Infrastructure Provision: Modelle, Finanzierungsformen, Grenzen und Alternativen

Münchner Kreis Fachkonferenz: Digitale Basisinfrastrukturen

21.06.2017

IEM

Fundamentals

Infrastructure

Infrastructure can be distinguished into physical existing and immaterial goods.

Infrastructure

- Origin: infra [under, among] & struere [construct, build]
- Definition: Infrastructure, in general public institutions, which are essential prerequisites for economic life[1)]

Tangible

- Traffic systems:
  Streets, railways and transportation roads
- Utilities and disposal :
  Energy, water, communication networks

Intangible

- Human capital:
  Education, research facilities health system, social services
- Wider scope:
  Standards
  Virtual networks (Communities)

Institutional

- Legal system
- Economic system
- Social system
- Wider scope:
  Culture, traditions

Source: 1) Gabler (1993); Witte (2002); Klodt (2009)

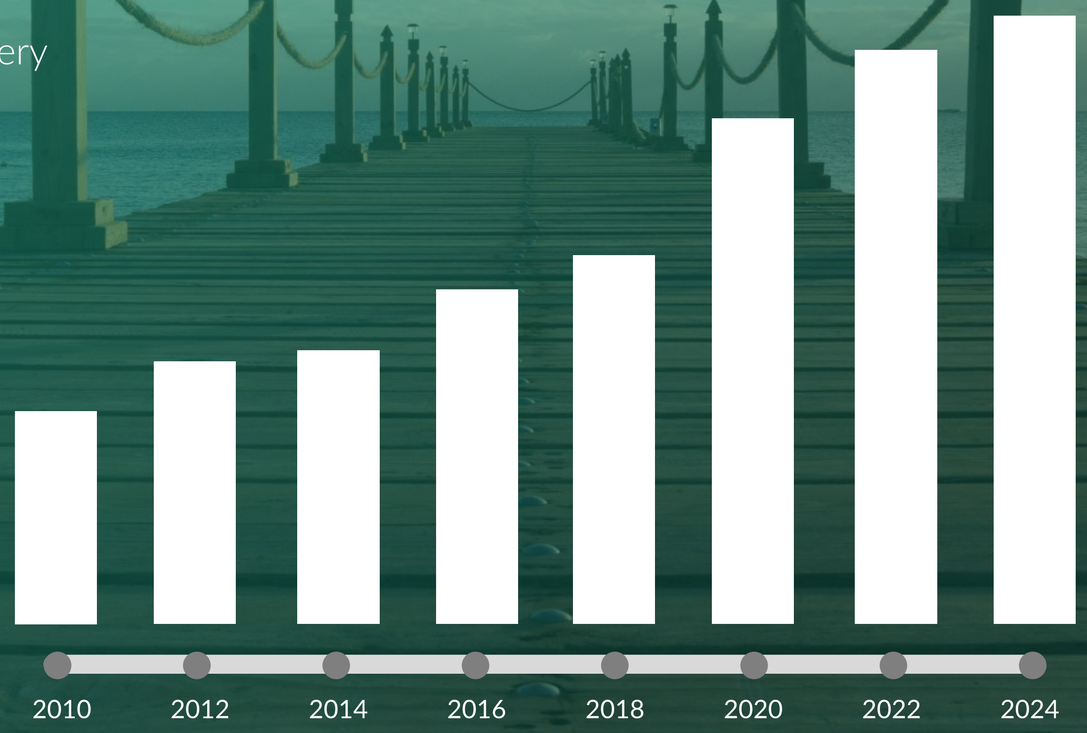
Infrastructure Spending

Global infrastructure spending will reach $9 trillion by 2025.

Analysis

5-25%

Economic return generated for every dollar spent on a capital project

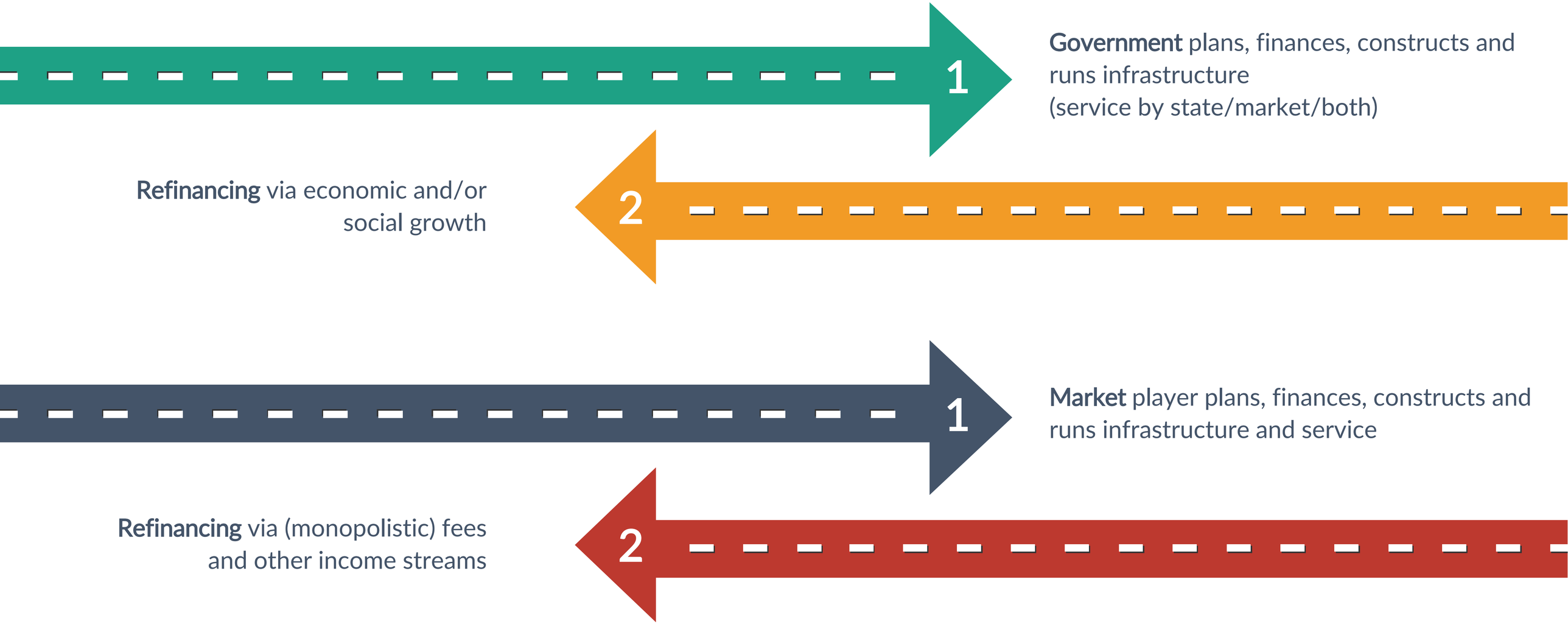


Source: Oxford Economics; PWC


Provision

General Models

Infrastructure provision targets public/private return.



Value Chain

Classical value chain breaks up entirely towards value network.

Network Provision | Network Operation | Basic Services | Billing | VAS / Content | Sales

„Traditional“ vertical integrated Resource Provider

NetCo | OpCo | ServCo | SalesCo

OTT

Infrastructure | Service

Source: Grove 2010


$
Finance

Roads

Financed by state, war booty, tolls, taxes or private. 111 BC agrarian law forced local residents to pay.

Canals

Financed by compulsory work, tolls, water rights. Later financed by joint-stock companies.

Aquaeducts

Financed by emperor, amende, war booty or private citizens.

Bridges

Financed by landowners, public, by tax or war booty.

Turnpikes

Landowners charging for passage. Later by the public by State Act, including turnpike trustees.

Same, same – but different.

New financial options boost infrastructure innovations.

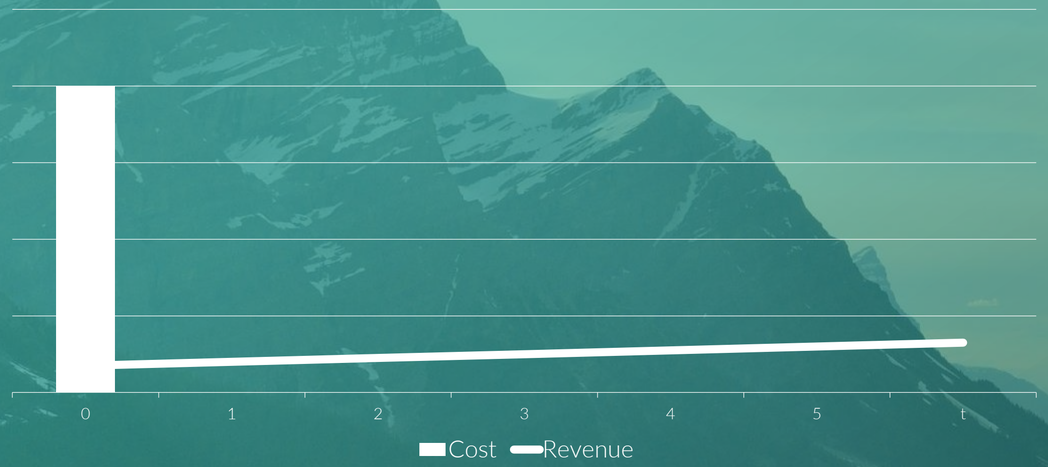
"… every wave of infrastructure innovation and improvement relied on financing solutions that enhanced previous techniques and instruments … "

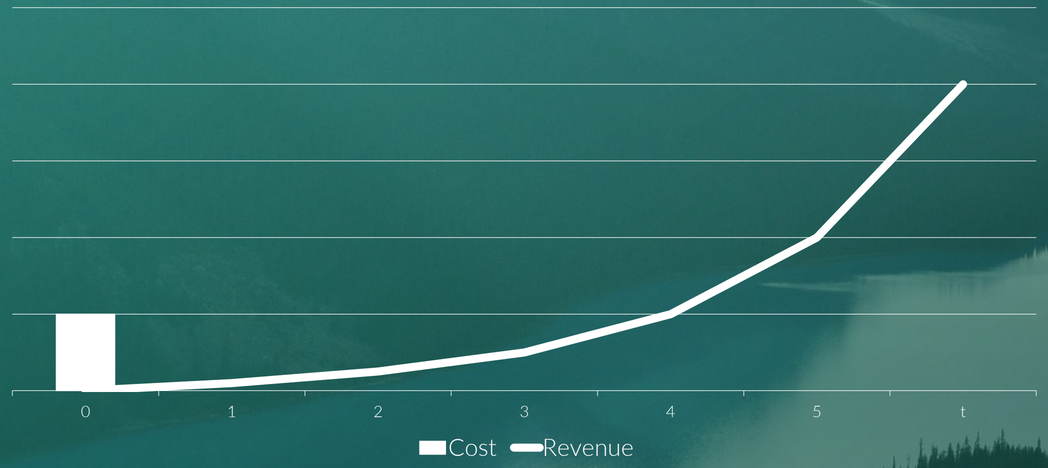
Source: DeLuca/Florio/Grove/Lorenzini (2012)Typologies of European Infrastructure Finance in Europe from the Antiquity to the 18th century (2012)

www.infrastructure-economics.com

Infrastructure / Service Dilemma

Combined business models cannot refinance **required invest**.





Infrastructure/Service Competition

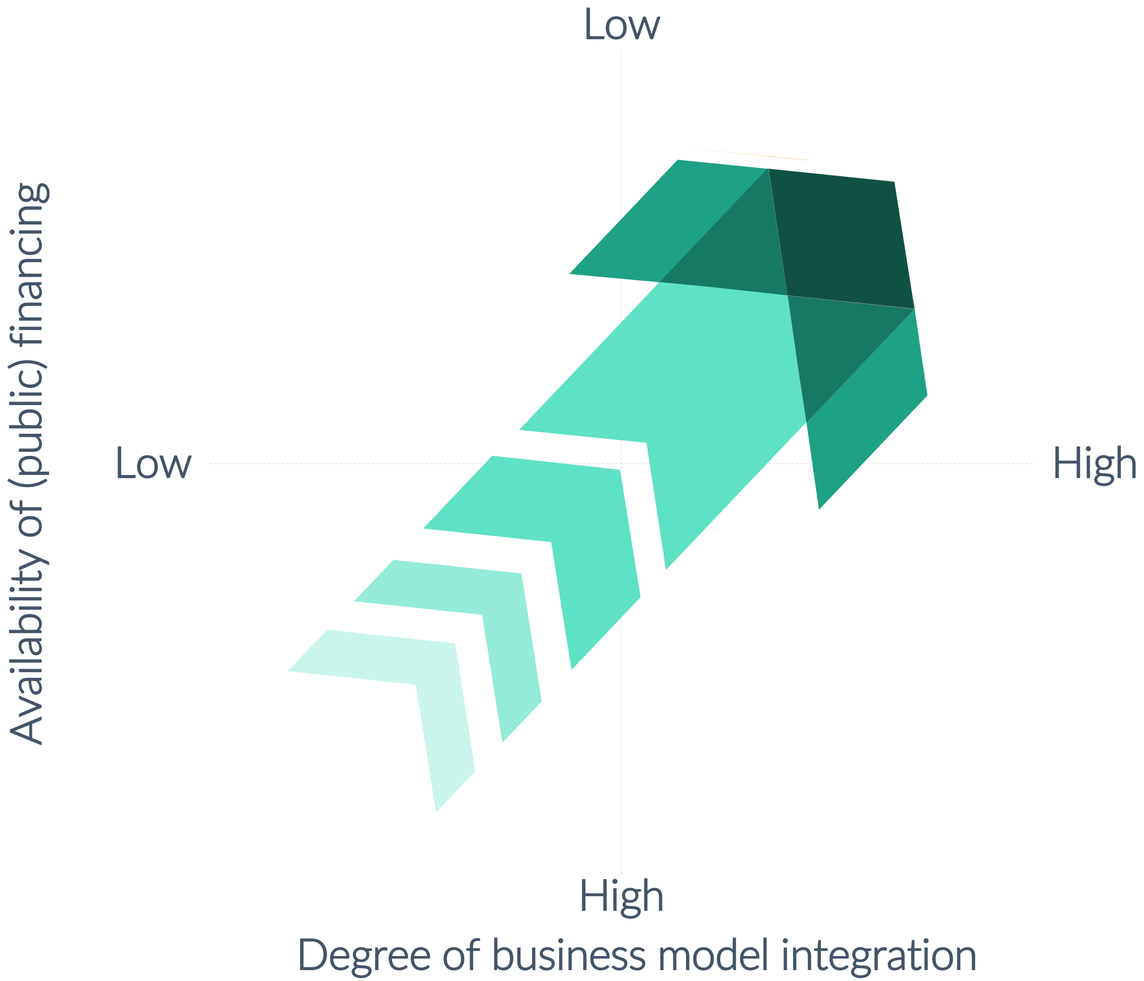
- Business models of pure service providers are more successful than those of fully integrated providers
- Complexity of managing infrastructure and services simultaneously leads to diametric strategies

Infrastructure Investment Dilemma

- Infrastructure Investments increase CAPEX costs and decrease return expectations for shareholders

Concentration

Availability of (new) finance sources boost infrastructure deployment.



Enabler

- Functional separation of infrastructure and Service facilitate larger selection of financing schemes
- Sometimes functional separation of infrastructure ownership from wholesale/retail is a prerequisite for public financing aid
- EIB, ERDB and EU through various programs active in infrastructure financing

> “Strategic investment in infrastructure produces a foundation for long-term growth.”
>
> Roger McNamee

Innovations

(New) infrastructure financing options.

Enhanced Forms and Vehicles

- E.g. Corporate/green Bonds
- E.g. Yield Cos

Citizen Participation

- Stakeholder integration
- Increasing acceptance

Infrastructure Funds

- Dedicated Asset Class
- Targeting long term investors

Decoupling

- Separation of long term and short term assets

Outlook

Infrastructure Development

Major developments and trends creating high impact.

Disintegration

Disintegration of production, infrastructure and service consumption.

(E-) Mobility

Transition towards entire new mobility concepts and infrastructures.

Demography

Impact of demographic change to society and settlement.

Storage

Transfer, storage and incentive systems for (renewable) energy.

Autonomy

Upcoming of self sustainable energy and resource entities.

Hyperloop

Concepts will cause tremendous change to existing infrastructure.

Self Driving Cars

Fundamental change on infrastructure.

Efficiency and security bans self driven cars.

Existing public (train) infrastructure becomes obsolete.

Transport separates between long and near distance.

Passenger load factor becomes game changer.

Essential Infrastructure Provisioning

The one slide **explaining it all.**

01 Public Planning

Nationwide planning of underlying essential NEW INFRASTRUCTURE.

02 Public Provision

Construction by authority including sovereign tasks (e.g. right of ways).

03 Privatization

Transfer of nationwide asset into private management and ownership.

Thank You!

Contact Information.

Direct Contact

Prof. Dr. Nico Grove
IEM - Institute for Infrastructure
Economics & Management

Address

IEM c/o Genesis Media GmbH
Adelsbergstr. 8
81247 Munich - Germany

www.infrastructure-economics.com

Phone & Mail

Direct Line: +49 89 8118166
Mobile: +49 178 8118166
nico@grove.ch


IEM

About Us

IEM matches Infrastructure and Finance.

Complexity in **Infrastructure** has become tremendous. As a result, a huge amount of capital exist, which does not find infrastructure assets or projects fitting investment expectancies. Profitable return options are not exercised.

Complexity in **Finance** has become tremendous. As a result, a huge number of infrastructure owners and project developers exist, which do not find the right investor understanding the magic behind. Existing funds are not provided.

At the **Institute for Infrastructure & Management** we are **matching Infrastructure** and **Finance**. Together with our team, partners and clients from industry, finance, consulting, research and government sector, we provide expertise for sustainable infrastructure investment, support business growth strategies and derive implications for management and policy decisions. We respect the financial requirements of infrastructure owners and developers and provide financial investors with infrastructure assets fitting exactly their financial structure and requirements.

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Working with Us

IEM & its Partners provide the relevant experiences and significant contacts.

>100
Finished Projects

Number of finished projects of our team

Number of Infrastructure asset owner and developers in network

>100
Assets and Developer

61
Investors

Number of investors, banks and private equity firms in network

Number of Countries, we have experience in ICT infrastructure assets

14
Countries

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Thank You!

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