

The Risk Analysis and Avoidance Measures of Bot Project

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Abstract: BOT is a financing model, which is widely used in the financing of capital-intensive projects, especially financed infrastructure projects in developing countries. Since the 1980s, as a new financing model, BOT was introduced into China, and it has been widely used. This kind way of financing has incomparable advantages and good prospects for development. However, due to BOT's characteristics of large-scale investment, long construction period, complex structure, involving many stakeholders, there are many risks in the implementation of BOT projects, including political risk, economic risk and natural risk, and these risks caused a serious impact on the implementation of BOT projects, therefore, risk aversion is particularly important. This article presents the appropriate avoidance measures from political, economic and natural aspects.

Keywords: bot project; risk; aversion

INTRODUCTION:

Due to the nature of public goods, the investment and construction of infrastructure is mainly financed by the government traditionally. Since the 1980s, due to the infrastructure provided by the government, questions like over-reliance on financial resources and soft budget constraints, lack of financial risk management, as well as the absence of user responsibility construction, operation inefficiencies and other issues become increasingly prominent, so western countries attempt to take market-oriented measures [1-2]. BOT (build-operate-transfer) is an important way for the infrastructure to marketize. This approach can not only ease the contradictions of infrastructure needs and inadequate investment funds of the government, but also help promote the transformation of government from public goods investor to the manager and market organizer, thus contributing to the rapid development of economy. The basic principle of BOT contracts is introduce the foreign private consortium to participate in infrastructure projects which has been built by the government in the past, such as roads, railways, ports, tunnels, airports, power plants, water supply, drainage facilities, etc. In the period of the concession, the private consortium is responsible for financing, design, construction, operation, maintenance and management of the project. After the end of the concession, the project will be handed over free to the host Government for free. This unique "privatization" investment and construction mode provides an efficient way for a number of developing countries and regions in addressing the problem of the inadequate supply of the domestic infrastructure particularly [3].

1. CHARACTERISTICS OF BOT PROJECTS:

1.1 Disposable: Most of the BOT projects are infrastructure projects, thus have both the general characteristics of the project and many special properties of BOT projects. An important performance is the one-time because the implementation of the project is irreversible; there will be many unexpected problems and risks inevitably.

1.2 BOT projects with clear objectives and constraints: With a clear time of construction period and "put into operation", the government puts forward the request on the quality of the BOT project because the government needs to ensure the operational revenue after the surrender of the project. If the quality of the project is too poor, the government is likely to afford the high burden of maintenance and repair costs after taking over the project.

1.3 Integrity: A BOT project is often composed of many inseparable sub-projects. Any mistake of a sub-project can affect the production operations of the entire project.

1.4 Particularly long period: The term of BOT project may last at least ten years, as many as 40 to 50 years from the beginning preparation stage to the completion of the final concession period. In such a long period cycle, the risks are probably caused by a number of things without thoughtful consideration and unpredictability.

1.5 Complexity of Engineering Technology: Since the BOT projects are mostly on large-scale infrastructure construction, most of the engineering technology is complex. And there are many external factors affecting the project, such as foreseeable risks of geology, hydrology, equipment, materials and other unforeseeable risks.

1.6 Complexity of contractual relationship: Only from the perspective of the project company, the contractual relationship with the parties includes government, many shareholders of the company, a number of financiers, general contractors, operating companies and development companies, insurance companies, all kinds of consulting firms (such as legal, finance, etc.). Among these, any one of the above relations without well handle may cause risks.

1.7 Intervention of the government's relevant agencies: Because BOT projects are very closely linked with local .And these BOT projects involve contact of many government departments (such as planning, land, environmental protection, taxation, auditing, etc.).What's more, these projects are vulnerable to unexpected intervention, generating new conflicts and risks.

2. RISK CHARACTERISTICS OF BOT PROJECT:

Due to the large upfront investment, long construction period of the project, the slowly recovery of the cost, and a large number of participants in the construction process, BOT project Involves many stakeholders, thus increasing uncertainty. Risk may occur in every line, and it can be said risk could occur in the whole process of BOT project, thus resulting in damage to the entire project [4]. BOT projects are generally social and public infrastructure, which is established by the investment of the government in the past, so there is little experience we can learn from, causing the difficulty of risk prevention. As for the BOT project, besides he general common risks of objectivity, potentiality and randomness, there are many unique features as follows:

2.1 Stage features: First, the risk size will be quite different at different stages, some stage, high-risk, and some stage, low risk; second, there is a big difference between every stage about the types of risk, each stage will have its own unique risk, some risks exist throughout the BOT project. For example, the main risks facing the project preparation stage is the failure of the bidding, and perhaps the biggest risks of the exploited phase are quality risk and default risk.

2.2 Features of complexity: Since the construction process of BOT project involves many stakeholders, such as banks, security companies and other intermediaries. Due to their own position, the focal point of various stakeholders will be quite different, and the risks they faced are also different, so they need to be treated differently.

2.3 The characteristic of large changeability: Whether it is the construction period of BOT or the franchise period, the time span is relatively large. The general construction is more than five years, while the concession period is more than three decades, And in such a long span of time, the possibility on the change of risk increased greatly.

3. RISK CATEGORY OF BOT PROJECT:

Similar to other large-scale projects, in the whole operation process of BOT, risks exist in the stages of development, construction, operation and recycling in different ways, which include the following aspects:

3.1 Political risk: About the risk assessment of BOT project, political risk has become a key factor of successful financing of BOT project. Political risks of BOT project are mainly manifested on country risk, policy risk, legal risk, and allowed risk, and the evaluation of political risks affect the financing of BOT project in our country. The so-called country risk mainly refers to the risk of civil war, regime change and other reasons leading to the damage of the project, so the overall national reputation of the project host country is an important factor for investors to consider in the decision-making process. Policy risk is the most important risk among the political risk, policy risk; there exist problems of legitimacy and rationality about the policy and regulations with the market conditions issued by the government. No matter how good the expected return is, we must consider giving up decisively. Secondly, for such government-led large-scale projects, in addition to the expected return, there is a very important consideration--- the social benefits of the project itself. However, for enterprises in market competition, the pursuit of economic interests is their property, And if the social benefits is good but the expected return is low, enterprises can only consider giving up.

We must fully consider the consistency of government policy issues and be very cautious in the investment. For the preliminary investigation of a project, the purpose of not bargaining is to look at the expected return, and we would like to start investigation from the local, national or even the political environment [5]. For some projects like

shabby, performance engineering, we must be aware of the existing risks brought by these projects and have a clear view of all aspects of the projects, finally drawing the correct conclusions.

3.2 Economic risk: Economic risk is about the economic instability in the country of BOT projects, such as the occurrence of large fluctuations in the exchange rate, the adjustment of industrial structure, economic crisis, policy changes, inflation and so on, thereby adversely affecting the financial conditions of BOT project company, Further affecting the risk of project construction, including market risk, foreign exchange risk, inflation risk and interest rate risk [6]. The host government carried out the project in the current economic environment for the consideration of improving the level of social welfare optimizes the industrial structure; improve the economic environment and the sustained stable development of the national economy and some other aspects. In the long operation period of BOT project, Changes of the macroeconomic environment in the host country will inevitably affect the project to a certain extent. Since the influence extent and the consequence caused by the change of the macroeconomic environment are uncertain, therefore, this article considers it as the project risk caused by the macroeconomic environment changes of the host country. The market risk is the most representative risk among the economic risk. Market risk results from the lack of market prospects on the product or service offered by the project, including the risk of industry competition and consumer demand risk. The risk of industry competition, beginning with the establishment of the project, it would be a long time before the BOT project complete and can be put into use, in such a long time, industry conditions may change, and the conclusions would be slightly different compared with the original feasibility study report .Therefore, the project put into operation may face fierce industry competition, Such as the risk of industry competition and consumer demand risk. Since the spending habits and consumer preferences of the consumer change over time, when the project is put into production, it's uncertain whether its products and services are needed and be welcomed by the expected customer or nor, and that is consumer demand risk. In addition, the economic risk is also reflected in the following aspects:

First, the economic foundation is weak and the national economic go downhill. Both the weak economic foundation, especially the poor infrastructure and the low level of energy, transportation, telecommunications, heavy industry and others will bring difficulties and risks for overseas investment in construction projects. Although the economic basis of the host country is good , but in the investment period,

if the national economy landslide occurred, the cost of the project will increase because of the economic basis turmoil, inflation, the rise of the price level and the market disorder caused by the economy landslide of the host country.

Second is about the heavy debt. Excessive debt not only bring a burden to the government's financial, but also affect the finance of the country, tax policy and national standard of living, thereby increasing the risk of economic and financial crisis. When analysis the debt of the host country, we should not only focus on debt of the government (including domestic and external debt), but also the debt which isn't borrowed by the government such as state-owned enterprises, state financial companies and private loan. The government and all the citizens have to be responsible for the questions caused by the debt. One of the lessons of the Asian financial crisis is that many external debt is about commercial loans borrowed by private sector, but in the end also become the national debt borne by the country or its citizens, and risks posed by the debt crisis will seriously affect the payment capacity of the host country to the project, thus bringing unpredictable risks to investment return [7].

Third, changes in laws and policies towards foreign investment. Currently, most countries in the world, particularly developing countries formulate preferential policies and security laws for the foreign investment, aiming to increase efforts to attract foreign investment. But governments of the world often change these policies and laws according to the situation of the economic development, adjustment progress of the industrial structure, international trade and trade balance.

3.3 Natural risks: Sometimes natural risk is called force majeure risk, which refers to the possibility of severe damage caused by the complicated natural conditions of the location of the BOT project and harsh environment such as volcanic eruptions, earthquakes, floods and so on. This kind of risk will not only increase the cost of preventive measures of the project but also cause huge economic losses once it happens, Including natural disasters and inclement weather risk. Disaster risk is a very serious natural risk, and it may cause devastating damage to the implementation of BOT projects, including typhoons, earthquakes, and tsunamis and so on. Bad weather is a mild nature risk relatively, but it can also affect the implementation of BOT projects in different levers, including rain, snow, wind, cold weather and so on.

4. MEASURES OF RISK AVERSION:

4.1 For political risk

Avoidance is the easiest way to reduce political risk in the way of BOT financing, which means we should choose the country with political stability and don't participate in big political risk projects. The political risk is mainly caused by the behavior of the government; therefore the government should have a greater responsibility of this kind of risk. For risks resulting from the adjustment and changes in laws and regulations, the project companies could try their best to transfer these risks to the government through a variety of protocols. Another universal relief measure is to buy political risk insurance from some international private security agencies. Some government agencies, such as the US Overseas Private Investment Corporation (Opic), French insurance company (FIC) can provide insurance services for part of the political risk of BOT financing mode. Or we can place the security agreements signed with the host government outside the jurisdiction of the host country, trying to avoid unwarranted interference by the host Government. In addition, you can also consult with relevant departments, the investor could obtain appropriate compensation in accordance with the government's commitment when changes in politics, laws and other unforeseen circumstances affecting project construction and operation occur [8].

4.2 For market risk

Avoid market risks. There are many successful experiences we can learn from to avoid such risks such as the construction of over Sydney harbor tunnels of which traffic risk is borne by the government. and the government subsidies if the traffic is under the bottom line; Another example is the Euro tunnel project, of which concession period is up to 55 years. The agreement stipulates that there won't be a second connection between the British and French within 33 years of the initial operation. In product purchase agreement, we have agreed on the terms of "turn-or-pay clause" in order to protect lowest profit margin of the shareholders of the project company [9]. In addition, at the stage of feasibility study of BOT project, we should do well in market research of the project product, be clear about the future changes in demand of the product in the future project period, and deny in time when the project products show a possible trend of declining significantly. We can reduce the influence on sales of the project product resulting from the fierce industry competition by good marketing and hiring excellent marketing team.

4.3 For natural risks

Force majeure natural risks can be transferred to the insurance company through commercial insurance. In the construction period of the project, the risks can be transferred to insurance company by

construction all risks insurance, transport insurance, personnel accident insurance, third party liability insurance and professional liability insurance; In the operation period of the project, the risks can be transferred to insurance company by professional liability insurance, all property insurance, machinery breakdown insurance, environmental liability insurance and so on [10]. Besides, we can also deal with the risks from the following aspects: first, we should take the nature risk that may occur into consideration at the planning and design stage of the project and try to avoid or reduce the damage caused by the construction materials and construction methods; Second, do a good job of the early warning of severe weather and take preventive measures early; furthermore, treat the recovery work seriously after the natural disasters or the bad weather, striving to minimize the loss of natural risks.

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