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# Financing FTTH networks

## *Study for FTTH Council Europe*

***Workshop: How to Start and Finance a FTTH Business***

**Munich, 14<sup>th</sup> February 2012**

# IDATE

Consulting & Research

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**Telecom Advisory Services**



Understanding  
the  
Digital World

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- ▶ **FTTH Projects selection**
- ▶ **Theoretical framework for assessing financing models**
  - Three drivers of FTTH project success
  - Project context drives financing model
  - Investment model drives financing model
- ▶ **Most suited FTTH Financing Models**
  - Municipal models
  - Public Private Partnerships models
  - Incumbent Financing Models
  - Operator funded combined with public policy stimuli
- ▶ **Most Appropriate Financing Models**
- ▶ **One recommendation: Pooled Financing**



# FTTH Projects selection

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## Taxonomy and sample of projects studied

- ▶ Formalization of **taxonomy** of financing approaches: two dimensions
- ▶ **Geographic** dimension: Urban, Suburban and Rural
- ▶ **Financing strategies** dimension: principal project sponsor and funding models

**Sampling matrix**

		Geographic Mix		
		Urban	Sub-urban	Rural
<b>Financing Strategies</b>	<b>Municipal</b>			
	<b>Government Funding</b>			
	<b>PPP</b>			
	<b>Operator-funded</b>			
	<b>Operator-funded and public policy stimuli</b>			

Source: IDATE and TAS LLC

- ▶ Projects selected in: Sweden, Finland, France, U.K, Germany, Spain, Switzerland, Latvia, Andorra, Lithuania and Netherlands



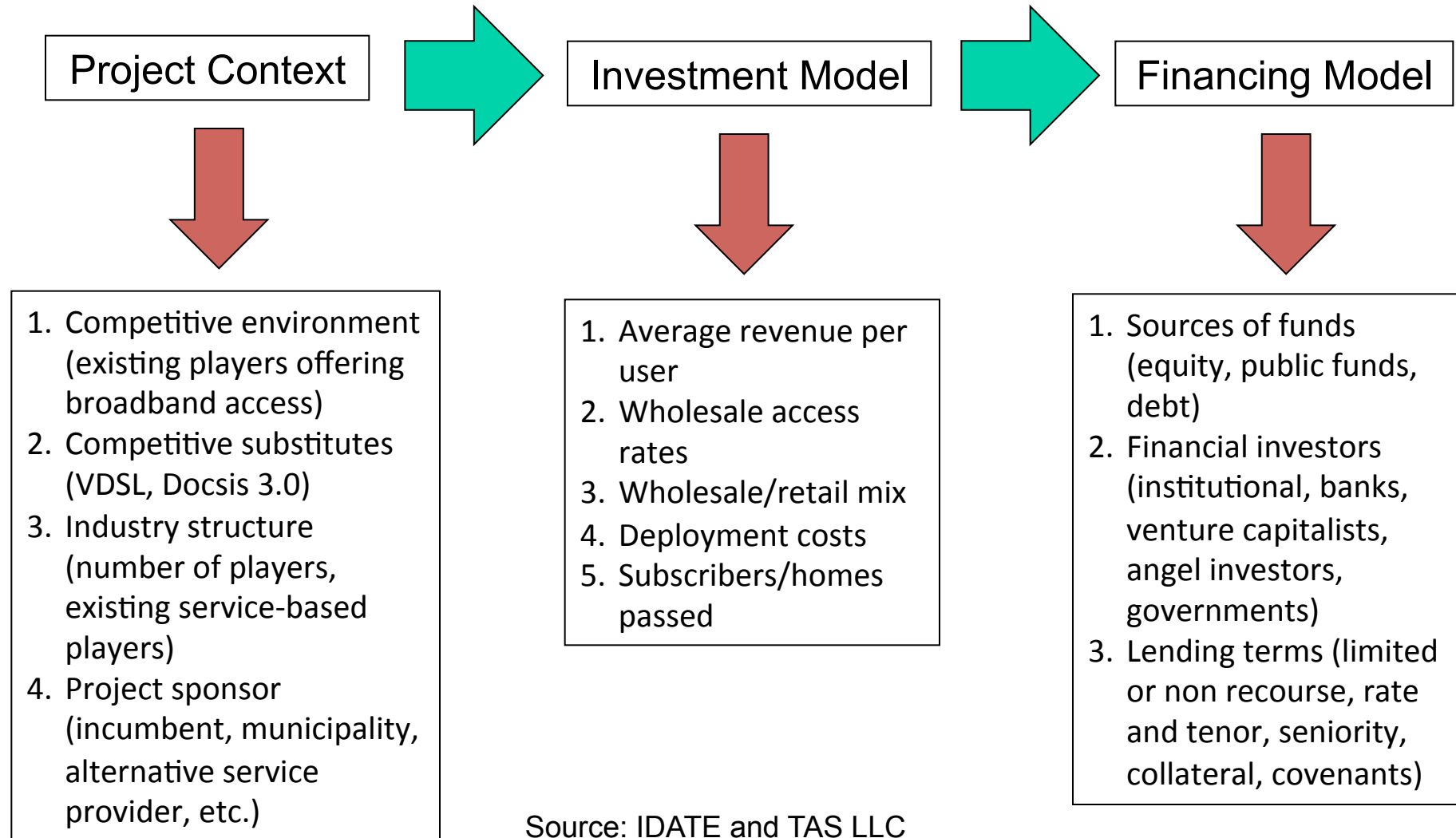
# Theoretical framework for assessing financing models

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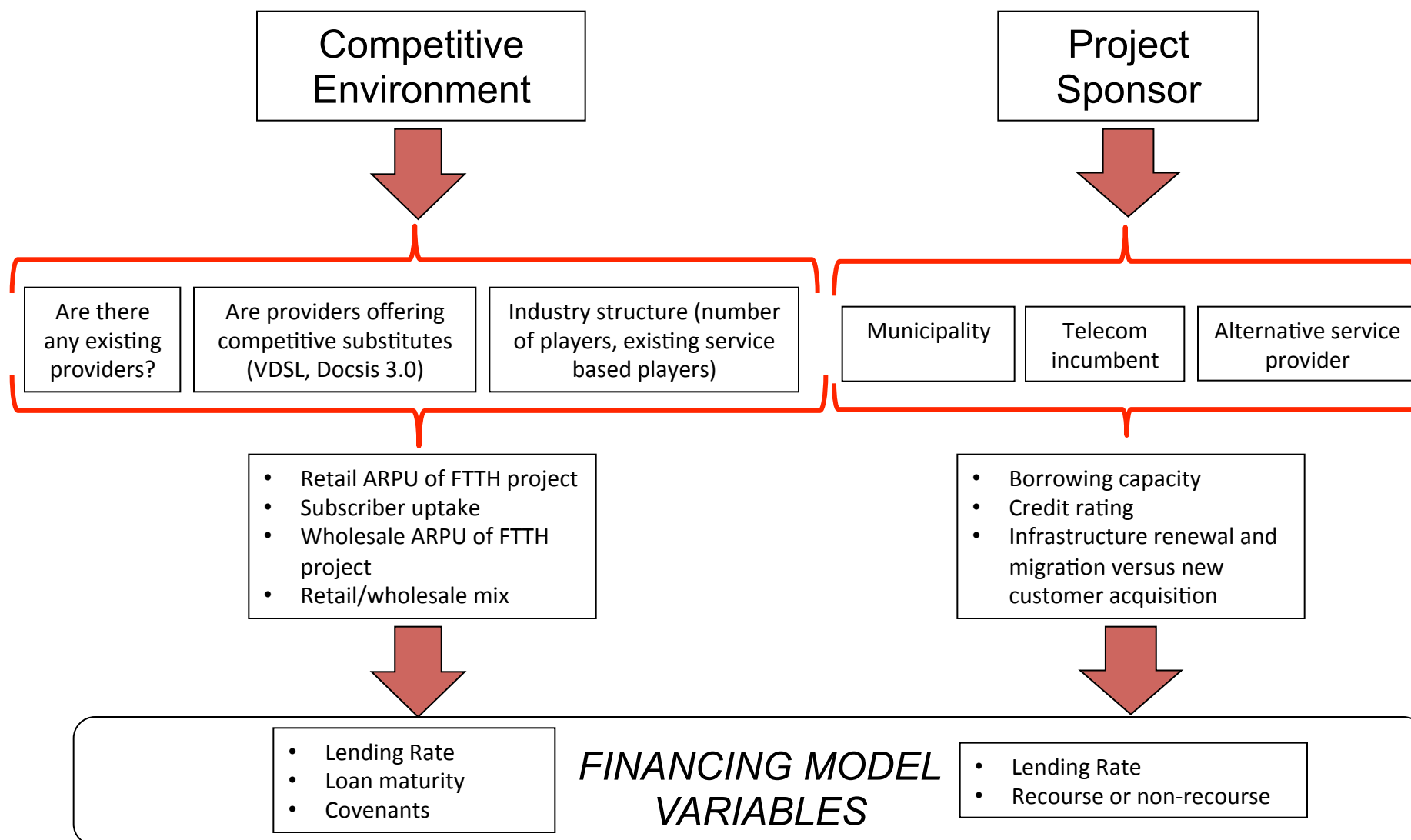
## Framework for assessing Financing models

### Three drivers of FTTH project success



Source: IDATE and TAS LLC

## Project context drives financing model






Source: IDATE and TAS LLC

## Projects positioning in two dimensional context matrix

**FTTH Projects Contextual Matrix**

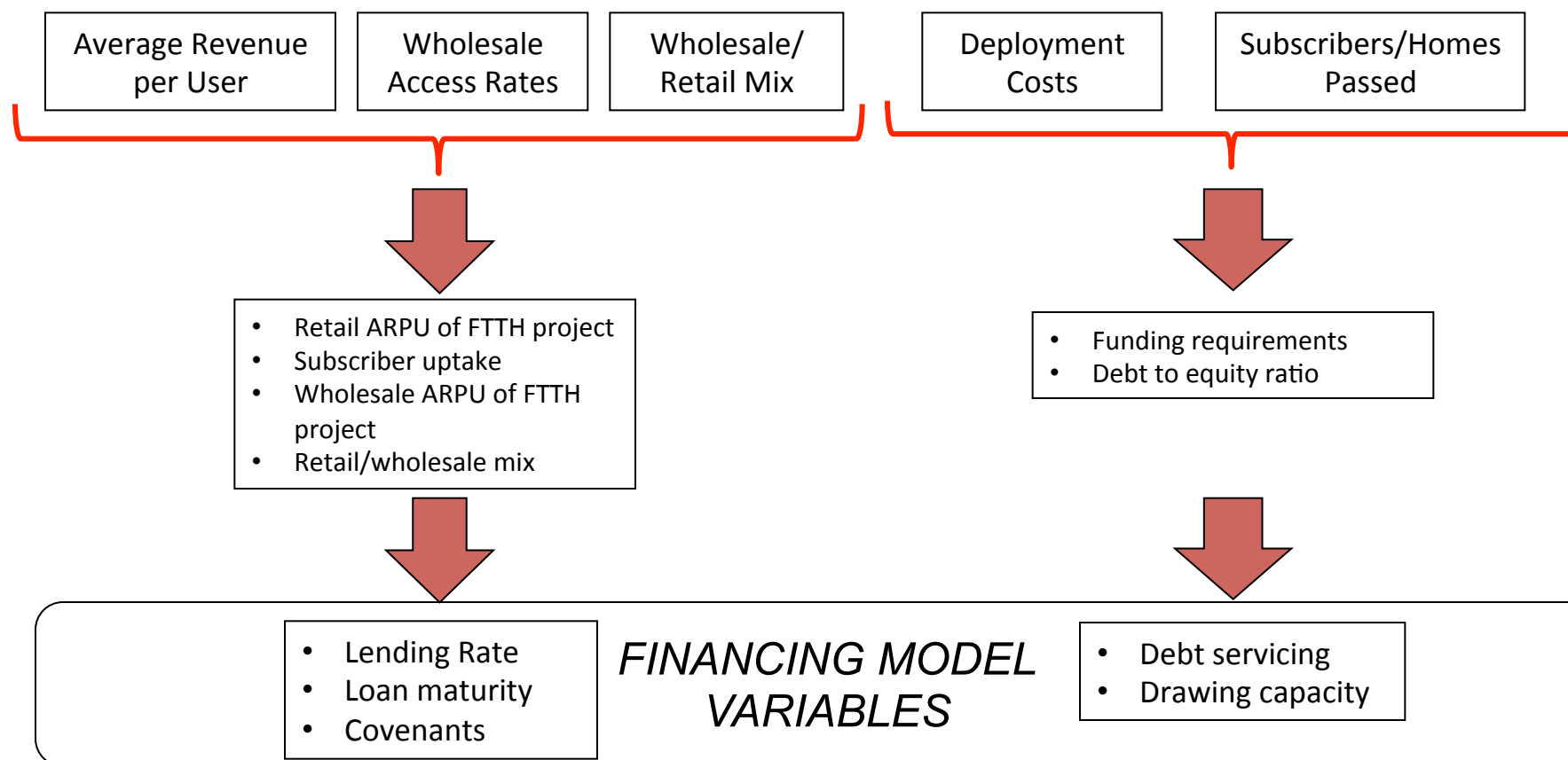
	No competition	Existing ADSL, Cable or 3G service	Existing VDSL and/or Docsis 3.0
Municipality or local government	<ul style="list-style-type: none"> <li>Project D</li> <li>Project A</li> </ul>	<ul style="list-style-type: none"> <li>Project F</li> </ul>	<ul style="list-style-type: none"> <li>Project B</li> <li>Project C</li> <li>Project E</li> </ul>
Alternative operator			
Incumbent	<ul style="list-style-type: none"> <li>Project I</li> </ul>		<ul style="list-style-type: none"> <li>Project J</li> <li>Project K</li> <li>Project G</li> <li>Project H</li> </ul>

-  Low contextual Risk
-  Medium Contextual Risk
-  High Contextual Risk

Source: IDATE and TAS LLC



## Investment model drives financing model



Source: IDATE and TAS LLC



# Most suited FTTH Financing Models

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## Pros and Cons of Municipal Models

Model	Description	Advantages	Disadvantages
1. Direct Subsidy	<ul style="list-style-type: none"> <li>Public funds pay for FTTH project for an open access business model</li> </ul>	<ul style="list-style-type: none"> <li>Local government retains ownership of infrastructure</li> <li>Local government can ensure own needs are covered</li> </ul>	<ul style="list-style-type: none"> <li>Ongoing financing required</li> <li>Continued reliance on state aid</li> <li>Public sector assumes market risk</li> <li>Competitive encroachment could erode project viability</li> </ul>
2. Local Investment	<ul style="list-style-type: none"> <li>Local government invests as would a private player in a private venture deploying the infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>No state aid</li> <li>Local government bears the failure risk alone</li> <li>More lenient credit terms (rates, maturity) based on municipal profile</li> </ul>	<ul style="list-style-type: none"> <li>Need to rely on public funds to invest</li> <li>Risk of impacting local taxes</li> <li>Potential competitive retaliation</li> <li>Highly dependent on income and density/distribution of population</li> </ul>
3. Private credit financing	<ul style="list-style-type: none"> <li>Same as above, but funds borrowed from private sources</li> <li>Service revenues are earmarked to service debt</li> </ul>	<ul style="list-style-type: none"> <li>No impact on taxes</li> <li>Does not need to reach critical mass in order to qualify for EIB support</li> </ul>	<ul style="list-style-type: none"> <li>Potentially, but not necessarily, worse credit terms than from public sources</li> <li>Forces a period of full service ran by local government</li> <li>Risk of bankruptcy unless favorable covenants are negotiated</li> </ul>
4. Public /Private credit financing	<ul style="list-style-type: none"> <li>Similar as above, but funds borrowed from public and private sources</li> </ul>	<ul style="list-style-type: none"> <li>Private lenders tend to follow the more lenient credit terms of public sources, sometimes enabled by partial risk guarantees</li> <li>No impact on local taxes</li> </ul>	<ul style="list-style-type: none"> <li>Borrowing from private sources could be affected by restricted access to capital</li> </ul>

## Pros and Cons of Public Private Partnerships Models

Model	Description	Advantages	Disadvantages
1. Debt-facilitation model	<ul style="list-style-type: none"> <li>Public entity facilitates access to tax-exempt financing</li> <li>No commitment to use public funds</li> </ul>	<ul style="list-style-type: none"> <li>No public funds are placed at risk</li> </ul>	<ul style="list-style-type: none"> <li>Potential misalignment of objectives between parties</li> <li>Limited leverage of public party capabilities (ROW, facilities)</li> </ul>
2. Debt-guarantee model	<ul style="list-style-type: none"> <li>Government guarantees debt, secured by private party</li> </ul>	<ul style="list-style-type: none"> <li>Access to better financial terms of debt</li> </ul>	<ul style="list-style-type: none"> <li>Public funds are placed at risk</li> </ul>
3. Public service delegation	<ul style="list-style-type: none"> <li>Private player deploys FTTH network with or without partial public subsidy</li> <li>Player has a concession to resell the passive or active layers to service providers</li> </ul>	<ul style="list-style-type: none"> <li>Risk is assumed by outside player</li> </ul>	<ul style="list-style-type: none"> <li>Subsidy is needed to attract the concession holder</li> <li>Lack of commitment of project sponsor might result in service failure</li> </ul>

Source: IDATE and TAS LLC

## Pros and Cons of Incumbent Financing Models

Model	Description	Advantages	Disadvantages
1. Incumbent funded model	<ul style="list-style-type: none"> <li>FTTH financing follows classical CAPEX rules of carrier, subject to conventional stand-alone capital planning rules and processes</li> </ul>	<ul style="list-style-type: none"> <li>Flexibility to manage deployment according to stand-alone internal processes</li> </ul>	<ul style="list-style-type: none"> <li>Competitive retaliation could potentially affect rate of return by forcing price reductions</li> <li>Regulatory risk driven by wholesale access obligations</li> </ul>
2. Competitive partnering model I (joint venture)	<ul style="list-style-type: none"> <li>Partnering between incumbent and construction, or real estate company</li> </ul>	<ul style="list-style-type: none"> <li>Complementarity of capabilities</li> <li>Market risk mitigated by competitive co-optation</li> <li>Ability to ring fence credit facilities, which lowers investment risk and provides capital flexibility</li> </ul>	<ul style="list-style-type: none"> <li>Need for regulatory endorsement</li> <li>Obligation to provide open access</li> </ul>
3. Competitive partnering model II (Multi-fibre model)	<ul style="list-style-type: none"> <li>Incumbent assumes deployment responsibility</li> <li>Costs are shared with competitors purchasing access to fibre pairs</li> </ul>	<ul style="list-style-type: none"> <li>Market risk mitigated by competitive co-optation</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory risk prompted by alternative carriers</li> <li>Potential limited positive response on the part of envisioned partners</li> </ul>
4. Competitive partnering model III (Cost-sharing model)	<ul style="list-style-type: none"> <li>Partnering between incumbent telco and alternative providers</li> <li>Agreement to deploy independently and grant bit-stream access to each other</li> </ul>	<ul style="list-style-type: none"> <li>Reduction in capital investment in low density areas</li> </ul>	<ul style="list-style-type: none"> <li>Need to gain regulatory endorsement</li> <li>Technology choice can be complicated by divergent partner strategies</li> </ul>

Source: IDATE and TAS LLC

## Operator funded combined with public policy stimuli

- ▶ Under this approach, **national governments** decide to intervene, through **grants** or **low interest loans**, directly in the deployment and management of a national FTTH network.
- ▶ In this case the Government is acting more as a **lever** by dedicating a **special fund** to help financing **neutral open access model**, most of the time being at a **regional** or **municipality** level.
- ▶ Under this model, the **operator assumes primary funding responsibility** but is influenced by several initiatives aimed at improving a potentially unattractive business case (e.g. demand aggregation, reduced property taxes, grants to cover capital expenditures, etc.).

## Most Appropriate Financing Models

		Geographic Mix		
		Urban	Sub-urban	Rural
Financing Strategies	Municipal/Regional	• Municipality as an investor		• Public/private credit financing
	Public Private Partnerships			• Public service delegation
	Operator-funded	<ul style="list-style-type: none"> <li>• Incumbent funded</li> <li>• Joint venture</li> <li>• Multi-fibre</li> </ul>		• Cost sharing model
	Operator-funded and public policy stimuli		• Public funding program	

Source: IDATE and TAS LLC



## One recommendation: Pooled Financing

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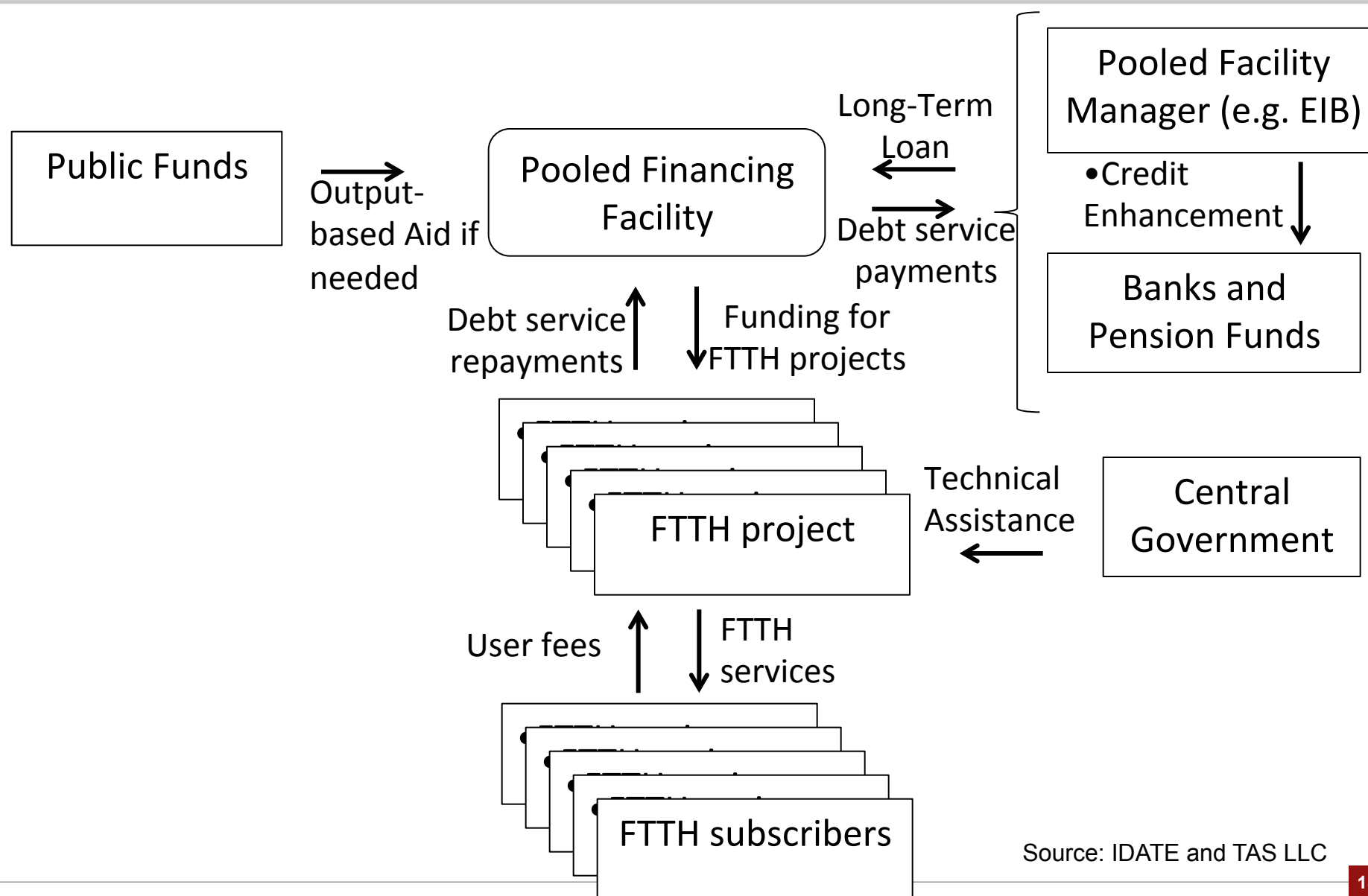
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## **Consider Pooled Financing Approaches for small FTTH Projects**

- ▶ **Pooled facility to finance multiple small projects, with several lenders taking their pro rata exposure to each of the projects**
- ▶ **Target size of each facility: US\$ 20 million, sufficient to handle 5-6 small FTTH projects**
- ▶ **Projects would be majority-owned by public sector sponsors, although the private sector could have an ownership stake**
- ▶ **Facility will have the support from a public lender, which would provide credit enhancements, such as loan guarantees equal to 50% of the total amount**
- ▶ **The pooled facility will be ring fenced**
- ▶ **Projects could apply, through the pooled facility, to receive output-based aid from public funds**
- ▶ **Each project will be structured using a project finance approach**
- ▶ **Project sponsors will develop the FTTH projects with technical and operational assistance provided by government entities**

## Structure of Pooled Financing Facility



Source: IDATE and TAS LLC



**Seven other recommendations will be revealed  
on Feb. 16<sup>th</sup> - Session 8 - 9:15 – 10:30 !!!**

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# Thank you!

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## World FTTx Market

5<sup>th</sup> edition

Ref. M12902 January-December 2012

**Understanding the FTTx challenges & opportunities**

- **Database**
  - 70 countries & 5 zones covered
  - Rollouts by 150+ FTTx market players
  - Operator market share by technology
  - Vendor market share by technology
- **Monthly Market Insights**
  - Industry news and related analyses
  - Focus on highly topical issues
- **Analyst Access**



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### World FTTx Market - Watch Service Calendar 2012

		January	February	March	April	May	June	July	August	September	October	November	December
Database	Markets, Operators & Vendors market shares, FTTx projects, forecasts up to 2016					DB-1						DB-2	
Insights	Monthly		I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8	I-9	I-10	
Consulting Hours		5 hours - on demand											
Analyst Brief		30 min. Conference Call - on demand											
On-Site Presentation		Optional presentation											

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