

# **Evaluer les partenariats public-privé**

## ***Evaluating public-private partnerships***

### **Session 1 : L'impact des PPP sur la formulation de la commande**

#### ***Session 1: The impact of PPP on commission***

## **Evaluer les partenariats public-privé**

### **Atelier international**

**29-30 November 2007**  
INHA – salle Vasari, Paris

**Round Table 1:**  
**PPP: What are they?**

**Bauhaus-Universität  
Weimar**

Chair of Construction Economics  
Faculty of Civil & Structural Engineering

## **The diversity of PPPs**

**in the sector of Public Real Estate and  
Infrastructure Management –  
an approach of defining and delimiting PPP  
as an alternative provision  
and procurement method**

**Prof. Dr.-Ing. Dipl.-Wirtsch.-Ing.**  
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degree in business administration  
RWTH Aachen, Germany



more than 20 years of *professional experience* in:

- consulting and construction industry (13 years)
- teaching at university-level and scientific research (12 years)
- in about 25 countries in Africa, Asia, Europe and Latin- America

- |   |                  |
|---|------------------|
| - <i>Professor Construction Management, University of Burundi, Bujumbura</i>      | <i>(5 years)</i> |
| - <i>Director Transportation Department, GITEC Consult, Düsseldorf</i>            | <i>(3 years)</i> |
| - <i>General Manager, Development Infrastructure, HOCHTIEF Development, Essen</i> | <i>(7 years)</i> |

*specific project work* comprising:

- privately financed infrastructure projects (technical, economical, legal, financial structuring)
- public utilities mainly in the transport sector (strengthening, reorganisation, privatisation)
- publications/speeches/conferences

**since 2000**

## *Chair of Construction Economics*

Teaching and Scientific Research  
National Network

&

## *Knowledge Center @ Weimar*

Teaching and Scientific Research  
International Network



**since 2004**

## *Alfen Consult GmbH*

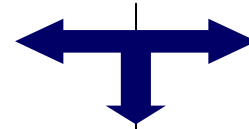
### *Private Spin-Off*

Advisory /Consulting Services  
National and International Clients



scientific  
interdisciplinary,  
practice oriented,  
**Research and Teaching**

practice relevant,  
interdisciplinary  
science based  
**Consulting**



**useful  
solutions**

- ➔ Research Projects
- ➔ Expert opinions
- ➔ Dissertations
- ➔ Scientific Teaching & Training
- ➔ Standardising Processes
- ➔ Guidelines
- ➔ Government Advisory Services
- ➔ International University Networks
- ➔ Scientific Conferences and Workshops

- ➔ Economical / Feasibility Studies
- ➔ Risk Management
- ➔ Financial Models
- ➔ Life-Cycle-Costing
- ➔ Structuring and Implementation of Procurement Processes
- ➔ Tendering and Award
- ➔ Business and Market Analyses
- ➔ Business Consulting
- ➔ Research Studies

Real Estate

Education, Health, Administration,  
Leisure, Culture, Defence etc.

Infrastructure

Transportation, Water,  
Waste, Energy etc.

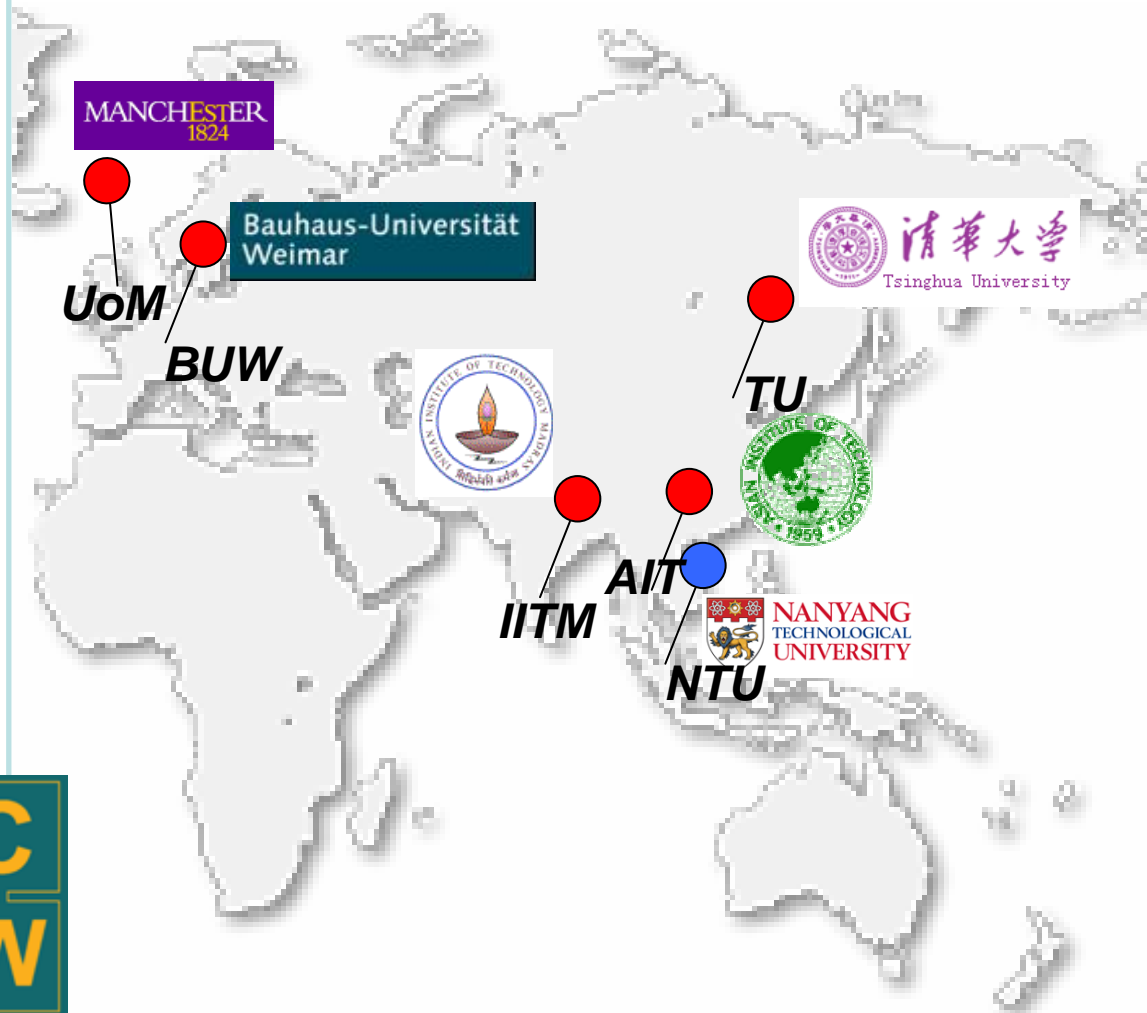
Design, Construction  
OM/FM, Financing

Information,  
Communication

International  
Activities / Projects

- Federal Government
  - **Guidelines** PPP in **Public Real Estate** (2003)
  - **Standard Documents** for tendering & award of F- & A- Models in **Roads&Highways** (2000-02)
  - Economical/Financial **Consultancy for preparation tender & award** of 6 F- and A-Models in **Roads&Highways** (2004-08)
  - **Scientific Support** to the determination of the first **Toll Ordinances** in Germany
- State Ministries
  - **Guidelines** PSC in NRW and FMK (2003 / 06)
  - **Evaluation** first PPP **schools** in NRW (2004)
  - **Support** of Thuringian PPP Task Force (2005)
  - Economical/Financial **Consultancy on the viability** of a **police administration** (2005)
- Municipalities
  - Economical / Financial **Consultancy for preparation, tendering & award** of
    - PPP **schools** in Meschede (2003/04)
    - PPP **bridges** in Frankfurt (2006)
    - PPP **sports facility** in Bestensee (2006)
    - PPP **hospital** in Viersen (2006)
    - PPP **roads** in Waldeck-Frankenberg (2006)
    - PPP **roads** in Lippe (2007)
- Public Real Estate Manager
  - **Study on** PREM of the federal government
  - **Study on** international best practice in the **defence sector**, g.e.b.b. (2005)
  - **Consulting on Risk Management** for the first federal PPP Pilot Project in **defence**, g.e.b.b. (2006)
- Private Real Estate Developer
  - market analysis on privately financed **Education Buildings** in Germany (2003)
  - **Market analysis** on PPP **schools** in Germany (2003)
- Facility Manager
  - **Market analysis** on FM for **hospitals** (2003)
  - **Research** on Organisational Models for FM in **hospitals** (2004)
- Federation of Contractors
  - **Study on PPP and SMEs** (2004-2006)
  - **Study on** the Privatisation of the German Autobahn, **Highways** (2004-2005)
- Construction Companies
  - **Study on** PPP Models for the German Autobahn, **Highways** (2003/04)

## (EAP<sup>3</sup>N) Partner Countries of EAP<sup>3</sup>N-Network



- Germany (BUW)
- India (IITM)
- Thailand (AIT)
- PR China (TU)
- United Kingdom (UoM)
- Singapore (NTU)

### Project Programmes:

- PPP-Teaching
- PPP-Research
- PPP-Training

ASIA LINK



EUROPEAID  
CO-OPERATION OFFICE



- PPP is a very heterogeneous and unspecific term in practice and in scientific literature.
- Big confusion in international discussions
- Perceptions may span from:
  - the integration of private ideas and experts in public structures to complete withdrawal of the public sector from the responsibility for public infrastructure
  - or from a very specific contract model that clearly rules the partnership to a very unspecific, global, somehow organised cooperation between the public sector and the private sector
- Comparisons of international best practice and/or benchmarking is difficult especially in a scientific context



## Trying to define

## PPP ...

## ... is a bit like

## ... nailing a pudding to the wall



... may not be to add another to the multitude of existing definitions and thus to contribute to a never ending scientific discussion.

but

to develop a **structured scheme** of aspects and criteria allowing

➤ to describe, determine and or range:

➤ the different approaches/options of providing

- public,
- private and
- public-private

services,

➤ the development that led to the approach/option (ex ante)

➤ possible future options for developments (ex post)

in the area of public real estate (PREM) and infrastructure management (IM) in a uniform and for everybody traceable manner.

## General Determinants:

### *Rules of the Sub-Sector:*

- Public Real Estate
- Infrastructure

## Determinants of the Organisational Model:

# Sub-Sectors of PREM and IM

				Public Real Estates	
		Transportation	Supply/Disposal	Administration	Education
	<b>Air</b>	Airports <i>Transportation</i> <i>Other systems</i>	<b>Energy</b> Power, Gas, Central heat Generation, Transmission	<ul style="list-style-type: none"> <li>• City halls</li> <li>• Ministry buildings</li> <li>• other plc. buildings</li> </ul>	<ul style="list-style-type: none"> <li>• Kindergartens</li> <li>• Schools</li> <li>• Universities, ...</li> </ul>
	<b>Roads</b>	Roads (net), Bridges, Tunnels, Service stations <i>Transportation</i> <i>Other systems</i>	<b>Water</b> Drinking water, Wastewater treatment Generation, Treatment, Distribution, Sewers	<ul style="list-style-type: none"> <li>• Hospitals</li> <li>• Old peoples homes</li> <li>• Sanatoriums, ...</li> </ul>	<ul style="list-style-type: none"> <li>• Police buildings</li> <li>• Prisons</li> <li>• Defence ...</li> </ul>
	<b>Tracks</b>	Tracks (net) Stations <i>Transportation</i> <i>Other systems</i>	<b>Waste</b> Removal, Disposal, Treatment	<ul style="list-style-type: none"> <li>• Museums</li> <li>• Theatres etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Barracks</li> <li>• Educational Centres</li> <li>• Administration</li> </ul>
	<b>Water</b>	Water (net), Harbours <i>Transportation</i> <i>Other systems</i>	<b>Tele-Com.</b> Fixed nets, Mobile nets	<ul style="list-style-type: none"> <li>• Sports arenas</li> <li>• Public pools</li> </ul>	<ul style="list-style-type: none"> <li>• Faire Areas</li> </ul>
		...			

## General Determinants:

### *Rules of the Sub-Sector:*

- Public Real Estate
- Infrastructure

### *Financing of the Sector:*

- Budget Financing
- User Financing (e.g. toll, ticketing fees etc.)

## General Revenues

- Taxes
  - direct (on income, cooperation, capital, wealth)
  - indirect (on spending), e.g. VAT
- customs / excise duties
- contributions (e.g. social security contribution etc.)
- fees (e.g. user charges, public entrance etc.)
- other revenues

## Sector (Transport) specific Revenues

- sector specific taxes
  - on consumer goods (e.g. energy consumption, vehicle,)
  - transport and transport related services (e.g. airport tax),
  - VAT on transport related consumer goods and services
- user charges (e.g. public transport fees)
- other revenues (e.g. from privatisations, concessions, land development, franchising, telematics, public relations etc.)

## Sub-Sector (Roads & Highways) specific Revenues

- sub-sector specific taxes
  - fuel, vehicle,
  - road transport related services (e.g. airport tax),
  - VAT on road transport related consumer goods and services
- user charges (e.g. toll, vignette, congestion pricing)
- other revenues (e.g. privatisations, concessions from service stations, land development and advertisement along the roadways, telematic / traffic management services) etc.

## General Determinants:

### *Rules of the Sub-Sector:*

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- Budget Financing
- User Financing (e.g. toll, ticketing fees etc.)

### *Type of Asset:*

- single building
- bundle or network
- etc.

### *Type of Works:*

- new Construction
- extension/widening
- rehabilitation/modernisation

### *Project Type:*

- green field
- brown field

## Determinants of the Organisational Model:

### *Aim of Partnership:*

- Urban Development
- Public Real Estate and Infrastructure Management

### *Partnership Model*

- vertikal
- horizontal

### *Contract Model:*

- BROT~
- DBFO~
- BOT~
- etc.

### *Privatisation Model:*

- formal
- functional
- material

### *Business Model:*

- Availability Payments
- Shadow Tolls
- Active Management~
- direct User Fees (real tolls)
- etc.

### *Financing Model:*

- forfeiting Model
- project finance
- etc.

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# Determinants of the overall organisational Model

## Aim of the Partnership

- Urban Development
- Public Real Estate and Infrastructure Management

## PPPs are used in:

### Urban Development

**Efficient use of public land/buildings and private capital/ideas for:**

- the social, economical, architectural etc. development of urban areas (public interest)
- business development (private interest)
- typical developer (no service) approach
- investment (no life cycle) approach

➡ **Value added:**  
**new assets for urban development**



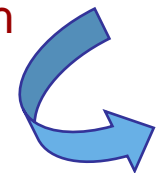
BMW Plant Leipzig

### Public Real Estate and Infrastructure Management

**Efficient provision of public services**  
through delegation/outsourcing of  
appropriate parts of it to the private  
sector

➡ **Value added: efficiency gains**  
**in the provision of public services**

↓  
**focus of our research**



## Public Partner:

develops idea, structures project, defines procurement method, tenders project, supervises and controls service performance

according to his or the users needs

## Private partner:

designs, builds, finances, maintains/operates and eventually uses the facility according to contract regulations

and gets payments in form of:

- availability payments (from public budget)
- fees (from user with demand risks) for revenues generating facilities only



administration buildings, schools, prisons, hospitals, roads etc.



- transport and supply systems, etc..  
- sport/event arenas, museums, housing etc.

## Aim of the Partnership

- Urban Development
- Public Real Estate and Infrastructure Management

## Privatisation Model

- implicit
- explicit
- formal
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- materiel

# Privatisation, PSP and PPP

Public Department executing all real estate /infrastructure services in force account



**New Public Management:** restructuring and efficiency improvement measures

## Privatisation

entities

implicite ~ *deregulation, i.e. opening of market for private competitors*

formal ~ *public entities "in private clothes"*

legal privatisation

tasks/services

explizite

functional ~ Design Construction Financing/ Investment Maintenance Operation **PSP**

Outsourcing of single delegable tasks / services

Outsourcing of fully integrated services **PPP**

entities

material~ *transfer of ownership / responsibility for needs assessment*

full material privatisation

partial material privatisation

## Formal Privatisation „public entities in private clothes“

- **permanent or temporary outsourcing** of public tasks and services
- either **including or excluding transfer of ownership of assets** necessary to implement the tasks or services
- from a public department **to a legally privatised enterprise** that remains in 100% public ownership

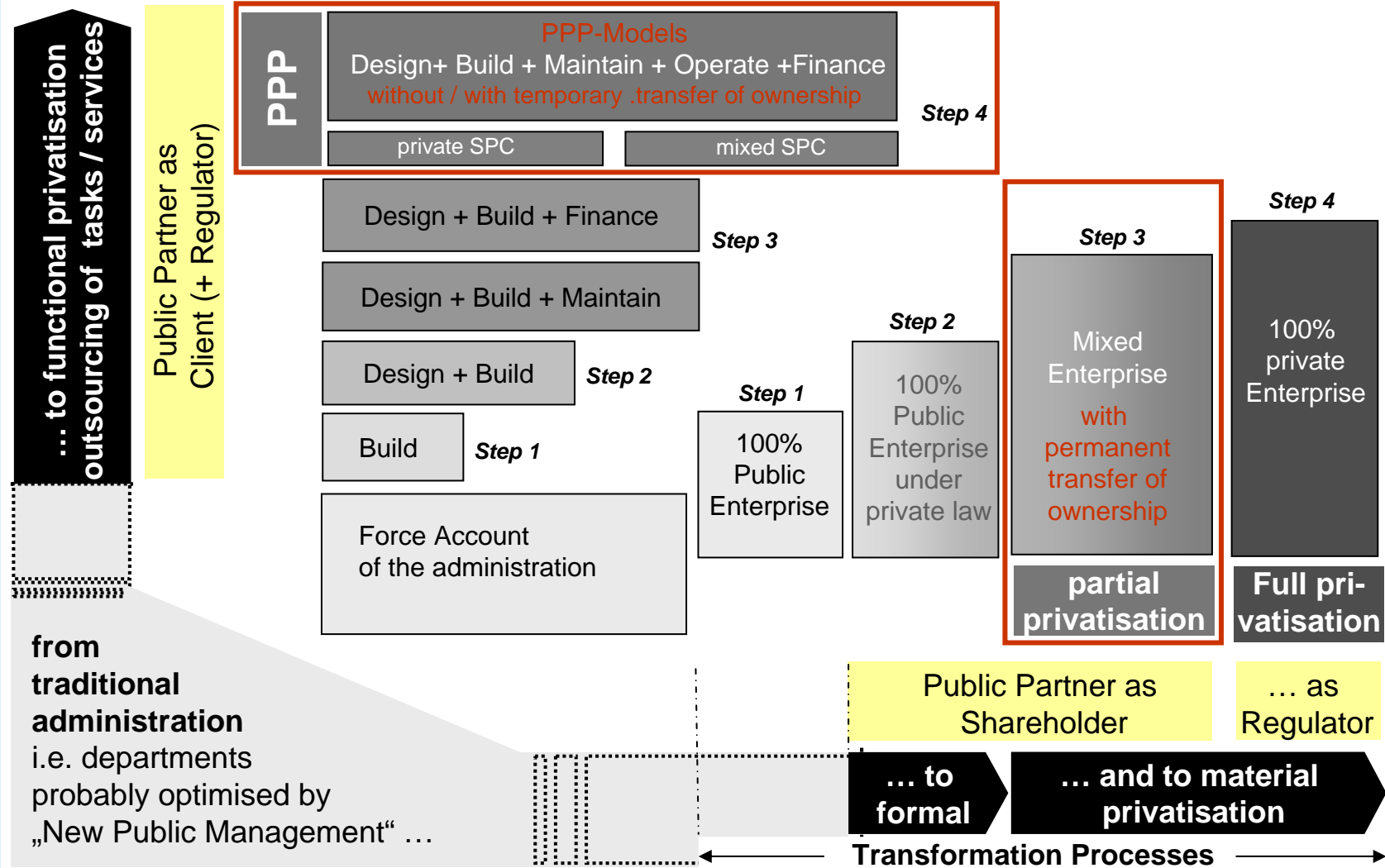
## Functional Privatisation „privates as assistants of the administration“

- **temporary outsourcing** of public tasks and services
- either **including or excluding transfer of ownership of assets** necessary to implement the tasks or services
- from a public department to a **private or mixed enterprise**

## Material Privatisation „transfer of public goods to markets“

- **permanent outsourcing** of public tasks and services
- **including transfer of ownership of assets** necessary to implement the tasks or services
- from a public department to a **private (full material privatisation) or mixed enterprise (partial material privatisation)**

# Privatisation/Contract Models with increasing PSP



## Aim of the Partnership

- Urban Development
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## Privatisation Model

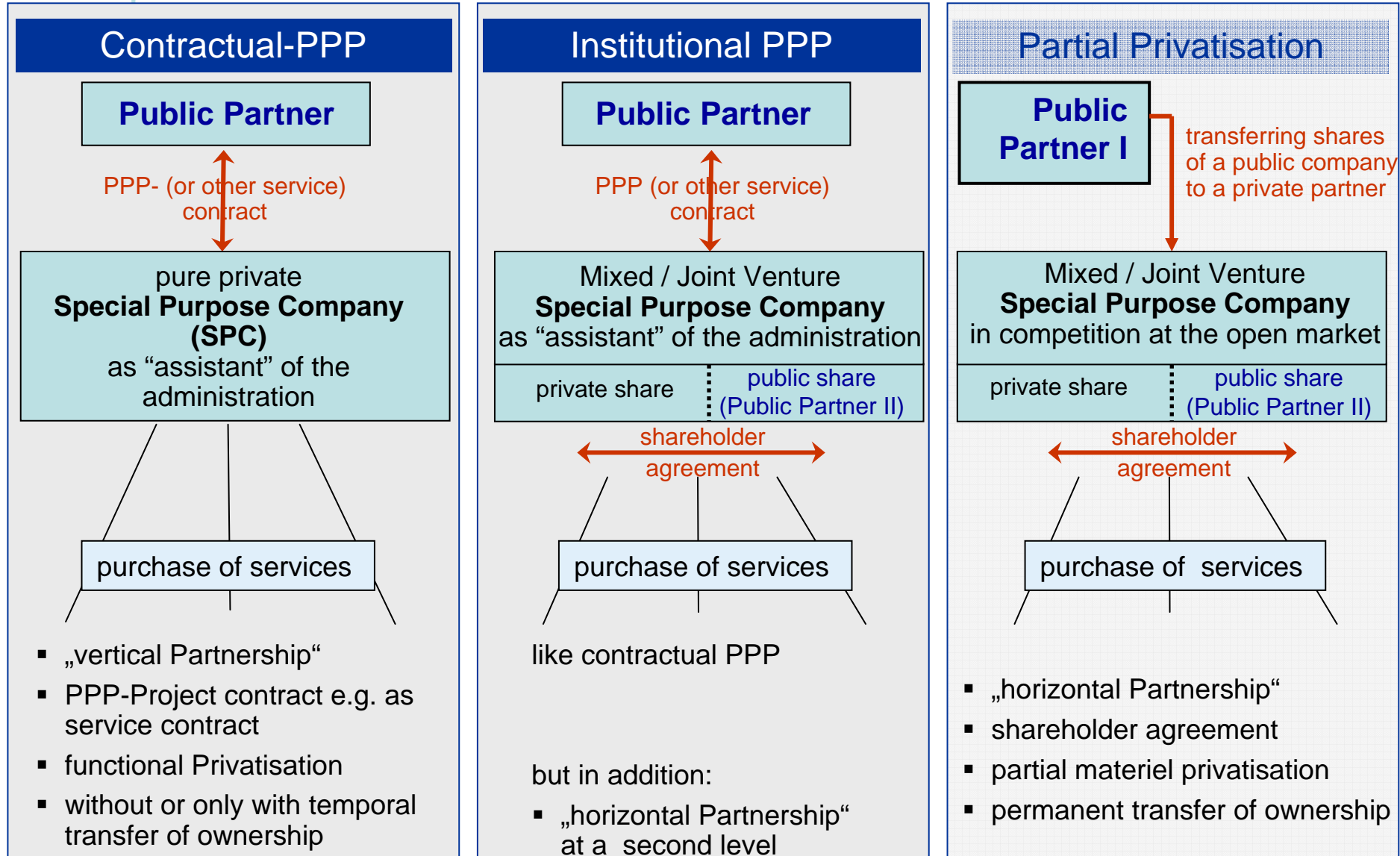
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*Form of Cooperation between Public and Private Partner*

## Partnership Model

- Pure private SPC (= contractual / vertical Partnership)
  - PPP (= fully integrated service package)
- Joint Venture SPC (institutional / horizontal) Partnership
  - PPP (in addition contractual Partnership)
  - partial material privatisation





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*Type of Revenues for cost recovering (capital and operational)*

## Business Model

- Performance Based Payments
  - corresponding to description/ programme of works
  - Availability of the facility etc.
- Usage based payments (intensity / frequency)
  - e.g. shadow tolls
- user payments
  - obligatory
  - (quasi) obligatory  
(no or only unattractive alternative)
  - competition of alternatives

## Main Characteristics of the business model are the type of revenues and the payment mechanisms:

### ➤ Payments from the public client / the “grantor”:

- **performance based payments** according to the description of works
- **availability payments** according to the availability of rooms, surfaces, assets, equipment, etc.
- **quantity based payments** according to the real consumption of e.g. water, electricity, gas etc.
- **success oriented payments** according to specific optimisation targets
- payments depending on use or utilisation of the asset:
  - **frequency** of use (e. g. shadow toll for roads, shadow payments for the number of users of public pools, sports halls etc. etc., )
  - **intensity** of use (e.g. shadow toll differentiated regarding axle load

### ➤ (real) user payments

- **obligation of use** (e.g. house connection water supply and evacuation)
- **(quasi) obligation of use** i.e. no (attractive) alternative of use is existing
- **free choice of use** (i.e. sufficient competitive alternatives of use are available)

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## Contract Model

**... differs regarding their Individual risk profile**

# PPP Contract Models (the German example)

- I PPP- Erwerbmodell  
*PPP- Purchaser Model (BROT)*
- II PPP-FM Leasingmodell  
*PPP-FM Leasing Model (BLOT/M)*
- III PPP-Vermietungsmodell  
*PPP-Renting Model (BROM)*
- IV PPP-Inhabermodell  
*PPP-Owner-Model (DBFOT)*
- V PPP- Contracting Modell  
*PPP-Contracting Model*
- VI PPP-Konzessionsmodell  
*PPP-Concession Model (BOT)*
- VII PPP-Gesellschaftsmodell  
*PPP-Joint Venture Model*

## Main differences:

- transfer and / or status of ownership or ownership equivalent rights, at any time of the contract period
- exploitation / marketing risks (at the end of the contract period)
- budget~ / user financing
- mixed legal status of SPC

**Model VI and VII can be combined with the other models**

## Aim of the Partnership

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*Form of Cooperation between Public and Private Partner*

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- user payments
  - obligatory (e.g. Anschlusszwang)
  - (quasi) obligatory (no or only unattractive alternative)
  - competition of alternatives

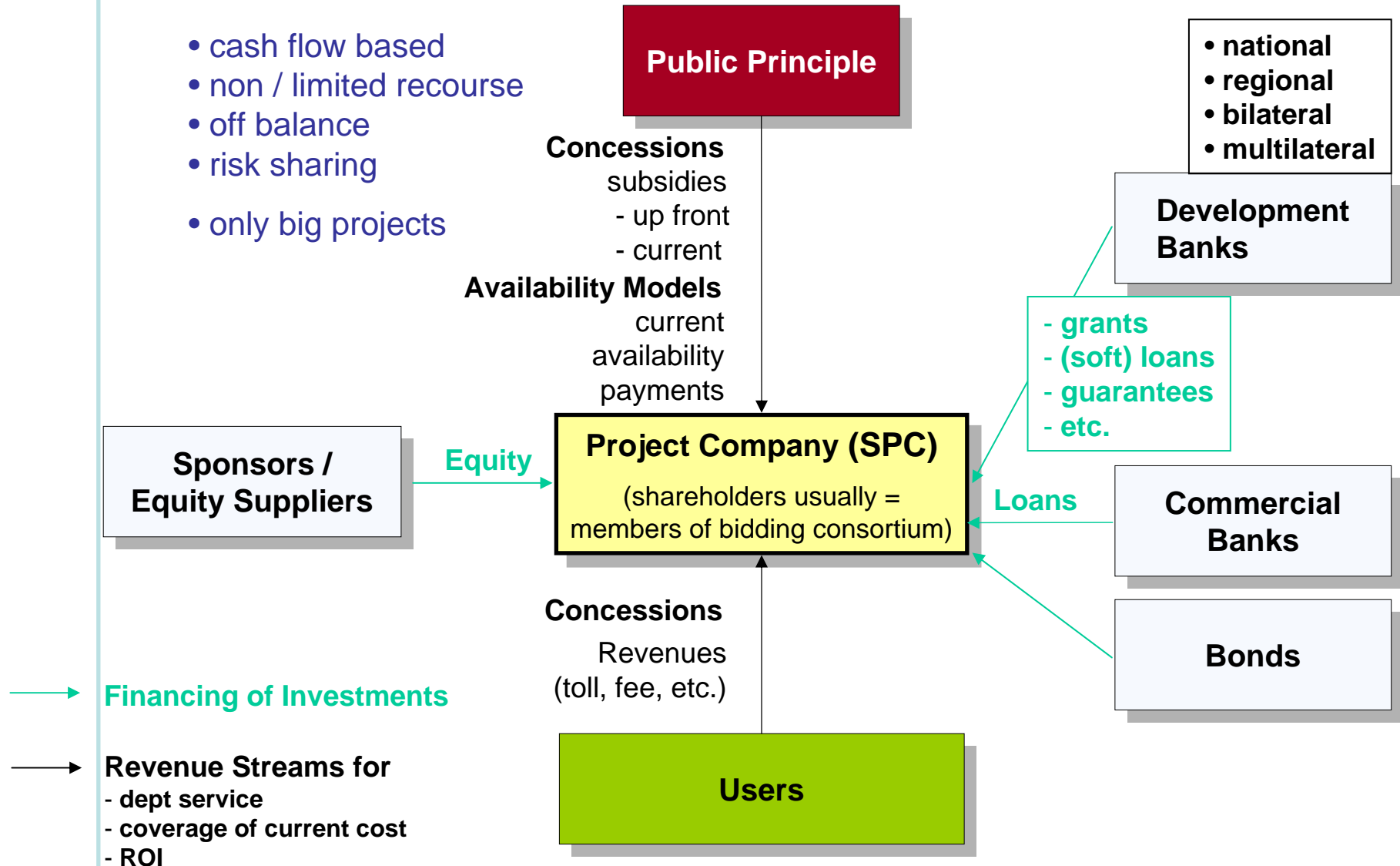
## Financing Model

## Contract Model

**... differs regarding their Individual risk profile**

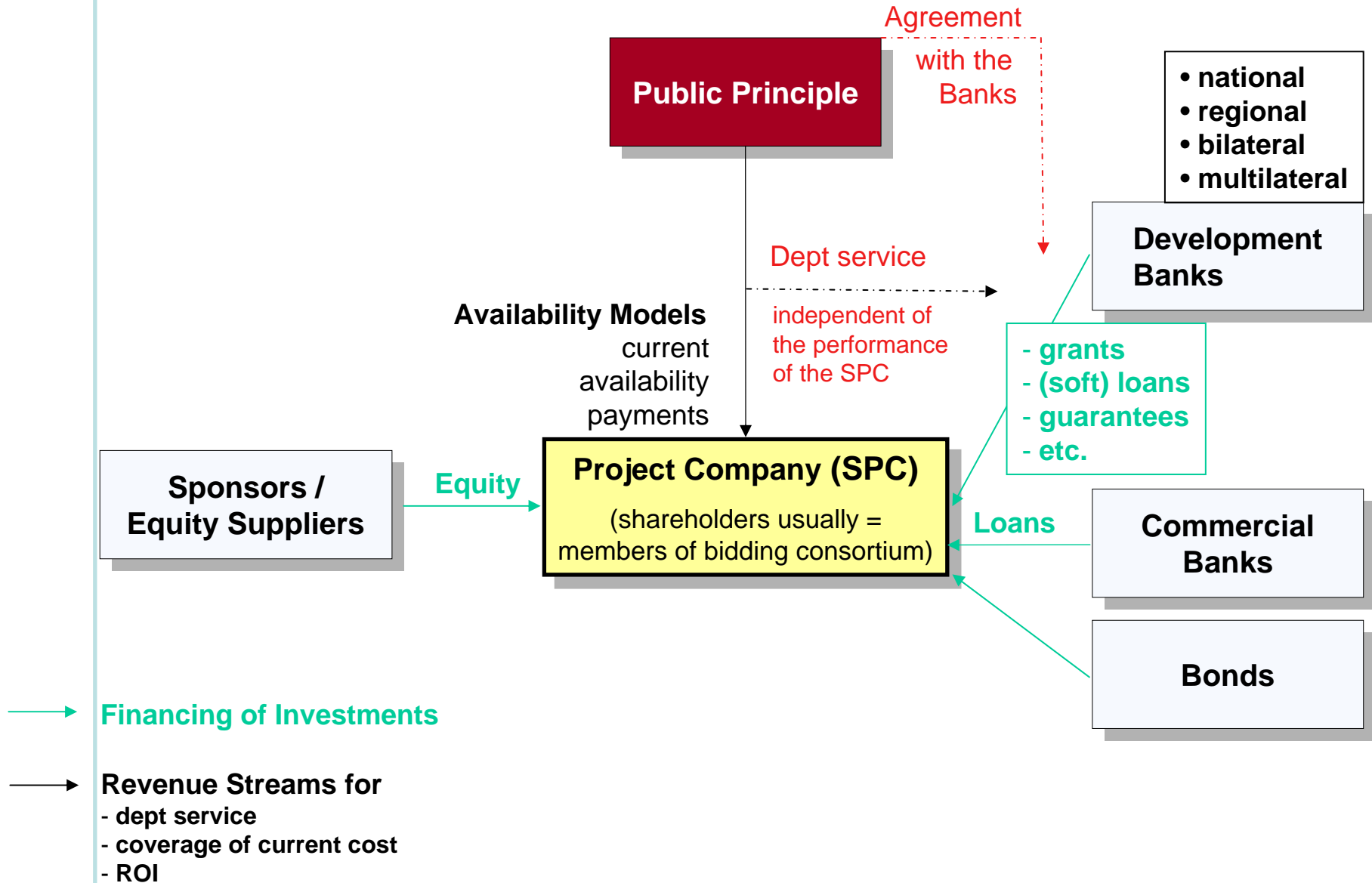
## Main Characteristics:

- cash flow based
- non / limited recourse
- off balance
- risk sharing
- only big projects





# Forfeiting Models



- PPP is not only a financing model but a complex life cycle oriented public procurement scheme
- PPP has to be clearly delimited from other PSP and privatisation models
- internationally, various PPP schemes exist that may differ significantly
- a simple definition is not possible
- a scheme or grid of determinants is needed for the neutral, comprehensive and clear description of complex PPP and other comparable private sector or privatisation schemes is needed
- as a basis for any effective and efficient evaluation and or best practice comparison for

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