

World Financial Crisis & Chinese Oil Market: Impact and Challenges



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19 Aug 2009

Background

- ❑ Rising oil demand has made China the second largest consumer and a significant player in world oil market in recent years.
- ❑ After the collapse of The Lehman Brothers in September 2008, the financial crisis escalated worldwide, and the oil price slumped amid the declining oil demand.

This study aims to examine the following issues:

- ❑ How did the world financial crisis affect Chinese oil market and what changes has it brought to the market?
 - ❑ What were the implications for international oil market?
 - ❑ What are the challenges facing Chinese oil market?
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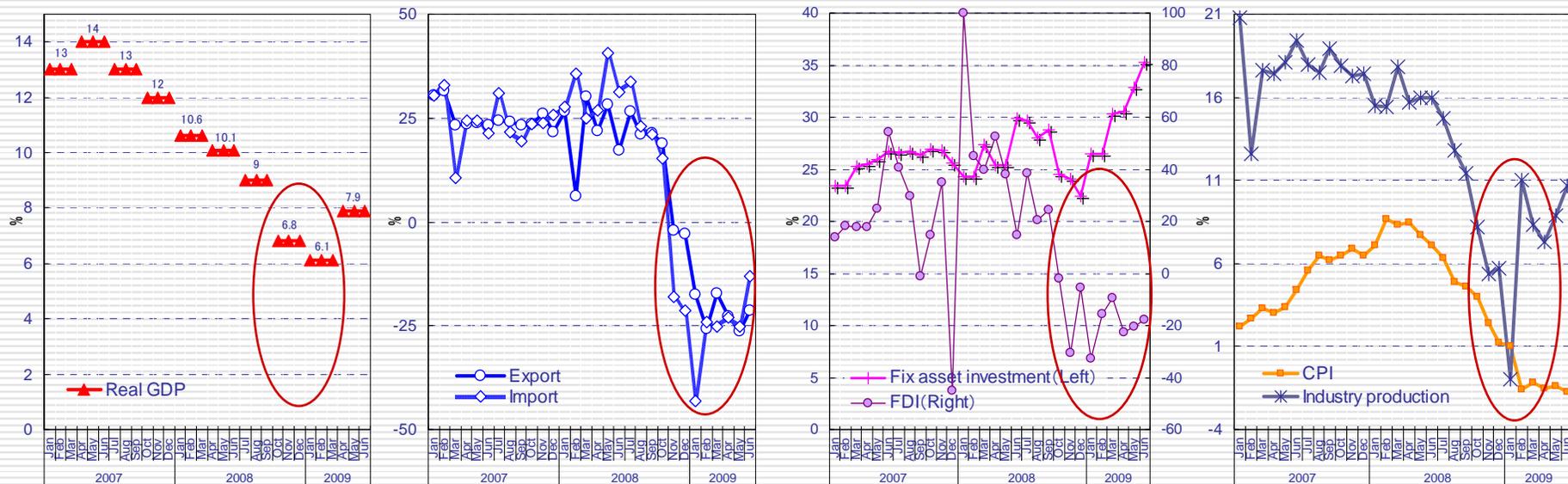
Agenda

- Impact of World Financial Crisis on Chinese economy
 - Impact of World Financial Crisis on Chinese oil demand
 - Strategies of Chinese NOCs in World Financial Crisis
 - Government oil policies after World Financial Crisis
 - Implications for international oil market
 - Challenges facing Chinese oil market
-

Impact of World Financial Crisis on Chinese Economy

- High growth before World Financial Crisis
 - GDP growth over 10% from 2003 to 2007
 - Concerns about overheating economy
 - Introduction of policies to tighten economy
- Economic recession in World Financial Crisis
 - Export and FDI falls sharply from Q4 2008
 - GDP growth slows to 6.8% in Q4 2008 and to 6.1% in Q1 2009

Monthly Economic Indicators



Source: National Bureau of Statistics China

Impact of World Financial Crisis on Chinese Economy

- Policy changes aimed at economic revitalization
 - 4-trillion-yuan (\$590-billion) stimulus package in November 2008
 - Initiatives for 10 major industries, including Iron & steel, Automobile, Petroleum & chemical, etc.
 - Target of 8%-GDP growth & V-shaped economic recovery for 2009
- Harbinger of economic recovery
 - Economic slowdown ceases after March 2009
 - GDP growth rebounds to 7.9% in Q1 and 7.1% in H1 2009
 - Emerging possibility of year-round growth of over 8%

Annual/Semi-annual Economic Indicators

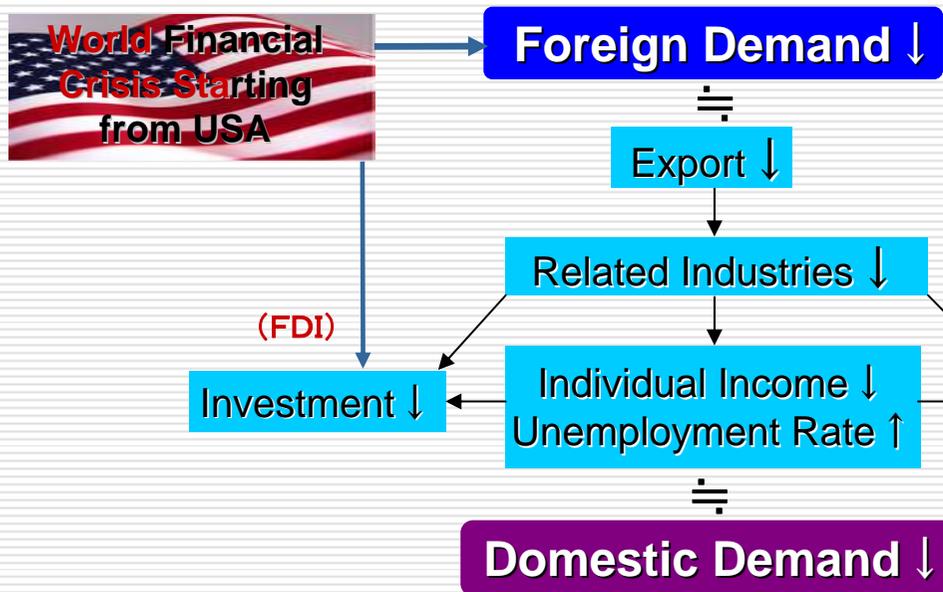
	H1 2009	2008	2007
Real GDP	7.1%	9.0%	11.6%
Export	▲21.8%	17.2%	25.7%
Import	▲25.4%	17.8%	20.8%
CPI	▲1.1%	5.9%	4.8%
Industry production	7.0%	12.9%	16.8%
Fix asset investment	33.6%	24.8%	23.9%
FDI	▲28.4%	23.0%	13.8%
Real estate sales	31.7%	▲19.7%	23.2%
New car sales	18.0%	6.7%	22.0%
Unemployment rate	-	4.2%	4.0%

Source: National Bureau of Statistics China

Impact of World Financial Crisis on Chinese Oil Demand

- Industrial sector: heavily affected
 - Export-oriented merchandise & equipment producing industries
 - Raw-material producing industries
 - Heavy industries affected more than light industries
- Transportation sector: decrease in logistics
- Residential sector: less affected

Impact of World Financial Crisis on Chinese Economy



Export Share by Item (2007)



Export Items Decreased in terms of Amount



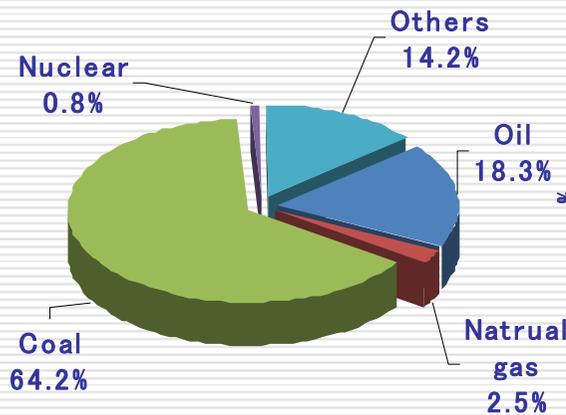
Source: Customs of China

Impact of World Financial Crisis on Chinese Oil Demand

- Energy demand shows increment slowdown after the financial crisis

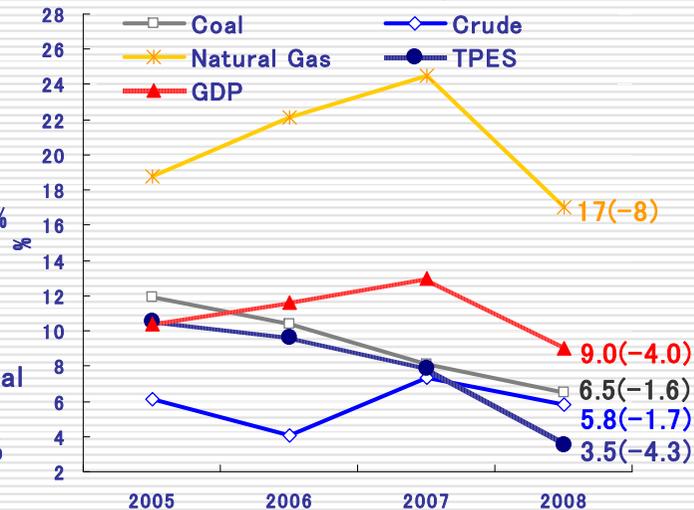
- Primary energy supply
 - Growth of 3.5% in 2008 (4.3 point lower than in 2007)
 - Slows further to 3.0% in Q1 2009
- Power generation
 - Growth of 5.3% in 2008 (8.5 point lower than in 2007)
 - Negative year-on-year growth rate from October 2008
 - Decline of 1.7% through H1 2009 (y-o-y)
 - Demand for coal is supposed to be suppressed

Primary Energy Supply (2006)



Source : IEA World Energy Statistics

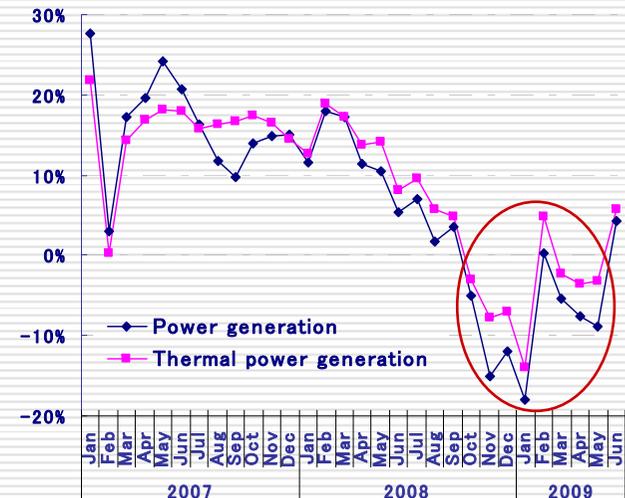
Growth of Primary Energy Supply (2008)



Source : China Statistics Yearbook

* data in () shows the year-on-year slowdown rate

Growth of Power Generation

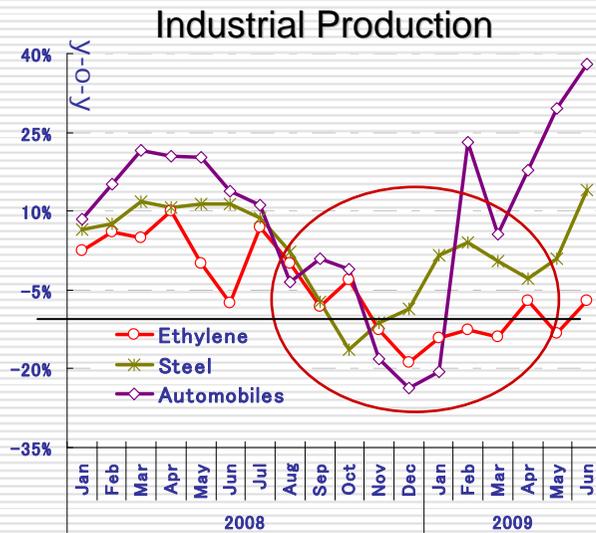


Source: China Electricity Council

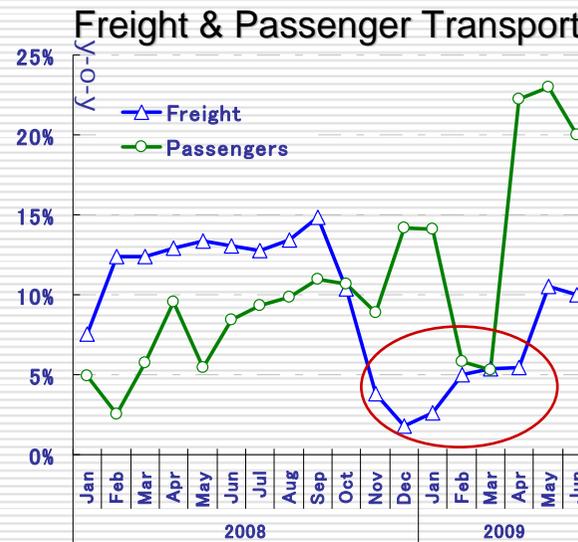
Impact of World Financial Crisis on Chinese Oil Demand

- Assessment of business activities of end-consumers

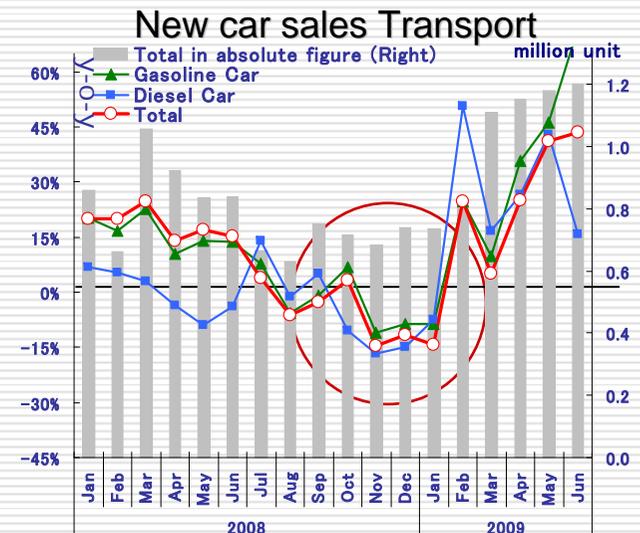
- Final consumption of oil
 - 27% for industry sector and 45% for transportation sector
- Demand decline since summer 2008, especially from Q4 2008 to Q1 2009
 - Demand for petroleum & chemical materials declines
 - Industrial fuel demand decreases
 - Demand in freight transportation slowdowns
 - New car sales decline
 - Sinopec's petroleum sales slumps 12.4% in Q1 2009
- Demand rebound after March 2009



Source: National Bureau of Statistics China



Source: National Bureau of Statistics China



Source: China Association of Automobile

Impact of World Financial Crisis on Chinese Oil Demand

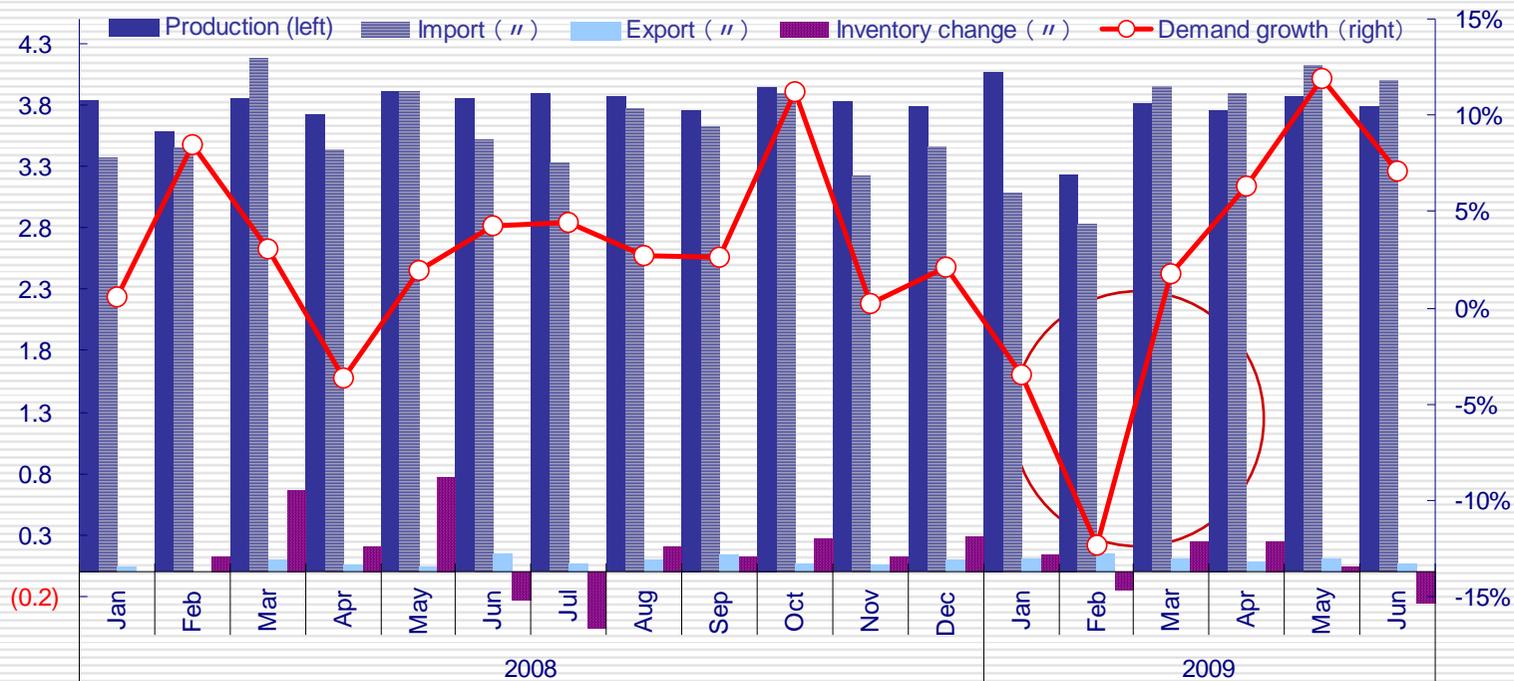
- Crude oil

- Slowdown in crude demand since 2009
 - 5.8% in 2008 (1.7 point lower than in 2007)
 - ▲6.8% in Q1, and ▲0.7% through H1 2009

Crude Supply & Demand Balance

mb/d

	Production			Import			Export			Inventory Change			Demand		
	'08	Q1'09	H1'09	'08	Q1'09	H1'09	'08	Q1'09	H1'09	'08	Q1'09	H1'09	'08	Q1'09	H1'09
Crude Oil	3.82	3.71	3.76	3.60	3.29	3.65	0.08	0.01	0.01	0.017	0.008	0.004	7.3	7.0	7.4
y-o-y	2.3%	-1.6%	-1.0%	9.6%	-10%	0.2%	-6.7%	164%	69%	-	-88%	-83%	5.8%	-4.6%	1.9%



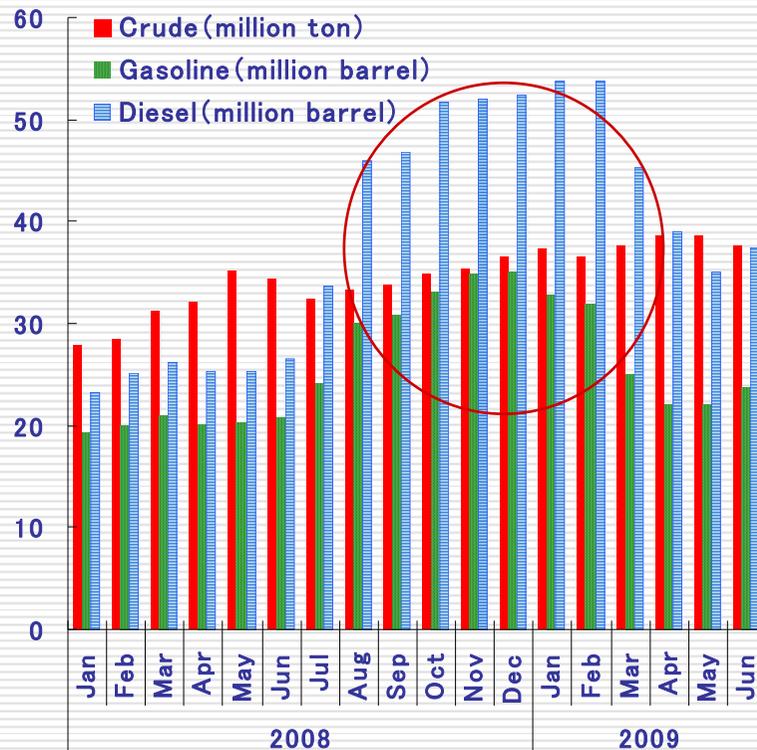
Source: National Bureau of Statistics China, Customs of China, China OGP

Impact of World Financial Crisis on Chinese Oil Demand

- Crude oil

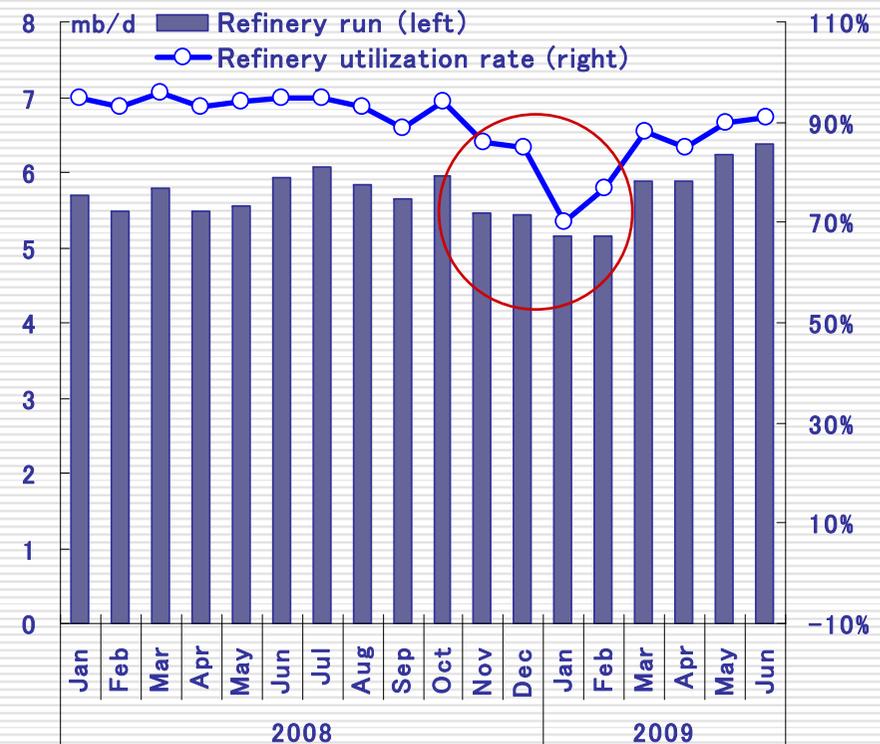
- Inventories on the rise since summer 2008
 - Refinery utilization rate drops to 70% in Jan and Feb 2009
 - Growth rate in refinery run drops to 3.7% in 2008 and further ▲8% in Jan and Feb 2009

Crude & Product Inventories



Source: China OGP

Refinery Run & Utilization Rate



Source: China OGP

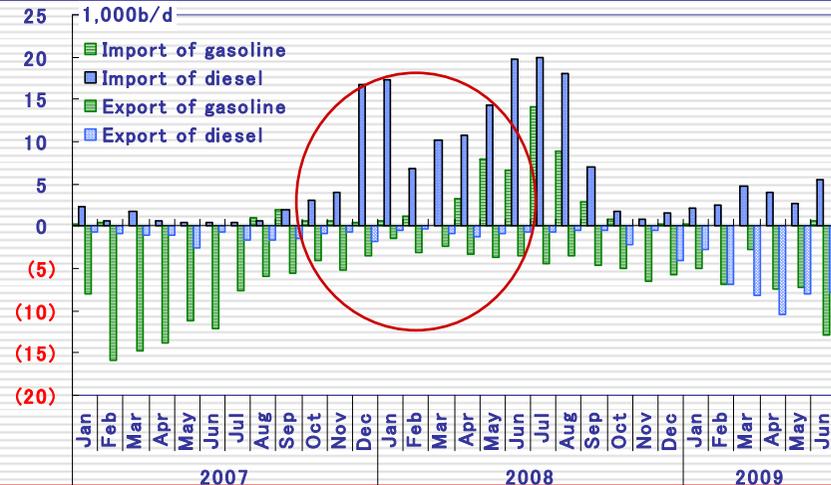
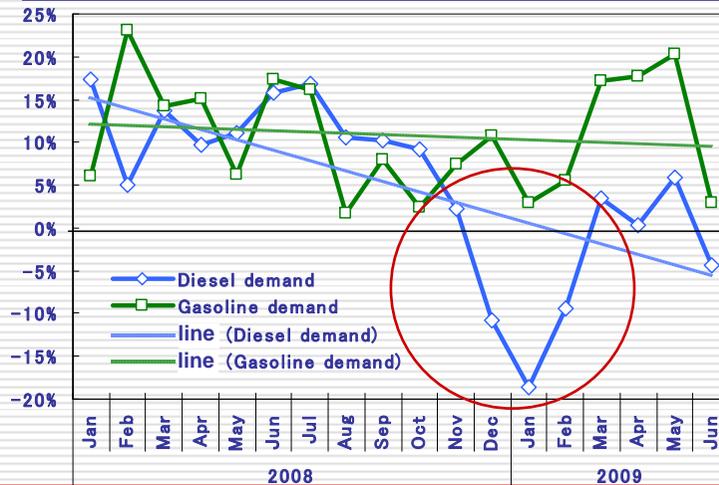
Impact of World Financial Crisis on Chinese Oil Demand

- Petroleum products

- Demand for petroleum products has been declining since summer 2008
 - 2008 demand growth rates of gasoline and kerosene are respectively 10% and 9% (4.2 and 1.9 point higher than 2007, respectively)
 - Import surge and export decrease in H1
 - Gasoline and kerosene rates of demand growth 10% and ▲9% for H1 2009, respectively
 - Kerosene demand more affected than gasoline demand

	Production			Import			Export			Inventory Change			Demand		
	'08	Q1'09	H1'09	'08	Q1'09	H1'09	'08	Q1'09	H1'09	'08	Q1'09	H1'09	'08	Q1'09	H1'09
Gasoline	1,470	1,470	1,570	50	3	0	50	60	80	40	-117	-60	1,430	1,530	1,550
Diesel	2,730	2,470	2,650	130	400	40	13	70	90	87	290	-80	2,760	2,510	2,680
Kerosene	249	258	281	139	128	129	114	10	118	-	-	-	274	376	292
	y-o-y														
Gasoline	5%	1%	11%	776%	-80%	-95%	-56%	113%	142%	664%	-374%	-1240%	10%	9%	10%
Diesel	8%	-7%	-1%	285%	-73%	-73%	-13%	957%	883%	757%	-158%	-1580%	9%	-8%	-4%
Kerosene	8%	0%	12%	24%	-1%	-6%	20%	-6%	7%	-	-	-	11%	0%	6%

1,000 b/d

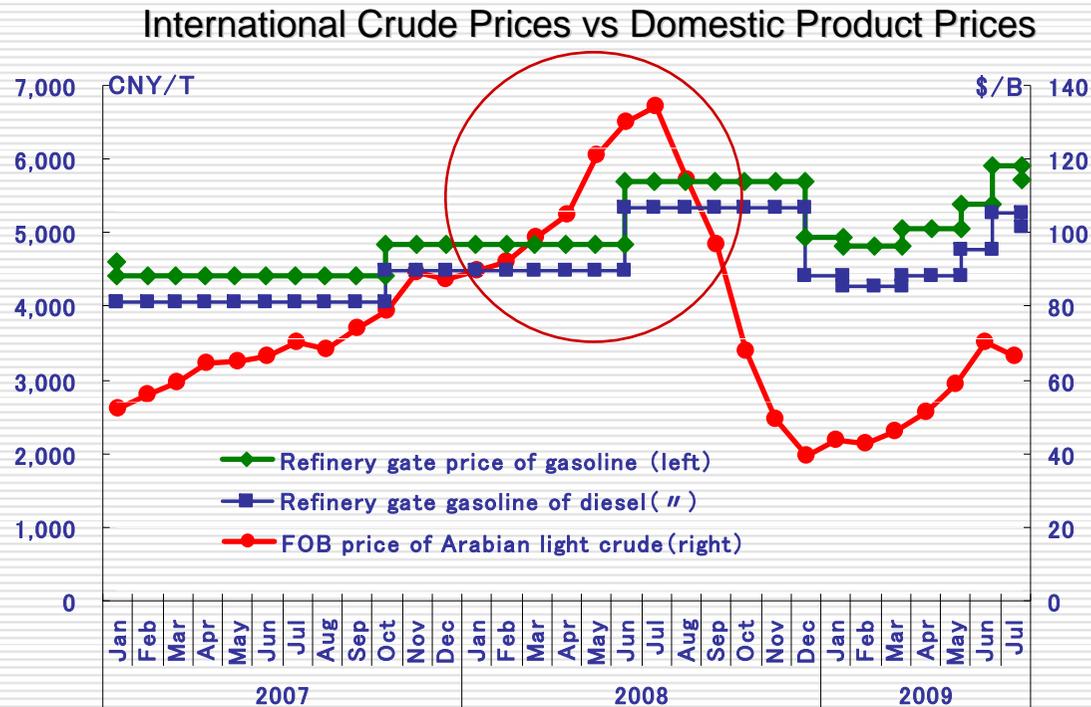


Source: National Bureau of Statistics China, Customs of China, China OGP

Impact of World Financial Crisis on Chinese Oil Demand

- Price factor

- Correlation of price hike and drop in demand
 - Soaring international crude oil prices until July 2008
 - Markup of domestic product prices after 20 Jun 2008
- Demand slump continues despite price reduction
 - International crude oil prices slump from mid-July 2008
 - Drastic markdown of domestic product prices from 19 Dec 2009 and further on 15 Jan 2009



Source : China Petroleum & Economy, Oil Report

* Same value with left and right axes (calculated by exchange rate of 1\$=6.83 Yuan)

Impact of World Financial Crisis on Chinese Oil Demand

- Revival after March 2009

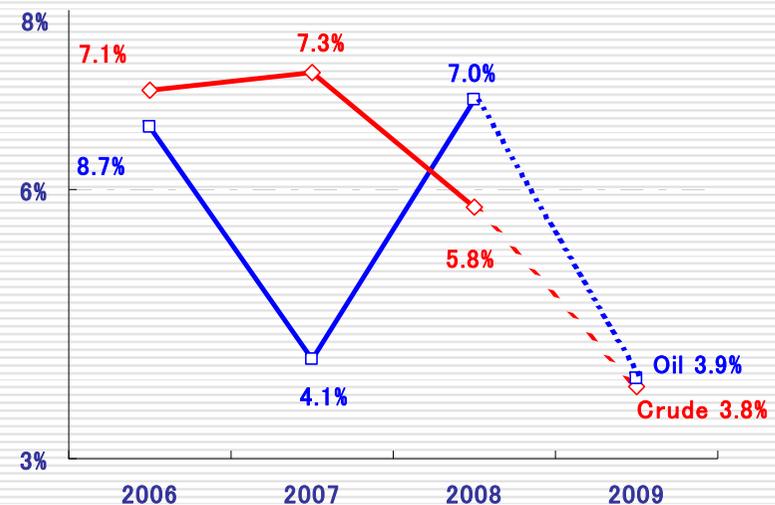
- Demand slowdown bottoms out in Q1 2009
 - Demand recovers in March 2009
 - Crude demand growth rate reaches 6.7% (y-o-y) in June
- Chinese government sees low demand growth in 2009
 - Primary energy supply growth rate of 3-4%
 - Power generation growth rate of 1-2%
 - Crude demand growth rate of 3.8% and oil demand growth rate of 3.9%
 - Domestic crude output cut – demand increment met by imports in 2009

IEA's Monthly Revision of Outlook for Chinese Oil Demand in 2009



Source: IEA Monthly Oil Market Report

NEA's Outlook for China's Oil Demand in 2009



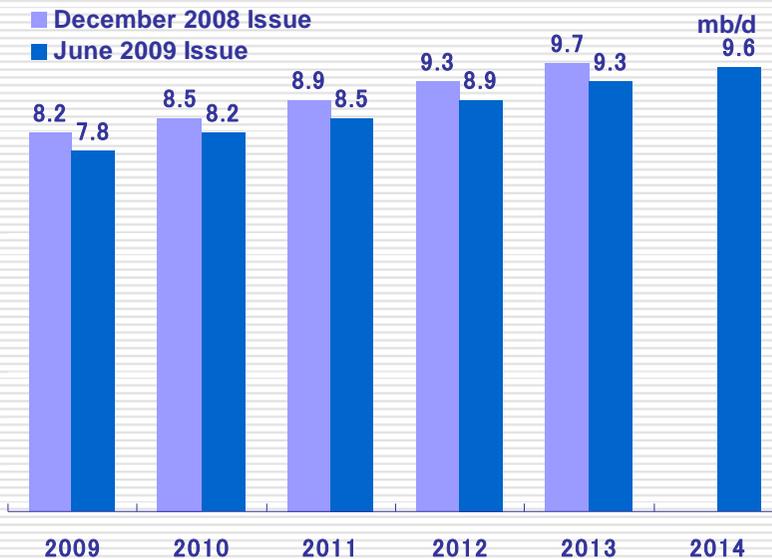
Source: China Energy Develop Report 2009

Impact of World Financial Crisis on Chinese Oil Demand

- Mid-term & long-term outlook for Chinese oil demand

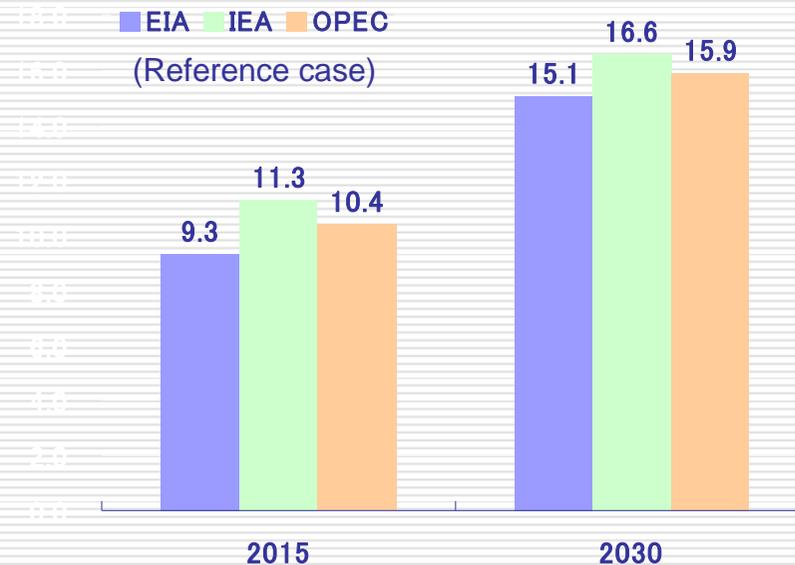
- Mid-term outlook for Chinese oil demand was revised downwards amid World Financial Crisis
- However, demand growth expected to be strong in light of economic growth and motorization progress

IEA's Mid-term Outlook for China's Oil Demand



Source: IEA Mid-Term Oil Market Report

Long-term Outlook for China's Oil Demand



Source: IEA, EIA, OPEC

* Biomass fuels excluded in IEA outlook

Strategies of Chinese NOCs in World Financial Crisis

- Impact of World Financial Crisis on Chinese NOCs

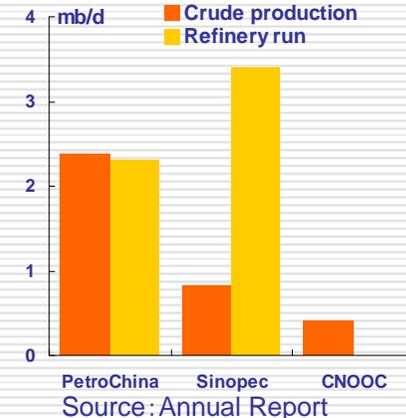
□ Impacting factors

- Demand decline
- Fluctuation of international crude oil prices and domestic petroleum product prices

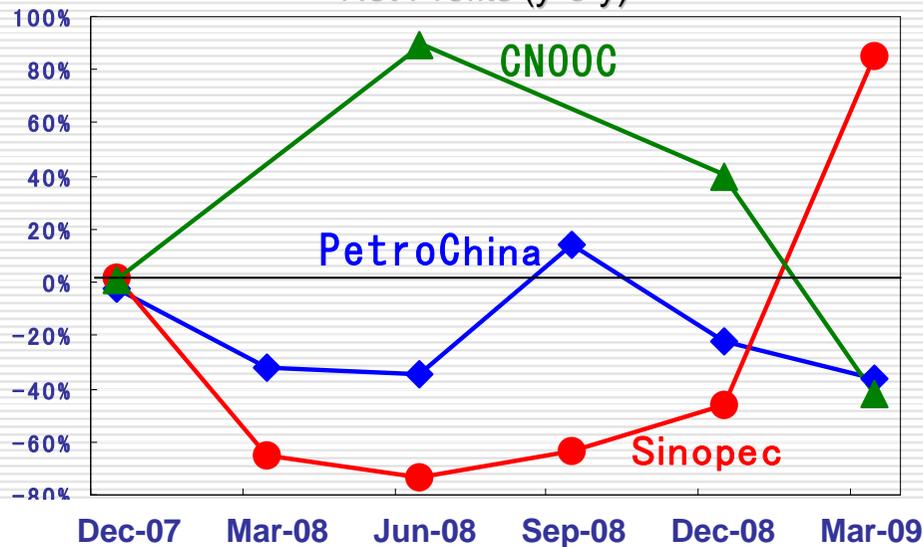
□ Results vary depending on the differences in business structures

- 3 companies' profit declines 30% in total in 2008
 - PetroChina and Sinopec decreases, CNOOC increases
- 3 companies' profit declines 40% in total in Q1 2009
 - Sinopec surges, PetroChina and CNOOC decreases

Business Structure

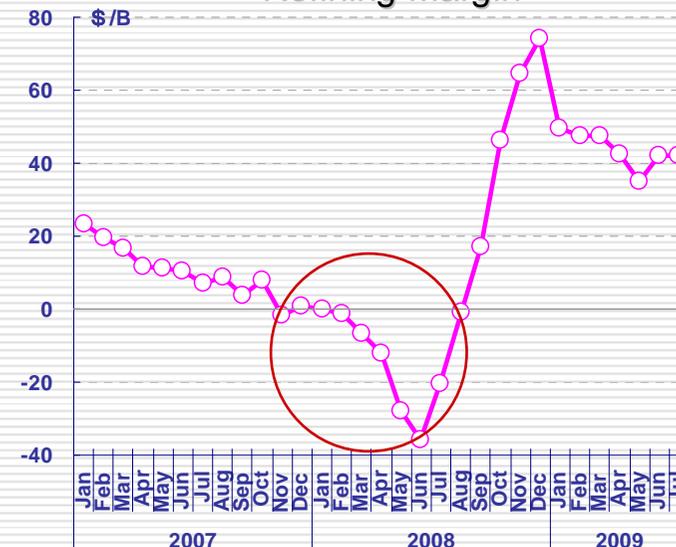


Net Profits (y-o-y)



Source: Annual Report

Refining Margin



Source: China Petroleum & Economy, Oil Report

* Calculated by difference in refinery gate price of diesel and FOB price of Arabian light DD crude

Strategies of Chinese NOCs in World Financial Crisis

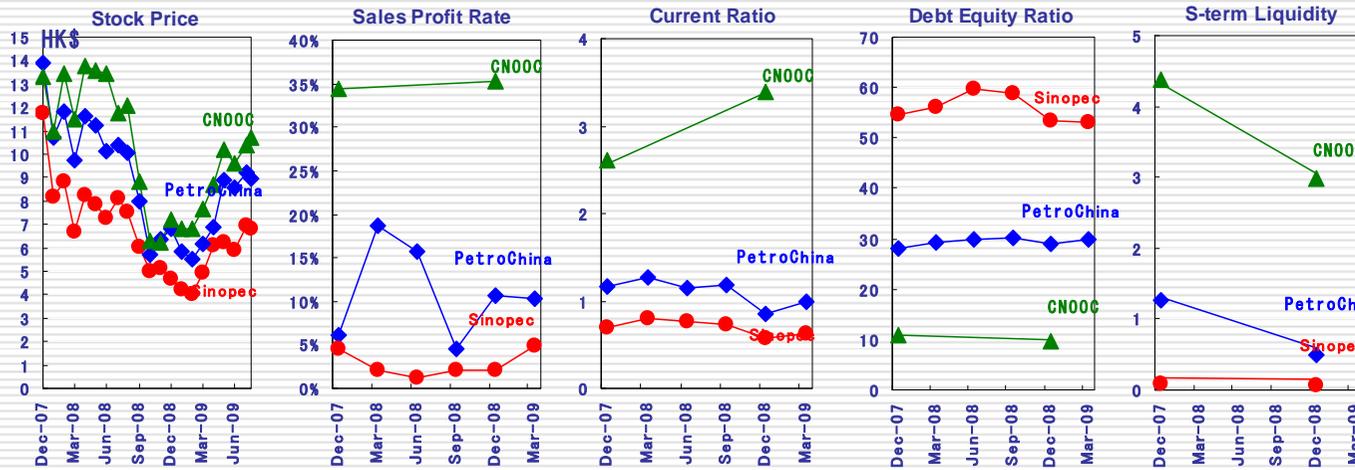
- Impact of World Financial Crisis on Chinese NOCs

- Performance advantages for 「CNOOC-PetroChina-Sinopec」
 - Heavy downstream production leads to lower performance
- Unprofitable downstream sector
 - Low domestic product prices and coupling with international crude oil price
 - Government subsidies for downstream sector
 - Windfall tax on upstream sector

Effect of Subsidies on Sinopec

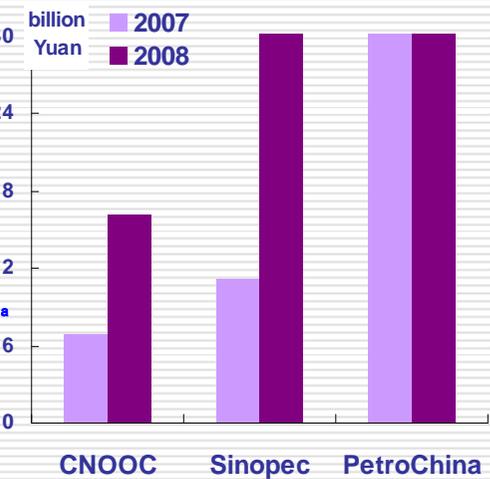


Comparisons of Stock Price, Profitability, and Stability



Source: Annual Report and other press materials

Volume of Windfall Tax

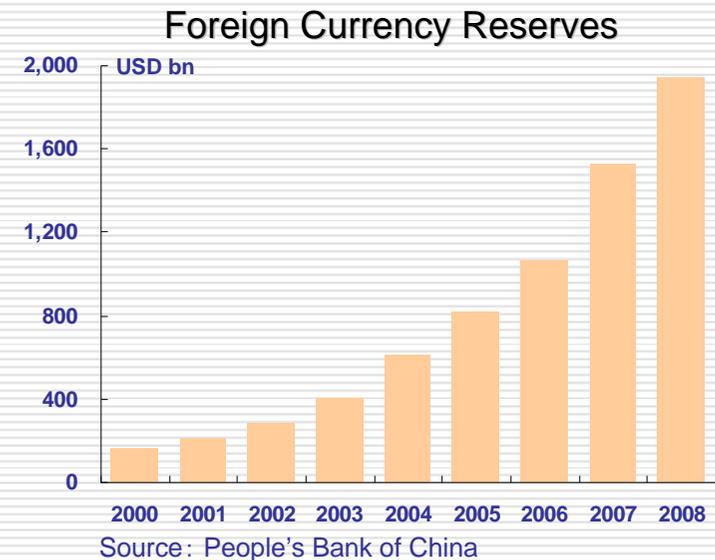


Source: Annual Report

Strategies of Chinese NOCs in World Financial Crisis

- Impact of World Financial Crisis on Chinese NOCs

- Domestic business adjustment for 2009
- Aggressive policies for overseas resource acquisitions
 - 3 attention-getting moves
 - Accelerating acquisitions of oil assets and equities overseas
 - Strengthening ties with oil producing countries (loan-for-oil deals)
 - Expanding strategic and commercial petroleum reserves
 - Background
 - Crude and asset price slumps
 - Funding requirement from oil-producing countries/companies
 - Weak domestic and international oil demand and supply surplus
 - Stable domestic financial market
 - \$2 trillion-foreign currency reserves and their use



Strategies of Chinese NOCs in World Financial Crisis

- Domestic business Adjustment

- Domestic business adjustment in 2009
 - Cuts in crude output and upstream investment
 - New refineries hold offs
 - Appropriation of cash flows for commercial storage facilities

A plan of 10%-cut on total investment and further cost savings in upstream sector announced on 15 Jul 2009

2009 Business Plans

		PetroChina		Sinopec		CNOOC	
			y-o-y (%)		y-o-y (%)		y-o-y (%)
Investment							
E&P, Crude production	billion Yuan	134	▲14.8	55	▲4.6	—	—
Refining & Marketing	billion Yuan	27.5	35.6	16.8	34.5	—	—
Petrochemical	billion Yuan	16	2.5	38	9.2	—	—
Others(incl. Gas pipeline)	billion Yuan	52.2	41.7	1.6	▲33.1	—	—
Total	billion Yuan	233	0.4	112	4.1	6.7	30
Production							
Refinery run	mb/d	2.26	▲2	3.68	8.9	0.42	0.1
Crude production	mb/d	2.24	▲4.3	0.82	1.3	0.46	15~18
Gas production	bf ³	201	8.1	35	20.5		

Source: Annual Report

Strategies of Chinese NOCs in World Financial Crisis

- Aggressive acquisitions of overseas assets

Changes in the external environment

Pre-Crisis

- Skyrocketing crude oil & asset prices
- Rising resource nationalism
- High investment incentives for oil majors
- Wariness over Chinese NOCs in the West

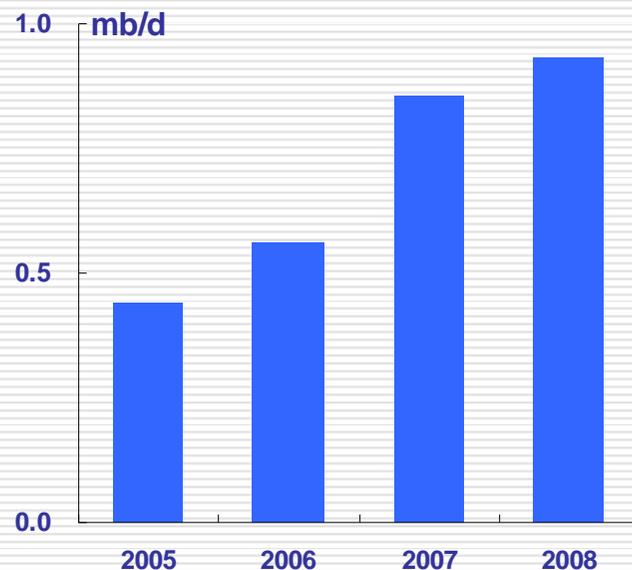
eg:
CNOOC's
failure to secure
the takeover of
UNOCAL in
2005

Post-Crisis

- Crude and asset price slumps
- Funding troubles in oil-producing countries
- Growing need for overseas fund procurement
- Oil majors' reluctance to invest

Strong funding support from the Chinese government

Volumes of Equity Crude



Source: Various press materials

Acquisitions Since Autumn 2008

Time	Target	Value (million dollar)	Company
Sep '09	Canadian firm Tanganyika Oil	18	Sinopec
Dec '09	Russian firm Urals Energy	1	Sinopec
Dec '09	Syrian Tanganyika Oil	17	Sinopec
Feb '09	Ghana Kosmos Energy	30	CNOOC
Feb '10	Canadian firm Verenex's assets in Libya	4	PetroChina
Apr '09	Canadian firm Northern Lights Oilsand (10%)	—	Sinopec
May '09	Singapore SPC (45.5%)	10	PetroChina
May '09	Australia BG bcm (10%)	—	CNOOC
Jun '09	South Parth gas field in Iran	47	PetroChina
Jun '09	Switzerland Addax Petroleum	75	Sinopec
Jun '09	Rumaylah Oil Fields in Iraq	-	PetroChina
Jul '09	Repsol's subsidiary YPF (oil asstes)	226	PetroChina/CNOOC
Jul '09	Oil equity in Angora from Marathon Oil	13	Sinopec/CNOOC
Jul '09	Equity of Azadegan oilfield (70%)	23	PetroChina

- Co-operations among Chinese NOCs on acquisitions
- Increase of downstream asset acquisitions

Strategies of Chinese NOCs in World Financial Crisis

- Loans-for-oil

- What does 「Loan-for-Oil」 mean?
 - Loan supplies to oil-producing countries by China
 - In exchange, long-term oil supplies from oil-producing countries to China

Recent Loan-for-Oil Deals

Time	Conterpart	Loan Amount (billion\$)	Contracted Crude Supply	Company	Import volume for 2008 (share of total import)
Feb '09	Russia	25	300 tb/dx20yrs	PetroChina	2.3tb/d (6.5%)
Apr '09	Ecuador	1	-	-	2.1tb/d (0.6%)
Apr '09	Kazakhstan	5	-	PetroChina	1.1tb/d (3.2%)
May '09	Brazil	10	200tb/dx10yrs	Sinopec	0.6tb/d (1.6%)
Jul '09	Venezuela	4	-	PetroChina	1.3tb/d (3.6%)

* China also agreed with Turkmenistan on a loan supply of \$3billion in Jun 2009, and Turkmenistan raised its gas export plan to China from 30bcm/y to 40bcm/y.

Source: Various press materials

- Total acquisition expense and loan amount of \$100 billion = 5% of the total foreign currency reserves

Strategies of Chinese NOCs in World Financial Crisis

- Accelerated expansion of the petroleum reserves

- SPR Phase I: 4 sites with storage capacity of 103 million barrels
 - Equals to 14 days of 2008 consumption level
 - Completed in early 2009
 - Procured at an average cost of about \$60 per barrel
 - Phase II: 8 sites with storage capacity of 1.69 million barrels
 - Covers 30 days of projected 2015 consumption level
 - Scheduled for completion by 2015
 - Storage facilities with capacity of 80 million barrels of petroleum products scheduled for completion by 2011
 - Construction of the Tianjin site to begin by the end of 2009
 - Diversifications
 - SPR - owned by central government, commercial reserves - owned by NOCs, reserves are also raised by local government or private companies
 - Variety extension from crude reserves to petroleum products
 - Underground and inland sites
 - Phase III: 90-100 days (announced by NEA in Apr 2009)
-

Government Oil Policies after World Financial Crisis

- Quick and front-loaded implementation of new and scheduled energy projects

- 9% of the 4-trillion-yuan economic stimulus package allocated to energy-related investment
 - 2nd West-East gas pipeline
 - SPR Phase II
 - 3 nuclear power plants
 - "Initiatives for Petroleum & Chemicals Industry (2009-2011)" announced in May 2009 with investment of 500 billion yuans
 - 400 billion yuans for new refining and chemicals complexes
 - 100 billion yuans for equipment upgrades
 - 100 billion yuans for gasoline and diesel upgrades to Euro 3&4 standards
 - Energy conservation aiming for 12% efficiency improvement
 - Promotion of industry consolidation
 - Enhancement of refining capacities for processing imported crude oil
 - Acceleration of SPR expansion
 - Support for overseas E&D in forms of procedure simplification, loan & foreign currency supplies, and tax reductions
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Government Oil Policies after World Financial Crisis

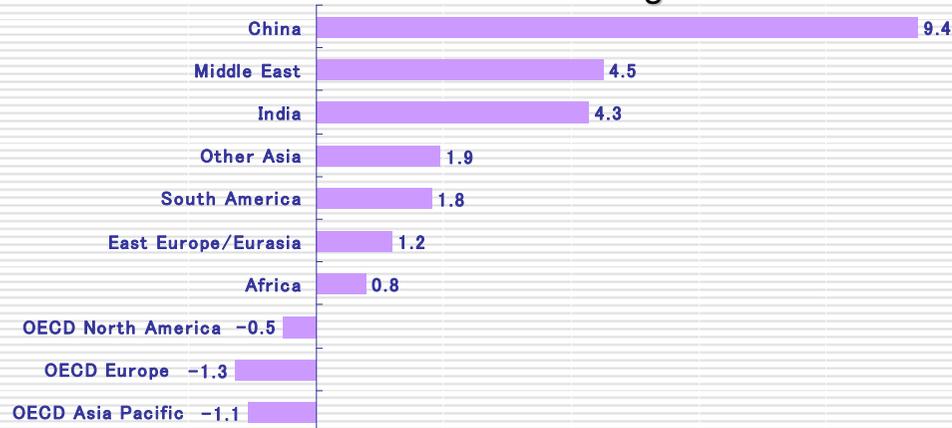
- Petroleum pricing mechanism reform

- Petroleum pricing mechanism reform from 2009
 - “New Petroleum Pricing Mechanism” published by NDRC (24 May 2009)
 - Retail prices = ex-refinery prices + processing costs + transportation charges + refining margins + value-added tax + consumption tax
 - NDRC can adjust ex-refinery prices when international benchmark crude prices fluctuate more than 4% over 22 consecutive working days
 - ⇒ Refining margins set at 5% when crude prices are below \$80/bbl
 - ⇒ Refining margins squeezed gradually to zero when crude prices are in excess of \$80/bbl
 - ⇒ fuel prices would not go further up, or only be raised by a small margin, when crude prices rise above \$130 per barrel. and fiscal and tax tools would be used to ensure supplies
 - Still an government interventional mechanism without real interlocking relations with international prices
 - Dilemma of the new pricing mechanism
 - Doubt from the public on the old murky pricing mechanism
 - Worries about speculations from transparency with the new one
 - Possibilities of review on pricing mechanism in the near future
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Implications for International Oil Market

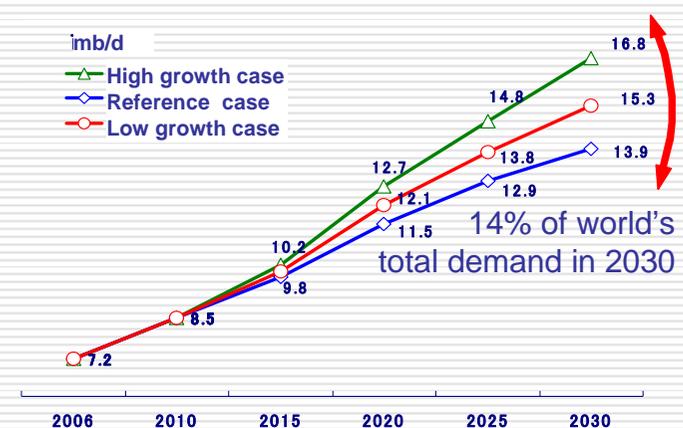
- Long-standing factors driving the growth of world oil demand
 - Chinese demand grew in 2008 and continued to grow in 2009 despite World Financial Crisis, while world's total oil demand declines
 - China as one of a few large consuming countries with the prospects of stable demand growth
 - Further demand growth driven by the expansion of petroleum reserves
- Prominent role in worldwide upstream investment
- More significant player in international oil supply & demand, price and resource diplomacy
 - However, there is still a possibility of increasing uncertainties concerning the stability of international oil market

IEA's Outlook for Regional Oil Demand



Source: IEA World Energy Outlook 2008

EIA's Outlook for China's Oil Demand



Source: EIA International Energy Outlook 2009

Challenges facing Chinese oil market

- Strong demand growth in light of the fast economic growth and motorization progress from now on
 - Increasing importance of ensuring oil security
 - Oil import dependency is expected to surge to 64% in 2020
(China Energy Development Report 2009)
 - Oil market and industry reform
 - Internationalization of domestic petroleum prices
 - Improvement of competitiveness of domestic oil industry
 - Compatibility of economic growth & sustainability with harmonious social policies
 - Rising importance of effective responses to the environment & climate change based on the international consensus
-

Conclusions

- Chinese economy has experienced a slowdown amid the World Financial Crisis. However, it has recently been showing signs of recovery ahead of other countries. Still, there are various uncertainties about its economic rebound.
 - Economic recession resulted in a slump in energy demand, especially in industrial energy demand. Oil demand fell dramatically from late 2008 and was continuing to fall until early 2009, bottoming out in Q1 and rebounding from 2Q 2009. Chinese government expects oil demand growth rate for 2009 to stand at less than 4%.
 - Drop in demand and crude prices had a double negative impact on Chinese NOCs performance as well. NOCs have cut their domestic upstream investment and production in the short-term. However, they will possibly start investing heavily in the mid-/long-term in order to respond to a steadily increasing growth in domestic oil demand.
-

Conclusions

- Continued

- ❑ Meanwhile, taking advantage of various changes in investment environment in the global oil market during World Financial Crisis, Chinese NOCs are actively advancing their asset and equity acquisitions for overseas energy resources.
 - ❑ Strategies worth noting also include China strengthening its ties with oil-producing countries and actively promoting petroleum reserve expansion policy, taking advantage of low crude prices and weak demand.
 - ❑ Reforms concerning the domestic petroleum price mechanism has been progressing significantly since 2009; however, they are still on their way for further improvement.
 - ❑ Growing demand, active overseas acquisitions and resource diplomacy are expected to make China a more significant player in world oil markets, along with its influential power on the stability of the world oil market.
 - ❑ In order to achieve a sustainable and stable development of both Chinese and the international oil market, policies on energy conservation, development of alternative energy sources and petroleum reserves would be important.
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Thank you !

Appendix 1: NOCs' Business Performance in 2008

		PetroChina		Sinopec		CNOOC	
		y-o-y or % of last year		y-o-y or % of last year		y-o-y or % of last year	
Finances							
Sales	billion Yuan	10,711	28%	14,521	21%	1,260	39%
Net profit	billion Yuan	1,138	▲22%	297	▲47%	444	42%
Upstream sector	billion Yuan	2,402	16%	666	37%	444	42%
Downstream sector	billion Yuan	▲830	—	▲615	—	—	—
Total assets	billion Yuan	11,949	36%	7,522	5%	0.46	0.02%
Earnings on equity	%	14.8	22.8	9.0	18.3	30.1	25.8
Sales profit rate	%	10.6	3.2	2	4.6	35	34
Current ratio	%	86	117	57	69.0	339	260
Debt equity ration	%	29	28	53	55.0	962	974
Short-term liquidity	month	1.1	1.2	0.1	0.1	6.0	4.4
Production							
Crude production	mb/d	2.38	2.9%	0.82	1.7%	0.42	13.5%
Refinery run	mb/d	2.32	3.2%	3.38	4.5%	—	—
Gas production	bf ³	186	14.5%	29.3	3.7%	20.4	14.0%
Service station	unit	17,500	▲6.4%	29,300	0.7%	—	—

Source: Annual Report

Appendix 2: SPRs



Source: Various press materials