



The language of infrastructure

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Pension funds and insurers discovered infrastructure investing, somewhat counter-intuitively, at about the same time they began adopting the principles of factor investing. So the search for an infrastructure asset class started just as other asset classes were being gradually rejected as unreliable portfolio building blocks.

The goal of seeking exposure to investment factors – which can sometimes seem like the post-modern deconstruction of asset management – really amounts to the search for a well-specified model of asset returns. It is the recognition that taxonomies that are not built to capture an underlying value process can lead risk management astray if assets are given similar labels when fundamentally different forces drive their performance. Notional groupings of assets (such as stocks, bonds and private equity) often create neither information nor predictive power.

What are the implications of these evolutions for long-term investment in infrastructure?

Intuitively, infrastructure corresponds to large structures of steel and concrete created to perform a series of basic economic functions (such as water and power supply as well as transportation) and is typically classified in that way.

But a clear distinction must be made between infrastructure as a matter of public policy, in which case the focus is rightly on economic functions, and the perspective of financial investors. The latter may be exposed to completely different risks through investments in firms that perform similar roles (for example, a real toll road and an ‘availability payment’ road).

Hence, the sector classification of infrastructure investments constitutes a poor model of underlying cash flow. This applies whether the returns accrue to equity or debt investors, as a series of EDHEC-Risk Institute papers has documented.

Instead, we outline a much more powerful framework to understand, benchmark and predict long-term investments in infrastructure. This involves examining several characteristics associated with the structuring of capital projects involving highly relationship-specific assets, that can only be repaid over multiple decades of effective use.

So, infrastructure investment can be construed as a way to buy claims on future cash flow created by long-term contractual arrangements between public and private parties (or alternatively between two private parties). In fact, in most cases, infrastructure investors do not own any steel or concrete, which often remain under state control.

To achieve long-term goals through infrastructure allocation, first we must recognise that the notion of infrastructure is only a heuristic device used to access something that investors really want. It is a mental short-cut designed to create an exposure to certain factors rather than a goal for its own sake.

Holding infrastructure debt and equity can give investors access to cash-flow processes that have useful characteristics from an asset allocation or from a liability-driven investment perspective. Our focus should be on identifying and measuring these characteristics and on designing the relevant investment strategies.

In this respect, substantial progress has been made towards identifying the characteristics that can be expected to explain the financial performance of infrastructure investments. In particular, the growing consensus around the limited role of industrial sector categories in explaining and predicting performance, and the much more significant role played by contracts and by different infrastructure business models such as merchant or contracted infrastructure (see Blanc-Brude, Hasan and Ismail 2014 for examples), or different forms of utility regulation, is encouraging.

An initial finding is the identification of limited recourse project finance as a major and well-defined form of investment structuring for infrastructure projects. Measuring the performance of project finance debt and equity by broad categories of concession contracts, financial structures and life-cycle stage is one approach to creating reference portfolios that can be used as benchmarks, including for prudential regulation as the recent consultations by the European Insurance and Occupational Pensions Authority suggest.

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In due course, other approaches will complement this first step and integrate other types of underlying infrastructure business models (for example, the retail price index measure of inflation versus rate of return utility regulation) in a broader benchmarking exercise of privately held infrastructure investments.

The second important development with respect to long-term investment in infrastructure is the transition from a heuristic to a learning process. Indeed, it is not sufficient for long-term capital to be “patient” or to show “persistence through periods of short-term under-performance”, as exemplified by the Focusing Capital for the Long-Term project, initiated by Canada Pension Plan Investment Board and McKinsey, in a March 2015 document.

Investment factors should be persistent but long-term investors may not know enough about them today to decide whether they themselves ought to be. Moreover, there may never be enough representative historical data about infrastructure investment to build a robust model of expected performance encompassing the next 50 years (see Blanc-Brude 2014 for a detailed discussion).

The possibility of (machine) learning should therefore become an integral part of the approach taken by long-term investors to make and adapt long-term investment decision making. This applies particularly to sequential investments such as infrastructure. The higher monitoring demand that comes with buy-and-hold strategies can be combined with inference techniques designed to revise or update prior assessments of value and performance, as and when new data becomes available.

For instance, Blanc-Brude and Hasan (2015) examine the challenges of empirically documenting the cash-flow dynamics of infrastructure projects spanning multiple decades. They show it is possible to optimise the use of available information by integrating what is known today about different types of financial structuring decisions and contractual terms found in infrastructure investments. From there models can be built of expected cash flows and conditional volatility that can be calibrated and improved with the data that does exist.

After the identification of the relevant data to update pricing and risk models it becomes possible to standardise its collection. This process is discussed in a recent EDHEC-Risk paper (Blanc-Brude et al 2015) which proposes a data collection template for the creation of infrastructure investment benchmarks.

EDHEC has been building an integrated collection of frameworks that includes a central database of infrastructure project information as well as a system for monitoring and valuation. It will allow investors to improve and adapt their long-term investment decisions with regard to infrastructure.

A change of focus is required if infrastructure investing is to come of age and become fully integrated in the asset allocation and asset-liability management of investors. This applies to the same investors and most of the managers that provide them with access to infrastructure assets.

This focus should be on collecting information that can help answer the questions investors and regulators have about performance and risk. With the new data collection template defined by EDHEC, which is designed to correspond to the requirements of the relevant asset pricing and risk models, a rationale exists to collect data effectively and efficiently to build infrastructure investment benchmarks.

Collecting this information requires the co-operation of investors, creditors, academic researchers and regulators.

Together they can help make such reporting part of a new standard approach to infrastructure investment.

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