

BLACK MONDAY: A MINI-THEORY OF THE CRASH

by Johan Galtung

Professor of Peace Studies

College of Social Sciences

University of Hawaii, Manoa
HONOLULU, Hawaii 96822

April 1988

What happened Black Monday, October 19, 1987? The Dow Jones index plunged more than 500 points, that we know. In the Social Sciences building, Porteus Hall, at the University of Hawaii next morning a group of political scientists on the sixth floor were standing discussing. Suddenly there was a thumping sound as if something had fallen down in the courtyard. The dry remark of one political scientist to the other: "An economist just committed suicide."

In other words, the crash was not only in the economy, but possibly also one in economic theory. Nothing had been predicted that would indicate a crash using "the leading indicators,"^[1] the indicators that lead in the sense of foretelling a possible decline in the economy, as opposed to the "lagging indicators," those that tell the story afterward (when it is more easy to tell). One reason is very simply that there might be something wrong with the indicators since they did not indicate. And listening to economists in the weeks and months after the crash did not reveal much in terms of insight, and certainly not much that could be referred to as a consensus. As a matter of fact, the lack of consensus seemed to be higher than ever as evidenced by some remarkable information about forecasts made by economists for the U.S. economic situation 1988.^[2] A total of forty-two economists from very famous firms were asked by Business Week to give their forecasts for 1988 and the percentage change in real GNP from the fourth quarter of 1987 to the fourth quarter of 1988

was 5.5% for the most optimistic forecaster (David A. Levine) and -3.5% for the most pessimistic (John K. Langum). The remaining forty forecasters were nicely spread between these two extremes, filling the interval rather well. In short, anybody can get the forecast he or she wants just picking the right economist.

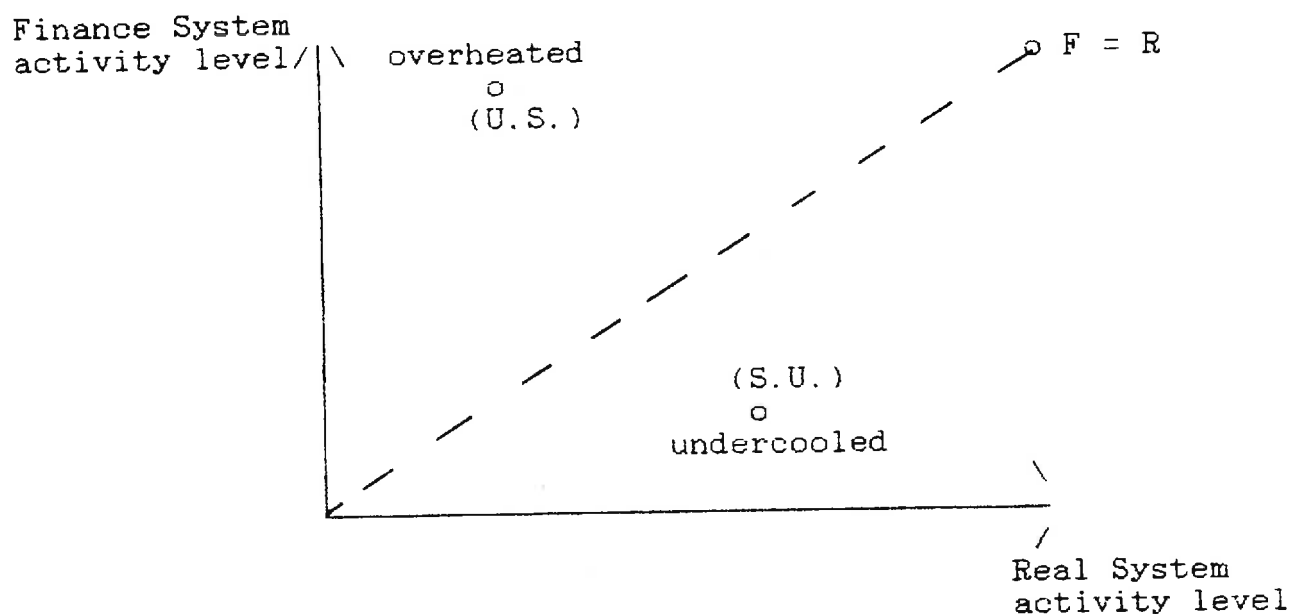
One reason for this, one might suspect, is that their theories are not very good. In no way pretending that the theory presented here is better let me at least, as a non-economist, try.

My effort is then based on the simplest of all distinctions, often rejected by economists, between the real system and the finance system. The real system is the concrete output of goods and services, measured in any unit (physical units, needs satisfaction units) but monetary units and the concrete production factors that may serve as inputs. The finance system would comprise all financial instruments including money, measured only in monetary units (not, for instance, in the physical quantity of finance instruments). However, we are not only interested in the quantity of goods and services produced in the real system and the inventory of production factors nor only in the quantity of financial instruments available in the money system. What we are particularly concerned with in the two systems is the quantity of transformation of factors to products, the exchange of goods and services for financial instruments and

of financial instruments for financial instruments. In other words not only production in the real system but also the two buying-and-selling aspects, one between the two systems and one in the money system.^[33]

Figure 1 now sets the stage for the mini-theory. The real system and the finance system are on the two axes, representing the quantities of turnovers within the two systems. Then there is, of course, the $F = R$ equilibrium line. On that line the finance system is synchronized with the real system, and what this means would probably have to be determined empirically, not only theoretically.^[4]

Figure 1. The real system and the finance system of an economy



Then there are the gross deviations and they are of two kinds. The finance system can be much more dynamic than the real system, or the real system can be much more dynamic than the finance system. In the first case we might talk about an "overheated economy" with much more activity going on in the finance system than in the real system. And in the second case we might correspondingly talk of an "undercooled economy" with much going on in the real system, but much less in the finance system. The initials of the two super-powers have been put on these points as indicative of the kinds of countries or economic systems one might think of in connection with these deviant cases.

Nobody would or should dispute the functional need of a finance system for a dynamic economy, if not necessarily for a subsistence economy. But the real system has an obvious primacy: it is in this system that food, clothes, shelter, health inputs and education inputs--not in the finance system. We cannot eat, dress, live, be healed or trained on the basis of money bills, slaves, stocks, bonds, certificates. Trivial truth, but worth keeping in mind.

The gist of the theory is now located in the degree of synchronicity between the activity levels in the two systems. If too few financial instruments are available a production, distribution and consumption process cannot be adequately

financed by extending credit to producers, distributors and consumers. An economic system of that kind will be like a steam engine or any kind of engine for that matter so effectively cooled that no ignition takes place and the machinery and obviously does not work smoothly. On the other hand, in an overheated economy very much is going on in the finance system; there is buying and selling of stocks at any time. But this does not reflect a corresponding activity in the real system: The engine is not coupled to the wagon, it runs on its own steam and gets overheated. The points made are already indicative of the kinds of troubles characteristic of the two super-power economies. We shall have plenty of occasion to hear more about this since there is an obvious but problematic solution: couple the engine of one to the body of the other. ^[53]

Let us now focus on the U.S. economy and the crash. The best theory I have found in the connection, and I am relying heavily on that one, is not made by a professional economist but by the editor of Harpers magazine. ^[54] The article certainly gains in credibility by having been published half a year before the crash, not after. Like the present author, at no point does he deny the significance of having a stock exchange. The problem is what happens there, and how it relates to the real economy.

Davis starts his essay very nicely, like a short story, about "the Brooklyn neighborhood where I live." Stockbrokers and

investment bankers are gathering under the plane trees, "successful people in their forties and fifties," making much money. But they are worried. "Another record day" says one. "Jesus, Dick. Have you people gone mad?" says the other. "We are not doing it. It's the kids and the computers and the raiders." And then comes the basic sentence that contains the key element of a theory in this field:

"Listen, the market is so out of synch with reality."

Davis then develops a six-point theory about how the crash happened, and I shall have my own comments to add to that.

First, there is the heavy concentration of wealth among the really rich in society. The top 1% has 36% of the wealth in the nation and this happens to be the same percentage as in 1929 with an other famous crash. In that connection it should be pointed out that the depression does not come immediately after the crash, but possibly with a delay of a couple of years. Thus, the big bankruptcies came in 1933, four years after the crash, with 4,000 banks bankrupt. This is of course much more than the number of banks that went under in 1986, 138, up to 200 in 1987. On the other hand 1,600 banks are reported to be in the danger zone right now. And farmers go bankrupt at the rate of 100 per day, but do not seem to have sufficient voice in the media or elsewhere to make any impression on society. They are probably

considered economically terminal anyhow. [7]

The question then becomes what very wealthy people do with their money. Obviously they do not let the money just lie there in cash, they consume, save, and invest. But there are limits to consumption set by the number of hours available for consumer activity per day multiplied by the number of people in the family, give or take a couple of friends, assuming that whatever portion of the wealth used for consumption is shared among relatively few persons. Consumer habits that would make a considerable dent in ordinary incomes and even exhaust solid fortunes rapidly would not be physically possible in connection with the sums of money we are talking of here, concentrating on the deca-millionaires, and above for that matter.

Hence, we are left with saving and investment. But at that level of wealth the real system cannot possibly be very attractive. It is too slow, too laborious, too much painstaking work developing the production factors and making them "click" in a production process. The finance system, using one finance instrument to beget at least one other finance instrument, has two big advantages over the real system. First, the process is quick, the results are immediate, not something that only becomes visible after decades, even generations, of hard work, matching patiently raw materials with skilled labor, research capability with well trained engineers, and management capability, and all

of that with necessary and sufficient capital. In the finance system everything is much simpler: paper is matched with paper and the results are available, in some cases, even the same day.

Second, quick, yes, but also risky. That is a counter-argument only for those with scarce means. But the wealthy can not only take risks, even great risks. As a matter of fact they may prefer the finance system exactly because of the risks: this is where they can play, show their prowess in terms of knowledge (insider or outsider) and gambling ability, compete with others in the same league, hopefully winning more than they lose. And more importantly winning over others, competitors, friends even family members. Playing MONOPOLY, for real, all day long, 365 days a year.

There is an obvious parallel to this in the gambling casinos of the world. Generally the gambling is done with cash and with one's own money (unless it has been stolen). If the gambler is doing fine then there might be a considerable net take-home. If he is doing badly the losses easily accumulate. The last effort to win it back may also fail, and disaster is around the corner. For this outcome there is even a final solution: the silent, lonely single shot, late at night. Suicide.

Not so when the gambling is done on the stock exchange. This is not done with cash, generally, but with other stocks. It

is not necessarily own money, it could also be other people's money, the company's in the sense that others have a stake, such as employment, income, profits, reasonable security, and so on. And since the loss is going to be absorbed by many people, on whose behalf the gambler thinks he is entitled to gamble, despair does not set in. There is no need for that lonely shot except in some extreme cases. And collective suicide is not in the culture. Action directed against the irresponsible gambler might be called for. But he has a good defense: "I had bad luck. And you would have loved me had the luck been good! . . . "

In short, the more concentrated the wealth the more activity on the stock exchange according to this type of theory. And Davis then adds a second point which makes it even stronger. During the Reagan administrations taxation has been lenient on the very rich, giving them even more money that can be used for speculation purposes. If the concentration was already a problem then the Reagan tax cuts would be the proverbial gasoline on the fire.

To this should then be added four more factors that fill in the details. There is the third factor the instant investment, facilitated by all the new information technologies and the availability of hard-working, highly energetic but perhaps not very wise young people right out of college, spurred on by double digit returns and salaries that the professor staying behind can

only dream of. In other words, there is "the kids and the computers" factor of the conversation quoted above. But in that conversation the raiders are also mentioned, and that is Davis's fourth point. Pickens, Icahn ("why can't you when I can?"). Speculation has been tuned to a fine art, with a premium on extreme agility, needed to keep up with "the kids and the computers." The hostile take-overs dominate the financial scene, and apparently with a frequency and a turn-over that not reflect any corresponding activity in the real system.

A further accelerator is provided by Davis's fifth point: the scoundrels, such as those who trade on the basis of insider knowledge (Boeskey). Knowledge speeds up a super-quick process even further: a very quick process demands super-quick information, even if rules have to be broken to obtain it. And finally there is Davis's sixth point: the debt and doom syndrome spurring people into additional action, not in order to gain more but to cut even very substantial losses when speculation goes wrong.

All six are factors that would stimulate a very high level of activity in the finance system. Negate all six of them and the turn-over would almost definitely decrease and even substantially so. But these factors were not negated in the period leading up to Black Monday, meaning that the factor precipitating the crash must have been of a different nature.

Consequently, I think Davis' excellent article and list of six point is in need of some additional points.

At this point we turn to the real system again, exploring what kind of situation obtains there that might contrast with the hectic activity of the finance system. To get a handle on this aspect let us divide the whole world economy into four parts as is done in Figure 2 indicating the problem the U.S. has with these four parts (see next page).

With the First World of rich capitalist countries the major problem for the U.S. economy is, in my view, in the U.S. itself.

Figure 2. Problems of the U.S. real economy

	West	East
North	I. First World U.S. not competitive in the U.S.	II. Second World Peace as a threat to the economy
South	III. Third World The debts that will never be repaid	IV. Fourth World The loss of economic leadership to Japan

The U.S. is so obviously not competitive in the U.S. this can be seen very clearly entering almost any apartment in the U.S., any house, looking at what people have inside, what they wear, what they consume. The same can be seen even more clearly by having a

look at department stores, watching for the rare label "Made in U.S.A." [10] The point is perhaps not that the U.S. has been out-competed in all kinds of products. But the foreign policy of the U.S. has obligated the country to import foreign goods in exchange for other services, generally in the military and political fields.

With 43% of the U.S. army deployed abroad and half of the \$300 billion military budget used to sustain that deployment there must be substantial counter-services. Of course, the U.S. could also have forced the "allies" or client countries generally to be available for deployment of military might, and no doubt this has happened in many cases. But the U.S. has also been sufficiently rich to use the power of the carrot rather than the power of the stick, contractual power rather than coercive power.

The way it works is as follows: "Yes, you may have bases in our country provided you buy a sufficient quantity of our goods: tennis shoes/golf clubs/shirts/cars/electronics/computers," and so on. As the client countries mature technically the range of goods the U.S. has to accept for import will be located higher and higher up on the degree of processing axis, ultimately displacing U.S. made goods from a manufacturing sector that used to be strong. In short, it cost to have an empire all over the world. And the chickens are now coming home to roost. [11]

With the Second World the major difficulty for the U.S. economy is the credible threat that peace may break out. In the near future it would be more and more difficult to mobilize substantial parts of the federal budget for the purpose of countering a Soviet threat people no longer believe in, thereby making military keynesianism or keynesian militarism inoperative. No doubt this has served to channel substantial amounts of federal money into the production machines in a counter-cyclical and fairly equitable manner (the Midwest being short-shrifted, though) among the fifty states, stimulating the real economy, although in a military direction.¹⁰⁰ There may be some benefits, positive spin-offs from the military economy that cannot be obtained by a civilian economy unable to concentrate that amount of capital. But then there is a rather important argument even if a tractor and a tank should require just the same supply of natural resources, labor, capital, research and management and for that reason stimulate the economy equally, be bought by the customers, the Department of Defense, and by the farming community respectively there is a major difference. The tractor will soon pay for itself by being put to productive use; the tank will not. But the problem remains how that amount of capital can easily be made available; capital that is not ever risk-willing because there is no risk taken at all, it is simply available too the best bidder.

With the Third World the major problem of the U.S. economy is that the debts will never be repaid. And not only that: any effort to squeeze the Third World countries further to pay the debts will only lead to an even more unhappy, sour, tumultuous or revolutionary relationship. In other words, the U.S. has painted itself into a corner from which there is no easy exit. More likely than not Third World countries will learn from the experience and turn either to red formulas of increasing weight being given to a public sector that cannot be penetrated from the outside, or to green formulas that possibly can be penetrated from the outside but with such a heavy load on import-substitution and care for the internal market and particularly for the needs of the most needy that there is little profit to make. Basic needs for the needy are not so good for profits.

With the Fourth World, the world Southeast, Japan, the four mini-Japans/Chinas and the People's Republic of China the major problem of the U.S. economy is, of course, the loss of economic leadership. Historians will discuss for generations how this happened. First Japan, then the mini-Japans/Chinas and increasingly to China were able to produce products with better quality and/or the same quality at lower prices, out-competing the U.S. in terms of the absolutely basic Q/P ratio. The point here is not to try to unravel the complex web of causal factors that led to this result. Suffice it only to point out that at some point during the first Reagan administration not only did

military expenditures sky-rocket from 100 billion dollars toward 300 billion dollars. But the Japanese surplus underwent a corresponding growth at the same time as the U.S. trade deficit and federal deficit expanded quickly in the direction of passing 100 billion dollars, toward 200 billion dollars. The U.S. became the biggest debtor nation in the world, at the same time as the yen/dollar exchange rate dropped from 360 yen to the dollar to lower levels than ever before, down to 120. And the trade composition index continued its downward trend.^[11]

In short, the U.S. real economy is in extreme difficulties, only concealed by the by-and-large irrelevant indicators that are used.^[12] Thus, low interest rate and low inflation rate do not conceal the circumstance that the economy is essentially rooted in the finance economy. High employment is certainly a factor in the real economy. But then the qualitative dimension is not taken into account: much of it is junk jobs rather than skill jobs. In other words, it is factor de-development rather than development. It is reputed that the amount of currency exchange going on in the world is forty times higher than would be warranted by the exchange of real goods and services taking place across borders. The difference must, to a large extent, be made up by speculation. Economists should be able to produce figures that would tell us something very concrete about exactly how much the finance economy is "out of sync" with the real economy. The present paper is not in a position to do that, all

I can say is that it must be considerable given the factors listed above behind the stimulation of the finance economy and the sluggishness of the real economy.

In short, the stage was set for a major asynchrony. And if the theory now is correct the hectic activity in the finance economy would drive the prices of the stocks up towards ever higher ranges, reflected in the rise of the Dow Jones index, for simple demand-supply reasons. Entrepreneurial talent shies away from a sluggish real economy, preferring a super-active finance economy. But at the same time there would be a sneaking suspicion of being caught "out of sync." Exactly how that suspicion, if that is the best word, translates into the plunge is not so obvious. But one thing should be obvious: when or if the plunge comes it should be particularly evident in the types of stocks that most clearly reflect the discrepancy between the real system and the finance system. According to the points just mentioned that should be in the U.S. firms that most clearly have been out-competed by Japanese firms. And since the Japanese economic superiority has been particularly clear in the automotive, machine tool and electronic/computer fields, we would expect the plunge to come in the stocks for, General Motors, General Electric and IBM. And this is exactly what happened. [13]

In this same vein we would not expect any lasting sluggishness in the Japanese finance system. Of course there

would be reflection of Black Monday around the world since the stock exchanges are coupled to each other, to some extent buying and selling the same stocks. But the Japanese economy would not be suspected of suffering from the same asynchrony. The finance system is certainly very active, as evidenced by the famous earning ratios.^[14] But so is the real system. To what extent they are "in synch" may be disputed, but they are not in the situation that one is expanding whereas the other is contracting. Hence we would expect a slight decline quickly to be overcome. And that was exactly what happened.^[15]

And correspondingly for the British system: the discrepancy would be less, both systems probably being less hectic. In other words, after the decline following Black Monday we would expect the tendency to pick up and in general a more happy relationship.^[16]

However, I would like to add to that another set of factors not yet alluded to that has been a part of the U.S. civil religion for the last twenty years or so: the myth of post-industrial society. Basic in that myth is the idea of "progress" of economies, from a heavy emphasis on the primary sector via an equally heavy emphasis on the secondary sector until it finally enters the tertiary sector, the service sector which would then be a sign of maturation.^[17] In that sector three activities would be particularly important since they all have to do with

production factors: capital processing, research, and management. Much less important would be the production of agricultural goods and industrial goods. Evidently the U.S. does not conform to the picture since the primary sector is still indeed there, with an astounding productivity underlying the agricultural output. But the industrial output is clearly contracting. At the same time the tertiary sector is expanding.^[19] Thus, we are dealing with a process that will only be predisposed to the "out of synch" phenomenon that is the basic part of the theory above. Why did the theory emerge, what were the assumptions behind a theory of that kind?^[19]

I think the basis for the theory was arrogance and pride. There was the idea that other countries would now mature sufficiently to get into the secondary sector which the U.S. could then gracefully abandon, advancing into the tertiary sector and the more complicated tasks of capital processing, research and management. Underlying this assumption were two unstated assumptions. Both of them were invalid, but that was not clear at that time or to that type of author:

(1) Command over the secondary sector is reversible. If the U.S. should come into any difficulty then the secondary sector could be mobilized again and leadership be recaptured, meaning that re-industrialization would be as easy as de-industrialization, simply imitating industrialization but of course at a much higher

level.

(2) Command over the tertiary sector is monopolistic. Who could compete with the U.S. in capital processing, research and management? It must have been taken for granted that nobody was really good enough except, perhaps, the Federal Republic of Germany.

That both assumptions were wrong is very clearly seen from what has happened in the meantime. The energetic work during the Carter administration in favor of re-industrialization (headed by Professor Amitai Etzioni, working in the White House) was of no avail. It fell on deaf ears. And behind that is a process which is not very easy to reverse: the emergence of the money man and the legal specialist on top of the corporations, to the exclusion of the engineer^[20] (obviously all three should be on top); the gradual deterioration, or deskilling of the "skilled workers" coinciding with the general tendency toward abolition of the working class and the transformation of otherwise qualified workers into junk workers.

Parallel to this came, then, an even more discouraging phenomenon for the people who believed (and probably still believe) in that kind of theory: the emergence, on the western rim of the Pacific, in East Asia, of countries, particularly Japan, totally capable of capital processing, research and

management. That Japanese management is of top quality has been evident for a very long time; evidently out competing U.S. management as can also be seen when studying who is trying to imitate or learn from whom. The same may perhaps not yet be said about Japanese research when the discussion is in terms of primary research, the very foundations for scientific achievement. But if we focus instead on technologies that can immediately be turned to economic advantage then it may very well be that the Japanese for a very long time have had an advantage over the United States. And in capital processing the Japanese were able to beat the United States for the first time in 1987 having the leadership position in the very sacred center of the U.S. financial economy: NYSE. [21]

Probably a beautiful case of nothing being so impractical as a bad theory. And of a nation dominated by economists sufficiently out of touch with reality not to be unduly worried about "synchronicity." Moreover: nothing of this is changing for the time being. Hence: there will be more crashes. Or, at least, the crash will be followed by a depression, a euphemism for which is a "business trough." In short: the crash itself was the leading indicator of things to come.

N O T E S

[1] The leading indicators for "business cycle troughs", 47 series all together, include indicators of marginal employment adjustments, industrial production, new and unfilled order and deliveries, consumption and trade, formation of business enterprises, business investment commitments, residential construction, inventory investment, stock prices, commodity prices, profit and profit margins, cash flows, money flows, real money supply, credit flows, credit difficulties. The same picture emerges in the New York Times article right after the crash (October 22 1987, p. 35) with GNP increasing, unemployment falling, the prime rate by and large falling, industrial production heading up and the consumer price indexing more mixed. And the Dow Jones Industrial Average rising and rising till the crash, actually from 2.700 till 1.900 in a very short span of time.

The one day drop was 508 points or 22.6 percent, as compared to "the 12.82 percent drop on Oct. 28, 1929, that preceded the Great Depression". Since August 25, the Dow has fallen almost 1,000 points, or 36 percent--" (New York Times, 20 October 1987).

[2] Business Week, December 28 1987, p. 111. Also polled were the econometric services where the spread was "only" from 2.8 to -2.0, but then there were only 8 of them.

[3] R. J. Samuelson, in New York Times, January 8 1988 "Economic Forecasting: The Equations No Longer Work", has many strong words about the profession, summarized in "The equations don't work.-- The story of economics over the past 15 years is a junkyard of discarded equations". Of course, because they are based on data from a past that has been transcended, meaning the parameters have been basically changed, long time ago. Art Buchwald, in his particular way, is already talking of a "Black Monday School of Economics" (International Herald Tribune, December 24-25 1987).

[4] Two extreme points for theory-building would be economies consisting only of the real system, and only of the finance system. Today's economies are located in-between. But where in-between, how much? Or, is it better to do as done in Figure 1, to conceive of these as two orthogonal dimensions, exploring balance-imbalance?

[5] The traditional problem with this type of cooperation has been that the finance system tends to get control over the real system rather than the other way round. Much of the theory of imperialism is based on this assumption. But what happens if the real system is pulling the finance system rather than the other way round? In other words, that the externalities become more equal, thinking now in terms of power relations between countries and classes?

[6] L. J. Davis, "The Next Panic: Fear and Trembling on Wall Street", Harper's, May 1987, pp. 35-45. Also very insightful (in

my view), but post hoc, is the article by Maurizio Blondel in Il Giornale, Milano, reprinted in World Press Review, November 1987, pp 25f: "Today, as in 1929, there is a contrast between the real economy's torpor and the financial economy's feverish agitation. In 1929, too, the market rose while goods remained unsold and prices dropped because of weak demand. It has become easier to make money through financial maneuvers than through the labor that keeps factories going". Blondet also quotes a mid-15 century bishop saint of Firenze, Antoninus: "Capital accumulated by virtue (hard work, honesty, foresight) is superior in quality to that accumulated by vice (egotism, greed, exploitation). One creates well-being; the other leads to ruin". Precisely.

[7] Bringing the reasoning on "normal form", so to speak.

[8] Some firms make patriotism a sales point, such as K-Mart.

[9]

[10] This is, of course, a point in connection with Star Wars, but certainly not the major point which is the offensive potential of Star Wars technology. See Johan Galtung, "The Real Star Wars Threat", The Nation, 28 February 1987, pp. 248-49.

[11] See Lester Brown's State of the World, Washington, 1988, Figure 8-2 for US military expenditures, trade deficit and federal deficit. Felix Rohaytyn, "Restoring American Independence", The New York Review of Books, February 18 1988 gives the US national debt as \$ 2.5 trillion and the foreign debt as almost \$ 500 billion, both of them increasing. The 25% decline in stock prices fall 1987 decreased the value of the stocks by \$ 1 trillion. These are substantial parts of the total U.S. wealth as estimated by the Commerce Department at \$ 13 trillion, not counting "human capital" (by G. S. Becker, Business Week, November 9 1987, p. 22 said to amount to 75% of the total). For the Trade Composition Index see Johan Galtung, "A Structural Theory of Imperialism", chapter 13 in Essays in Peace Research, Vol. IV, Ejlers, Copenhagen, 1980. Dr K. Schwartzman of the Department of Sociology, University of Arizona is doing important work in this direction, comparing US, Portugal, Mexico and Brazil.

[12] According to the argument in the present paper no crash would be detected by the indicators mentioned in footnote 1 above, making no distinction between the real and the finance systems, no exploration of the relations between them, and also making no distinction between quantity and quality of production.

[13] The biggest losers Black Monday were IBM, dropping \$ 31 to \$ 104, General Motors, dropping \$ 14 to \$ 52 and Exxon, dropping \$ 10 to \$ 34 (New York Times, October 20 1987, p. 1). General Motors, General Electric and IBM are still among the fifteen countries on top in market value (Business Week, April 15 1988, p. 32; as nos. 5, 3 and 1 respectively). But they dropped 10%, 19% and 24% relative to last year, making them three of the five

suffering the steepest decline among these top 15 (the other two were Du Pont and Chevron).

[14] According to The Economist, November 14 1987, p. 13 the average share price/earning ratios are 55 in Tokyo as against 13 in New York. This might be interpreted as a sing of the economy being "overheated" and hence heading for a crash. The point made here would be that it is the relation to the real system that counts; if both are "overheated" then they are synchronized.

[15] See "Japan's unusual recovery", New York Times, November 11 1987.

[16] See C. Huhne, "Boom Beats the Crash", The Guardian Weekly, March 6 1988: ``Over the year to the fourth quarter, the whole economy grew by 5.3 per cent while the non-oil economy expanded by 5.4 per cent".

[17] This theorem is usually associated with the Australian economist Colin Clark, extrapolating from data up till recently, but not reflecting what happens when a society is no longer self-sufficient in primary and secondary sector products. Put differently, the theorem reflects well blue (capitalist) and red (socialist) economic theory and practice, but not green economics.

[18]

[19] I am, of course, thinking of Daniel Bell and the "post-industrial society" school.

[20] David Halberstam's work comparing the American and the Japanese auto industry is important here. One may wonder: why did this not come out a school of economics; can only a first rate journalist reach the public mind in the U.S.?

[21] When asked on CBS what the formula behind this success was the Nomura Securities top man said, "working hard". The follow-up question was, "Now that you have become No. 1, what will you do? Answer: "Work harder".