

Yusong DENG

*Director General, Comprehensive Department
Institute of Market Economy,
Development Research Center of
the State Council*

Mr. Yusong Deng is Director General, the Market Economy research institute, Development Research Center of State Council PR China.

Main research field:

Industry Economy, Energy market

In recently year, Mr. Deng took charge of "China Gas Industry Policy Research", "Research on Coping with China Oil Safety Issue", and many other research projects.

邓郁松

综合研究室主任
国务院发展研究中心市场
经济研究所

邓郁松：国务院发展研究中心市场经济研究所综合研究室主任，博士研究生。

主要研究领域：

产业经济、能源市场

近年来主持和参与"中国天然气产业政策研究"、"中国石油安全对策研究"、"中国石油流通体制改革研究"等十余项课题的研究工作，在《求是》、《经济日报》、《国际石油经济》等报刊发表论文数十篇。



1200 Session 5

Keynote Presentation

Price Change of
International Crude
Oil: History, Mecha-
nism, Tendency

1200 议题五

主题演讲

国际原油价格变化：历
史、机理与趋势分析



Price Change of International Crude Oil : History, Mechanism, Tendency

Yusong DENG

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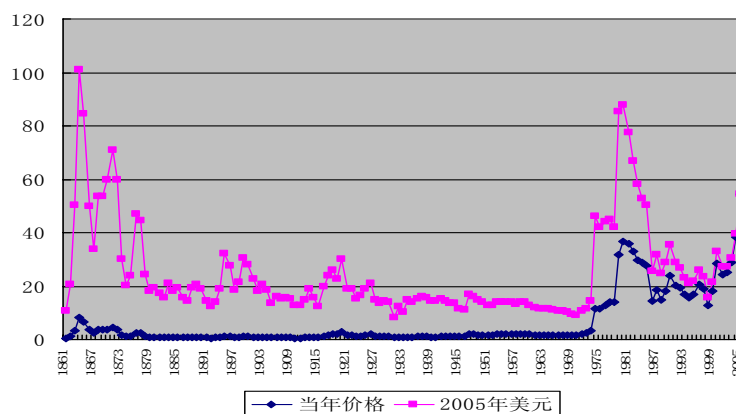


Contents

- ◆ **Common Consensus & Difficulty of Research**
- ◆ **Key Stages and Features**
- ◆ **Analysis of Future Change of Global Price on Oil**

I Common Consensus & Difficulty of Research

Variation of Price in Global Oil Market 1861~2005 (Unit: US Dollars/Barrel)



i Common Consensus of Price Variation

1 Features of Oil Products

- ◆ Products of significant trade
- ◆ Low resilience of demanding

i Common Consensus of Price Variation

2 Currency Problem

- ◆ Up to now, the OPEC announce the nominal price and the real price after calculation of inflation rate every year (current year) in the statistic report that are released periodically. When the nominal price show up inflation, the standing committee of OPEC will discuss about the exchange rate and inflation issue.

i **Common Consensus of Price Variation**

3 Regular Pattern of Rise in Demanding

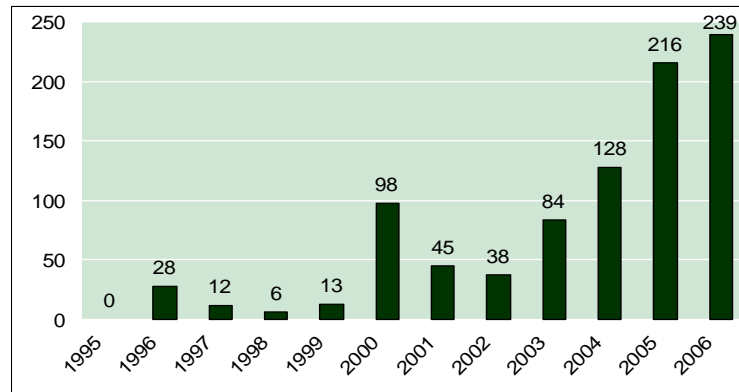
- ◆ Non-symmetry of income and demanding
- ◆ Non-symmetry of price and demanding

i **Common Consensus of Price Variation**

4 Great Impacts of Price Forming Mechanism on Fluctuation Margin

- ◆ Leading and magnification of futures

Variation Range of NYMEX Crude Oil Future Daily Price in 1995 - 2006 (Days Reach or Excess US\$1)



ii Difficulty of Research on International Oil Price

- ◆ Supplying, especially supply activities



II Key Stages and Features of Global Oil Price

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- ◆ 1 **Bulwarks of low entering & large fluctuation of oil price in the primary stage of oil industry development**

◆ 2 Markets Led by Multinational Petroleum Companies & Fixed Low Price of Oil (1945~1973)

Variation Situation in Oil Reserves Ratio of the 7 Largest Oil Company in 1946 & 1956

Area	Year	Reserves (100 Mil Tons)	Ratio (%)			
			5 in US	Shell	BP	Total of 7
Capitalism Countries	1946	77.36	44.6	8.9	20.5	74.0
	1956	243.48	54.2	8.5	20.1	82.8
US	1946	27.42	39.2	4.0	—	43.2
	1956	40.70	42.3	4.0	—	46.7
Under Develop Countries	1946	49.56	47.8	11.7	31.9	91.4
	1956	197.54	56.7	9.5	24.8	91.0
Venezuela	1946	10.27	69.0	28.9	—	97.9
	1956	18.14	73.5	23.2	—	96.7
Middle & Near East	1946	34.66	44.0	4.7	45.6	94.3
	1956	170.13	56.6	6.9	28.8	92.3

Variation Situation in Oil Output Ratio of the 7 Largest Oil Company in 1946 & 1956

Area	Year	Output (10k Tons)	Ratio (%)			
			5 in US	Shell	BP	Total
Capitalism Countries	1946	34,864.5	35.4	8.3	6.1	49.8
	1956	74,311.9	40.9	11.3	6.5	58.7
US	1946	23,432.3	28.7	4.0	—	32.7
	1956	35,371.7	25.6	4.9	—	30.4
Under Develop Countries	1946	11,147.3	50.2	17.3	19.0	86.5
	1956	35,607.6	55.6	18.4	13.5	87.5
Venezuela	1946	5,682.3	71.9	25.5	—	97.4
	1956	13,152.4	67.8	28.9	—	96.7
Middle & Near East	1946	3,427.2	31.4	3.0	61.9	96.3
	1956	17,077.3	55.8	7.3	27.8	90.9

Ratio of Refinery Ability of the 7 Largest Oil Company in 1956

Area	Total Refinery Ability (10K tons)	Ratio (%)			
		5 in US	Shell	BP	Total of 7
Capitalism Countries	78,490	37.9	13.4	5.8	57.1
US	40,190	38.7	6.3	—	45.0
Outside US	38,300	37.0	20.8	11.9	69.7
West Europe	12,600	22.8	24.9	16.4	64.1
Under Develop Countries	20,080	42.9	20.7	10.7	74.3
Venezuela	2,720	58.9	34.0	—	92.9
Middle & Near East	6,245	47.9	10.2	33.5	91.6

Ownership of Middle East Joint-Ventures in 1970

	Arabian American Oil Co.	Kuwait Petroleum Company	Iran Allied	Iraq National Oil Company
Exxon	30		7	11.875
Caltex	30		7	
Gulf		50	7	
Chevron	30		7	
Mobil	10		7	11.875
Royal Dutch / Shell			14	23.75
BP		50	40	23.75
CFP (Total)			6	23.75
Others			5	5

Increasing Demand & Low Oil Price Strategy by International Oil Company

	1960		1970	
	Consumption	% of Energy Consumption	Consumption	% of Energy Consumption
France	556	31	1,888	62
Italy	444	52	1,834	75
U.K.	941	22	2,087	41
Germany	626	21	2,433	51
Europe	3,846	29	12,450	56
Japan	664	34	3,846	67
Canada	841	53	1,525	52
U.S.	9,688	43	14,350	42

International Price Variation Comparison of Partial Commodities in 1948 - 1973

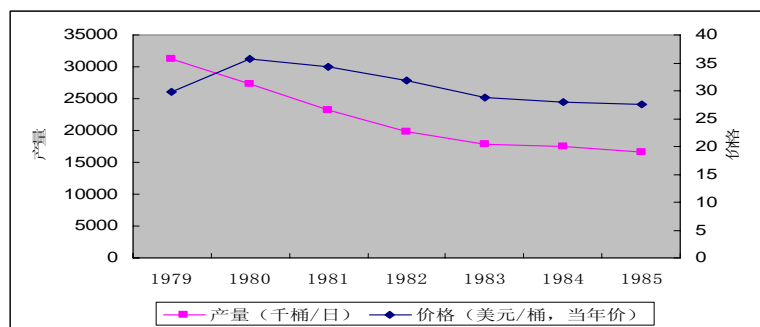
	Crude Oil (US\$ / Barrel)	Brass (US Cent /Pound)	Tin (US\$/Pound)	Export Price Index of Products from Industrial Countries (1970 = 100)
1948	2.17	22.20	99.25	69(Index of 1950)
1949	1.75(July)	19.36	99.32	
1960	1.80(August)	32.05	101.30	
1973	3.01(October)	58.87	229.20	133
% Increased in 1973 compare with 1948	38.7	165.2	130.9	92.7

◆ 3 Establishment of OPEC Adjustment of Policy Change in Structure of Petroleum Market (1973~1985)

Index Comparison of Oil with M&E, Transport Equipment Export Price from Major Western Countries (1975 = 100)

	Index of M&E, Transport Equipment Export Price in Major Western Countries	Index of OPEC Standard Oil Price
1971	67	16
1972	71	18
1973	81	29
1974	90	91
1975	100	100
1976	103	107
1977	112	117.5
1978	129	118
1979	138	185

Oil Price & OPEC Output in 1979 - 1985

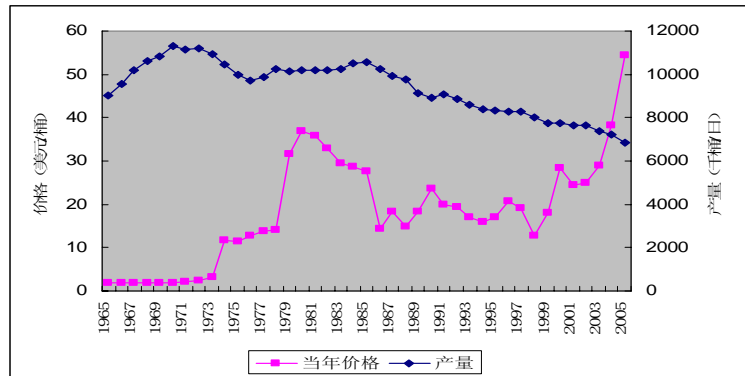


Crude Oil Production Cost & Output Capacity Comparison to 1986 & Earlier

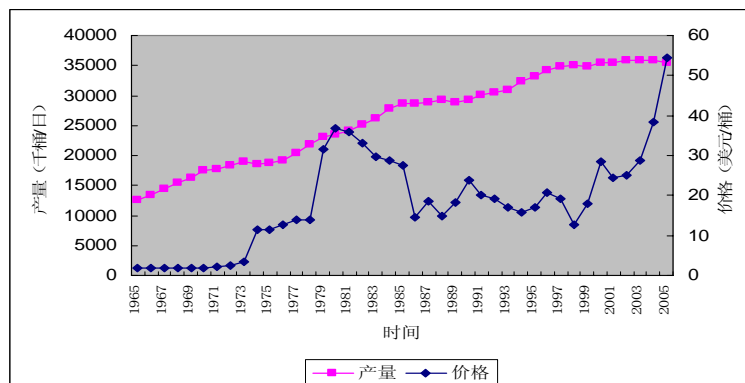
Production Cost (US\$/Barrel)	Production Capacity (Mil. Barrel/Day)	1986 & Earlier (Mil. Barrel/Day)	Production Place
< US\$ 2	15	8	Middle East
US\$ 2 - 4	15	12	Middle East, Africa, Mexico, Indonesia, Part of North Sea
US\$ 4 - 12	22	22	Most Parts of US, North Sea, Canada
US\$ 12 - 24	4	3	US, Exposed Well, Oil-sand in Canada, North Pole, Offshore

◆ 4 Revising of OPEC's Competing Strategy & Price Change in Global Crude Oil Market (1986~2005)

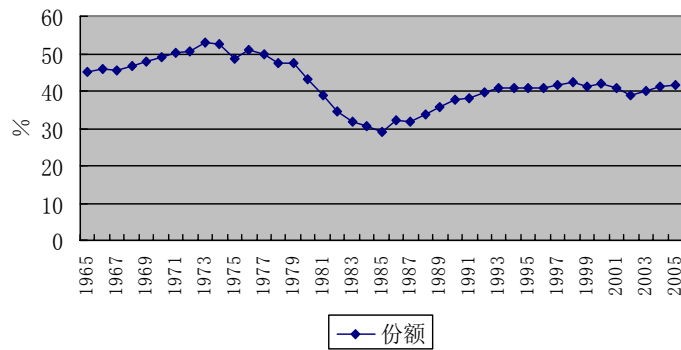
Output in USA & Global Price on Petroleum 1965~2005



Variation of Price and Output of Non-OPEC 1965~2005



The Changing Face of OPEC's Proportion in the World 1965~2005



Proportion beyond Quota of OPEC's Oil Output (1984~2000)

Year	Proportion (%)	Year	Proportion (%)
1984	0.7	1993	2.9
1985	0.8	1994	1.5
1986	11.2	1995	1.5
1987	9.6	1996	3.8
1988	18.3	1997	7.6
1989	16.0	1998	4.5
1990	4.8	1999	1.5
1991	3.3	2000	1.2
1992	4.1		

2005 Top-8 Companies in Crude Oil Output (100 mil. tons)

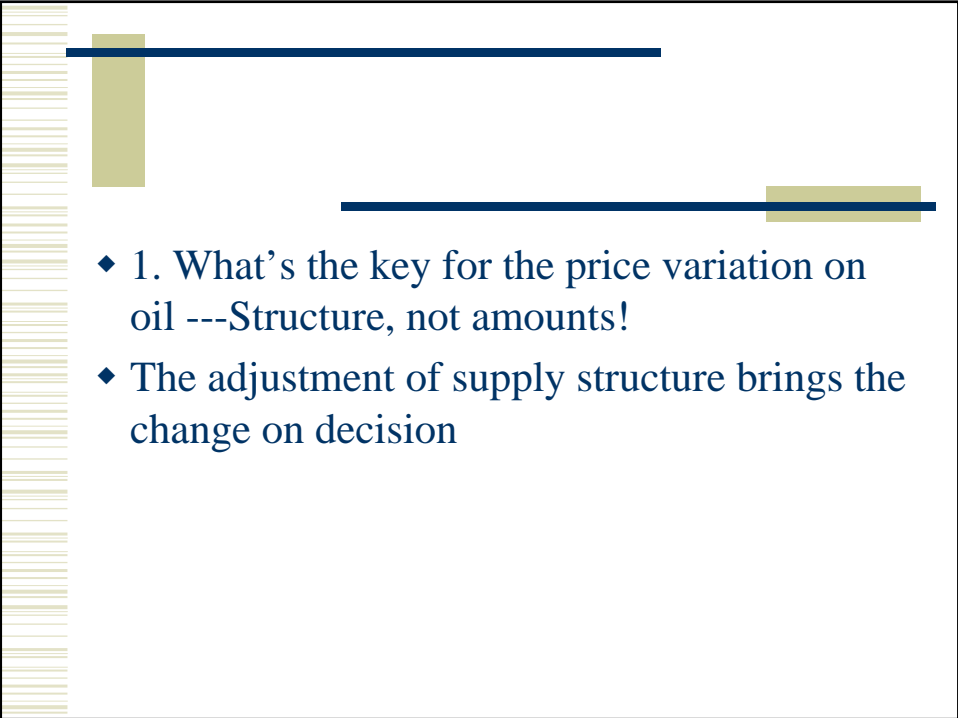
Po.	Company	State-owned Proportion%	Crude-Oil Reservation	World Reservation Proportion %
1	Saudi Arabian Oil	100	369.9	22.49
2	National Iranian Oil	100	192.5	11.70
3	Iraq National Oil	100	161.0	9.79
4	Kuwait National Petroleum	100	142.1	8.64
5	Petroleos de Venezuela SA	100	111.6	6.78
6	Abu Dhabi National Oil	100	79.7	4.84
7	National Oil Co. (Libya)	100	46.5	2.83
8	Nigerian National Oil	100	30.2	1.84
	Total		1,133.5	68.90

2005 Top-8 Companies in Crude Oil Product (mil. tons)

Po.	Company	State-owned Proportion%	Crude Oil Output	World Output Proportion %
1	Saudi Arabian Oil Company	100	55175	14.17
2	National Iranian Oil Company	100	20245	5.20
3	Petroleos Mexicanos	100	18550	4.76
4	Petroleos de Venezuela SA	100	13250	3.40
5	Kuwait National Petroleum	100	13215	3.39
6	BP		12810	3.29
7	Exxon Mobil		12615	3.24
8	PetroChina	90	11350	2.91
	Total		157210	40.36

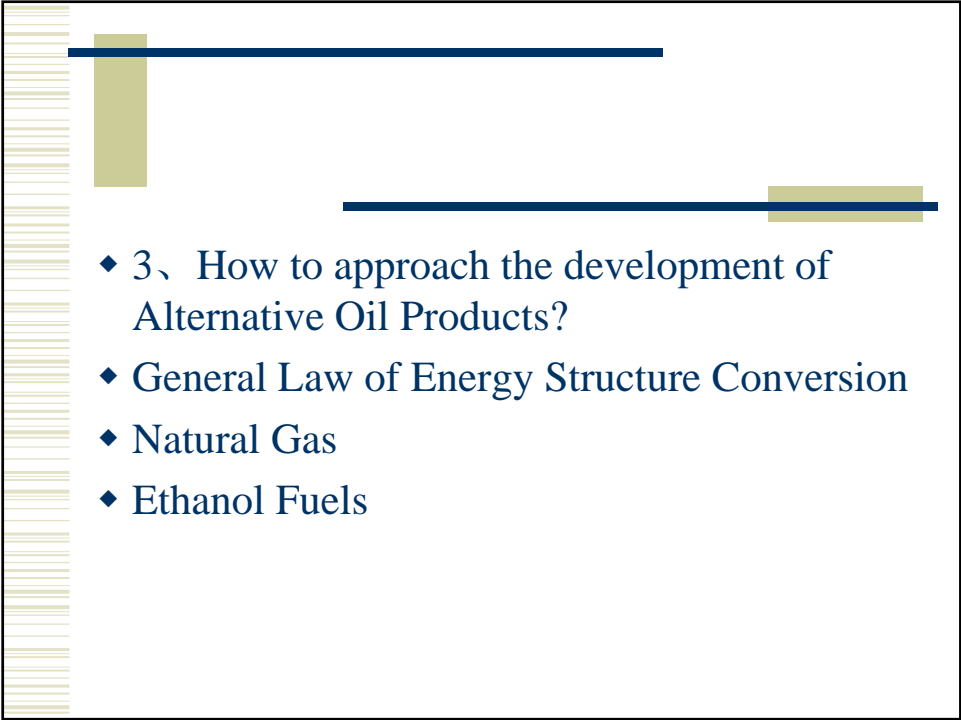


Analysis on Future Change of Global Price on Oil

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- ◆ 1. What's the key for the price variation on oil ---Structure, not amounts!
 - ◆ The adjustment of supply structure brings the change on decision



◆ 2、 Demand Growth and Potential Saving

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- ◆ 3、 How to approach the development of Alternative Oil Products?
 - ◆ General Law of Energy Structure Conversion
 - ◆ Natural Gas
 - ◆ Ethanol Fuels

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- ◆ 4、 Large Frequent Fluctuation on Oil Price is to Stay in Short Term
 - ◆ New Stage of Global Price on Oil



Thanks !

Contacts: Mr. Yusong DENG
(8610)65226364
dengys@drc.gov.cn