Resource and Energy Economics 35 (2013) 295–315

Contents lists available at SciVerse ScienceDirect

Resource and Energy Economics

journal homepage: www.elsevier.com/locate/ree

Profit sharing under the threat of nationalization☆

Luca Di Corato *

Department of Economics, Swedish University of Agricultural Sciences, Box 7013, Johan Brauners väg 3, Uppsala SE 75007, Sweden

ARTICLE INFO

Article history:
Received 25 November 2010
Received in revised form 10 September 2012
Accepted 17 February 2013
Available online 6 March 2013

JEL classification:
C7
D8
K3
F2
O1

Keywords:
Real options
Nash bargaining
Expropriation
Natural resources
Foreign direct investment

ABSTRACT

A multinational corporation engages in foreign direct investment for the extraction of a natural resource in a developing country. The corporation bears the initial investment and earns as a return a share of the profits. The host country provides access and guarantees conditions of operation. Since the investment is totally sunk, the corporation must account in its plan not only for uncertainty in market conditions but also for the threat of nationalization. In a real options framework, where the government holds an American call option on nationalization, we show under which conditions a Nash bargaining leads to a profit distribution maximizing the joint venture surplus. We find that the threat of nationalization does not affect the investment threshold but only the Nash bargaining solution set. Finally, we show that the optimal sharing rule results from the way the two parties may differently trade off rents with option values.

© 2013 Elsevier B.V. All rights reserved.

1. Introduction

Many developing countries are rich in natural resources such as oil, natural gas and minerals. Such endowments may be crucial for funding their economic growth and welfare.[1] However, developing

☆ This paper is part of my PhD thesis. Comments from Clas Eriksson, Michele Moretto and anonymous referees are gratefully acknowledged.

* Tel.: +46 018671758.
E-mail address: luca.di.corato@slu.se

[1] The relationship between natural resource and economic growth is still a controversial issue. See e.g. Brunnschweiler and Bulte (2008) on the "resource curse" debate.

0928-7655/$ – see front matter © 2013 Elsevier B.V. All rights reserved.
http://dx.doi.org/10.1016/j.reseneeco.2013.02.004

countries may often lack the needed technological and managerial knowledge and/or they must cope with limited funds for exploring the resource fields and building the infrastructures required for extraction. Foreign direct investments (hereafter, FDI) may overcome these difficulties. In fact, a multinational corporation may be willing to undertake the initial investment costs and extract the resource if an adequate return is paid. A multinational corporation may engage in FDI by forming a joint venture with a local firm which is usually owned by the government. The agreement between the two parties entitles the foreign investor to a property right on the infrastructure installed and to a compensation for the investment. The compensation may be represented by a share of the profit flow accruing from extraction.[2]

Once the investment has been undertaken, matching the economic interests of both parties may be problematic. In fact, given the sunk nature of the investment,[3] the local government may expropriate the enterprise's investment and run the project on its own. In this case, since the host is a sovereign country, no court may impose observance of contract terms or compensation for the assets expropriated.[4] Although not on legal grounds, the expropriation may however be punished by imposing international sanctions such as limited access to world capital markets and restrictions on international trade. In addition, a cost due to the loss of reputation must be accounted. Nevertheless, even if a punishment may be triggered, high profits from extraction and/or populist pressure on governments for rent distribution may justify this opportunistic move on the basis of benefits covering the costs.

Nationalizations[5] were an important issue during the 1960s and the 1970s when many colonies became independent countries. Later, during the 1980s and the 1990s, their frequency[6] declined as reported by Minor (1994). Despite this evidence, a number of examples in the last few years seems to support a new trend. For instance, in Bolivia in 2006 the leader Morales announced a plan to nationalize the local natural gas industry (Reel and Mufson, 2006); in Venezuela where over the last three years the president Chavez has ordered the nationalization of foreign firms in several extractive industries (Narea, 2010); in Ecuador a contract with the oil company Occidental Petroleum was cancelled in 2006 (Reuters, 2006).

The relationship between multinational corporations and host countries is characterized not only by such conflicts but also by mutual economic interests. The activation of the extractive project requires a mutually beneficial agreement inducing the initial investment. Needless to say, both parties are worse off without the investment. Mutuality may then lead to a joint venture where the profit distribution accounts and compensates for the threat of nationalization.

The aim of this paper is to account for conflicting and convergent economic interests and determine such a distribution.[7] This will be done by setting up a model of cooperative bargaining where both investment and nationalization are economic decisions characterized by uncertain pay-offs and irreversibility. The analysis will be developed in a real options framework where the foreign investor and the local government are viewed as holding an American call option on investment and nationalization, respectively. Both parties are equally exposed to profit fluctuations following a geometric Brownian motion. Uncertain profits and irreversibility make information on future prospects valuable and regret may be reduced by keeping an option open and collecting such information (see Dixit and Pindyck, 1994). Finally, unlike the host, the investor must also account for the threat of nationalization.

Three closely related applications of this approach are Brennan and Schwartz (1985), Mahajan (1990) and Clark (2003). Brennan and Schwartz (1985) apply stochastic optimal control to evaluate

[2] Schnitzer (2002) suggests the parties engage in joint ventures to reduce the impact of sovereign risk on FDI. See Hogan and Sturzenegger (2010) on alternative contractual arrangements.

[3] See Barham et al. (1998) for an analysis of investment in extractive industries and Guasch et al. (2003) for investment on infrastructures.

[4] Schnitzer (1999) points out that it is hard to have a host country credibly committed to the observance of a contract if only light penalties or no penalties at all can be imposed in case of violation of its terms.

[5] Following Duncan (2006) by expropriation we mean a partial confiscation of the foreign investor's assets. Instead, the term nationalization will be used for total confiscation.

[6] Data on expropriations have been collected and presented in several studies. See e.g. Tomz and Wright (2008), Kobrin (1984) and Hajzler (2007).

[7] See Kobrin (1987) for a review of literature on bargaining paradigm in the extractive sector.

Download English Version:

https://daneshyari.com/en/article/10483409

Download Persian Version:

https://daneshyari.com/article/10483409

Daneshyari.com