A quadruple preliminary observation

➢ A huge worldwide need for infrastructure of all kinds (transport, water and sanitation, telecommunications, electricity, education, health, safety, culture, ecological transition, climate change, ...) estimated, according to various sources - Mc Kinsey , OECD, GIO, GIH, WB, etc. - between $ 4,300 bn / year and $ 6,000 bn / year, by 2035/2040;

➢ A high-growth global public debt reducing the ability of governments to finance infrastructure. To answer this, the current budgetary and public accounting rules need to be revisited in depth. The work of CICA, led by Vincent Piron, to propose innovative views and means is under development;

➢ A 2017 stock of Private Equity dedicated to infrastructures of only $ 428 bn, rising slowy;

➢ An increasing amount of reserves not invested yet by investment funds (Dry Powder) over the last 10 years reaching now $ 1,540 bn.

Although infrastructure investment is now accepted as an alternative asset class, the volume of private finance, whose amortization is based on payments by users (Funding), is insufficient to bridge the gap to meet the needs of Emerging Market and Developing Economies (EMDEs).

Public funding and MDBs/Development Finance Institutions-DFIs are far from satisfying them.

Some barriers to private funding growth:

- a high rate of return expectation (IRR requirement) boosted by low interest rates demanding a good understanding:

   i) how equity investors perceive the risk characteristics of PPPs, in terms of the probability and severity of the risks that they, as investors, are exposed to, and

   ii) how these risks influence (or do not) the rate of return that investors require.

- difficulty to obtain an acceptable rating.

What actions contractors / operators can do to increase private funding?

Better risks management to reduce the level of the IRR.

The two factors determining IRR are:

1-) - Investor Weighted Average Cost of Capital (WACC) plus a project risk premium.

   1-1) What is WACC?

Weighted Average Cost of Capital (WACC) is the required return necessary to undertake an investment, in which each category of capital, including long term debt, is proportionately weighted. The corporate WACC approach is likely in most cases to generate a higher expected return.

The Formula for WACC:

WACC=(E/VxRe)+[D/VxRdx(1-Tc)]	
E=Market value of the firm's equity	*Re*=Cost of equity
D=Market value of the firm's debt	*Rd*=Cost of debt
V=E+D	*Tc*=Corporate tax rate

1-2) The 4 components of the project risk premium:
- the risk that design or engineering processes will fail to perform as expected;
- the risk that faulty building techniques or poor project management lead to cost escalation during construction;
- the risk that operations and maintenance costs will be higher than projected;
- the risk that performance will not be at the standard expected at financial close, giving rise to deductions or penalties, and reduced income for the private sector operator.

1-3) Reducing these risks:

- Project preparation (Well Prepared Project - WPP) by the public authorities. They can rely on the SOURCE software developed by the Sustainable Infrastructure Foundation (SIF) created by the main MDBs;
- verification by the contractors / operators of the quality of the WPP, taking reasonable account of the environmental, social and governance imperatives (ESG) and UN Sustainable Development Goals (SDGs) to ensure the bankability of the project and reduce study costs;
- the mobilization by contractors / operators of all technical and managerial resources, both during the design and construction / operation phases, the support of reliable traffic / attendance studies, etc.;

2) - two components.
What is Beta (β):
- the key measure of systematic (or market) risk. It gauges the tendency of the return of a financial security.
- a function of the return available on a risk-free investment (the risk-free rate), generally base on US Treasury Bond, plus a premium for the amount of systematic risk in the investment being considered (the equity risk premium). The premium added to the risk-free rate covers the country and market risks, namely: political, interest rate, exchange rate, tax, stability of the institutional and legal framework, etc.

2.1) the Beta (β) of the investment – i.e. the weighted covariance of the projected excess return on the investment, with the average excess return on the market as a whole.

2.2) the Equity Market Risk Premium (EMRP) – i.e. the average excess return on the equity market, reflecting the market's view of the risk inherent in the equity market as a whole.

The Beta of the project must be compared with those of the listed companies. In emerging markets, data of comparable industries or firms may be limited or non-existent; consequently, investors in EMDEs add a premium, a standard range of 5% to 8% over usual IRR in developed countries, leading to a global IRR requirement, varying between 17% and 20%.

The amortization period of the infrastructures is 20/30 long on average, reaching up to 70 years for some infrastructures. In EMDEs investors usually look for a rating BBB$^+$/A$^-$ through a guarantee scheme allowing an investment grade rating.

It could be obtain by deliverance of guarantees, such as those issued by MIGA or guarantees coming from specialized private insurance company. But their duration is not, in most cases, correlated with the duration of the return on investment and repayment of loans. Large restauration of credit enhancement facilities could also be a track for improvement.

The offer by the MDBs / DFIs of interim facilities for the financing of the transition period from the Greenfield / ramp up phase to the mature phase of the project (Brownfield) deserves to be explored.

Combined with a high ratio level of equity and quasi equity/debt, as required by lenders, such IRR requirement drastically reduces the possibility of reaching the financial closure of a large number of projects, although these projects are able to deliver positive net externalities, fulfilling the development objectives.

All together 1) and 2) allow determining the project's IRR requirement.

2.3) Reducing these risks:

Contractors have little control over these risks. However, it is up to them to make known to the public authorities of their own countries and project countries, as well as to International Organizations (OECD, WTO, UN, FIDIC, DRBF, etc.) and multilateral and bilateral Development Finance Institutions (DFIs), the difficulties encountered and their proposals to remedy it in whole or in part, directly or through the CICA working groups (PPP, Long Term Infrastructure Financing-LTIF, MDBs, Sustainable Construction, Construction 4.0, Medium Size Enterprise).