Decelerated China's Oil Demand

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Summary

Although oil demand in China has increased steadily, its growth rate began to slow down in 2011. China's economic robustness may have faded partially because investment and exports which helped the economy to boom has started to decline. This economic slump could be a cause of the oil demand decrease. However, there are factors that underpin oil demand in China. Short-term factors include the country's economic stimulus package and the need to pump oil to facilities such as strategic petroleum reserves and new refineries, which is expected to occur later this year and next year. These factors will help oil demand to pick up its earlier growth, depending on the economic conditions in Europe and China. In the long term, since there is room left for motorization in China, vehicle ownership is likely to increase, which will boost oil demand. Therefore, oil demand in China is expected to increase certainly in the future, albeit more slowly.

Introduction

How will the international oil market be affected by the decelerating growth in China's oil demand, resulting from the economic slump since last year? China is a major oil consumer with more than 10% of the world's demand. According to the outlook of the International Energy Agency (IEA)[1], China is expected to account for nearly half of the total increase in world oil demand through 2035. Thus, the trends and outlook for China's oil demand are crucial factors to analyze the prospects of the global oil market. This paper first shows that the growth trend of China's oil demand has slowed down since 2011, and briefly explains the relationship between the country's economic slump and its impact on oil demand. Then, the factors that will boost oil demand in China are identified, followed by discussion of the prospects for the country's oil demand.

1. Current Trend in Oil Demand in China[2]

Oil demand in China has increased steadily, albeit with occasional dips. It reached 9.75 million b/d in the first quarter of 2012, a substantial increase of 2.4 million b/d in just five years from the same quarter of 2007 (Fig. 1-1). The country went through a plunge in oil

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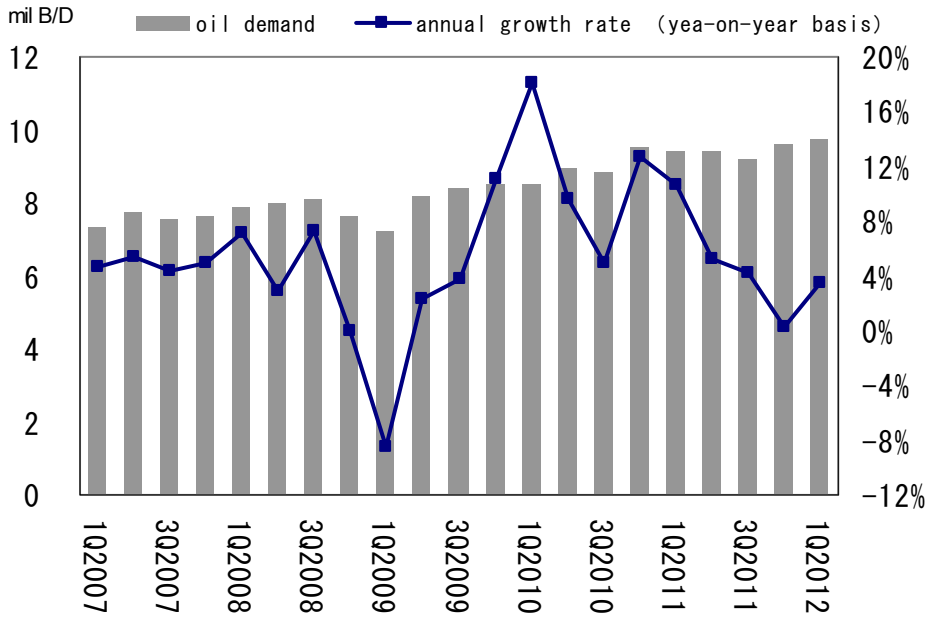
1 IEA(2011). *World Energy Outlook 2011*.

2 China does not release official oil demand data, so data used is "apparent demand" figures (which are the sum of net imports of petroleum products and domestic output) estimated in the IEA *Oil Market Report.* In this paper, unless otherwise specified, oil demand in China refers to "apparent demand."

demand between the latter half of 2008 and the first quarter of 2009 due to the global financial crisis. China's oil demand then regained its upward trend in 2009, probably because the 4 trillion yuan (around 50 trillion yen) economic stimulus package launched in November 2008 effectively worked. In 2010, oil demand reached 8.95 million b/d, a year-on-year increase of 11.0%, despite a slight drop in the third quarter of 2010. In 2011, oil demand rose by 5.0% from a year earlier to 9.40 million b/d, while the annual growth rate has decelerated since the beginning of 2011 after recording 12.6% in the fourth quarter of 2010.

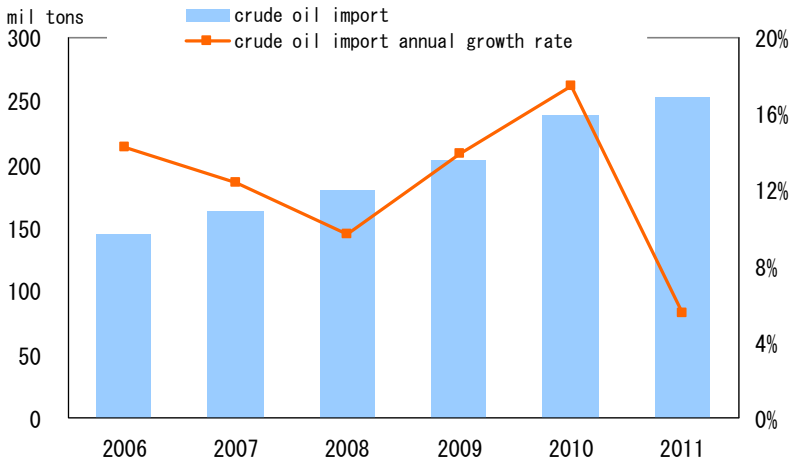
Similarly, China also experienced a year-on-year decline in crude oil imports in 2011 (Fig. 1-2). While the country's imports have robustly increased, the year-on-year growth rate dropped sharply to 5.5% in 2011 from 17.4% in 2010, reflecting decreased domestic demand growth.

Fig. 1-1 China's Apparent Oil Demand (quarterly basis)



Sources: IEA. *Oil Market Report.*

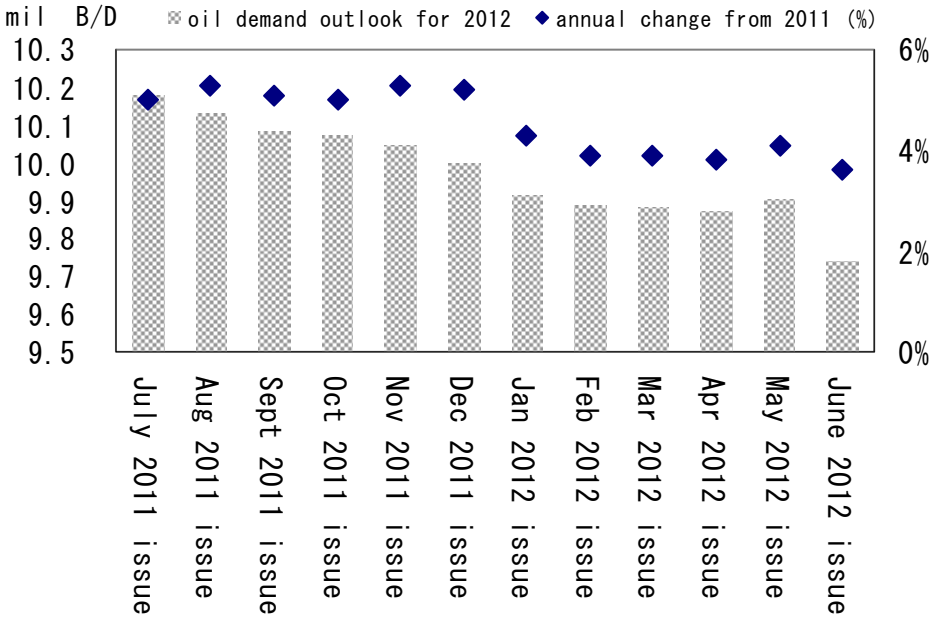
Fig. 1-2 China's Annual Crude Oil Imports



Source: China Oil, Gas & Petrochemicals.

The outlook for Chinese oil demand in 2012 has been revised downward, since the oil demand growth, which had been expected to surge, has decelerated since the beginning of 2011. Figure 1-3 shows how the IEA *Oil Market Report* made revisions on the outlook for China's oil demand in 2012 in every issue from July 2011 to June 2012. The outlook for China's oil demand was revised downward by 440,000 b/d in the June 2012 issue compared to the July 2011. In addition, the growth rate in oil demand was also lowered to 3.6% from the 5.0% projected in the previous year.

Fig. 1-3 IEA Outlook for Oil Demand in China



Sources: *Oil Market Report*, IEA.

China's petroleum demand is shown in Fig. 1-4. This demonstrates the monthly increments and decrements of oil demand on a year-on-year basis for each petroleum product in order to analyze the impacts free of seasonal variations.[3]

First, the increments of diesel demand have shrunk significantly since the latter half of 2011. Diesel is used by industry for production, power generation and transportation and thus is most likely to reflect the economy among all petroleum products. The declining growth rate, therefore, reflects the impacts of the economy recession.

In addition, China's sluggish economy could also attribute the demand decrease for fuel oil in 2011. In China, about 70% of the final consumption of fuel oil is consumed in the industry sectors[4], mainly nonferrous and petrochemicals. As explained in the next chapter, China's manufacturing industry has been sluggish since mid 2011, resulting in a decrease of fuel oil consumption from the previous year.

Meanwhile, gasoline demand has robustly increased. The extension of the November 2008 stimulus package (a tax break on purchases of small-sized passenger vehicles and a subsidy for replacement of old inefficient vehicles) up until the end of 2010 encouraged new vehicle sales, which led to the double-digit growth in 2010 (Fig. 1-5). From February 2011, the year-on-year growth rate of new passenger vehicle sales remained below 10% for most months, which partly could be offset by the considerably high growth rates in 2010. However, although commercial vehicle sales actually declined, passenger vehicle sales still showed positive growth, achieving double-digit year-on-year growth again in 2012.[5] This increase in new vehicle sales caused the gasoline demand increase.

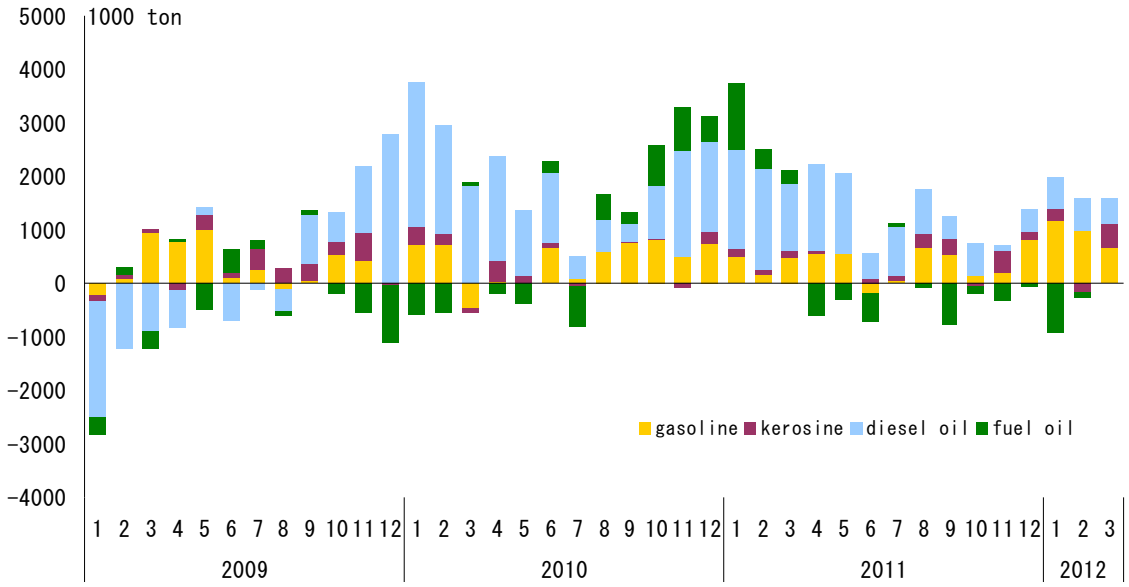
Fig. 1-4 China's (Apparent) Demand for Major Petroleum Products (Year-on-Year Basis)

3 Seasonal factors which account for drops in diesel oil demand in China include: slowdown of industrial activity during the Spring Festival, end of the summer harvest in the agricultural sector in July, and suspension of activity in the fishing sector also in July.

4.According to IEA data (Energy Balances of Non-OECD Countries 2011 Edition), the industry sector accounted for 67% of fuel oil demand in terms of final energy demand in 2009. (However, demand is starting to decline.) Fuel oil used to be the main fuel for industry, but diesel has become dominant in recent years.

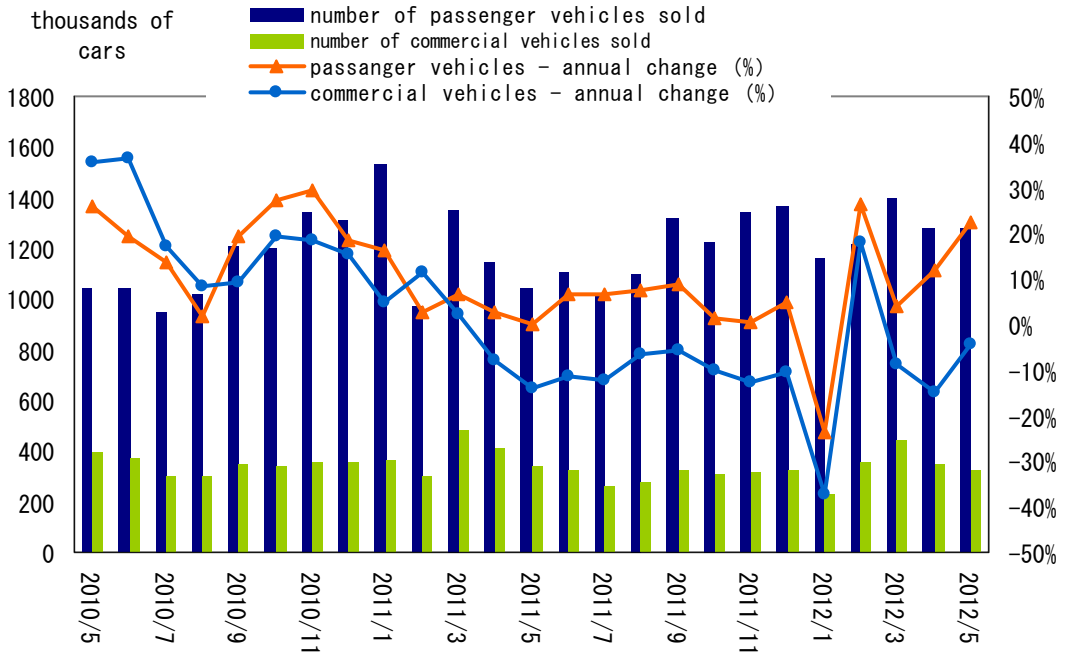
5 Reuters, January 14, 2012.

The sharp drop in year-on-year growth rate of new vehicle sales in January 2012 is assumed to have resulted from fewer-than-usual working (operating) hours at auto manufacturers and car dealers as the Spring Festival started earlier in the month. On the contrary, the lower-than-usual sales in February in the previous year (2011) when the Spring Festival fell in that month led to a steep year-on-year increase in sales in the same month in 2012.



Sources: APEC Energy Database

Fig. 1-5 New Vehicle Sales



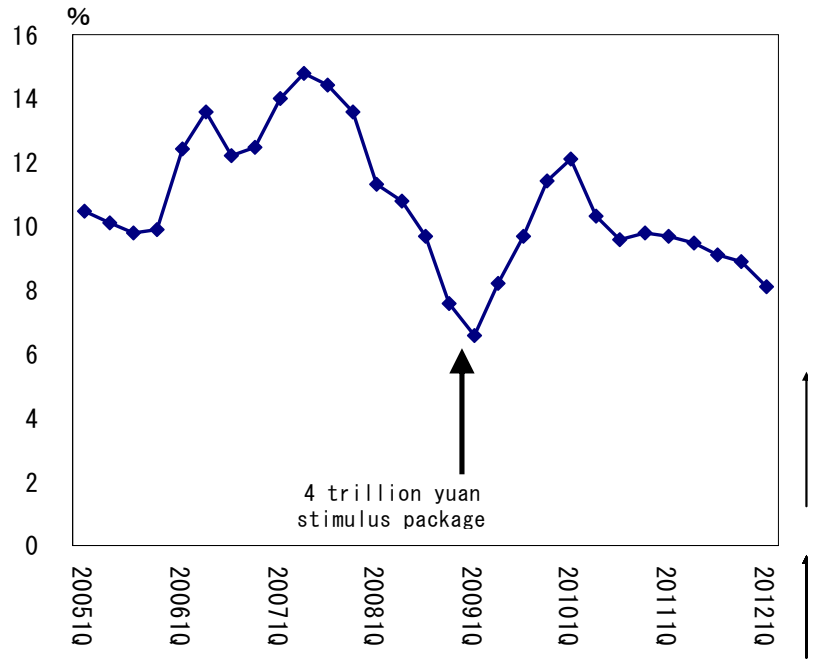
Sources: China Association of Automobile Manufacturers

2. China's Oil Demand Decrease and Economic Slump

China's decelerated economy is considered as the main factor to decrease oil demand from 2011. There is generally a positive correlation between oil demand and economic activity; when economy is robust, oil demand increases, and vice versa. China recorded high GDP growth exceeding 10% for five consecutive years since 2003. Although GDP growth went down to 9.0% after Lehman Brothers collapsed in 2008, it bounced back to 10.4% in 2010 before slipping to 9.2% in 2011. The GDP growth rate target was set at 7% in the 12th Five-Year Plan (2011–2015), which is lower than the 7.5% targeted in the 11th Five-Year Plan. Figure 2-1 illustrates quarterly GDP growth rate, in which GDP hit bottom at 6.6% in the first quarter of 2009, peaked at 12.1% in the first quarter of 2010, and then declined.

China's economic slump is also seen in the Purchasing Manager's Index (PMI) (Fig. 2-2).[6] A PMI value of 50 or higher indicates an economy boom, while a figure below 50 means a recession. China's PMI has been low at around 51 since June 2011, plunging to 49 in December the same year. It then recovered to a 13-month high of 53.3 in April 2012 before falling back to 50.4 in the next month.

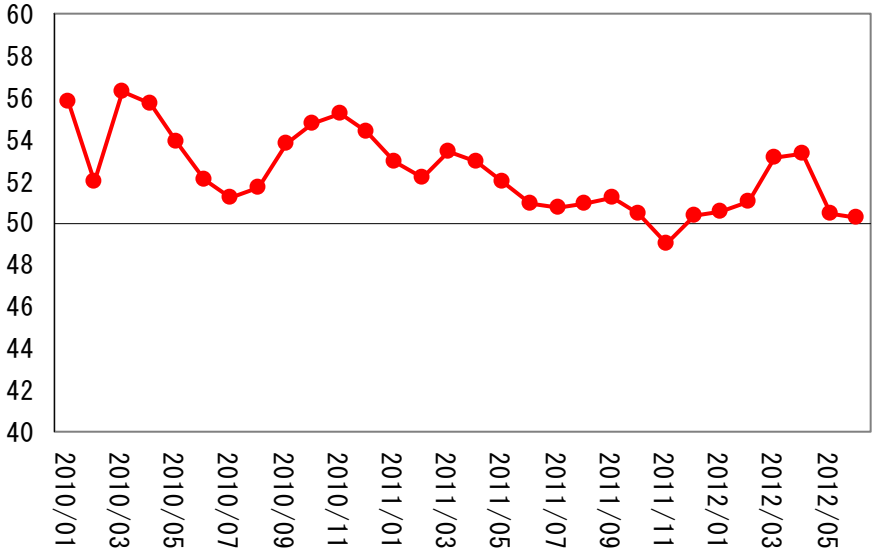
Fig. 2-1 China's Quarterly GDP Growth



Sources: National Bureau of Statistics of China

6 An indicator used to forecast the economy based on a survey conducted among purchasing managers regarding their production plans and materials to be purchased.

Fig. 2-2 Purchasing Manager's Index (PMI) for China's Manufacturing Industry



Sources: National Bureau of Statistics of China

It seems that a major factor behind the slowdown of China's economic growth is diminished investment and exports, which sustain the country's economy. In China, investment in fixed assets was the major driver of economic expansion in the 2000s. However, investment in property development, which accounts for one-fourth of fixed asset investment, and in railway infrastructure then stalled in 2011. Property development rapidly increased in 2010 due to the economic stimulus package implemented after the global financial crisis in 2008. However, this triggered upsurge of real estate prices, particularly in the major eastern cities as a result of speculative funds flowing into the property market, with concerns of a real estate bubble. In April 2012, the Chinese government introduced a measure to curb speculative investment, along with a tight monetary policy. Consequently, investment in property development slowed down since July 2011, posting lower levels compared to the previous year while housing prices have declined particularly in the major cities to the east.[7,8] Regarding railway infrastructure,[9] investment in this area plummeted by 34% in 2011 from a year earlier due to the adverse impacts of the bullet train accident in Zhejiang province in July 2011 as well as insolvency

7 "2012 I – Global Economy sees Tension Continuing over European Sovereign Debt Crisis, World Economic Trend", June 2012, Cabinet Office.

8 Such tendency in property development affects the demand for petroleum products in the following ways: Since the construction of commercial facilities and homes requires steel and cement, boosting the energy-intensive industries such as iron & steel, nonferrous and petrochemicals, the demand for fuel oil, diesel and naphtha increases. Infrastructure building also boosts the demand for asphalt. Therefore, when property development goes down, petroleum products demand decreases.

9 Priority is put on transport infrastructure such as railways and roads in the 11th and 12th Five-Year Plans. Transport infrastructure improvements expanded to a greater degree, accounting for about 38% of the economic stimulus package launched in 2008. The growth rate in the construction of railways and roads is expected to lose momentum in the 12th Five-Year Plan although the actual investment amount will exceed that of the 11th Five-Year Plan.

problems in the railway sector. Investment in railway infrastructure fell by 54% year-on-year in the period from January to April 2012.[10]

Another reason for China's economic slump might be sluggish exports due to recession in Europe which is a major trading partner. According to China Customs Statistics, exports to the EU in 2011 achieved double-digit growth of 14.4% although the growth rate declined from the previous year. However, negative growth of exports continued in 2012, down 0.8% year-on-year from January to May 2012.

Thus, both investment and exports, which propped up the Chinese economy, began to slow down, putting downward pressure on oil demand.

3. Prospects for Oil Demand

The slow growth in oil demand is significantly affected by the economic recession in China, but there are factors that will surely help maintain or increase oil demand. It is likely that oil demand will continue to rise, although at a slower pace. The following sections describe what factors will possibly lead China's oil demand upward.

3-1 Impacts of Economic Stimulus Package

Recovery of the Chinese economy will encourage oil demand increase if economy's robustness is related to its oil demand. China introduced measures to stimulate the economy, which should, if successful, contribute to an increase in oil demand.

First, what were the impacts of the 4 trillion yuan (around 50 trillion yen) stimulus package implemented when the economy slowed down in the wake of the global financial crisis in 2008? This economic remedy focused on public works with emphasis on infrastructure development,[11] but also included measures to stimulate household consumption. Taxes were lowered on purchases of passenger vehicles smaller than 1600cc, while government subsidies were granted to designated types of electrical appliances and automobiles, to encourage replacement of old ones and the use of such products in villages. The 2008 stimulus package certainly helped the economy to recover in 2009, boosting oil demand. However, the large-scale stimulus package also left behind various problems such as inflation, local government debt increase, a property bubble due to speculative investment, and redundant infrastructure.

10 New China News Agency, May 16, 2012.

11 Breakdown of 4 trillion yuan for public works: (1) 1.5 trillion yuan (37.5%) for railways, roads, airports, power networks; (2) 1 trillion yuan (25.0%) for post-quake reconstruction; (3) 400 billion yuan (10%) for housing; (4) 370 billion yuan (9.3%) for infrastructure in villages; (5) 370 billion yuan (9.3%) for technical innovation and industrial structure revamping; (6) 210 billion yuan (5.3%) for energy saving and environmental technology; and (7) 150 billion yuan (3.8%) for medical treatment and education.

What stimulus package is considered to improve the economy this time? The Chinese government has tried to shift from investment-led economic growth to consumption-led growth driven by the household economy,[12] launching a series of measures to stimulate domestic consumption in May 2012 (Table 3-1). Public expenditures are used to promote sales of energy-saving appliances, small-sized and eco-friendly vehicles to increase domestic consumption.

Table 3-1 Consumption-based Stimulus Measures (as of May 2012)

	Stimulus Measures	Designated target	Subsidy and Period
May-16	Promotion of energy-efficient appliances	Five sorts of electrical appliances which meet certain energy-saving standards, including air conditioners, flat-panel TVs, refrigerators, washing machines, and water heaters. The total subsidy per unit varies, depending on appliances and energy efficiency criteria.	26.5 billion yuan (about 330 billion yen) 100-400 yuan (about 1,250-5,000 yen) for flat-panel TVs 180-400 yuan (about 2,250-5,000 yen) for air conditioners 1-year from June 2012
		Energy-efficient and LED lights.	2.2 billion yuan (about 27.5 billion yen)
	Promotion of small-sized vehicles	Fuel efficient small-sized vehicles with engine of less than 1,600cc	6 billion yuan (about 75 billion yen)
May-24	Support of renewable energy	Projects with priority on energy efficiency and renewable energy	97.9 billion yuan (about 1,224 billion yen)
May-29	Promotion of eco-friendly vehicles	Parking, recharging, and road tariff of eco-friendly vehicles in pilot cites	From 1 billion yuan per year (12.5 billion yen) to 2 billion yuan (25 billion yen)

Sources: various media resources

However, the stimulus measures this time seem to be designed to expand not only domestic consumption, but also investment in order to encourage the economy.[13]

The number of approved infrastructure projects have increased since the start of 2012. It doubled from January to April 2012 compared with the same period in the previous year.[14] The National Development and Reform Commission approved as many as 100 projects in the energy sector alone (mostly for wind, hydroelectric, biomass, and solar power) on May 21, 2012.[15]

Furthermore, the People's Bank of China lowered the lending and deposit base rates for financial institutions by 0.25% on June 8, 2012, for the first time in three and a half years since December 2008. Although the Chinese government has been prudent about monetary easing in

12 "2012 I – Global Economy sees Tension Continuing over European Sovereign Debt Crisis, World Economic Trend", June 2012, Cabinet Office.
In the fifth People's National Congress held in March 2012, "expanding domestic demand (especially consumption)" was given highest priority in the macro economy, replacing "price stabilization" in 2011.
13 Reuters, May 30, 2012.
Premier Wen Jiabao announced accelerating the major investment projects proposed in the 12th Five-Year Plan.
14 Financial Times, June 5, 2012.
15 Petroleum Argus, June 8, 2012.

fear of stoking inflation, it seems to have decided to lower the interest rate as the consumer price index eased and concerns over inflationary pressures receded. Such monetary easing measures reflect the Chinese government's commitment to supporting the economy by creating a sound financial environment.

On the other hand, China also encouraged the private sector to increase investment. Some ministries are in the process of drafting regulations to promote investment by the private sector since "the State Council's suggestions about promotion and instructions to foster sound private investment" (so-called the "New 36 Clauses") was published in May 2010. The government designated seven fields in which private investment should be encouraged, including railways, public utilities, finance, energy, telecommunications, education and medical care,[16] and released detailed rules for railways, traffic infrastructure and finance. On May 30, 2012, regulations were provided for the energy sector which is dominated by state-run enterprises.[17] The introduction of private investment is expected to promote competition and efficient resource allocation in the market where government-run businesses are dominant.

Of the various fiscal stimulus measures, only "sales promotion for small-sized vehicles" is directly relevant to petroleum demand, and so there will be limited impact on oil demand. Furthermore, the introduction of private funding and investment in infrastructure will not directly boost oil demand. Nevertheless, stimulating the economy is expected to indirectly push up oil demand on the whole.

However, the stimulus package seems unlikely to have as much effect as the 2008 one, including on oil demand. Moreover, the problems caused by the 2008 stimulus package remain unsolved, so the Chinese government is prudent and has made it clear that it will not inject such enormous public funds as it did in 2008. Thus, there are some views[18] that measures to curb property speculation may dampen investment and minimize the impact of the current stimulus measures. Monetary subsidies to spur consumption among the stimulus package will be rather small scale and have limited effect on the economy. Hence, it seems too soon to evaluate how much the current stimulus package will contribute to the economic recovery, and it is necessary to monitor the influence on oil demand further.

3-2 Toward Motorization

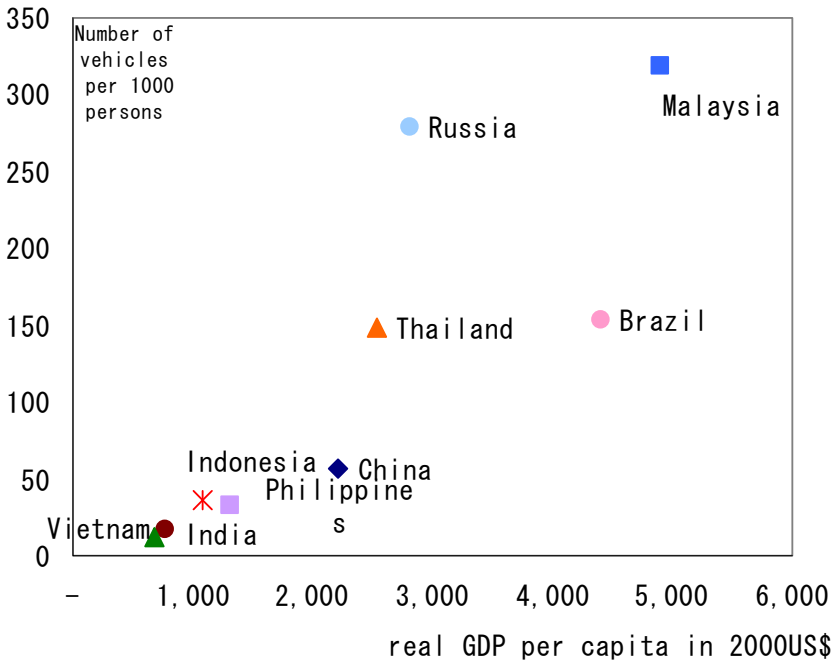
As the transportation sector accounts for nearly half of the final demand for petroleum

16 China Oil, Gas and Petrochemicals, May 1, 2012 issue.
17 Petroleum Argus, June 8, 2012.
Projects for renewable energy, nuclear power, energy saving are encouraged.
18 Reuters, June 26, 2012.

products in China (46.0% in 2009)[19], this sector's trend could have a significant impact on oil demand. Vehicle ownership increases in proportion to economic growth and the rise in personal income, and is steadily growing in China. At the end of August 2011, it was reported that the number of vehicles reached 100 million, accounting for 45.88% of the total vehicle ownership of 219 million in the nation. The remaining 54.12% (119 million) was explained by motorbikes.[20] China is now second in the worldwide ranking of vehicle ownership after the US with a total of 285 million.

Even though the growth rate of new vehicle sales has stalled in China as mentioned earlier, it is likely that motorization will expand further. Figure 3-1 illustrates the correlation between the number of vehicles owned per 1,000 persons and real per-capita GDP in 2009, compared with the BRIC states including Russia, Brazil, and India, and other Asian countries with real per-capita GDP of US$5,000 or lower. As the figure shows, vehicle ownership per 1,000 persons in China is lower than in Thailand and Russia which both have real per-capita GDP of about US$2,000, the same level as China. If there is positive correlation between vehicle ownership and GDP, vehicle ownership in China has great room to increase, which will push up the demand for gasoline and diesel oil.

Fig. 3-1 Correlation between Vehicle Ownership and GDP (in 2009)



Sources: Compiled by the author based on EDMC database

19 International Energy Agency. Energy Balances of Non-OECD Countries, 2011 Edition.
20 New China News Agency news, September 19, 2011.

Moreover, considering the situation that China seems to have less interest in eco-friendly vehicles compared to other developed nations, the demand for gasoline and diesel oil in the transportation sector is likely to grow, at least in the short term.

The 12th Five-Year Plan calls for the promotion of the so-called Next-Generation Automobile Project (plug-in hybrid, electric and fuel cell vehicles) as a strategic measure. One target spelled out in the Energy-Saving and New-Energy Automobile Industry Development Plan (2012–2020), which was made public on April 18, 2012, is total sales of 500,000 plug-in hybrid and electric passenger vehicles by the end of 2015 and 5 million by 2020.[21] A subsidy program for next-generation vehicles has been launched in five pilot cities since 2010, which has expanded to 25 cities currently. In the program, a maximum subsidy of 50,000 yuan is available for each purchase of a plug-in hybrid vehicle, and 60,000 yuan for an electric vehicle.[22]

In spite of these efforts by the government to promote eco-friendly vehicles, sales of these vehicles remain sluggish. Next-generation vehicle sales in the first quarter of 2012 stood at 10,202 (of which 1,830 were electric vehicles, 1,499 hybrid vehicles, and 6,873 alternative fuel vehicles), accounting for only 0.2% of total automobile sales, according to the China Association of Automobile Manufacturers (CAAM). However, the market share for next-generation vehicles slightly expanded from 2011 when sales hit 8,159, accounting for a meager 0.04% of total vehicle sales (18.5 million).

The main reason for the slow progress in next-generation vehicles' increase is their higher price, which is nearly twice as much as gasoline-powered vehicles. According to a survey,[23] consumers would buy next-generation vehicles if the price fell to no more than 4% higher than a comparable gasoline vehicle. Thus, the share of next-generation vehicles does not seem to be expanded easily in China unless the price drops considerably. As these vehicles remain beyond the consumers' affordability, there are plans to use them for public transportation such as buses and taxis as well as government vehicles.

Another barrier which hinders next-generation automobiles from being purchased is the lack of installation of recharging stations and equipment for electric vehicles. In Shanghai, the government intended to build 700 recharging stations in 2011, but only 93 stations opened.[24] In nationwide, the number of recharging stations for electric vehicles installed in 2011 was 243, with charging facilities at 1,328, making China the world's largest in terms of the number of

21 Takayuki Nitta. May 28, 2012. "China's Policy for New Energy Vehicles." Daiwa Institute of Research Holdings website,.
Other targets include "lowering the average fuel consumed by passenger vehicles manufactured in 2015 to 6.9 liters per 100 km, then to 5.0 liters by 2020", and "advancing the technical level of manufacturing batteries and key parts for new energy vehicles to international standards".
22 China Oil, Gas & Petrochemicals, June 1, 2012 issue.
23 Same as 22.
24 IEA. *Oil Market Report*, 11 May 2012.

recharging stations. However, considering the country's size, more facilities need to be installed.

If these factors are taken into consideration, conventional vehicles are likely to continue to dominate in China, and so demand for gasoline and diesel oil will continue to increase.

3-3 Oil Demand in Infrastructure Filling

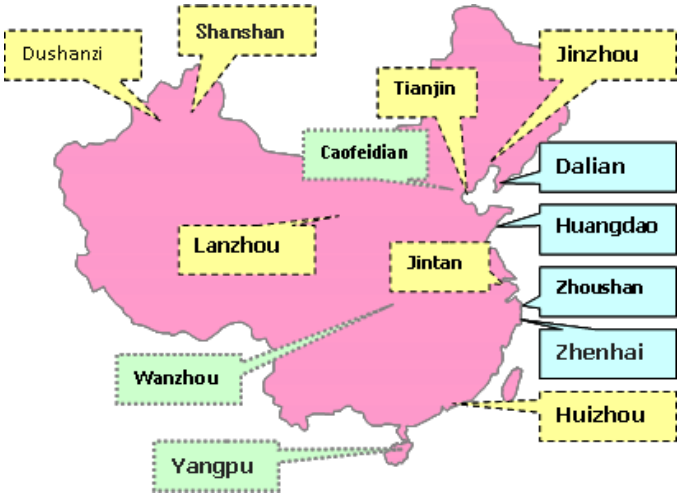
3-3-1 Strategic Petroleum Reserves

The possible impact given by oil demand increases in infrastructure related to oil can be substantial. This part first looks at the oil demand at Chinese national strategic petroleum reserves. The country has a three-phase strategic petroleum reserve plan as an important policy for energy security (Table 3-2). The first phase is already completed; four bases in Zhenhai (Zhejiang Province), Zhoushan (Zhejiang Province), Huangdao (Shandong Province), and Dalian (Liaoning Province) started operation in 2008, with crude oil fulfilled in March 2009. A total capacity of these four bases is 100 million barrels (15.9 million kiloliters, or approximately 14 million tons), equal to around 10 days of imports. When added to reserves for commercial use (for 21 days), China's current oil stockpiles would cover more than 30 days of imports. In 2009, the second phase started, with additional eight reserve bases being constructed. If the second phase is succeeded, the entire plan is expected to be completed before 2012. In addition to the capacity of the first phase, the plan will enable China to have total petroleum reserve capacity of 274 million barrels (about 37.37 million tons), equivalent to 50 days of imports by 2015. On completion of the third phase (an additional 169 million barrels), China's total strategic petroleum reserve capacity will finally reach the target of 500 million barrels (about 68 million tons, equal to 90 days of imports), the world's second largest.[25]

25 Japanese edition of People's Daily Online, January 30, 2012.

Table 3-2 China's Strategic Petroleum Reserves

Place (Province, district)	Volume (million kiloliters)	Operator
First Phase		
Dalian (Liaonin)	3	CNPC
Huangdao (Shandong)	3.2	Sinopec
Zhenhai (Zhejiang)	5.2	Sinopec
Zhoushan (Zhejiang)	5	Sinochem
Second Phase		
Shanshan (Xinjiang)	8	CNPC
Tianjin	5	Sinopec
Huizhou (Guangdong)	5	CNOOC
Dushanzi (Xinjiang)	3	CNPC
Lanzhou (Gansu)	3	CNPC
Jinzhou (Liaoning)	3	CNPC
Jintan (Jiangsu)	3	CNPC
Zhoushan (Zhejiang)*	2.5	Sinochem
Third Phase		
Candidate Sites: Wanzhou (Chongqing) Yangpu (Hainan) Caofeidian (Hebei)	26.8	



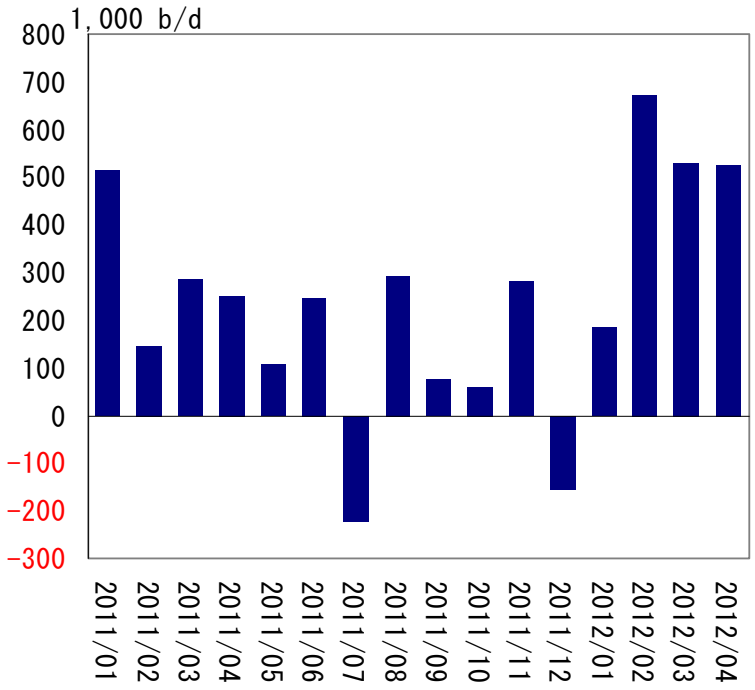
* Capacity expansion is planned at the second phase.

Sources: Created by Japan Institute of Energy Economics based on China Oil, Gas, and Petrochemicals, March 1, 2012 Issue.

There seems oil demand to fill the strategic petroleum reserves in 2012. Bloomberg reported that the rise of crude oil imports in the first quarter of 2012 resulted from filling the stockpiles rather than meeting domestic demand, citing CNPC newsletters.[26] This is also indicated in the changes in Chinese crude oil stock (calculated by subtracting processed crude oil from the sum of domestically produced and imported oil) (Fig. 3-2). The chart shows that crude oil stocks have continuously increased since 2012 although not all of the increase may have been for the strategic petroleum reserves. Considering that oil needed for stockpiles is substantial, however, filling the facilities might have been the cause of the increase over the period.

26 Bloomberg, May 4, 2012.

Fig. 3-2 Estimated Changes in Chinese Crude Oil Stock



Sources: Institute of Energy Economics, Japan

According to the newsletter aforementioned, China will have more crude-storage facilities coming online late 2012 and early 2013, and that the increase of crude oil imports in the first quarter was only the tip of the iceberg.[27] As filling the oil stockpiles are intensively conducted upon completion of construction, oil demand for oil stockpiles will surely increase in 2013 if the second phase is to be finished within 2012.

3-3-2 Oil Refinery Capacity Expansion

China has considerably increased the capacity of its petroleum refineries, and leads the world in its plans to strengthen refining capacity. As of the end of 2011, its refining capacity is 10.83 million b/d, which is 11.6% of the world total[28], an increase of 5.2% from 10.30 million b/d in 2010. The 12th Five-Year Plan (2011–2015) aims to expand the oil refining capacity by around 100 million tons during the period. In addition, a target has been set to increase the nation's oil refining capacity to 600 million tons per year, bringing its production of petroleum products to over 310 million tons per year.[29] The oil refinery capacity is expected to

27 Same as 26.
28 BP, Statistical Review of World Energy, June 2012.
29 Japanese edition of People's Daily Online, January 7, 2011.

continuously expand in the future.

When a newly constructed oil refinery is to be operated, it must first be filled with oil, which will boost oil demand to meet the expanded facility's capacity, as well as for filling adjacent tanks. Therefore, the total oil demand will be substantial.[30] Since many plans to expand oil refineries are in progress in China, the oil demand to fill the facilities needs to be considered when analyzing the nation's overall oil demand. However, oil refinery may become excessive if refining capacity surpasses the oil demand in China. Therefore, the National Development and Reform Commission may reconsider the approval of projects.

Conclusion

China's oil demand growth has diminished since 2011 due to the deceleration of the economy. This trend will probably continue while the economy remains slow. China's state-owned oil companies such as CNPC and Sinopec also expect oil demand growth to decrease during the period of the 12th Five-Year Plan than in the previous Plan.[31]

Nevertheless, there are factors that may underpin oil demand. The short-run factors mentioned earlier - the stimulus package and oil demand to pump oil to the facilities such as strategic petroleum reserves and new refineries - will push oil demand upward from late this year to next year, getting close to the previous trend, although it depends on the economic situation in Europe and China itself. In the long run, since there is room left for motorization, vehicle ownership is likely to go up, which will result in boosting oil demand in China. Therefore, despite the current slowdown, oil demand will certainly continue to increase. For further study, it is necessary to pay attention to how China's oil demand and the global oil market are influenced by various factors from business strategy worldwide pursued by the China's state-run oil companies to domestic petroleum pricing system which was reported to be debated for revision.

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30 "Chinese Oil Demand: Its Trends and Future Prospect", Institute of Energy Economics, Japan (2010) Kobayashi and Matsumoto.

31 Petroleum Argus, June 8, 2012.
CNPC revised downward earlier forecasts of China's diesel oil demand for 2015 from 4.2 million b/d of last year to 4.09 million b/d. In addition, according to CNPC forecasts, diesel oil demand is expected to grow at 3.7% yearly between 2011 and 2015, whereas gasoline demand is expected to increase at 4.5% for the same period, but at a slower rate of 3.8% between 2015 and 2020.