

Review for Moral Hazard in Conditional Loan System of Promote Overseas Oil and Gas E&P Project in South Korea

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Overview

Energy is a necessary input factor to continue economic growth in every country. The energy production in Korea accounts only for 3.6% of the total primary energy consumption when nuclear power generation is excluded (KEEI, 2012). Specially Korea has very few energy resource. According to KEEI (2012), the total primary energy consumption of Korea is 263 million TOE at 2011, which is the ninth highest in the world. The First National Energy Master Plan (MOTIE, 2008) forecasted the energy consumption of Korea increase by from 258.7 million TOE in 2010 to 342.8 million TOE in 2030. Korea is highly dependent on foreign energy supply, especially foreign oil and gas, and is vulnerable to international condition of energy supply and demand.

Energy security policies of Korea are classified into the following three categories. First, the Korean government has mandated oil stockpiling at the private level as well as at the national level and has committed to oil reserves equivalent to approximately 142 days of net daily imports based on IEA standards. Second, the Korean government has utilized several policy tools to conserve energy, to increase energy efficiency, and to restructure the energy industry. Third, the Korean government aims at promoting foreign energy exploration and development (E&P) business. Focusing on the third energy security policy, this paper assess the effectiveness of the conditional loan system, that is, one of the policy tools for promoting foreign energy E&P business.

E&P projects are likely to have both high risk and high return in energy business. The conditional loan system applies to foreign energy exploration projects only. From 1983, The Korean government supports E&P company in the aspect of finance. The conditional loan system was introduced in the notification No. 83-31 of the Korean Ministry of Energy and Resources by the Korean government. They provide the conditional loan to company when they take part in foreign energy exploration projects. This support is one of promote policies that expands number of Overseas Oil and Gas E&P Project held by Korean company and secure energy supply in Korea. In early period of the conditional loan system, the loan was provided only to oil exploration projects. In this time, the recipients of the loan has been expanded into overseas gas and mineral resources exploration projects.

This conditional loan system shares risks for exploration projects across the firms by charging successful projects with damages from unsuccessful projects. When a firm cannot repay loans because of failure in its exploration projects, the government exempts loans partially or totally in the conditional loan system. However when exploration projects receiving loans succeed to profitable production of energy, the government collects special charges besides principals and interests.

Kim and Kim (2013) concluded that through the conditional loan system, the Korean government aimed at decreasing risks of firms and at promoting their participations in the foreign energy and resource exploration projects. KDI (2008) and NABO (2006) evaluated conditional loan in the aspect of government finance. Because the conditional loan are funded by tax. These literature concluded that conditional loan system has a moral hazard. NABO (2006) is the first literature in Korea that mentioned conditional loan system has moral hazard.

Moral hazard is a problem that arises when the agent is performing some work or task on behalf of principal. This behaviour is the tendency of a person who is imperfectly monitored to engage in dishonest or otherwise undesirable behavior (Mankiw, 2009). This problem has been mentioned as one of the results from asymmetric information in Microeconomics. In this paper, I review whether the conditional loan system has moral hazard or motivate firms to have undesirable behaviour. Applying both definition and data analysis, I review the data for conditional loan system in Korea over the period 1984-2012.

Methods

It is necessary to figure out the sentence of 'The conditional loan system has moral hazard' is accord with the definition of moral hazard. This finding will show whether the conditional loan system has moral hazard or not. The Korean government who give the conditional loan is a principal and firms who receive the conditional loan is a agent. In moral hazard, agent have undesirable behaviour or immoral behaviour. There needs to be motivation to do that in conditional loan system. There may be a asymmetric information for agent and principal about foreign energy E&P projects.

Total amount of investment for Overseas Oil and Gas E&P Project is not covered fully by the conditional loan. 33.1% of total amount of investment is covered by conditional loan and 66.8% of total amount of investment is covered by equity finance or debt finance of firm during 1984-2012. Ratio of equity finance or debt finance of firm is higher than ratio of conditional loan in

total investment increase after 2004, which total amount of investment was started to increase. This trend has been keeping until now.

Firms have to fail in Overseas Oil and Gas E&P Project to receive the government exemptions for loans partially or totally in the conditional loan system. Firms can not recover nothing of total amount of investment, and they can not also recover equity finance or debt finance of firm. When equity the amount of finance or debt finance of firm is bigger than that of the conditional loan, it is not right logically that firms have undersirable behaviour or immoral behaviour. There is a moral hazard when firms cover the total amount of investment fully with the conditional loan. However when the amount of the conditional loan has smaller ratio than equity finance or debt finance of firm, firms will not manage the Overseas Oil and Gas E&P Project to get the conditional loan that is smaller and to give up equity finance or debt finance of firm that is bigger.

The conditional loan system has both special charges of success and exemptions of failure in Overseas Oil and Gas E&P Project. This system shares risks for exploration projects across the firms by charging successful projects with damages from unsuccessful projects. Special charges of the conditional loan for success projects are used as exemptions of the conditional loan for failure projects. Not each firm but all of firms shares both success and failure of each project. The firm who is participate in many projects shares loss and profit among projects mutually.

Overseas Oil and Gas E&P business in Korea is small and participants are limited. Number of project per each firm is 7.7 since 2003 when the oil price started to increase. Firms who joins in Overseas Oil and Gas E&P business are specialized in energy development business. New entry to this Overseas Oil and Gas E&P business are very few. Firms will be notorious when they introduce risk in this business having undersirable behaviour or immoral behaviour to take the conditional loan of projects. And finally that firm falls behind.

Only one time beneficiary of the conditional loan make the firm to have undersirable behaviour. However the conditional loan system is not a temporary support policy. Decision making of firm for conditional loan is not one time game but unlimited game. In this unlimited games, firm will not operate Overseas Oil and Gas E&P Projects badly to get the conditional loan under 100% of total amount of investment.

Results

In this paper, I review whether the conditional loan system has moral hazard or motivate firms to have undersirable behaviour. Applying both definition and data analysis, I review the data for conditional loan system in Korea over the period 1984-2012. Firms can not recover nothing of total amount of investment, and they can not also recover equity finance or debt finance of firm. When equity the amount of finance or debt finance of firm is bigger than that of the conditional loan, it is not right logically that firms have undersirable behaviour or immoral behaviour. When the amount of the conditional loan has smaller ratio than equity finance or debt finance of firm, firms will not manage the Overseas Oil and Gas E&P Project to get the conditional loan that is smaller and to give up equity finance or debt finance of firm that is bigger. The conditional loan system is not a temporary support policy. Decision making of firm for conditional loan is not one time game but unlimited game. In this unlimited games, firm will not operate Overseas Oil and Gas E&P Projects badly to get the conditional loan under 100% of total amount of investment.

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