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# FOREIGN INVESTMENT IN TRANSITION ECONOMIES: THE ROLE OF INFORMATION

## Abstract

This paper examines the importance of economic incentives as a determinant of foreign direct investment in transition economies. We argue that an international public-private joint venture can be seen as an institution that makes the disincentive problem less severe in newly liberalized economies. By a public-private joint venture we describe a set up where a foreign firm decides on the volume of foreign investment and the host country government offers a package of start-up investment and investment sharing rules to mitigate distortions which typical arise in economies in transition and lower developed countries. The public-private joint venture may take on a variety of forms to cope with different kind of distortions and economic risk.

## Key words:

Foreign direct investment, transition economies, foreign ownership, information.

**JEL**: F20, F21, F23, O19.



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# 1. Introduction

Typically investment joint ventures are of two types. One, where foreign firms collaborate with a local firm in the host country through equity participation. Second, where foreign firms join in with local governments through the sharing of investments and profits. We focus on public-private joint ventures in transition economies. In the literature the importance of equity joint ventures is discussed. The new liberalization schemes adopted in many transition economies suggest that international joint ventures and other contractual arrangements are going to assume significant importance in the process of globalization [12]. There are various channels through which international trade, financial integration and political-economy considerations may influence economic catching-up and national welfare [2; 4; 5; 11; 15]. Marjit (1990) analyzes a situation where investment sharing by the host government establishes the credibility of government policy in the face of a potential threat of expropriation. Chan and Hoy (1991) provide an extensive analysis of the buy-back arrangement between a government and a foreign firm [9; 12]. For political-economy considerations as the main motivation for international joint ventures see Zhao (1997). International joint venture can also be seen as an instrument for information sharing under information asymmetry; for the matching of firms across countries [17].

From the host country government perspective, foreign investment combined with a technology transfer is to serve the usual national economic policy objectives, increasing exports, employment and the productivity of resources [8]. We assume that the national welfare of the host country is an increasing function of the level of foreign investment. To promote foreign investments, local governments would use a range of measures. For example, laws would be enacted and institutions created to deal with these matters. Then an effort would be made to develop the human resources and infrastructure which the use of foreign technology may require. Finally, a fiscal policy would be developed to induce foreign investment by stabilization the economy and transparency of regulation.

The importance of international joint ventures in transition economies and emerging markets is indicated in table 1. International joint ventures form the great majority of operating joint ventures in these countries. Because of the restricted market environment domestic joint ventures seem to be rather uncommon.

Main activity of joint ventures in transition economies is mining and manufacturing (table 2). Foreign investors are much present through joint ventures in this sectors implying a need for substantial fixed investments. So government influence and promotion can be decisive [18].

*Table 1.*

**Number and share of international joint ventures operating in specific countries**

| Country | Number of international joint ventures | Percentage of international joint ventures to total joint ventures |
|---|---|---|
| Bulgaria | 48 | 0.92 |
| China | 3710 | 0.90 |
| Czech Republic | 44 | 0.86 |
| Hungary | 254 | 0.90 |
| India | 1095 | 0.88 |
| Kazakhstan | 79 | 0.94 |
| Poland | 279 | 0.92 |
| Romania | 82 | 0.94 |
| Russian Federation | 629 | 0.91 |
| Ukraine | 72 | 0.92 |
| Uzbekistan | 73 | 0.88 |

Source: Moskalev and Swensen, 2007.

*Table 2.*

**Share of international joint ventures operating in mining and manufacturing relative to total international joint ventures**

| Country | Mining | Manufacturing | Mining & Manufacturing |
|---|---|---|---|
| Bulgaria | 0.08 | 0.31 | 0.39 |
| China | 0.02 | 0.54 | 0.55 |
| Czech Republic | <0.01 | 0.47 | 0.47 |
| Hungary | <0.01 | 0.43 | 0.43 |
| India | 0.01 | 0.39 | 0.40 |
| Kazakhstan | 0.48 | 0.13 | 0.61 |
| Poland | 0.01 | 0.36 | 0.37 |
| Romania | 0.05 | 0.44 | 0.49 |
| Russian Federation | 0.11 | 0.39 | 0.50 |
| Ukraine | 0.11 | 0.42 | 0.53 |
| Uzbekistan | 0.18 | 0.43 | 0.61 |

Source: Moskalev and Swensen, 2007.

We believe that there are significant economic arguments in favour of public-private partnerships in economies in transition. International joint ventures, though observed as a surplus sharing scheme, actually help to create larger surplus. Such international sharing schemes also can also reduce the degree of various kinds of market distortions and economic risks.

Economic risk is present by a project-specific risk in the host country. Given a project-specific risk in a transition economy our approach highlights the fact that the market imperfections are of two kinds. First, bad states of the business cycle may lead to defaults on start-up investments. Second, the foreign firm takes risk which is unobserved by the host country government. We focus on these two effects in our public-private partnership framework where the foreign firm controls the probability of success and the host country government gives a start-up investment as an incentive.

The study is divided into three sections. In section 2 we demonstrate how to incorporate asymmetric information between the venture parties where a project-specific risk has to be taken into account. In section 3 we conclude.

## 2. Project-Specific Risk and Foreign Investment

It is assumed that a foreign firm is interested in making an investment in the host country concerned. We focus on foreign direct investment in a set-up with a public-private joint venture between a foreign firm and a host country government. International public-private joint ventures are contractual relationships as they involve binding commitments on the amount of foreign investment and the division of the net surplus between the host country government and the direct investing foreign firm. The main question of the study is whether an incentive-compatible public-private joint venture is feasible which can promote foreign investment under different market conditions.

We consider the exchange of project-specific risk between a foreign firm and a host country government. We are interested on what terms they will make contracts for the exchange of income contingent on the state of the world. The joint venture lasts for two periods. In the first period the host country government pays a start-up investment $S$ to the foreign firm. The foreign firm undertakes the risky project. In the good states of the business cycle the project yields $R$ with probability $P$. In the bad state with probability $1-P$ the project yields nothing. The probability of the project success is controlled by the foreign firm's investment $I$, i. e. the probability of project success is an increasing function of foreign investment: $P(I), P'(I) > 0, P''(I) \leq 0$. The cost of investment are increasing, i. e. $C(I), C'(I) > 0, C''(I) \geq 0$. We shall denote the repayment to the host country government by $Z \geq S$.

Both parties are risk averse. The expected utility of the foreign firm is $EV(\cdot) = V(S) + P(I)V(R - Z) - C(I)$. The return of the project is $R$ when it is successful; the last term in the foreign firm's expected utility is the cost of investment. It is an increasing function. It is assumed that time preference is normalized equal to one. The expected utility of the host country government is given by $EU(\cdot) = U(-S) + P(I)U(Z)$.

We study two different cases, one with full information (section 2.1) and one with asymmetric information (section 2.2), i.e. the foreign firm takes project-specific risk which is unobserved by the host country government [12].

## 2.1. Full Information

With full information, the public-private joint venture specifies the investment level $I$, the start-up subsidy $S$, and the payment of the foreign firm to the host country government $Z$ after one period. The host country government (the principal) maximizes her expected utility subject to the foreign firm's expected utility given as $\overline{V}$. We must solve the program

$$\max_{I,S,Z} U(-S) + P(I)U(Z), \text{ subject to}$$
$$V(S) + P(I)V(R - Z) - C(I) \geq \overline{V}.$$

From the first order conditions we obtain the optimal risk sharing condition

$$\frac{V'(S^*)}{V'(R - Z^*)} = \frac{U'(-S^*)}{U'(Z^*)}.$$

This means that in equilibrium the parties will optimal share the project-specific risk. The efficient allocation of risk depends on the preferences, probability beliefs and endowments of the two parties.

In order to find a reduced form solution of the program we assume without loss of generality that $P(I) = I$ and $C(I) = I^2/2$. The optimal value of the probability of foreign investment to be in a good state, $I^*$, is given by

$$I^* = V(R - Z^*) + \frac{V'(R - Z^*)}{U'(Z^*)} U(Z^*)$$

and depends on repayment $Z^*$ only. It is the first-best case of this public-private joint venture.

## 2.2. Asymmetric Information

In the case of information asymmetry the level of investment $I_a$ is chosen by the foreign firm to maximize her expected utility. We obtain the optimum level of investment $I_a^* = V(R-Z)$. The host country government has to take this constraint into account to get the optimal program for start-up investment $S_a^*$ and repayment $Z_a^*$. We have to solve the program

$$\max_{S,Z} U(-S) + P(I)U(Z), \text{ subject to}$$
$$V(S) + P(I)V(R - Z) - C(I) \geq \overline{V}, \text{ and}$$
$$I = V(R-Z).$$

Now we claim

***Proposition 1***

(a) With perfect information the host country government makes a start-up investment conditional on the foreign firm choosing a particular value of investment. This leads to a first-best investment; the risk-sharing is optimal and the highest expected utility from the joint-venture is realized.

(b) In the case of information asymmetry, i.e. the investment level cannot be made conditional by the joint venture, the optimal start-up investment and the repayment level are less then in the first-best case. Under information asymmetry the optimal level of foreign investment might be less then in the first-best case.

To prove the claim one has to take into account the optimal risk sharing condition, i.e.

$$\frac{V'(S_a^*)}{V'(R-Z_a^*)} > \frac{U'(-S_a^*)}{U'(Z_a^*)}.$$

From this inequality the proof implies that the start-up investment and the payment of the foreign firm in the full information case must exceed those in the asymmetric information case. Furthermore, we obtain

$$I_a^* - I^* = [V(R-Z_a^*) - V(R-Z^*)] - U(Z^*)V'(R-Z^*))/U'(Z^*)$$

The first term on the RHS is positive; the second term is negative. This leaves us with the possibility that the foreign investment level, i.e. the probability to be in a good state of the world, could be greater or smaller in the asymmetric information case than in the full information equilibrium.

## 3. Economic Development and Economic Policy

What role does international trade and foreign investment play in the process of timing and the extent of the transition from a planned to a market oriented economy? Do foreign firms make rational trade, location and investment decisions? For a related discussion see Jones and Marjit (2003), Lane et al. (2003). This paper examines the importance of economic incentives in this transition process. We show that an international public-private joint venture can be seen as an institution to attract foreign investment [6].

This paper constructs a model of international public-private joint venture with investment sharing in transition economies as the main motivation. An international firm decides whether to undertake full ownership foreign direct investment, or to form a public-private joint venture with the host country government in an economy in transition. It is demonstrated that profit and cost sharing by the government encourages foreign direct investment. Joint financing of direct investment can act as an instrument of generating efficiency as a means to sustain the credibility of government policy. Under some conditions it follows that a public-private joint venture contract leads to higher foreign investment because the joint venture contract reduces or eliminates the current distortion in the transition economy. With project-specific risk we have shown that the risk averse parties have shared the risk. Efficiency requires that the foreign firm and the host country government have the same marginal rates of substitution between state-contingent incomes.

As an interpretation, one can think of this type of risk sharing as the exchange of equity shares in the two parties endowments. Although we deal with a stylized model, the message of the study can be extended in terms of a more general analytical structure.

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