

A New Type of Risk in Infrastructure Projects

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Abstract

The recent financial crisis has sparked a new debate about the risks that infrastructure projects are exposed to. With the use of various typologies identified along the last thirty years by several authors, looking both at project finance funding techniques and to more traditional direct investment framework, the recent financial turmoil on global capital markets (2008 - 2010) reveals a new type of risk, this time not project, but financier related.

Keywords: Management, Risk Typologies, Project Finance, Infrastructure

1. Introduction

Over the past two decades, investments in infrastructure have been decisively influenced by at least two trends that marked their evolution with results and effects to be witnessed for the years to come.

The first trend was the increased share of investment funding provided by the private sector in the detriment of the traditional, public sector, historical financing pattern. Involving the private sector represented either by commercial and development banks as well as capital market players, such as investment funds, pension or hedge funds determined an increased complexity of the financial products employed, along with a wide diversification of the risk management techniques.

Although it had a positive influence over the market for infrastructure projects in general, by paving the way for a larger variety of funding initiatives and promoting innovative risk management solutions, the general practice of these tendencies (such as the increased complexity and diversification of financial risk management instruments) resulted also in the biggest global financial crisis over the past 80 years.

This, in turn, determined the commercial banks, otherwise traditional players financing investments in infrastructure projects over the past twenty or thirty years, to suddenly leave their positions under the likely threat of their own bankruptcy.

And this was, in fact, the second trend: affected by the financial crisis determined and rushed by the Lehman Brothers' bankruptcy, in September 2008, the banks have manifested reluctance to assume risks inherent in their

involvement in complex infrastructure projects. 2009 figures are relevant. Project Finance International magazine estimates the value of the investment projects financed in 2009 at USD 139.2 billion, a 44% decrease versus 2008 figures of nearly USD 250 billion [1].

Even if funding has become scarcer over the last three years, the financing needs have not diminished. According to a Morgan Stanley study from the second half of 2008, over the following ten years, investments needs in infrastructure are estimated at USD 21.7 trillion in developing countries only [2]. More than likely, many of these projects have been, are being and will be postponed or abandoned as they have or will become less profitable under the impact of the significant increase in funding costs combined with the general deterioration of global macroeconomic parameters. However, since many of these investments are considered essential, regardless of the actual conditions of capital markets, they will have to be started or continued.

To such extent, the empty place left on the stage by the commercial banks will be assumed by the only other entity which has the ability and muscle to mobilize the same large resources: the states.

It is anticipated that the reassertion of national states in financing infrastructure projects investments will have at least three predictable effects the first two directly affecting the infrastructure sector itself and the third one with a potential influence on the entire economy.

The first effect is represented by a better positioning of investments financed by the public sector as compared to those enjoying private support only. Being generally aimed at investments in, or management of, public assets,

the immediate effect one could anticipate will be of a progressively secondary role that the private sector will play in the economy whilst the public sector will witness a dynamic growth (a phenomenon which becomes already visible through a parallel with financial markets: an increasingly large number of commercial or investment banks is now controlled by the public and not by private shareholders).

The second foreseeable effect is a reduced specific risk of such projects due to a direct involvement of the public authorities into the investment implementation, through guarantees or direct contracting and through local or national budget funding. This latter trend should lead to a third visible effect, this time extended to the entire economy. Public investment in infrastructure, mainly with the state as major sponsor and investor, will encourage the development of key sectors such as infrastructure, in all its forms in both developing economies and in the developed ones. Under the current dramatic reduction in global demand, procurement of goods and services by the public sector is designed to contribute to national economic recovery by increasing the demand for goods and services and employing a growing workforce.

Obviously, the above is just an attempt to outline some future development trends, signs of which can only be predicted. The global economic paradigm is nowadays at a crossroads moment, with the current financial situation being in every respect an unprecedented one. As a result, it can be anticipated that the future will bring even more caution in the theoretical and practical approaches to risk management. Regardless of this, infrastructure investments will remain in high demand and, as in a world in constant progress, they should tend to increase.

2. Several Approaches to Infrastructure Risks

2.1. Several Approaches to Infrastructure Risks

What are the risks to which an infrastructure investment project is exposed? There is a large array of risks typologies based on which these can be analyzed. Infrastructure investment projects are, by nature, Direct Investments (DI) (and often Foreign Direct Investments (FDI)) in their most straightforward definition. According to UNCTAD, FDI are defined as “a long-term relationship reflecting a lasting interest and control from a non-resident company on a resident company” [3]. From this perspective, the risks of an investment project in infrastructure are up to a point common to those that affect any FDI, and their treatment requires the same tools of analysis.

Amongst the many categories the risks could fall into,

only a few shall be mentioned therein. To such extent one of the most well known classification belongs to Goshal and identifies four types of risks affecting international investments [4]:

1) macroeconomic risks—those risks which companies cannot control and which include political factors (civil wars, social unrest), natural (natural disasters) or financial (changes in the financial environment such as interest rates, exchange rates etc.);

2) regulatory risks—those risks which companies can influence in some way or whose effects can be mitigated by companies actions. These risks include changes in the regulation of certain aspects of business such as legislation, taxation, etc;

3) risks related to competition—those risks related to market and all the forces that influence or are themselves influenced by the market. Elements of competition and its results fall into this category.

4) risks related to resources or access to resources—are risks affecting the company as a result of the company’s choice for a commercial strategy which considers such resources as being available (natural, financial, management, etc.)

Other authors such as Miller, quoted by Horobet [5], classify risks (or uncertainties, according to the author) in six categories:

- 1) risks related to government policies;**
- 2) macroeconomic risks;**
- 3) risks related to resources;**
- 4) market risks related to certain product demand;**
- 5) risks of competition; and**
- 6) technological risks**

This classification represents in fact a breakdown of the four main categories identified by Ghosal (from a general to a particular standpoint): the risks associated with general business environment, macroeconomic risks, industry risks and business risks.

Another approach belongs to the Economist Intelligence Unit (EIU) [5], which divides risks into three categories: environmental (general risks which cannot be influenced by the company), process risks (related to the attainment of the company’s goals however manageable by the same) and informational (risks related to poor information management with consequences for company’s decisions and the achievement of its objectives). EIU classification is very detailed, the three general categories including in turn, further sub-classification. Thus, the process risk includes operational risk (customer satisfaction, human resources, efficiency, production cycle, environmental impact, etc.), delegation risks (related to the management, its performance incentives or communication), information processing and the integrity of the employees risk or the financial risk (including currency risk issues, interest rate, liquidity risks, guarantees, etc.).

EIU's comprehensive approach is explained by its research based on individual scenarios developed over many years in surveys of an envelope of more than 40 global companies.

Should however the scope of research be restricted to the scope of infrastructure, thus to investment projects pertaining to this area, classifications become increasingly more specific. An approach like that of Grimsey and Lewis [6], researchers of public-private partnerships funding structures, identifies new risks that affect each and every investment in infrastructure projects:

1) **technical risks**, such as those related to design and construction

2) **construction risk** due to faulty workmanship, poor raw materials quality and execution delays

3) **operational risks**, due to operating and maintenance costs exceeding estimates

4) **risks impacting the income** such as insufficiently well regulated price and demand volatility

5) **financial risks** from inadequate financing structure or hedging transactions

6) **the risk of force majeure**, including events such as wars or natural disasters

7) **regulatory risks**, arising from changes in the institutional environment and adverse effects of the regulatory bodies rules

8) **environmental risks**, the negative effects the investment project may have on the environment

9) **the risk of defaulting on the obligations** which may come from any combination of the above risks.

An even more pragmatic definition, belongs to a practitioner, Yescombe [7], who tends to simplify somehow the risk approach, thus classifying the same into three broad and flexible categories:

1) **commercial risks**—or project risks directly related to it, to the market in which the project operates and, in general, the effect the project has on the elements it enters in contact with (from raw material suppliers, to the communities, local authorities, customers, environment). They are, in general, project risks the consequences of which can be to some extent kept under the control of the investor and sponsor.

2) **macroeconomic risks**—or financial risks are those related to external factors over which there will be little influence and control. It is the case of inflation, the overall level of interest, the exchange rate.

3) **political risks**—or the country risks, are risks related to the effects of government actions or having force majeure characteristics (such as wars, social unrest, etc.).

2.2. An Analysis of the Approaches and a New Type of Risk

To the above three risks it seems appropriate to introduce

a fourth one, manifested especially in the latest years: **the risk of financing**. The global financial crisis that affected, 2008-2010, a significant part of the world economy, including the U.S., EU or Japan, gave birth to a new type of risk, one that initiators of investment projects had not witnessed before. This risk is determined by events which can lead to loss of project funding opportunities. So far, usually, the inability to finance a project has been due for the most part, to the project itself. Either this did not meet the requirements of potential lenders or providers of capital, or was confronted with a number of risks whose costs and whose ownership was deemed too expensive. Whether talking about political risks, environmental, or simply commercial risks, those risks were determined by the project initiation, development or its operation. The direction of manifestation of these risks was always from the project to the lenders, never vice versa.

Currently, to the classic definition of project risks, a new one appears as appropriate: the risk that a good project might not be able to continue to the implementation phase because of lack of funding sources. The cause of this new type of risk is the international financial situation, particularly affecting traditional providers of funding: banks. In a crisis of confidence and global liquidity it is difficult to find financial resources, as traditional syndicated loans markets no longer seem to work. In these circumstances, the banks abandon structuring and syndicating transactions, becoming more attracted to hybrid solutions that insulate them from the risk of taking projects onto their balance sheet. In an analysis published in Euromoney [8], it is estimated that during the 2008-2010 financial crisis, there were very few syndicated loans in the market. Transactions were engineered as club loan, at prices, tenors and financial covenants not confirmed by lenders competition in the market, but rather accepted by customers because there was no alternative. Euromoney's report even quotes projects supported by sovereign guarantees which had to undergo the same implementation mode. Liquidity providers, banks in this case, favored financial transactions organized as club loans as this business was more lucrative than traditional syndicated loans. Besides the higher costs of lending, these transactions were done over a longer period of time, due to difficulties inherent in negotiations with several parties. Another effect of financial crisis is that the average loan value was reduced. Financing investment projects is, historically, a long-term funding, usually two or even three times longer than corporate loan financing. According to Euromoney estimates, the average duration of loans to finance investment projects currently dropped from 10 to 7 years. Furthermore, if before 2008, the gearing could have reached 80%-90%

of the project value, during the financial crisis it no longer exceeded, 60% - 70%.

Some ways in which investors sought to reduce the effects of this new type of risk have reflected a capacity to adapt quickly enough to the situation (and it is anticipated, only circumstantial). Many investment projects have been divided into smaller projects or were developed in stages. Other investors were able to persuade governments to take an increasingly greater role in projects, by guarantees or other forms of support (contract commitments for a certain period, to pay credit facilities or equity participation in the project company).

3. Conclusions

Financing investment projects is, as was noted above, an area exposed to a wide range of risks. Some of these risks are associated to investors (sponsors). But the project is usually a stand alone one, individualized and isolated from other assets of the investors who initiated it, so it should be judged only by its ability to be able to generate support and cash. On the other hand, infrastructure projects have a large social impact and entail risks associated with public sector and its actions. Finally, with significant impact on the environment, investment projects face substantial risks on the environmental consequences of operations.

The manner in which the effect of these risks can be mitigated are diverse: in many cases, risks are being transferred to external partners such as customers, suppliers and insurance companies and international guaranteeing entities. A substantial part of them, however, remains in the project company—this means that, ultimately, funding risks are still extremely high. Risk management associated with investment projects has evolved over the past twenty years and continues to evolve as the market for such products is evolving as well. The global financial crisis has led to increased funding costs for all projects and effects will be seen over many years, so there are expectations that the number of completed projects will decline substantially in the near future. This situation could however be an opportunity for investors,

seeking financial innovations to lead to greater flexibility. A signal in this direction is the involvement of national states in addressing issues directly related to public sector actions—capitalization of banks, improvement of institutional support. However, such involvement from the public authorities should not mean a return to traditional financing from the budget. Rather, it is time for a new paradigm in how to manage investment projects; by better understanding the risks, the state will become more of a partner in the investment, its role being enhanced by its ability to provide on request financial support, in the absence or inadequacy of private funds. The future will show whether this emphasis on the role of states is, in the long term, a benefit or a hindrance onto financing investment projects.

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