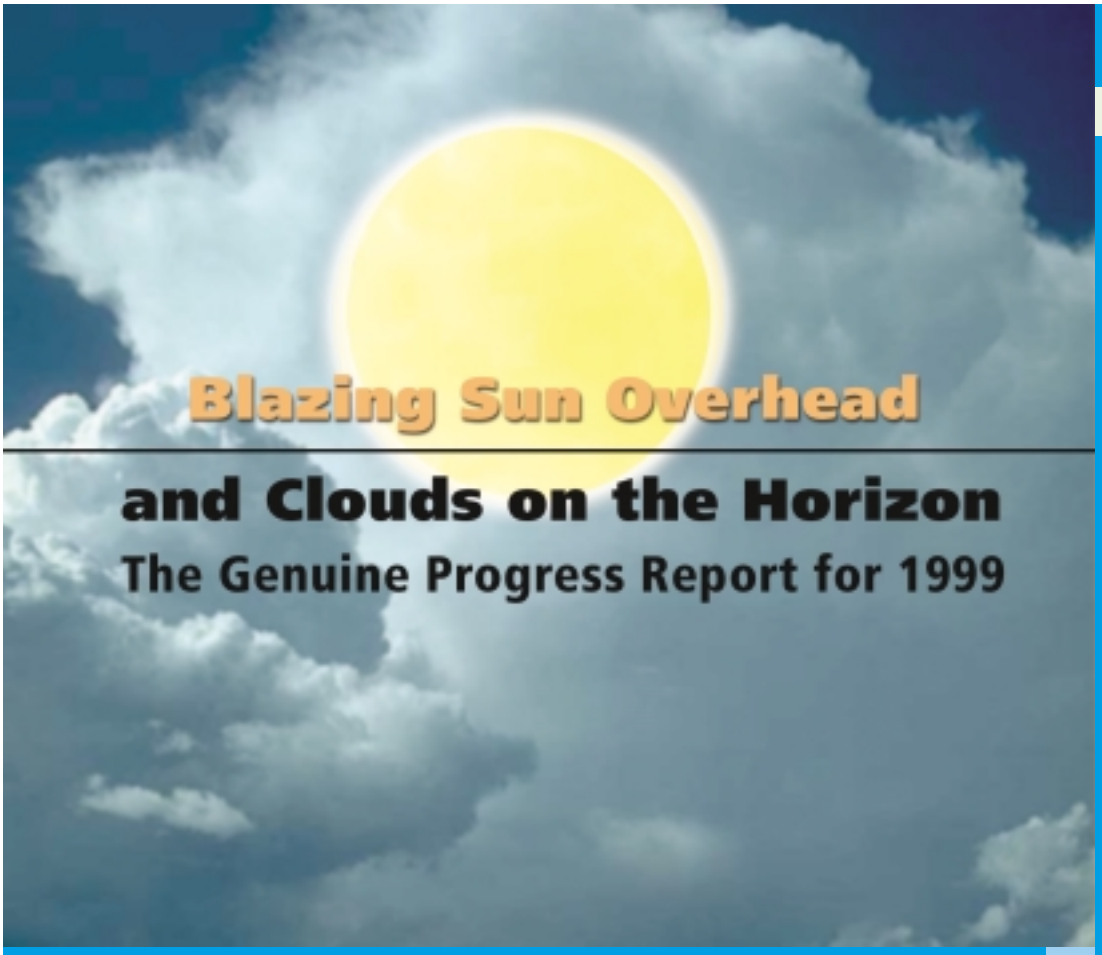


Clifford Cobb
Gary Sue Goodman
Joanne C. May Kliejunas

REDEFINING PROGRESS

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## FOR PEOPLE, NATURE, AND THE ECONOMY



Redefining Progress is a nonprofit research and policy organization in Oakland, CA, that develops ideas, tools, and policies to promote a better life for all within the capacity of nature. Its work examines the connections between environmental and social problems and the economy that underlies them in the interest of transforming the economy. The Genuine Progress Indicator was developed by RP in 1995 and presented in an *Atlantic Monthly* cover article, "If the Economy is Up, Why Are Americans Down?" The GPI is computed annually and is based upon national data that is publicly available. For information on RP's programs and publications, visit the web site at http://www.rprogress.org


Since 1995, a variety of funders have helped make this work possible. Special thanks to the Ford Foundation, for its support for annual updates, refinements, and release of the Genuine Progress Indicator for the past four years.The Merck Family Fund has provided support over the past two years. In addition, over the life of Redefining Progress and the GPI, individual generosity has made our work possible. We are grateful for this commitment and assistance.


Author notes:

**Clifford Cobb** pioneered the GPI as an alternative measure of progress to the gross domestic product and did the research and calculations for this annual update. One of the founders of Redefining Progress in 1994, Cobb authored several RP papers and *Responsive Schools, Renewed Communities*. He co-authored *Green National Product*, and contributed to *For the Common Good: Redirecting the Economy toward Community, the Environment, and a Sustainable Future.*

**Gary Sue Goodman** is a writer, teacher, and educational consultant with particular interest in environmental and women's issues. She directs the Campus Writing Center at the University of California, Davis, and teaches expository writing, gender studies, and multiethnic literature. She also works as a freelance writer and editor for Redefining Progress.

**Joanne C. May Kliejunas** is the Executive Director of Redefining Progress in Oakland, CA.


# and Clouds on the Horizon

## The Genuine Progress Report for 1999

**Redefining Progress**

Clifford Cobb
Gary Sue Goodman
Joanne C. May Kliejunas



Design: Douglas Gould and Co., Inc.

# The Genuine Progress Indicator Turns Upward

## Good News?

**After years of decline, the Genuine Progress Indicator (GPI), a comprehensive measure of well-being in the United States, rose dramatically to an all-time high of $2.30 trillion for 1999. After a slight rise in 1998, the GPI grew by $144 billion or 6.7 percent in 1999. This rise represents the highest percentage growth since 1976, surpassing even exceptional years of economic recovery in 1983 and 1995.**

On a per capita basis, the GPI's rate of growth was double the rate of growth of GDP. While impressive, the per capita GPI didn't set a record: this is more than 13 percent below the all-time per capita high in 1976. Still, the improvement represents a remarkable change after years of decline and stagnation.

This rise is particularly notable because it runs counter to previous long-term trends: while the GDP has risen steadily since 1950, the GPI rose less steeply, then began falling in the mid-1970s. **The difference illustrates the GPI's ability to reflect costs ignored by the GDP. Whereas the GDP rises when more money changes hands, the GPI factors in hidden costs.** For example, increased consumption of fossil fuels boosts the GDP, but it has a varied impact on the GPI, which takes the side effects into account. Besides contributing to consumption, rising use of fossil fuels depletes nonrenewable resources, pollutes the atmosphere with factory and vehicle emissions, and contributes to global warming, all of which have negative impacts on the economy and people's quality of life. These externalities are included in the GPI.

Since its inception, the GPI's annual accounting of environmental, economic, and social indicators has shown the inadequacy of using the GDP alone as a measure of progress. **The falling GPI suggested that the rising GDP projected a dangerous illusion of progress and concealed significant signs of erosion in quality of life.**

### How the Genuine Progress Indicator Is Calculated

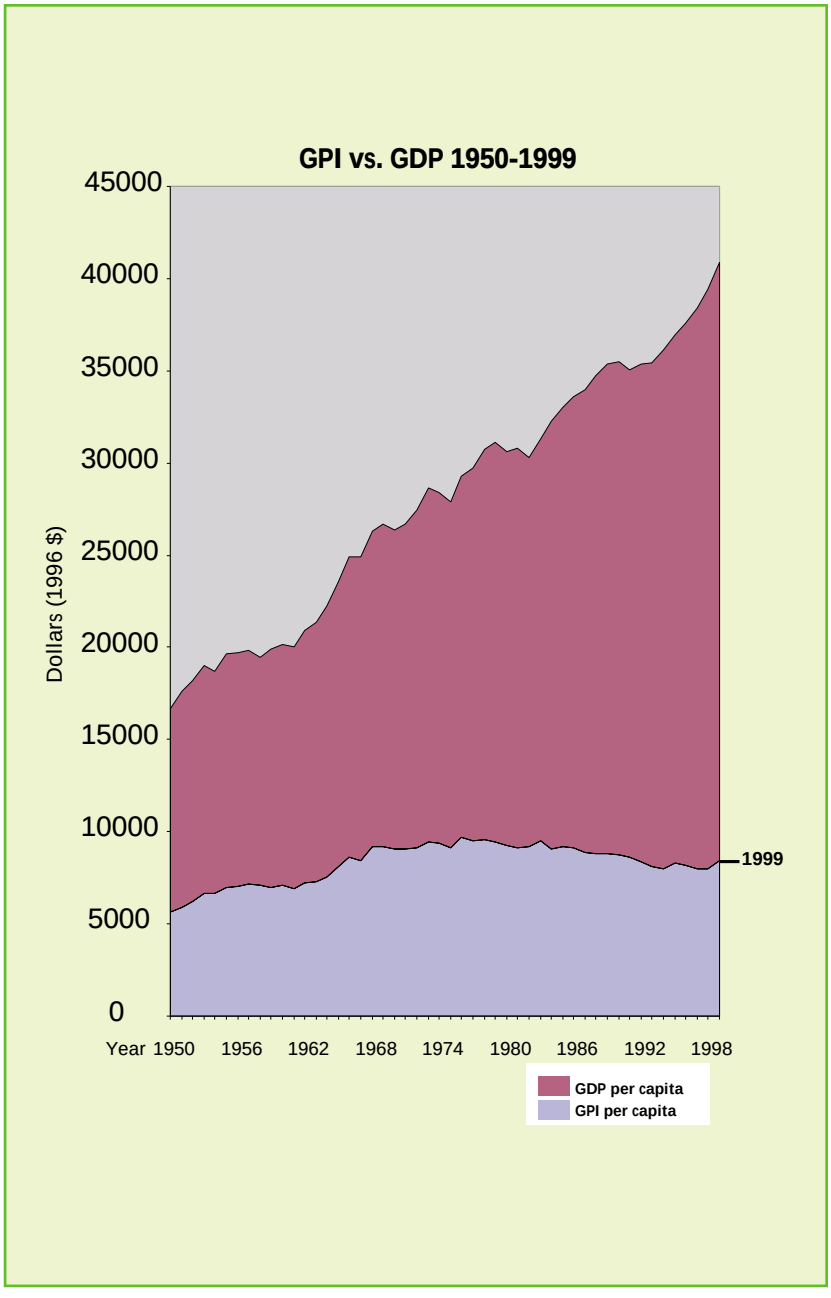
Designed to indicate genuine progress in people's quality of life, the GPI begins with the personal consumption component of the Gross Domestic Product (GDP), including capital investment, government spending, and net exports. Beyond these general economic measures, the GPI factors in social, environmental, and economic phenomena that diminish or enhance people's quality of life, but that are not typically measured in monetary terms or included in economic analyses.

For example, while the GDP simply counts money changing hands, the GPI factors in hidden environmental costs-pollution and depletion of natural resources. The GPI considers who benefits from economic growth by including measures of social progress or decline, such as distribution of income and rates of underemployment. The GPI also tracks other indicators of the quality of social life -such as costs of crime and family breakdown, contributions made by unpaid housework and childcare-and even considers time to enjoy the benefits of economic growth by counting hours spent commuting or enjoying leisure.

The GPI is designed to extract significant long-term trends from short-term accounting fluctuations. Some data are averaged over five years, as year-to-year fluctuations of a single value would distort understanding of long term progressions.

From the mid-'70s to the late '90s, four major factors caused the consistent slide of the GPI: increasingly uneven distribution of income, rising foreign ownership of American assets, lowered investments in capital stock, and continued degradation of our natural assets.

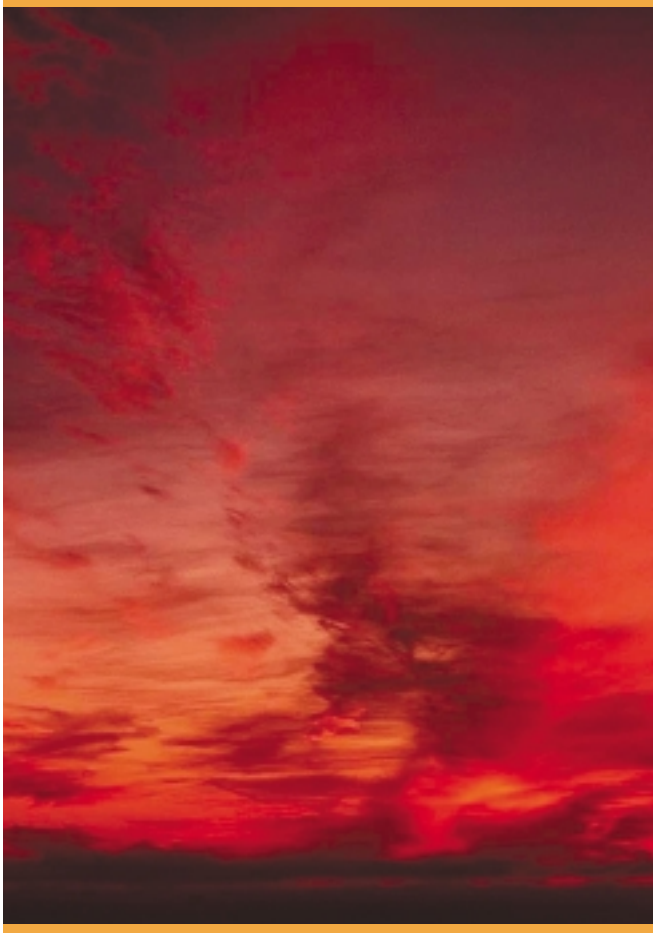
While the GPI functions as a tool for tracking genuine progress, it also illuminates how the quality of American life improves or declines and highlights changes that could significantly alter the picture. In 1998, for example, household expenditures rose 4.9 percent and income distribution became slightly more uneven. The combined effect was a 5.6 percent boost to the GPI from weighted personal consumption. The main reason the GPI didn't increase more steeply in 1998 was that foreign ownership of U.S. assets jumped relative to 1997. Failure to invest in capital also slowed the GPI's rise. In 1999, foreign borrowing is still high, but only rose slightly above the 1998 level; at the same time, personal consumption rose enormously and capital investment improved.




**So, what do rises in the GPI for 1998 and 1999 suggest?** Is it possible that economic growth is supporting overall improvements in the quality of life? Rather than simply seeing more money changing hands, could we be witnessing the dawn of a new era of economic growth and genuine progress?

Should we break out the party hats and celebrate? Do these two years of a rising GPI indicate a short-term blip, an anomaly, or the beginning of a new long-term trend?

# What to Make of 1999's Warning Signals



Indeed, the booming economy seemed cause for celebration in 1999. The stock market was skyrocketing. Unemployment was falling. Incomes and household consumption were rising. And the rising GDP was proclaimed a sign of economic recovery and good times. A *Business Week* headline proclaimed: "It will keep growing, and growing, and. . . ." (12/27/99).

Yet despite all the blue sky and sunshine overhead, clouds were beginning to form on the horizon. Visible beyond the ebullience, multiple signals warned of changing weather.

These warnings have been picked up by various indicators of long-term trends in the economy, social life, and the environment. For example, Redefining Progress's Ecological Footprint tracks global overshoot in more than 150 countries by comparing human use of natural resources with nature's capacity to regenerate. The Fordham Institute's Index of Social Health considers sixteen indicators of social life, only four of which give clear signs of social improvement (Miringoff and Miringoff 1999).

**On its face, the 1999 GPI reflects the national climate, in which booming economic performance drowned out less dramatic, but persistent, signs of increased stress on social life and environmental health**. The GPI rose, primarily because the economic boom was so strong: the rising GDP and the extraordinary binge of household consumption overshadowed the declining quality of social life and a deteriorating environment.

The GPI's weather report for 1999 and its forecast for the short-term future are examined here and interpreted in light of long-term trends.

# Blinding Glare from a Blazing Economy

**The GPI's dramatic rise derives primarily from the same economic boom that caused a rise in the GDP.** Unusually steep growth in personal spending accounts for approximately 75 percent of the GPI's growth. Between 1998 and 1999, personal consumption expenditures rose 5.3 percent. (If that figure had grown by a more typical growth rate for the 1990s-the per capita GPI would have grown by only $52 rather than $451.)

**A sizable increase in capital investment per worker was the second biggest factor in the GPI's jump.** The rise from $49 billion in 1998 to $64 billion in 1999 represents a considerable advance in capital formation. Although it is not astonishing-it is comparable to the growth during the 1990s and far below the growth of the 1980s-the increase in capital investment may indicate that the U.S. is solving long-run productivity problems that have hindered economic growth. This advance supports a fair weather view of our economy, since economists see capital investments as key to increasing productivity, which creates the possibility of addressing other economic problems-including poverty, the national debt, and trade imbalance.

**A shift in the relative strength of the U.S. economy compared to other economies is the third significant element of the 1999 rise**, contributing about 7.6 percent ($11 billion) of the GPI's increase. From 1994 to 1998, foreigners increased their net holdings of American assets by an average of $300 billion each year. A stronger domestic economy in 1999 slowed the net sale of American assets to foreigners. The U.S. is still far from achieving parity in its international position; however, this year the movement is in the right direction. In the last two years, the reduced rate of growth in indebtedness to foreign asset holders has played a major role in reversing the GPI's declining trend.

Thus, improvements in these three economic components account for 93 percent of the GPI's dramatic rise in 1999. But did the economic boom offset the declines in social life and environment, thereby suggesting genuine progress, or did it merely overshadow them?

### Income Inequality: The U.S.'s Embarrassing Little Secret

For perspective on the current income gap, it is useful to compare the distribution of income in the U.S. with other countries. In most of Europe, Canada, Japan, Taiwan, and Korea, the income gap has never been as wide as it is now in the U.S. The Gini coefficients in those countries currently range from 0.250 to 0.350 while the U.S.'s is 0.457. That means that they are far ahead of the U.S. in distributing income to workers in a way that shares the nation's prosperity with everyone. Even in their most unequal years, these nations shared income more equitably than the U.S. did in its most egalitarian years (Deininger and Squire 1996).

More surprisingly, the U.S. now has a more unequal income distribution than many relatively poor countries, such as Bangladesh, Egypt, Ghana and Pakistan. Despite its much higher income, the U.S. distribution is comparable to many Third World countries, such as Algeria, Bolivia, Dominican Republic, Kenya, Nigeria, Peru, Philippines, and Thailand.

Long-term trends in the U.S. are illuminating. Another standard economic measure of income distribution compares the relative size of total income received by each quintile, or one-fifth of the population. It shows that the income gap between the top and the bottom quintiles narrowed during a period between 1968 and 1980, the period of the War on Poverty. The proportion of income going to the top 5 percent of households declined, while the proportion to the lowest 20 percent increased. However, during the same period, the second poorest group, the working poor, lost ground, and the share of the middle group sank as well (U.S. Census). These relative income losses added political momentum to the economic reforms of the 1980s.

Then, all fortunes turned. From 1980 to 1992 every income quintile except the highest 20 percent lost relative income, and the poorer people were, the farther they fell behind. From 1980 to 1992, the poorest lost 11.6 percent, the next group 8.7 percent, the middle 6.5 percent, and the second richest 2.8 percent. Meanwhile, the richest 20 percent gained in proportion of the total income by 7.3 percent, while the richest 5 percent of income earners gained 17 percent (U.S. Census Bureau).

From 1980 to 1990, median family income rose from $42,500 to $45,000. After a brief downturn, median family income rose slowly in the early 1990s and then more steeply after 1995. Median family income of about $48,000 in 1998 indicates an unmistakable economic recovery (U.S. Census Bureau).

Still, linking higher median income to improved quality of life has to be questioned. While median family income was higher in 1998 than in 1973, median wages were actually lower. An average hour of work bought less in 1999 than in 1973. Measured in constant buying power, the average hourly wage of an American worker is still 8.1 percent below the 1973 peak. The typical family increased income primarily by working more hours and sending more family members (especially women) into the workforce.

## And the Earth quietly endured

Underlying the good financial and employment news, hidden environmental costs of economic expansion continue to suppress the GPI. **By depleting renewable resources and polluting the earth, we are still using natural capital faster than it is regenerating. In effect, we are borrowing ecological capacity from future generations to underwrite current consumption.**

Despite the attention paid to environmental issues in the popular media and an apparently growing consensus that we must act more responsibly as stewards of our natural assets, our negative impacts still grew in 1999. We continued to deplete our nonrenewable resources, drain wetlands, convert farmlands to shopping malls and neighborhoods, erode and damage soils, deplete aquifers, and inflict long-term environmental damage. Although some of these negative impacts grew more slowly than in 1998, these assaults on natural capital continue to retard genuine progress.

Still, some negative environmental impacts have stabilized-or stagnated-in the last several years. In the short run, we can pat ourselves on the back for slowing several kinds of environmental damage that the GPI tracks. Water pollution has stabilized due to national wastewater treatment policy; air pollution is down from a high in 1970 and has fallen below half the 1950 level. However, noise pollution has continued to rise slowly due to increased traffic and jet travel powered by fossil fuels.

**The GPI for 1999 showed that positive movement toward conservation of natural capital can also reverse.** For example, after fossil fuel consumption growth slowed in 1998, it rose by 1.3 percent in 1999, returning to the 1997 growth rate.

Although we have curbed or reduced destructive behaviors in some areas, the full effect of processes set in motion in the past will continue to impose environmental damage for years to come. For example, although pollution restrictions have decreased the release of ozone-depleting gases and costs of ozone depletion have stabilized, gases previously emitted remain active for long periods in the atmosphere. As a result, the hole in the ozone layer over Antarctica continues to grow, reaching a record size in 1999 (NASA 2000). In addition, efforts to slow the rates of emissions of greenhouse gases have had minimal effects, presaging climate changes that will increase their impacts on the economy and people's quality of life in the next 50 to 100 years (Miller, Sethi, and Wolff 2000).

The sheer volume of growing consumption makes it difficult to consolidate environmental gains. Each additional car, every new, and ultimately disposable appliance, and every elevation of consumer desires imposes an additional burden on the environment for energy, resource extraction, waste disposal, and sometimes pollution.

**We are still using natural capital faster than it is regenerating.**

# In this Overheated Economy Social Life Is in Meltdown

Although the GPI shows signs of improvement in social life, significant indicators suggest that, in some respects, Americans have experienced a decline in their quality of life. Declines in Americans' wages and their purchasing power suggest that the huge growth of consumption came at considerable cost to their time for anything other than work.

**Some measures of the quality of social life that have previously depressed the GPI have stabilized or improved in recent years.** Underemployment has fallen from its high in 1989. Although underemployment is eight times as high as in 1950, the improvement is still significant. Access to better jobs for more people has been shown to reduce rates of illness, suicide, and crime. Although still a drain on the GPI, the cost of crime has declined slightly since its high in 1994. The cost of family breakdown has remained fairly stable for the past five years, but at a divorce rate that is nearly double that of 1950.

**Persistent unequal income distribution dampens the exuberance that some Americans might otherwise feel about rising incomes.** The GPI factors income distribution into its calculations by using the Gini coefficient, a standard measure of relative distribution of income that represents the degree of equality in income distribution in a society. A Gini coefficient of "0" stands for perfect equality among all households; "1" indicates that a single household receives all of the income. Although there were slight changes over the past three years, they have not significantly altered the income gap, which has widened since 1968, and especially in the last two decades.

Furthermore, although median family income has risen, recouping some of the losses of the '70s and '80s, purchasing power has not. In fact, linking higher median income to improved quality of life has to be questioned. An average hour of work earned less in 1999 than in 1973. Measured in constant buying power, the average hourly wage of an American worker is still 8.1 percent below the 1973 peak.

Leisure time was sacrificed to secure higher incomes. Under purchasing pressures, people make hard choices. In 1999 hours spent on unpaid housework, childcare, and volunteer time stayed about the same, but leisure time declined. This continues a long-term trend.

In 1969, the average fully-employed worker put in 2,675 hours per year working for wages and doing housework combined-assuming two weeks of vacation, that was 53.5 hours per week (Leete-Guy and Schor 1992). By 1999, paid work and housework work rose to 2,876 hours, or 57.5 hours per week, a loss of 201 hours of free time each year for recreation, community activities, reading and relaxation.

Additional time pressures derive from increased time spent commuting, which has risen by 50 hours per year since 1975 (Leete-Guy and Schor 1992).

## Help! Work is Eating My Life!

According to the International Labor Organization, the U.S. has now surpassed Japan to rank as the advanced industrial nation with the longest work hours. On average, U.S. workers work longer hours than the Japanese and the equivalent of eight weeks a year more than Western Europeans (Lardner 1999).

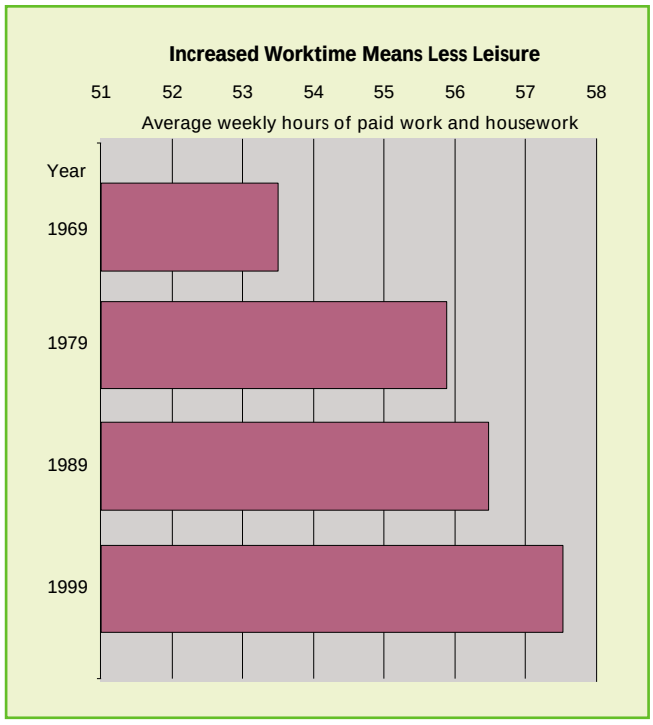
Since the mid-'70s, more and more workers have routinely worked 48 hours or more a week-the equivalent of six-day weeks. According to the Families and Work Institute, the average work week for salaried Americans working at least 20 hours, jumped from 43 hours in 1977 to 47 in 1997, while those working 50 or more hours increased from 24 percent to 37 percent (Lardner 1999).

Work demands are taking an increasing toll on personal time. Long work weeks are significantly higher among men than women, and higher in higher status jobs-those without overtime wages. In 1993, among managers, sales personnel, and professionals, 38-45 percent of men and 20-25 percent of women worked more than 49 hours per week. At the same time, 15-20 percent of service workers, technicians, and skilled blue collar workers put in similarly long hours (Rones 1997).

Not only are leftover non-work hours shrinking decade by decade, they also come in smaller pieces, scattered throughout the week. John Robinson, who conducts the American Use of Time Study, finds that a weekend reserved for leisure is becoming a thing of the past. As work expands, "The leisure that's left comes in much smaller, less noticeable-and perhaps less effective packets . . . . Much of this small-dose free time comes during week days, with the weekend increasingly erased as time segregated from work" (Schaer 2000).

Why do so many people work such long hours and tolerate so little leisure time? Some labor analysts believe that many workers were compelled to increase their work hours after the layoffs and cutbacks of the 1970s. Economist Frank Levy attributes this to workers' need "to get ahead, or avoid falling behind, in a period of stagnant or declining wages for all but the highest earners" (Lardner 1999).

In fact, extended work hours are directly correlated with income gains. About 60 percent of those making over $100,000 per year put in the extra nine or more hours of work per week, compared to 28 percent of those earning $50,000 and less than 10 percent of those making $10-12,000 (Rones 1997). Apparently, some people accept longer hours as a condition of higher status jobs and increased income.

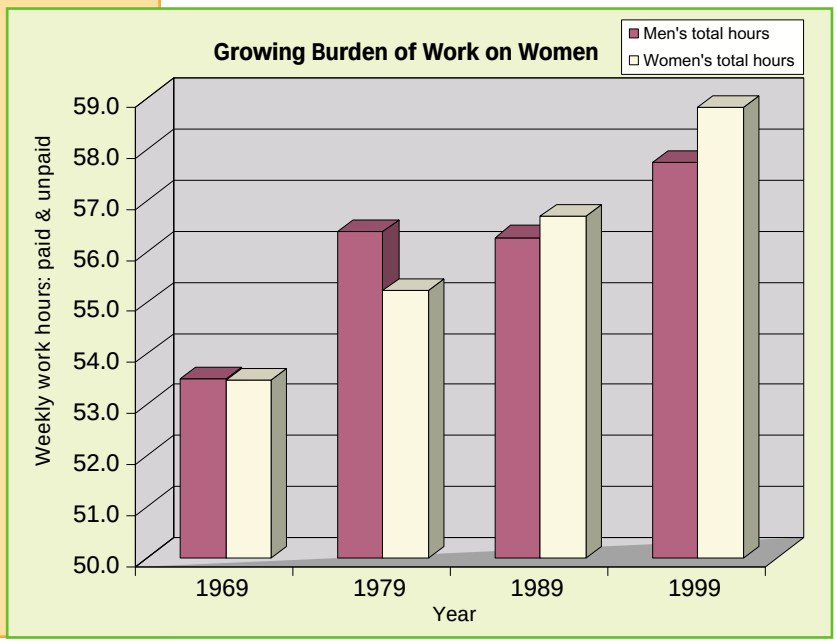


## Women to the Rescue-Again

From 1970 through the 1990s, many households addressed the loss of wages' buying power by sending more women to work. Among married women, the labor force participation rate grew from 41 percent in 1970 to 62 percent in 1998 (Bureau of Labor Statistics). For married women with children under six, the growth rate was even more dramatic: 30 percent were in the labor force in 1970 and 64 percent in 1998. As women's labor force participation approached saturation in the 1990s, the options for counteracting wage stagnation were fewer for married households; its impact was more keenly felt.

Women work fewer hours on average than men, but the rise in hours worked has been proportionately greater for women than men. Between 1976 and 1993, the average annual hours worked by those in the wage labor force rose 5.5 percent for men, but 23.4 percent for women-a rise of six hours per week. During the same period, the percentage of long work weeks (over 49 hours) more than doubled for women ages 25-54, while men's work hours remained relatively constant (Rones 1997).

Women's double burden of work grew between 1969 and 1989 as women's hours for wage work and unpaid housework and childcare rose 22 hours a year more than men's (Leete-Guy and Schor 1993) for a total of 161 more hours a year over 20 years. By 1999, if the trend continued, women were working 33 hours a year longer than men. This work expansion suggests a decline in women's quality of life and increased pressure on family life.



# Reading the Signs of Changing Weather

**By comparing the numbers in the 1999 GPI with major trends, the short-term weather forecast beyond 1999 begins to take shape.** Instead of a climate of sustained improvement in Americans' quality of life, we see continuing social and environmental cloudiness, masked by blazes of the economic euphoria enjoyed by the comfortable.

**The extraordinary economic boom that caused the GPI to rise has been powered by over-extended workers, funded largely by increasing burdens of financial and ecological debt, and fueled by cheap oil.** To participate in the consumption binge, consumers are leveraged to the hilt: household members work and commute longer hours, with less time to relax and enjoy an improved quality of life. This social trend provides only a temporary expedient to improve the quality of life. People need time to replenish their energy and appreciate the purpose of their lives.

**Consumer debt is at an all-time high and the saving rate at an all-time low.** Many Americans' consumption exceeds their income, so they rely on others' money to stay in the game. Debt cards (alias "credit cards") all but drop from the skies, creating the illusion that credit is another form of this economy's largesse.

Income inequality makes this illusion even more problematic. With income gaps widening and inequality greater in America than in many poorer nations, more and more people are living on the edge, vulnerable to health crises and to rising prices for essentials such as heating oil and health insurance. Having sent more and more household members into the work force to work longer and longer hours, there's nowhere else to go to earn the money for increased energy or health care costs, especially when interest on consumer debt is one of the monthly expenses.

### Full Speed Ahead on the Status Treadmill

Some consumption is driven by the status contest and the desire to maintain or gain ground. Given the unequal distribution of income-not to mention American culture's fascination with wealth, celebrity, and the vicissitudes of the stock market -status depends less on absolute income gains than on the subjective sense of position relative to those above on the status ladder.

Goods and services that define position in a social hierarchy are "positional goods," because their elevated appeal depends on their absolute or socially imposed scarcity. The pursuit of "positional goods," such as homes in exclusive neighborhoods, luxury cars, designer clothes, art and antiques, is by definition a contest that many must lose for a few to win (Hirsch 1976), because the value of positional goods depends largely on unequal access.

In the interests of improving position (in reality or perception), luxuries become "needs" and impose demands for income to purchase them. The redefinition of running water, central heating, or telephones, for example, from luxuries to necessities reflects improvements in well-being, but other forms of escalating need operate like a treadmill: escalating effort without forward progress.

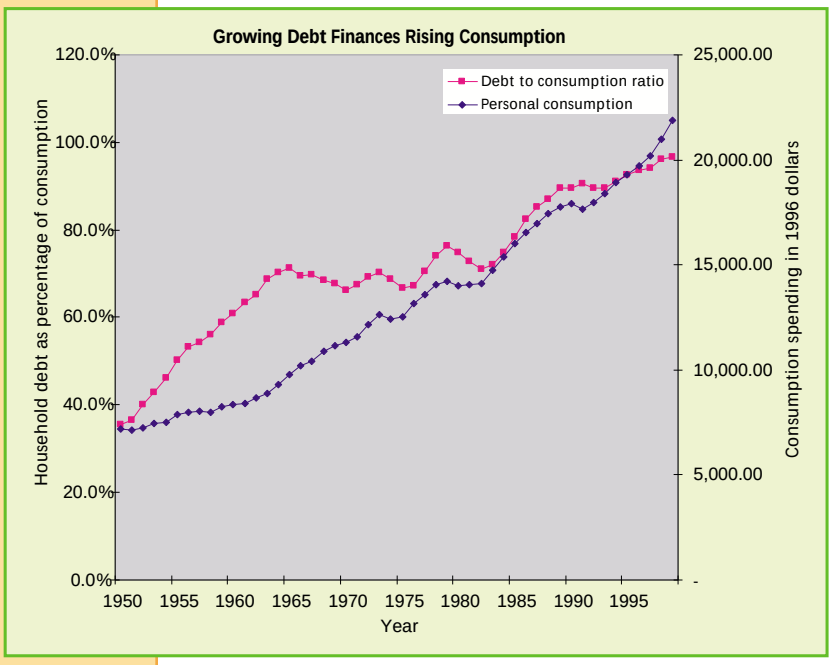
The appetite for positional goods creates frustration. Credit cards hold out the promise of staying in the running while escaping the immediate experience of deprivation, inadequacy, or losing ground.

## Congratulations! You Qualify for $10,000 in Additional Debt!

Although the purchasing power of wages still hovers below the level of the 1970s, Americans have consumed at a steadily accelerating rate. How is that possible?

No doubt the rising stock market has contributed, to some extent, as the value of the stock market doubled from 1990 to 1995 and again from 1995 to 1999 (Federal Reserve Board). Since the mid '90s, the Standard and Poor's Index has tripled, while the Nasdaq rose nearly six times, then doubled in 1999 alone (Economic Policy Institute, Emory 2000, and Silvestri 2000). Despite the anxiety that this bubble would burst, the stock market rise provided both a source of financing and a psychological catalyst, a sense of infinitely expanding buying power and largesse. It is difficult to trace its exact contribution to consumption.

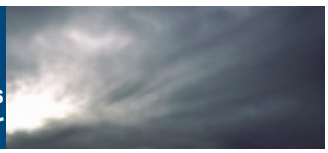
Easier to prove is another form of unearned ready cash: debt. Increased household debt of $193 million financed about a third of the 1999 increase in personal consumption. The personal savings rate (saving as a percentage of disposable income) fell from 8.7 percent in 1992 to 2.2 percent in 1999. This is the lowest personal saving rate since the Depression (Bureau of Economic Analysis at http:www.bea.doc.gov/bea/dn/saverate.htm). Meanwhile, from 1997 to 1999, net borrowing by households rose from $327.5 billion to $520.4 billion (in 1996 dollars), a growth of 59 percent.




This isn't a new trend. The growth of consumer spending has been paid for by a growing mountain of debt for the past 50 years. A growth in debt may seem reasonable and unproblematic unless debt grows disproportionately to economic growth, as it has. The ratio of household debt to household spending doubled from 1950 to 1965, held steady at about 70 percent from 1965 to 1982, then began climbing again. By 1990, the ratio of debt to spending reached 90 percent, and in 1999 it rose to almost 99 percent.

In the past, pumping more buying power into a sluggish economy justified ever higher ratios of debt to spending. The current economy is hardly sluggish, but the habit once formed continues nevertheless.

Already, we see retrenchment in the growing number of personal bankruptcies. From 1984 to 1989 personal bankruptcies per capita doubled. From 1989 to 1998, they doubled again. Although bankruptcies declined 9 percent in 1999, the level of bankruptcies remains almost four times higher than in the recession of the early 1980s (American Bankruptcy Institute 2000).

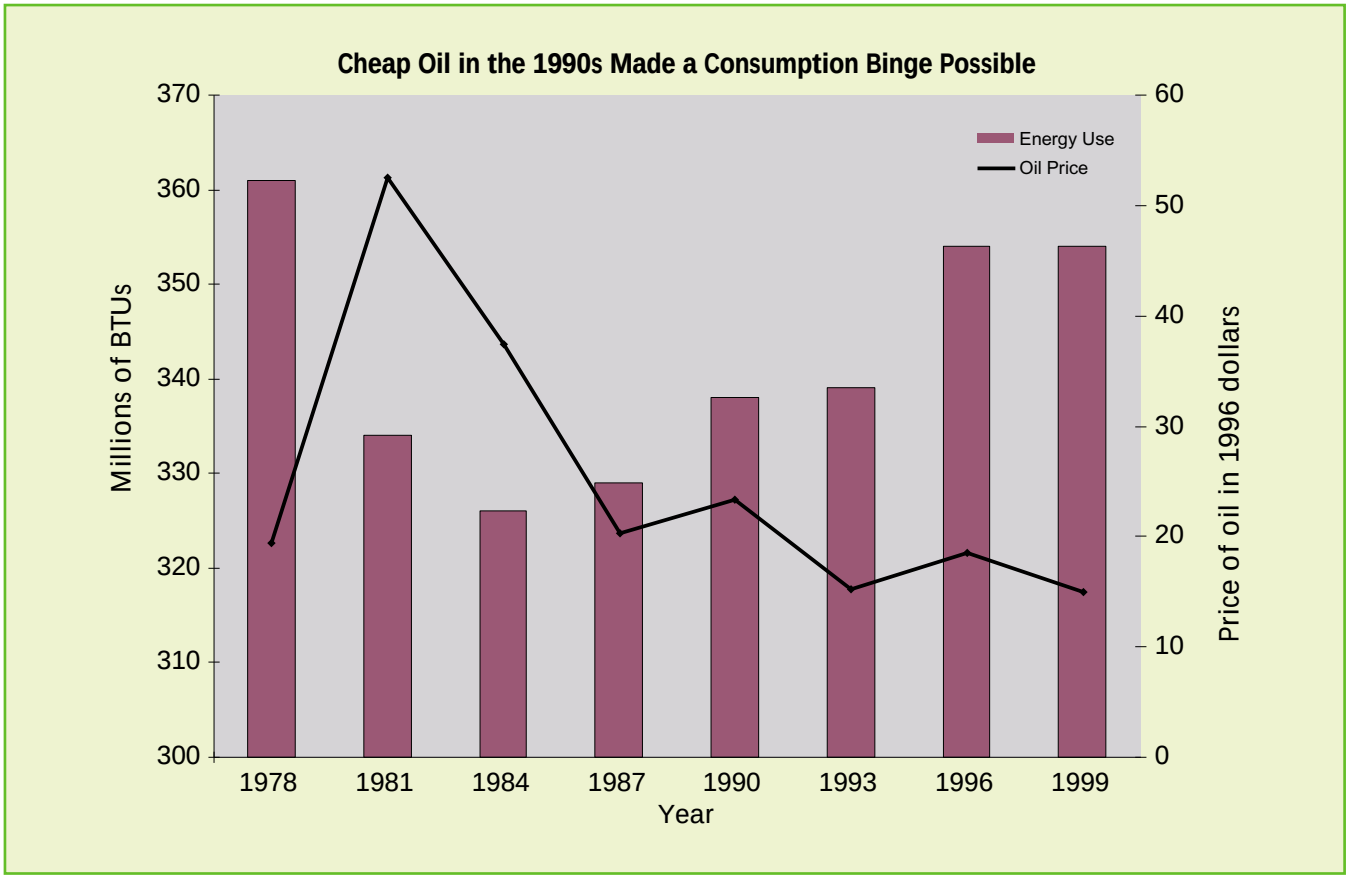


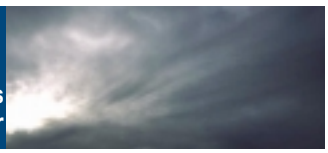
Clearly, the debts incurred today will need to be repaid tomorrow-after compounding. This is as true of environmental as it is of financial debts.

**Instead of living off the interest produced by abundant natural assets (a steady but limited supply of trees, fish, clean air, fresh water, etc.), we are depleting nature's principal.** Our long-term pattern of resource use is one of extracting renewable resources faster than they can regenerate, polluting more than the earth can cleanse, and dismantling ecological productivity by cutting random holes in the web of life. Though we have slowed our invasion of nature's principal, our debt continues to expand instead of being repaid.

We are squandering the next generation's natural assets to fuel our current consumption binge.

Furthermore, this economy is dependent upon a dwindling energy source: oil. Over recent decades, extraordinarily cheap oil has made it appear rational to build an energy economy in which approximately 85 percent of production and consumption run on fossil fuels, especially oil. We've oriented foreign and domestic policy and provided subsidies to maintain low oil prices knowing that, at our level of our addiction to oil, higher prices would trigger long and painful withdrawal tremors. And we've done little to prepare the alternatives we'll inevitably need.





Despite clouds on the horizon, few Americans are carrying umbrellas. Fewer still have access to storm shelters. If stocks fall, a business fails, jobs are cut, illness or accident strikes, gas prices rise, climate calamities occur, or debts get called in, severe hardship and even bankruptcies result. For many Americans, there is little or no margin for error on the few things they do control.

**The GPI tells us what we already know: for all its ebullience and back-slapping, the 1999 economy also promises unsettled weather ahead.** Growth alone, happy as it made us as consumers, didn't resolve the challenges that taint our quality of life and burden our future. We will be paying for over-extending financial, ecological, and human resources in the years ahead. And, unfortunately, the payback will be more precarious for some of us than others. We just don't know when the bill collector will show up.

Just as the science of global climate change allows us to predict major disruptions in the environment, human health, and the economy in the next decades, the GPI includes signs that inevitable disruptions of the economy lie ahead. As with climate change, the processes are already in motion, rolling toward crises that seem difficult to avert, unpredictable only in their exact nature and effects.

And again, the GPI tells us what we already know: we need to get on with reducing our consumer, national and ecological debts; developing innovative, economically stimulating alternatives to oil; rebuilding our connections to our communities, and living as though our children will inherit the future we leave them. We need to attend to the clouds by preparing for the storms in the short term. If we are smart about it, we will emerge from these storms with a deeply ingrained understanding of how to keep our children and their children safe from calamitous storms for the long term.

### Cheap Oil: Propellant to a Dead End

The consumption binge of the late 1990s was powered by growth in energy consumption. According to the Department of Energy's *Annual Energy Review 1999*, Americans used 8 percent more energy per person in 1999 than a decade earlier. Fossil fuels supply about 85 percent of the energy used in the U.S., powering the production and transport of goods to the market. Growth in energy use was made possible by the relatively low price of crude oil through the 1980s and '90s until December 1998, when the price per barrel of crude oil hit a low of $8.03. In an economy calibrated to prices twice as high, cheap oil effectively expanded everyone's paycheck. Production and consumption were at bargain energy prices through much of 1999 due to oil stockpiles and production lag times.

Every gas station in the country today posts signs that the consumption binge will not continue. From the beginning of 1999 through the first half of 2000, the price of crude oil more than tripled, affecting gas and heating oil prices nationwide. Twenty years of data confirm that the price of crude oil inversely impacts fossil fuel consumption. Though marginal reductions are possible in most homes, when driving to work and heating a home depend on oil, reducing energy consumption will impose hardship or strains already-tight budgets. When the costs of producing and transporting consumer goods also rise due to energy price increases, other consumption will likely slow. Unfortunately, some will feel the effects more than others and have fewer options in adapting.

Climate change adds an additional challenge. Whether we attempt to reduce greenhouse gas emissions or not, the cost of fossil fuels will almost certainly rise. In the near term, when more climate impacts from past emissions take effect, demand, and as a result prices, for energy will rise in response to heat waves and cold spells. The question is whether we will also take action to break the cycle by breaking the addiction to oil that perpetuates climate disruptions. Will the short term storm brought on by higher oil prices leave the U.S. with a new energy economy-or more deeply addicted and closer to the dead end of the oil supply?

**The GPI tells us what we already know: for all its ebullience and back-slapping, the 1999 economy also promises unsettled weather ahead.**

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Visit http://www.rprogress.org for the full bibliography for this report and other information on the GPI.


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