

Buying Time

**How real prices have declined over the years
—and why we work less to purchase more.**

Americans often put off buying a new computer or cellular phone—not necessarily because we can't afford one but because we're expecting prices to fall. In a conversation about some trendy new gadget, someone's apt to say, "I'm waiting until the price comes down before I buy one." Such a statement shows that declining prices are commonplace, and that many of us are aware of that fact.

Even so, falling prices aren't what Americans usually see. We often lament that the cost of living keeps going up, that it's harder and harder to stretch a paycheck. The hand-wringing about rising prices shows that Americans—even those who wait for bargains—are failing to recognize one of the basic economic realities of our times. Just about everything we buy gets cheaper and cheaper when expressed in prices that *really* matter: the amount of work time required to make a purchase.

For the overwhelming majority of goods and services, real prices fall. That's the history of American capitalism in a nutshell. In 1908, Henry Ford offered his first Model T for \$850—the equivalent of more than two years' wages for an average factory worker at the time. Given that cost, it's not surprising that the automaker found a limited market, selling a mere 2,500 cars in the first year. Today, autos are more affordable: An average worker has to toil only about eight months to buy Ford's latest best seller, the Taurus.

Even better, modern consumers are getting a lot more for their money. The cars we drive are incomparably superior to a crank-starting, bumpy-riding Model T. They're more comfortable, with roomier interiors, air conditioning, power seats, and adjustable steering columns. They include such extras as power windows, sunroofs, tinted glass, cruise control, and compact disc players. They're safer, equipped with impact-absorbing "crumple zones" and antilock brakes. They last longer

and require less maintenance, with some models traveling 100,000 miles before the first tune-up.

With some important, complicated exceptions such as medical care and college educations (which we'll discuss later), declining real prices are the rule. When long-distance telephone service first became available in 1915, a three-minute call from New York to San Francisco cost \$20.70. Only the rich could pay the toll for ringing up friends and family. Earning an average hourly wage of less than 23 cents, the typical factory worker of the day would have had to labor more than 90 hours to make a call. Today, of course, nearly all of us are "rich" enough to afford long-distance calls. A three-minute coast-to-coast connection costs less than 50 cents, or a scant two minutes of work at the average wage.

In 1919, earning enough to buy a three-pound chicken required two hours, 37 minutes of work. Today, it's down to 14 minutes—cheap enough to make quaint Herbert Hoover's famous nirvana of "a chicken in every pot." A fuzzy, 12-inch color television required three months of work in 1954. Now, 25-inch models with crystal-clear pictures and remote control take just three days on the job. A 1970 IBM mainframe sold for \$4.7 million, a price only a government or big corporation could pay. The average worker would have to work an entire lifetime—actually, *several* lifetimes—to pay for enough power to do a million calculations a second. Today, personal computers capable of operating

ILLUSTRATIONS: PETER BENNETT

By W. Michael Cox and Richard G. Alm

13 times faster than that IBM mainframe sell for less than \$1,000. In average work time, the cost of today's computing is down to 19 minutes for a million calculations per second—a price likely to continue falling.

As we enter the 21st century, Americans take for granted our ability to afford the trappings of the world's most envied middle-class lifestyle. It's the result of the decline of real prices in a dynamic economy, played out over and over. Most goods and services go through a cycle of falling prices and improving quality as companies ratchet up to large-scale production, as markets expand, as competition arrives in the marketplace, and as goods and services move from luxuries to everyday conveniences. The falling real cost of living shows up in such everyday necessities as housing, food, gasoline, and electricity. It also applies to manufactured goods—clothing, home appliances, and the modern age's myriad electronic marvels. Year after year, it takes less work time to afford entertainment and services—movies, haircuts, airline tickets, dry cleaning, and the like.

Time Is Money

The best way to measure the cost of goods and services is in terms of a standard that doesn't change—time at work, or real prices. Ultimately, the real cost of living isn't measured in dollars and cents but in the hours and minutes we must work to live. As Henry David Thoreau put it in *Walden*, "The cost of a thing is the amount of...life which is required to be exchanged for it, immediately or in the long run."



The majority of us aren't born with big bank accounts, but we are born with time. Time is the real currency of life, and the value of our time—what we can acquire for its exchange—is our most important asset. Capitalism has raised the value of our time, making most goods and services affordable for the average worker.

The shortcoming of money prices lies in their inability to take into account what we can afford. A pair of stockings cost just 25 cents a century ago. This sounds wonderful until we learn that the average worker of the era earned only 14.8 cents an hour. So paying for the stockings took 1 hour, 41 minutes of work. Today, a pair requires only about 18 minutes of work. Put another way, stockings cost the worker a century ago the equivalent of \$22, whereas now a worker pays only about \$4.00. If contem-

porary Americans had to work as hard as their forebears did for everyday products, they'd be in a continual state of sticker shock—\$67 scissors, \$913 baby carriages, \$2,222 bicycles, \$1,202 telephones.

In appraising our nation's cost of living, it's best to focus on what the average American can afford. The calculations of the work time needed to buy goods and services in this article use the average hourly wage for production and nonsupervisory workers in manufacturing. A century ago this figure was less than 15 cents an hour. By 1997, it had risen to a record \$13.18, a livable wage but nothing worthy of *Lifestyles of the Rich and Famous*. What's most important about this wage is that it represents what's earned by the great bulk of American society.

In calculating the cost of living in terms of time on the job, a good place to start is with the basics—food and shelter. For example, the cost of a half-gallon of milk fell from 39 minutes in 1919 to 16 minutes in 1950 to 10 minutes in 1975 to seven minutes in 1997. A sample of a dozen staples—a market basket big enough to provide three square meals a day—costs only 1.6 hours, down from 9.5 hours in 1919 and 3.5 hours in 1950.

There's no doubt that buying a home costs a lot more than it once did in nominal dollars. In 1920, the median price of a new house was \$4,700. Forty years ago, as America moved to the suburbs, a typical family paid \$14,500 for a new house. Today, the median price is \$140,000—and, by all accounts, rising. Housing inflation has outstripped the rise in wages, so the comfort of a roof overhead must be getting more expensive, right? Not really. Today's homes are more expensive, but they're also a lot bigger, so for comparison purposes their price must be expressed

in cost per square foot. By that measure, the work-time cost of new homes fell from 7.8 hours in 1920 to 6.5 hours in 1956 and five hours in 1970.

From 1970 to 1996, the work-time cost of a square foot of housing rose by more than one half-hour. It's a mistake, however, to jump to the conclusion that the trend toward greater value in housing ended a generation ago. These days, we're getting more home for our money. Today's new homes are more

likely to come with central heat and air conditioning, major kitchen appliances, a garage, an extra bathroom or two, ample insulation, storm windows, and many other extras. The basic price of today's new homes includes these amenities, so it's impossible to calculate exactly what's happened to the real cost of housing. But it's a safe bet that the added features more than offset an extra 10 percent of work time. What's more, families have continued to get smaller over the past quarter century. Taking into account the shrinkage in average household size, an individual's housing cost, expressed in work time, is actually 6 percent cheaper today than in 1970.

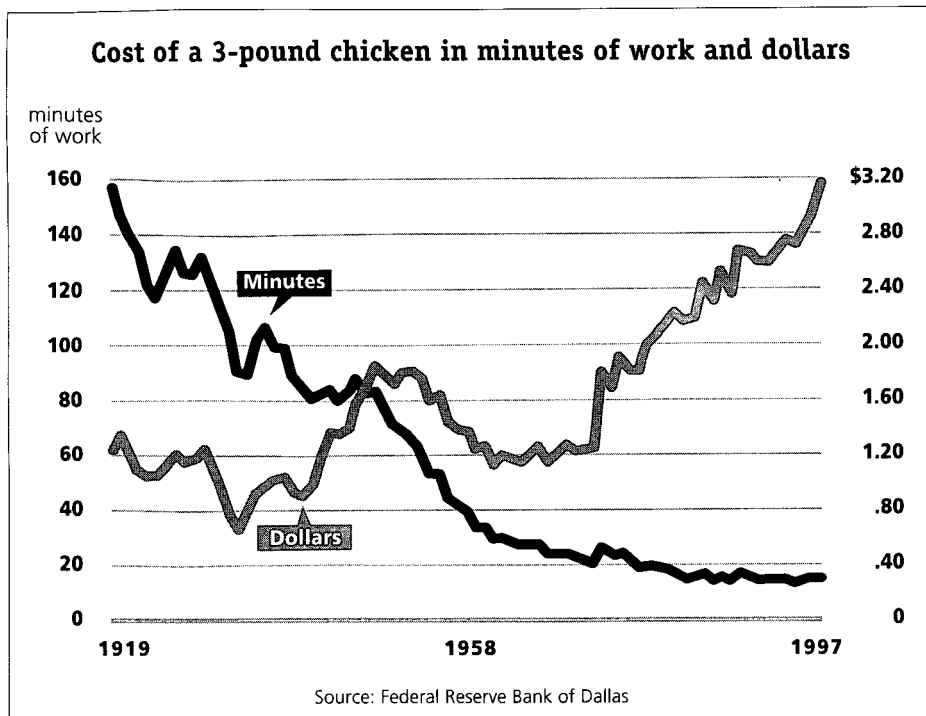
Most of what's *in* our homes is getting cheaper, too. Over just the past 27 years, consumers have benefited from work-time declines of 60 percent for dishwashers, 56 percent for vacuum cleaners, 40 percent for refrigerators, and 39 percent for lawn mowers. The cost of a twin mattress and box spring fell from 161 hours in 1929 to 78 hours in 1957, 42 hours in 1970, and 24 hours in 1997. A window-style air conditioner now costs less than four hours of work for each 1,000 BTUs, down from 7.5 hours in 1970 and more than 40 hours when first introduced in 1952.

There are bargains in the closet as well. After aviator Charles Lindbergh became the toast of two continents by flying solo from New York to France in 1927, he toured the United States in a Hart Schaffner & Marx suit that cost \$42.95. It would have taken an average Joe 79 hours to buy that outfit. Today, the same company sells comparable suits for \$525, the equivalent of 40 hours of work. Over the past century, the work-time cost of a pair of Levi's jeans has fallen by nearly seven hours, to three hours and 24 minutes.

Car Talk

So many products becoming more and more affordable can't be simply dumb luck. To the contrary, we owe it to the routine workings of our free enterprise economy. In the labor market, the system spurs the increases in productivity that raise wages. In the product market, it provides incentives to innovate and the discipline to increase efficiency. The benefits flow to American consumers in the form of greater value—more for our money and more money for our time.

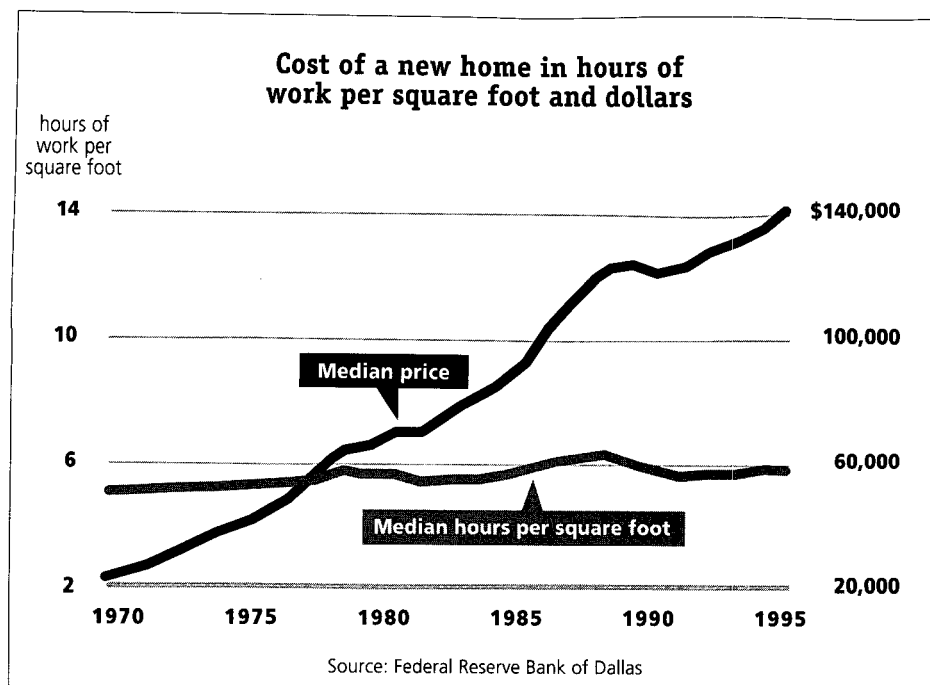
The story of how the car came to be the signature product of America's consumer culture illustrates how economic forces work to the consumer's benefit. In the early 1900s, Ford's critics dismissed the automobile as just a "rich man's toy," beyond the means of the workers who built it. Early automakers built each vehicle to order, an expensive, time-consuming enterprise. Ford



revolutionized the industry by perfecting the assembly line, a key to efficient mass production. He standardized parts and developed a network of suppliers. Ford took advantage of the gains from specialization, which increases efficiency by allowing workers and companies to do what they do best. Over the years, the automobile industry expanded, spreading overhead costs over longer production runs.

Just as important, the industry has continued to invest in and appropriate new technology. The development of plastics after World War II, for example, led to lighter, less expensive parts. By the 1990s, robots had taken on routine jobs on the assembly line. Computers are leading the latest assaults on production costs. A frontal crash test performed for \$60,000 in 1985 can now be simulated in cyberspace for \$200. A three-dimensional object printer has slashed the cost of some prototype parts from \$20,000 to \$20. Just as important were process innovations, such as just-in-time inventory and the once-inconceivable "single-minute exchange of dies" originally developed by Toyota.

As this last example suggests, companies don't reduce real prices out of civic duty; they do it to in response to competition. In recent decades, America's Big Three automakers—General Motors, Ford, and Chrysler—have been pushed to the limits by imports, particularly from the Japanese. But competition in the auto industry has always been fierce. In 1920, the United States had more than 360 car manufacturers, all sensing a fast-growing industry, all vying in a race that had no clear-cut winners. The companies that emerged from that fracas were those offering the highest quality at the lowest price. Hundreds dropped out of the market, but their efforts didn't go to waste. Good ideas—the automatic transmission, for example—turned up in the products offered by industry survivors. Automakers are still trying to capture customers by adding new features: power steering and air conditioning in the 1960s, sunroofs and tinted glass in the



1970s, antilock brakes and airbags in the 1980s, 24-hour roadside assistance and satellite navigation devices in the 1990s. Competition, then, has a double effect: It drives down costs while improving quality.

At Ford and other automobile companies, the rigorous application of industrial technologies increases productivity—more output from each worker. Productivity is the vital element in more affordable products. As each worker's output rises, the cost of production falls. Greater productivity, moreover, leads to higher pay for workers and bigger profits for shareholders, allowing them to consume more. The automobile industry wasn't alone in adopting modern methods of production. Increased productivity across the economy, from agriculture and services to mining and manufacturing, has pushed wages up decade after decade, allowing more Americans to slip behind the steering wheel. Today, more than 90 percent of American households own a car—and 60 percent have two or more. Within a few years, the United States probably will become the first country to have more vehicles than people.

Catch a Falling Price

The mechanism of falling real prices points us toward an important but neglected aspect of America's economic system—the role of the rich in driving progress forward. A relatively small number of consumers—for the most part, the wealthy—are the first to acquire new products. They're in a position to create new markets simply because they've got money to buy new products and services, even at what for most of us are prohibitive prices. But few entrepreneurs get rich selling only to the rich; the big money lies in bringing products within the reach of the masses. Henry Ford knew that. So does Bill Gates.

Over time, wealthy Americans' free spending spurs a great democracy of consumption because it starts the process of low-

ering prices. It's as if we're all standing in line, joining in the consumption of goods and services as they come within our budget. Many of us wait for what we want, and our compensation lies in eventually getting a better product for less money.

The economics of this process is straightforward. Virtually every new product requires an often sizable (and risky) up-front investment to cover the cost of getting started. Whether innovation springs from startups or established companies, it requires money for research and development, as well as for the physical plant, machinery, equipment, and labor needed to launch production. The cost of reaching just the first customer can range from a few thousand dollars for a mom-and-pop enterprise to billions of dollars for *Fortune* 500 companies.

Producers, enjoying an exclusive niche in the marketplace and eager to recoup their up-front investment, charge high prices at first, usually knowing full well that only a few consumers will possess the wherewithal to buy. As sales increase and competitors enter the market, fixed costs are spread over more and more customers. Larger production runs mean lower per-unit costs as economies of scale take hold. Success attracts even more competitors, kicking off a race to see which company can offer the best product at the lowest cost. Companies must slash prices to stay in business. They must improve quality to hang onto their customers.

In nurturing infant industries and product lines, the rich pay most of the early fixed costs of new industries. Over the years, they financed the emergence of the automobile, long-distance telephone service, color televisions, computers, and many other goods that are all now readily available to the masses in America. As goods and services filter down to the rest of us, prices more nearly reflect companies' added cost of making one more copy of a product—in economists' jargon, the marginal cost.

The ratio between fixed and marginal costs varies from one type of product to another, which helps explain why some goods and services show steep price reductions and others go through the process more gradually. Big declines usually occur where fixed costs are high: computers, electronics, pharmaceuticals. When fixed costs aren't overwhelming, companies start out charging prices closer to marginal cost—a pattern that fits food and personal services.

Capitalism's critics, especially those who sing the praises of equality above all else, fret that the economy works to the benefit of the wealthy at the expense of the poor. But nothing could be more wrong: Without the rich, fewer new goods and services would find their way to the rest of us. In effect, economic progress emerges from a system of price discrimination—against the wealthy, not against the working classes. In most economic systems, the rich take advantage of the masses. Under capital-

ism, it's the masses who benefit at the expense of the rich. By harnessing the natural power of unequal income distribution, free markets have routinely brought the great mass of Americans products once beyond the reach even of kings.

As the economist Joseph Schumpeter wrote in his great *Capitalism, Socialism, and Democracy* (1943), "Queen Elizabeth owned silk stockings. The capitalist achievement does not typically consist in providing more silk stockings for queens but in bringing them within the reach of factory girls in return for steadily decreasing amounts of effort." Using the wealthy to pull the rest of us along is a very effective redistribution mechanism. No government-sponsored welfare system could deliver anywhere near the benefits that free markets routinely confer on American consumers.

Attention, Bargain Shoppers

The Ford Taurus sells for 70 percent less than the Model T did. That's not the end of the good news on America's highways and byways. Drivers may grumble when they pull into a service station, but a gallon of gasoline required just 5.4 minutes of work in 1997, compared with 6.6 minutes in 1970, three years before the Arab oil embargo caused prices to surge. If we consider the 60 percent increase in average miles per gallon since 1970, the work time to drive a typical car 100 miles has been nearly halved over the past quarter-century—from 49 minutes in 1970 to 28 minutes today. The price of an automobile tire has risen from

eration ago, each 1,000 miles of air travel now requires 61 hours less work. A seven-day Caribbean cruise slipped from 51 hours in 1972 to 45 hours in 1997. It's even getting cheaper to look our best: Work time for dry cleaning a dress is half what it was in 1946, and a woman's haircut is down 27 percent since 1950. Soft contact lenses have plummeted from more than 95 hours' wages in 1971 to less than four today—and the latest versions can be worn longer.

We're a nation on the go, grabbing fast food and snacks. Americans may be eating more of these foods because they're getting cheaper. Buying a large pepperoni pizza costs an eighth less work time than in 1958—and today we can get it delivered to our door. The price of a 6.5-ounce bottle of Coca-Cola has declined from 5.5 minutes in 1920 to 3.5 minutes in 1970 and 1.5 minutes today. In 1940 Californians paid 30 cents—nearly half an hour's wages—for the McDonald brothers' first burger, containing just one-eighth pound of ground beef. Today's one-fifth-pound Big Mac costs \$1.89, the equivalent of just 8.6 minutes' work. The price of a Hershey's chocolate bar has risen from 10 cents to 45 cents over the past 23 years; still, its price in work time is a mere 2 minutes, one-tenth of what it cost at the turn of the century.

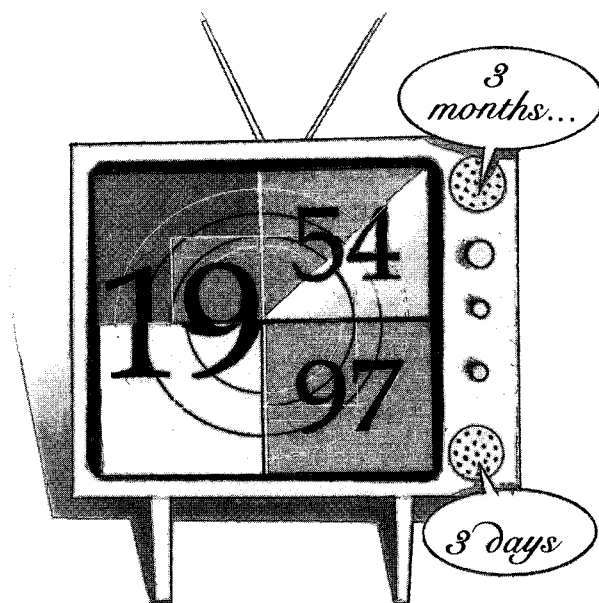
For many newer products, even money prices are falling, so the consumer gets a double shot of the power of free enterprise. A hand-held calculator too bulky to fit easily into a pocket or purse sold for \$120 in 1972. A quarter-century later, true pocket calculators sell for \$10—cheaper than a slide rule was in 1952. In terms of time on the job, the calculator's price plummeted

It's only because the real cost of living has been going down decade by decade that everyday Americans can, on average, own bigger houses, drive more and better cars, cram their dwellings with every imaginable appliance and electronic gizmo, indulge in luxuries once reserved for the upper crust, and enjoy more leisure activities.

\$13 in the 1930s to about \$75 today. However, today's steel-belted radials last more than 42,000 miles, a big increase from the 16,000 miles for the nylon tires of the 1950s or the 2,000 miles for the cotton-lined tires of the early 1920s. Based on work time per 1,000 miles, tires are now cheaper than ever.

Much of today's consumption centers on leisure. What helps make the good times good is the declining real cost of life's pleasures—little and big. The price of a movie declined from 28 work minutes in 1970 to 19 minutes in 1997. Compared with a gen-

eration ago, each 1,000 miles of air travel now requires 61 hours less work. Videocassette recorders entered the mainstream market at \$985 in 1978. Twenty years later, VCRs offering surer picture tracking, on-screen programming, and other features cost less than \$200. VCRs now sell for 15 work hours, or almost 90 percent less than in 1978. Cellular phones sold for \$4,195 in 1984; they're available for \$120 or less today. Over the past 13 years, the work time required to buy a cell phone has declined 98 percent. Better yet, the phones are often free for the price of



monthly service, which itself has fallen to about half what it was a decade ago.

Over the past generation, the sticker prices for microwave ovens, camcorders, and many other items have fallen in nominal dollars as well as time costs. It took an average worker more than 176 hours on the job to buy a microwave oven in 1967; now it's 15 hours. Dear Old Dad had to work 57 hours in 1960 to buy a camera to take home movies—a Bell & Howell model that used Kodak film (which needed to be developed at additional cost) and required a specialized projector and screen. Today, 42 hours of work will buy a camcorder that preserves our memories on a handy cassette that slips into the family VCR.

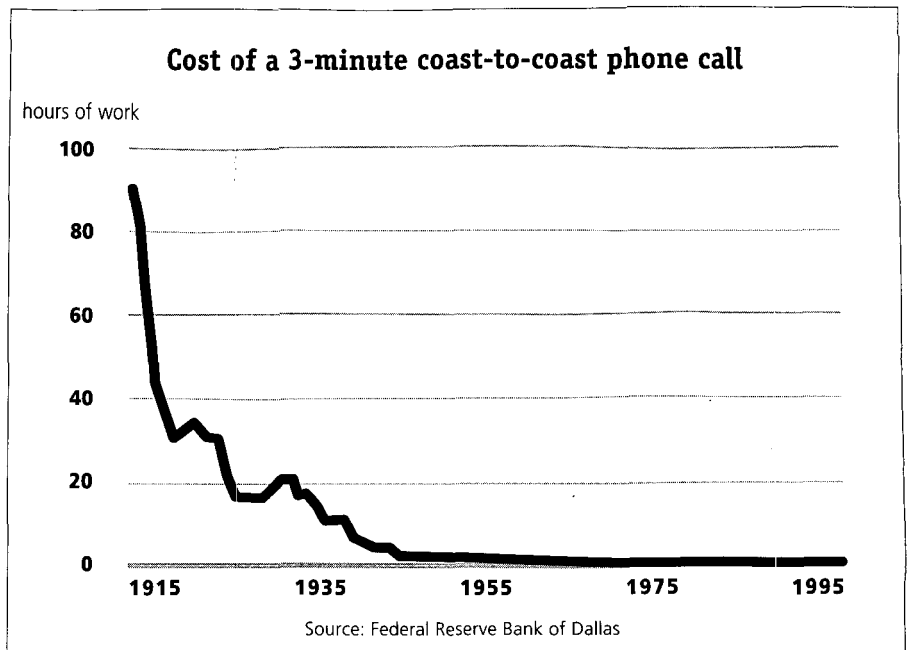
Of course, Americans do work longer to buy some goods and services. For instance, paying for medical care and higher education requires more hours of work than it used to. Tuition and fees at public colleges, where about 80 percent of students enroll, have doubled in work time since the mid-1970s. Inflation has been even steeper at America's private institutions. But simple straight-up comparisons are misleading. Few of us would deny that medical care is better than it used to be: The past quarter-century has brought a wealth of new diagnostic tools and drugs to treat ailments that range from cancer to depression. With college tuition, the increased costs reflect the increased value the economy puts on a sheepskin: Workers with a bachelor's degree earn an average of \$16,504 a year more than high school graduates today, up from \$10,488 more in 1979.

Extended Forecast: Sunny

Falling real prices bring the good life within the grasp of Main Street America. Prices cannot continue to tumble forever, of course. We won't be earning enough in a morning of work to buy a Taurus on our lunch break, and the bill for a coast-to-coast phone call will probably never sink to zero.

In fact, most of the good news on real prices comes early on, then slows as products permeate the marketplace. In minutes of work, prices for oranges fell 63 percent from 1919 to 1938. It took another 60 years to match that decline. The work time required to buy a pack of Wrigley's chewing gum fell an average of 7 percent a year in the first two decades of the 20th century but less than 2 percent a year after 1920. The real price of a gallon of gasoline halved in the 21 years from 1920 to 1941; it took another 45 years to equal that reduction. As markets mature, it simply becomes more difficult to wring new efficiencies out of the production process, and companies aren't able to cut prices as much.

Even so, consumers will still benefit as new products come onto the market, starting out with high prices that are bound to come down. Within a free enterprise system, the future will



continue to bring new generations of products that will repeat the pattern of falling prices. Later this year, for example, manufacturers will begin offering high-definition television, a technology that promises to deliver super-sharp images into American living rooms. When HDTV sets hit the market, they will cost as much as a good used car—about \$5,000 to \$10,000. Within a few years, the televisions will doubtlessly sell for a quarter or even one-tenth of that in nominal dollars. The hours of work required to own one, of course, will fall even faster.

Working less for what we consume helps explain the gains in Americans' well-being in the 20th century. It's only because the real cost of living has been going down decade by decade that everyday Americans can, on average, own bigger houses, drive more and better cars, cram their dwellings with every imaginable appliance and electronic gizmo, indulge in luxuries once reserved for the upper crust, and enjoy more leisure activities. Today, nearly every household possesses a wide range of modern conveniences that, when introduced, were the province of the rich. The personal computer and the cellular phone, both gadgets of relatively recent vintage, are rapidly heading toward the same universal consumption the country earlier achieved with electricity and telephones.

The true test of an economic system is how productive it is with its resources. None is more precious than people's time. The majority of us aren't born with big bank accounts, but we are born with time. Time is the real currency of life, and the value of our time—what we can acquire for its exchange—is our most important asset. Capitalism has consistently raised the value of our hours and minutes, making most goods and services affordable for the average worker.

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**When it comes
to corruption, state
governments are
second to none.**

By John Hood

Let me stipulate right up front that Washington is a fetid swamp of scandal. During the past two decades, whatever respect Americans might have had for their national political leaders has steadily sunk into the soft muck of Watergate, Abscam, Iran-Contra, Whitewater, Filegate, Chinagate, Fornigate, etc.

I'll make a bold statement, however. Government corruption is less rampant in Washington than in Albany, Sacramento, or (especially) Little Rock. It is striking that many of the Clintons' most egregious ethical lapses—involving state pension funds, kickbacks, shady land deals, illegal federal loans, and cattle futures—occurred while Bill was governor of Arkansas. Presidents and congressmen make headlines with giggling interns and intricate campaign finance irregularities. State politicians still do it the old-fashioned way: lobbyists with sacks of money, all-powerful committee chairmen who give themselves state contracts, business executives who pay cash for government appointments or regulatory nods.

State officials do this sort of thing a lot—mostly because

they keep getting away with it. They typically face less scrutiny than national politicians do, and they have many opportunities to enrich or impoverish individual firms. By contrast, Congress does things that affect whole industries, making it simultaneously more powerful and less amenable to garden-variety graft.

While political observers can count on a couple of hands the federal legislators who've resigned in disgrace during the last decade—Dan Rostenkowski and Bob Packwood come to mind—recent scandals in state legislatures have embroiled dozens, if not hundreds, of lawmakers in tawdry investigations and costly prosecutions. In the last few years, newspapers have been rife with stories of corruption in states such as Arizona, South Carolina, Rhode Island, Kentucky, New York, New Jersey, New Mexico, and Massachusetts. And no one knows what the final body count will be in poor Arkansas, where the Whitewater investigation has turned into a broader scandal of bid rigging, insider deals, and thievery throughout state government.

Let me illustrate my point about state corruption with a few examples. Beginning in the late 1980s, the Kentucky state legislature underwent two major scandals, both involving regulatory oversight.

In the first case, lawmakers enacted measures in 1988 and 1990 that hurt a small harness racing operation on the Ohio River. Its owner sought relief in the state capital, only to be told by a prominent lobbyist that it would probably cost around \$100,000—in campaign cash to various lawmakers—to make his problems go away. The racetrack owner, to his credit, didn't pay up. Instead, he went to the FBI, which began an elaborate sting to catch lobbyists and lawmakers in the act of buying and selling votes for cash. The feds eventually netted 11 bribery convictions, including one involving the speaker of the state House.



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