodstream through government coercion fail to stop deflation: it set off a huge suction pump in the bond market siphoning money off from every nook and cranny of the economy. In particular, it created a devastating liquidation and depression from which only a world war could pull the economy.

We can’t help but notice that gold is the philosopher’s stone. In its possession the propensity to hoard is directed into its proper channels. Without it the world economy becomes a plaything in the hands of bond and foreign exchange speculators.

Competitive Devaluations

Since 1981 the world appears to be in the grips of a deflationary spiral, right on schedule as predicted by the Kondratiev cycle. This spiral hasn’t run its course yet. Some liquidation has taken place, but the worst seems still to come. The politicians and economists congratulate each other for ”having squeezed inflationary expectations out of the system”. Whatever they have squeezed, the inflationary and deflationary spirals are not caused by expectations, but by actual money-flows between the commodity and bond markets. The international monetary system is still the same rudderless ship it has been since 1971, and it is still exposed to the same monetary storms. The only difference is that the direction of the gale has changed.

The dangerous deflationary spiral threatening the world’s prosperity started in Japan where the stock market collapsed followed by the real estate market. The sun has set on the Land of the Rising Sun. The next sunrise is probably a long way off. The devastation caused by deflation in the Japanese economy is of the same order of magnitude as that in the American during the previous cycle in the 1930's. Both deflations can be characterized as an irresistible money-flow from the commodity to the bond market, drying up resources in all departments outside of the bond market. In Japan, the rate of interest fell practically to zero. Ten years ago the Japanese government reacted in the same way as the American in 1933. It devalued the yen by fifty percent. This measure has been just as futile as the devaluation of the dollar was seventy years ago. It triggered competitive devaluations of the world’s currencies in the 1930's. The yen-devaluation has the same effect. It was the cause of the collapse of the ruble and other Asiatic currencies. Right now it is the turn of the U.S. dollar to devalue. It remains to be seen whether the euro will also succumb to the temptation.

The Japanese deflation-tumor could very well metastasize across the Pacific. There is a carry-trade between the Japanese and American bond markets. Overpriced Japanese bonds are sold and the proceeds are put in the relatively underpriced American bonds. Note that this carry-trade is not hindered but rather helped by the devaluation of the dollar. At any rate, the outcome is a further fall in the rate of interest in the U.S. The deflationary spiral is alive and kicking.

The stock market boom in the 1990's was not justified by increases in productivity and profitability any more than it was in the “roaring twenties”. If the stock market crashes, the already irresistible money-flow to the bond market would be reinforced, just as after the 1929 crash. Falling interest rates would cause over-indebted firms to scramble in an effort to get out of debt. Credit-collapse may ensue. Already, the long-term rate of interest has been pushed down from 16 to 6 percent. The danger is that it may keep falling to 3 percent or lower, due to the speculative orgy in the bond market. Like a gigantic vacuum cleaner, the bond market siphons off resources from the real economy, just as it did in the 1930's. As noted already, it is not generally realized that a depression, creates boom-conditions for the bond speculator who makes a killing while everyone else is bleeding to death.

Mutations and Catastrophes

Kondratiev's long-wave cycle forces us to give up the earlier, optimistic models of uniform growth of the capitalistic economy, at least until the world is ready to return to the principles of classical liberalism and limited government, including its harbinger the gold standard. The following is a paraphrase of the thoughts of the Hungarian philosopher Béla Hamvas (*Secret Minutes*, 1962, see: The Works of B. Hamvas, vol.17, Budapest: Medio, p 104-106, in Hungarian).

"Our government, without the limitations imposed upon it by the principles of classical liberalism, makes for a fair-weather system. Under such a paternalistic, omnipotent and omniscient government modern civilization may appear to work productively and humanely enough, that is, as long as the fair weather lasts.

"But let drought strike, or let flood engulf the land. Then our democratic unlimited government will at once show its feet of clay. No sooner does social disturbance, civil strife, or distrust raise its face than will centralized government lose its grip and get entangled in one crisis after another, all of its own making. The government that was omnipotent in fair weather would be helpless in foul. The government that was omniscient during the smooth evolutionary phase would plead ignorance at the first sign of a mutation. The fair-weather system of unlimited government is forever unable to cope with catastrophes.

"Older schools of evolution did not assume continuous progress. They were not given to thinking in terms of growth curves rising uniformly forever. They made allowance for mutations, they admitted the possibility of setbacks, abrupt reversals and tumbles. Older philosophers assumed that nature abhorred uninterrupted continuity, as much as she abhorred vacuum. They knew that in nature there was no continuous transition from the lower state to the higher. We should do well to remember the teachings and emulate the humility of those older philosophers. They were wise men, immeasurably wise. Certainly far wiser than ourselves. Their thinking had one great advantage: they were not afraid to warn of the day when the weather would turn from fair to foul. They dared to think mutations. They dared to think catastrophes. While they were aware that dull times called for dull theories, they believed that critical times called for theories altogether alien to and different from those dull theories. In critical times you must think deeper, you must be wiser and more imaginative.

"We are in the habit of slighting and disparaging the accomplishments of older philosophers. We seem incapable of benefiting from their wisdom. They bequeathed a theory of limited government to us, a theory we have passionately rejected in favor of dull theories suitable for dull times... Yet the days of fair weather are numbered... We have lost our compass and the sea is growing stormy... Our boat of government omnipotence is now in waters teeming with dangerous reefs under the surface... We are in deep trouble... *Que sera, sera*...."

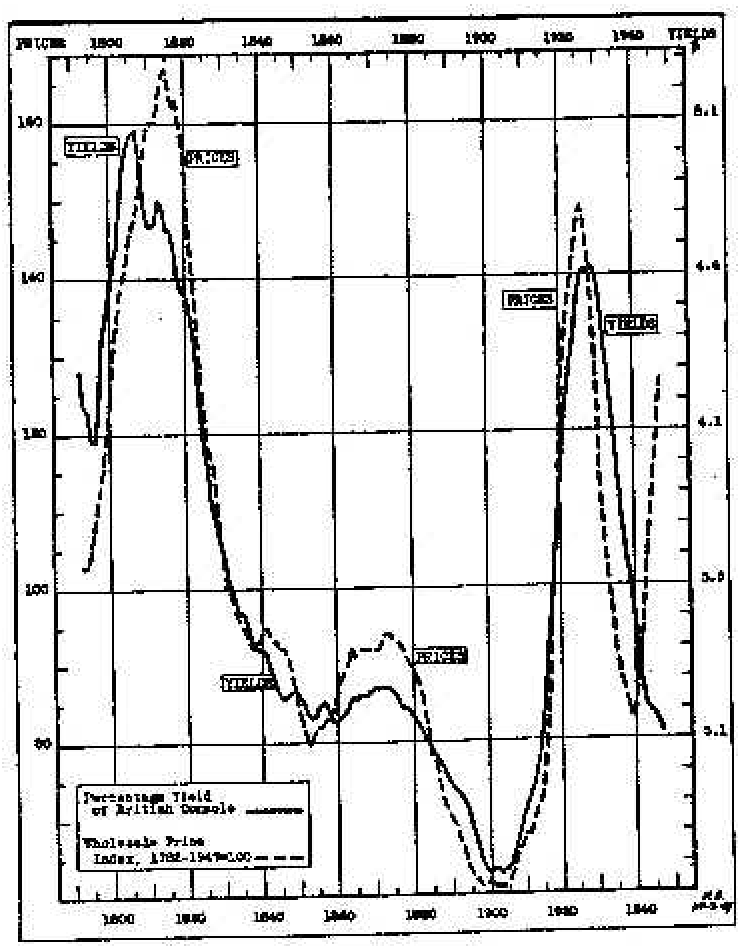
What is to be done?

We need not conclude our review on such a pessimistic note. We are able to temper the deleterious effects of Kondratiev's long-wave cycle, even though we are unable to eliminate it. If we cannot legislate the propensity to hoard out of existence, we may at least confine it to its proper channels and secure it with a safety-valve. The role of gold in the world is to provide just such a safety-valve. God created gold in order to render the propensity to hoard harmless. Gold hoarding has no effect on essential consumption, its only effect is on jewelry consumption. Under a gold standard there is no bond, still less foreign exchange speculation. The only road to stabilization is to put speculation into its proper place, confining speculators to fields where they can do no harm, but they may do some good: to the market of agricultural commodities with supply controlled by nature, not by man. The greatest blunder that Keynes committed was that he failed to foresee the forces that his policies would unleash. In particular, he was oblivious to speculation unleashed in markets where supply is not controlled by nature but by man (read: governments and central banks), such as the bond and foreign exchange markets.

The significance of a gold standard is not to be seen in its ability to stabilize prices, which is neither possible nor desirable. It is, rather, seen in its ability to stabilize the rate of interest at the lowest level that is still compatible with the requirements of the saver. The stabilization of the rate of interest and foreign exchange will then impart as much stability to the price level as is consonant with a dynamic economy. By letting the saver withdraw the gold coin (read: bank reserves) when the rate of interest falls to a level he considers unacceptable, the irresistible speculative money-flow to-and-fro between the commodity and bond markets — the engine of inflationary and deflationary spirals — would be shut down at source. Benign bond/gold arbitrage would replace the malignant bond/commodity speculation. Since the former is self-limiting while the latter is self-aggravating, economic stability would be enhanced.

The alternative to a gold standard is too horrible to contemplate. Unemployment more devastating than that of the 1930's, an earthquake shaking the international monetary system to its foundations, the construction of protective tariff walls and, in the end, a world war in which governments hope to find an escape route from economic chaos.

THE LINKAGE



This Frontispiece is a chart from Gilbert E. Jackson's *The Rate of Interest*, 1947, showing the linkage between the movement of wholesale prices in Britain and the yield of British consols, 1792-1947. In Jackson's own words: "If the facts are graphed and a diagram is made of them, it is for all the world as if a couple of hounds are on a leash which holds them together, so that one or another may now get a little bit ahead, but they cannot come apart, the leash obliging them to follow the same path, uphill or down." Jackson notes that the record of wholesale prices is from Jevons: *The Statist*, and the British government; the yield of consols (government perpetual debentures) is from Warren & Pearson, *Gold and Prices* and *The Economist*; and the data are shown in eleven-year moving averages, so as to bring out their essential character.