Hitachi Research Institute Report
Changes in Resource-rich Economies Following the End of the Commodities Supercycle

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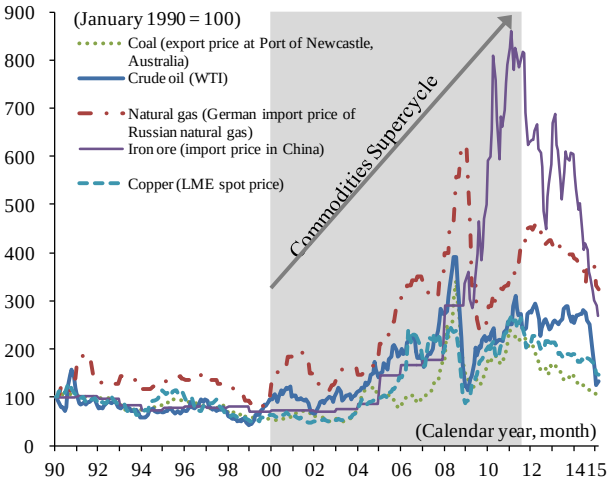
Rapid development of emerging economies including China during the 2000s stimulated resource and energy demand and caused significant increases in resource prices over an extended period of time. During this period, known as the "commodities supercycle," the economies of many resource-rich countries enjoyed high growth. But from the middle of 2011, when resource prices began to fall, the growth of these economies slowed. This article reports on changes in the balance of resource supply and demand underlying the occurrence and ending of the commodities supercycle, and on the resource-rich economies that are using this situation as an opportunity for effecting change.



Prepared by Hitachi Research Institute based on data from the IMF

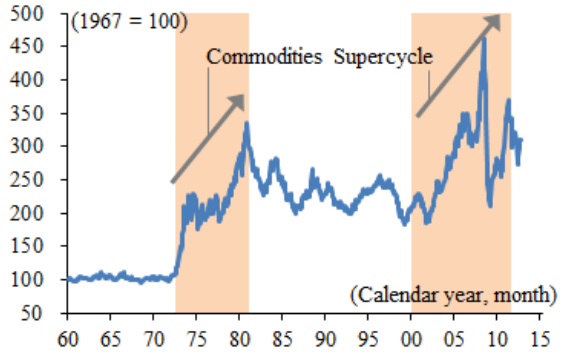
Figure 1. Real Price Indexes of Major Resources

1. End of the Commodities Supercycle

From 2000 onwards, the prices of all resources including crude oil and coal rose significantly over a period of approximately 10 years (Figure 1). A similar long-term upward phase in resource prices was also evident from 1973 to 1980, a period during which a series of oil crises occurred. This cycle of a long-term rising trend in resource prices over a period of approximately a decade that recurs every few decades is known as the "commodities supercycle" (Figure 2).

From around the middle of 2011, however, resource prices began heading in the opposite direction and since then have maintained this downward trend overall. Against a background of rising geopolitical risk in various areas of the Middle East, however, crude oil prices during this time remained firm despite softening for a time but finally plummeted in the latter half of 2014. The commodities supercycle is believed to have ended in 2011.

Underlying the occurrence and ending of the commodities supercycle was a change in the balance of supply and demand.



Source: Prepared by HRI based on data from Thomson Reuters

Figure 2. CRB Index
(Future Price Indexes for 19 International Commodities)

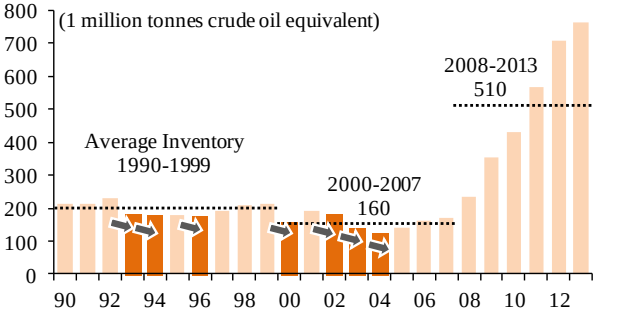
2. Supercycle was brought about by a Change in the Balance of Supply and Demand

There are generally many participants in the market for resources, and prices are determined by the balance between supply and demand. While speculative money will have some impact on the price of certain items such as crude oil and copper, where transactions are focused on the futures market, speculative money basically moves according to expectations for future supply and demand and, therefore, prices far removed from the supply-demand balance cannot be maintained. Next, we will examine the

background to changes in resource prices from 2000 onwards based on changes in the balance of supply and demand.

2.1 Supercycle was brought about by the rapid growth of emerging countries

From 2000 onwards, demand for resources and energy increased significantly in accordance with the rapid growth of emerging economies including the BRICs. China, in particular, became the world's factory through expansion of infrastructure investment and development of its manufacturing industry during the period from 2003 to 2010 (excluding 2008 and 2009) and continued to record double-digit economic growth. As a result, by 2010, China overtook the United States as the world's leading consumer of energy. As a user of massive amounts of coal in the production of electricity and steel, China currently consumes more than half of the world's coal and, for some resource items, trends in the Chinese economy can be a factor impacting significantly on world market conditions. Developing countries prefer coal as a fuel due to its low price, causing demand for coal to rise rapidly from 2000 onwards. As a result, supply could not meet demand from 2000 to 2004, and coal inventory contracted, remaining at a low level thereafter until 2007, compared to levels in the1990s (Figure 3). The increase in demand that overtook supply in this manner (rightward shift in the demand curve) coupled with the characteristic of the resource market that price elasticity remains low in the short-term (supply and demand do not significantly change even when the price changes) caused a rapid increase in the equilibrium price, and are believed to have caused the commodities supercycle (Figure 4 (1)).



Note: Inventory is the aggregate amount of production less consumption from 1981
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Figure 3: World's Coal Inventory (Production-Consumption)

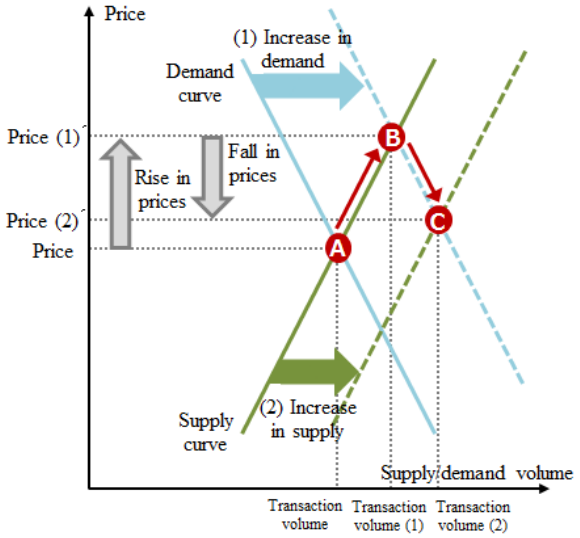

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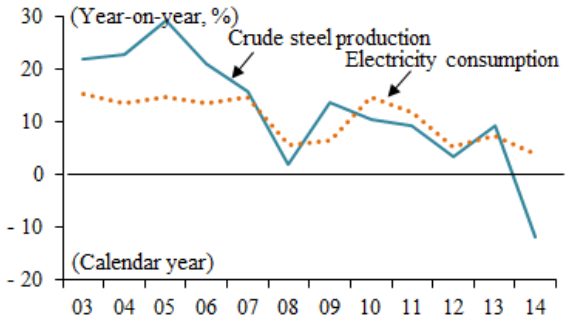
Figure 4. Supply-Demand Curve of Resource at the Occurrence and the End of the Super Cycle

2.2 End of the supercycle was due to an escalation in oversupply

Both supply and demand fluctuate over time according to variations in prices (price elasticity is high in the long term). On the supply side, development investment, which was profitable due to an upswing in market conditions, increased and capacity to supply resources also increased. In addition to expansion in the scale of production achieved through the new development of oil fields and mines, improvements in production efficiency achieved through technical innovation facilitated an increase in supply. In the United States in particular, shale gas and oil development not only significantly increased the supply of natural gas and crude oil but also slowed demand for surplus coal. Consequently, from 2008 onwards, stockpiles of coal inventory began to rapidly accumulate (Figure 3).

At the same time, on the demand side, progress was made in both resource-saving and energy-saving. Furthermore, after peaking in 2010, the growth of the emerging economies including China continued to slow, and growth in demand for resources declined. In China, the new leadership that took office in 2013 made a public commitment to shift from an investment-led high growth model to a consumption-led sustainable growth model. The Chinese government is also promoting a policy to curb overproduction centered on the chemical and heavy industries including steel and cement, and the growth of

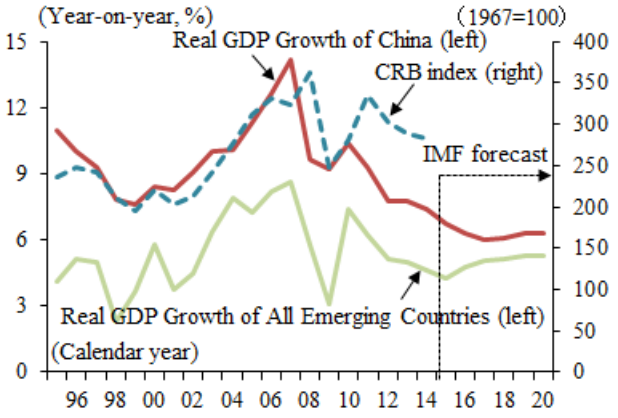
crude steel production and electric power consumption is slowing (Figure 5). Amid slowing growth in emerging economies including China, the country with the largest demand, and a softening in growth in demand for resources, the fall in the equilibrium price caused by the increase in supply capacity following investment during the supercycle period (rightward shift in the supply curve) is believed to be the underlying cause of the slump in prices since 2011 (Figure 4 (2)).



Prepared by Hitachi Research Institute based on data from China

Figure 5. Crude Steel Production and Electricity Consumption in China

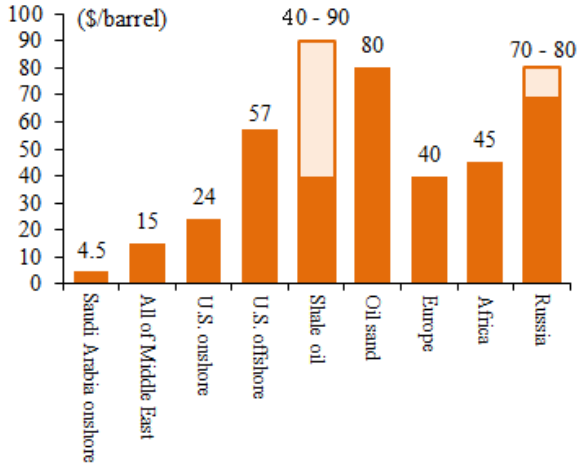
There is also a possibility that this slackness in supply and demand and downturn in the market may continue over the long term. Moreover, China's economic growth is almost certain to slow due to efforts to curb overinvestment, and the overall growth rate of emerging country economies will decline from the 2000s, exerting downward pressure on resource prices (Figure 6).



Prepared by Hitachi Research Institute based on data from the IMF, Commodity Research Bureau

Figure 6. Real GDP Growth and CRB Indexes of China and Emerging Countries

Furthermore, despite sluggish demand in recent years, supply is increasing. The main factor driving this is the move by major resource countries and OPEC countries, which have a high share of production and price competitiveness, to attempt to cover shortfalls in revenue that have accompanied the decline in resource prices by increasing production. Moreover, newcomers and small to medium-size producers with low cost competitiveness competing with major producers for a share of the market are also a factor contributing to oversupply. In the case of crude oil, the price plunged after the Meeting of the Conference of the OPEC in November 2014 postponed reducing production. In this case, it is thought that Saudi Arabia, a country with an overwhelming advantage in cost competitiveness, was seeking to suppress production of shale oil, which has been rapidly increasing in the United States in recent years (Figure 7). While market conditions for iron ore have also worsened in a similar way, all of the major resource companies are planning production increases in efforts to curb production by small and medium-size operators through price competition (Table 1).



Prepared by Hitachi Research Institute based on data from Rodgers Oil & Gas Consulting et al.

Figure 7. Cost of Crude Oil Production

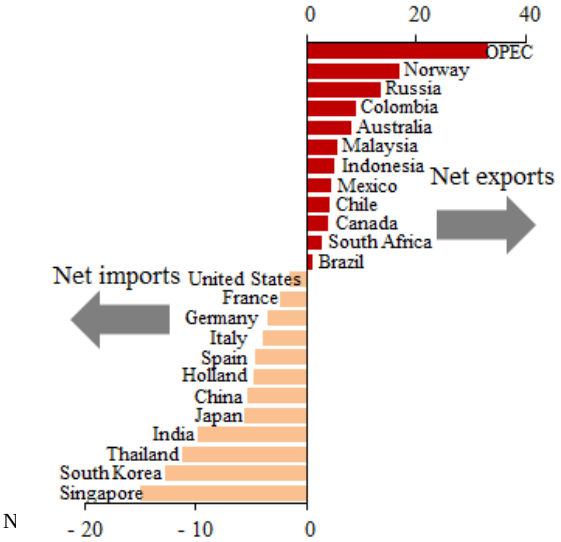
Table 1: Production of the Three Major Iron Ore Producers and Future Production Plans

Company	Production (1 million tonnes)			Future Production Plans, etc
	2013	2014 (Year-on-year comparison)		
Vale	300	319	(+6.5%)	・Raise annual production to the 400 million tonne level by 2017, while making efforts at cost reduction
Rio Tinto	210	234	(+11.1%)	・Expand production capacity in Australia from the current 290 million tonnes to 360 million tonnes during 2015 ・Cut costs thoroughly by automating mining machinery and optimizing rail transport
BHP Billiton	185	219	(+18.3%)	・Expand production capacity in Australia from the current 230 million tonnes to 290 million tonnes by 2017, while cutting costs

Note: Production is based on company's own rights and interests.
Prepared by Hitachi Research Institute based on data from the respective companies

3. Deteriorating Trade Conditions Put Resource-rich Economies in the Doldrums

A decline in resource prices has a positive impact on economies of net importers of resources, and a negative impact on net exporters. Price fluctuations in imports and exports change trade conditions (the amount of imports and exports that can be purchased at the price of one unit of exports), and a transfer of income occurs between the exporting and importing countries. In other words, if there is a fall in resource prices, income flows from the residents of the resource-exporting countries to the residents of the resource-importing countries. Purchasing power in the exporting countries then declines while purchasing power in the importing countries increases. Consequently, while deterioration in resource prices places significant downward pressure on countries highly reliant on the export of resources, such as OPEC countries, Russia, and Australia, it stimulates business in countries highly reliant on imports such as India, China, and Japan (Figure 8). Furthermore, countries that depend on revenue from resources for public financing encounter various adverse impacts on their economies, including being forced to curtail government expenditure. Based on the economic forecast of the IMF announced in April 2015, growth forecasts of many resource-rich countries and regions were revised downwards from the same period of the previous year (April 2014) (Table 2).



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copper ore, bauxite, and nickel
Prepared by Hitachi Research Institute based on data from the UNCTAD, IMF, etc.

Figure 8. GDP Ratios of Resource Net Exports (Export-Import)

Table 2. IMF Forecast of Annual Average Real GDP Growth for Major Resource-rich Countries and Regions (%)

Country/Region	2000 - 2014	2015 - 2019	
	Results	April 2014 Forecast	April 2015 Forecast
Middle East & North Africa	4.9	4.5	3.8
Canada	2.0	2.2	1.9
Norway	1.6	2.0	1.8
Russia	4.1	2.5	0.7
Australia	3.0	3.0	3.0
Indonesia	5.5	6.0	5.8
Malaysia	4.8	5.0	5.0
Brazil	3.2	3.3	2.0
Mexico	2.1	3.8	3.6
Colombia	4.3	4.5	4.0
Chile	4.2	4.4	3.6
South Africa	3.1	3.1	2.5

Prepared by Hitachi Research Institute based on data from the IMF

4. Breaking the "Spell of Resources" and Moving toward Reform

While the ending of the supercycle will have an adverse impact on countries whose economies and finances rely on the export of resources, it also affords these countries an opportunity to break free from the "resource curse" (an excessive reliance on the export of natural resources that hinders the development of other industries and the progress of economic growth) by improving their competitiveness in sectors other than resources, including manufacturing, due to a depreciation in their currencies following a worsening in their external surpluses. Among the resource-rich countries are countries like Mexico and Colombia, which are trying to build a new foundation for growth by steering away from reliance on resources and reinforcing industries other than the resource sector. There are also countries like Australia which is trying to strengthen the mining sector through initiatives in thorough cost reduction and improvement of production efficiency. For more information regarding resource-rich countries attempting reform, please refer to other essays in this journal. The following is a brief summary of this trend.

4.1 Development of the manufacturing industry is making progress in Mexico

With crude oil income accounting for about 30% of the country's revenue, Mexico relies on resources for government revenue. In recent years, however, there has

been progress in the development of the country's manufacturing industry, particularly automobile production, thanks largely to the country's low-cost labor force and geographic proximity to the United States, where economic recovery is underway. Mexico has also concluded FTAs with more than 40 countries, and the development of its free trade network has resulted in boosting the competitiveness of its manufacturing industry. It is expected that development of the manufacturing industry will drive the growth of Mexico's economy as the price of crude oil remains in the doldrums.

4.2 Investment in infrastructure and manufacturing is increasing in Colombia

The mining industry centered on crude oil and coal has been the driving force of economic growth in Colombia. In recent years, however, amid the mining industry's lackluster performance accompanying the deterioration in resource prices, investment in infrastructure and the manufacturing industry has increased rapidly, and is becoming a new driving force in the economy. Underlying this increase in investment is the government's promotion of infrastructure improvement and development in the transport sector, among others, and policy support in the form of tax incentives to the manufacturing industry in particular. Furthermore, progress in concluding FTAs with the major countries in Europe and North America and an improvement in the business environment are also factors contributing to attracting direct overseas investment. If improvement in transport infrastructure continues to progress at a steady pace, it will stimulate further investment, particularly in the manufacturing industry, and eventually Colombia can be expected to break free from being an economy dependent on natural resources.

4.3 Australia is attempting to make its mining industry highly efficient

In Australia, one of the world's leading resource-rich countries, major mining companies have responded to the fall in resource prices by aggressively promoting initiatives in cost reduction and improvements in production efficiency by introducing unmanned mining machinery, analyses of mining data, and adoption of low-cost mining techniques. The Australian government is also trying to encourage increased competitiveness in the mining industry by simplifying the approval system for mining development projects and establishing an incentive system for exploration development. These are some of the ways in which Australia is trying to enhance the competitiveness of the mining industry and overcome the impasse of stagnant resource market conditions.

5. Conclusion

The end of the commodities supercycle has exposed many resource-rich countries to headwinds. Nevertheless, if they are able to make corrections to economic structures which are dependent on natural resources through initiatives like those of Mexico, Colombia, and Australia, or if they are able to thoroughly reinforce the competitiveness of their resource sectors, they will be able to capitalize on their strength of self-sufficiency in natural resources and energy, and develop into economies with strong industrial competitiveness. The underlying strength of these resource-rich countries intent on reform will be tested in the future.