Consumer Federation of America

RISING ENERGY PRICES STRAIN HOUSEHOLD BUDGETS AND THE ECONOMY, FOR MOST AMERICANS

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The impact of rising energy prices on households and the economy has increasingly become a focal point of public concern and public policy attention.[1] Record gasoline prices and skyrocketing natural gas prices have been the subject of a national task force chaired by the Vice President and a national summit chaired by the Secretary of Energy. Economists are now convinced that rising energy prices have slowed the economy down, while newspaper headlines debate how consumers are coping with the rising prices.[2]

What is missing from the discussion is a careful analysis of the burden that rising prices place on household budgets. Three years ago, at the first signs of energy pricing problems, a report from the Consumer Federation of America raised the issue.[3] That earlier report focused on gasoline prices, but since then natural gas has become a growing concern as well.

Since the energy price shocks of 1970s[4] one of the central concerns about rising energy prices is that their impact falls most heavily on low- and middle-income households.[5] Because energy is a basic necessity of daily life, households have trouble cutting back when prices rise. Even though wealthier households consume more than middle-income households, and middle-income households consume more than low-income households, consumption does not increase as fast as income. Therefore, as income rises, energy expenditures take a much smaller part of the household income.

When price increases are large and sustained, the absolute size of the increase becomes a concern. In fact, over the past several years as petroleum prices have skyrocketed they have caused "a marked slowing in spending."[6] Both *The Wall Street Journal* and *The New York Times* have recently linked rising energy prices and the flagging efforts to stimulate the economy through tax cuts.[7] The burden of rising prices and their ability to offset tax cuts is a concern we raised at the first sign of energy price problems[8] and deserves another careful look. The bottom line is that low- and middle-income households are already feeling the pinch from increasing energy expenditures – and the problem is unlikely to abate any time soon.

This report estimates household expenditures on the two largest energy items in the budget of the typical American household, gasoline for driving and petroleum-based products (natural gas, heating oil, and propane) for home heating. It examines the spending for typical low-income, middle-income and upper-income households.

METHODOLOGY

Income Groups

We examine three groups – low-, middle- and upper-income (see Table 1). Income is estimated based on the U.S. Census Bureau *Historical Income Tables – Households.*

Table 1:
Characteristics of Income Groups (2002)

Group	Portion of Population	Income[a] Cut-offs	Average Income[b] of the Group
Low-Income	Bottom Fifth	Less than $15,000	$10,000
Middle-Income	Third Fifth	$28,000 to $46,500	$42,800
Upper-Income	Top Fifth	More than $74,500	$118,000

[a]Bureau of Labor Statistics, *Consumer Expenditure Survey in 2002*, February 2004.
[b]Bureau of the Census, *Household Income, 2002.*

We assume the bottom one-fifth of the population is low-income. We estimate the average income for this group was about $10,000 in 2002. The Bureau of Labor Statistics (BLS) *Consumer Expenditure Survey* for 2002,[9] shows this group to be roughly those with incomes below $15,000.

Middle-income households are those in the middle fifth. We estimate the mean income in 2002 was $42,800 in the Census Bureau data. The BLS data shows this group to be those with income between approximately $28,000 and $46,500.

Upper-income households are the top fifth. We estimate the mean income of $118,000 in 2002.[10] In the BLS data the top fifth has incomes of more than approximately $75,000.

For all groups we adjust income for 2004 assuming growth in income equal to the change for 2004 estimated by the Bureau of Economic Analysis, *Personal Income and Outlays*,[11] on an annualized basis.

Energy Expenditures

The recent Department of Energy *Short Term Outlook* provides a basis to estimate the impact of energy price increases in the past several years.[12] We use the historic and projected gasoline prices and winter heating costs in the Department of Energy analysis. Department of Energy data on households' use of heating fuels and automobile ownership are used.[13] Department of Transportation data on gasoline usage are used.[14] Virtually all households at all income levels have heating equipment.

Based on the Department of Energy's *2001 Housing Characteristics Tables* we assume that the upper-income group consumes 33 percent more energy than the average. [15] We assume the lower-income groups consume 25 percent less heating energy than the average.

For gasoline, the analysis is a bit more complicated, since many more low-income households do not own automobiles. That is, 95 percent of middle-income households and 97 percent of upper-income households have at least one automobile. In this case, the assumption that the household has an auto is a simplifying assumption that does not affect the comparison. Only 65 percent of households with income below $15,000 per year have at least one auto.[16]

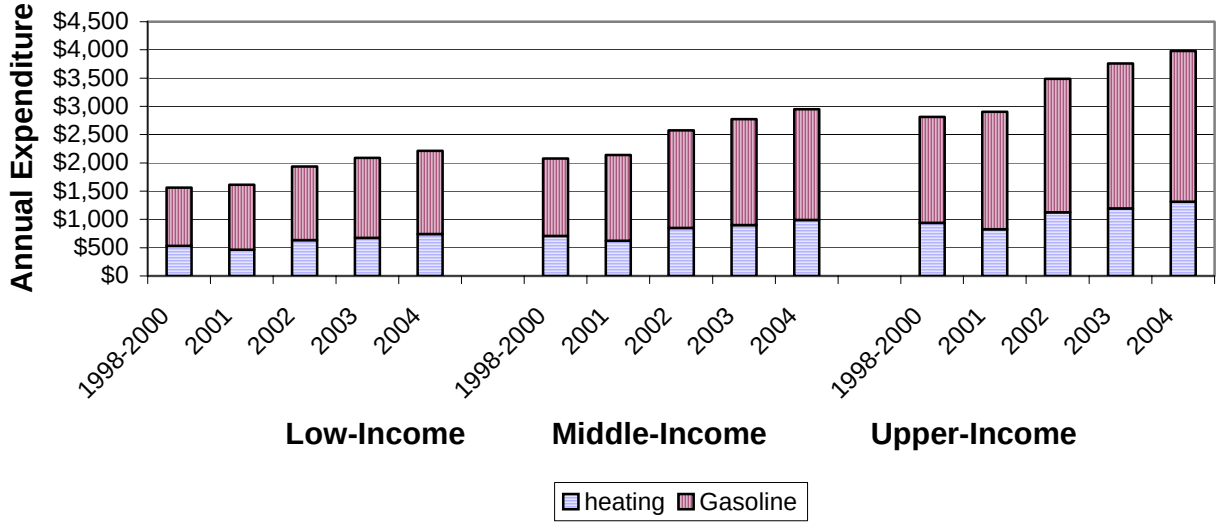
We set average gasoline consumption at 1060 gallon per year. Based on the *Consumer Expenditure Survey*, we estimate that low-income households that have an auto consume 750 gallons per year. Upper-income households are estimated to consume 1440 gallons per year. We also consider low-income households that do not own an auto.

Identifying these three categories presents a full picture of the population. While the energy consumption, expenditures, income and tax cut numbers are not available in precisely these breakdowns, the data sets offer breakdowns that are similar enough to get a good gauge of how energy price increase have impacted consumers in the past four years. For each of the income groups the typical household in America heats with a petroleum-based fuel and has at least one automobile.

HOUSEHOLD ENERGY EXPENDITURES

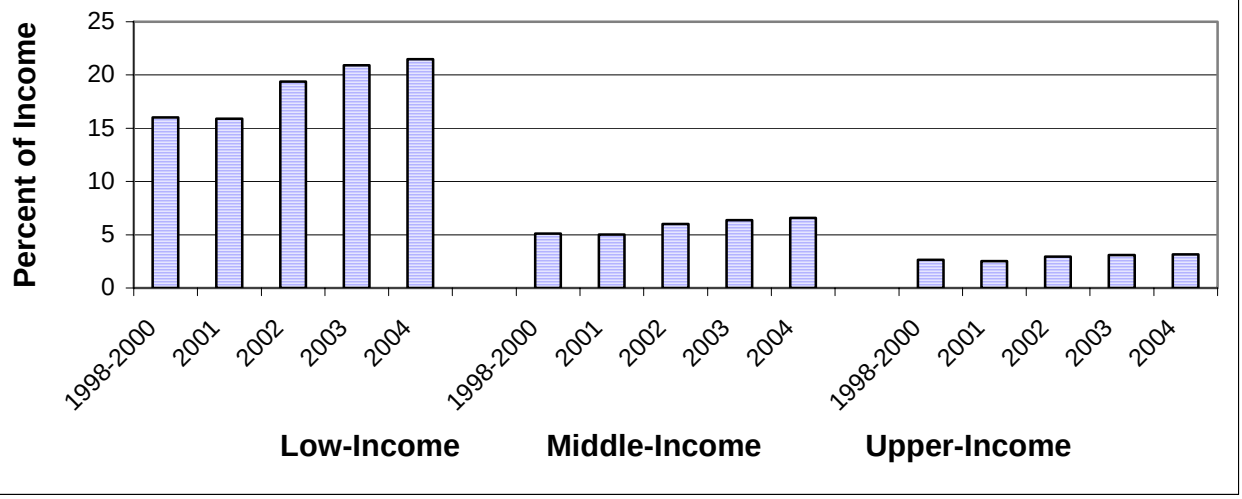
The Department of Energy numbers show that the energy bill for heating and driving has increased by about $870 for 2004 as compared to 1998 to 2000 for middle-income households (see Figure 1 and Appendix for the estimated numbers used to construct the figures). Because upper-income households consume more energy, the increase in their bill is larger, a little over $1165. For low-income households with an auto, the absolute increase is smaller, about $650. For low-income households without an auto, the increase was about $210.

FIGURE 1:
HOUSEHOLD EXPENDITURES ON PETROLEUM PRODUCTS



The picture is quite different when we calculate household expenditures on gasoline and heating fuels as a percentage of income (Figure 2). For the middle-income households, these expenditures have increased from about 5.1 percent of household income to about 6.6 percent for 2004-2005. For the upper-income households, they rose from about 2.6 percent to a projected 3.2 percent of household income. For low-income households, the increase as a percentage of income is much larger. Expenditures on petroleum products increased from about 16 percent to about 21.5 percent of income. Since a large percentage of low-income households do not have autos, it is fair to ask how they have fared. For them, expenditures on heating have increased from 6 percent of income to 9 percent.

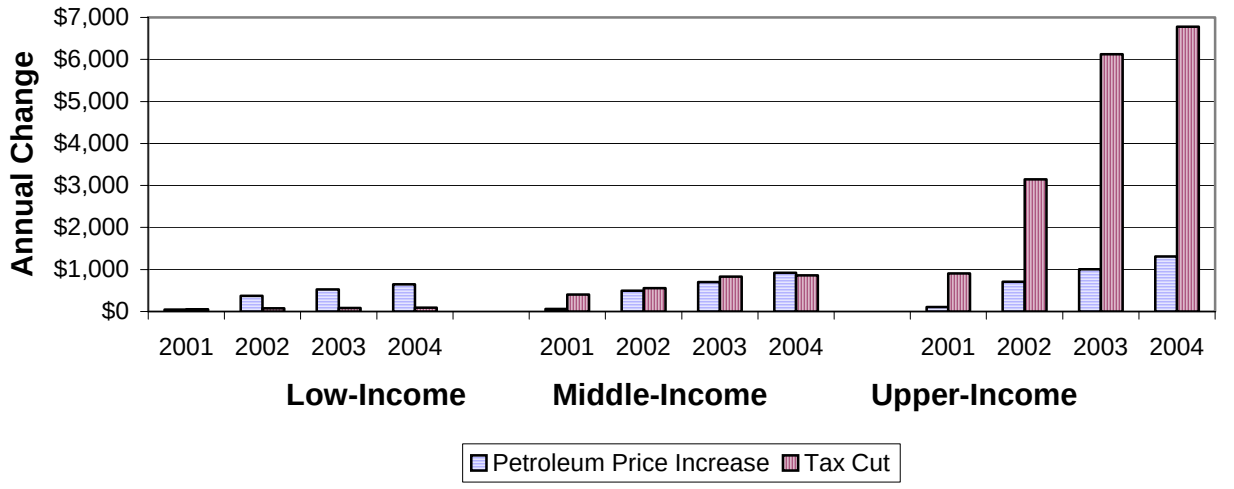
FIGURE 2:
HOUSEHOLD EXPENDITURES ON GASOLINE AND HEATING PETROLEUM PRODUCTS AS A PERCENTAGE OF INCOME



ERASING THE TAX CUT

A comparison between rising petroleum costs and the tax cuts shows that by 2004, the increase in household expenditures for middle-income families had erased the entire tax cut (see Figure 3). Upper-income families were still way ahead of the game, since the tax cuts had been targeted at upper-income households. For low-income households, the tax cut was erased by energy price increases in 2002 and they have been falling farther behind ever since. This is also true for low-income households that do not own an auto, but heat with a petroleum-based fuel.

FIGURE 3:
HOUSEHOLD EXPENDITURES ON PETROLEUM PRODUCTS COMPARED TO TAX CUTS



CONCLUSION

Although some worry "that the shift in spending, if it continues, spells trouble,"[17] the huge increase in energy expenditures that has already taken place already spells trouble for low- and middle-income households. Given the fact that gasoline and petroleum-based home heating fuel represent less than half of all petroleum products consumed in our economy, it is a safe bet that there has already been a substantial impact. And given the projections for next year, neither low-income nor middle-income households have much basis to hope for relief any time soon.

APPENDIX:

ESTIMATED EXPENDITURES COMPARED TO INCOME

	1998-2000	2001	2002	2003	2004
LOW-INCOME					
Heat	531	466	635	674	741
Gasoline	1034	1146	1302	1415	1471
Total Expense	1564	1612	1937	2089	2212
Income	9765	10136	9990	9996	10295
% of Income	16.0	15.9	19.4	20.9	21.5
Increase in Expense		48	373	525	648
Tax Cuts		57	78	87	91
MIDDLE-INCOME					
Heat	708	622	846	899	988
Gasoline	1370	1519	1726	1876	1961
Total Expense	2078	2141	2573	2775	2949
Income	40650	42629	42802	43588	44896
% of Income	5.1	5.0	6.0	6.4	6.6
Increase in Expense		63	495	697	871
Tax Cuts		403	557	827	863
UPPER-INCOME					
Heat	941	827	1126	1196	1314
Gasoline	1872	2075	2359	2563	2664
Total Expense	2813	2902	3484	3759	3978
Income	106400	115000	118000	122000	125600
% of Income	2.6	2.5	3.0	3.1	3.2
Increase in Expense		89	671	946	1165
Tax Cuts		907	3145	6121	6780

ENDNOTES

[1] David Leonhardt, "Slow Job Growth Raises Concerns on U.S. Economy," *The New York Times,* August 7, 2004, B2, put it as follows: "The economy's recent slowdown seems to stem largely from higher energy costs and the gradual disappearance of government stimulus as tax savings have been spent and the effect of lower interest rates has lost its punch." See also, Gregory Ip and Jackie Calmes, "Thanks to Oil, Economy Faces Headwinds in Political Season," *The Wall Street Journal*, August 9, 2004.

[2] Don Oldenburg, "Caught Over a Barrel: Soaring Gas Prices Have Motorists' Wallets Running on Empty," *The Washington Post*, May 4, 2004, C-1; Neela Banerjee, "Drivers Tend to Shrug Off High Gas Prices, for Now," *The New York Times*, May 4, 2004, C-1.

[3] Mark Cooper, *Ending the Gasoline Price Spiral: Market Fundamentals for Consumer-Friendly Policies to Stop the Wild Ride* (Consumer Federation of America, July 2001).

[4] Mark Cooper, Susan Punnett, and Theodore Sullivan, *Equity and Energy: Rising Energy Prices and the Living Standards of Low Income Americans* (Boulder: Westview Press, 1982).

[5] Even *the Wall Street Journal* recently discovered the regressive nature of energy price increases in a column by Justin Jahart with the headline, "To Have and Have Not," September 23, 2004, C-1.

> Beltway types can argue all they like over what the divide between rich and poor is doing. But there is little doubt that the gulf between the retailers that sell to America's hoity-toity and those that sell to the hoi polloi is growing…
>
> So why is Joe Six-Pack in so much less of a spending mood than Joe Millionaire?
>
> A big reason is that high fuel costs affect middle-income and low-income families more than they hurt the upper echelons. For 2001, the Transportation Department found that households earning $30,000 to $39,999 went through 1054 gallons of gasoline. At $1.33 a gallon, say, that would be about $1,402. Households earning more than $100,000 went through 1558 gallons. That is more gasoline, but it represented a far small portion of their income – less than 2% compared with about 4%.

[6] Id.

[7] In the spring, before record gasoline prices had hit consumers, the *Times* made a direct connection between energy prices and tax cuts. Neela Banerjee, "Drivers Tend to Shrug Off High Gas Prices, for Now," *The New York Times*, May 4, 2004, C-1, cited figures indicating "the tax cut gave consumers about $70 billion in additional spending power this year, while the rise in crude oil prices… has so far cost Americans only about $35 billion." Ip and Calmes, put it as follows:

> High oil prices aren't the only thing weighing on the market and the broader economy. Another factor is the fading effect of the stimulus policies that were designed to counteract the 2001 recession and sluggish recovery. Some economists believe consumers needed the steroids of repeated tax cuts and successive rounds of mortgage refinancing to sustain their remarkable spending binge from late 2001 through the spring. With that stimulus now wearing off and Treasury in no position to administer more, consumers may finally be retrenching, partly in response to the high debt levels they have taken on in recent years.

[8] Cooper, *Ending*.

[9] Bureau of Labor Statistics, *Consumer Expenditure Survey in 20002*, February 2004.

[10] The Census data gives a much higher number than the Bureau of Labor statistics or Lahart. To be conservative, we choose the lower number for average income, which makes the percentage of income spent on energy larger. We assume income changed over the period by the same percentage as in the Census data.

[11] August 30, 2004.

[12] Energy Information Administration, *Short Term Outlook*, September 8, 2004.

[13] Energy Information Administration, *Household Characteristics*, 2001.

[14] Lahart cites Department of Transportation figures of 1054 gallons consumed for a "Joe Six Pack" household and 1558 for "Joe Millionaire Households." These are similar to numbers we used in our 2001 analysis. We estimated average consumption at 1067 gallons. Upper-income consumption (households with income above $75,000) was estimated to be 1443 per year. Low-income consumption for households eligible for federal assistance was 828 gallons, while for households with incomes below $10,000 it was estimated at 670 gallons.

[15] Bureau of Labor Statistics, *Consumer Expenditure Survey in 2002*, show expenditures for all utilities as 50 percent higher for the top quintile, but this is driven by consumption of electricity, primarily for air conditioning.
[16] Energy Information Administration, *Household Characteristics.*
[17] Lahart, C-1.