LaRouche: We have reached the end of an epoch

Disintegration of the world economy
(a typical collapse function)

Financial aggregates

$+\Delta$

Monetary aggregates

0

Time

$-\Delta$

Physical-economic input/output
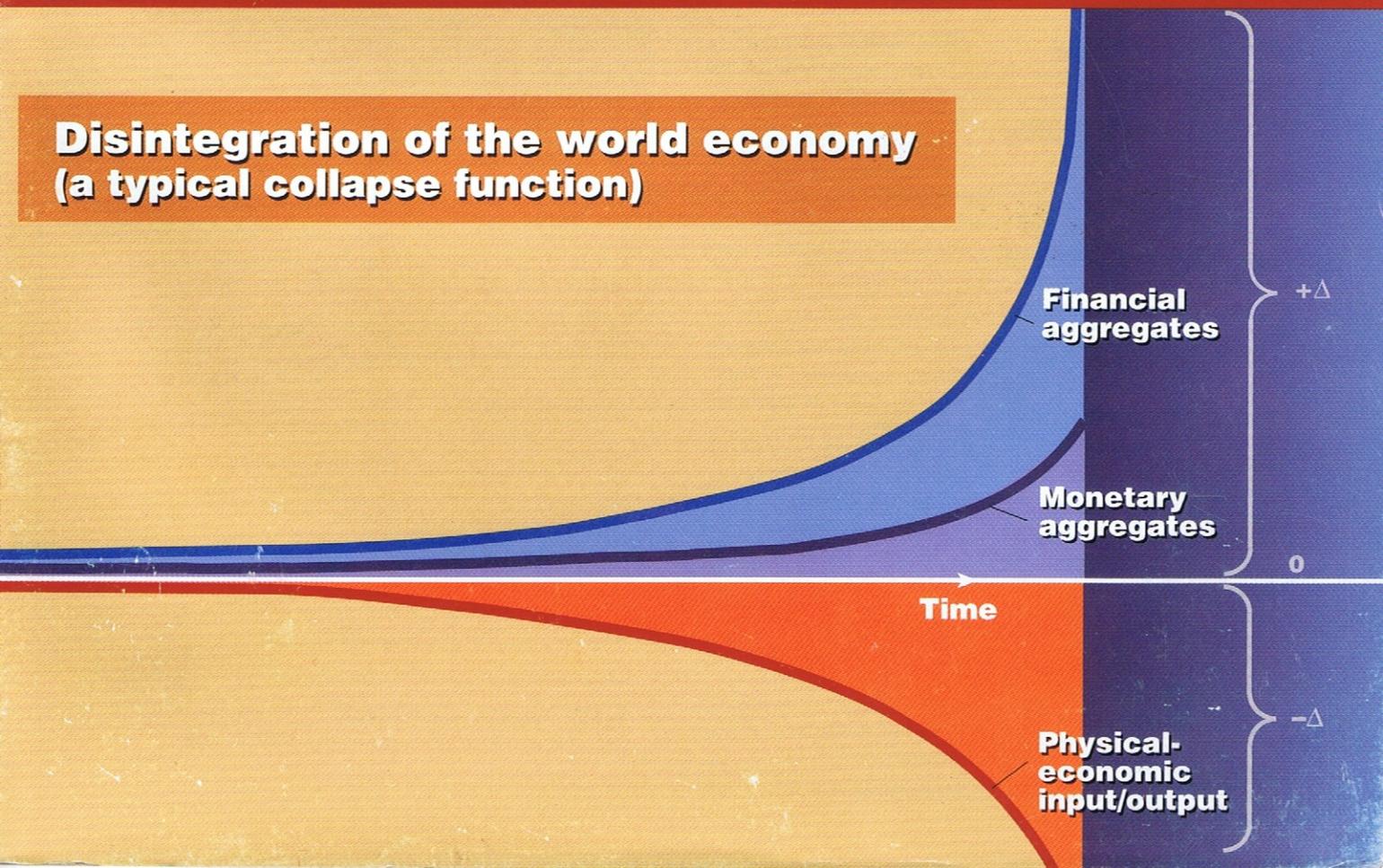
# The 30-year collapse of the U.S. economy

by Christopher White

Presented here is *EIR*'s relatively definitive treatment, and elaboration of the interrelated economic, monetary, and financial processes, which, over the brief span of the last 30 years, have brought the U.S. economy, and therefore also much of the world besides, to the edge of the precipice.

Whether or not what is thus portended comes to pass in 1996, is not the point. That it could come to pass in 1996, or, as a matter of fact, at any moment, perhaps over any 48-72 hour period, is.

The documentation assembled here substantiates the case that insofar as the U.S. economy is concerned, the essential conditions for a general economic and financial breakdown crisis have been more than satisfied. The precise timing of that crisis, more importantly yet, the matter of whether that accumulated crisis potential is actually unleashed, will turn out to be a matter of politics, and informed political will. For, even at this late hour, remedial measures, competently conceived, proportionate to what requires remedy, decisively implemented, can begin to reverse what has been under way.

It ought to be clear at the outset that the case that is documented below has nothing to do with the kinds of developments that are usually, and typically, associated in peoples' minds with the symptoms of financial and economic collapse. The subject here is not the possibility of
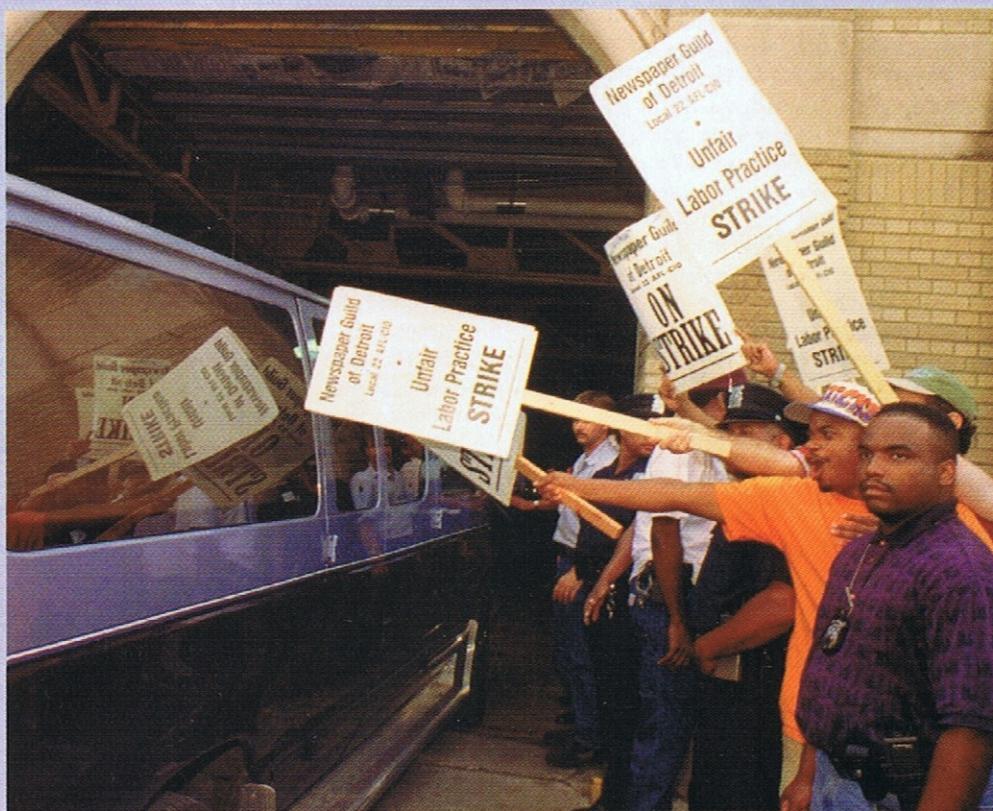

Labor unrest is growing as living standards plummet. Shown here: Striking employees of the Detroit News shout at a van of workers crossing the picket line, July 14, 1995.

Only by reaffirming the principles that have been responsible for human existence, can humanity be freed of the parasite of usury and speculation. How that will be accomplished, is the key question facing mankind in 1996.

FIGURE 3
Inflation hidden in value added
billions $

FIGURE 4
Financial profit ratio of the U.S. economy

FIGURE 5
Money supply as percent of GDP
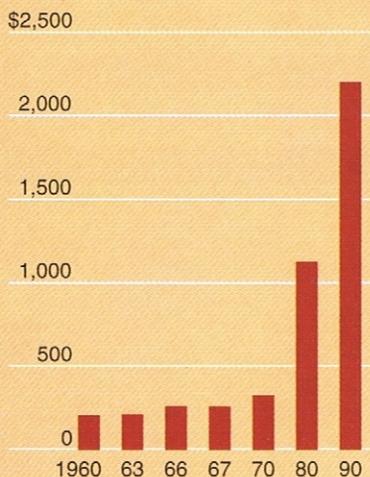
the first and second sections of our report.

This meets the criteria of a collapsing physical economy of Figure 1's "Typical Collapse Function."

Second, we show that monetary processes, for example, the old-fashioned kind of money-in-circulation money, that fits in a wallet, and is not made out of plastic with a magnetic identifying strip, or the volume of transactions typified by Gross Domestic Product's netting of sales and purchases, have become divorced from the economic processes to which they should properly be subject. We summarize such demonstration in **Figures 3** and **4.**

There is a tenfold increase in the monetary value-added equivalent of a market-basket unit, but the ratio of net income to costs in monetary terms shows the same kind of collapse we saw in the ratio of physical productivity in Figure 3 above. The principal difference between the two being that the monetary collapse lags that in the economy.

Figure 5, showing rate of change of M1 as a percentage of GNP, summarizes the point. As payment for, and financing of, productive or necessary transactions have been separated from the idiotic measure of Gross Domestic Product which is supposed to represent them, so, too, has the growth in money supply per se been separated from the same GDP.

This meets the case of the second, monetary part of Figure 1's "Typical Collapse Function." The documentation is presented in this report by Marcia Merry Baker and Richard Freeman.

Third, financial turnover as a whole has

indeed assumed a hyperbolic growth rate with respect to both monetary and economic processes. This is exemplified in **Figure 6,** showing $440 of financial turnover chasing each dollar of money in circulation.

No more 'cycles'

Taken separately, someone might be found to say that none of these phenomena are new, that each has been seen before, and even, perhaps, that they will be again, "in the next cycle." That's the parasite speaking, again.

There will not be another "cycle" of the sort such creatures love to fantasize about. There has been no such conjuncture in human history as is defined by the triple collapse function documented here. The reason is
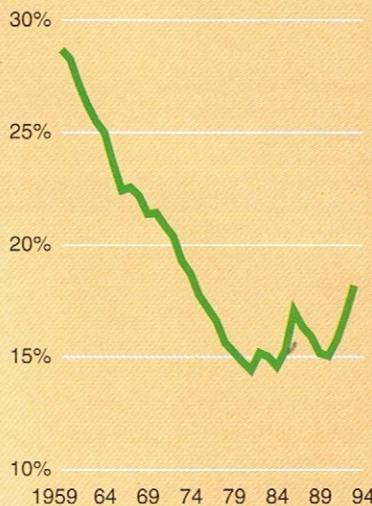
because the kind of economy that has functioned over the past 500 years has been unique in human history, even if that economy has represented a symbiosis of human host and parasite. The conjuncture documented here is such that the host and the parasite cannot continue to survive. The parasitical form is doomed from its own nature. The human host can act on its humanity to free itself of the doomed parasite, to save the best that human culture has created. But only by reaffirming on a global basis the principles that have been responsible for human existence, can humanity be freed of parasitism.

How that will be accomplished is set to be the key question mankind must take up for solution in 1996, and hopefully before things go right over the edge.

FIGURE 6
Dollars of turnover per dollar of M1

■ On-balance sheet   ■ Off-balance sheet
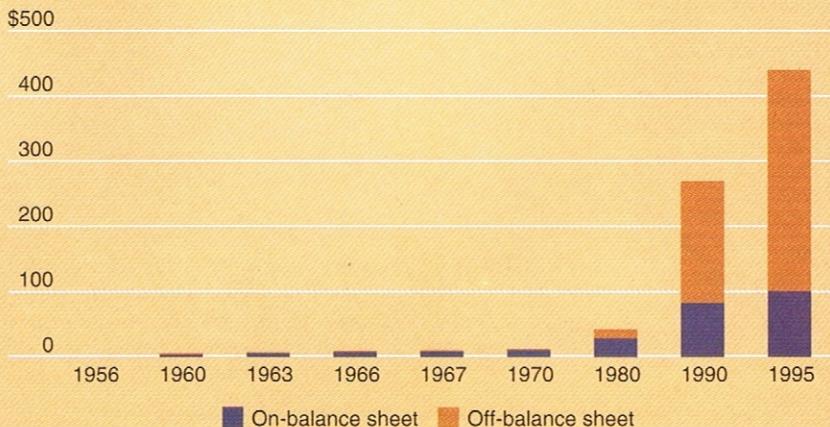
U.S. market basket shows 50% decline since 1960s

by Marcia Merry Baker

An analysis of U.S. consumers' and producers' market baskets from the 1960s to 1990, the market baskets that measure the U.S. economy's capability to reproduce and grow, shows a process of collapse. In one generation, production levels of many necessities, selected from these market baskets, have fallen, on a per-household basis, by 40-50%, and some by even 70-80%. Far from representing isolated "shortages," this trend represents a collapse throughout the economy.

The percentile of the workforce engaged in producing the market basket of necessities is now about 50% smaller than in the 1960s. Therefore, the net productivity of the workforce as a whole has declined. A large percentile of the workforce now is engaged in marginal or useless activity.

Thus, in net effect, the U.S. population is producing per capita about *half* of what it was 25-30 years ago, relative to 1967 per-household standards.

Here we show this process of collapse in three steps:

First, by looking at the tons and numbers of essentials that go into market baskets for the economy.

Second, by looking at market basket needs as a totality, in ways that allow comparison of workforce requirements to produce the market baskets.

Third, by looking at productivity relations in the economy, and how they have decayed.

1. The market basket standard

The method for comparison used here, is to assort selected commodities into standard market baskets of producers' goods, consumers' goods, or the kind of intermediate goods that go into making producers' or consumers' goods, and to compare the values over time. The type of items included in the *EIR* standard market baskets for the United States, for recent decades, are listed in **Tables 1** and **2**.

The 1967 market basket values were used as a benchmark year, because that was a point when the U.S. economy still "functioned," at least relative to what was to come; and 1990 is shown as a recent year for comparison.

The consumers' goods market basket has the kinds of things you would expect for the bill of consumption of the standard household: food, clothing, footwear, home appliances, passenger cars, and so forth, including some measure of provision of housing, schools, hospitals, and shops.

The producers' goods market basket has machine tools, textile machinery, locomotives, construction equipment, pumps, etc.

The intermediate goods market basket has ores, industrial chemicals, wood pulp, etc.

The *EIR* consumers' market basket has 28 commodities; the producers' market basket has 46 commodities; and the intermediate goods market basket covers 62 commodities, including raw materials and semi-finished goods.

The values for the commodities are shown either in weight, or in numbers of units. The *EIR* database also has consumer market basket measurements in square meters of school, hospital, residential, and

TABLE 1
Household goods

	Units	1967 Quantity (000s)	1967 Production or Consumption	1967 Production as percent of consumption	1990 Quantity (000s)	1990 Production or Consumption	1990 Production as percent of consumption
Men's and boys' clothing	tons	1,512.11	P	104.9%	2,409.71	C	31.1%
Women's and girls' clothing	tons	1,186.13	P	100.0%	1,866.6	C	83.4%
Shoes and leather goods	units	396,757.51	C	96.2%	118,928.09	C	12.9%
Textiles	tons	5,562.21	C	99.7%	2,429.64	C	99.3%
Paper and paper products	tons	40,830	C	88.7%	68,810	C	91.5%
Radios and televisions	units	30,055.43	C	96.3%	27,191.91	C	62.5%
Passenger cars	units	8,399.37	C	88.5%	9,284.44	C	65.5%
Tires for road vehicles	units	194,792.58	C	83.8%	258,000	C	81.7%
Washing machines	units	4,326.72	C	99.9%	6,428	P	100.0%
Food products	tons	358,173	P	118.0%	542,202	P	127.0%
Processed foods	tons	68,019	P	100.0%	106,339	P	90.0%

TABLE 2
Intermediate goods

	Units	1967 Quantity (000s)	1967 Production or Consumption	1967 Production as percent of consumption	1990 Quantity (000s)	1990 Production or Consumption	1990 Production as percent of consumption
Bauxite	tons	15,503.32	C	13.44%	14,238.08	C	3.48%
Calcium phosphates	tons	36,079	P	134.24%	46,799.76	C	99.02%
Natural sulfur	tons	7,127	P	111.40%	5,600.6	C	66.53%
Common salt	tons	35,332	P	101.77%	40,497.91	C	90.85%
Synthetic rubber	tons	1,942.55	P	115.73%	2,390.36	C	88.46%
Sulfuric acid	tons	26,141	P	100.03%	39,172.11	C	96.10%
Chlorine	tons	6,987.21	C	99.71%	12,070.48	C	97.83%
Hydrochloric acid	tons	1,493.58	C	99.02%	2,932.62	C	97.11%
Zinc (unwrought)	tons	1,103.16	C	83.18%	985.07	C	36.38%

commercial floorspace; and producers' market basket measurements in kilometers of rail track, etc. (These are not shown in the figures here.)

Keep in mind that the tonnages or unit measurements of the *EIR* market basket items are *not* meant to add up to a *comprehensive* picture of the economy. Rather, they are items chosen to provide a representative index, with which to compare how the economy is functioning over time.

The items selected amount to about a 50 by 50 cell matrix of inputs and outputs.

Also, for each of the commodities, the *EIR* database has recorded both a production level and a consumption level for the United States for every year for which data can be obtained. The two levels are not necessarily the same; exports and imports affect whether one level is higher than the other. However, for comparison, the *EIR* market basket for 1967 uses whichever of the two levels—production or consumption—*is higher,* as a reflection of the "energy of the system," or the level of activity appropriate to the functioning of the economy in the way it was organized at that time. In subsequent years, either annual production, or consumption, of the item in question, is used as noted, depending on what kind of comparison is being made.

When year-by-year measurements (in weight or other units) for actual quantities of each type of commodity are assembled in this market basket way, then calculations are possible for per-capita, per-household, per-worker, per-unit-area ratios, to characterize whether the economy is providing the physical basis for reproduction of the population—as compared to ratios characteristic of the economy in 1967, when things "worked."

What the pattern shows for the late 1960s to the 1990s in the United States, is a collapse in quantity, and in domestic production of the market baskets, per household.

But first, look again at Tables 1 and 2, and see how production drops overall, shown as a percentage of consumption, which is given for all the items listed. In other words, the 1990 U.S. economy is not producing the market basket essentials for the population in the way it was in 1967.

The consumers' market basket: In Table 1, look at clothing. Men's and boys' clothing totalled 1,512,110 tons in 1967, and provided 100% of what was consumed that year; the figure then went up to 2,409,710 tons consumed in 1990, but U.S. production supplied only 31% of that. In 1967, women's and girls' clothing consumed was 1,186,130 million tons, with domestic production supplying 100%; and in 1990, domestic production dropped to 83.4%, at 1,866,600 million tons.

Textiles, referring to non-clothing textiles including bed, bath, and kitchen linens, remains about the same ratio of 99-plus percent of annual consumption from domestic production.

What happened with other types of consumers' market basket items from 1967 to 1990, is clear from the statistics. For passenger cars, domestic production fell from a level of 88.5% of consumption in 1967, down to 65.5% in 1990. Tire production remained at about 81-83%.

Radios and TV sets fell from a level of over 96% domestic production of consumption in 1967, down to 62.5% in 1990.

The most dramatic decline is in shoes and leather goods. In 1967, over 96% of U.S. consumption of footwear and leather goods came from domestic production; in 1990, only 12-13%. As of 1995, half of all the footwear imports in the United States come from China.

Food commodities appear to remain the same at 100% domestic production of food consumption. This reflects the fact that the United States is a supplier of agricultural commodities controlled and traded internationally by the food cartel companies, such as grains and oilseeds. If specific food items were shown, the United States would show increased import dependence for many foods, from 1967 to 1990.

The producers' market basket: In 1967, about 250,000 machine tools of all types were produced in the United States, which meant that production of these machines was 404% of consumption for that year. The United States was a leading exporter of machine tools. By 1990, the United States was import-dependent. Production was only 13% of consumption, which was about 1,090,490 machines, as listed in the table.

The intermediate goods market basket: Table 2 shows the pattern of decline in domestic production of items needed for consumer or producer goods.

For example, bauxite. In 1967, 13.4% of U.S. consumption was met by domestic production; that dropped to 3.5% in 1990. For natural sulfur, production went from 111% of consumption in 1967, down to 66.5% in 1990.

Market basket production falls

When you look at the per-household production levels from 1967 to 1990, for the market basket goods, the decline is dramatic.

Table 3 shows this decline for all three market baskets, for selected items, for 1967 and 1990, and for three years in between. (These are the type of specific items whose numbers and weights are combined, and

TABLE 3

Decline in production levels for goods in producers' and consumers' market baskets on a per-household basis

(index 1967=1.000)

	1967	1973	1979	1982	1990
CONSUMERS' MARKET BASKET					
Men's trousers	1.000	0.965	0.594	0.504	0.335
Men's shirts	1.000	0.644	0.486	0.343	0.165
Women's blouses	1.000	1.023	1.511	1.405	0.684
Women's dresses	1.000	0.597	0.503	0.339	0.279
Women's woollens	1.000	0.264	0.254	0.139	0.166
Refrigerators	1.000	1.247	0.935	0.703	0.932
Passenger cars	1.000	1.150	0.869	0.484	0.512
Tires	1.000	1.020	0.833	0.666	0.877
Radios	1.000	0.706	0.467	0.316	0.098
PRODUCERS' MARKET BASKET					
Metal-cutting machine tools	1.000	0.643	0.530	0.289	0.212
Metal-forming machine tools	1.000	0.854	0.730	0.404	0.406
Bulldozers	1.000	1.200	0.713	0.334	0.306
Graders and levellers	1.000	0.786	0.748	0.383	0.349
Pumps	1.000	1.140	0.541	0.424	0.506
Steel	1.000	1.029	0.821	0.416	0.487
INTERMEDIATE GOODS FOR EITHER MARKET BASKET					
Gravel and crushed stone	1.000	1.023	0.914	0.624	0.575
Clay	1.000	1.022	0.759	0.459	0.544
Bricks	1.000	0.999	0.850	0.451	0.598
Cement	1.000	1.045	0.911	0.632	0.689

shown as totals in the other tables.)

A production level for each item for 1967 was determined, and then divided by the number of households in 1967. This yielded a production level on a per-household basis. For example, in 1967, the United States had 59,236,000 households and produced 86,014 metal-cutting machine tools (among other types of machine tools). Thus, there were 0.001452 metal-cutting machine tools produced per household.

The 1967 index was set equal to 1, and all subsequent years' production levels were compared to it.

By 1990, the United States produced but 0.000308 metal-cutting machine tools per household, a level that was only 21.2% of what it was in 1967.

During 1967-90, production levels, on a per-household basis for major goods contained in both the producers' and consumers' market baskets, fell between 7% and 90%, with most goods registering a collapse of 40% or more.

Of the total of 60 goods—out of the 74 designated goods comprising the *EIR* producers' and consumers' market baskets, for which enough data was available for the

period, almost three times as many declined as increased in value. Of the 60 items, 44 declined and 16 rose.

By 1990, men's shirts were being produced, per household, at 16.5% of the rate of 1967; men's trousers at 33.5%; women's dresses at 27.9%. Radios were being domestically produced, per household, at only 10% of the 1967 rate.

Look at intermediate goods. There are five representative basic construction building materials included in the market baskets: crushed stone, sand, and gravel; clay; hydraulic cement; and bricks. Of these, four collapsed.

Take the case of bricks, which are used in infrastructure and to an even greater extent in residential housing. In 1967, the United States produced 7.57 billion bricks and consumed 7.551 billion bricks. Stated on a per-household basis, in 1967, domestic new brick produciton was 128 bricks per household, and domestic new brick consumption was 127 bricks per household.

By 1990, the U.S. production of bricks fell to 7.116 billion bricks. Stated on a per-household basis, in 1990, domestic new brick production was 76 bricks per house-

hold. As the table shows, this is 59.8% of what it was in 1967. Brick output per household had fallen 40% from the 1960s to the 1990s.

2. Fall in production and consumption per household

Figures 1 and **2** give a summary view of the how production and consumption have declined, per household, in essential market basket categories of goods, from 1967-70 to 1990.

Here the tonnages of annual production and consumption for dozens of goods from the market basket lists, are grouped into totalities, rather than simply added as the weight totals of the basket assortments that we considered above. The six categories shown in Figures 1 and 2, and in following graphs—food and lumber, minerals, fuels, non-durables, durables, and final goods—are composed of not only market basket items, but values for the "ingredient" commodities that go into the final market basket items. The relative quantities of input commodities are based on coefficients of production that characterized the U.S. economy in 1967.

For example, for steel, the 1967 profile was used for how much of total annual output (carbon, alloy and stainless, in terms of 83,897,000 net tons of shipments) went to the various uses, among them, 15,932,000 tons for vehicles (19%); 4,994,000 tons for industrial machinery and tools (6%); 7,255,000 tons for ordnance and other military uses (8.6%); and 1,090,000 tons for agricultural machinery and related uses (1.3%).

This method has been chosen, in order to aggregate statistics in a way that will serve not only as a measure for production and consumption, but also for the labor force involved in producing and consuming. The relative numbers of workers needed in 1967 to produce all the different components of the six categories—everything from steel to shoes—were used as the coefficients of productivity for later years' comparisons. While this does not take into account technological advances, it does allow for comparison, which is the object here. The idea is to compile a rough idea of what should be produced, before considering how that might best be produced.

Figures 1 and 2 show production and consumption in metric tons divided by the number of households for that year.

Production ratios drop. During the years 1966, 1967, and 1970, total tonnages of production per household reached up to
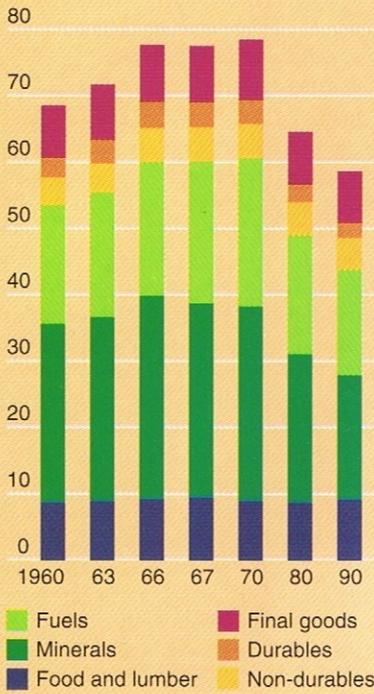
FIGURE 1
Production per household
metric tons

Legend: Fuels, Final goods, Minerals, Durables, Food and lumber, Non-durables

Years: 1960, 63, 66, 67, 70, 80, 90

FIGURE 2
Consumption per household
metric tons

Legend: Fuels, Final goods, Minerals, Durables, Food and lumber, Non-durables

Years: 1960, 63, 66, 67, 70, 80, 90
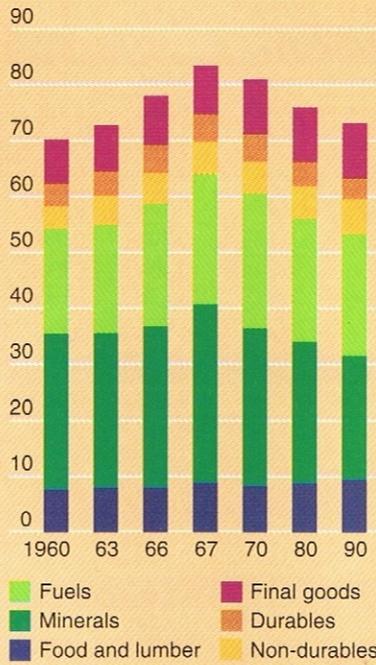
FIGURE 3
Production per capita
metric tons

Legend: Fuels, Final goods, Minerals, Durables, Food and lumber, Non-durables

Years: 1960, 63, 66, 67, 70, 80, 90
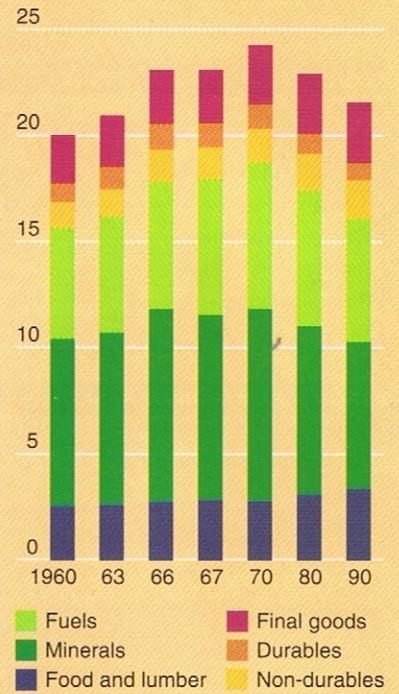
FIGURE 4
Consumption per capita
metric tons

Legend: Fuels, Final goods, Minerals, Durables, Food and lumber, Non-durables

Years: 1960, 63, 66, 67, 70, 80, 90
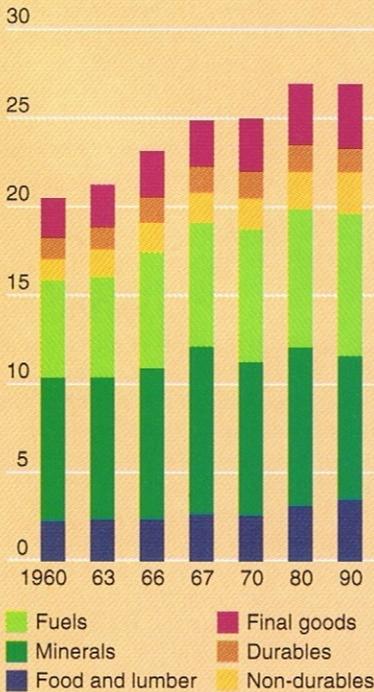
FIGURE 5
People per household

Years: 1960, 65, 70, 75, 80, 85, 90
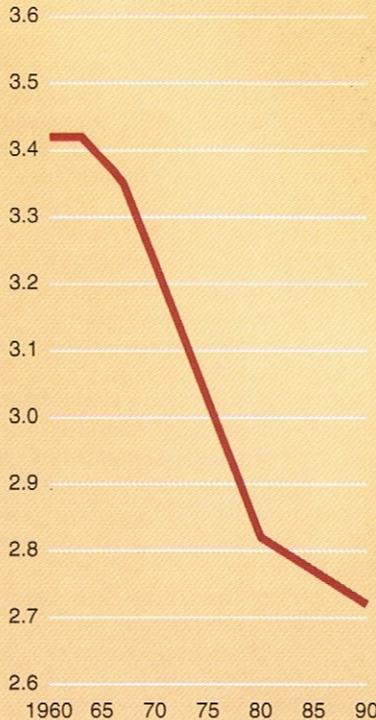
FIGURE 6
Distribution of per-household consumption
tons

Legend: Retirees, Children, Non-working adults, Non-productive workers, Productive workers

Years: 1960, 63, 66, 67, 70, 80, 90
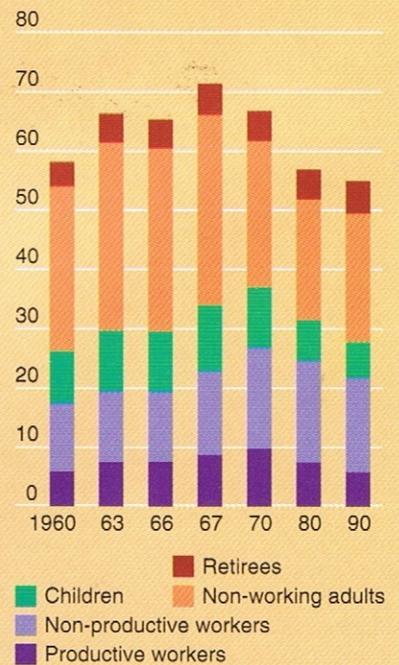
78 tons per year—exceeding the 69-71 tons per year levels of the early 1960s.

But by 1980, these tonnages of production had dropped to 62 tons per household, and in 1990, fell farther to 59 tons a year per household—a 25% decline.

Much of the shrinkage during 1970-90 can be seen in the minerals, fuels, and durables components of annual production being measured. This decline in actual volumes of essential physical commodities per household reflects the economic decline in the "post-industrial" decades.

Only food and lumber show some increase. This reflects the role of the United States as a source of agriculture commodities for the international food cartel, as noted above.

Consumption ratios drop. Figure 2 shows that consumption per household fell from 1967 to 1990, in terms of tonnages of items in the six categories used for comparison over the 1960-90 period. From 80 tons per household per year in 1967, the level dropped to 73 tons per household in 1990.

Overall, these levels are higher than the production-per-household tonnages shown in Figure 1, reflecting mostly the shift to import dependence over the last 25 years.

What increased slightly per household were categories of food, non-durables, and final goods. What markedly decreased were minerals and durable goods categories.

Look at this in terms of specifics.

Figures 3 and **4** show production and consumption per capita over the same time period, for the six main categories being compared. Production per capita drops from 24 tons in 1970, down to 22 tons in 1990. Consumption per capita shows an increase from 1967 to 1990, from 24 tons to 26 tons, because of imports, and because of rises in items and inputs in the "post-industrial," non-basic-industry categories of non-durables and final goods.

The apparent rise in per-capita consumption of these tonnages should not mislead anyone into inferring that there is an augmentation per capita in the provision of goods in the economy. Look at the number and makeup of households to see why there is no process of economic improvement shown in the apparent per-capita rise in consumption.

Who gets what in the household

Over the last 30 years, the number of households has increased from 59.236 million to 93.347 million in 1990. However, at the same time, the birth rate has fallen, and other demographic, social, and residential shifts have occurred, so that the average number of people per household has *dropped* over the same 1967-90 time period, from 3.35 in 1967, down to 2.6 in 1990. This is shown in **Figure 5.**

So, as of the early 1990s, even with production and consumption of market basket goods going down per household, the shrinkage of the household membership, along with imports, allowed for an appearance of a temporary per-capita increase in consumption (Figure 4).

Look at the shifts in the profile of how the consumption per household is distributed to household member groups over the 30 years from 1960 to 1990, shown in **Figure 6.** The component going to children shrinks. The component going to non-working adults shrinks, as mothers have to get jobs outside the home. The same quantity of consumption goes to retirees, even though there are relatively more of them today.

The profile deteriorates from 1967 to 1990, for the part of household consumption that goes to workers. There is a decline in what goes to those employed in the productive activities of manufacturing, farming, and necessary support functions and social services; and there is an increase in the consumption going to those employed in jobs that are non-productive from the standpoint of the overall economy (the "parasitical" ranks of the media, lawyers, real estate and retail, and related support jobs).

Figure 7 shows the dramatic decline from 1966-67 to 1990, in the tonnages of production per worker, of the six categories of goods being compared. **Figure 8** shows the fall in the consumption per worker in the six categories.

Figure 9 shows how the ratio of dependents per worker has dropped from over two in the 1960s, down to little more than one in the 1990s.

Production and consumption per unit area

Figures 10 and **11** show production and consumption of the same six groupings of goods, per square kilometer of United States area—defined as "usable" area (e.g., excluding wasteland, lake surfaces), in the standard categories set by the United Nations for statistical use.

There is a rise in both production and consumption per unit area, simply because the land area remains the same over the 30-year period. However, the *rate* of rise in production per square kilometer markedly slows down over the 20-year period from 1970 to 1990, in contrast to the relatively steep rise in production per unit area over
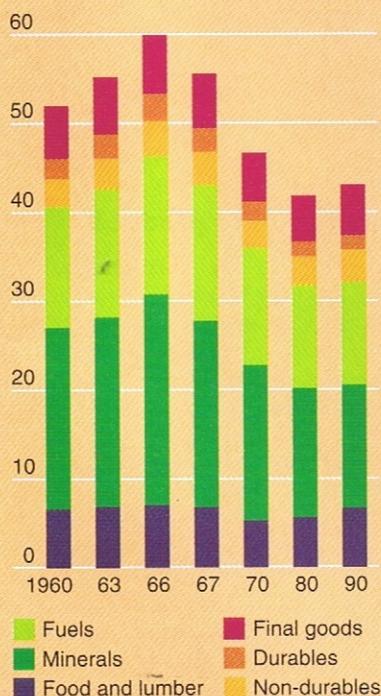
FIGURE 7
Production per worker
metric tons

1960 63 66 67 70 80 90

Fuels — Final goods
Minerals — Durables
Food and lumber — Non-durables

FIGURE 8
Consumption per worker
metric tons

1960 63 66 67 70 80 90

Fuels — Final goods
Minerals — Durables
Food and lumber — Non-durables
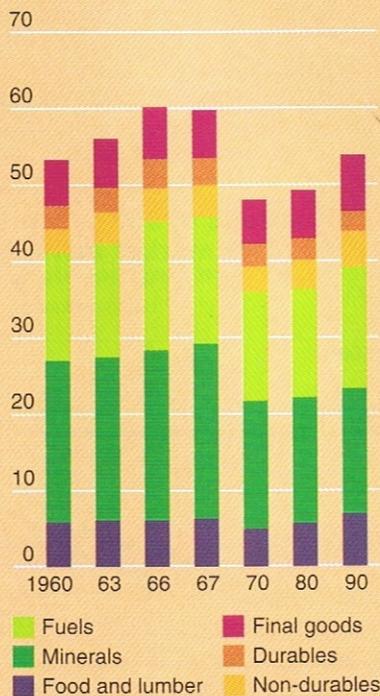
FIGURE 9
Dependents per worker

FIGURE 10
Production per km²
metric tons

Fuels
Minerals
Food and lumber
Final goods
Durables
Non-durables

FIGURE 11
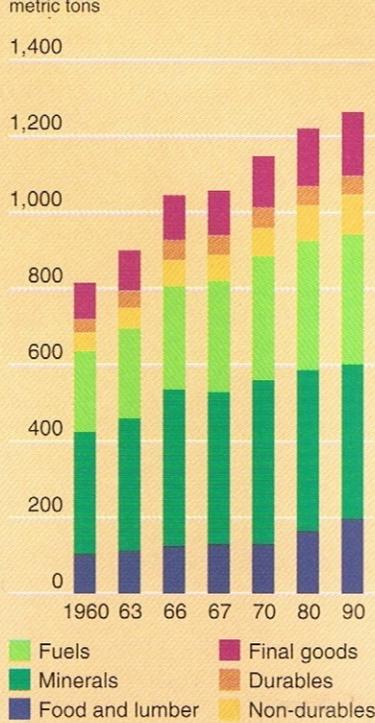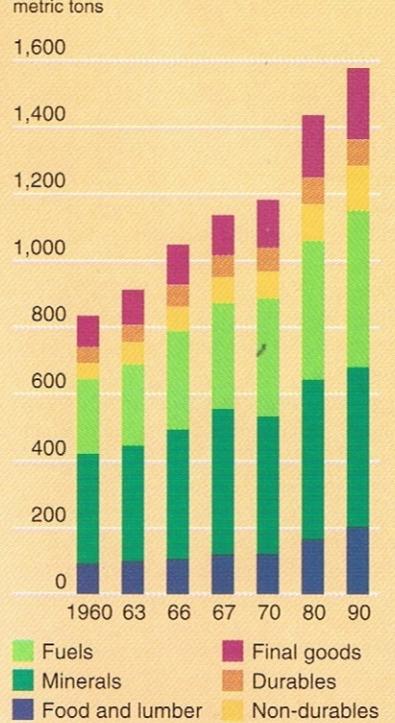## Consumption per km²
metric tons

Fuels
Minerals
Food and lumber
Final goods
Durables
Non-durables

the 10-year period from 1960 to 1970.

You can see the last 25 years of deterioration of the ratio of production per unit area, in the emergence of the "Rust Belts" in the once-industrialized Midwest; the urban collapse zones; the rundown farms across the American foodbelt; and the decrepit, dangerous transportation system.

The rising ratio of consumption per square kilometer has been maintained only by imports.

Millions of new jobs needed

A different way to look at the decline in the U.S. economy over the past 30 years is by looking at the number of workers that would additionally be required to produce 1967-style market baskets of goods for the population today.

Figure 12 shows that fewer than 50% of the workers are employed, as of 1990, who would need to be working in the various economic sectors to produce 1967-style market baskets of ratios of goods for today's population. With the masses of job terminations since 1990, the picture, as of 1995, is even worse.

FIGURE 12
Employment of operatives as percentage of actual requirement

FIGURE 13
Percentage of actual workforce required to produce 1967-style market basket
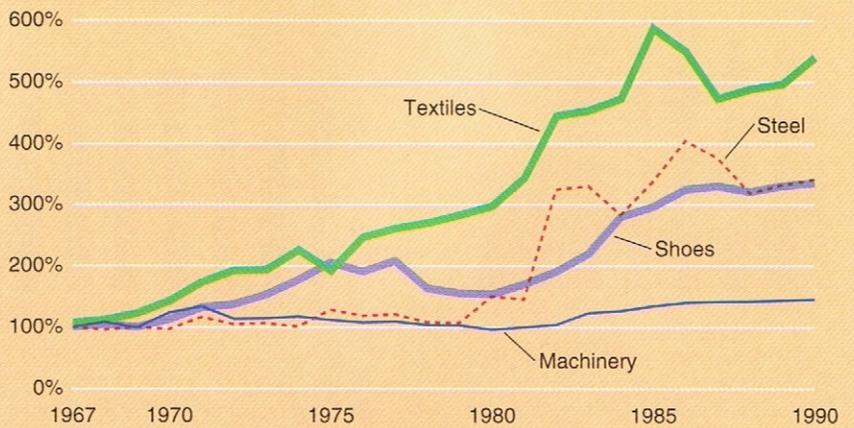

Textiles
Steel
Shoes
Machinery

FIGURE 14
Workers employed in market basket production
percent of total workers

Legend:
- Fuels
- Minerals
- Food and lumber
- Final goods
- Durables
- Non-durables

FIGURE 15
Workers required for producing 1967-style market basket
percent of total workers

Legend:
- Fuels
- Minerals
- Food and lumber
- Final goods
- Durables
- Non-durables

particular to fertilization ratios and other farm chemicals.

But in the 1970s and 1980s, while the food and lumber sector continues to show a decline (reflecting widespread financial ruin in the farmbelt), there are sharp declines in other essential sectors, especially durables, as well as in final goods.

Figure 15 shows what percentiles of the workforce should be employed overall and sector by sector, for the same years, calculated on the basis of producing sufficient commodities to provide market basket consumption at 1967 standards for the other years.

In 1990, there should be at least 18% of the workforce employed in the categories shown. The percentile in food and lumber should be higher than in 1970 and 1980; likewise with non-durables. And a solid percentile of the workforce should remain in durables, and in the other sectors as shown.

Not included here are operatives required in construction, transportation, and similarly vital, though small, employment groups. On a 1967 basis, adding employment in transportation and construction would bring total such employment in productive sectors to around 30%. This could be seen as the level of productive employment which ought to cover "costs" of production, without considering producing necessary surplus for reinvestment.
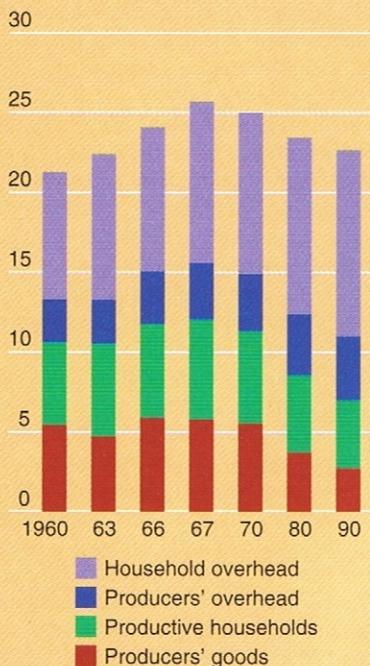
3. Productivity relations

Once the first-level matrix of inputs and outputs of the market basket has been understood, as discussed above, in terms of their quantities and the labor force associated with them, then a second-level matrix can be used to characterize the condition of the economy over time, in terms of the pattern of shifts in the inputs and outputs relative to

Figure 13 shows this huge need for productive employment in four specific sectors—textiles, steel, shoes, and machinery. To produce requirements for the 1990 population, on the 1967 market basket standard, with the 1967 ratios of domestic product, then, in 1990, there should have been a 500% increase in textile workers over the actual 1990 employment in that sector; a 300% increase in steelworkers; a 300% increase in shoe trades employment; and a 100% increase in machinery workers.

Another way to look at how small a percentile of workers in the 1990s is involved in producing the kinds of things we produced 30 years ago, is to look at the percentage of workers employed in the six categories of goods we have been using for market basket comparison. **Figure 14** shows this, from 1960 to 1990.

First, it is striking how 30 years ago, in 1960, 23% of the workforce was employed in the sectors shown, in contrast to 1990, when little more than 11% were so employed. In other words, fewer people are producing essentials today. More employed people are doing less useful things, in very labor-intensive unskilled or parasitical jobs.

There was a gradual decline over the 1960s in the percentile of the workforce

employed in the essential categories shown, followed by steep declines after 1967, going from 19% down to 11% in just two decades.

Figure 14 also shows the shifts sector by sector, as the productively employed percentile of the workforce declined.

Over the 1960s, most of the decline is accounted for by the drop in workers in the agricultural sector. This corresponds to marked gains in the 1960s in per-hectare farm output, due to many improvements, in

TABLE 4
Input-output matrix, showing end-uses for 1967
percentage of total

| End use | Inputs | | | | Outputs |
	Final	Inter-mediate	Raw material	Infra-structure	Total
Producers' goods	2%	12%	3%	8%	25%
Producers' overhead	4%	4%	1%	6%	14%
Household goods	6%	7%	2%	8%	23%
Household overhead	10%	11%	3%	14%	38%
Total	23%	33%	8%	36%	100%

FIGURE 16
Distribution of market basket inputs

tons per capita

Household overhead
Producers' overhead
Productive households
Producers' goods

end use, and whether the net effect to the economy tends to be productive or destructive. The idea is to show the set of relations characteristic of the economy, to see whether net productivity is enhanced or undermined.

Table 4 shows this basic matrix for 1967. In the column headings in the middle under "inputs," the different phases of production are noted, from final goods back through to intermediate, raw materials, and infrastructure, both hard and soft. The cells in this section tell what portion of the sum of the inputs is allocated to what phase of activity. The column total, on the right, shows us what percentage share of the total inputs goes where, as identified in the end-use categories named on the left.

The end-use categories distinguish, in a more refined way than shown so far, whether input commodities are going into essential consumption of producers and households (consumers), or to "overhead" connected to each of those two end-user groups, whether the overhead is necessary (e.g., certain clerical work, sales) or unnecessary and parasitical.

"Overhead," when it refers to households, refers to those households connected to overhead activity in the economy.

Look at the relations shown in 1967 in

Figures 16 and **17,** showing distribution of market basket inputs in tons per capita and tons per household, over the three decades.

From 1967 to 1990, you will see a striking pattern of the inputs of the economy going more and more to the end-users in the overhead categories. Less and less goes to the productive households and producers.

Figure 17 shows a drop of 50% in the amount of inputs going to producers' goods end-users from 1967 to 1990, in terms of tons per household.

This drop would be even greater, if the number of people per household had not declined over the time period from 3.35 to 2.6. **Figure 18** shows the distribution of market basket inputs per household, based on the 1967 household size.

With the overhead drag increasing so much, what capacity is there to reproduce the economy? **Figure 19** shows how low the reproductive potential of the system has fallen from 1967 to 1990, in terms of the declining total amount of inputs available per household (still with a 1967 household size for comparison), once parasitical overhead has been removed from the calculation. In this representation, a factor was used keep overhead at an "acceptable level" of no more than 56% of employment in the economy, which was the profile in the mid-1950s,

FIGURE 17
Distribution of market basket inputs

tons per household

Household overhead
Producers' overhead
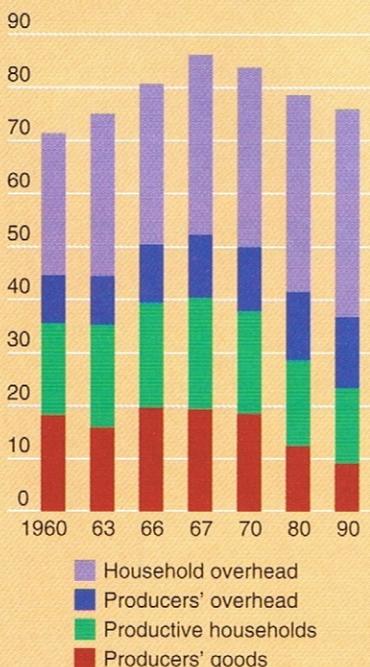Productive households
Producers' goods

FIGURE 18
Distribution of market basket inputs, based on 1967 household size

tons per 1967 household

Household overhead
Producers' overhead
Productive households
Producers' goods
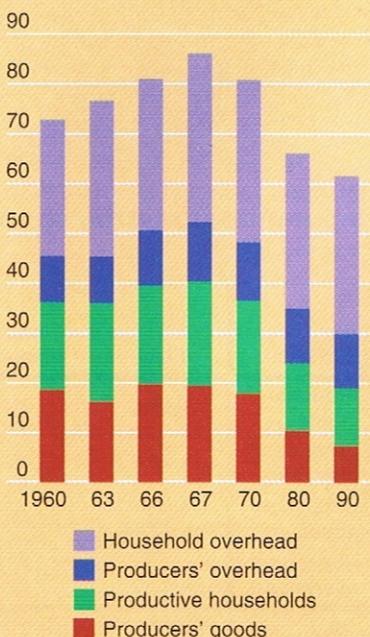
FIGURE 19
Reproductive potential of the system (not including parasitism)*

tons of inputs per household

Household overhead
Producers' overhead
Productive households
Producers' goods
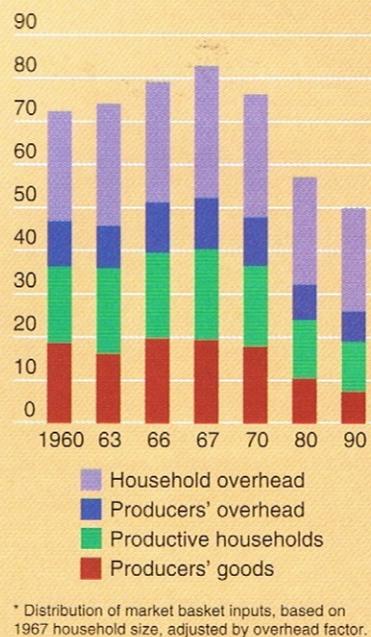
* Distribution of market basket inputs, based on 1967 household size, adjusted by overhead factor.

FIGURE 20
Energy of the system
(index 1967=100)

FIGURE 21
Diagram of the physical-economic process

Total Economy
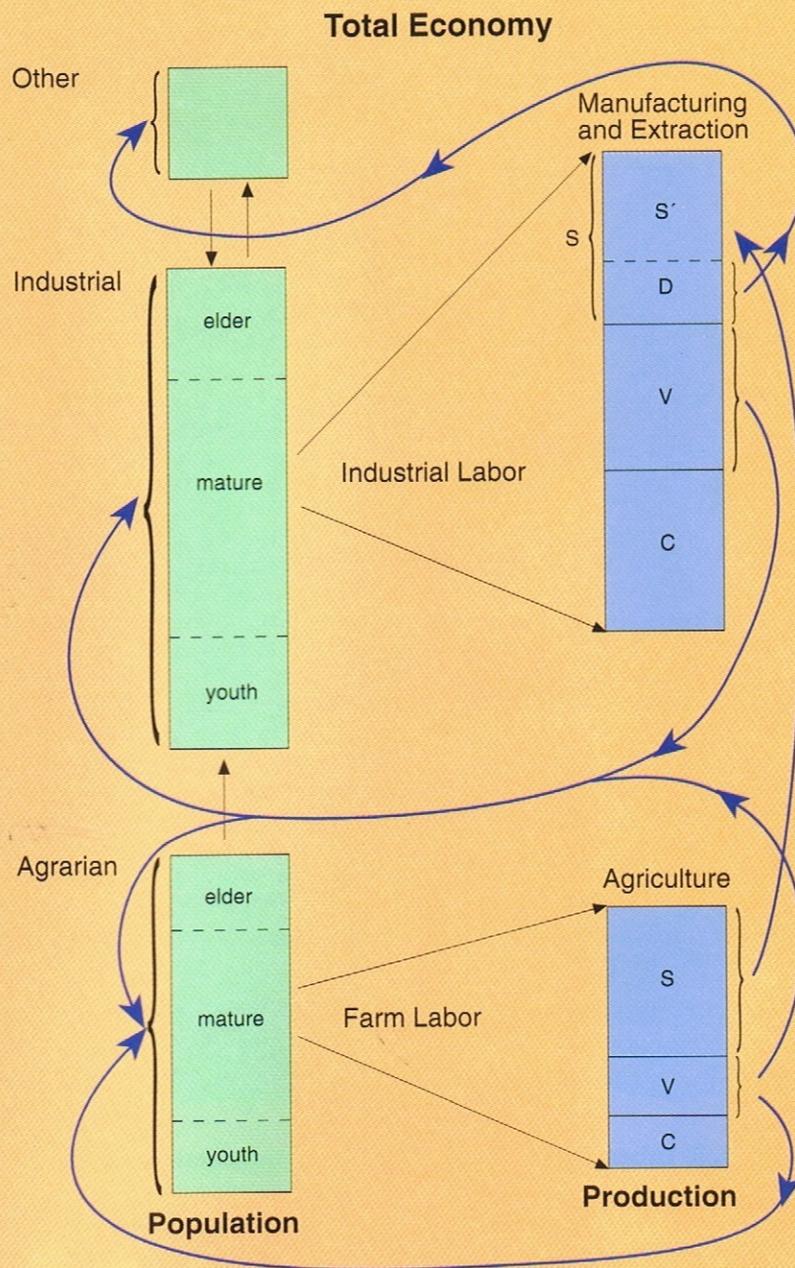
Vertical bars represent 100% of population and production; internal divisions represent the critical ratios, or inequalities, that define productivity, capital-intensity, and rate of profit of an economy. New modes of production, engendered by scientific discovery and technological innovation, force non-linear transformations of the internal composition of the whole.

before the "post-industrial" era took off.

This profile of the U.S. economy shows how it has not been producing the level of market basket inputs to reproduce itself since 1967. The whole assembly has been collapsed to about 60% of where it was a generation ago, with the productive portions, as distinct from the remaining overhead, collapsed by more than 60%.

Figure 20 shows this in terms of the decline in "energy of the system."

In other words, the rate of real profit in the economy, in terms of the capability for reproduction, has been falling. This trend, based on the relationships S′/C+V, is shown in Figure 2 on p. A2.

The meaning of these symbols is shown in **Figure 21,** the diagram of the physical-economic process often used by Lyndon LaRouche (for a complete explanation, see LaRouche, *So, You Wish to Learn All About Economics? A Text on Elementary Mathematical Economics* [Washington, D.C.: EIR News Service, Inc., 1995]).

The definitions, in brief are:

V: The portion of total physical-goods output required by households of 100% of the operatives' segment.

C: Capital goods consumed by production of physical goods, including costs of basic economic infrastructure of phsyical-goods production.

S: Gross operating profit of the consolidated agro-industrial economic enterprise.

D: Total overhead expense, including consumer goods (of households associated with overhead expense categories of employment of the labor force), plus capital goods consumed by categories of overhead expense.

S′: Net operating profit.

This method of economic analysis shows that the United States is only capable of producing about half what it was able to a generation ago, and at half the productivities.

America's physical economy is rapidly disappearing

by Richard Freeman

Thirty-two years after British intelligence's Permindex murdered President John F. Kennedy in November 1963, the U.S. physical economy has deteriorated so badly that one would need an archaeological dig to find it. The defining cause of this collapse is the successful 1960s move by the British oligarchy to foist the Malthusian paradigm of the post-industrial society upon the United States.

Since the mid-1970s, the U.S. physical economy has contracted at a yearly rate of 2%. This contrasts starkly with the claim that in the 1990s, the U.S. economy, measured in Gross Domestic Product (GDP), has grown at a rate in excess of 3% per year.

The use of GDP as a measure of the economy is axiomatically and fatally flawed: GDP indiscriminately mixes together productive economic activity, such as steel and machine tool production, with non-productive, wasteful, and speculative activity. Prior to the mid-1960s, when the economy at least produced something, GDP, in a limited way, reflected production and reality. Today, two-thirds of GDP is comprised of purely non-productive activity. Moreover, inflation, triggered by the explosion in worldwide speculative financial aggregates, has vastly inflated GDP, and other dollar-based measures of the economy, by approximately a factor of 10.

This article examines the U.S. physical economy's disintegration during the last 30 years: First, the change in productive workers as a percentage of the U.S. labor force. Second, the drop in America's productive investment in new plant and equipment.

Third, it will look at a category entitled "value added by the goods-producing sector," which is part of the GDP accounts. This category allegedly represents, in dollar terms, the real wealth added to the economy. By contrasting this "value-added" category to *EIR*'s market basket index, a generalized measure of inflation can be developed. Applying this measure, one finds that, far from rising at an explosive rate of growth (as the Conservative Revolution's Newt Gingrich claims), U.S. budget expenditures, in physical terms, are actually falling precipitously. Combined with dropping revenues, this defines the real reason for the U.S. budget debacle.

Post-industrial society

But first, in order to give a thumbnail sketch of what happened in policymaking to cause the physical economic collapse of the past three decades, we look at the House of Windsor's policy called the "post-industrial society."

Following World War II, the United States lived off the capital of the war mobilization, and its sequel, the Korean War mobilization. Under President Dwight Eisenhower (1952-60), the U.S. economy headed into a serious recession in 1957-58. President Kennedy pulled the United States out of that economic breakdown. His investment tax credit, and the Apollo space program, which provided a "science driver" for the economy, produced significant rates of physical-economic growth. But after Kennedy's murder, the British intensified their promotion of the post-industrial society policy.

The key characteristic of the post-industrial society is its emphasis on speculation over production: Technological progress is targeted for destruction, and speculation skyrockets, causing manufacturing and agriculture to wither. In the 1960s, speculation first intensified in the offshore, unregulated Eurodollar market. Then, with the disastrous August 1971 decision to take the United States off the gold standard, petrodollar recycling exploded. During 1973-75, there was the first oil hoax, which was followed in 1978-79 by the second oil hoax. In 1979, Federal Reserve Board Chairman Paul Volcker sent interest rates up over 20%, fueling even greater speculative madness.
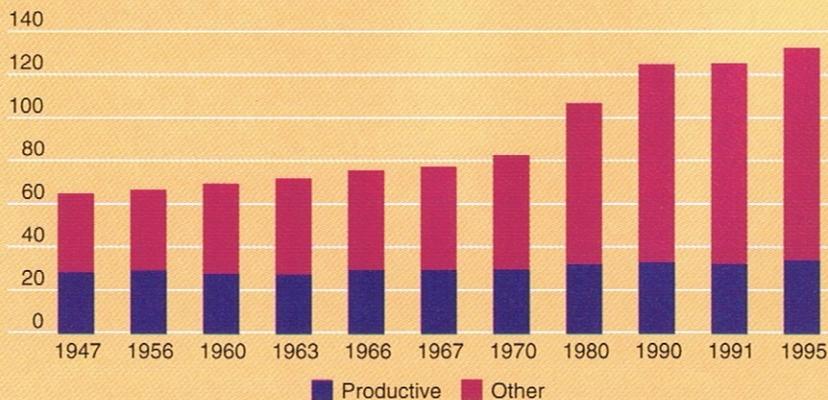
The fervid speculation sucked the lifeblood out of the physical economy.

The labor force

Figure 1 shows the U.S. labor force from 1947 through 1995. In 1947, nearly half (47.2%) of America's labor force of 60.9 million were productively engaged. In Figure 1, we included essential workers under the productive worker category, but the distinction is important. Man exists through the power of his creative ideas, which he applies to the scientific alteration of nature, to produce the means for man to exist, and to alter his

FIGURE 1
Size of U.S. labor force, 1947-95

millions

Legend: Productive (dark blue), Other (red)

X-axis years: 1947, 1956, 1960, 1963, 1966, 1967, 1970, 1980, 1990, 1991, 1995

Y-axis: 0 to 140

species self, to create ever higher-order ideas so that he may live at successively higher cultural and material levels of existence. This not-entropic form of development is represented by a rising rate of relative potential population density. Productive workers include those engaged in agriculture, manufacturing, construction, mining, public utilities, transportation, and so forth. They alter nature; they produce the physical goods inputs, in the form of consumer and capital goods, to reproduce the human species. In a healthy economy, they are employed in the most advanced capital-intensive, energy-intensive mode of production.

Essential workers constitute those engaged in vital soft infrastructure, such as doctors, nurses, teachers, scientists. They do not alter nature directly, but transmit knowledge or essential services to those who do. All other workers, with some important exceptions, can be classed as overhead.

From 1947 to 1995, America's labor force more than doubled, with 71.7 million new entrants, increasing from 60.9 million, to 132.6 million workers. But nearly all of the 71.7 million workers took jobs representing an overhead expense to the economy. Whereas, in 1947, productive workers represented 47.2% of the total labor force, over the years, they represented a progressively smaller share: In 1960, they represented 40.4% of the total labor force; in 1970, 36.4%; in 1980, 30.4%; and today, 25.9%. Today, only one in four workers is productively engaged; the other three work in overhead. Whereas, in 1947, each productive worker was needed to produce enough to support two families (his own and the family of someone engaged in overhead), today, every productive worker is called upon to produce enough goods for his family and the families of 3.0 overhead workers. With 2.6 persons per American household on average, the productive worker must produce enough to support 10.4 people. Were productivity levels rising, because of the introduction of new technology, that might be possible, but the post-industrial society policies forestalled most technological advance.

Figure 2 shows the picture for manufacturing starting in 1956. The right-hand bars show the percentage that manufacturing workers represent of the total U.S. labor force. The left-hand bars represent manufacturing's new productive investment in plant and equipment, expressed as a percentage of GDP. This latter measure—the expenditure to replace worn-out machinery and to technologically upgrade for the future—is a crit-

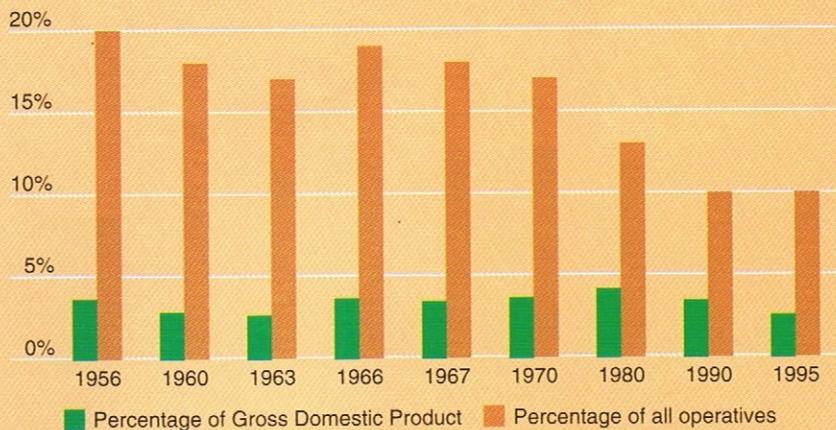FIGURE 2
Manufacturing investment and employment

■ Percentage of Gross Domestic Product   ■ Percentage of all operatives

FIGURE 3
Agriculture investment and employment

■ Percentage of Gross Domestic Product   ■ Percentage of all operatives
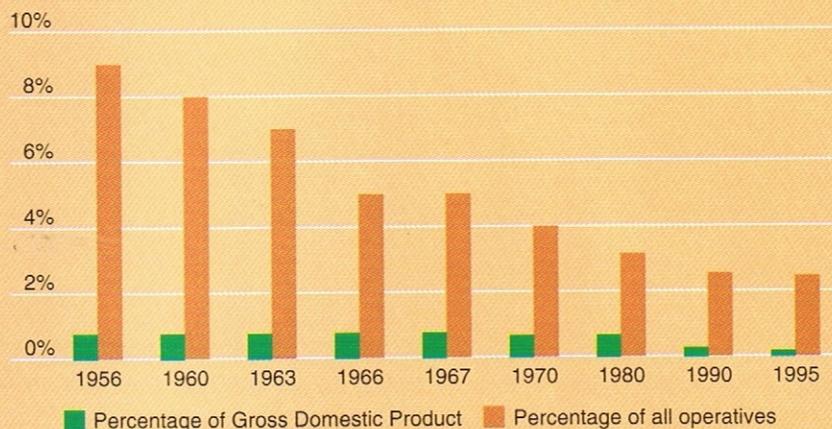
FIGURE 4
Mining investment and employment

■ Percentage of Gross Domestic Product   ■ Percentage of all operatives
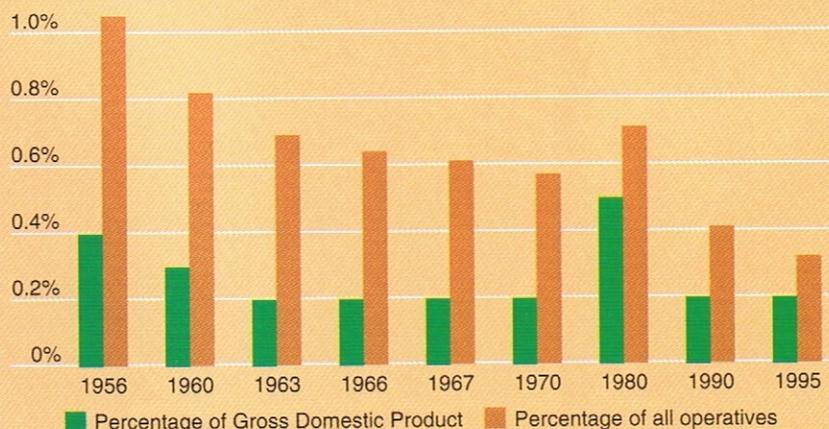
FIGURE 5
Construction investment and employment

Percentage of Gross Domestic Product Percentage of all operatives
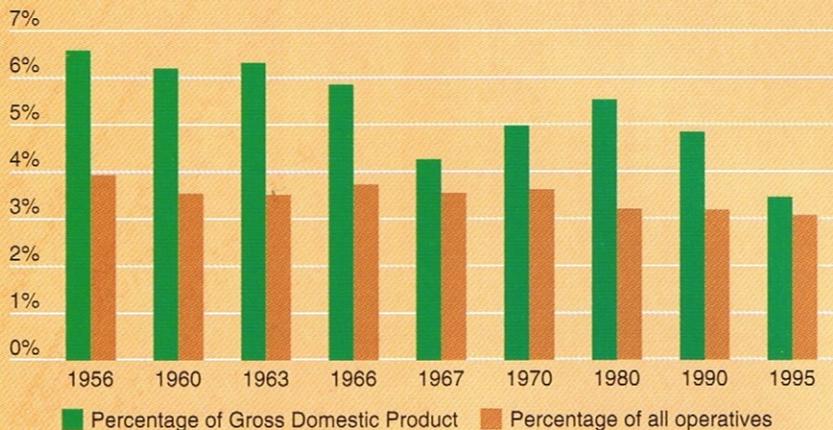
FIGURE 6
Transportation investment and employment

Percentage of Gross Domestic Product Percentage of all operatives
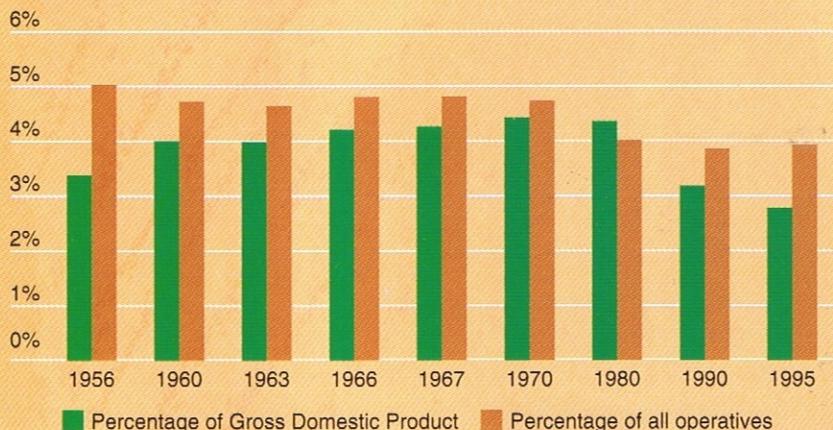
FIGURE 7
Basic physical infrastructure investment and employment

Percentage of Gross Domestic Product Percentage of all operatives
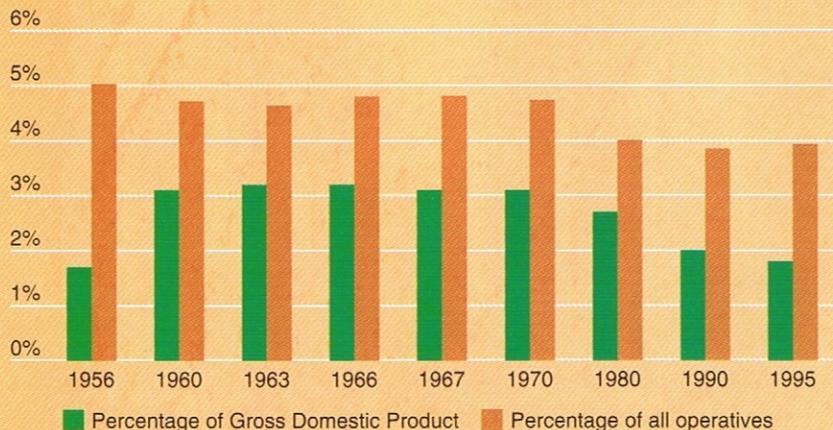
ical parameter, indicating what stock manufacturing puts in its own future and that of the economy. As such, it is a measure of manufacturing's capital intensity.

Manufacturing, of course, produces the vast majority of all intermediate and finished industrial goods in the economy. (In dealing with manufacturing as well as mining, construction, and transportation and public utilities workers, we are dealing only with those whom the Department of Labor classifies as "non-supervisory production workers.") In 1956, some 20% of the labor force (one out of five workers) worked in manufacturing. For that year, that sector's investment in new plant and equipment, as a monetary amount, was equal to 3.7% of the U.S. economy's GDP. By 1995, things had changed radically. Manufacturing workers as a percentage of the total labor force was halved, falling to 10% of the total workforce. New investment in plant and equipment in manufacturing, which had held steady or even risen until about 1980, plunged sharply. By 1995, it was one-third lower than the 1956 level.

Figure 3 documents that from 1956 to 1995, the number of farmers declined from 9% to 2% of the total labor force. Much of the decline from the 1940s through the 1960s was a healthy trend, reflecting farmers coming off the land as the increased use of fertilizers and other farm inputs increased farm productivity per hectare. But the reduction of the farm workforce during the 1970s and 1980s, involved looting of the farm sector. Ominously, the amount of new investment in plant and equipment in the farm sector, expressed as a percentage of GDP, fell from 0.8% in 1956, to 0.2% in 1995—one-quarter of its level of 40 years ago.

Figure 4 shows the mining sector, which produces the 50 minerals and metals out of which two-thirds of all manufactured goods are made. In 1956, mine workers constituted 1.1% of the total U.S. labor force. In 1995, they were 0.3% of the labor force. In 1980, the mining sector's investment in new plant and equipment as a percentage of GDP, rose, reflecting the oil and gas drilling boom of the early 1980s. But by 1995, this percentage had fallen to a level two-thirds below that of 1956.

Figures 5 and **6** exhibit the picture for construction and transportation, respectively. The figures parallel the downward trajectories of manufacturing, agriculture, and mining.

Figure 7 depicts investment and employment in the hard infrastructure sector. The construction sector represents workers who are engaged primarily in construction of

homes and commercial properties. The physical infrastructure sector includes workers building and tending the essential infrastructure of the country—railroads, waterworks, mass transit, harbors and river channels, dams, power plants and distribution, and so forth. As a percentage of the total U.S. labor force, the hard infrastructure sector's employment fell from 5% in 1956, to 3.9% in 1995. Even more ominous, the level of capital intensity of the sector, after rising from 1956 to 1966, then fell by 45% by 1995.

Figure 8 looks at soft infrastructure, which comprises medicine, education, science, and engineering. It represents what would appear to be a trend counter to all the other sectors we have looked at thus far. The employment in soft infrastructure, as a percentage of the total labor force, rose from 4.4% in 1956, to 6.2% in 1995. However, this is due entirely to the increase in medicine and health care employment, which is shown in **Figure 9.** From 1950 to 1992, this rose as a percentage of the total labor force, from 0.6%, to 3.3%, which entirely accounts for the increase in soft infrastructure employment.

The transformation of the health and hospital sector says something about the economy as a whole. Next to retail sales, this is the fastest growing sector of the economy. On the one hand, there is growth in the number of doctors and nurses (see **Figures 10** and **11**), in part because of the increased number of elderly who are being treated, especially in nursing homes and care centers. To this must be added employment in job categories which previously did not exist; for example, the technicians who operate the various diagnostic equipment which has been developed over the past two decades. However, the biggest part of the increase in medical employment is not for skilled medical personnel, but for cheap labor. In 1992-93, out of 9.699 million people working in the health and hospital sector, 3.912 million, or 40%, were accountants, clerks, cooks, maids, laundry workers, etc.

Moreover, it should be kept in mind that, while the number of doctors is rising, this does not mean that there is equal access to doctors. Some areas, especially large cities such as New York or Chicago, have a dwindling number of doctors per 10,000 population for the increasing poor and middle-income layers of the population.

Women enter workforce en masse

There was still another change for the worse in the labor force, a rise in the labor

FIGURE 8
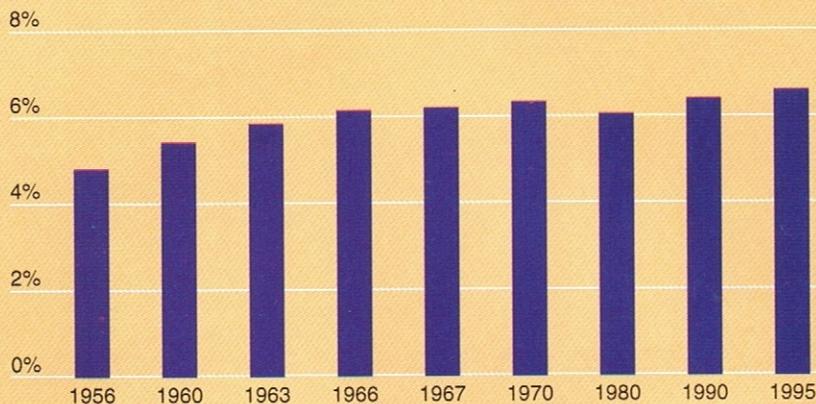**Soft infrastructure workers, as a percentage of the total workforce**

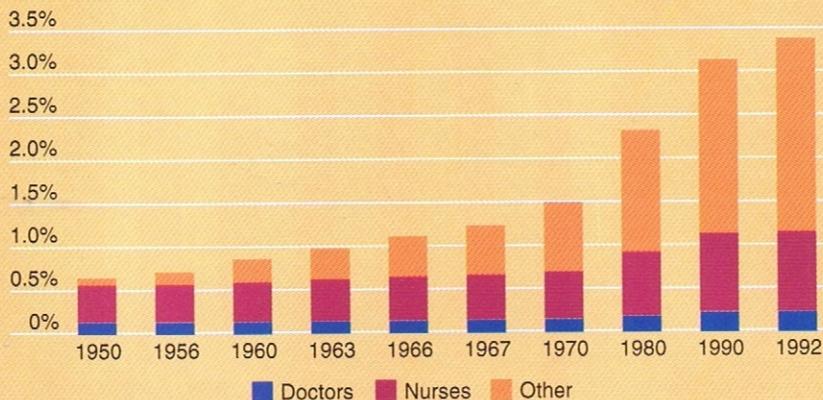FIGURE 9
Health care employment
percent of total population

Doctors   Nurses   Other

FIGURE 10
Working physicians, as percentage of total population

FIGURE 15
Financial profit ratio of the U.S. economy

FIGURE 16
New school construction per household
index 1967=100

draw from entirely different data bases; one is based on measurement of physical goods, the other based on measurement of monetary expressions of wages, etc.)

In the monetary statement of the free energy ratio, one starts with "value added by the goods producing sector," which represents the new wealth created in the economy, during one economic cycle. From it, one subtracts overhead, called "d," which is comprised of administrative overhead plus debt service costs. The denominator of the expression is the energy of the system, that is, the input costs required to maintain the equipotential of the economy, stated in dollar terms. Thus, the free energy ratio of the system represents an economy's "output minus its input," corrected for overhead, divided by its required inputs. An economy's durable survival is constrained by the need of a rising rate of growth for the free energy ratio.

The U.S. economy's rate of profit, or free energy ratio, in physical and monetary terms, show a sharp plunge downward (the ratio stated in dollar terms shows a time lag because of the distortion that monetary terms introduce). "Value added," taken by itself, does not reflect this, because it does not represent what is happening in the economy.

Collapsing government expenditures

The Robespierre of the Conservative Revolution, House Speaker Newt Gingrich, claims that the U.S. government budget is unbalanced because expenditures are "exploding out of control" due to "liberal over-spending." But, contrary to Gingrich's claims, based on what has been developed above, one can prove that vital expenditures are falling, apart from any cuts that have been imposed. This is disguised because the government's figures for inflation are so understated.

Take such budget-items as education or health care. Are they really zooming upward? The dollar amount in the budget may be increasing, but the physical product that the dollar buys is drastically shrinking.

In 1960, the combined spending of federal, state, and local governments for education was $135 billion. In 1990, it was $1,837 billion. On the face of it, over 30 years, government spending for education increased 13.5 times. But did the content of education increase by 13.5 times? If one adjusts this figure by the rough inflation measure developed above—that inflation has increased approximately ten times since 1960—then
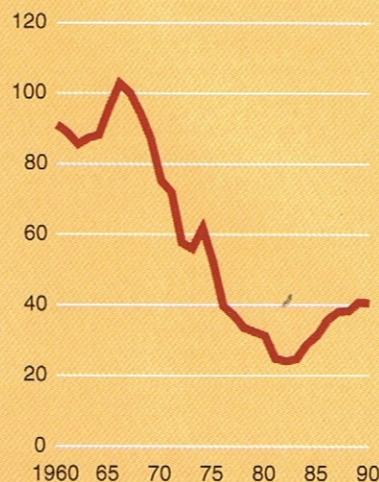
the combined government spending for education increased by 3.5 times from 1960 through 1990. But even that may be overstated, raising the question whether the inflation measure developed above is itself understated.

What would the spending for education go for? Teachers' salaries? According to the U.S. government inflation index, from 1960 through 1990, the wages of teachers rose, but by a rather modest amount.

Perhaps, then, the spending was for new school plant and equipment? **Figure 16** shows the physical amount of new school floor space constructed, per household, since 1960. It is set to an index in which 1967 equals 1. Its level in 1990 is 60% below the level of 1967, and 56% below the level of 1960. Overall, little if anything in education has increased.

The same story is repeated for most line items for essential hard and soft infrastructure in the budget. The real scandal of the federal, state, and local budget situation, is that expenditures, measured in physical terms, are falling. Combined with falling revenues, this is creating a debacle.

This problem cannot be solved by any short-term expedient, such as more budget-cutting or some monetarist monetary reform, which would allegedly restore the purchasing power of the dollar. Americans must open their eyes, and recognize that the origin of the collapse of the physical economy is located in the fact that America succumbed to post-industrial society policies 35 years ago.

engaged in productive work. The spiraling cost of overhead was, in part, recouped by companies raising prices. The hyperbolic growth of speculative financial aggregates, creating a worldwide financial bubble, especially during the last 15 years, was an even greater influence, importing monetary inflation from outside the physical system, into the physical system. The potential for inflation to grow even higher because of the explosive growth in the speculative bubble, is very great.

This means that the "official" inflation rate provided by the U.S. government, is a fake. (This is not to discount the fact that various deflationary forces, caused by the economic depression, are also operating in the U.S. economy.)

A further indication of the unreliability of and hidden inflation in the government's "value added by the goods-producing sector" measure, is that it does not take into account the cost of the economic process required to produce this value added, nor does it take account of the high cost of overhead now associated with the U.S. economy. Thus, over time, "value added" might seem to rise, at least in dollar terms, but it does not reflect what is happening in the physical economy.

Figure 15 depicts the rate of profit, or free energy ratio, of the U.S. economy for the period 1967 through 1990, stated in monetary-dollar terms. The same ratio, but calculated in physical terms, is shown in Figure 2 on p. A2. (The two statements of the free energy ratio, Figures 14 and 15,

Financial processes split from physical wealth production

by Anthony K. Wikrent

The financial deregulation of the past three decades has decoupled financial processes from the underlying real physical economy, allowing financial turnover to increase 43,000% from 1956 to 1990, while real economic output and consumption, per capita, per operative, and per household, have fallen by one-third to one-half. Even the greatly flawed measure of national income accounting, Gross Domestic Product (GDP)—which fails to adequately differentiate between productive economic activity, and parasitical economic activity—has only increased 13-fold, compared to the 430-fold increase in financial turnover (see **Figure 1**).

In 1956, when the U.S. GDP was $425.2 billion, the total turnover in U.S. financial markets—the total value of all buying and selling of assets in all types of financial markets, both primary (initial offerings) and secondary—was $534.0 billion, just 25.6% larger than GDP. The correspondence, close to one to one, between GDP and financial turnover, reflected the fact that most financial transactions were generated—i.e., called into being—by some need of the real, physical economy.

By 1990, U.S. GDP had grown to $5.546 trillion, but the total financial turnover—fueled by the removal of restrictions intended to steer financial flows into productive economic activities, and the development of entirely new financial instruments which simply did not exist in 1956—had grown to $226.922 trillion, 41 times more than GDP. Financial transactions no longer bore any relation to the needs of the real physical economy; indeed, with the development of financial derivatives (such as futures and options), financial transactions were calling

other financial transactions into being, in a self-feeding process of speculation, arbitrage, and usury.

The decoupling of finance from the real economy is clearly seen in the foreign exchange market. **Figure 2** shows the relationship between U.S. foreign exchange trading, and U.S. imports and exports of physical goods. It clearly shows the sudden shift in the relationship between 1970 and 1980. In the 1950s and most of the 1960s, the conversion of the dollar into other national currencies was driven almost entirely by actual foreign trade, or travel. In addition to imports and exports, there were also the receipts of investment income from overseas; payments of investment income

from the United States to overseas; net military transactions—U.S. military assistance to other countries; other types of services that Americans paid for overseas; and remittances, pensions, and other transfers from the United States to other countries (which occurs, for example, if a retired U.S. citizen living in Costa Rica has his or her Social Security check, or corporate retirement check, sent to Costa Rica).

There was at this time *no* foreign exchange trading caused by speculation. In its research, *EIR*'s economics staff found an article titled "Sales of Foreign Currency at New York Drop; Good Exchange Rates Abroad Cited" in the *Wall Street Journal* of June 11, 1959. The article is devoted entirely
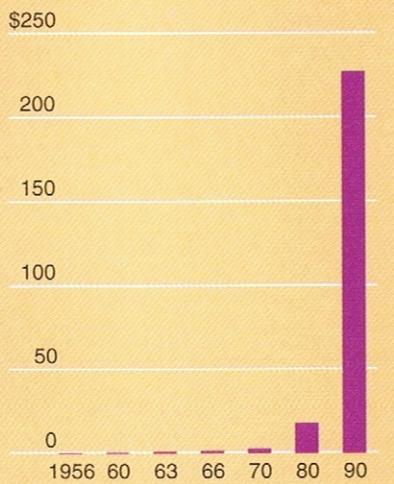
FIGURE 1
Financial turnover explodes

trillions $

FIGURE 2
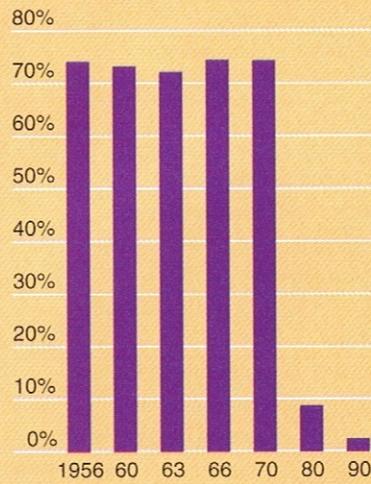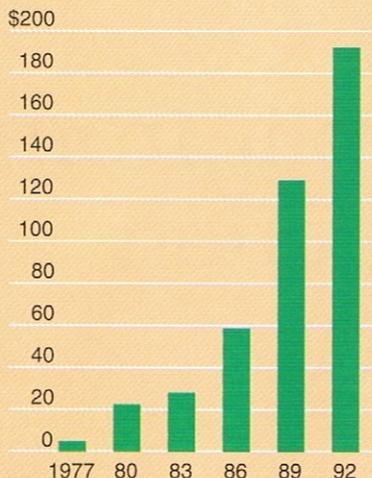### Mercantile trade as percent of foreign exchange

FIGURE 3
Daily volume of U.S. foreign exchange trading
billions $

to a discussion of the need for *travellers* to exchange their dollars for the foreign currency of the overseas country to which they are travelling. There is no mention, or even hint, of any other reason for foreign exchange to take place. The assertion that there was no speculative trading in foreign exchange is further validated by a number of books from around the same time, all of which deal with foreign exchange trading caused by foreign travel, importing and exporting, and remittances overseas.[1]

The numbers for foreign exchange in 1956, 1960, 1963, 1966, and 1970, in **Table 1** are calculated by adding the dollar value

of imports, plus exports, plus international transactions (as listed above).[2] The accuracy of the resulting sums, as a reflection of foreign exchange trading, is likely to lessen, as one approaches 1971, when the British effectively pulled the plug on the world monetary fixed-exchange-rate system pegged to a gold-backed U.S. dollar. However, in comparison to **Figure 3** (discussed below), the actual amount of U.S. foreign exchange could be double the *EIR* estimates, without greatly affecting the general trend in the relationship between foreign exchange and actual merchandise trade.

Moreover, the greatest part of the world's speculative foreign exchange trading before 1971, was associated with the Eurodollar market, and both markets were (and are) centered in the City of London, not New York City. By 1970, the Eurodollar market, though huge at the time, amounted to only around $70 billion.[3]

The figures for U.S. foreign exchange trading shown in Table 1, in 1980 and 1990, are based on actual survey measurements of the market by the U.S. Federal Reserve. In April 1977, the Fed surveyed, for one month, trading at 44 banks, probably representing around 98% of all foreign exchange activity in the United States at that time. The survey found that there was $4.8 billion in daily foreign exchange trading in the United States. Multiplied by 244 working days in a year, that is about $1.2 trillion. After 1977, the Federal Reserve conducted a survey of foreign exchange activity every third year, during the month of April of the year that the study was done. Figure 3 shows the actual results of the Federal Reserve surveys

conducted in April of every third year, beginning in 1977. The 1990 number in Table 1 is a computer-generated exponential fit of the survey results for 1989 and 1992.

Many of the numbers in Table 1 were constructed on estimates of trading of a particular class of instruments, "anchored" by one or more observations. In other words, actual figures for the turnover in many U.S. financial markets, are not readily available for public scrutiny, and had to be estimated.

The equity, or stock, market

The one market for which good, hard data are available, is the equity, or stock, market.[4] As can be seen from Table 1, U.S. equity markets account for less than 1% of total financial turnover. Yet every day you hear, on radio or television, the economy being generally measured by how high the Dow-Jones Industrials Average has risen.

And the Dow-Jones itself is actually a very small part of the equity markets. The U.S. equity market is comprised of the New York Stock Exchange; the American Stock Exchange; the National Association of Securities Dealers Quotation System (NASDAQ), an "over-the-counter" market, rather than an "exchange"; and the regional stock exchanges, such as the Midwest Stock Exchange and the Pacific Stock Exchange. In 1990, there were 1,774 companies listed on the New York Stock Exchange; 859 on the American; 4,132 on NASDAQ, and a few hundred more on the regional exchanges.

The Dow-Jones is the average of the prices of only 30 stocks—less than one-half of 1% of the companies that have issued

TABLE 1
Dollar value of trading in U.S. financial markets
billions $

	1956	1960	1963	1966	1970	1980	1990
Equity markets trading	$ 36.3	$ 47.0	$ 61.2	$ 127.9	$ 136.0	$ 522.0	$ 1,751.0
U.S. government securities trading	275.8	478.0	722.1	1,090.8	1,890.7	4,840.0	26,084.5
Futures trading	150.0	165.0	203.0	249.9	329.5	5,584.2	152,717.0
Foreign exchange trading	41.0	47.0	54.5	73.6	110.8	5,449.0	36,000.0
Corporate debt trading	18.7	35.1	56.3	90.4	169.8	821.2	3,972.0
State and municipal bonds	12.3	23.2	37.2	59.7	112.1	542.0	2,621.5
Options trading, on exchange	na	na	na	na	na	45.8	79.1
Mortgage derivatives	na	na	na	na	na	na	3,697.0
OTC swaps, forwards, options	na	na	na	na	na	na	?
Total	534.0	795.3	1,134.4	1,692.3	2,748.9	17,804.2	226,922.1
U.S. Gross Domestic Product	425.2	513.4	603.1	769.8	1,010.7	2,708.0	5,546.1
Turnover divided by GDP	1.256	1.549	1.881	2.198	2.720	6.575	40.916
GDP as percent of turnover	79.62%	64.56%	53.17%	45.49%	36.77%	15.21%	2.44%

Shaded area denotes off-balance sheet. Italics denote an estimate by EIR Economics Staff.

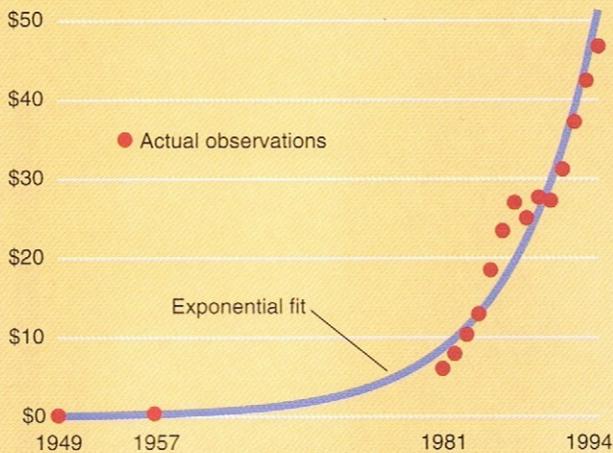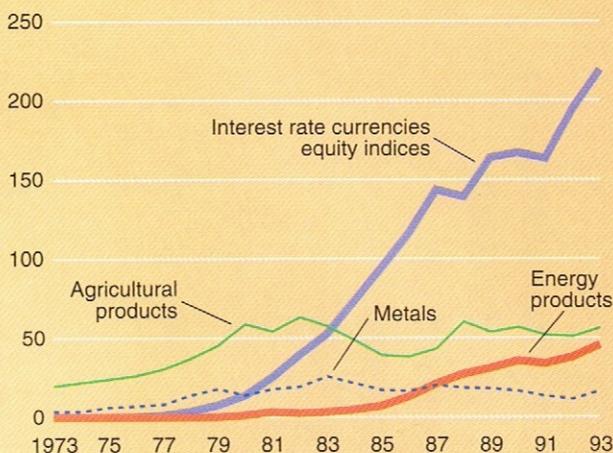**FIGURE 4**
U.S. government securities trading
trillions $

Actual observations

Exponential fit

| 1949 | 1957 | 1981 | 1994 |

FIGURE 5
Financials dominate futures markets
millions of contracts traded

Interest rate currencies equity indices

Agricultural products

Metals

Energy products

| 1973 | 75 | 77 | 79 | 81 | 83 | 85 | 87 | 89 | 91 | 93 |

public stock in the United States. The Dow-Jones is actually a weighted average; that is, it is adjusted to account for things like stock splits of the companies used for the index, since Dow-Jones, publisher of the *Wall Street Journal,* began the average in 1884.

Why is it that the U.S. economy is supposedly measured by this Dow-Jones industrials average, which actually is looking at an absurdly small part of the financial markets? Could it be that the powers and principalities that have created, and feed off, this maelstrom of financial turnover, would have the American public remain ignorant of the true, monstrous size of the financial markets?

Hard data are also available, since 1981, for the turnover in the U.S. government securities market, which is comprised of Treasury bills, Treasury notes, and Treasury bonds. The data come from the Federal Reserve Bank of New York, which must track this market, so it has some idea of what it is doing, since it is the entity, though privately owned (i.e., not owned by the U.S. government), that is charged with carrying out, by buying and selling U.S. government securities, the monetary policy of the Board of Governors of the Federal Reserve.

In addition, there are also data available for 1949, from a study of all U.S. over-the-counter security markets done by the Wharton School of the University of Pennsylvania, and published in 1958. Wharton surveyed brokers and securities dealers, during the last three months of 1949.[5] There are also data for 1957, when a scandal in the U.S. government securities markets caused the Treasury Department and the U.S. Federal Reserve to undertake

another survey of this particular market.[6]

To obtain figures for 1956, 1960, 1963, 1966, 1970, and 1980, *EIR* used a computer-generated "exponential fit" of the data available for 1949, 1957, and 1981-94. The result is portrayed in **Figure 4.** As can be seen, just using the exponential fit to estimate the figure for 1980 would yield a figure that was probably twice the actual amount, so another exponential fit was done, using only the data for 1981-94. But, even if the *EIR* estimates are off by a factor of 100%, it is clear that the error would be insignificant compared to the hyperbolic growth exhibited by the real data, from 1981-94, in relation to the amount of trading actually measured in 1949 and 1957.

The data for turnover in the futures markets in 1970, 1980, and 1990, are based on the *number* of contracts traded, which is reported by the organized exchanges, such as the Chicago Board of Trade, the Chicago Mercantile Exchange, and the New York Commodity Exchange.[7] To obtain the *dollar value* of turnover, *EIR* multiplied these numbers by the average value per contract for 1978-80, which was calculated by ACLI Research in 1981. The figures for earlier years were estimated on computer-generated exponential fit of data from 1960-70, with 1960 set at $165 billion, half the 1970 figure, on the basis of a graph accompanying the ACLI data, which showed that the number of futures contracts traded in 1961 and earlier years was about half the number traded in 1970.[8]

Are these estimates for turnover in the U.S. futures markets accurate? **Figure 5** shows the number of futures contracts traded, by type, from 1970 to 1993. Note that

"financials" futures contracts, based on such things as interest rates, currencies, or equity indices, simply *did not exist* in the early 1970s. Since the late 1860s, futures trading during an entire century was based on agricultural commodities. But after the City of London pulled the plug on the world's fixed-exchange rate system in 1971, and after the Bank of England, and then the U.S. Federal Reserve, deregulated interest rates in the late 1970s, financial contracts came to dominate the futures markets. The average value for interest rate contracts is around 10 times that of agricultural and other commodities, while the average value of currency contracts is twice that of agricultural and other commodities. If anything, the number for 1990 is probably too low, since an average price in

FIGURE 6

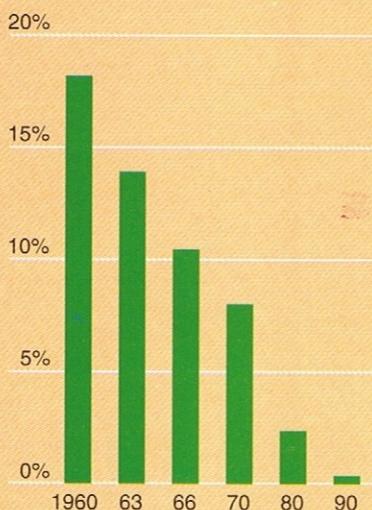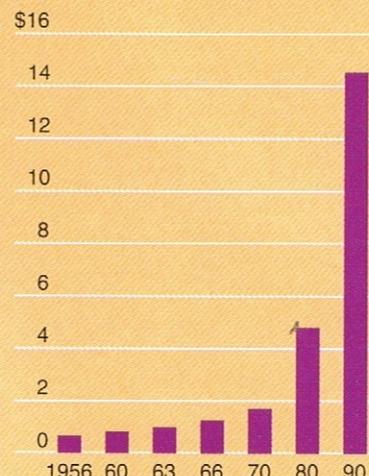**M1 as percent of financial turnover**

FIGURE 7

Money supply as percent of GDP

FIGURE 8

Total debt in the U.S. economy

trillions $

1978-80 is used.

Finally, beginning in mid-1993, the Chicago Mercantile Exchange itself began to release figures of the nominal value of contracts traded at the CME each month. In November 1993, the CME boasted that it had set a new monthly record of 13.466 million contracts traded, representing a dollar value of $8.8 trillion. By late 1994, this monthly value had doubled. On. Jan. 3, 1995, the CME boasted that its total volume for 1994 had jumped 54%, to 226.3 million contracts traded, worth nearly $200 trillion. Soon thereafter, the CME ceased to provide a figure for the dollar value of contracts traded.[9] This, for just one leading U.S. futures market. While the CME traded 103.9 million contracts, from January to June 1995, its rival, the Chicago Board of Trade, traded 109.7 million contracts. The New York Mercantile Exchange traded 39.2 million contracts.

The figure for corporate debt trading is another computer-generated exponential fit, based on the 1949 data in the Wharton study, and data for 1987-91, for "Institutional Trading of Corporate Debt," from the Securities Industry Association.[10]

Except for 1949 data from the Wharton study, no data were available for the turnover in the state and municipal bond market. The Wharton study figures show that this market was nearly twice as large as the corporate bond market, but to be conservative, EIR arbitrarily chose to set the state and municipal bond market at two-thirds the size of the corporate bond market. By 1990, the U.S. government securities, futures, and

foreign exchange markets were so huge, that the EIR estimate of the state and local bond market could be quadrupled, with a hardly noticeable increase in the sum of financial turnover in all markets together.

Options on agricultural commodities were outlawed in the United States in the 1930s, and were not re-introduced until the opening of the Chicago Board Options Exchange in 1971. Data for 1980 and 1990 are taken from the same source as data for turnover in the equity market.[11]

The market for mortgage derivatives is an even more recent development than the options market. Though the Federal National Mortgage Association (Fannie Mae) had created a secondary market in mortgages, it was not until 1981 that Fannie Mae created the first mortgage-backed securities by pooling together hundreds of separate mortgages into one financial instrument. That this market grew from nothing in 1981, to $3.1 trillion in 1989, suggests how large is the demand for new instruments to fuel increasing financial turnover.[12]

OTC swaps, forwards, and options

Finally, there is a line for Over-the-Counter (OTC) swaps, forwards, and options. These are new financial instruments, all derivatives, that have been created since 1980. Many of these instruments are tailored for the purchasers, and supposedly there is not much of a liquid secondary market for these instruments; hence, there is apparently little turnover. On the other hand, the use of these instruments often begets

trading in exchange-traded instruments, particularly futures and options, driving further turnover in those markets. From 1989 to 1990, the nominal value of OTC derivatives outstanding increased from $5.436 trillion, to $7.888 trillion, an increase of $2.452 trillion. From 1990 to 1991, this figure increased another $2.622 trillion, to $10.510 trillion.[13]

How this vast increase in financial turnover has obliterated any connection between the real economy and the financial system, can also be seen by comparing M1 money supply—coin, currency, and checking deposits—to both GDP and the financial turnover. **Figure 6** shows that, as the various financial bubbles have ballooned, actual money has almost disappeared as a comparative percentage of financial turnover. This is hardly surprising, as almost anything in the real world, where growth rates of 2-6% per annum are the norm, is going to shrink dramatically in comparison to the monstrous growth of financial turnover, which grew 29.4% per annum from 1980 to 1990.

Perhaps more interesting is the collateral damage the growth of financial turnover has inflicted on the relationship between money supply and GDP. As **Figure 7** shows, around 1960, real money in circulation amounted to just under one-third of GDP, meaning that the money supply was turning over slightly more than three times a year. Put another way, one dollar was chasing a little over three dollars of goods and services in this period.

By 1980, however, M1 money supply had fallen to just 15% of GDP. The money

FIGURE 9
Total debt per productive worker
thousands $
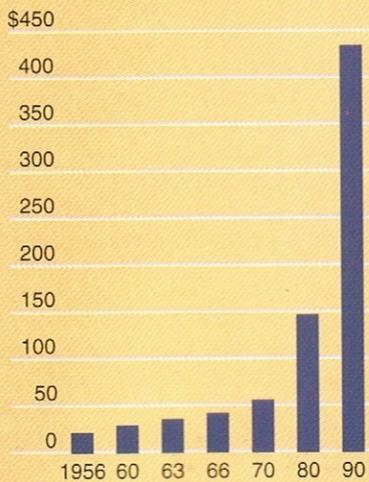
supply was turning over six times each year—velocity was twice as fast as 20 years before. Or, to put it another way, one dollar was chasing six dollars of goods and services.

Now, the classic definition of inflation is too much money chasing too few goods. Here, we see that the United States had clearly entered an environment in which price *deflation* was to be expected. Yet, the history of this period is of a terrible war on price *inflation,* with the entire middle class of the United States now threatened with being wiped out as war casualties.

The stupendous growth of financial turnover points to the solution to this seeming paradox. The financial deregulation that spawned the growth in financial turnover, also effectively allowed *a privatization of the money-creation power in the economy.* M1 money supply, in effect, was the store of value, and means of payment. for the ignorant masses. For the financial elite who attended the racetrack of financial turnover, new instruments, such as computer-debited and -credited "investment" accounts were created, which served the same store of value and means of payment functions as M1 money supply.

These privatized money supplies—largely outside the control and purview of the federal government or the Federal Reserve—in fact grew so explosively during this period, that the ingredients were indeed present for the classic recipe for inflation: too much money, and too few goods (given the collapse shown in *EIR*'s market baskets). How, then, was the back of inflation broken?

By breaking the backs of the middle class and the poor, in the form of the declining real personal and household earnings of the past 20-plus years.

More collateral damage done by the increase in financial turnover, is reflected in **Figures 8** and **9.** The graphs themselves are almost indistinguishable from those showing the growth of financial turnover. The increase in debt is merely a reflection of the fact that more paper has been floated, to feed the growth in financial turnover. It is not really the case that the explosive increase in debt since 1970 is the result of increasingly hard-pressed households taking on more debt in a desperate attempt to cling to a standard of living which is inexorably eroding. That is certainly occurring, but consumer debt as a percentage of total debt barely changes: 26.3% in 1960 and 26.0% in 1990. (Consumer debt as a percentage of personal disposable income, however, leaps from 60.8% in 1960, to 95.8% in 1990.)

What is the purpose of this massive turnover? Why is this paper being shuffled back and forth so quickly by the securities dealers and speculators? The fact is that "speculators" have been superseded by new beasts, "traders." A trader takes large positions in a market for a very short period of time—sometimes just minutes—hoping to skim off a relatively small price movement in that market. A trader is often happy to skim off a price movement of a mere 1%, or even less. One percent of $1 billion is $10 million. One-half of 1% is $5 million. Just one-tenth of 1% of $1 billion is $1 million. The skimming off of small price movements from this whirlwind of financial turnover is *arbitrage.*

In November 1994, *Euromoney* magazine assembled a group of seven derivatives speculators and traders to talk about what they were doing, what they thought the financial markets were doing, and what computer models they were applying in their trading. What they had to say sheds light on how a trader thinks.

Mark Tarpley, chief investment officer of Quorem Capital Management, noted that "we're not interested in equilibrium, but in what's going to cause the next price move to equilibrium."

Nick Idelson, head of quantitative analysis and technical trading for Midland Global Markets, declared, "Mathematically, there are still long-term inefficiencies [in the markets]. They just aren't as good as they used to be. You could still build a portfolio that would outperform most public futures funds if you do it carefully. If you can trade every few days, say.

"I'm not talking cash equities. We trade equity indices, and we trade various futures and spot foreign exchange, so we can turn things over to exploit better short-term inefficiencies. When we're turning things over quickly, we're turning them over several times a day, maybe even faster. I have here a number of models, computer models, coming through to my pager. You can easily get three trades in an hour. . . .

"The aim is to make money on a consistent basis. Prediction of price, for example, is completely uninteristing as far as we're concerned. We want to predict risk/reward and trade a sensible portfolio across a number of different markets."

What traders are simply doing, is trying to skim off a small percentage price movement on a multimillion- or multibillion-dollar position they have taken in a market. They turn over a billion dollars in paper, and they are going to make a million dollars. And they are doing this 50 or 100 times, sometimes thousands of times, a year.

What is the effect of this skim trading on the real economy? Assume that you have a small country, the entire economy of which is based on only one company: Deere and Co., the world's largest manufacturer of farm and garden equipment (see **Table 2**). At the end of September 1994, Deere's manufacturing operations had almost exactly $1 billion in long-term debt.

There are no readily available data for the turnover of this debt (Deere's bonds). However, **Figure 10** shows the daily high and low of Deere's stock price for every trading day in 1994. There is clearly a pattern of about 10% swings in the movement

TABLE 2
Deere & Co.
dollars in millions

	1993	1994
Long-term debt		$1,073
Sales	$6,479	$7,663
Net profit	$168	$604
Capital expenditures	$204	$230
Research and development	$270	$276
Inventories (balance sheet)	$464	$698
Employment	33,070	34,252
Wage bill	$879	$963
Insurance, health care claims and benefits	$479	$578
Pension net cost	$123	$104

FIGURE 10
Deere: daily high and low
price per share
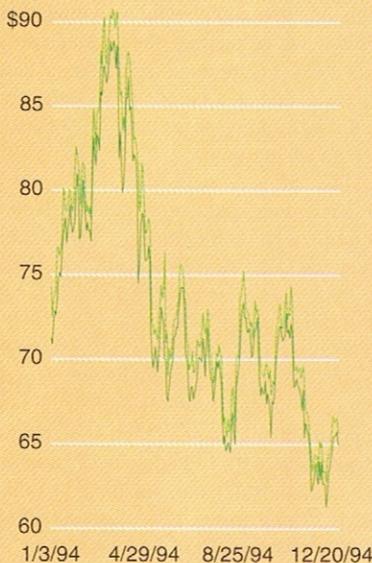
of the stock's price, especially after April. But note also that there is always a significant spread between the high and the low prices on any one day. This may be as little as 1%, but that is all that a trader is looking for, to skim that one-tenth of 1%.

Now, assume that your small country, based on Deere and Co., decides to deregulate its financial markets, and allow speculation, trading, arbitrage, etc. Assume that the traders are able to turn over Deere's $1 billion in debt once every month, and skim off one-tenth of 1%, or $1 million. That would be $12 million a year that would be extracted from the productive economy, based solely on Deere's production of farm and garden equipment.

Now assume that the traders are able to increase the turnover to once every week, skimming off $1 million a week, or $52 million a year. What if this had been in 1993? Where would that $52 million have come from? Would it have come out of the $168 million in net profit?

That would have shrunk your economy's profit by almost one-third. That would not have been good for the stock price of Deere and Co., and it would look very bad for your stock market index, since Deere is the only stock in your economy. It might be so bad for Deere's stock price, that it would destroy the pattern in the stock price the traders had identified and come to depend on.

What if . . . ?

What if the traders have sunk their fangs into other markets? What if they are skim-

ming off $52 million in the market for Deere's bonds, and another $52 million in the market for Deere's stock?

Perhaps you issue $100 million in bonds to pay them. Now they can turn over that new debt too, and skim off more money. The more the merrier, as they say.

So, if you don't want that $104 million skimmed off, to be extracted from Deere's profits, what do you do? *Where does the money come from?*

Well, you begin to look at things you can cut. Maybe you can cut capital expenditures, or you can cut research and development. Then you begin to destroy Deere's potential for future productive activity. Maybe you can cut down on inventories—a favorite game of American business management for the past ten years or so.

Or maybe you begin to look at your employment costs. Maybe you can cut your wage bill. Maybe you can tell your employees, "Well, you know, we've got $104 million less profits this year, so we don't think we're going to be able to afford to pay you that much." And maybe, if the workers don't like that, you look at something else, like their insurance, their health care claims, and their benefits or pensions.

All this, so that the income stream the traders and speculators are siphoning off through their arbitrage and their games, can continue to be paid.

The explosive growth of financial turnover has radically transformed the financial instruments themselves. U.S. government securities, for example, were considered the safest of investments, the perfect vehicle for assuring an investment income while preserving the original capital—the classic widows-and-orphans test. In 1981, the turnover in the U.S. government securities market was 9.7 times the $616.4 billion of U.S. government paper outstanding. In 1994, some $3.126 trillion in U.S. government paper was being turned over 14.9 times a year. In other words, a trader would hold a particular instrument of U.S. government debt an average of just over five weeks in 1981, but by 1994, the average holding time had fallen to just three and one-half weeks. If the 25% of U.S. government securities held by the various federal government trust funds are excluded, then the turnover rises even more, and the average amount of time a U.S. government debt instrument is actually held is only 13 trading days.

Cause and effect almost impossible to separate

Here, cause and effect become almost impossible to separate, because the effect of

the increased turnover has been to transform a 30-year U.S. government bond, paying 6-8% interest, into a one-year bond paying 30% interest or more. Back in the 1970s and earlier, a U.S. government bond was an instrument that was bought with the intention of holding it until its maturity. The bond coupon was clipped each year, to collect the 4.5% interest each year. Rather simple, and rather boring, but very stable, very safe, and very predictable.

Now, however, computer valuation models are used to determine what the future value of the bond will be, to assist in determining the present value. At the end of 1994, with expectations of future inflation higher than today, an "investor" was willing to pay 29 cents for what would become a dollar in 30 years. Now, the future dollar is valued at 37.5 cents. The price of a U.S. government 30-year bond, therefore, has risen 29.3% in the past year. In effect, the entire future dollar is being collected in one current year, thanks to the ability to skim a few hundred basis points off the turnover each month. Presto! A 30-year bond, paying 6-8% interest, held only 13 days, then sold to capture the arbitrage, and replaced with another bond to be held for the next 13 days, provides the same net effect as holding a one-year bond paying 30%. The price skimming is often accomplished through the use of bond futures contracts. Note the rapid growth of turnover in the futures market, from 1980 to 1990, in comparison to the growth in the U.S. government securities market (cf. Table 1). The most popular futures contracts in the past few years, have been those based on U.S. government securities, and are euphemistically called "interest rate futures."

We leave it to the reader to ponder what this is doing to the creditworthiness of U.S. government securities. We will point out that the traders are actually not interested in holding an instrument until maturity. They have no intention of being debt collectors. They do not want to be caught holding the paper they are trading if and when a financial catastrophe occurs, such as the bankruptcy of Orange County, California; the demise of Barings PLC; or a default on its debt by a Newtered U.S. government. Their operative principle is the Greater Fool Theory: No matter how much they overpay for a piece of paper, they will always find someone else willing to pay even more for it.

The prognosis should be clear. Since, as Lyndon LaRouche has emphasized, the economy is essentially a living organism, the changed relationship between financial

turnover and the real economy, between 1956 to 1990, has produced exactly the same relationship as that of a cancer cell to its host organism. Originally, the cancer cell is part of the organism, existing in a one-to-one symbiosis with the cells surrounding it. But, as the cell turns cancerous, and begins to replicate itself faster than do the surrounding cells, a distinct tumor forms. It no longer exists in symbiosis with surrounding tissue, but overwhelms surrounding tissues, killing them off by arrogating to itself a larger and larger share of the nutrients and oxygen flowing to that area of the organism.

Were the economy a human patient in a cancer ward, you would hear the weeping, as the doctor informed the family that the tumor had progressed to the point that the patient had but a few weeks, perhaps, at most, months, left to live.

Notes

1. See, for example, Paul Einzig, *The History of Foreign Exchange,* MacMillan and Co., 1964; or Raymond F. Mikesell, *Foreign Exchange in the Postwar World,* The Twentieth Century Fund, 1954.
2. *Economic Report of the President,* February 1991, p. 402, Table B-102.
3. See W.M. Clarke, *The City in the World Economy,* The Institute for Economic Affairs (London), 1965, Chapter 3, "Foreign Exchange . . ." [sic].
4. Data for equity market trading are taken from various issues of the annual Department of Commerce/Bureau of the Census *Statistical Abstract of the United States.* In the 1984 edition, for example, see p. 522, Table 871, in Section 17, "Banking, Finance, and Insurance."
5. Irwin Friend, et al., *The Over-The-Counter Securities Markets,* McGraw-Hill, 1958, p. 116, Table 3-2.
6. *Treasury-Federal Reserve Study of the Government Securities Market,* Part II, "Factual Review for 1958," p. 140, Table C-2.
7. See various editions of *Statistical Abstract of the United States.* In the 1984 edition, for example, see p. 524, Table 876, in Section 17, "Banking, Finance, and Insurance."
8. Perry J. Kaufman, *Handbook of Futures Markets: Commodity, Financial, Stock Index, and Options,* John Wiley and Sons, pp. 1-28, Table 1.
9. Those with access to the Internet may wish to visit the Chicago Mercantile Exchange site at http//:www.cme.com.
10. Securities Industry Association, *1992 Fact Book,* page 28.
11. See note 4.
12. Data are taken from Frank J. Fabozzi and Franco Modigliani, *Mortgage and Mortgage-Backed Securities Markets,* Harvard Business School Press, 1990.
13. U.S. Government Accounting Office, May 1994, *Financial Derivatives: Actions Needed to Protect the Financial System,* p. 187, Table IV.6.

Standing on the edge of the cliff

by John Hoefle

It should be obvious by this point, that the process defined by a financial bubble growing at hyperbolic rates, which depends for its existence upon a physical economy which is shrinking, is a process which must ultimately collapse.

When most people think of collapses, they think in terms of sharp drops in stock markets, runs on banks, devaluations of currencies, hyperinflations, or similar shocks, in which sections of the financial system are strained, but the system itself survives.

What is coming, unless governments intervene by way of virtually 180-degree policy shifts, is a completely different kind of collapse—the disintegration of the global economic and financial systems themselves.

Imagine what might happen, were the holders of all the financial claims in the bubble, to try to cash out at one time. As we shall see, there isn't nearly enough money in circulation to cover the claims. That would leave the financial markets in the unenviable position of either writing off those claims in excess of the money supply, or increasing the money supply to cover the claims. Either way, they're doomed.

The cash-out problem

As we said, there simply isn't enough money in circulation to cover the claims. *EIR* estimates that annual financial turnover has more than doubled in the last five years, to about $500 trillion in 1995 (see **Figure 1**). This is a rough estimate to be sure, but the process which it describes is such that an error of 25% or so would make no difference. After all, the claims couldn't have been cashed out in 1990 either.

Note that the turnover is grouped into two categories, *on-balance-sheet* and *off-balance-sheet.* The on-balance-sheet category is for more traditional items such as assets and liabilities, whereas the off-balance-sheet figures are where you hide the derivatives and other forms of gambling. As you can see from Figure 1, the off-balance-sheet component of financial turnover has been growing much faster than the on-balance-sheet component, reflecting the explosion of speculation over the last few years.

FIGURE 1
Annual financial turnover in the United States

trillions $
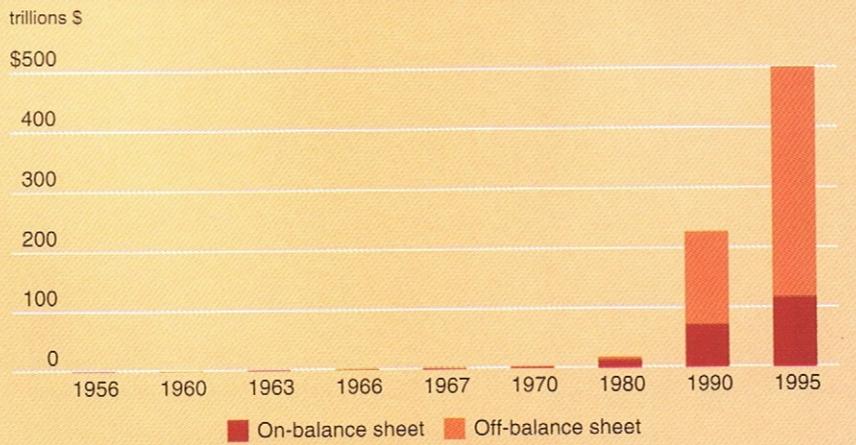
generating huge paper debts.

A small portion of those paper profits get cashed out, but the debts just get rolled over. Each time one of these mini-bubbles popped, the debt was rolled over into new bubbles, each more detached than its predecessor from the real economy. The bad LDC loans got transformed into Brady bonds, which could then be speculated against. The collapse of the junk bond market gave rise to the vulture funds which speculated upon the remains of companies looted by other speculators. The merger and acquisition frenzy produced enormous corporate debts, many of which took the form of bonds, another boon to the speculators.

By the end of the 1980s, the decade of the endless months of economic recovery touted by the Reagan and Bush administrations, the U.S. economy resembled a giant casino, with lots of chips on the table, but no money to back them up. During that go-go decade, total U.S. debt nearly tripled, from $4.8 trillion in 1980 to $14.7 trillion in 1990 (see **Figure 8**), while GDP only doubled; for every $2 in GDP growth, we went $3 in debt. Meanwhile, the physical economy shrank at 2% a year.

The mudslide

These scams began to break apart in the mid- to late-1980s, leading to what LaRouche has characterized as the great mudslide, in which huge chunks of the economy slide off into oblivion. The Texas banking system disappeared in 1987 and 1988, along with a huge chunk of the savings and loan system, as real estate values began to collapse. That collapse spread into New England, California, and the mother of all U.S. real estate bubbles, New York City, effectively wiping out many businesses, individuals, and the U.S. banking system.

Personal bankruptcies skyrocketed, as a result of massive corporate layoffs and business bankruptcies (see **Figures 9** and **10**), and the replacement of high-wage manufacturing jobs with low-wage service jobs. The size of the companies going bankrupt also increased (see **Figure 11**), blowing more holes in the bubble.

Rather than put the system through bankruptcy, the financier-dominated Bush administration decided to bail it out. The Federal Reserve began dropping interest rates in 1989, and began pumping money into the banking system through the back door. In November 1990, the New York Fed secretly seized the bankrupt Citicorp; a month later, regulators held a secret meet-

FIGURE 9
Bankruptcies in the United States
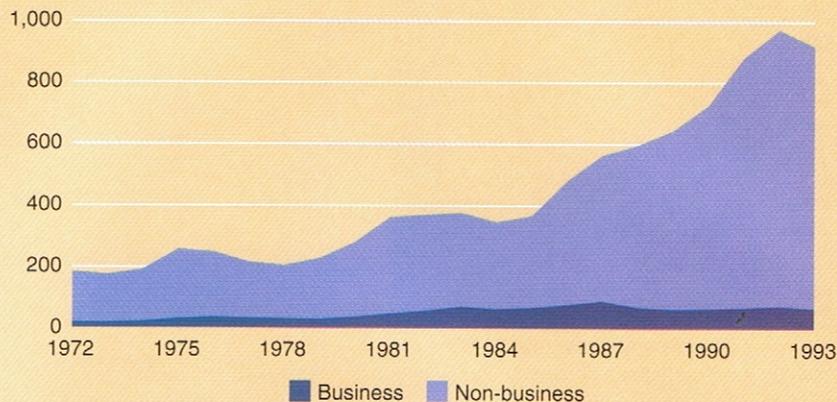thousands of bankruptcies

Business   Non-business

FIGURE 10
Business failures in the United States
thousands of failures

Productive business   Other
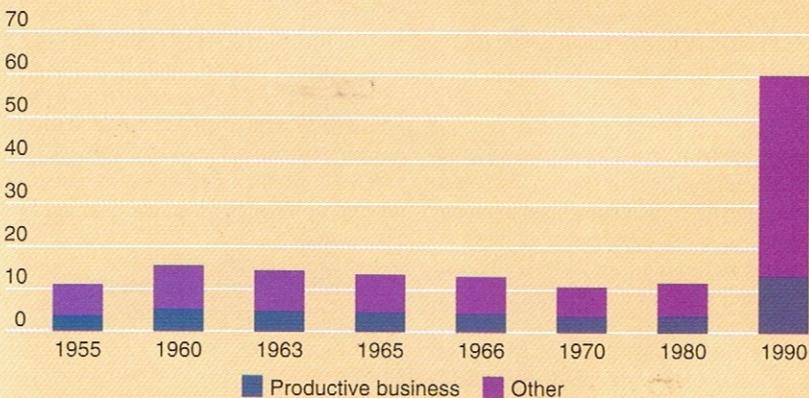
FIGURE 11
Liabilities of business failures
billions $

Banks   Productive business   Other
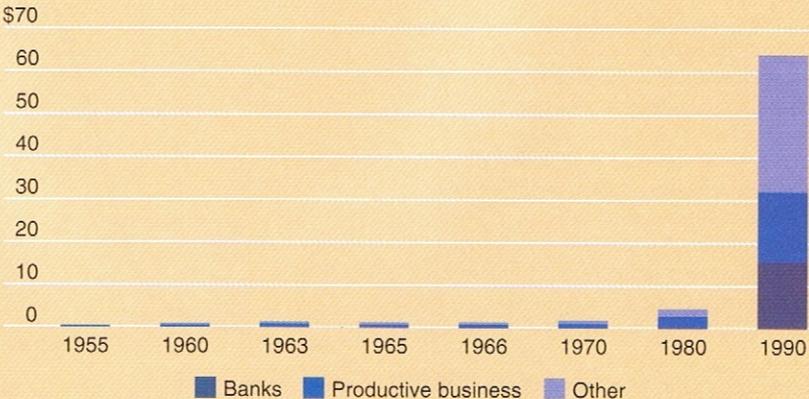
FIGURE 12

Saving the bubble with another bubble

Failures per year — Derivatives in trillions $

FIGURE 13

Derivatives boost bank profits
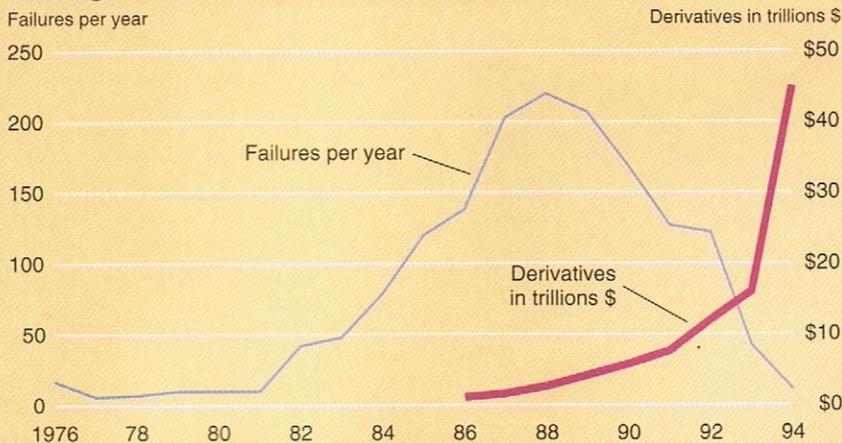
ing to devise a plan to rescue other "zombie" banks, including Chase Manhattan, Chemical, Manufacturers Hanover, Security Pacific, and the Bank of New England.

In January 1991, the Bank of New England was closed; in July and August, the shotgun mergers of Chemical and Manufacturers Hanover, BankAmerica and Security Pacific, and NCNB and C&S/Sovran (forming NationsBank) were announced. In December, the Bush administration called 464 federal bank examiners to Baltimore, to a conference which House Banking Committee Chairman Henry B. Gonzalez would later call a "forbearance school." At the conference, the Treasury Department instructed the examiners to give banks "the benefit of the doubt, even if it might ultimately turn out to be a misjudgment." In April 1992, President Bush personally announced measures to reduce both the number of bank examinations, and the number of property appraisals, in an effort to hide the bankruptcy of the system.

The final stage: derivatives

The takedown of the bank examination system also helped prepare the environment for the swelling of the derivatives bubble, the ultimate casino. The impact of the derivatives bubble can easily be seen in **Figure 12**, in which the epidemic of bank failures abates as the derivatives bubble takes off. Regulators "saved" the banking system by launching the greatest—and ultimately most destructive—speculative bubble in world history. Bank profits grew with the bubble (see **Figure 13**); records were set in 1992, 1993, 1994, and another record will be set in

1995, assuming the system doesn't detonate before year's end.

The big U.S. money-center banks raced whole hog into derivatives, amassing derivatives portfolios which dwarfed their assets (see **Figure 14**). By mid-1994, Chemical Banking Corp. alone had a derivatives portfolio with a notional value of $3.6 trillion, and the merger of Chemical and Chase will create a bank with $5.2 trillion in derivatives, or about 25% more than the total assets of the U.S. banking system. These nine banks account for 93% of all U.S. bank derivatives, and their activities dominate the banking system. As a whole, the U.S. banking system had $17.9 trillion in derivatives at midyear, compared to just $4.2 trillion in assets, $2.5 trillion in loans, and $335 billion in equity (see **Figure 15**).
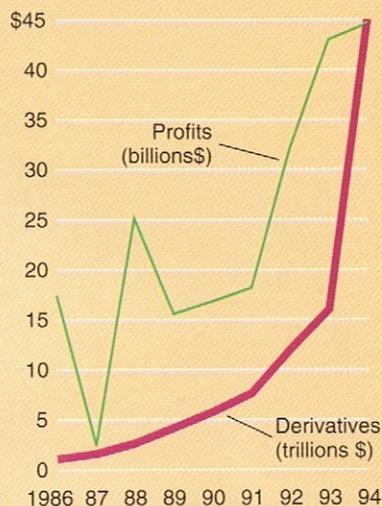
Perhaps the best example of the effect of derivatives is Bankers Trust New York Corp., the self-styled "risk merchant bank." In October 1994, the month before federal regulators effectively seized control of the beleaguered bank, Bankers Trust chairman Charles Sanford bragged at a forum entitled "The Legacy of Norbert Wiener: A Centennial Symposium," that Bankers Trust was leading the "risk management revolution," in which the "Newtonian era of classical finance" will give way to "particle finance," thanks to "fuzzy logic" and the work of "chaos theorists."

The effect of this "fuzzy logic" can be seen in **Figure 16**. In 1981, Bankers Trust

FIGURE 14

They're not banks anymore: derivatives versus assets
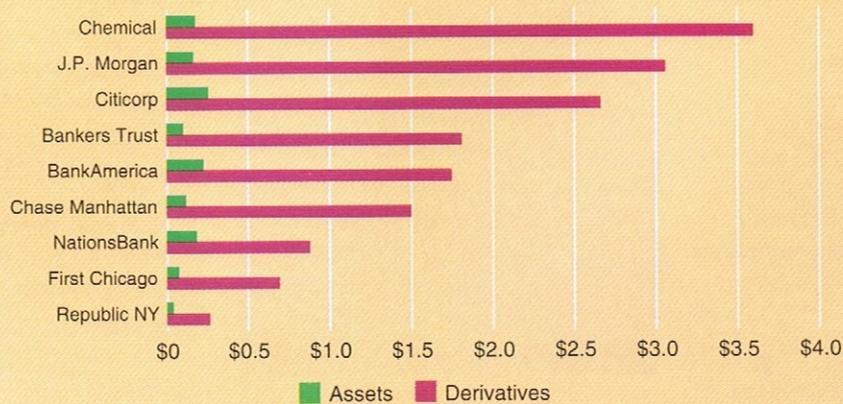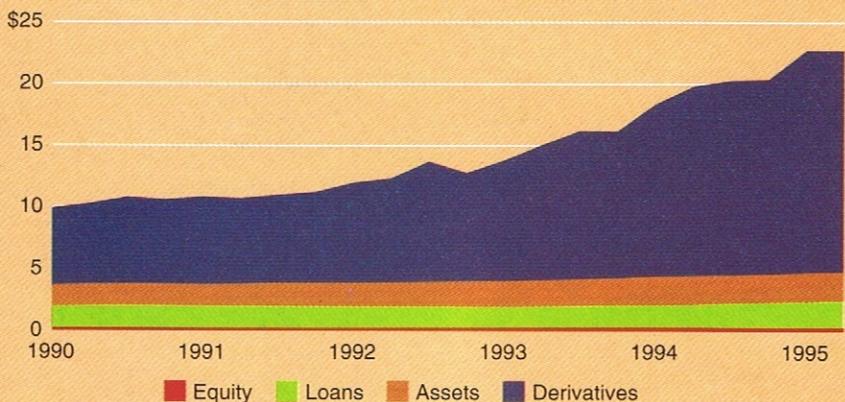
trillions $ as of June 30, 1995

FIGURE 15
U.S. banks are addicted to derivatives

trillions $

Legend: Equity, Loans, Assets, Derivatives

FIGURE 16
Bankers Trust assets

billions $

Labels on chart: Speculative assets, Asset trend, Loans

had $34 billion in assets, of which $19 billion were loans, a ratio of 55 cents in loans for every $1 in assets. Had this ratio continued over the entire period (the section marked "asset trend"), the bank would now have just under $21 billion in assets, or roughly two-thirds of what it had in 1981. Instead, the bank now has some $104 billion in assets, of which loans are just 11%. By the end of 1994, it clearly wasn't a bank any more (see **Figure 17**).

Having chosen to live by derivatives, Bankers Trust also chose to die by them. When the Federal Reserve began to raise interest rates in February 1994, in a desperate attempt to head off losses in the derivatives bubble its own policies had helped create, it triggered a bloodbath (see **Figure 18**). The move killed the mortgage-backed derivatives market and its market leader, Kidder Peabody. Orange County went bankrupt, Barings failed, and S.G. Warburg narrowly escaped the same fate, as the mudslide claimed more chunks of the financial system.

Edge of the cliff

Thus we have arrived on the edge of the cliff, staring down into the abyss. The crash is coming, be it in the form of a massive deflation of financial claims, or in the form of a massive inflation of the money supply. When the final crash begins, it will move through the markets like wildfire, courtesy of reverse leverage and computer technology. Within days, unless governments act to put the system through a formal bankruptcy, nothing will be left of the financial system but ruins, and a new dark age will be upon us all.
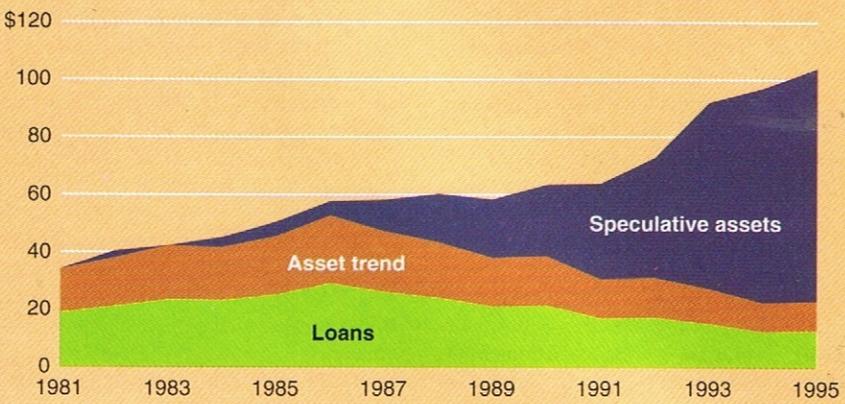
FIGURE 17
Bankers Trust New York Corp., 1994

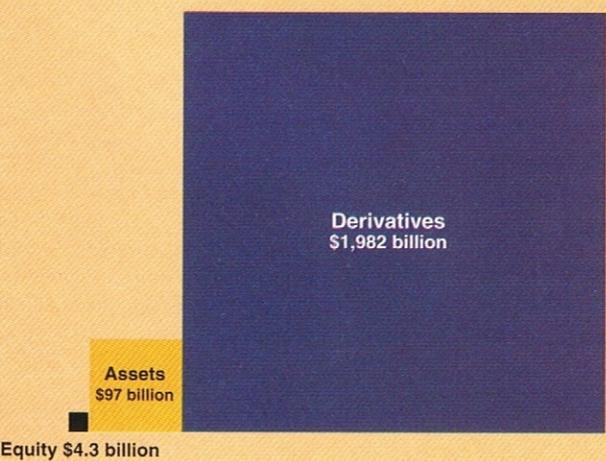Derivatives $1,982 billion
Assets $97 billion
Equity $4.3 billion

FIGURE 18
Cumulative derivatives losses

billions $