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In 2007, what goes up, does not necessarily come down.....

## The Changing Relationship Between the Price of Crude Oil and the Price At the Pump



Prepared by:  
Tim Hamilton  
Petroleum Industry Consultant  
PO Box 179  
McCleary, WA 98557  
voice: 360.495.4941  
auto@reachone.com

Commissioned by:  
Foundation for Taxpayer and Consumer Rights  
Jamie Court or Judy Dugan  
17500 Ocean Park Blvd. #200  
Santa Monica, CA  
voice: 310.392.0522  
[www.oilwatchdog.org](http://www.oilwatchdog.org)

## Introduction

The US average price of gasoline this week came within pennies of last year's August high of \$3.03, while California exceeded its all-time record of \$3.38, reaching \$3.40. This price spike has occurred even though crude oil prices since the beginning of this year held substantially below last year's record highs. In addition, the spread between gasoline prices in the US and California has widened.

A similarly abrupt price spike occurred last spring, but pump prices this year are higher and the expectation of analysts is that they have not yet peaked. The Foundation for Taxpayer and Consumer Rights asked independent oil analyst Tim Hamilton of McCleary, Washington, to examine the price increases nationally and in California, in comparison to the price of crude oil.

Mr. Hamilton was asked: "Does the price at the pump in the U.S. and California rationally follow changes in the price of crude oil?"

To answer these questions, Hamilton compared the average price of gasoline with the spot price of the benchmark West Texas Intermediate (WTI) crude oil in the U.S. and California, from early April 2006 until April 23, 2007. The primary data source was the federal Energy Information Administration.

Hamilton's conclusion is that the traditional link between the spot price of crude oil, which historically equaled about 55 percent of the price of gasoline, is broken.

The result of the broken price link is a marked and sustained increase in profits from the refining of oil into gasoline.

## Pump Prices Fail to Reflect Crude Oil Prices

The chief price components of gasoline are crude oil, refining costs and profits, distribution costs, retail markup and taxes. Because only the crude oil cost and the refinery profits are volatile, any pronounced change in the gap between crude oil costs and retail gasoline strongly reflects rising or falling refinery profits.

**Figure 1** shows that the once-strong relationship between crude oil prices and gasoline prices appears broken, particularly in California. Retail prices in the state have risen since the lows of last November far more quickly than crude oil prices, but also far more quickly than prices elsewhere in the nation.

Last year, during the first week in April the average pump price for all grades of gasoline in California was \$2.788, just 15.7 cents higher than the national average of \$2.631. That 15-cent gap was long regarded as the norm. On April 23, 2007, the average price in California was \$3.363, or 44.6 cents higher than the national average of \$2.917. Yet the price of crude oil was 5.5 cents *lower* per gallon at the end of the charted period than in the beginning: \$65.67 per barrel in April 2006 and \$63.39 on April 20, 2007.

**Figure 2** shows just the widening gap between US prices and California during the same period as the price of gasoline (all grades) rose nearly 29 cents a gallon nationally but 57.5 cents in California.

**Figure 3** shows the same gap between the US average and California prices, except that the US average gap between crude oil and retail gasoline prices is expressed as a level baseline, while the extra amount that California drivers pay shows as sharp peaks over the course of the year.

Last spring, the difference was as low as 13 cents (April 6, 2006). This spring, the difference has hit nearly 55 cents (March 19). Of that 42-cent rise, less than 4 cents was due to the increase in California's percentage sales tax. The remaining 38 cents per gallon is directly tied to inflated refinery profit margins. The price gap for California translates into fill-ups that cost \$7 to \$15 more than the U.S. average.

**Figure 4** consists of Excel charts of the data used to create this report.

Figure 1

### In the U.S. and California, Gasoline Spikes Higher As Crude Stays Below '06 Peak

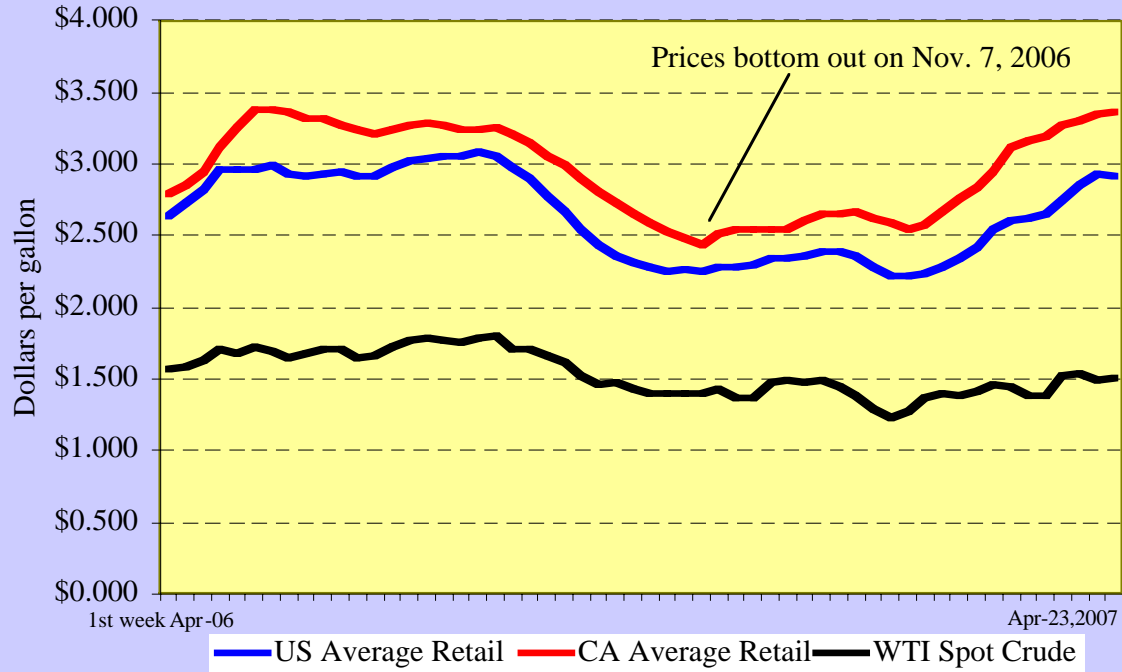


Figure 2

### Difference Between Crude Oil Price and Gasoline, U.S. vs. California

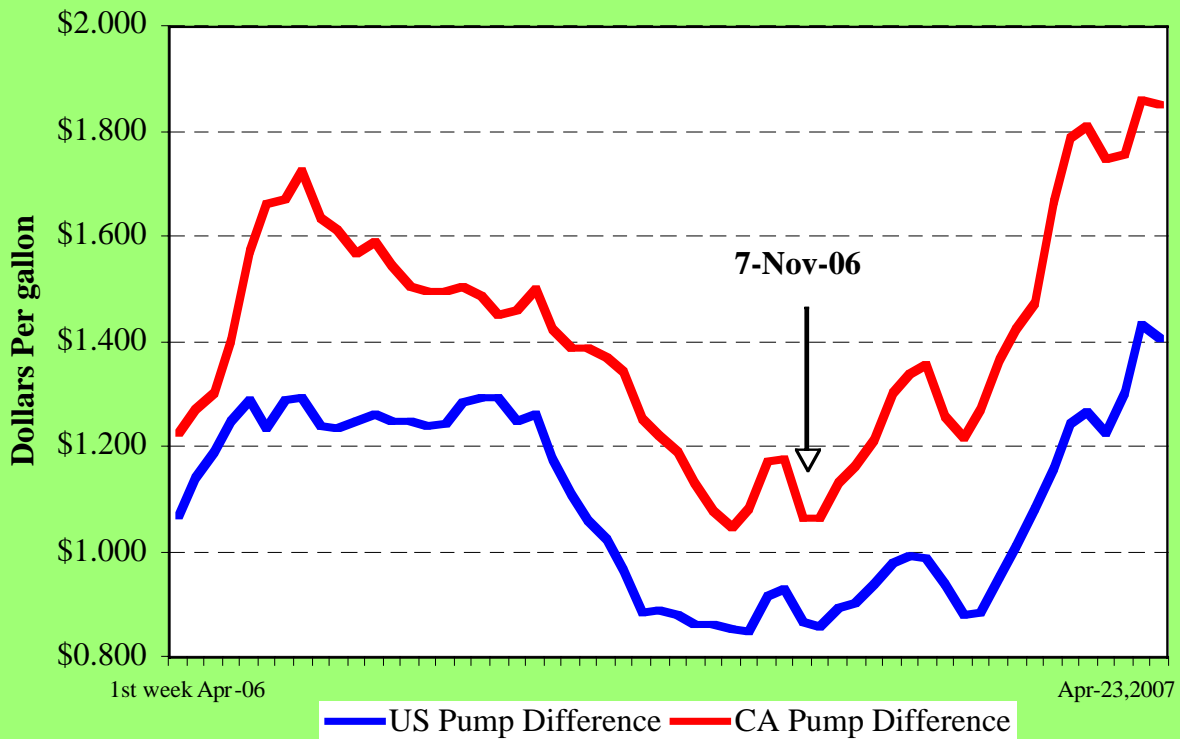


Figure 3

## A Mountain of Difference

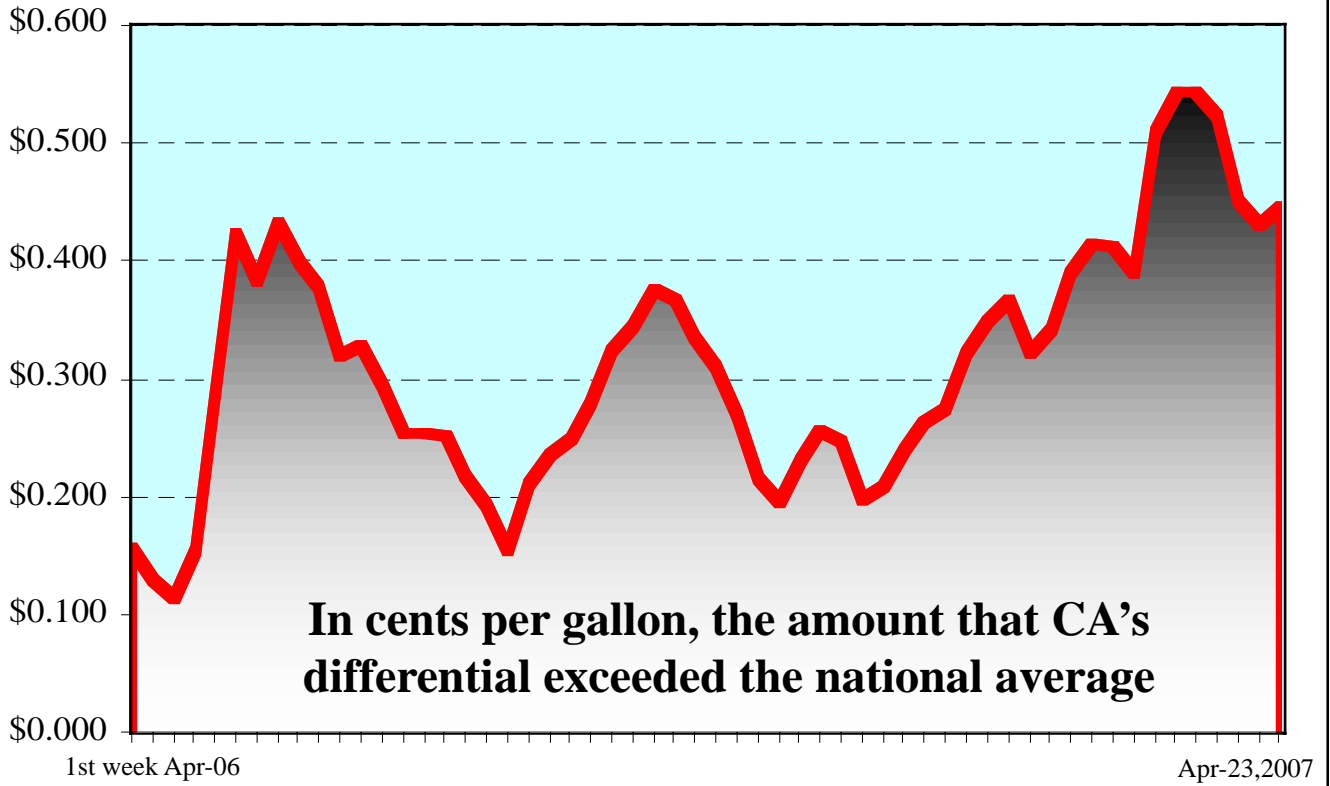


Figure 4

8	Date	WTI crude \$ per barrel	Date	US Average Retail	CA Average Retail	Crude Oil cents per gallon	US Pump Difference	CA Pump Difference	CA Diff. v US Diff
9	31-Mar-2006	65.67	Apr 03, 2006	\$2.631	\$2.788	\$1.564	\$1.067	\$1.224	\$0.157
10	7-Apr-2006	66.56	Apr 10, 2006	\$2.727	\$2.856	\$1.585	\$1.142	\$1.271	\$0.129
11	14-Apr-2006	68.85	Apr 17, 2006	\$2.828	\$2.942	\$1.639	\$1.189	\$1.303	\$0.114
12	21-Apr-2006	71.87	Apr 24, 2006	\$2.960	\$3.114	\$1.711	\$1.249	\$1.403	\$0.154
13	28-Apr-2006	70.38	May 01, 2006	\$2.966	\$3.248	\$1.676	\$1.290	\$1.572	\$0.282
14	5-May-2006	72.14	May 08, 2006	\$2.955	\$3.379	\$1.718	\$1.237	\$1.661	\$0.424
15	12-May-2006	71.5	May 15, 2006	\$2.992	\$3.376	\$1.702	\$1.290	\$1.674	\$0.384
16	19-May-2006	69.07	May 22, 2006	\$2.938	\$3.370	\$1.645	\$1.293	\$1.725	\$0.432
17	26-May-2006	70.35	May 29, 2006	\$2.913	\$3.312	\$1.675	\$1.238	\$1.637	\$0.399
18	2-Jun-2006	71.53	Jun 05, 2006	\$2.937	\$3.316	\$1.703	\$1.234	\$1.613	\$0.379
19	9-Jun-2006	71.54	Jun 12, 2006	\$2.951	\$3.271	\$1.703	\$1.248	\$1.568	\$0.320
20	16-Jun-2006	69.48	Jun 19, 2006	\$2.917	\$3.245	\$1.654	\$1.263	\$1.591	\$0.328
21	23-Jun-2006	69.94	Jun 26, 2006	\$2.914	\$3.209	\$1.665	\$1.249	\$1.544	\$0.295
22	30-Jun-2006	72.65	Jul 03, 2006	\$2.979	\$3.234	\$1.730	\$1.249	\$1.504	\$0.255
23	7-Jul-2006	74.65	Jul 10, 2006	\$3.017	\$3.271	\$1.777	\$1.240	\$1.494	\$0.254
24	14-Jul-2006	75.21	Jul 17, 2006	\$3.033	\$3.286	\$1.791	\$1.242	\$1.495	\$0.253
25	21-Jul-2006	73.98	Jul 24, 2006	\$3.048	\$3.267	\$1.761	\$1.287	\$1.506	\$0.219
26	28-Jul-2006	73.87	Jul 31, 2006	\$3.050	\$3.244	\$1.759	\$1.291	\$1.485	\$0.194
27	4-Aug-2006	75.2	Aug 07, 2006	\$3.083	\$3.239	\$1.790	\$1.293	\$1.449	\$0.156
28	11-Aug-2006	75.63	Aug 14, 2006	\$3.047	\$3.259	\$1.801	\$1.246	\$1.458	\$0.212
29	18-Aug-2006	71.79	Aug 21, 2006	\$2.971	\$3.208	\$1.709	\$1.262	\$1.499	\$0.237
30	25-Aug-2006	72.12	Aug 28, 2006	\$2.893	\$3.143	\$1.717	\$1.176	\$1.426	\$0.250
31	1-Sep-2006	70.01	Sep 04, 2006	\$2.777	\$3.055	\$1.667	\$1.110	\$1.388	\$0.278
32	8-Sep-2006	67.53	Sep 11, 2006	\$2.670	\$2.994	\$1.608	\$1.062	\$1.386	\$0.324
33	15-Sep-2006	63.98	Sep 18, 2006	\$2.549	\$2.894	\$1.523	\$1.026	\$1.371	\$0.345
34	22-Sep-2006	61.4	Sep 25, 2006	\$2.429	\$2.806	\$1.462	\$0.967	\$1.344	\$0.377
35	29-Sep-2006	61.94	Oct 02, 2006	\$2.360	\$2.728	\$1.475	\$0.885	\$1.253	\$0.368
36	6-Oct-2006	59.77	Oct 09, 2006	\$2.310	\$2.646	\$1.423	\$0.887	\$1.223	\$0.336
37	13-Oct-2006	58.58	Oct 16, 2006	\$2.274	\$2.585	\$1.395	\$0.879	\$1.190	\$0.311
38	20-Oct-2006	58.48	Oct 23, 2006	\$2.255	\$2.525	\$1.392	\$0.863	\$1.133	\$0.270
39	27-Oct-2006	58.88	Oct 30, 2006	\$2.264	\$2.479	\$1.402	\$0.862	\$1.077	\$0.215
40	3-Nov-2006	58.55	Nov 06, 2006	\$2.246	\$2.442	\$1.394	\$0.852	\$1.048	\$0.196
41	10-Nov-2006	59.96	Nov 13, 2006	\$2.278	\$2.509	\$1.428	\$0.850	\$1.081	\$0.231
42	17-Nov-2006	57.56	Nov 20, 2006	\$2.285	\$2.541	\$1.370	\$0.915	\$1.171	\$0.256
43	24-Nov-2006	57.24	Nov 27, 2006	\$2.292	\$2.539	\$1.363	\$0.929	\$1.176	\$0.247
44	1-Dec-2006	62.02	Dec 04, 2006	\$2.342	\$2.541	\$1.477	\$0.865	\$1.064	\$0.199
45	8-Dec-2006	62.32	Dec 11, 2006	\$2.340	\$2.549	\$1.484	\$0.856	\$1.065	\$0.209
46	15-Dec-2006	61.91	Dec 18, 2006	\$2.366	\$2.606	\$1.474	\$0.892	\$1.132	\$0.240
47	22-Dec-2006	62.4	Dec 25, 2006	\$2.387	\$2.651	\$1.486	\$0.901	\$1.165	\$0.264
48	29-Dec-2006	60.66	Jan 01, 2007	\$2.382	\$2.656	\$1.444	\$0.938	\$1.212	\$0.274
49	5-Jan-2007	57.76	Jan 08, 2007	\$2.354	\$2.677	\$1.375	\$0.979	\$1.302	\$0.323
50	12-Jan-2007	54.11	Jan 15, 2007	\$2.280	\$2.628	\$1.288	\$0.992	\$1.340	\$0.348
51	19-Jan-2007	51.51	Jan 22, 2007	\$2.216	\$2.584	\$1.226	\$0.990	\$1.358	\$0.368
52	26-Jan-2007	53.57	Jan 29, 2007	\$2.213	\$2.535	\$1.275	\$0.938	\$1.260	\$0.322
53	2-Feb-2007	57.11	Feb 05, 2007	\$2.237	\$2.579	\$1.360	\$0.877	\$1.219	\$0.342
54	9-Feb-2007	58.99	Feb 12, 2007	\$2.287	\$2.677	\$1.405	\$0.882	\$1.272	\$0.390
55	16-Feb-2007	58.41	Feb 19, 2007	\$2.341	\$2.755	\$1.391	\$0.950	\$1.364	\$0.414
56	23-Feb-2007	59.57	Feb 26, 2007	\$2.428	\$2.841	\$1.418	\$1.010	\$1.423	\$0.413
57	2-Mar-2007	61.64	Mar 05, 2007	\$2.551	\$2.941	\$1.468	\$1.083	\$1.473	\$0.390
58	9-Mar-2007	60.85	Mar 12, 2007	\$2.605	\$3.114	\$1.449	\$1.156	\$1.665	\$0.509
59	16-Mar-2007	57.94	Mar 19, 2007	\$2.623	\$3.167	\$1.380	\$1.243	\$1.787	\$0.544
60	23-Mar-2007	58.26	Mar 26, 2007	\$2.655	\$3.198	\$1.387	\$1.268	\$1.811	\$0.543
61	30-Mar-2007	64.18	Apr 02, 2007	\$2.753	\$3.275	\$1.528	\$1.225	\$1.747	\$0.522
62	6-Apr-2007	64.82	Apr 09, 2007	\$2.848	\$3.299	\$1.543	\$1.305	\$1.756	\$0.451
63	13-Apr-2007	62.58	Apr 16, 2007	\$2.922	\$3.352	\$1.490	\$1.432	\$1.862	\$0.430
64	*4/20/2007	63.39	Apr 23, 2007	\$2.917	\$3.363	\$1.509	\$1.408	\$1.854	\$0.446
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\* Source change to Bloomberg due to EIA reporting time lines