

Policy Issues

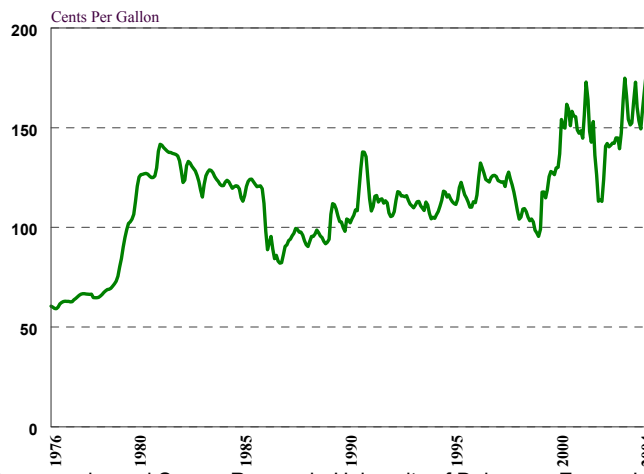
Just How Costly Is Gas?

Summer 2004

Introduction. Across the nation, the price at the pump has reached record highs. From unleaded to premium grade, prices have broken the two-dollar-per-gallon mark for the first time. While record high gasoline prices are indisputable, it can be argued the gas prices are still cheap, and the burden on drivers is not as great as we might think.

History. During the second half of the seventies, unleaded gasoline sold for approximately 60 cents per gallon. By 1980, one-dollar-per-gallon-prices had arrived. For approximately twenty years unleaded gasoline prices fluctuated between \$1 and \$1.50. The nadir for the nineties occurred in 1999. After 2002, the price has been trending upward once more.

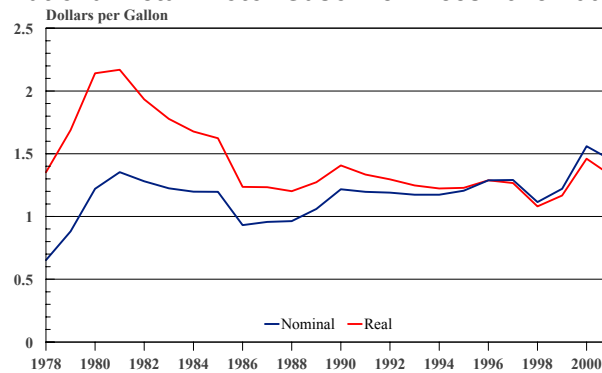
Figure 1
Unleaded Gasoline Prices



Source: Center for Applied Demography and Survey Research, University of Delaware; Energy Information Administration. Last data point: March 2004.

Adjusting gasoline prices for the effects of inflation (in economic terms, converting nominal dollars to real dollars) reveals a trend distinct from that above. Figure 2 below shows that inflation-adjusted prices have fallen significantly from their levels in the early eighties, and have been stable in the nineties. The inflation-adjusted price indicates that gasoline is relatively cheaper now than it was twenty years ago. Public perception, however, tends to overlook this fact: concentrating only on the nominal, price-at-the-pump cost.

Figure 2
National Retail Motor Gasoline Prices 1978-2001



Note: Real prices in chained 1996 dollars.

Source: Center for Applied Demography and Survey Research, University of Delaware; U.S. Department of Energy.

Prices increases of gasoline have kept pace with price increases of other consumer goods.

Table 1 shows the growth of consumer prices for selected items. Since 1980, the consumer price index (CPI) has risen 127%. In other words, the price of a basket of consumer goods is 127% higher now than in 1980. Not all items in the basket grow at the same rate. Medical care grew 331% in the same period, while apparel prices grew just 37%. Gasoline prices fell during the eighties, while the prices of other consumer goods continue to climb. Even during the low-inflation nineties, the prices of all other items, medical care, housing, and vehicles, grew at a faster clip than gasoline.

If unleaded fuel prices grew at the same pace as the CPI (less energy) since 1980, unleaded prices would be \$2.82 per gallon. The most recently published city average price for unleaded is \$1.94 (May 2004, Department of Energy). This implies that the cost of unleaded is 31% below where it would be had gasoline prices kept pace with the prices of other goods.

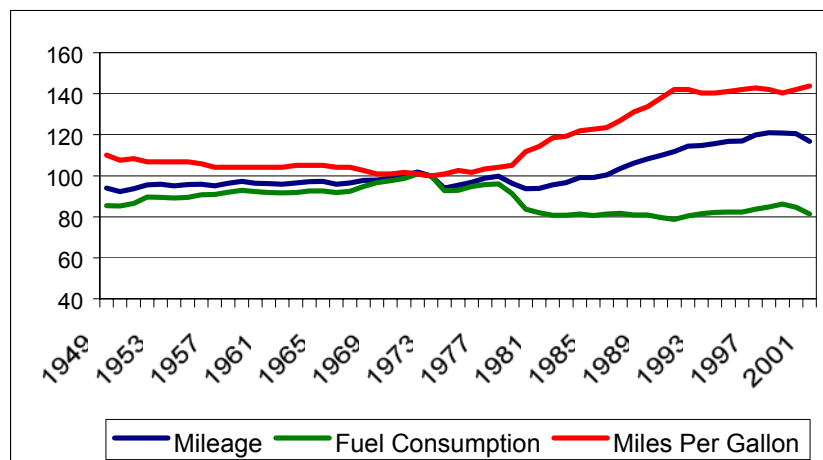
Table 1
Changes in the U.S. Consumer Price Index for Selected Items

	All items	All items less energy	Medical care	Housing	Gasoline (all types)	New vehicles	Apparel
1980-2004	127%	149%	331%	147%	69%	61%	37%
1980-1990	59%	60%	109%	53%	-5%	38%	32%
1990-2000	32%	34%	64%	32%	24%	17%	9%
2000-2004	8%	10%	21%	13%	32%	-4%	-8%

Source: Center for Applied Demography and Survey Research, University of Delaware; Bureau of Labor Statistics.

Driving more, but using less fuel to do it. Improved fuel efficiency is enabling automobile users to travel further on less fuel. As Figure 3 below illustrates, the fuel economy (miles per gallon) has risen 44% since 1973. Simultaneously, miles per vehicle (mileage) rose by only 17% and fuel consumption (gallons per vehicle) fell 19%. These factors combine to produce the result that we are driving more miles, but with the change in fuel efficiency, we are using less fuel.

Figure 3
National Motor Vehicle Mileage, Fuel Consumption, and Fuel Rates
All Motor Vehicles, 1949-2001, Index 1973=100

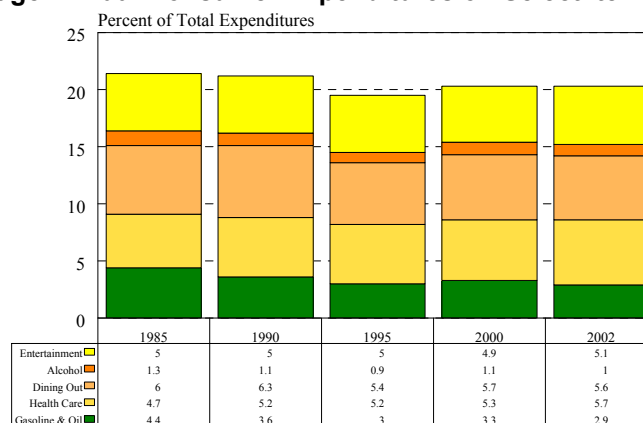


Note: Mileage is miles per vehicle. Fuel consumption is gallons per vehicle. All vehicles includes passenger cars, motorcycles, vans, pickup trucks, sport utility vehicles, trucks, and buses.

Source: Center for Applied Demography and Survey Research, University of Delaware

More spent on dining out, and entertainment, than gas. Figure 4 below illustrates annual consumer expenditures on select items. In 1985, gasoline and oil accounted for 4.4% of total expenditures for the average consumer. A greater percentage of expenditures were dedicated to entertainment, dining out, and health care. Between 1985 and 2002, gasoline and oil expenditures accounted for a declining share of total expenditures. By 2002, gasoline and oil account for less than 3% of total expenditures. There are two factors at play here. Either the price of consumer items is changing or the quantity consumed is. The reality is probably a combination of the two. Health care costs more, and we are consuming more of it, therefore it is commanding a larger share of our expenditures now versus 1985. Inflation-adjusted gasoline prices are still lower than they were in the late seventies, which can partially explain why gas accounts for a small share of our expenditures now versus 1985.

Figure 4
U.S. Average Annual Consumer Expenditures on Select Items 1985-2002

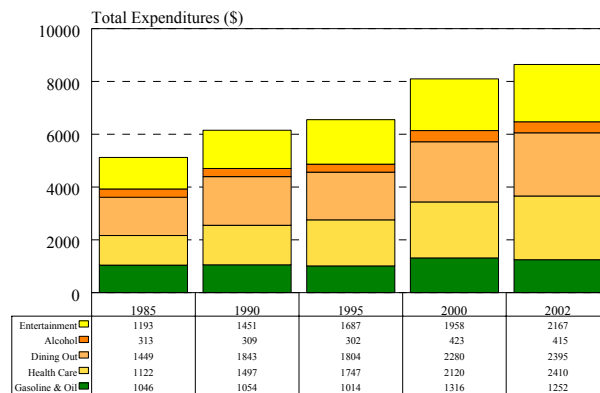


Source: Center for Applied Demography and Survey Research, University of Delaware and BLS

The average consumer spends \$1,235 on gasoline and oil per year. Though this figure varies across age cohorts, expenditures are relatively stable for many adults aged between 25 and 64. At age 65 and over, fuel expenditures fall below the \$1,000 per year mark.

The average consumer expenditures on gasoline and oil rose 20% between 1985 and 2002. Simultaneously, entertainment expenditures rose 82%, alcohol expenditures 33%, dining out 65%, and health care 115%. Therefore, gasoline expenditures have not kept pace with other consumer items through a combination of more fuel-efficient automobiles and moderating gasoline prices.

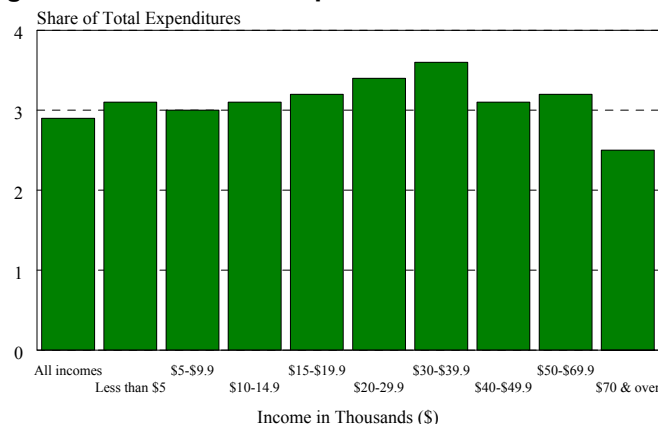
Figure5
U.S. Average Annual Consumer Expenditures on Select Items 1985-2002



Source: Center for Applied Demography and Survey Research, University of Delaware and BLS

Gasoline expenditures as a share of total expenditures are quite stable across income classes. For all income groups up to \$50,000 - \$69,999, gasoline and oil account for approximately 3% of expenditures (Figure 6). The income class of \$70,000 and above spends the lowest share on gasoline: 2.5%. This implies that higher income equates to higher fuel purchases. This can be the case where there is a base level of automobile usage that is necessary irrespective of income. But as incomes rise, discretionary use of automobiles increases as families travel for vacations and other non-necessity purposes.

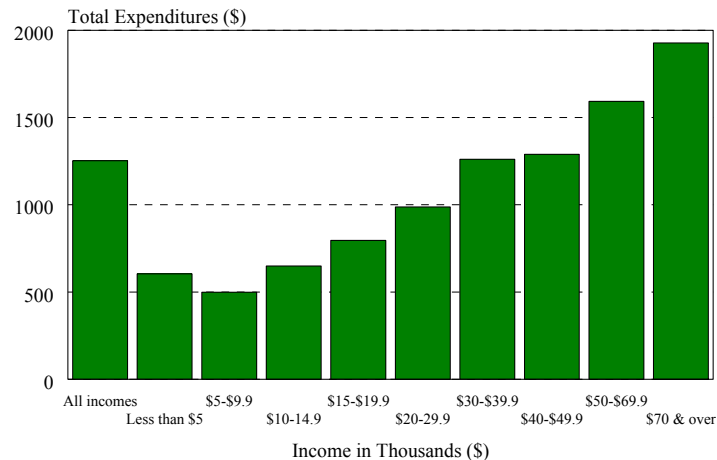
Figure 6
U.S. Share of Average Annual Consumer Expenditures on Gasoline and Oil by Income 2002



Source: Center for Applied Demography and Survey Research, University of Delaware and BLS

While the share of total expenditures dedicated to gasoline is stable across income classes, the dollar amount does vary. Lower income households spend fewer dollars on gasoline. Households earning less than \$9,999 spend approximately \$500 per year on gasoline and oil. Households earning \$20,000 to \$29,999 spend approximately \$1,000 per year. Households earning \$30,000 to \$49,999 spend approximately \$1,300.

Figure 7
U.S. Average Annual Consumer Expenditures on Gasoline and Oil by Income 2002



Source: Center for Applied Demography and Survey Research, University of Delaware and BLS

Caveat. Averages are a powerful means to understand the general expenditure patterns of U.S. consumers. The drawback is that consumers whose expenditures deviate significantly from the average are concealed. For some consumers, rising gasoline prices will impose a real financial hardship. Nevertheless, the facts presented here suggest that for a representative consumer, the rising gasoline prices will be financially manageable.

Summary. Record gasoline prices are generating outrage from drivers, and will be likely a policy issue in the coming election. Nevertheless the evidence suggests that gasoline expenditures are, on average, a manageable budget item. Within the context of other consumer expenditures, consumers spend twice as much on dining out and entertainment as gasoline and oil.

Contact information.

Simon Condcliffe, Ph.D.
Center for Applied Demography and Survey Research,
University of Delaware
E-mail: simonc@udel.edu