

# CRS Report for Congress

Received through the CRS Web

## Energy Prices and Tourism: Some Preliminary Observations

Bernard A. Gelb  
Specialist in Industry Economics  
Resources, Science, and Industry Division

### Summary

Energy prices faced by consumers have risen steeply in the last few years, and it is likely that spending on energy substituted at least to some extent for spending on other goods and services. It is widely believed that increases in energy prices, particularly gasoline, negatively affect tourism. The data presented provide partial and preliminary support on an aggregate level. On the other hand, there is anecdotal evidence that the effect may not be large. In addition, only part of any slowdown in tourism should be attributed to energy prices. This report will be updated when warranted by events.

### Energy Prices and Consumer Spending

Consumers have faced sharply rising energy prices in the last few years. Most recently, they increased 28% between the first quarter of 2005 and the second quarter of 2006 (**Table 1**). Motor gasoline prices, which rose 39% during the period, had increased 31% from their 2002 average to the average for the first half of 2005. Prices paid by households for natural gas in the second quarter of 2006 were 13% higher than in the first quarter of 2005, but had been 34% and 28% higher in the fourth quarter of 2005 and first quarter of 2006. Similar to gasoline, heating oil prices rose 33% between the first quarter of 2005 and the second quarter of 2006, and had already increased substantially from their 2002 average.

Inasmuch as the price elasticity of demand for purchases of energy in the short run is low,<sup>1</sup> higher energy prices have led to noticeably increased aggregate spending on energy in absolute terms and also as a percentage of total personal consumption

---

<sup>1</sup> Demand price elasticity is a measure of buyers' responsiveness to a change in price. The large number of estimates of the demand price elasticity of gasoline, for example, based upon empirical studies, average about -0.25 for the short run. A demand price elasticity of -0.25 means that the quantity purchased will decrease 2.5% in response to a 10% price increase. The short run is a period in which a consumer has insufficient time to change equipment or significantly alter behavior.

expenditures. Thus, energy (all forms) accounted for 7.2% of total U.S. consumer spending in the second quarter of 2006, compared with 6.3% in the first quarter of 2005 and 5.3% in 2002, based upon data generated by the Bureau of Economic Analysis (BEA). U.S. aggregate consumer spending on gasoline rose from 2.6% in 2002 to 3.4% in the first quarter of 2005 to 4.2% in the second quarter of 2006 (Table 1).

**Table 1. Energy Prices and Energy Expenditures**

Year and Quarter	Consumer Price Indexes <sup>a</sup> (1982-1984 = 100)				Spending on Energy as a % of Total Personal Consumption Expenditures <sup>b</sup>	
	All Energy <sup>c</sup>	Gasoline	Piped Nat. Gas <sup>d</sup>	Heating Oil	All Energy <sup>c</sup>	Gasoline
2002	121.7	116.0	135.3	111.5	5.3	2.6
2003	136.5	135.1	166.3	136.6	5.7	2.9
2004 - I	143.7	147.2	174.1	145.1	5.9	3.1
2004 - II	150.8	160.5	175.7	147.4	6.1	3.3
2004 - III	152.3	160.4	181.3	160.7	6.0	3.2
2004 - IV	158.4	170.1	188.6	187.4	6.3	3.4
2005 - I	159.8	169.9	192.5	186.2	6.3	3.4
2005 - II	167.9	182.2	198.3	199.9	6.5	3.5
2005 - III	187.6	216.6	211.5	234.3	7.0	4.0
2005 - IV	192.5	209.3	258.5	246.3	7.1	3.9
2006 - I	192.8	206.4	245.9	231.5	6.8	3.8
2006 - II	203.8	235.8	217.4	248.2	7.2	4.2

**Sources:** Bureau of Economic Analysis, National Income and Products Table, Underlying Detail Tables, Table 2.4.5U, Personal Consumption Expenditures by Type of Product, obtained from [<http://www.bea.gov>] under “Personal Income and Outlays;” viewed August 10, 2006; Bureau of Labor Statistics (BLS), data obtained from “CPI - All Urban Consumers” database on BLS website [<http://www.bls.gov/data>] viewed on August 10 and 14, 2006.

**Note:** Spending for natural gas and heating oil as a percent of total personal consumption expenditures is not shown because household use of natural gas and heating oil tends to be concentrated in the Midwest and Northeast, respectively. National percentages would understate the effect of gas and oil price increases on households in those regions.

a. Quarterly data are averages of monthly figures.

b. Personal expenditures on energy as a percent of total personal consumption expenditures.

c. Includes energy forms not shown separately.

d. Utility piped gas service.

Higher natural gas and heating oil prices probably resulted in much higher aggregate spending on those energy forms in the Midwest and Northeast, where those energy forms, respectively, are used very widely. Aggregate spending for natural gas and heating oil as percentages of total personal consumption expenditures in those regions cannot be obtained, however, as the BEA data are on a national level, and percentages calculated on that level would understate the effect of gas and oil price increases on households in those regions.

Other things being equal, the increase in energy's percentage of total personal consumption expenditures from 5.3% in 2002 to 7.2% in the second quarter of 2006 means a shift in spending of \$150 billion at an annual rate<sup>2</sup> to energy. Unless the increase in personal income (in current dollars) between 2002 and the second quarter of 2006 (annual rate)<sup>3</sup> was sufficient to fully accommodate the increased spending on energy, it is likely that such spending replaced spending on other goods and services at least to some extent.

## Effects on Tourism

It is widely believed that increases in energy prices, particularly gasoline prices, have a negative effect on tourism. The data presented above and below provide preliminary and not unanimous support of this on an aggregate level. Anecdotal evidence, also mixed, tends to indicate little effect of energy price increases on tourism. In any event, as noted below, not all of any decline in tourism should be attributed to energy prices.

Some data suggest that there has been some slowdown in tourism. In the first half of 2006, there were 0.9% fewer air passenger enplanements<sup>4</sup> than in the first half of 2005; the number of air passenger miles was only 1.3% greater; and motor gasoline consumption was only 0.6% greater (**Table 2**). These relative changes are less than the increases of 1.9% in constant dollar Gross Domestic Product (GDP) and 2.5% in constant dollar aggregate personal income. The second-quarter 2006 profits recorded by the airline industry seem to contradict the above evidence of a slowdown in air travel. These, however, are the results of the industry's cost cutting through capacity reductions, efficiency improvements (including fuel conservation), and fare increases rather than big gains in air travel volume.

In any case, because travel is a major component of tourism, and considerable travel is done for reasons other than tourism, the total volume of travel per se may reflect factors other than energy price increases. This is especially true of gasoline consumption. Only

---

<sup>2</sup> Total "market-based" personal consumption expenditures in the second quarter of 2006 were \$7,847 billion at an annual rate. 7.2% of that is \$566 billion; 5.3% of that is \$416 billion. See Table 1 for source of data.

<sup>3</sup> BEA, *Survey of Current Business*, August 2006. Current dollar data not shown in Table 2.

<sup>4</sup> One fare-paying passenger — originating or connecting — boarding an aircraft with a unique flight coupon.

40% of vehicle miles traveled by households were for social and recreational purposes in 2001 according to the National Household Travel Survey<sup>5</sup>

Not indicative of a slowdown in tourism is the 2.4% increase between the first half of 2005 and 2006 in the number of hotel and motel rooms sold (**Table 2**), versus the 1.9% rise in GDP and 2.5% increase in personal income. Average daily room rates were up 6.8%, resulting in a gain of 9.0% in average revenue per available room, according to

**Table 2. Selected Travel Indicators**

Indicator		2002	2003	2004	2005	% Change 1 <sup>st</sup> Half 2006 from 2005 <sup>a</sup>
Air passenger enplanements <sup>b</sup> (millions)		613	646	703	739	-0.9% <sup>c</sup>
Air revenue passenger miles <sup>b</sup> (billions)		641	657	734	779	1.3% <sup>c</sup>
Motor gasoline consumption (million barrels per day)		8.85	8.94	9.11	9.13	0.6%
Hotel/motel room nights sold (millions)		935	948	988	1,019	2.4%
Overnight stays at national parks (millions)		15.1	14.6	14.0	13.8	-2.9%
Reference Indicators (\$ trillions <sup>d</sup> )	GDP	10.05	10.30	10.70	11.05	1.9%
	Personal income <sup>e</sup>	8.58	8.68	8.98	9.18	2.5%

**Sources:** Air Transport Association (ATA), "Economics" page of website [<http://www.airlines.org>] viewed August 11, 2006; Bureau of Economic Analysis, *Survey of Current Business*, August 2006; Energy Information Administration, *Monthly Energy Review*, July 2006; National Park System, NPS Visitation Database [<http://www2.nature.nps.gov/npstats/npstats.cfm>] viewed August 13, 2006; Smith Travel Research, Inc., data sheet sent August 14, 2006.

- a. Based upon data not shown separately.
- b. Except where indicated, air travel data are for scheduled services by U.S. airlines.
- c. Data for airline members of the Air Transport Association.
- d. Constant (2000) dollars.
- e. Unofficial conversion of personal income to 2000\$ by CRS using the deflator for personal consumption expenditures.

---

<sup>5</sup> National Highway Transportation Statistics, *Summary of Travel Trends, 2001 National Household Travel Survey*, December 2004 [<http://nhts.ornl.gov/2001/pub/STT.pdf>] viewed August 16, 2006.

Smith Travel Research.<sup>6</sup> This is not consistent with the findings of a study of room demand in branded hotels over 13 years, which found that gasoline price increases depress overall lodging demand, with the biggest effect on demand for economy hotel rooms. Moreover, the study found that resorts were not harmed.<sup>7</sup>

Supportive of the hypothesis that people will travel despite higher gasoline prices, but tend to economize, was a late June 2006 PKF Hospitality Research report that there is “a migration toward more economical accommodations” in the form of limited service hotels and motels.<sup>8</sup> Perhaps contributing to this is the emergence and growth of travel websites that make it easier to compare room rates and book hotel and motel rooms.

Perhaps a clearer suggestion of a slowdown in tourism is the decrease in the number of overnight stays at national parks, which began in 2004 (**Table 2**). Many of the most popular parks are in the western part of the country, distant from the highly populated regions of the country and requiring long trips.

The decrease in overnight park stays at the same time that the number of hotel and motel rooms sold increase appears to be consistent with the observation by many that people still take trips when gasoline prices rise, but travel shorter distances.

Anecdotal evidence of the effect of increased energy prices on tourism tends to be mixed, appearing in articles with titles such as “Can’t Stop Guzzling” and “Holiday Travelers Hit the Road, But Scrimped a Bit.”<sup>9</sup>

## Travel and Tourism Employment

The number of people employed in industries related to travel and tourism, shown in **Table 3**, could indicate effects of higher energy prices on tourism. But this evidence is mixed as well. Employment at establishments providing travel arrangement and reservation services, while down from 2002, actually was higher in the first half of 2006 than in the first half of 2005, despite the greater ease of self booking available on the Internet noted earlier. With steep rises in jet fuel providing an additional incentive, airlines are still striving to economize; the decline in the number of people employed by airlines at least since 2003 has continued into 2006.

Hotel and motel employment, having recovered somewhat from 9/11, slipped back in the first half of 2006 from last year’s first half, maybe reflecting a less vigorous tourist

---

<sup>6</sup> Smith Travel Research, Inc. “Monthly Lodging Report - Total United States - June 2006” [<http://www.smithtravelreserach.com>], viewed August 13, 2006.

<sup>7</sup> “The effects of gasoline-price changes on room demand,” *Cornell Hotel & Restaurant Quarterly*, August 2003.

<sup>8</sup> PKF Hospitality Research,, “Summer 2006: Hotels Profit, Guests Pay,” *News Release*, June 27, 2006 [[http://www.pkfc.com/common/news/PR2006\\_0627.aspx](http://www.pkfc.com/common/news/PR2006_0627.aspx)] viewed August 13, 2006.

<sup>9</sup> Peter Coy, “Can’t Stop Guzzling,” *Business Week*, July 31, 2006; and Jeff Bailey, “Holiday Travelers Hit the Road, but Scrimped a Bit,” *The New York Times* (late Edition - Final) May 30, 2006.

season. In marked contrast, however, employment at amusement and theme parks continued in strong fashion; a revival that began in 2003.

**Table 3. Employment in Selected Industries  
Related to Travel and Tourism**

(thousands)

<b>Industry</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>% Change 1<sup>st</sup> Half 2006 from 2005<sup>a</sup></b>
Travel arrangements <sup>b</sup>	252	235	226	224	1.9%
Air transportation	564	528	515	501	-3.9%
Hotels and motels <sup>c</sup>	1,424	1,410	1,427	1,438	-0.5%
Amusement and theme parks	134	133	139	149	7.7%
<b>Total of above<sup>d</sup></b>	<b>2,374</b>	<b>2,306</b>	<b>2,307</b>	<b>2,312</b>	<b>-0.5%</b>

**Source:** Bureau of Labor Statistics (BLS), data from “Employment and Unemployment” database on BLS website [<http://www.bls.gov/data>] viewed August 13, 2006.

a. Based upon data not shown separately.

b. Travel arrangement and reservation services.

c. Includes casino hotels.

d. Because only selected industries are shown, this does not represent total employment in travel and tourism.

## Outlook

Whatever has been the case until now with respect to any effect of sharply increased energy prices on tourism, key economic and other factors have not improved. Prospects for lower crude oil prices, and lower gasoline prices, have not improved. Stricter security measures may well, over time, dampen airline travel at least for a while. And the Middle East remains a generator of uncertainty despite the recently established cease fire between Israel and Hezbollah.