

Guest Article

Barbara Weber and Hans Wilhelm Alfen: Infrastructure as an Asset Class

Barbara Weber and Hans Wilhelm Alfen's new book: *Infrastructure as an Asset Class* provides the reader with the necessary theoretical knowledge and background information to understand all aspects of infrastructure investments. The authors demonstrate that far from 'only' representing a conservative asset class, infrastructure assets offer a wide variety of risk/return and cash flow profiles, ranging from highly conservative bond/fixed income-style asset profiles through to investment opportunities that are comparable to (private) equity. Weber and Alfen point out that commonly, studies on infrastructure investments erroneously describe the risk/return profile of infrastructure investments by referring to their industry and sector alone. The authors argue that this approach oversimplifies matters and is therefore inadequate for capturing the risk/return profile of infrastructure investments: The various sub-sectors, their degree of regulation and, in particular, their seemingly endless range of sector and transaction-specific contractual structures mean that there is no such thing as a uniform risk/return profile within any given infrastructure sector.

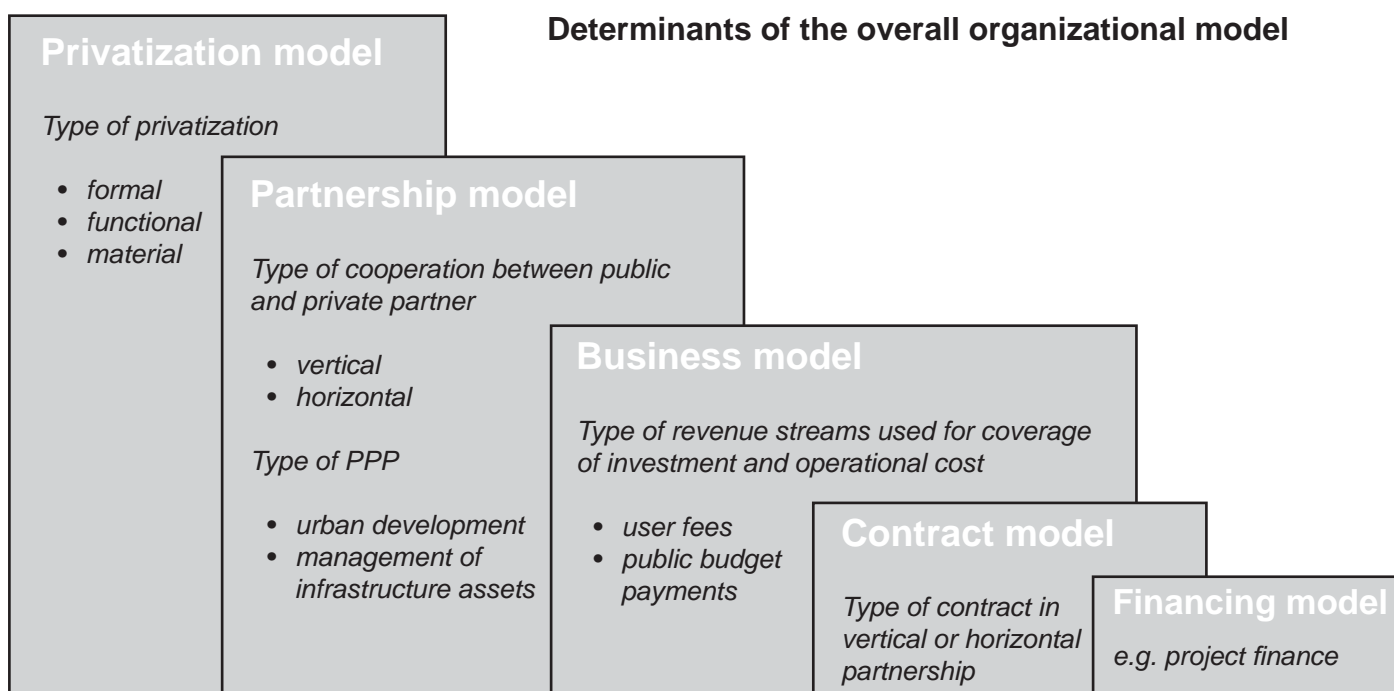
A central part of the book is an innovative new organizational model which enables readers to identify and assess all risks of any individual infrastructure project internationally, allowing for a judgment of the risk/return potential. In this month's guest article Weber and Alfen describe this new model in more detail.

Weber and Alfen's analytical model

The organizational model can be considered as being composed of or 'determined by' five self-contained, describable sub-models: the privatization model, the partnership model, the business model, the contractual model and the financing model (see Fig. 1 below).

(I) As far as the privatization model is concerned, we dismiss the commonly held prejudice that privatization means "selling the family silver". In its essence, the term privatization means nothing more than the transfer of assets and/or functions from the public sector into private hands. This may involve a simple procurement process, such as the purchase of facility management services. We differentiate between three privatization models, (i) formal, (ii) functional, and (iii)

Fig. 1:



material privatization. The key characteristics used to distinguish between these forms of privatization are: the nature and extent of the transfer of functions to the private sector, allocation of the “provision function”, ownership interests, and duration of privatization.

(II) Only functional and partial material privatization models contain Private Sector Participation (PSP) or partnerships between the public and the private sector. In contrast, formal privatizations have no private sector involvement and full material privatization no public sector involvement. To clarify the structural relationships between public and private sector, we refer to PPPs as vertical or vertical/horizontal partnerships, and partial material privatization as a horizontal partnerships.

(III) For the evaluation of the business models, the cost and income side of an investment are taken into consideration with a clear focus on the income side. Two fundamentally different, alternatively applicable income models exist which may be used for the same kind of infrastructure services. This is highly relevant when it comes to the assessment of the risk and the potential yield of an investment. As a basic rule, the business models of infrastructure companies can be broken down into ‘budget-financed’ and ‘user-financed’ models. In the case of the former, the private partner receives fixed remuneration that is generally payable by the principal (public entity) at regular intervals, for example: performance-based, availability-based, volume-based, results-based, or usage-based payments. The latter can be differentiated according to, for example compulsory usage, quasi-compulsory usage, and free choice of usage.

(IV) Fourth, an overview of the various contractual models for the planning, realization and operation of public infrastructure that are common throughout the world is given. This overview focuses on PPP contractual models that embody as extensive a ‘lifecycle approach’ as possible regarding the nature and extent of the transfer of functions and risks from the public to the private sector, and private financing in particular. This means that they entail an integrated outsourcing of planning, construction, financing and operation of public infrastructure assets to the private sector for a certain period of time. Here, we present a clear matrix with which to scrutinize the jungle of models that are indistinctly subsumed as ‘PPP’ internationally. For problematically, ‘PPP’ means different things around the world and even within countries – a major stumbling block for public bodies and private investors alike when it comes to performing due diligence. Relying on the letters used as abbreviations for services transferred (design,

build, operate or own, transfer, lease, rent, and finance), we provide short descriptions for contract models that allow for the categorization of each and any individual complex scheme of private sector privatization (PSP) that exists internationally.

(V) Last but not least, financing models and instruments are discussed in the three remaining chapters of the book, with a particular focus on project finance. We explain why and how a project financing and its many contractual relationships constitutes the nucleus of any infrastructure investment, how it deals with the different interests and objectives of the shareholders, what the main structural and contractual differences between traditional project financings and PPP project financings are, and according to which principles the different risks are distributed among the various stakeholders. Most importantly, we offer a structured, rigid and very detailed risk assessment process, taking the reader step by step through all fourteen kinds of risks an investment may be exposed to, seven general and seven project-specific ones. The remainder of the book discusses the necessary financing instruments, equity, mezzanine, and debt, including public investment programs as well as national and international development banks. It closes with cash flow calculations and sensitivity analyses using practical examples.

Considering the fact that investment into infrastructure is likely to become an even hotter topic in the future, we hope that in uniting infrastructure investments, project finance and PPPs to compile a basis of theoretical information, Infrastructure as an Asset Class proves to be a useful tool, with real-life examples and the theoretical framework providing a valuable resource for practitioners in industry, finance and the various areas of the public sector.

Barbara Weber and Hans Wilhelm Alfen

Weber and Alfen’s new publication
 Infrastructure as an Asset Class (2010) is
 available now, and can be ordered via

[http://www.b-capitalpartners.com/
 english/mr_publications.php](http://www.b-capitalpartners.com/english/mr_publications.php)