Independent Statistics & Analysis
U.S. Energy Information Administration

Explaining EIA Crude Oil and Petroleum Product Price Data and Comparing with Other U.S. Government Data Sources, 2001 to 2010

December 2012

(February 2013—Revised Tables 5, 6 and 15 and associated links)

Independent Statistics & Analysis
www.eia.gov

U.S. Department of Energy
Washington, DC 20585

This report was prepared by the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government. The views in this report therefore should not be construed as representing those of the Department of Energy or other Federal agencies.

Contacts

This report was prepared by the Office of Survey Development and Statistical Integration. Questions about the preparation and content of this report may be directed to: Carol Joyce Blumberg, carol.blumberg@eia.gov.

Contents

Abstract 1
Introduction 2
Data Sources 3
General Locations Of The Data And Technical Notes On Statistical Methodology 4
Retail Prices 5
Residential No. 2 distillate (heating oil) prices 5
On-highway diesel fuel prices 6
Retail regular motor gasoline prices 7
Retail midgrade and premium motor gasoline prices 8
Retail propane prices 9
Refiners' Wholesale/Resale Transaction Prices 10
Refiner wholesale/resale No. 2 fuel oil prices 11
Refiner wholesale/resale No. 2 diesel fuel prices 11
Refiner wholesale/resale regular grade motor gasoline prices 12
Refiner wholesale/resale midgrade and premium grade motor gasoline prices 12
Refiner wholesale/resale kerosene-type jet fuel prices 12
Refiner wholesale/resale residual fuel oil prices 13
Wholesale propane prices 13
Other non-retail prices 13
Crude Oil Prices 14
Refiner acquisition costs of crude oil 14
Domestic crude oil first purchase prices 14
F.O.B. costs of imported crude oil 15
Landed costs of imported crude oil 15
U.S. Census Bureau general imports prices 16
BLS PPI crude petroleum index 16
Spot and Futures Prices 17
Summary 18
Source Notes 19
Acknowledgments 22

Tables

Table 1. Metadata for data sources used in this article 23
Table 2. Residential No. 2 distillate prices, 2001-2010 26
Table 3. On-highway diesel fuel prices, 2001-2010 28
Table 4. Retail regular motor gasoline prices, 2001-2010 29
Table 5. Retail midgrade motor gasoline prices, 2001-2010 31
Table 6. Retail premium motor gasoline prices, 2001-2010 32
Table 7. Refiner resale No. 2 fuel oil prices and year-to-year percent changes, 2001-2010 33
Table 8. Refiner resale No. 2 diesel fuel prices and year-to-year percent changes, 2001-2010 35
Table 9. Refiner resale regular motor gasoline prices and year-to-year percent changes, 2001-2010 37
Table 10. Refiner resale midgrade motor gasoline prices and year-to-year percent changes, 2001-2010 39
Table 11. Refiner resale premium motor gasoline prices and year-to-year percent changes, 2001-2010 40
Table 12. Refiner resale kerosene-type jet fuel prices and year-to-year percent changes, 2001-2010 41
Table 13. Refiner resale residual fuel oil prices and year-to-year percent changes, 2001-2010 43
Table 14. Crude oil prices, 2001-2010 45
Table 15. Summary table of mean ratios for retail price data, 2006-2010 46
Table 16. Summary table of mean ratios for wholesale/resale price data, 2006-2010 47

Figures

Figure 1. EIA-782 arithmetic means and BLS data for residential No. 2 distillate prices, 2001-2010 27
Figure 2. EIA-782 arithmetic means and BLS data for on-highway diesel fuel prices, 2001-2010 30
Figure 3. EIA-782 arithmetic means and BLS data for retail regular motor gasoline prices, 2001-2010 ... 30
Figure 4. EIA-782A and BLS year-to-year percent changes for refiner resale No. 2 fuel oil prices, 2001-2010 34
Figure 5. EIA-782A and BLS year-to-year percent changes for refiner resale No. 2 diesel fuel prices, 2001-2010 36
Figure 6. EIA-782A and BLS year-to-year percent changes for refiner resale regular motor gasoline prices, 2001-2010 38
Figure 7. EIA-782A and BLS year-to-year percent changes for refiner resale kerosene-type jet fuel prices, 2001-2010 42
Figure 8. EIA-782A and BLS year-to-year percent changes for refiner resale residual fuel oil prices, 2001-2010 44

Abstract

This article describes the sampling frames and basic data collection methods for petroleum price data reported by EIA and other Government agencies. In addition, it compares and contrasts annual average prices reported by the U.S. Energy Information Administration (EIA) with comparable prices from the Bureau of Labor Statistics (BLS) CPI (Consumer Price Indexes) for the retail prices of residential No. 2 distillate, on-highway diesel fuel and motor gasoline (all grades.) Further, it compares refiner wholesale/resale prices for No. 2 fuel oil, No. 2 diesel fuel, motor gasoline (all grades,) kerosene-type jet fuel and residual fuel oil reported by EIA with comparable prices from the BLS PPI (Producer Price Index.) A discussion of the various crude oil prices and spot/futures prices published by EIA and other Government agencies is also included in the article.

It was found that there were meaningful differences between the EIA annual averages and those of the BLS for retail prices of residential No. 2 distillate, on-highway diesel fuel and all grades of motor gasoline (regular, midgrade and premium, separately.) One reason for these differences for retail prices may be because BLS includes only urban areas in its data collection and includes local taxes and some specialized taxes at the State level that are impossible to add to the corresponding EIA data series for comparison purposes.

Introduction

The U.S. Energy Information Administration (EIA) collects and publishes a variety of data series related to the prices of crude oil, gasoline, diesel fuel and distillates. These prices are collected at various stages starting from futures and going through to final prices paid by consumers. In this article the annual average values published by EIA and other U.S. government agencies for the period of 2001 to 2010 for retail prices for residential No. 2 distillate, on-highway diesel fuel, motor gasoline (regular, midgrade and premium, separately) and for refiner wholesale/resale prices for No. 2 fuel oil, motor gasoline (regular, midgrade and premium, separately), kerosene-type jet fuel and residual fuel oil will be discussed. The major sources for external comparison with the EIA published prices will be the Consumer Price Indexes (CPI) and the Producer Price Index (PPI) of the Bureau of Labor Statistics (BLS). For each series that involves data collection by either EIA or BLS, the sampling frames and data collection methods will be described. The sampling frames, data collection methods and results will then be compared and contrasted across the various sources for each of these price series. Finally, the sampling frames and data collection methods for various non-retail prices for crude oil and for spot and futures petroleum product price data reported by EIA, for which there are no known comparable sources, will be discussed. This article is an expanded version of the price portion of a feature article that appeared in *Petroleum Marketing Monthly* between 1989 and 2010 and focused on comparing volumes and prices from the EIA-782 survey series with other sources in EIA and outside of EIA.

Data Sources

Internal to EIA

- Form EIA-14, “Refiners' Monthly Cost Report” for refiner domestic, imported, and composite refiner acquisition costs for crude oil
- Form EIA-182, “Domestic Crude Oil First Purchase Report” for crude oil first purchase prices
- Form EIA-782A, “Refiners’/Gas Plant Operators’ Monthly Petroleum Product Sales Report” for retail prices of residential No. 2 distillate, regular, midgrade, and premium motor gasoline, propane and on-highway diesel fuel and for resale prices of regular, midgrade, and premium motor gasoline, No. 2 fuel oil, No. 2 diesel fuel, and kerosene-type jet fuel
- Form EIA-782B, “Resellers’/Retailers’ Monthly Petroleum Product Sales Report” for retail prices of residential No. 2 distillate, regular, midgrade, and premium motor gasoline, propane and on-highway diesel fuel
- Form EIA-856, “Monthly Foreign Crude Oil Acquisition Report” for F.O.B. (Free on Board) and landed costs of imported crude oil
- Form EIA-877, “Winter Heating Fuels Telephone Survey” for details of collection of propane and heating oil prices in select markets
- Form EIA-878, “Motor Gasoline Price Survey” for retail prices of regular, midgrade and premium motor gasoline
- Form EIA-888, “On-Highway Diesel Fuel Price Survey” for retail prices of on-highway diesel fuel
- *Petroleum Marketing Monthly* (*PMM*) for taxes on retail on-highway diesel fuel and motor gasoline

External to EIA

- The Bureau of Labor Statistics (BLS) Consumer Price Indexes (CPI) for retail prices of residential No. 2 distillate, regular, midgrade, and premium motor gasoline, and on-highway diesel fuel
- The BLS Producer Price Index (PPI) for commodity indexes for resale regular, midgrade, and premium motor gasoline, No. 2 fuel oil, No. 2 diesel fuel, and kerosene-type jet fuel and for the industry index for crude oil
- The U.S. International Trade Commission for U.S. Census Bureau data on prices of general imports of crude oil.
- Thomson Reuters for spot prices
- CME Group NYMEX for futures prices

It should be noted that all of these data sources are independent. That is, there is no sharing of data between the EIA sources and no data are shared between the external sources or between the EIA and external sources. More details on these sources are in the Source Notes section at the end of this article. Table 1 provides a comparison of some of the metadata (that is, auxiliary information) for these different sources. The EIA-782A and EIA-782B surveys are listed first on the table since they are the major EIA sources of prices discussed in this article.

General Locations Of The Data And Technical Notes On Statistical Methodology

The main page for accessing all EIA petroleum product price data, including historical data, is http://www.eia.gov/petroleum/data.cfm#prices. The monthly and annual prices computed using data collected by the EIA-14, EIA-182, EIA-782A, EIA-782B and EIA-856 forms are reported in tables at the State, PADD (Petroleum Administration for Defense Districts), and U.S. levels in *PMM* at http://www.eia.gov/petroleum/marketing/monthly/archive and through 2009 in *Petroleum Marketing Annual (PMA)* at http://www.eia.gov/oil_gas/petroleum/data_publications/petroleum_marketing_annual/pma_historical.html. The weekly EIA data from the EIA-877, EIA-878 and EIA-888 are reported in the *Weekly Petroleum Status Report (WPSR)* at http://www.eia.gov/oil_gas/petroleum/data_publications/weekly_petroleum_status_report/wpsr_historical.html. In the remainder of this article the particular webpages associated with each product will be given in the section where that product is discussed.

The statistical methodologies used for the EIA surveys discussed in this article are published in the above publications and separately on the EIA website. For the monthly surveys, the "Explanatory Notes" are at http://www.eia.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_annual/current/pdf/enote.pdf. For the weekly surveys, the "Explanatory Notes and Detailed Methods Report" are located at http://www.eia.gov/pub/oil_gas/petroleum/data_publications/weekly_petroleum_status_report/current/pdf/appendixb.pdf.

The main page for the BLS Consumer Price Indexes (CPI) is http://data.bls.gov/pdq/querytool.jsp?survey=ap and the main pages for the BLS Producer Price Index are http://data.bls.gov/pdq/querytool.jsp?survey=wp (for commodities) and http://data.bls.gov/pdq/querytool.jsp?survey=pc (for industries.) The statistical methodologies for the CPI and PPI are discussed extensively in the *BLS Handbook of Methods* at http://www.bls.gov/opub/hom/.

The main page for accessing U.S. Census Bureau General Imports data is http://dataweb.usitc.gov/scripts/user_set.asp. Information on data collection methodology is at http://www.census.gov/econ/overview/mt0100.html.

Retail Prices

This section will discuss retail prices for the years 2000 through 2010. Many of the comparisons in this section will involve EIA-782 data. All prices are collected to the nearest tenth of a cent. The EIA-782 averages in the tables in this section will be given twice. First, the annual averages reported by EIA will be given. Since the EIA-782A and the EIA-782B collected both price and volume data, the reported monthly/annual averages for retail prices are calculated for each product by using total sales (in $) for the month/year as the numerator and total volume (in gallons) for the month/year as the denominator. Second, an unweighted average (arithmetic mean of summing the monthly values and dividing by 12) of the monthly reported prices will be given. This is done to make the EIA-782 data more comparable to other sources of published data, since the other sources of published data collect only price data and, thus, must use arithmetic means of monthly reported data for their yearly averages. It should be noted that the EIA-782B was suspended in 2011 due to funding cuts to EIA. However, this suspension does not affect the results in this article since the period covered is 2000 to 2010.

Residential No. 2 distillate (heating oil) prices

No. 2 distillate is "A petroleum distillate that can be used as either a diesel fuel … or a fuel oil…" (quoted from EIA glossary at http://www.eia.gov/tools/glossary/.) Residential No. 2 distillate is used almost exclusively for heating of homes and water in homes. The monthly and yearly prices derived from data collected using the EIA-782 are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2_PRT_NUS_DPG&f=M (for monthly averages) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epd2_prt_nus_dpg&f=a (for annual averages.)

The yearly published averages are the numbers shown in the second column of Table 2 of this article. The third column of Table 2 is the arithmetic mean of the data reported for the 12 months of each year. It is this column that is then compared to the BLS data. The BLS CPI data are series APU000072511, U.S. city average for Fuel oil #2, per gallon (3.785 liters.) Figure 1 shows the BLS and EIA-782 arithmetic means over time. The prices in Table 2 are the actual (nominal) prices. The inflation-adjusted (real) prices can be found on the EIA website at http://www.eia.gov/forecasts/steo/realprices/ by choosing "Heating Oil Retail Prices" in the "Price Series" box.

While the raw differences between the BLS and EIA-782 price data have varied somewhat over the years, the BLS data were consistently higher than the EIA data by between 3.2 percent and 8.2 percent. These differences may be because the BLS data are collected only in 87 urban areas and include State and local taxes, while the EIA-782 data are collected over the entire United States and do not include these taxes.

EIA also collects weekly data on residential No. 2 heating oil prices from October to March in 21 East Coast and Midwestern States plus the District of Columbia through SHOPP (State Heating Oil and Propane Program) using the EIA-877, "Winter Heating Fuels Telephone Survey." This price is "The price

charged for home delivery of No.2 heating oil, exclusive of any discounts such as those for prompt cash payment. Prices do not include taxes paid by the consumer" (quoted from

http://www.eia.gov/dnav/pet/TblDefs/pet_pri_wfr_tbldef2.asp.) Because the data collection for the EIA-877 is only in some months and some States, the yearly averages cannot be meaningfully compared to the EIA-782 and BLS yearly averages. The SHOPP weekly prices by State are available at http://www.eia.gov/dnav/pet/PET_PRI_WFR_A_EPD2F_PRS_DPGAL_W.htm.

On-highway diesel fuel prices

Table 3 gives the annual summary data for on-highway prices for No. 2 low sulfur diesel fuel for use in motor vehicles. The EIA-782 data include sales of diesel fuel, with all taxes removed, from all locations owned by respondents including truckstops, travel plazas, and gas stations. The data are on the "U.S. No 2 Diesel Through Company Outlets Price by All Sellers" webpages at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2D_PTC_NUS_DPG&f=M (monthly averages) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epd2d_ptc_nus_dpg&f=a (annual averages.) For 2001 to 2006 these prices are low sulfur prices; for 2007 to 2010 they are a weighted average (by volume) of the low sulfur and ultra-low sulfur prices.

For diesel fuel prices the other comparable data sources all include taxes. So, the Federal and average State per gallon taxes must be added into the EIA-782 data to make them comparable to the data from other sources. The Federal taxes are from Table EN1 of *PMM* and are $0.244 per gallon for all years studied in this article. The State taxes are an unweighted average of State per gallon taxes each year as reported in Table EN1 of the October issues of *PMM*. No adjustments were made for local sales taxes and other State and local fuel taxes because there is insufficient information available for making these adjustments. The EIA-888 and the BLS data include State (and in a few instances local) percentage taxes (see Table EN1 of *PMM* for details) in addition to the standard cents per gallon taxes. The number of States with these extra taxes was 18 in 2001, 18 in 2005, and 19 in 2010 and the percentages charged did not change much over these 10 years.

The EIA-888 collects prices as of 8:00 a.m. each Monday from its sample of approximately 403 retail outlets. The weekly data are reported at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMD_EPD2D_PTE_NUS_DPG&f=W. For 2007 and 2008 the weekly averages are weighted averages (by volume) of the low sulfur and ultra-low sulfur diesel fuel prices. For all other years there is only one reported average value for each week/month/year. For 2006 and earlier, this reported value accounts for all types of No. 2 diesel fuel. For 2009 and 2010 this value is the ultra-low sulfur diesel average price. The monthly averages are calculated using the arithmetic means of the Mondays in each month and the annual averages are the arithmetic means of the 12 monthly values. The annual averages in Table 3 of this article are from http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emd_epd2d_pte_nus_dpg&f=a. The inflation-adjusted (real) prices can be found at http://www.eia.gov/forecasts/steo/realprices/ by choosing "Diesel Fuel Retail Prices" in the "Price Series" box. The BLS values in Table 3 of this article are the arithmetic means of the monthly values from CPI, series APU000074717, U.S. city average for Automotive diesel fuel, per gallon/3.785 liters and are not adjusted for inflation.

From Table 3 it can be seen that the EIA-782 prices adjusted for taxes and the EIA-888 prices are almost identical with the EIA-888 prices being only 1 to 2 cents higher in 2001 to 2005 and only 4 to 7 cents higher in 2006 to 2010. These differences are probably caused by not being able to add the State percentage and all local taxes into the EIA-782 price. The reason for this difference being larger in recent years is probably caused by the fact that for percentage taxes, the actual amount paid in taxes increases as the price increases. The BLS prices are always higher than the EIA-782 and EIA-888 prices, although the BLS prices are moving closer to the other two prices in recent years. BLS only collects data in 87 urban areas and only at retail outlets. So, they are mostly diesel sales for automobiles, whose prices are often higher than on-highway sales to non-automobiles due to economies of scale. The EIA-782 and EIA-888 collect data from all types of retailers, with the vast majority of sales being non-automotive use. The EIA-782 and BLS annual means are shown graphically in Figure 2. The figure does not include the EIA-888 averages because they could not be distinguished graphically from the EIA-782 averages for most years.

Retail regular motor gasoline prices

Table 4 contains summary data for retail regular motor gasoline prices. The EIA-782 data include sales, without taxes, to end users through retail outlets owned by respondents including truckstops, travel plazas, and gas stations. The data are on the "U.S. Regular Gasoline Through Company Outlets Price by All Sellers" webpages at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMR_PTC_NUS_DPG&f=M (monthly averages) and at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmr_ptc_nus_dpg&f=a (annual averages.)

For retail regular motor gasoline prices, the other comparable data sources all include taxes. So, the Federal and average State per gallon taxes must be added into the EIA-782 data to make them comparable to the data from other sources. The Federal taxes are from Table EN1 of *PMM* and are $0.184 per gallon for all years studied in this article. The State taxes are an unweighted average of State per gallon taxes each year as reported in Table EN1 of the October issues of *PMM*. No adjustments were made for local sales taxes and other State and local fuel taxes because there is insufficient information available for making these adjustments. The EIA-878 and the BLS data include State (and in a few instances local) percentage taxes (see Table EN1 of *PMM* for details) in addition to the standard cents per gallon taxes. The number of States with these extra taxes was 19 in 2001, 19 in 2005, and 20 in 2010 and the percentages charged did not change much over these 10 years.

The EIA-878 collects prices as of 8:00 a.m. each Monday from its sample of approximately 800 retail gasoline outlets. The monthly averages are calculated using the arithmetic means of the Mondays in each month and the annual averages are the arithmetic means of the 12 monthly values. The annual averages In Table 4 of this article are from http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMM_EPMR_PTE_NUS_DPG&f=A. The inflation-adjusted (real) prices can be found at http://www.eia.gov/forecasts/steo/realprices/ by choosing "Regular Gasoline Retail Prices" in the "Price Series" box.

The BLS CPI data are the arithmetic means of the monthly values from series APU000074714, U.S. city average for Gasoline, unleaded regular, per gallon/3.785 liters. The BLS CPI values are given on the EIA website at http://www.eia.gov/totalenergy/data/monthly/pdf/sec9_6.pdf. This page gives the actual (nominal) prices. The "Motor Gasoline Retail Prices" page at http://www.eia.gov/totalenergy/data/annual/pdf/sec5_59.pdf gives both actual (nominal) and inflation-adjusted (real) prices.

From Table 4 it can be seen that the EIA-878 and BLS means are very close over the ten years. However, the EIA-782 means are always less than the EIA-878 and BLS means. These differences are probably caused by not being able to add the State percentage and all local taxes into the EIA-782 price. As discussed for retail on-highway diesel prices, as the price increases per gallon, the amount collected in per gallon percentage taxes increases automatically. This may be why the ratios between the EIA-878, BLS and EIA-782 prices have stayed quite consistent. The EIA-782 and BLS annual means are shown graphically in Figure 3. The figure does not include the EIA-878 averages because they could not be distinguished graphically from the BLS averages for most years.

Retail midgrade and premium motor gasoline prices

Table 5 and Table 6 contain the annual values for midgrade and premium motor gasoline, respectively. They are set up similar to Table 4. Since the Federal and State per gallon taxes are the same for all grades of gasoline, see Table 4 for these taxes. The data collection methodology is the same for all data sources as described in the previous subsection on regular motor gasoline prices. However, the locations of the monthly and annual averages on the Internet are different. The averages for the EIA-782 are at: http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMM_PTC_NUS_DPG&f=M (monthly midgrade) http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmm_ptc_nus_dpg&f=a (annual midgrade) http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMP_PTC_NUS_DPG&f=M (monthly premium) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmp_ptc_nus_dpg&f=a (annual premium.)

The annual averages for the EIA-878 are at: http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emm_epmm_pte_nus_dpg&f=a (midgrade) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emm_epmp_pte_nus_dpg&f=a (premium.)

The series numbers/names for the BLS monthly values are APU000074715, U.S. city average, Gasoline, unleaded midgrade, per gallon/3.785 liters and APU000074716, U.S. city average, Gasoline, unleaded premium, per gallon/3.785 liters. The BLS CPI values for premium grade gasoline are given on the EIA website at http://www.eia.gov/totalenergy/data/monthly/pdf/sec9_6.pdf. This page gives the actual (nominal) prices. The "Motor Gasoline Retail Prices" page at http://www.eia.gov/totalenergy/data/annual/pdf/sec5_59.pdf gives both actual (nominal) and inflation-

adjusted (real) retail prices for premium grade gasoline. The BLS annual CPI values for midgrade gasoline were computed by the author as the arithmetic mean of the monthly reported CPI prices.

Not surprisingly, the patterns and reasons for those patterns for midgrade and premium motor gasoline are the same as for regular grade motor gasoline. Hence, graphs of the prices were not included in this article.

Retail propane prices

EIA defines propane, consumer grade as "A normally gaseous paraffinic compound (C_3H_8), which includes all products covered by Natural Gas Policy Act Specifications for commercial and HD-5 propane and ASTM Specification D 1835. Excludes: feedstock propanes, which are propanes not classified as consumer grade propanes, including the propane portion of any natural gas liquid mixes, i.e., butane-propane mix" (quoted from EIA glossary at http://www.eia.gov/tools/glossary/.) The EIA-782 series collected data monthly through February, 2011 on retail consumer grade propane prices. These prices are reported as "U.S. Propane Residential Price by All Sellers" at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPLLPA_PRT_NUS_DPG&f=M. The data collection needed to compute these monthly averages has been suspended due to budget cuts.

EIA also collects weekly data on residential propane prices from October to March in 24 East Coast and Midwestern States through SHOPP (State Heating Oil and Propane Program) using the EIA-877, "Winter Heating Fuels Telephone Survey." This price is the "price charged for home delivery of consumer grade propane intended for use in space heating, cooking, or hot water heaters in residences" (quoted from http://www.eia.gov/dnav/pet/TblDefs/pet_pri_wfr_tbldef2.asp.) Because the data collection is only in some months and some States, the yearly averages cannot be meaningfully compared to the EIA-782 averages. The SHOPP weekly prices by State are available at http://www.eia.gov/dnav/pet/pet_pri_wfr_a_EPLLPA_PRS_dpgal_w.htm. Comparable data from other U.S. Government sources could not be found. Hence, no comparison tables or graphs are in this article.

Refiners' Wholesale/Resale Transaction Prices

This section compares EIA-782A values to BLS PPI (Producer Price Index) values for wholesale/resale transactions. The EIA-782A is a monthly census of all refiners and gas plant operators in the U.S. It includes, among other things, information on resale prices and volumes from refiners. Monthly/annual averages are computed by using total sales (in $) for the month/ year as the numerator and total volume (in gallons) for the month/year as the denominator. As with the discussion of retail prices, the EIA-782 averages will be given twice in Tables 7 to 13. First, the annual reported averages will be given. Second, the unweighted averages (arithmetic means) of the monthly average prices will be given since this makes the EIA-782 data more comparable to the BLS PPI numbers. The main webpage for accessing the wholesale/resale prices is the bottom portion (Sales for Resale) of http://www.eia.gov/dnav/pet/pet_pri_refoth_dcu_nus_m.htm.

The BLS PPI values are not price data; they are indices. Each index in the PPI program uses the annual average for a base year (usually, 1982) as a value of 100 for that index. The indices for other time periods are then weighted averages (with the weights being product specific and not available publicly) of prices for each time period divided by weighted averages for the corresponding time period in the base year. The results are reported on the BLS website as monthly values of the index. The annual index values computed by BLS are arithmetic means of the 12 monthly values for each year. The product definitions for the PPI are of two types. "Industry-based indexes … [are] classified according to the North American Industry Classification System (NAICS). Commodity-based indexes are classified according to an internal BLS system" (quoted from Appendix exhibit A-1 of "Price and expenditure measures of petroleum products: a comparison" at http://www.bls.gov/opub/mlr/2006/12/art5full.pdf.) The BLS PPI indexes used for comparison with wholesale/resale prices are commodity series. The main pages for accessing BLS PPI commodity data are http://data.bls.gov/pdq/querytool.jsp?survey=wp (if the exact series number is not known) and http://data.bls.gov/cgi-bin/srgate (if the exact series number is known.) When using the http://data.bls.gov/pdq/querytool.jsp?survey=wp webpage to get the data used in this article, the "Not Seasonally Adjusted" choice must be made.

To compare the EIA-782A prices in dollars per gallon to BLS PPI values, year-to-year percent change must be used. A year-to-year percent change for year t is defined as $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the EIA-782A or BLS PPI for year t and P_{t-1} is the value for the previous year. For example, for refiner resale No. 2 fuel oil prices, the year-to-year percent change for the EIA-782A for 2010 is $\left(\frac{2.14}{1.67}-1\right)$*100% (see Table 7.)

The differences between the BLS and EIA year-to-year percent changes are then computed. Further, ratios of the BLS percent changes divided by the EIA-782A percent changes are then calculated and reported as percentages. These ratios of percent changes must be interpreted very carefully since when the denominator (here, the EIA-782A percent change) is close to zero, small changes in it can have large influences on the value of these ratios.

Refiner wholesale/resale No. 2 fuel oil prices

No. 2 fuel oil is "A distillate fuel oil that has a distillation temperature of 640 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 396. It is used in atomizing type burners for domestic heating or for moderate capacity commercial/industrial burner units" (quoted from EIA glossary at http://www.eia.gov/tools/glossary/.) Table 7 provides the summary data for No. 2 fuel oil resale prices for refiners. The EIA-782A averages are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2F_PWG_NUS_DPG&f=M (monthly) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epd2f_pwg_nus_dpg&f=a (annual.) The BLS PPI numbers are from series WPU057302, Home heating oil and other distillates. There are two differences between the EIA-782A and BLS data collection methods. The EIA-782A collects refiners'/producers' prices for only resale sales. The BLS collects refiners'/producers' prices for all sales, of which resale is the majority. Second, the BLS data contain a small amount of other distillates such as No. 1 distillate and residual fuel oil. Despite the different data collection methods, the differences between the EIA-782A and BLS year-to-year percent changes are within 4.7 percentage points of each other each year. Figure 4 shows the closeness of these percent changes over time.

EIA also publishes weekly wholesale heating oil prices, which "are based on terminal quotes collected by the Oil Price Information Service (OPIS)" (quoted from http://www.eia.gov/dnav/pet/TblDefs/pet_pri_wfr_tbldef2.asp), from October to March for 26 East Coast and Midwestern States through SHOPP (State Heating Oil and Propane Program.) Because the data collection is only in some months and some States, the SHOPP yearly averages cannot be meaningfully compared to the EIA-782 and BLS yearly averages. The SHOPP weekly prices by State are available at http://www.eia.gov/dnav/pet/pet_pri_wfr_a_EPD2F_PWR_dpgal_w.htm.

Refiner wholesale/resale No. 2 diesel fuel prices

No. 2 diesel fuel is "A distillate fuel oil that has a distillation temperature of 640 degrees Fahrenheit at the 90-percent recovery point and meets the specifications defined in ASTM Specification D 975. It is used in high-speed diesel engines that are generally operated under uniform speed and load conditions, such as those in railroad locomotives, trucks, and automobiles" (quoted from EIA glossary at http://www.eia.gov/tools/glossary/.) Table 8 is the summary data for No. 2 diesel fuel resale prices for refiners. The EIA-782A averages are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2D_PWG_NUS_DPG&f=M (monthly) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epd2d_pwg_nus_dpg&f=a (annual.) The BLS PPI data are series WPU057303, No. 2 diesel fuel. There is a difference in data collection methods for the EIA-782A and BLS PPI. The EIA-782A collects refiners' prices for only resale sales. The BLS PPI gives average refiners'/producers' prices for all sales, of which resale is the majority. Figure 5 shows the year-to-year percent changes over time. The differences between the EIA-782A and BLS percent changes are minimal (i.e., less than 2.3 percentage points) for all years except for 2003 and 2004. However, the 2003 and 2004 differences in percentages are still within two standard deviations of the mean difference for the ten years.

Refiner wholesale/resale regular grade motor gasoline prices

Table 9 gives the summary data for resale prices for refiners for regular grade gasoline. The EIA-782A averages are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMR_PWG_NUS_DPG&f=M (monthly) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmr_pwg_nus_dpg&f=a (annual.) The BLS PPI data are series WPU057104, Unleaded regular gasoline. Figure 6 shows the year-to-year percent changes over time. The differences between the EIA-782A and BLS year-to-year percent changes are minimal (i.e., less than 3.7 percentage points) for all years.

Refiner wholesale/resale midgrade and premium grade motor gasoline prices

Table 10 and Table 11 give the summary data for motor gasoline resale prices for refiners for midgrade and premium grades of gasoline, respectively. The EIA-782A averages for midgrade gasoline are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMM_PWG_NUS_DPG&f=M (monthly) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmm_pwg_nus_dpg&f=a (annual.) The EIA-782A averages for premium grade gasoline are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMP_PWG_NUS_DPG&f=M (monthly) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmp_pwg_nus_dpg&f=a (annual.) The BLS PPI data are series WPU057105, Unleaded mid-premium gasoline and WPU057103, Unleaded premium gasoline. The differences between the EIA-782A and BLS year-to-year percent changes are minimal (i.e., less than 2.9 percentage points for midgrade and less than 3.8 percentage points for premium) for all years. Since the patterns for midgrade and premium grade resale prices are the same as for regular grade resale prices, no graphs are included.

Refiner wholesale/resale kerosene-type jet fuel prices

Kerosene-type jet fuel is a "kerosene-based product having a maximum distillation temperature of 400 degrees Fahrenheit at the 10-percent recovery point and a final maximum boiling point of 572 degrees Fahrenheit and meeting ASTM Specification D 1655 and Military Specifications MIL-T-5624P and MIL-T-83133D (Grades JP-5and JP-8). It is used for commercial and military turbo jet and turbo prop aircraft engines" (quoted from EIA glossary at http://www.eia.gov/tools/glossary/.) Table 12 is the summary data for kerosene-type jet fuel resale prices for refiners. The EIA-782A data are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPJK_PWG_NUS_DPG&f=M (monthly) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epjk_pwg_nus_dpg&f=a (annual.) The BLS PPI data are series WPU057203, Jet fuel. There is a difference in data collection methods for the EIA-782A and BLS PPI. The EIA-782A collects refiners' prices for only resale sales. These are sales to FBOs (Fixed Base Operators) who then resell to private and corporate jets. The BLS PPI gives average refiners'/producers' prices for all sales, of which resale is the majority. Figure 7 shows the year-to-year percent changes over time. The differences are minimal (i.e., less than 3.6 percentage points) over time

except for 2004 and 2005. However, the differences for 2004 and 2005 are still within two standard deviations of the mean difference for the ten years.

Refiner wholesale/resale residual fuel oil prices

Residual fuel oil is a "general classification for the heavier oils, known as No. 5 and No. 6 fuel oils, that remain after the distillate fuel oils and lighter hydrocarbons are distilled away in refinery operations. It conforms to ASTM Specifications D 396 and D 975and Federal Specification VV-F-815C. No. 5, a residual fuel oil of medium viscosity, is also known as Navy Special and is defined in Military Specification MIL-F-859E, including Amendment 2 (NATO SymbolF-770). It is used in steam-powered vessels in government service and inshore powerplants. No. 6 fuel oil includes Bunker C fuel oil and issued for the production of electric power, space heating, vessel bunkering, and various industrial purposes" (quoted from EIA glossary at http://www.eia.gov/tools/glossary/.) Table 13 gives the summary data for residual fuel oil resale prices for refiners. The EIA-782A data are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPPR_PWG_NUS_DPG&f=M (monthly) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_eppr_pwg_nus_dpg&f=a (annual.) The BLS PPI data are series WPU057407, Residual fuels (heavy fuel oils, including #5, #6, etc. There is a difference in data collection methods for the EIA-782A and BLS PPI. The EIA-782A collects refiners' prices for only resale sales. The BLS PPI gives average refiners'/producers' prices for all sales, of which resale is the majority. Figure 8 shows the year-to-year percent changes over time. The differences in percent changes are more pronounced here than for other products discussed in this section. However, over the ten years the mean difference is only -1.62% with a standard deviation of 6.98%. One of the major causes for this difference in percent change is probably because some of the product originally sold as residual fuel oil can be further processed into other finished products. So depending on who is providing the data to EIA and/or BLS, the same transaction may, at times, be classified as residual fuel oil, refinery feedstock, unfinished oils, other oils, or miscellaneous.

Wholesale propane prices

EIA also publishes weekly wholesale propane prices which "are based on terminal quotes collected by the Oil Price Information Service (OPIS)" (quoted from http://www.eia.gov/dnav/pet/TblDefs/pet_pri_wfr_tbldef2.asp) from October to March for 15 East Coast and Midwestern States through SHOPP (State Heating Oil and Propane Program.) Because the data collection is only in some months and some States, the SHOPP yearly averages cannot be meaningfully compared to the EIA-782 and BLS yearly averages. The SHOPP weekly prices by State are available at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=W_EPLLPA_PWR_NUS_DPG&f=W.

Other non-retail prices

The other non-retail price webpages, which appear on the petroleum prices portion of the EIA website, deal with crude oil prices, spot prices and futures prices. The spot price and futures price data are gathered by sources outside of EIA and are reported, with permission, by EIA as a convenience to the public.

Crude Oil Prices

In this section the costs for crude oil at various stages along its path to the final user (usually a refinery) will be discussed. All costs are in dollars per gallon, except for the BLS PPI values, which are an index. The best way to understand the differences between the different crude oil prices is to give definitions for each and to then see them side-by-side in a table. However, it should be remembered that differences between columns are primarily caused by each column measuring a different aspect of crude oil prices. EIA also has a webpage on "What Drives Crude Oil Prices?" at http://www.eia.gov/finance/markets/ that is an "analysis of 7 factors that influence oil markets, with chart data updated monthly and quarterly."

Refiner acquisition costs of crude oil

The refiner acquisition costs are based on data collected using the EIA-14 "Refiners' Monthly Cost Report." An acquisition for crude oil is defined as "All transfers of ownership of foreign crude oil to a firm, irrespective of the terms of that transfer. Acquisitions thus include all purchases and exchange receipts as well as any and all foreign crude acquired under reciprocal buy-sell agreements or acquired as a result of a buy-back or other preferential agreement with a host government" (quoted from EIA Glossary at http://www.eia.gov/tools/glossary/.) There are three refiner acquisition costs reported monthly: domestic, imported, and composite, with the composite acquisition cost being a weighted average (by volume) of the domestic and imported acquisition costs. The three refiner acquisition costs are at http://www.eia.gov/dnav/pet/pet_pri_rac2_dcu_nus_m.htm (monthly) and at http://www.eia.gov/dnav/pet/pet_pri_rac2_dcu_nus_a.htm (annual.) Costs going back to 1968 can be examined by clicking on the year range given in the "View History" column. Annual averages (in dollars per barrel) for 2001 to 2010 are given in Table 14 to help the reader see the differences between the costs. In addition, the imported refiner acquisition costs in inflation-adjusted (real) prices are available at http://www.eia.gov/forecasts/steo/realprices/ by choosing "Imported Crude Oil Prices" in the "Price Series" box.

Domestic crude oil first purchase prices

The first purchase of crude oil is defined as an "equity (not custody) transaction commonly associated with a transfer of ownership of crude oil associated with the physical removal of the crude oil from a property for the first time (also referred to as a lease sale). A first purchase normally occurs at the time and place of ownership transfer where the crude oil volume sold is measured and recorded on a run ticket or other similar physical evidence of purchase. The volume purchased and the cost of such transaction shall not be measured farther from the well head than the point at which the value for landowner royalties is established, if there was a separate landowner … First purchase price [is then defined as the]…price for domestic crude oil reported by the company that owns the crude oil the first time it is removed from the lease boundary" (quoted from EIA Glossary at http://www.eia.gov/tools/glossary/.) First purchase prices are reported to EIA using the EIA-182 "Domestic Crude Oil First Purchase Report."

On the EIA website the first purchase prices are available at the monthly level broken down by area of the U.S. (at http://www.eia.gov/dnav/pet/pet_pri_dfp1_k_m.htm), for selected crude streams (at http://www.eia.gov/dnav/pet/pet_pri_dfp2_k_m.htm) and by API gravity (at http://www.eia.gov/dnav/pet/pet_pri_dfp3_k_m.htm.) Annual averages can be found by changing the period to "Annual" and historic prices can be found by using the "View History" option on each page. The annual U.S. averages as far back as 1859 are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=f000000__3&f=a. These averages are the values given in Table 14 for the years of 2001 to 2010.

F.O.B. costs of imported crude oil

F.O.B. stands for Free on Board. The F.O.B. price is the "price actually charged at the producing country's port of loading. The reported price should be after deducting any rebates and discounts or adding premiums where applicable and should be the actual price paid with no adjustment for credit terms" (quoted from EIA Glossary at http://www.eia.gov/tools/glossary/.) F.O.B. costs are reported to EIA using the EIA-856 "Monthly Foreign Crude Oil Acquisition Report."

On the EIA website the F.O.B. costs are available at the monthly level broken down by area of the world (at http://www.eia.gov/dnav/pet/pet_pri_imc1_k_m.htm), for selected crude streams (at http://www.eia.gov/dnav/pet/pet_pri_imc2_k_m.htm) and by API gravity (at http://www.eia.gov/dnav/pet/pet_pri_imc3_k_m.htm.) Annual averages can be found by changing the period to "Annual" and historic prices can be found by using the "View History" option on each page. The annual U.S. averages are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=i000000004&f=a. These averages are the values given in Table 14 for the years of 2001 to 2010.

Landed costs of imported crude oil

Landed costs are reported to EIA using the EIA-856 "Monthly Foreign Crude Oil Acquisition Report." Landed costs are "the cost to the firm … to purchase and transport the foreign crude oil to the United States. The Landed Cost price … include[s] the price paid to acquire the crude [oil] plus the cost of transportation from the point of acquisition up to the point of discharge, including insurance, transshipping fees, and lightering fees. Transportation and other charges incurred in moving the cargo from the discharge port to the refinery … [are] not … included. … [C]harges incurred at the discharge port, e.g., import tariffs or fees, wharfage charges, and demurrage charges [are not included]" (quoted from EIA-856 instructions at http://www.eia.gov/survey/form/eia_856/instructions.pdf .)

On the EIA website the landed costs are available at the monthly level broken down by area of the world (at http://www.eia.gov/dnav/pet/pet_pri_land1_k_m.htm), for selected crude streams (at http://www.eia.gov/dnav/pet/pet_pri_land2_k_m.htm) and by API gravity (at http://www.eia.gov/dnav/pet/pet_pri_land3_k_m.htm.) Annual averages can be found by changing the

period to "Annual" and historic prices can be found by using the "View History" option on each page. The annual U.S. averages are at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=I000000008&f=A. These averages are the values given in Table 14 for the years of 2001 to 2010.

U.S. Census Bureau general imports prices

The United States International Trade Commission maintains the public webpage at http://dataweb.usitc.gov/scripts/user_set.asp for downloading the Census Bureau import and export data. The data from Census that together match with the EIA definition of crude oil are the HTS (Harmonized Tariff Schedule) codes of 2709001000, 2709002000, 2709002010 and 2709002090, the trade type of "U.S. General Imports" and the "Data Selection" units of "(General Customs Value)/General First Unit of Quantity." The shortcut HTS code of 2709 may be used here since the four 10-digit codes in the previous sentence are the complete set of codes under the 2709 classification of Petroleum Oils and Oils from Bituminous Minerals, Crude. The average prices for general imports under the 2709 classification are given in Table 14 for the years of 2001 to 2010.

BLS PPI crude petroleum index

The BLS PPI price index used for comparison with the EIA crude oil prices is part of the industry data series. The main pages for accessing BLS PPI industry data are http://data.bls.gov/pdq/querytool.jsp?survey=pc (if the exact series number is not known) and http://data.bls.gov/cgi-bin/srgate (if the exact series number is known.) The most comparable BLS PPI series to the EIA crude oil price series is PCU2111112111111 Crude petroleum. However, this series cannot be directly compared to the EIA series unless year-to-year percent changes are computed for all the series (as was done in the Refiner Wholesale/Resale section of this article.) The annual values for 2001 to 2010 are included in Table 14 for the convenience of the reader.

Spot and Futures Prices

Spot prices webpage

The spot prices webpage at http://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm gives the daily closing spot prices for selected areas (all in the U.S., except for the Brent-Europe prices) for crude oil, conventional gasoline, RBOB regular gasoline, No. 2 heating oil, ultra-low sulfur No. 2 diesel fuel, kerosene-type jet fuel, and propane as reported by Thomson Reuters. The webpage is updated each Wednesday. EIA also provides weekly, monthly, and annual price averages which "are calculated by EIA from daily data by taking an unweighted average of the daily closing spot prices for a given product over the specified time period" (quoted from http://www.eia.gov/dnav/pet/TblDefs/pet_pri_spt_tbldef2.asp.) These unweighted averages are available by choosing the desired frequency in the Period box on the Spot Prices webpage.

Futures prices (NYMEX) webpage

The future prices webpage at http://www.eia.gov/dnav/pet/pet_pri_fut_s1_d.htm gives the "Official daily closing prices at 2:30 p.m. from the trading floor of the New York Mercantile Exchange (NYMEX) for a specific delivery month for each product listed" (quoted from the webpage.) The futures contracts that are covered are crude oil (Light-Sweet, Cushing, Oklahoma), reformulated (through 2006) and RBOB (starting in 2005) regular gasoline (New York Harbor), No. 2 heating oil (New York Harbor) and propane (Mont Belvieu, Texas through 2009.) The webpage is updated each Wednesday. Using the same methodology as the EIA Spot Prices webpage, EIA also provides weekly, monthly, and annual prices for futures prices. The NYMEX is owned by the CME Group. For more information on the NYMEX, go to http://www.cmegroup.com/company/nymex.html.

Summary

The EIA-782 petroleum product retail and wholesale/resale prices were compared with data from other EIA surveys and from BLS in this article. Table 15 (for retail prices) and Table 16 (for wholesale/resale prices) summarize how the EIA-782 prices compare for the period of 2006 to 2010 to these other sources when ratios are computed. The price ratios used to form the means and standard deviations in Table 15 are the ratios of the prices of one source over another source, reported in terms of percentages. The refiner resale price ratios (reported as percents) are the year-to-year percent change for the BLS PPI divided by the year-to-year percent change for the EIA-782A prices. The mean ratios for these percent changes for resale prices need to be interpreted very carefully. Many of them have EIA-782A percent changes near zero in the denominator. Hence, small changes in these denominators can have large influences on the value of these resale price ratios.

The reason for using only the years 2006 to 2010 in Table 15 and Table 16 is that comparisons over these years are the most important in decision making for the near future. For this article two sources are considered being non-equivalent (that is, have meaningfully significant differences) if:

- their mean ratio over the five years is less than 97.5 percent or more than 102.5 percent and
- at least four of the five percent ratios are either less than 100 percent or at least four of the five percent ratios are greater than 100 percent.

Using these criteria for non-equivalence, from Table 15 it can be seen that the EIA-782 and BLS CPI are non-equivalent for retail prices of residential No. 2 distillate, on-highway diesel fuel and all grades of motor gasoline (regular, midgrade and premium, separately.) In addition, the EIA-888 and BLS CPI are non-equivalent for on-highway diesel fuel. Further, the EIA-782 and EIA-878 are non-equivalent for all grades of motor gasoline. The reasons for these differences are discussed in each of subsections in the Retail Prices section of this article. Overall, one major reason for the differences between the EIA-782 and the other surveys is that the EIA-782 does not include taxes, while the other surveys do include taxes. Only standard Federal and State taxes can be added back into the reported EIA-782 U.S. level retail prices, which leave some non-standard State taxes and all local taxes unaccounted for. The difference between the EIA-888 and BLS CPI retail prices for on-highway diesel fuel is most probably caused by the BLS CPI only using 87 urban areas as part of its sampling frame, while the EIA-888 uses the entire U.S. as its sampling frame.

From Table 16 it can be seen that the only products for which the EIA-782 and BLS PPI wholesale/resale prices are non-equivalent are midgrade and premium motor gasoline. This result is a bit surprising since the two surveys do not have meaningfully significant differences for regular gasoline. Further, during the period of 2006 to 2010, regular gasoline made up 85.8 percent of the volume of all motor gasoline sold by prime suppliers (see http://www.eia.gov/dnav/pet/pet_cons_prim_dcu_nus_a.htm for more details.) Hence, the non-equivalence for midgrade and premium motor gasoline wholesale/resale prices should be interpreted very cautiously.

Source Notes

All quotes relating to EIA surveys are from http://www.eia.gov/survey/. More details on each of the surveys can be obtained there. All information is for the 2010 versions of the surveys, unless stated otherwise. There have been, except for sample frame changes due to births and deaths of companies, only a few changes in the surveys since 1993.

EIA-14, Refiners' Monthly Cost Report

The EIA-14 "collects data on the weighted [by volume] cost of crude oil at the regional Petroleum for Administration Defense District (PADD) level at which the crude oil is booked into a refinery." It collects data separately for domestic and imported crude oil. The number of respondents each month is approximately 70 petroleum refiners.

EIA-182, Domestic Crude Oil First Purchase Report

The EIA-182 "collects data on the first marketed price of domestic crude oil streams after production (i.e., wellhead price). Federal agencies and market analysts incorporate the data in diverse time-series, models, and cost indices. State-level data are useful for estimating current and proposed tax revenues and crude oil production volumes … Data are supplied by all firms that acquire domestic crude oil through a first purchase and assume (or retain) ownership of domestic crude oil as it leaves the lease on which it was produced." The number of respondents each month is approximately 87 firms.

EIA-782A, Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report

The EIA-782A collects volume and price data for finished motor gasoline (all grades separately for both conventional and reformulated), No. 2 diesel fuel (separated by sulfur content), No. 2 fuel oil, propane (consumer grade), No. 1 distillate, kerosene, aviation gasoline (finished), kerosene-type jet fuel, No. 4 fuel oil and residual fuel oil (separated by sulfur content.) It also asks the respondents to break their sales down by wholesale, retail, and other appropriate categories (which depend on the product being sold.) "This information is published at various aggregation levels and is used by EIA to perform analyses and make projections related to energy supplies, demand, and prices." The number of respondents each month is approximately 100 refiners/gas plants.

EIA-782B, Resellers'/Retailers' Monthly Petroleum Product Sales Report

The EIA-782B is sent to a sample of resellers and retailers of petroleum products. It collects volumes and price data for finished motor gasoline (all grades separately for both conventional and reformulated), No. 2 fuel oil, No. 2 diesel fuel (separated by sulfur content), propane (consumer grade) and residual fuel oil (separated by sulfur content.) Respondents to the EIA-863 who are resellers and/or retailers are used as the sampling frame. It also asks the respondents to break their sales down by wholesale, retail, and other appropriate categories (which depend on the product being sold.) The number of respondents each month is approximately 2,000 firms. The EIA-782B has been suspended as of March, 2011 reference month due to budget cuts.

EIA-856, Monthly Foreign Crude Oil Acquisition Report

The EIA-856 collects data on "[c]osts of foreign crude oil acquired for importation into the United States, its territories and possessions … Data collected include crude oil transactions, country crude [stream] code, crude type, gravity, date of loading/landing, port of destination, vessel, volume purchased, purchase price, other costs, landed cost, number of days credit … and name of vendor." The number of respondents each month is approximately 43 importers.

EIA-863, Petroleum Product Sales Identification Survey

This is a quadrennial survey. It is sent to all petroleum companies known to EIA by past data collection or through other sources. It collects information used to maintain a comprehensive frame file of No. 2 distillate and residual fuel oil dealers, motor gasoline resellers, and propane resellers. "Information is collected on size, type, and geographic location." It also asks if a company sells kerosene, No. 1 distillate, crude oil, other LPG, No. 4 fuel oil, aviation gasoline, jet fuel or other petroleum products. The number of active companies that were respondents in 2007 (the year that the sampling frames for the EIA-782B, EIA-877 and EIA-878 for 2010 come from) was approximately 24,400.

EIA-877, Winter Heating Fuels Telephone Survey

The EIA-877 collects data on "[r]esidential prices of No. 2 heating oil and propane… These data are used to monitor No. 2 heating oil and propane during the heating season (October 1 through mid-March) and to report to the Congress and others. Respondents are selected retailers of heating oil and propane in PAD Districts I and II." The number of respondents each week is approximately 925 retailers.

EIA-878, Motor Gasoline Price Survey

The EIA-878 is a weekly survey and collects data on the "retail cash price of self-serve, unleaded gasoline by regular, midgrade, and premium grade…Respondents are a scientifically selected sample of retail motor gasoline stations." The number of respondents each week is approximately 800 stations.

EIA-888, On-Highway Diesel Fuel Price Survey

The EIA-888 is a weekly survey and collects information on the "retail cash price of self-serve, No. 2 ultra-low sulfur diesel fuel and low sulfur diesel fuel sold for on-highway use…. Respondents are a scientifically selected sample of companies owning retail outlets which sell motor vehicle diesel fuel." The number of respondents each week is approximately 403 outlets.

Petroleum Marketing Monthly (PMM)

Data collected using the EIA-14, EIA-182, EIA-856, EIA-782A, EIA-782B, as well as from other sources, are published in *PMM*. See the Explanatory Notes from the 2009 issue of *Petroleum Marketing Annual* at http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_marketing_annual/current/pdf/enote.pdf for more details. The *PMM* is also the source of the State and Federal tax information used in this article.

Weekly Petroleum Status Report (WPSR)

Data collected using the EIA-877, EIA-878, and EIA-888, as well as from other sources, are published in *WPSR.* See the Explanatory Notes and Detailed Methods Report at http://www.eia.gov/pub/oil_gas/petroleum/data_publications/weekly_petroleum_status_report/current/pdf/appendixb.pdf .

Bureau of Labor Statistics (BLS) Consumer Price Indexes (CPI)

"The Consumer Price Indexes (CPI) program produces monthly data on changes in the prices paid by urban consumers for a representative basket of goods and services" (from http://www.bls.gov/cpi/.) In terms of petroleum products, the CPI includes No. 2 fuel oil, gasoline (all grades) and automotive diesel fuel. "Prices for the goods and services used to calculate the CPI are collected in 87 urban areas throughout the country and from about 23,000 retail and service establishments" (from http://www.bls.gov/cpi/cpiovrvw.htm#item2.) No sample sizes are given for the individual products. More information related to petroleum products in the CPI and PPI can be found in the Duly, A. L., Harris, J. A., Khatchadourian, A. M., Ulics, R. T., and Wolter, M. C. "Price and expenditure measures of petroleum products: a comparison" from the December 2006 issue of *Monthly Labor Review* at http://www.bls.gov/opub/mlr/2006/12/art5full.pdf.

Bureau of Labor Statistics (BLS) Producer Price Index (PPI)

"The Producer Price Index (PPI) is a family of indexes that measures the average change over time in selling prices received by domestic producers of goods and services. … The PPI sample includes over 25,000 establishments … per month. … For most items, establishments report product selling prices for the Tuesday of the week containing the 13th of each month" (from http://www.bls.gov/ppi/ppiover.htm.) The PPI is an index. It does not report actual prices. In terms of petroleum products, the PPI includes indexes for crude oil, motor gasoline (all grades), aviation gasoline, kerosene, jet fuel, home heating oil and other distillates, No. 2 diesel fuel, residual fuels, finished lubricants and lubricating oil base stocks. No sample sizes are given for individual products.

Acknowledgments

The author acknowledges helpful comments from Tammy Heppner, Samson Adeshiyan, Elizabeth Panarelli, Carol French, Joel Lou, Maureen Klein, Peggy Wells, Renee Miller and Jacob Bournazian of EIA on earlier versions of this article. In addition, Nancy Mathiowetz of the University of Wisconsin-Milwaukee made the suggestion for the addition of Table 1 to the article and Kelly Diehl of the U.S. Bureau of Labor Statistics helped with details about the PPI.

Table 1. Metadata for data sources used in this article

	Metadata Category								
Data Source	**Petroleum Products Covered**	**Domestic Prices vs. Imported Prices**	**Sampling Frame**	**Sample vs. Census**	**Approximate Sample Size**	**Price Types**	**Frequency of Data Collection**	**Finest Level of Collected Data**	**Finest Level of Published Data**
EIA-782A--Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report	Those on EIA-782B plus No. 1 Distillate, Kerosene, Aviation Gasoline (Finished), Kerosene-type Jet Fuel, and No. 4 Fuel Oil	Domestic	Firms that directly or indirectly control a refinery or gas plant	Census	100	Depends on Product; Broken down by different types of Retail and Wholesale Sales	Monthly	By State and by Type of Sale	Monthly by State by Type of Sale
EIA-782B--Resellers'/Retailers' Monthly Petroleum Product Sales Report	Finished Motor Gasoline; No. 2 Diesel Fuel, No. 2 Fuel Oil, Propane (Consumer Grade), and Residual Fuel Oil	Domestic	Resellers and Retailers	Sample	2000	Depends on Product; Broken down by different types of Retail and Wholesale Sales	Monthly	By State and by Type of Sale	Monthly by State (in combination with EIA-782A)
EIA-14--Refiners' Monthly Cost Report	Crude Oil	Domestic, Imported, and Volume-Weighted Composite (Domestic and Imported)	Refiners	Census	70	Total Acquisition Cost	Monthly	By PADD	Monthly by PADD
EIA-182--Domestic Crude Oil First Purchase Report	Crude Oil	Domestic	Firms that assume ownership as the crude oil leaves where it was produced	Census	87	Average First Purchase Price	Monthly	By Crude Oil Stream within State	Monthly by Crude Oil Stream

Table 1. Metadata for data sources used in this article (cont.)

	Metadata Category								
Data Source	**Petroleum Products Covered**	**Domestic Prices vs. Imported Prices**	**Sampling Frame**	**Sample vs. Census**	**Approximate Sample Size**	**Price Types**	**Frequency of Data Collection**	**Finest Level of Collected Data**	**Finest Level of Published Data**
EIA-856--Monthly Foreign Crude Oil Acquisition Report	Crude Oil	Imported	Firms who reported any data as of June, 1982 or that acquired more than 500,000 barrels in any particular month	Census	43	Acquisition Price, Other Cost, and Landed Cost	Monthly	By Transaction	Monthly; Separately for F.O.B. and Landed Costs by Crude Oil Stream
EIA-877--Winter Heating Fuels Telephone Survey (also called SHOPP)	No. 2 Heating Oil; Propane	Domestic	Dealers of No. 2 Heating Oil or Propane in certain States in PADDs 1 and 2	Sample	925	Residential Price	Weekly from October through March	By State	Weekly by State separately for No. 2 Heating Oil and for Propane
EIA-878--Motor Gasoline Price Survey	Motor Gasoline	Domestic	Retail Motor Gasoline stations	Sample	800	Self-Service, Cash Only Price	Weekly	By Grade (Regular, Midgrade, and Premium)	Weekly by Grade for selected Cities and States
EIA-888--On-Highway Diesel Fuel Price Survey	Diesel Fuel	Domestic	Retail Diesel Fuel companies	Sample	403	Self-Service, Cash Only Retail Price	Weekly	By Sulfur Content (Ultra Low versus Low)	Weekly by Sulfur Content for by PADD

Table 1. Metadata for data sources used in this article (cont.)

	Metadata Category								
Data Source	**Petroleum Products Covered**	**Domestic Prices vs. Imported Prices**	**Sampling Frame**	**Sample vs. Census**	**Approximate Sample Size**	**Price Types**	**Frequency of Data Collection**	**Finest Level of Collected Data**	**Finest Level of Published Data**
BLS Consumer Price Indexes	Fuel Oil #2, Motor Gasoline, Automotive Diesel Fuel,	Domestic	Retail Stores and Service Establishments in 87 urban areas	Sample	Varies by Product. Size of 1035 for Motor Gasoline	Retail Price	Monthly (on rolling basis during the month)	By Product	Monthly by Product
BLS Producer Price Index	Crude Oil, Motor Gasoline, Aviation Gasoline, Kerosene, Jet fuel, Home Heating Oil and other Distillates, No. 2 Diesel Fuel, Residual Fuels, Lubricants and Lubricating Oil Base Stocks.	Domestic	Voluntary Submission by Producers	Sample	Varies by Industry	Manufacturer/ Producer Selling Price on date of data collection for most Crude Oil and for all other products; Monthly average for some Crude Oil.	Monthly (on Tuesday of week containing 13th of the month)	By Product at National level	Monthly by Product
U.S. International Trade Commission General Imports	Collects on all petroleum products. For Crude Oil the HTS Codes of 2709001000, 2709002000, 2709002010 and 2709002090 are equivalent to EIA definition.	Imported	Importers reporting Crude Oil or petroleum products in any amount that fit category of "General Imports"	Census	Varies by classification code	Customs Value	Continuous	By Transaction	By Port by Month by HTS Code

Table 2. Residential No. 2 distillate prices, 2001-2010

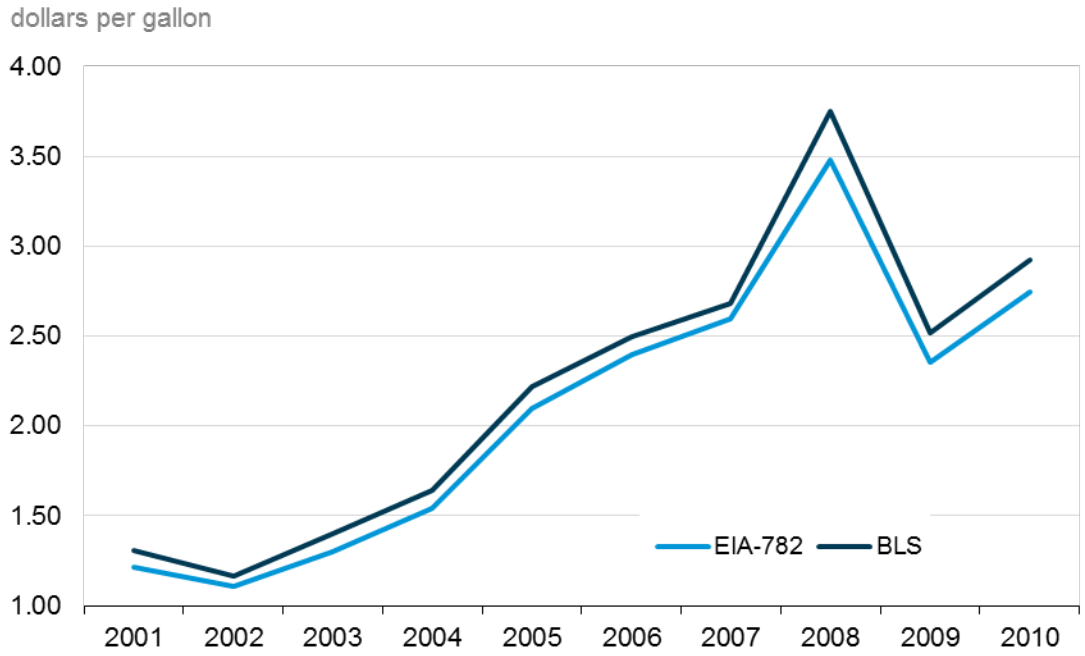
dollars per gallon

Year	EIA-782 Reported in PMA	Arithmetic Mean of EIA-782 Monthly Data	BLS	Differences of BLS Minus EIA-782	BLS Divided by EIA-782 (as a percentage)
2001	1.25	1.21	1.31	0.10	108.2
2002	1.13	1.11	1.16	0.05	105.0
2003	1.36	1.30	1.40	0.10	107.7
2004	1.55	1.54	1.65	0.10	106.8
2005	2.05	2.10	2.22	0.12	105.8
2006	2.37	2.39	2.50	0.10	104.3
2007	2.59	2.60	2.68	0.08	103.2
2008	3.22	3.48	3.75	0.27	107.8
2009	2.39	2.35	2.51	0.16	106.8
2010	2.80	2.75	2.93	0.18	106.6

Notes: The EIA-782 reported annual U.S. averages are the data in the second column of the table. The third column is the arithmetic means of the data for the 12 months of each year. It is this third column that is compared to the BLS data. Differences and percentages across columns may not agree due to independent rounding.

Sources: EIA-782: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epd2_prt_nus_dpg&f=a (for annual data in column 2) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2_PRT_NUS_DPG&f=M (for monthly data used to calculate column 3); BLS: Bureau of Labor Statistics CPI, series APU000072511, U.S. city average for Fuel oil #2 per gallon (3.785 liters).

Figure 1. EIA-782 arithmetic means and BLS data for residential No. 2 distillate prices, 2001-2010



Sources: EIA-782: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2_PRT_NUS_DPG&f=M (for monthly data used to compute annual averages); BLS: Bureau of Labor Statistics CPI, series APU000072511, U.S. city average for Fuel oil #2 per gallon (3.785 liters).

Table 3. On-highway diesel fuel prices, 2001-2010

dollars per gallon

Year	Federal Taxes	Unweighted Average of State Taxes	EIA-782 Reported Annual	Arithmetic Mean of EIA-782 Monthly Data	EIA-782 Arithmetic Mean Plus Taxes	EIA-888	BLS	EIA-888 Minus EIA-782	BLS Minus EIA-782	EIA-888 Divided by EIA-782 (as a percentage)	BLS Divided by EIA-782 (as a percentage)
2001	0.244	0.202	0.94	0.94	1.39	1.40	1.53	0.02	0.15	101.1	110.7
2002	0.244	0.202	0.86	0.86	1.31	1.32	1.43	0.01	0.12	101.1	109.2
2003	0.244	0.210	1.04	1.05	1.50	1.51	1.65	0.01	0.15	100.6	109.7
2004	0.244	0.211	1.35	1.34	1.80	1.81	1.92	0.01	0.12	100.8	106.9
2005	0.244	0.216	1.93	1.92	2.38	2.40	2.52	0.03	0.14	101.1	106.1
2006	0.244	0.219	2.21	2.20	2.67	2.71	2.81	0.04	0.15	101.4	105.5
2007	0.244	0.221	2.38	2.38	2.84	2.89	2.96	0.04	0.12	101.4	104.2
2008	0.244	0.221	3.30	3.27	3.74	3.80	3.91	0.06	0.18	101.7	104.7
2009	0.244	0.227	1.95	1.95	2.42	2.47	2.53	0.05	0.11	101.9	104.5
2010	0.244	0.230	2.47	2.46	2.94	2.99	3.02	0.05	0.08	101.9	102.7

Notes: The EIA-782 reported annual U.S. averages are given in the fourth column of the table. The fifth column is the arithmetic means of the data for the 12 months of each year. The sixth column is the arithmetic means of the data for the 12 months of each year plus taxes. It is this column that is compared to the other data sources. Differences and percentages across columns may not agree due to independent rounding.

Sources: Federal and State tax information: *Petroleum Marketing Monthly* (October issues), Table EN1; EIA-782: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epd2d_ptc_nus_dpg&f=a (for annual prices in column 4) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2D_PTC_NUS_DPG&f=M (for monthly prices used to calculate column 5); EIA-888: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emd_epd2d_pte_nus_dpg&f=a; BLS: Bureau of Labor Statistics CPI, series APU000074717, U.S. city average for Automotive diesel fuel, per gallon (3.785 liters).

Table 4. Retail regular motor gasoline prices, 2001-2010

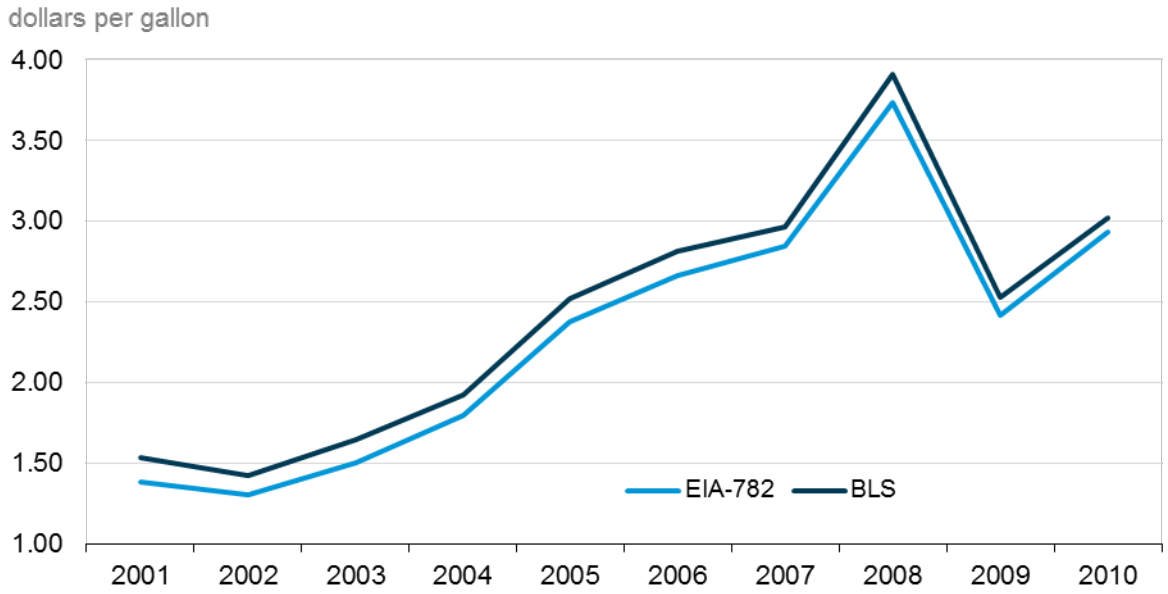
dollars per gallon

Year	Federal Taxes	Unweighted Average of State Taxes	EIA-782 Reported Annual	Arithmetic Mean of EIA-782 Monthly Data	EIA-782 Arithmetic Mean Plus Taxes	EIA-878	BLS	EIA-878 Minus EIA-782	BLS Minus EIA-782	EIA-878 Divided by EIA-782 (as a percentage)	BLS Divided by EIA-782 (as a percentage)
2001	0.184	0.200	1.00	0.99	1.38	1.42	1.46	0.04	0.08	103.0	106.0
2002	0.184	0.200	0.92	0.91	1.30	1.35	1.36	0.05	0.06	103.8	104.7
2003	0.184	0.205	1.11	1.11	1.50	1.56	1.59	0.06	0.09	104.0	106.0
2004	0.184	0.206	1.40	1.40	1.79	1.85	1.88	0.07	0.09	103.7	105.3
2005	0.184	0.210	1.81	1.80	2.20	2.27	2.30	0.07	0.10	103.3	104.4
2006	0.184	0.213	2.10	2.09	2.49	2.57	2.59	0.08	0.10	103.3	104.0
2007	0.184	0.215	2.32	2.31	2.71	2.80	2.80	0.09	0.09	103.3	103.5
2008	0.184	0.216	2.75	2.75	3.15	3.25	3.27	0.10	0.12	103.2	103.8
2009	0.184	0.218	1.87	1.86	2.26	2.35	2.35	0.09	0.09	103.9	103.8
2010	0.184	0.224	2.29	2.29	2.70	2.78	2.79	0.08	0.09	103.1	103.3

Notes: The EIA-782 reported annual U.S. averages are given in the fourth column of the table. The fifth column is the arithmetic means of the data for the 12 months of each year. The sixth column is the arithmetic means of the data for the 12 months of each year plus taxes. It is this column that is compared to the other data sources. Differences and percentages across columns may not agree due to independent rounding.

Sources: Federal and State tax information: Petroleum Marketing Monthly (October issues), Table EN1; EIA-782: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmr_ptc_nus_dpg&f=a (for annual prices in column 4) and at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMR_PTC_NUS_DPG&f=M (for monthly prices used as basis for column 5); EIA-878: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emm_epmr_pte_nus_dpg&f=a; Bureau of Labor Statistics CPI, series APU000074714, U.S. city average for Gasoline, unleaded regular, per gallon/3.785 liters.

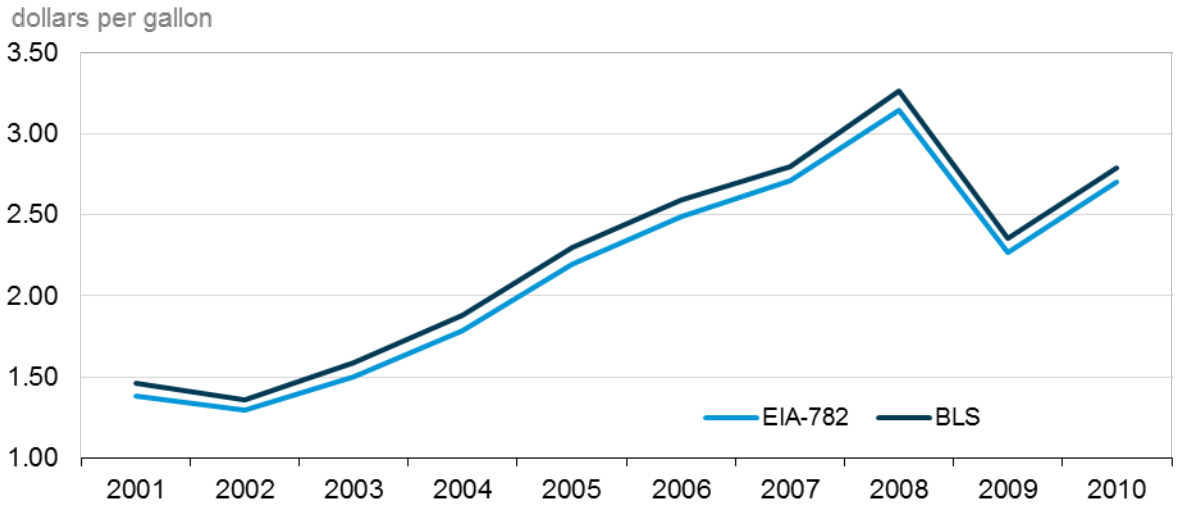
Figure 2. EIA-782 arithmetic means and BLS data for on-highway diesel fuel prices, 2001-2010



Note: The EIA-782 values have had Federal and State taxes added to them.

Sources: EIA-782: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2D_PTC_NUS_DPG&f=M (for monthly prices used to compute annual averages); BLS: Bureau of Labor Statistics CPI, series APU000074717, U.S. city average for Automotive diesel fuel, per gallon (3.785 liters); Federal and State tax information: Petroleum Marketing Monthly (October issues), Table EN1.

Figure 3. EIA-782 arithmetic means and BLS data for retail regular motor gasoline prices, 2001-2010



Note: The EIA-782 values have Federal and State taxes added to them.

Sources: EIA-782: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMR_PTC_NUS_DPG&f=M (monthly prices used to compute annual averages); Bureau of Labor Statistics CPI, series APU000074714, U.S. city average for Gasoline, unleaded regular, per gallon/3.785 liters; Federal and State tax information: *Petroleum Marketing Monthly* (October issues), Table EN1.

Table 5. Retail midgrade motor gasoline prices, 2001-2010

dollars per gallon

Year	EIA-782 Reported Annual	Arithmetic Mean of EIA-782 Monthly	EIA-782 Arithmetic Mean Plus Taxes	EIA-878	BLS	EIA-878 Minus EIA-782	BLS Minus EIA-782	EIA-878 Divided by EIA-782 (as a percentage)	BLS Divided by EIA-782 (as a percentage)
2001	1.09	1.09	1.47	1.51	1.58	0.04	0.10	102.7	106.9
2002	1.01	1.00	1.39	1.44	1.47	0.05	0.08	103.8	106.0
2003	1.20	1.20	1.59	1.66	1.69	0.07	0.10	104.2	106.0
2004	1.49	1.49	1.88	1.95	1.98	0.07	0.10	103.8	105.3
2005	1.88	1.89	2.28	2.37	2.39	0.09	0.11	103.9	104.8
2006	2.18	2.18	2.58	2.68	2.69	0.09	0.11	103.7	104.1
2007	2.41	2.41	2.81	2.90	2.91	0.09	0.10	103.4	103.5
2008	2.85	2.84	3.24	3.37	3.38	0.13	0.14	103.9	104.4
2009	1.97	1.97	2.37	2.47	2.47	0.11	0.10	104.5	104.3
2010	2.39	2.39	2.80	2.90	2.91	0.10	0.11	103.6	103.9

Notes: The EIA-782 reported annual U.S. averages are given in the second column of the table. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the arithmetic means of the data for the 12 months of each year plus taxes. It is this column that is compared to the other data sources. Differences and percentages across columns may not agree due to independent rounding.

Sources: EIA-782: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmm_ptc_nus_dpg&f=a (for annual prices in column 2) and at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMM_PTC_NUS_DPG&f=M (for monthly prices used to calculate column 3); EIA-878: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emm_epmm_pte_nus_dpg&f=a; Bureau of Labor Statistics CPI, series APU000074715, U.S. city average for Gasoline, unleaded midgrade, per gallon/3.785 liters; Federal and State tax information: *Petroleum Marketing Monthly* (October issues), Table EN1.

Table 6. Retail premium motor gasoline prices, 2001-2010

dollars per gallon

Year	EIA-782 Reported Annual	Arithmetic Mean of EIA-782 Monthly	EIA-782 Arithmetic Mean Plus Taxes	EIA-878	BLS	EIA-878 Minus EIA-782	BLS Minus EIA-782	EIA-878 Divided by EIA-782 (as a percentage)	BLS Divided by EIA-782 (as a percentage)
2001	1.17	1.17	1.56	1.60	1.66	0.04	0.10	102.9	106.4
2002	1.09	1.09	1.47	1.53	1.56	0.06	0.08	103.8	105.6
2003	1.29	1.30	1.68	1.75	1.78	0.06	0.09	103.8	105.5
2004	1.59	1.59	1.98	2.04	2.07	0.06	0.09	103.1	104.4
2005	2.00	2.01	2.40	2.47	2.49	0.07	0.09	102.8	103.8
2006	2.31	2.31	2.71	2.78	2.81	0.07	0.10	102.6	103.5
2007	2.53	2.53	2.93	3.01	3.03	0.08	0.10	102.6	103.5
2008	2.96	2.99	3.39	3.49	3.52	0.09	0.13	102.7	103.7
2009	2.13	2.12	2.52	2.59	2.61	0.07	0.09	102.7	103.4
2010	2.55	2.55	2.95	3.02	3.05	0.07	0.09	102.3	103.1

Notes: The EIA-782 reported annual U.S. averages are given in the second column of the table. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the arithmetic means of the data for the 12 months of each year plus taxes. It is this column that is compared to the other data sources. Differences and percentages across columns may not agree due to independent rounding.

Sources: EIA-782: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmp_ptc_nus_dpg&f=a (for annual prices in column 2) and at http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmp_ptc_nus_dpg&f=m (for monthly prices used to calculate column 3); EIA-878: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=emm_epmp_pte_nus_dpg&f=a; Bureau of Labor Statistics CPI, series APU000074716, U.S. city average for Gasoline, unleaded premium, per gallon/3.785 liters; Federal and State tax information: *Petroleum Marketing Monthly* (October issues), Table EN1.

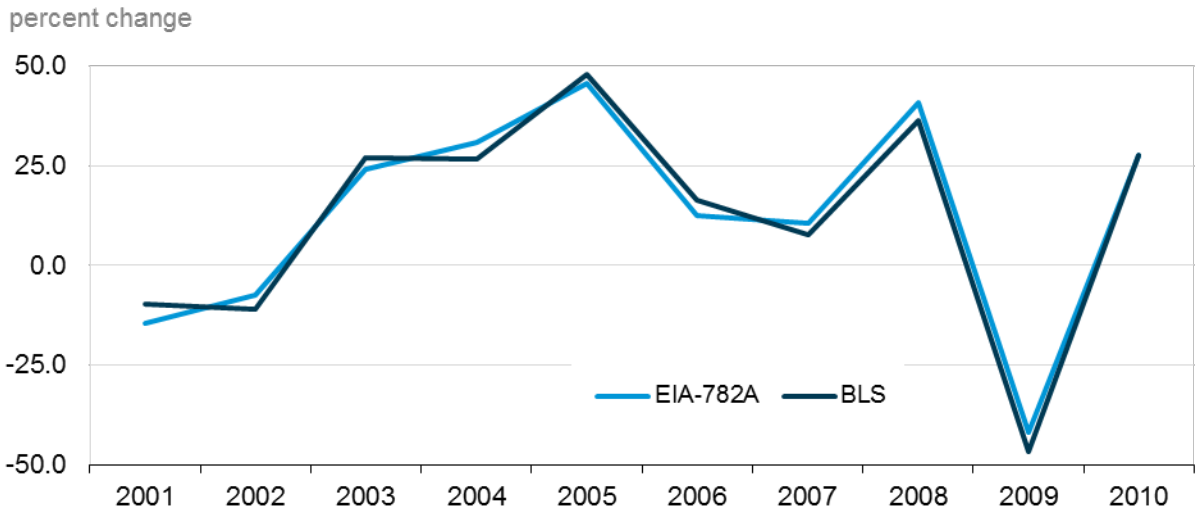
Table 7. Refiner resale No. 2 fuel oil prices and year-to-year percent changes, 2001-2010

Year	EIA-782A Reported Annual ($/gal)	Arithmetic Mean of EIA-782A Monthly Data ($/gal)	BLS Index	EIA-782A Year-to-Year Percent Change	BLS Year-to-Year Percent Change	BLS Percent Change Minus EIA-782A Percent Change	BLS Percent Change Divided by EIA-782A Percent Change (as a percentage)
2000	0.89	0.88	93.5	--	--	--	--
2001	0.76	0.75	84.4	-14.4	-9.8	4.7	67.5
2002	0.69	0.70	75.0	-7.3	-11.1	-3.8	151.9
2003	0.88	0.86	95.3	23.9	27.1	3.1	113.1
2004	1.13	1.13	120.7	30.9	26.7	-4.2	86.5
2005	1.62	1.65	178.4	45.7	47.8	2.1	104.7
2006	1.83	1.85	207.4	12.6	16.3	3.7	128.9
2007	2.07	2.05	223.7	10.6	7.8	-2.8	73.7
2008	2.75	2.89	305.2	40.8	36.4	-4.3	89.3
2009	1.66	1.67	162.7	-42.0	-46.7	-4.6	111.1
2010	2.15	2.14	207.5	27.6	27.5	-0.1	99.7

Notes: The EIA-782A reported annual averages are in the second column. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the BLS PPI index values, which are dimensionless. The fifth and sixth columns are year-to-year percent changes defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year. Differences, ratios and percentages across columns may not agree due to independent rounding. The symbol -- stands for Not Applicable.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epd2f_pwg_nus_dpg&f=a (for column 2) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2F_PWG_NUS_DPG&f=M (for monthly values used to compute column 3); BLS: Bureau of Labor Statistics PPI, series WPU057302, Home heating oil and other distillates.

Figure 4. EIA-782A and BLS year-to-year percent changes for refiner resale No. 2 fuel oil prices, 2001-2010



Note: Note: The year-to-year percent changes are defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2F_PWG_NUS_DPG&f=M (for monthly values used to compute graphed annual values); BLS: Bureau of Labor Statistics PPI, series WPU057302, Home heating oil and other distillates.

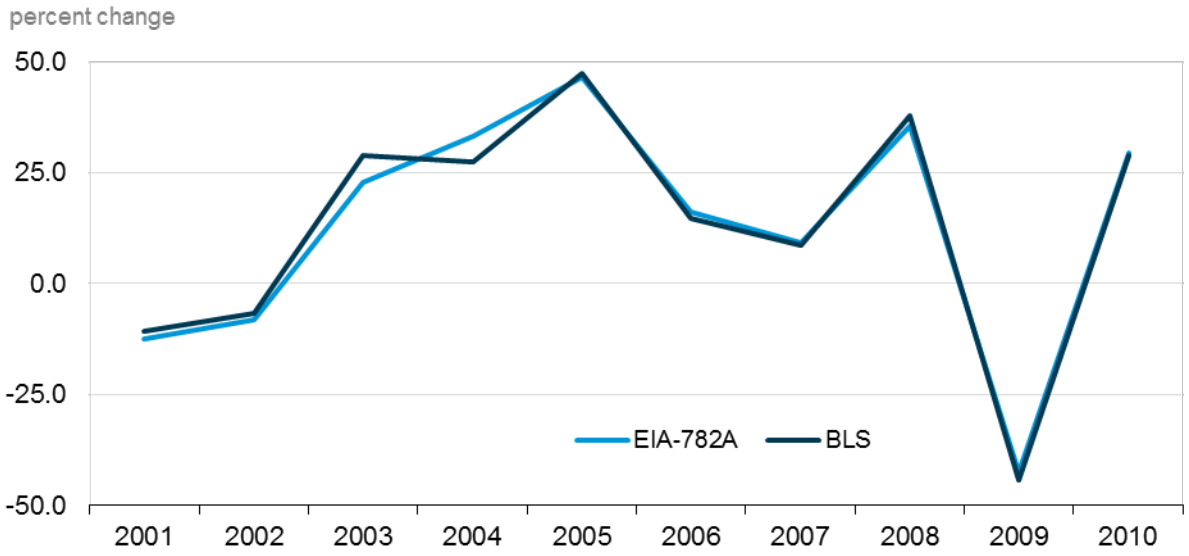
Table 8. Refiner resale No. 2 diesel fuel prices and year-to-year percent changes, 2001-2010

Year	EIA-782A Reported Annual ($/gal)	Arithmetic Mean of EIA-782A Monthly Data ($/gal)	BLS Index	EIA-782A Year-to-Year Percent Change	BLS Year-to-Year Percent Change	BLS Percent Change Minus EIA-782A Percent Change	BLS Percent Change Divided by EIA-782A Percent Change (as a percentage)
2000	0.90	0.89	93.3	--	--	--	--
2001	0.78	0.78	83.4	-12.4	-10.6	1.8	85.5
2002	0.72	0.72	77.9	-8.1	-6.6	1.5	81.1
2003	0.88	0.89	100.5	22.9	29.0	6.1	126.8
2004	1.19	1.18	128.2	33.3	27.5	-5.8	82.6
2005	1.74	1.73	189.1	46.6	47.5	0.9	101.9
2006	2.01	2.01	217.0	16.1	14.7	-1.3	91.7
2007	2.20	2.19	235.5	9.2	8.5	-0.7	92.5
2008	2.99	2.98	324.9	35.7	38.0	2.3	106.3
2009	1.71	1.71	180.6	-42.7	-44.4	-1.7	104.1
2010	2.21	2.21	232.9	29.5	29.0	-0.6	98.0

Notes: The EIA-782A reported annual averages are in the second column. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the BLS PPI index values, which are dimensionless. The fifth and sixth columns are year-to-year percent changes defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year. Differences, ratios and percentages across columns may not agree due to independent rounding. The symbol -- stands for Not Applicable.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epd2d_pwg_nus_dpg&f=a (for column 2) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2D_PWG_NUS_DPG&f=M (for monthly values used to compute column 3); BLS: Bureau of Labor Statistics PPI, series WPU057303, No. 2 diesel fuel.

Figure 5. EIA-782A and BLS year-to-year percent changes for refiner resale No. 2 diesel fuel prices, 2001-2010



Note: The year-to-year percent changes are defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPD2D_PWG_NUS_DPG&f=M (for monthly values used to compute graphed annual values); BLS: Bureau of Labor Statistics PPI, series WPU057303, No. 2 diesel fuel.

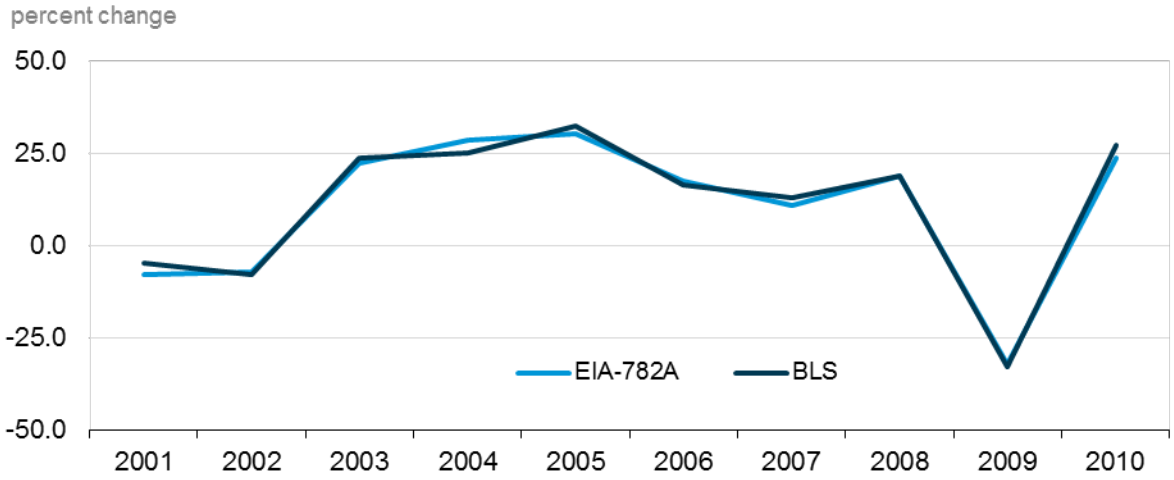
Table 9. Refiner resale regular motor gasoline prices and year-to-year percent changes, 2001-2010

Year	EIA-782A Reported Annual ($/gal)	Arithmetic Mean of EIA-782A Monthly Data ($/gal)	BLS Index	EIA-782A Year-to-Year Percent Change	BLS Year-to-Year Percent Change	BLS Percent Change Minus EIA-782A Percent Change	BLS Percent Change Divided by EIA-782A Percent Change (as a percentage)
2000	0.94	0.94	92.5	--	--	--	--
2001	0.87	0.86	88.1	-7.9	-4.7	3.2	59.7
2002	0.81	0.80	81.1	-7.2	-7.9	-0.7	109.9
2003	0.98	0.98	100.3	22.5	23.7	1.2	105.2
2004	1.27	1.27	125.5	28.8	25.1	-3.7	87.1
2005	1.65	1.65	166.3	30.3	32.5	2.2	107.2
2006	1.95	1.94	193.7	17.6	16.5	-1.1	93.8
2007	2.16	2.15	219.0	11.0	13.0	2.1	118.8
2008	2.57	2.56	260.2	19.0	18.8	-0.2	99.1
2009	1.75	1.73	174.9	-32.2	-32.8	-0.5	101.7
2010	2.15	2.14	222.6	23.6	27.3	3.6	115.3

Notes: The EIA-782A reported annual averages are in the second column. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the BLS PPI index values, which are dimensionless. The fifth and sixth columns are year-to-year percent changes defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year. Differences, ratios and percentages across columns may not agree due to independent rounding. The symbol -- stands for Not Applicable.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmr_pwg_nus_dpg&f=a (for column 2) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMR_PWG_NUS_DPG&f=M (for monthly values used to compute column 3); BLS: Bureau of Labor Statistics PPI, series WPU057104, Unleaded regular gasoline.

Figure 6. EIA-782A and BLS year-to-year percent changes for refiner resale regular motor gasoline prices, 2001-2010



Note: The year-to-year percent changes are defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMR_PWG_NUS_DPG&f=M (for monthly values used to compute graphed annual values); BLS: Bureau of Labor Statistics PPI, series WPU057104, Unleaded regular gasoline.

Table 10. Refiner resale midgrade motor gasoline prices and year-to-year percent changes, 2001-2010

Year	EIA-782A Reported Annual ($/gal)	Arithmetic Mean of EIA-782A Monthly Data ($/gal)	BLS Index	EIA-782A Year-to-Year Percent Change	BLS Year-to-Year Percent Change	BLS Percent Change Minus EIA-782A Percent Change	BLS Percent Change Divided by EIA-782A Percent Change (as a percentage)
2000	1.01	1.01	159.2	--	--	--	--
2001	0.95	0.94	153.1	-6.8	-3.8	2.9	56.6
2002	0.89	0.88	143.2	-6.5	-6.5	0.0	99.6
2003	1.06	1.06	175.5	20.2	22.6	2.3	111.6
2004	1.34	1.34	217.8	26.3	24.1	-2.2	91.5
2005	1.71	1.71	281.0	27.3	29.0	1.7	106.3
2006	2.02	2.02	330.6	18.1	17.7	-0.4	97.6
2007	2.25	2.24	370.3	10.9	12.0	1.1	109.7
2008	2.61	2.60	435.9	16.2	17.7	1.5	109.5
2009	1.78	1.78	294.1	-31.4	-32.5	-1.1	103.6
2010	2.19	2.19	367.8	22.6	25.1	2.5	111.0

Notes: The EIA-782A reported annual averages are in the second column. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the BLS PPI index values, which are dimensionless. The fifth and sixth columns are year-to-year percent changes defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year. Differences, ratios and percentages across columns may not agree due to independent rounding. The symbol -- stands for Not Applicable.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmm_pwg_nus_dpg&f=a (for column 2) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMM_PWG_NUS_DPG&f=M (for monthly values used to compute column 3); BLS: Bureau of Labor Statistics PPI, series WPU057105, Unleaded mid-premium gasoline

Table 11. Refiner resale premium motor gasoline prices and year-to-year percent changes, 2001-2010

Year	EIA-782A Reported Annual ($/gal)	Arithmetic Mean of EIA-782A Monthly Data ($/gal)	BLS Index	EIA-782A Year-to-Year Percent Change	BLS Year-to-Year Percent Change	BLS Percent Change Minus EIA-782A Percent Change	BLS Percent Change Divided by EIA-782A Percent Change (as a percentage)
2000	1.06	1.06	99.2	--	--	--	--
2001	0.98	0.99	95.6	-6.5	-3.6	2.9	55.5
2002	0.93	0.93	86.5	-6.2	-9.5	-3.3	154.2
2003	1.11	1.12	105.7	20.6	22.2	1.6	107.9
2004	1.41	1.41	130.6	26.3	23.6	-2.8	89.5
2005	1.79	1.80	169.6	27.3	29.9	2.5	109.2
2006	2.12	2.12	200.8	17.9	18.4	0.5	102.8
2007	2.36	2.36	225.2	11.4	12.2	0.8	106.6
2008	2.75	2.77	263.2	17.4	16.9	-0.5	97.1
2009	1.96	1.95	183.3	-29.7	-30.4	-0.6	102.2
2010	2.35	2.34	227.9	20.5	24.3	3.8	118.7

Notes: The EIA-782A reported annual averages are in the second column. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the BLS PPI index values, which are dimensionless. The fifth and sixth columns are year-to-year percent changes defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year. Differences, ratios and percentages across columns may not agree due to independent rounding. The symbol -- stands for Not Applicable.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epmp_pwg_nus_dpg&f=a (for column 2) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPMP_PWG_NUS_DPG&f=M (for monthly values used to compute column 3); BLS: Bureau of Labor Statistics PPI, series WPU057103, Unleaded premium gasoline.

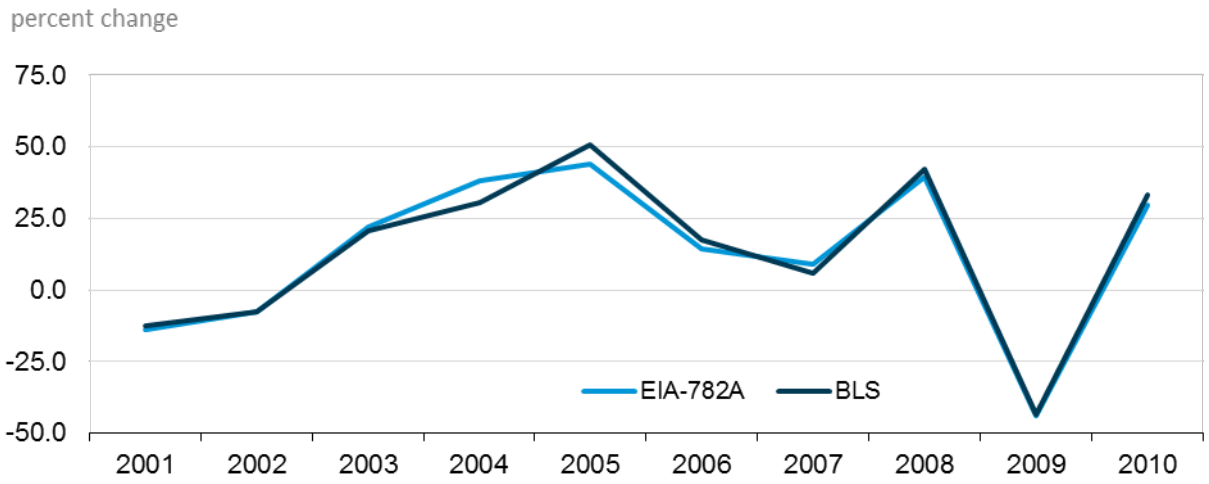
Table 12. Refiner resale kerosene-type jet fuel prices and year-to-year percent changes, 2001-2010

Year	EIA-782A Reported Annual ($/gal)	Arithmetic Mean of EIA-782A Monthly Data ($/gal)	BLS Index	EIA-782A Year-to-Year Percent Change	BLS Year-to-Year Percent Change	BLS Percent Change Minus EIA-782A Percent Change	BLS Percent Change Divided by EIA-782A Percent Change (as a percentage)
2000	0.88	0.89	88.6	--	--	--	--
2001	0.76	0.77	77.3	-13.8	-12.7	1.2	91.5
2002	0.72	0.71	71.6	-7.5	-7.4	0.1	98.1
2003	0.87	0.87	86.3	22.1	20.5	-1.6	92.9
2004	1.21	1.20	112.6	38.2	30.5	-7.8	79.6
2005	1.72	1.72	169.6	43.9	50.5	6.7	115.2
2006	1.96	1.97	199.1	14.4	17.4	3.1	121.3
2007	2.17	2.15	211.2	9.1	6.1	-3.1	66.5
2008	3.02	3.00	300.1	39.5	42.1	2.6	106.5
2009	1.72	1.68	169.3	-43.8	-43.6	0.2	99.5
2010	2.19	2.18	225.5	29.6	33.2	3.6	112.1

Notes: The EIA-782A reported annual averages are in the second column. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the BLS PPI index values, which are dimensionless. The fifth and sixth columns are year-to-year percent changes defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year. Differences, ratios and percentages across columns may not agree due to independent rounding. The symbol -- stands for Not Applicable.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_epjk_pwg_nus_dpg&f=a (for column 2) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPJK_PWG_NUS_DPG&f=M (for monthly values used to compute column 3); BLS: Bureau of Labor Statistics PPI, series WPU057203, Jet Fuel.

Figure 7. EIA-782A and BLS year-to-year percent changes for refiner resale kerosene-type jet fuel prices, 2001-2010



Note: The year-to-year percent changes are defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=EMA_EPJK_PWG_NUS_DPG&f=M (for monthly values used to compute graphed annual values); BLS: Bureau of Labor Statistics PPI, series WPU057203, Jet fuel.

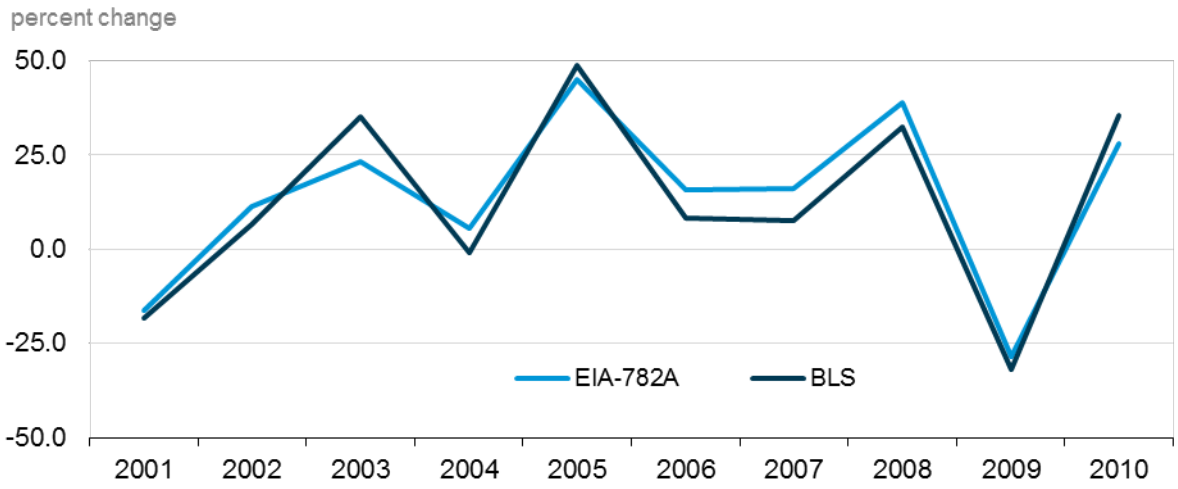
Table 13. Refiner resale residual fuel oil prices and year-to-year percent changes, 2001-2010

Year	EIA-782A Reported Annual ($/gal)	Arithmetic Mean of EIA-782A Monthly Data ($/gal)	BLS Index	EIA-782A Year-to-Year Percent Change	BLS Year-to-Year Percent Change	BLS Percent Change Minus EIA-782A Percent Change	BLS Percent Change Divided by EIA-782A Percent Change (as a percentage)
2000	0.57	0.57	126.6	--	--	--	--
2001	0.48	0.47	103.3	-16.4	-18.4	-2.0	112.3
2002	0.53	0.53	109.9	11.3	6.4	-4.9	56.5
2003	0.66	0.65	148.7	23.4	35.3	11.9	151.1
2004	0.68	0.68	147.2	5.5	-1.0	-6.5	-18.5
2005	0.97	0.99	218.8	44.9	48.6	3.7	108.2
2006	1.14	1.15	236.7	15.7	8.2	-7.5	52.2
2007	1.35	1.33	254.8	16.0	7.6	-8.4	47.7
2008	1.87	1.85	337.5	39.1	32.5	-6.6	83.1
2009	1.34	1.33	230.1	-28.4	-31.8	-3.4	112.1
2010	1.70	1.70	312.1	28.1	35.6	7.5	126.7

Notes: The EIA-782A reported annual averages are in the second column. The third column is the arithmetic means of the data for the 12 months of each year. The fourth column is the BLS PPI index values, which are dimensionless. The fifth and sixth columns are year-to-year percent changes defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year. Differences, ratios and percentages across columns may not agree due to independent rounding. The symbol -- stands for Not Applicable.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_eppr_pwg_nus_dpg&f=a (for column 2) and http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_eppr_pwg_nus_dpg&f=m (for monthly values used to compute column 3); BLS: Bureau of Labor Statistics PPI, series WPU057407, Residual fuels (heavy fuel oils, including #5, #6, etc.)

Figure 8. EIA-782A and BLS year-to-year percent changes for refiner resale residual fuel oil prices, 2001-2010



Note: The year-to-year percent changes are defined by $\left(\frac{P_t}{P_{t-1}}-1\right)$*100%, where P_t is the annual value for the arithmetic mean of the EIA-782A monthly data or BLS PPI for year t and P_{t-1} is the value for the previous year.

Sources: EIA-782A: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=ema_eppr_pwg_nus_dpg&f=m (for monthly values used to compute graphed annual values); BLS: Bureau of Labor Statistics PPI, series WPU057407, Residual fuels (heavy fuel oils, including #5, #6, etc.)

Table 14. Crude oil prices, 2001-2010

Year	Domestic Acquisition Cost ($/bbl)	Imported Acquisition Cost ($/bbl)	Composite Acquisition Cost ($/bbl)	Domestic Crude Oil First Purchase Price ($/bbl)	F.O.B. Costs of Imported Crude Oil ($/bbl)	Landed Costs of Imported Crude Oil ($/bbl)	U.S. Census Bureau General Imports ($/bbl)	BLS PPI Crude Petroleum Price index
2001	24.33	22.00	22.95	21.84	20.46	21.82	21.41	75.4
2002	24.65	23.71	24.10	22.51	22.63	23.91	22.62	73.9
2003	29.82	27.71	28.53	27.56	25.86	27.69	27.05	90.3
2004	38.97	35.90	36.98	36.77	33.75	36.07	34.61	117.8
2005	52.94	48.86	50.24	50.28	47.60	49.29	46.91	163.4
2006	62.62	59.02	60.24	59.69	57.03	59.11	58.11	191.6
2007	69.65	67.04	67.94	66.52	66.36	67.97	64.46	209.8
2008	98.47	92.77	94.74	94.04	90.32	93.33	95.14	300.3
2009	59.49	59.17	59.29	56.35	57.78	60.23	56.75	176.1
2010	77.96	75.88	76.69	74.71	74.20	76.43	74.71	238.1
Mean	**53.89**	**51.21**	**52.17**	**51.03**	**49.60**	**51.59**	**50.18**	--
Standard Deviation	**24.62**	**23.83**	**24.07**	**23.98**	**23.72**	**24.10**	**24.29**	--

Note: The symbol -- stands for Not Applicable. The symbol bbl stands for barrel.

Sources: Acquisition Costs in second to fourth columns: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/pet_pri_rac2_dcu_nus_a.htm; Domestic Crude Oil First Purchase Price: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=f000000__3&f=a; F.O.B. Costs: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=i000000004&f=a; Landed Costs: U.S. Energy Information Administration, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=I000000008&f=A; General Imports price: U.S. International Trade Commission, http://dataweb.usitc.gov/scripts/user_set.asp using HTS code 2709; BLS, Bureau of Labor Statistics PPI industry series PCU2111112111111 Crude petroleum.

Table 15. Summary table of mean ratios for retail price data, 2006-2010

Product	Table	Source 1	Source 2	Mean Percent Ratio of Source 1 to Source 2 for 2006 to 2010	Standard Deviation of Percent Ratios for 2006 to 2010	Range of Percent Ratios for 2006 to 2010	Are Sources Non-Equivalent?
Residential No. 2 Distillate	2	BLS CPI	EIA-782	105.73	1.91	103.2 to 107.8	Yes
On-Highway Diesel Fuel	3	EIA-888	EIA-782	101.68	0.24	101.4 to 101.9	No
	3	BLS CPI	EIA-782	104.33	1.02	102.7 to 105.5	Yes
	3	BLS CPI	EIA-888	102.61	1.14	100.8 to 104.0	Yes
Regular Motor Gasoline	4	EIA-878	EIA-782	103.38	0.31	103.1 to 103.9	Yes
	4	BLS CPI	EIA-782	103.69	0.29	103.3 to 104.0	Yes
	4	BLS CPI	EIA-878	100.30	0.33	99.9 to 100.7	No
Midgrade Motor Gasoline	5	EIA-878	EIA-782	103.82	0.43	103.4 to 104.5	Yes
	5	BLS CPI	EIA-782	104.04	0.35	103.5 to 104.4	Yes
	5	BLS CPI	EIA-878	100.21	0.25	99.8 to 100.6	No
Premium Motor Gasoline	6	EIA-878	EIA-782	102.58	0.18	102.3 to 102.7	Yes
	6	BLS CPI	EIA-782	103.44	0.22	103.1 to 103.7	Yes
	6	BLS CPI	EIA-878	100.84	0.13	100.6 to 101.1	No

Table 16. Summary table of mean ratios for wholesale/resale price data, 2006-2010

Product	Table	Mean Percent Ratio of BLS PPI to EIA-782 for 2006 to 2010	Standard Deviation of Percent Ratios for 2006 to 2010	Range of Percent Ratios for 2006 to 2010	Are Sources Non-Equivalent?
No. 2 Fuel Oil	7	100.54	21.01	73.7 to 128.9	No
No. 2 Diesel Fuel	8	98.53	6.63	91.7 to 106.3	No
Regular Motor Gasoline	9	105.75	10.81	93.8 to 118.8	No
Midgrade Motor Gasoline	10	106.29	5.63	97.6 to 111.0	Yes
Premium Motor Gasoline	11	105.49	8.14	97.1 to 118.7	Yes
Kerosene-Type Jet Fuel	12	101.16	20.95	66.5 to 121.3	No
Residual Fuel Oil	13	84.35	35.14	47.7 to 126.7	No

Note: The ratios that are the basis for the third to sixth columns are, for each year, the year-to-year percent change for the BLS PPI divided by the year-to-year percent change for the EIA-782.