

# Auto-fuel Price Monitoring 2016

## 7 June 2016



## The Auto-fuel market

- In 2013 and 2014, signs of \*
  - “quick going up” (2013 H1);
  - “slow coming down” (2014 H2); and
  - “no going up, less coming down” (2014 H2)
- Changes in 2015
  - International (Brent) crude oil prices continued ↓
  - No. of licensed petrol vehicles ↑ (561,404 or 13.1% from 2013 to 2015)\*\*

\* Council's analysis on gasoline prices released in Feb 2015

\*\* Source: Transport Department, over 90% were private cars



## Objectives of the Analysis

- To look into if **the signs** of “quick going up, slow coming down” and “no going up, less coming down” **continued** in 2015
- To analyse if there are substantial **changes in costs** of oil companies in recent years
- To examine the **transparency of information** disseminated to the public & consumers in the market



## Data Source and Approach

The analysis is based on:	Source
1. Daily pump price & discount info of regular gasoline of oil companies*	The Council
2. Daily international (Brent) crude oil price	News
3. Monthly import price of unleaded motor gasoline published	The Gov't
4. Other cost information**	The Gov't

### Analysis approach

1. Average approach to pump price & discount levels of oil companies
2. Market estimation approach to land cost of tendered petrol filling station (PFS) sites that had not been tendered after 2006
3. Average approach to land cost of PFS sites with equalized annual cost over the 21 year lease period

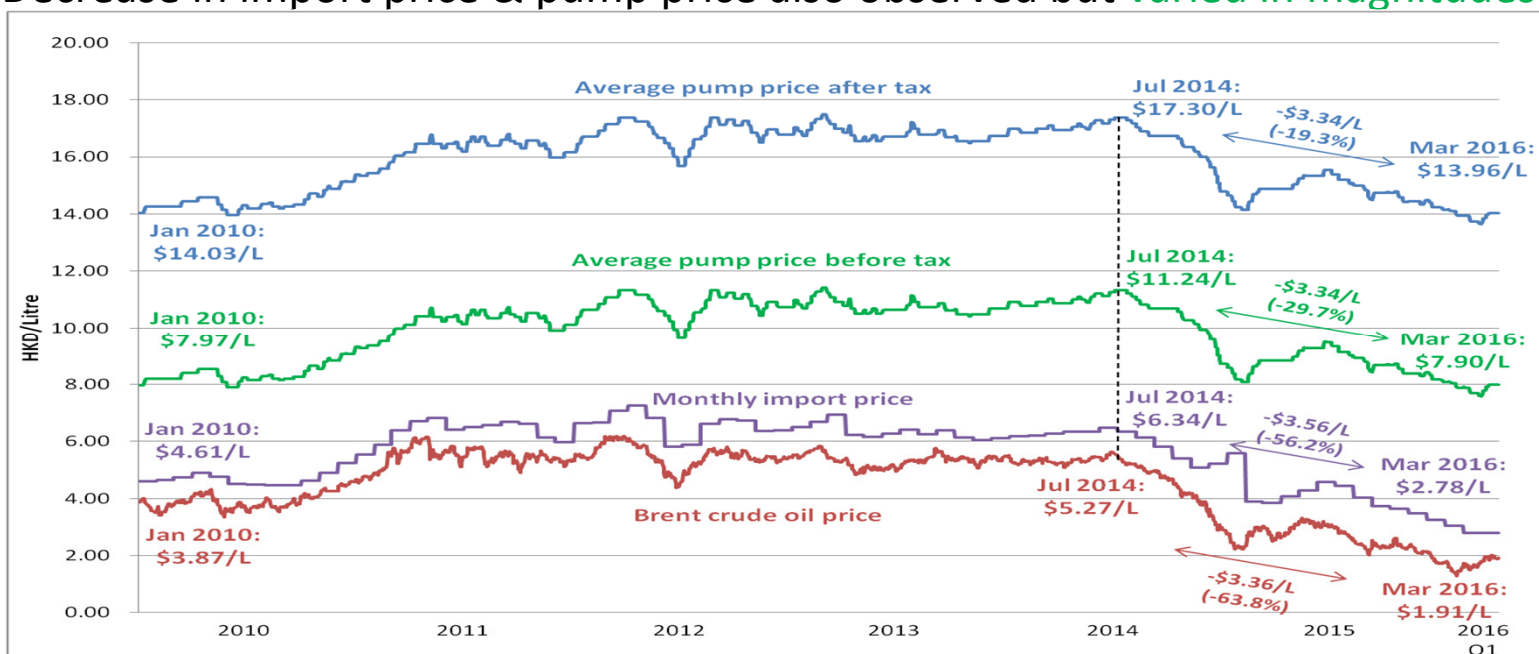
\* Caltex, Esso, PetroChina, Shell and Sinopec

\*\* The Council enquired to the oil companies on cost information but negative reply was received



## Historical Price Trends from 2010 to 2016 Q1

- Increasing trend in early years, but **continuous decline** in Brent crude oil price from July 2014 onwards
- Decrease in import price & pump price also observed but **varied in magnitudes**



	At Jul 2014	At Mar 2016	Absolute Change	Percentage change
Brent crude oil price	\$5.27/L	\$1.91/L	-\$3.36/L	-63.8%
Import price	\$6.34/L	\$2.78/L	-\$3.56/L	-56.2%
Average pump price (before tax)	\$11.24/L	\$7.90/L	-\$3.34/L	-29.7%
Average pump price (after tax)	\$17.30/L	\$13.96/L	-\$3.34/L	-19.3%



**Any sign of**  
**“Quick Going Up, Slow Coming Down”**  
**from 2015 to 2016 Q1?**



## Time Lag Effect: Average Number of Days for Price Adjustment (2013-2016 Q1)

- “Quick going up” in 2013 H1, “slow coming down” in 2014 H2
- **No signs** of “quick going up, slow coming down” found in 2015 H1 - 2016 Q1

Period	Days interval between change in the Brent price and average pump price	
	Increase	Decrease
2013 H1	4 days	NIL
2013 H2	NIL	
2014 H1	NIL	
2014 H2	N/A	8 days
2015 H1	3/7 days	NIL
2015 H2 – 2016 Q1	3/8 days	NIL

Remarks: NIL denotes an absence of any statistical significance in the lag effect.  
N/A denotes no increase in pump price of regular gasoline.



## Time Lag Effect: Average Number of Days for Price Adjustment (2013-2016 Q1) - by Company

- Different companies recorded **different time delays** in response to the Brent crude oil price changes

Oil Company	Days interval between change in the Brent price and average pump price			
	2013 H1 Increase	2014 H2 Decrease	2015 H1 Increase	2015 H2 – 2016 Q1 Increase
A	4-7 days	4/8 days	NIL	
B	NIL	4 days	NIL	
D	NIL	7 days	NIL	
G	NIL	6 days	NIL	
F	3 days	4 days	7 days	NIL

Remark: NIL denotes an absence of any statistical significance in the lag effect.



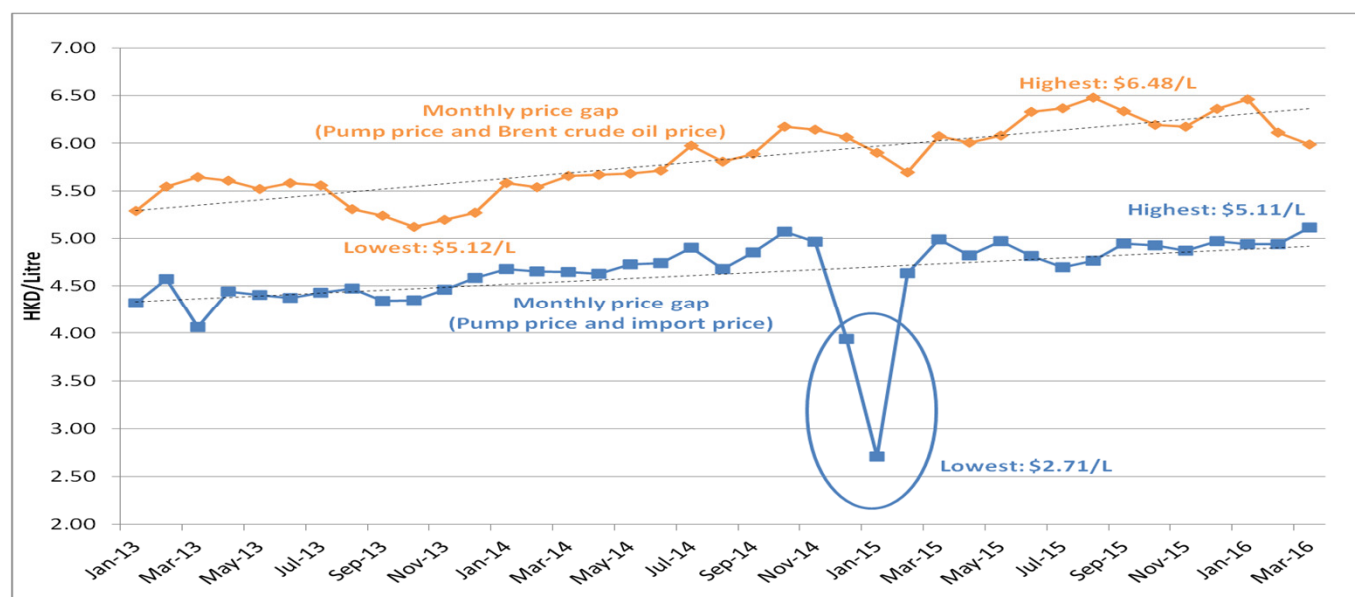


**Any sign of**  
**“No Going Up, Less Coming Down”**  
**from 2015 to 2016 Q1?**



## Price Gaps (2013-2016 Q1)

- An overall increasing monthly price gap between:
  - Pump price and import price
  - Pump price and Brent crude oil price
- 2015 Q1 - **Outlier** in the analysis
  - An exceptionally high import price was recorded in Dec 2014 – Jan 2015\*, led to sharp decline in the price gap between pump price & import price



*\*Remarked by the Census and Statistics Department: "Figures for the statistical months of Dec 2014 and Jan 2015 include also declarations of earlier months...Given the volatility of international oil prices since mid-2014, the higher oil prices (import prices) in earlier months had larger impact on figures for the statistical months of Dec 2014 and Jan 2015."*



## Price Gaps (2013-2016 Q1)

- Sign of “no going up, less coming down” remains
- Higher price gaps also observed with higher proportion of days with significant daily percentage change in the Brent crude oil price, particularly a decrease change

Period	Average price gap (pump price and Brent crude oil price) (\$/L)	Average price gap (pump price and import price) (\$/L)	Proportion of days with significant daily % change in the Brent crude oil price*		
			Increase	Decrease	Total
2013 H1	5.53	4.36	5%	6%	11%
2013 H2	5.28	4.44	5%	0%	5%
2014 H1	5.64	4.68	0%	5%	5%
2014 H2	6.01	4.73	0%	13%	13%
2015 H1	6.01	4.49	2%	7%	9%
2015 Q2-Q3	6.27	4.84	5%	6%	11%
2015 Q4-2016 Q1	6.21	4.96	5%	13%	18%

\*Significant price changes: The accumulated value is larger than or equal to 2% in at least 3 consecutive days.



# Changes in Cost?

Product cost

Land cost

Marketing cost

Other operating costs



## Key Statistics of the Retail Fuel Sector\* (2013-2014)

- Overall Industry Trend in 2013 and 2014:
  - Gross surplus recorded **over 30% growth**
  - No remarkable changes in major cost components (purchase value & employee compensations)
  - But **decrease in operating expenses**

		2013	2014
Major cost components	Total value of purchases of goods for sale	+6.3%	-11.0%
	Compensation of employees	-16.6%	+14.1%
	Operating expenses	-16.2%	-2.9%
Gross surplus		+59.8%	+35.7%

Remark: \* Retail fuel sector consists of PFS sites and stores selling other petroleum products such as kerosene and L.P. gas.  
Source: Census and Statistics Department, latest figure up to 2014.



## Product Cost Changes (2013-2016Q1)

- Decreasing average import price from 2013 to 2016Q1
- Average pump price also decreased but in lesser magnitude
- Over the three years, the accumulated price difference increases to **\$0.69/L**

	2013	2014	2015	2015Q2- 2016Q1
Average pump price before tax (\$/L)	10.74	10.69	8.75	8.58
Yearly change (\$/L)	-0.06	-0.05	-1.94	-2.11
Average import price (\$/L)	6.34	5.98	4.07	3.68
Yearly change (\$/L)	-0.25	-0.36	-1.91	-2.30
Change in pump price – Change in import price (\$/L)	0.19	0.31	-0.03	0.19
Accumulated difference in price gap change (\$/L)	0.19	0.50	0.47	0.69



## Land Cost Changes (2013-2015)

- A total of 179 PFS sites were classified as “historical” or “recent tendered” sites
- In recent three years, estimated total land cost increased from \$735.6 million to \$765.2 million

(\$ million)			2013	2014	2015
“Historical PFS sites”	Number of sites		151	147	145
	Average land cost per site	(\$M)	78.1		
	Average annual land cost per site		3.72		
	Subtotal annual land cost [A]		561.7	546.8	539.4
“Recent tendered PFS sites”	Number of sites		28	32	34
	Average land cost per site	(\$M)	130.4	134.7	139.5
	Average annual land cost per site		6.21	6.41	6.64
	Subtotal annual land cost [B]		173.9	205.1	225.8
Estimated total annual land cost [A] + [B] (\$M)			735.6	751.9	765.2

Explanations:

- “Historical PFS sites” refer to those PFS site not tendered after 2006; “Recent tendered PFS sites” are PFS sites tendered after 2006 to respective year.
- New tender arrangement from June 2003, up to 2005, there were 20 tendered sites, no tendered site in 2006, & 34 tendered sites from 2007 to 2015. 2006 was assumed to be the cut-off year for estimation by the Council.

Source: Tender cost information from the Lands Department; calculations by the Council



## Land Cost Changes (2013-2015) – Cont'd

- Estimated land cost per litre sales: **Decreased** from \$1.30/L in 2013 to \$1.25/L in 2015
- Difference in land costs: From \$0.79/L in 2013 to \$0.86/L in 2015

	2013	2014	2015
Estimated total annual land cost (\$ million) [A] + [B]	735.6	751.9	765.2
Sales for local consumption (ML)	565.0	588.9	613.8
<b>Estimated land cost of overall PFS sites (\$/L)</b>	<b>1.30</b>	<b>1.28</b>	<b>1.25</b>
Average sales per PFS site (ML)	3.16	3.29	3.43
Estimated land cost of the “historical PFS sites” (\$/L) [C]	1.18	1.13	1.08
Estimated land cost of the “recent tendered PFS sites” (\$/L) [D]	1.97	1.95	1.94
Difference between [C] and [D] (\$/L)	0.79	0.82	0.86

Source: Tender cost information from the Lands Department; calculations by the Council





## Discounts of Regular Gasoline (2013-2015)

- Discount **percentage increased** in 2013 – 2015
- However, the discount **value is decreased** due to lower pump prices recently

Types	Descriptions	2013	2014	2015
	Average pump price after tax	\$16.80/L	\$16.75/L	\$14.81/L
Cash	walk-in discounts, price discounts (purchasing on or above certain amount)	<b>6.3%</b> (\$1.06/L)	<b>5.7%</b> (\$0.95/L)	<b>6.4%</b> (\$0.95/L)
Credit Cards	percentage discounts for specific card holders, fuel rebate program	<b>6.5%</b> (\$1.09/L)	<b>6.4%</b> (\$1.07/L)	<b>7.3%</b> (\$1.08/L)
Discount Cards	extra cash discounts, volume discounts (refilling on or above certain amount)	<b>7.5%</b> (\$1.26/L)	<b>7.4%</b> (\$1.24/L)	<b>7.9%</b> (\$1.17/L)
Coupon	price discounts (purchasing on or above certain amount)	<b>8.7%</b> (\$1.46/L)	<b>11.1%</b> (\$1.86/L)	<b>11.1%</b> (\$1.64/L)

Figures based on a simple average approach of the oil companies' discounts sampled at the first day, middle day and the end day of each month from the Council's database

Sample size: 1,414



# Complexity of the Multitudinous Discount Types

- Different discount types of the oil companies may confuse consumers
- Smart consumers should check & compare different prices & discounts before purchase

## Example 1 (Company X)

	Usual days		Days with ad-hoc walk-in promotion	
Company X's discounts	Discount card	Cash	Discount card	Cash
Discount (\$/L)	1.2	0.9	1.2	2.0
Cheaper payment method	Discount card		Cash	

## Example 2 (Company Y)

	Pump price = \$16.25/L		Pump price = \$13.75/L	
Company Y's discounts	Discount card (\$1.2/L discount)	Credit card (8% discount)	Discount card (\$1.2/L discount)	Credit card (8% discount)
Discount value	1.2	1.3	1.2	1.1
Cheaper payment method	Credit card		Discount card	



## Complaint Cases

### Case 1:

- Complainant applied an oil card from an oil company & was offered a \$1.8/L discount
- 3 months later, he found that the discount was reduced to \$0.4/L & then \$0.3/L
- Oil company staff replied that the discount changed but no notification

### Case 2:

- Complainant refilled his car at an oil station with \$300 by credit card
- When he received the credit card statement later, the credit balance was \$305
- He also found that the discount had been reduced from \$1.4/L to \$0.3/L
- Oil company staff replied that discount changed and provided no explanation on why the credit balance was larger than his original spending

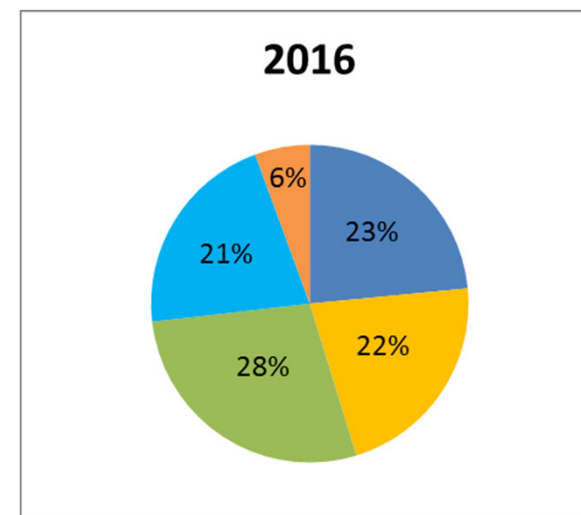
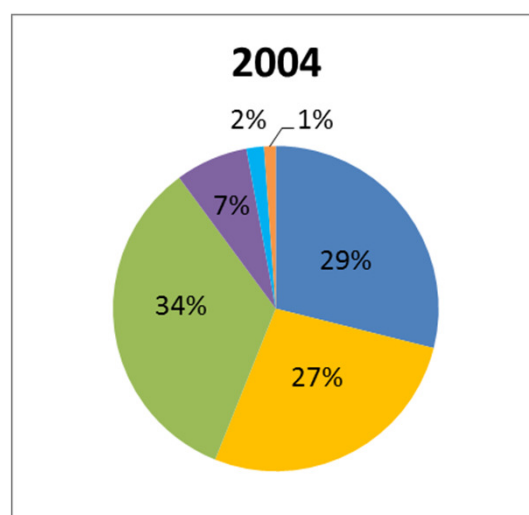
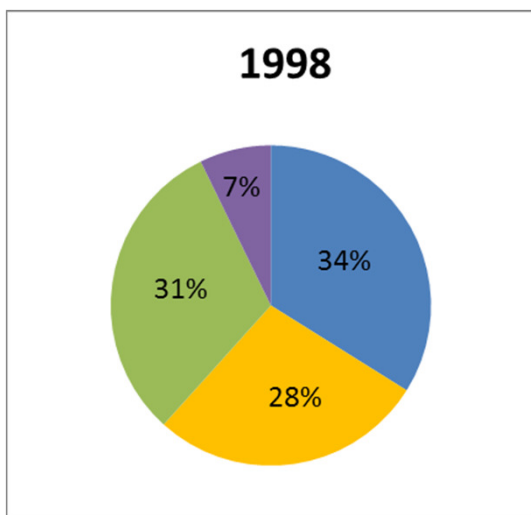


# Market Competition



## Market Share (by no. of PFS sites)

- Market share of the 3 incumbent operators dropped from 93% in 1998 to 73% in 2016
- No single oil company occupies a substantial market share



Number of PFS sites by each oil company in 2016

	Caltex	Esso	Petro China	Shell	Sinopec	Others	Overall
Hong Kong Island	7	9	4	3	9	-	32
Kowloon	10	17	2	15	5		49
New Territories	22	24	4	24	24		98
Overall	39	50	10	42	38		179



## High Conformity in Pump Price

- Nevertheless, around 80% of days the 5 companies were offering identical pump prices in the market

	2013	2014	2015	Average
% of days that the all 5 companies having the same pump price	83.8	85.8	79.2	82.9



## Conclusion

Sign of	2013 H1	2013 H2	2014 H1	2014 H2	2015 H1	2015 H2	2016 Q1
“Quick going up, slow coming down”	<ul style="list-style-type: none"><li>• “Quick going up” in 2013 H1</li><li>• “Slow coming down” in 2014 H2</li></ul>				<ul style="list-style-type: none"><li>• No signs of “quick going up, slow coming down” continued</li></ul>		
“No going up, less coming down”	<ul style="list-style-type: none"><li>• Sign of “No going up, less coming down” remains</li><li>• Higher price gaps with higher proportion of days with significant daily percentage change in the Brent crude oil price, particularly on a decrease change</li></ul>						



## Conclusion - Cont'd

Market/Cost Changes	2013	2014	2015
Gross Surplus in Retail Fuel Sector (Overall)	<ul style="list-style-type: none"><li>• Over 30% growth</li><li>• Decrease in operating expenses</li></ul>		Not yet available
Product Cost	<ul style="list-style-type: none"><li>• Decreasing average import price</li><li>• Accumulated difference between import price change &amp; pump price change is increased to \$0.69/L</li></ul>		
Land Cost	<ul style="list-style-type: none"><li>• Decrease in estimated land cost per litre sales</li></ul>		
Discount Levels	<ul style="list-style-type: none"><li>• A percentage increase in discounts in 2013 – 2015</li><li>• Discount value decreased due to lower pump prices recently</li></ul>		





# Recommendations



## Consumers

- Compare price, ask smartly and select the most economical payment method during the purchase

## Oil companies

- Direct reduction of pump prices
- More cost & sales information disclosure

## Government

- Enhance information transparency
  - More stringent control in the import declaration process
  - More frequent reporting of import oil price information

**The End**

