



# How resource-poor countries in Asia are securing stable long-term reserves: Comparing Japan's and South Korea's approaches



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## ABSTRACT

Securing stable long-term supplies of raw materials is vital for industrialized nations. China, Japan and South Korea are three countries in East Asia which import large quantities of raw material, especially metals and petroleum products. Unlike the other two, China has large mines and oilfields and so can use this expertise to exploit resources overseas. In contrast Japan and South Korea are resource-poor countries that lack domestic petroleum and mining industries.

This paper compares the ways in which these two countries secure supplies. Japanese trading companies and industrial groups invest in mining and petroleum projects run by international groups with the active support from the Japanese government through the Japan Bank for International Cooperation (JBIC). In contrast, the Korean government has set up two state run corporations: the Korea Resource Corporation, KORES, for minerals, and the Korean National Oil Corporation KNOC for oil and LNG, which usually take a leading role in choosing projects, though they do work in partnership with large Korean private sector groups. After his election in 2008, President Lee Myung-bak put pressure on public sector entities to speed up investments in mining and petroleum projects, which resulted in unsuitable projects being financed and public money being wasted. We argue that three lessons can be learned from this: firstly, building up a solid basis of natural resources takes decades and should not be rushed; secondly, project finance in the sense of non-recourse funding provides better checks and balances than direct acquisitions do and thirdly more transparency is required when spending taxpayers' money.

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## 1. Introduction

China, Japan and South Korea are three countries in East Asia which import large quantities of raw materials, especially metals and petroleum products. One key difference between them is that China has large mines such as Dexing Copper in Jiangxi province and oil fields such Daqing in Heilongjiang Province, Shengli in Bohai Bay and the Tarim Basin in the Jinjiang-Uygur Autonomous Region, so over the years, Chinese companies have built up production experience. This means that China tends to buy resources in other countries and exploit them. For example, China has invested heavily in copper mines in Zambia (Okeowo, 2013) and

Afghanistan (Donati, 2013) as well as buying Glencore's Las Bambas copper mine in Peru (News, 2014). CNPC, the largest Chinese oil company, has operations in 30 overseas countries. For example, in 2007 CNPC signed a production sharing agreement with the government in Turkmenistan to explore and develop gas fields and has been producing natural gas since 2010. It also runs a downstream processing plant with a capacity of 5 billion cubic metres. In Indonesia, CNPC has stakes in 8 oil and gas blocks and operates all but one of them (C.N.P.C.). More recently, in September 2013, CNPC paid \$5 billion to acquire 8.33% of the giant Kazakh field, Kashagan (Gordyeva, 2013). In November 2013, PetroChina bought a 25% share in Iraq's Ourna 1 oilfield from ExxonMobil (Chazan, 2013) while Sinochem acquired a 40% share in a Texas shale oil and gas field for \$1.7 billion (Forbes, 2013). The question for countries like Japan and South Korea with limited reserves of their own and very limited production experience, is how to secure long-term supplies when the Chinese are buying up so much of the reserves on the international scene.

This paper studies the differences in the approaches used by Japan and Korea. First we show that although both governments

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have similar energy security policies, the ways in which their public sector organizations work with private corporations to support investments in oil and mining overseas are quite different. In Japan, the investments are made by private companies with financial support from governmental agencies whereas in Korea, the public sector leads the investment with private companies joining them. There are also differences between the structures of the private sector corporations in the two countries: chaebols in Korea, keiretsus in Japan. Another difference is that in the 2008 presidential campaign Lee Myung-bak promised to improve resource security and so after being elected he put pressure on the Korean public sector agencies to speed up resource acquisitions. At the end of his term of office in 2013, questions were raised in parliament and in newspapers about these investments alleging that (1) taxpayers' money had been wasted, (2) more favourable treatment had been given to companies owned by his friends and (3) worst of all, one of the public agencies had bribed officials in the host country (Iraqi Kurdistan) to get an oil project. Given the acrimonious nature of the accusations and counter-accusations in the Korean press, it has been difficult to work what out had really happened but in June 2015, the Korean courts ruled that the allegations of bribery of officials in Iraqi Kurdistan were unfounded ([Press Release Ministry of Natural Resources, 2015](#)); so we will focus on the investments themselves and the decision process used to make them.

The paper is structured in the following way. In [Section 2](#), we describe structure of the private sector corporations in the two countries: chaebols in Korea, keiretsus in Japan. Then after reviewing the energy policies of Japan and Korea, we describe the public sector entities that support and finance mining and petroleum. [Sections 3](#) and [4](#) give a detailed account of Japan's and Korea's investments over the period 2008–2014. We focus on oil and gas on the energy side, and on copper on the metals side because of their economic importance in industrialised countries. One criticism of the Korean investments was that the agencies paid far too much for their acquisitions. To put this into perspective, we asked ourselves whether any other natural resource groups had overpaid when making acquisitions at the same period. [Section 5](#) reviews Rio Tinto's purchase of the Canadian aluminium producer Alcan in 2007 at a cost of \$38.7 billion. This ended with Rio Tinto writing \$25 billion off Alcan's value and with the resignation of Rio Tinto's chairman. Our conclusions are presented in [Section 6](#).

## 2. Private and public-sector structures in Japan and Korea

The spectacular economic growth of Japan and Korea since World War II was due to the development of powerful corporations (keiretsus in Japan and chaebols in Korea) together with strong governmental policies ([Tu et al., 2002](#)). Korean chaebols are usually family-owned with strong autocratic leadership; Japanese keiretsus have a cross-stock holding ownership and collective leadership. One key difference between the two countries is that most Japanese keiretsus have a banking group as one of their core members whereas the Korean government does not allow chaebols to own banks ([Tu et al., 2002](#)). South Korea's new President came to power in 2012 with promises to rebalance the country's economy by limiting the economic power of the chaebols. One new law will reduce the maximum share that they can own in a bank from 9% to 4% in order to address concerns that they might seek to bend banking rules to secure loans for their subsidiaries ([Nam, 2013](#)).

### 2.1. Government policy on minerals and energy security

Japan's reserves of oil and gas are negligible, and its coal reserves are reaching depletion ([Kuo, 2014](#)). Its domestic minerals industry is characterized by small-scale, low-tonnage mining operations. In 2012, mining and quarrying was limited mainly to industrial minerals such as dolomite, iodine, limestone, pyrophyllite, silica sand and silica stone but these mines are in decline because of diminishing reserves and rising costs ([Kuo, 2014](#)). In contrast Japan has high added-value mineral and metal processing and manufacturing activities, and a world-class metallurgical industry for nonferrous metals. For example, the country produced about 1.3 Mt of anode and blister copper from primary sources and about 300,000 t from scrap. Refined copper is used mostly for manufacturing wire (62%) and for making brass (37%) ([Japan Mining Industry Association, 2013](#)). As Japan's industry is amongst the world's largest and technologically advanced producers of motor vehicles, electronic equipment, machine tools, steel and nonferrous metals, ships and chemicals ([CIA Facts Book Japan, 2013](#)), all of which require energy and raw materials. This is why Japan's resource development policy focused on securing stable sources of oil and gas, and mineral raw materials.

The Korean Peninsula was an independent kingdom until 1910 when it was annexed by Japan. It regained its independence after World War II, but was plunged into civil war between the communist north and the western-oriented south until the Armistice in 1953. In the 1960s South Korea's GDP was comparable with the poorer countries in Africa and Asia. Over the past four decades it has achieved incredible economic growth and global integration to become a high-tech industrialized economy ([CIA Facts Book South Korea, 2013](#)). For example, to help with export-led growth, the South Korean government succeeded in increasing the literacy rate which had been 22% in 1945 to 87.6% in 1970 ([Anon, 2015](#)). In contrast to North Korea which has copper mines and reserves of rare earth ([Shi, 2014a](#)), South Korea has very limited reserves. The government, through the Ministry of Commerce, Industry and Energy, owns and supervises the country's coal mining, natural gas, petrochemical and petroleum refining companies. The rest of the mining, quarrying and mineral processing companies are privately owned and operated ([Shi, 2014b](#)). Consequently South Korea faces similar problems to Japan in securing supplies of oil and gas, and mineral raw materials.

The governments in both countries are conscious of the need to secure supplies of raw materials especially energy (oil and gas) and key metals. In 1980 the Japanese government set up an exploratory committee within the Ministry of International Trade and Industry. In 2012, it announced a strategy for resource security ([Hatayama and Tahara, 2015](#)) designating 30 minerals (including common and minor metals) that are especially important given their supply risk and the necessity for domestic industry. This strategy involved several means of governmental support to achieve a stable resource supply, some of which served to reinforce mineral interests in foreign countries ([Kantei, 2013](#)). In addition, the government set up the Japanese Bank for International Cooperation (JBIC) which plays a key role in aiding private sector groups to finance mining and petroleum projects. Its mission ([JBIC Profile, Role and Function, 2013](#)) is

- To promote the overseas development and securement of resources which are important for Japan,
- To maintain and improve the international competitiveness of Japanese industries,
- To promote overseas business so as to preserve the global environment such as preventing global warming,
- To prevent disruptions to international financial order and to take appropriate measures with respect to damages caused by

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