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# Financing FTTH networks

## *Study for FTTH Council Europe*

Munich, 16<sup>th</sup> February 2012

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Understanding  
the  
Digital World

**Roland MONTAGNE**

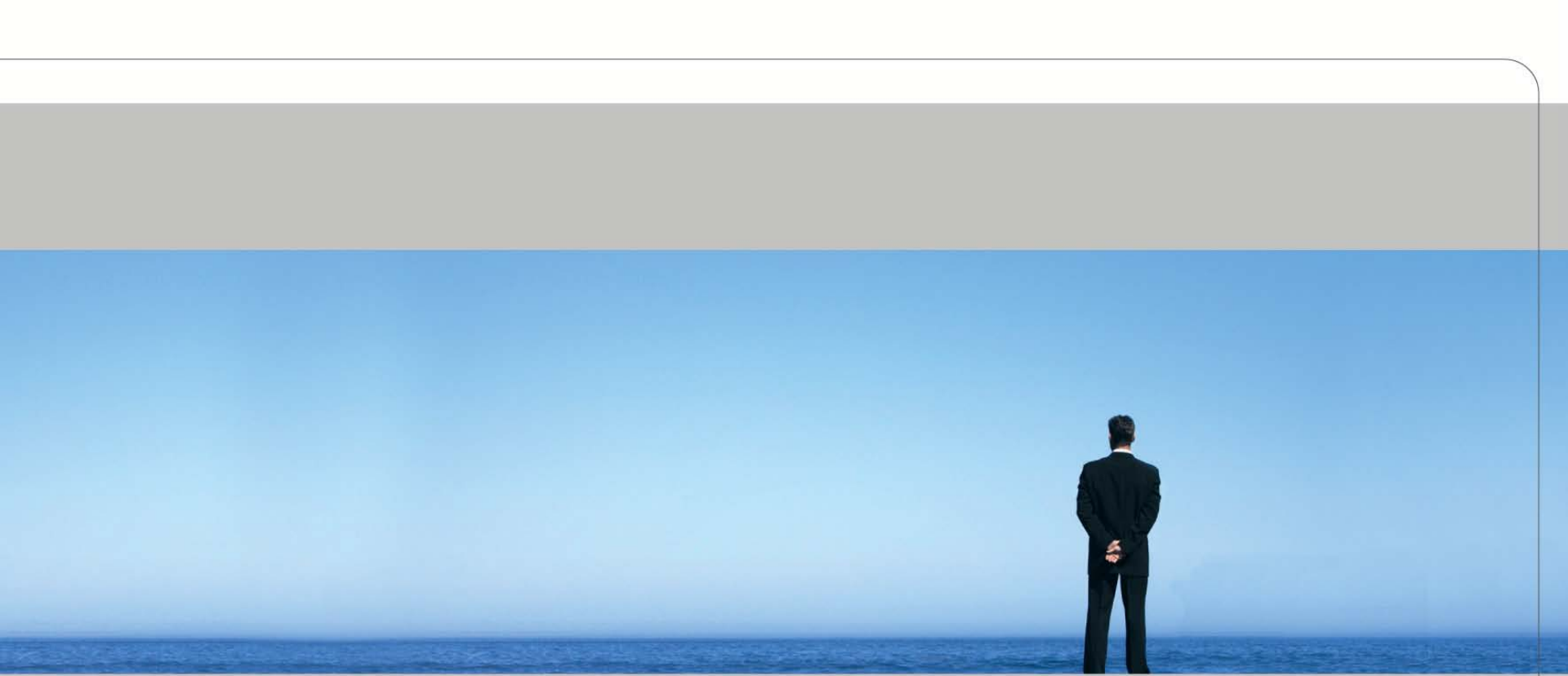
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# Agenda

- ▶ **A theoretical framework for assessing FTTH financing models**
- ▶ **Financing models**
  - Publicly-owned utility
  - Incumbent sponsored
  - Competitive partnering
- ▶ **Most suited FTTH financing models**
- ▶ **Practices mitigating FTTH financial risk**
- ▶ **Conclusions**



# Theoretical Framework for Assessing FTTH Financing Models

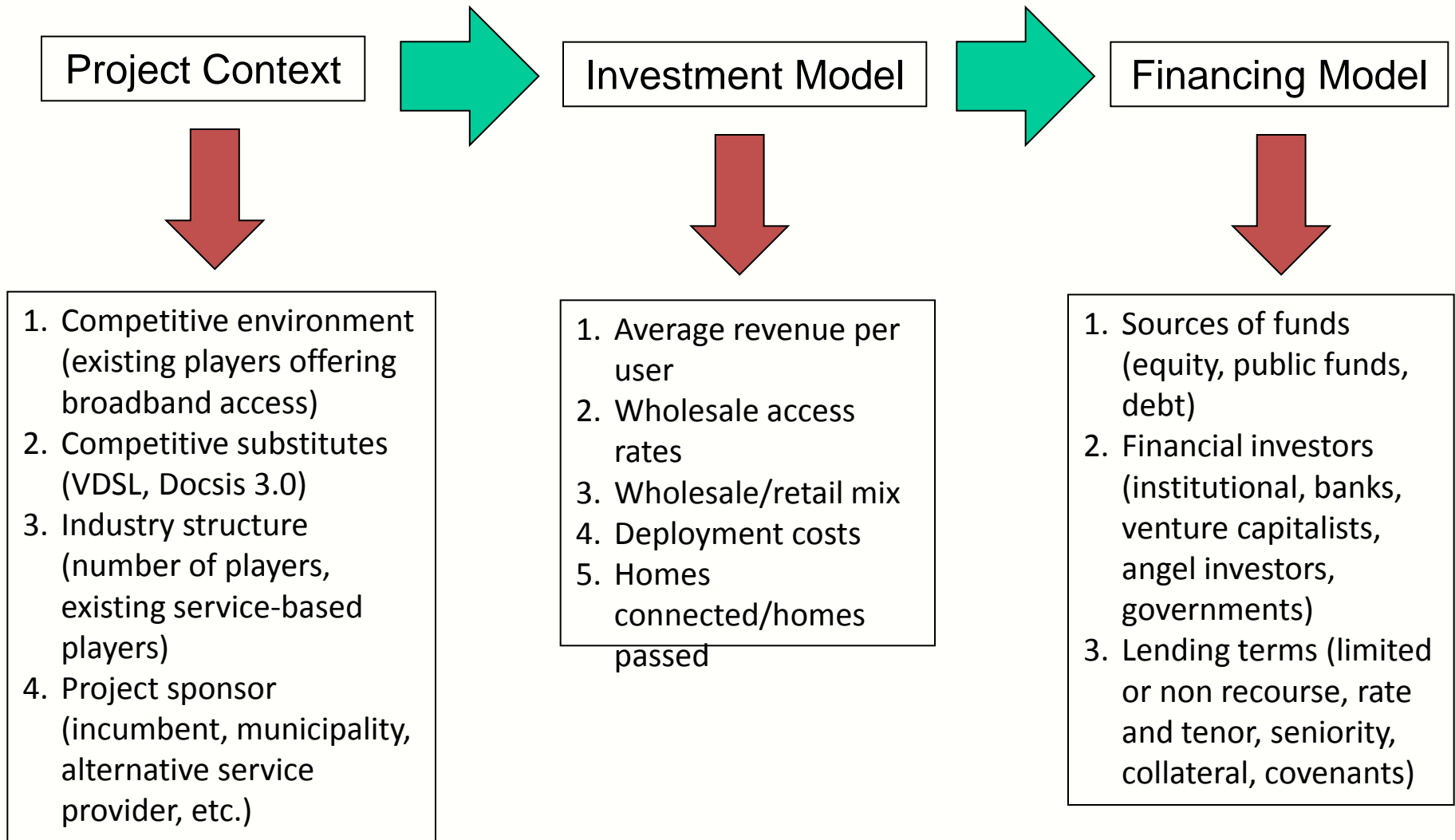
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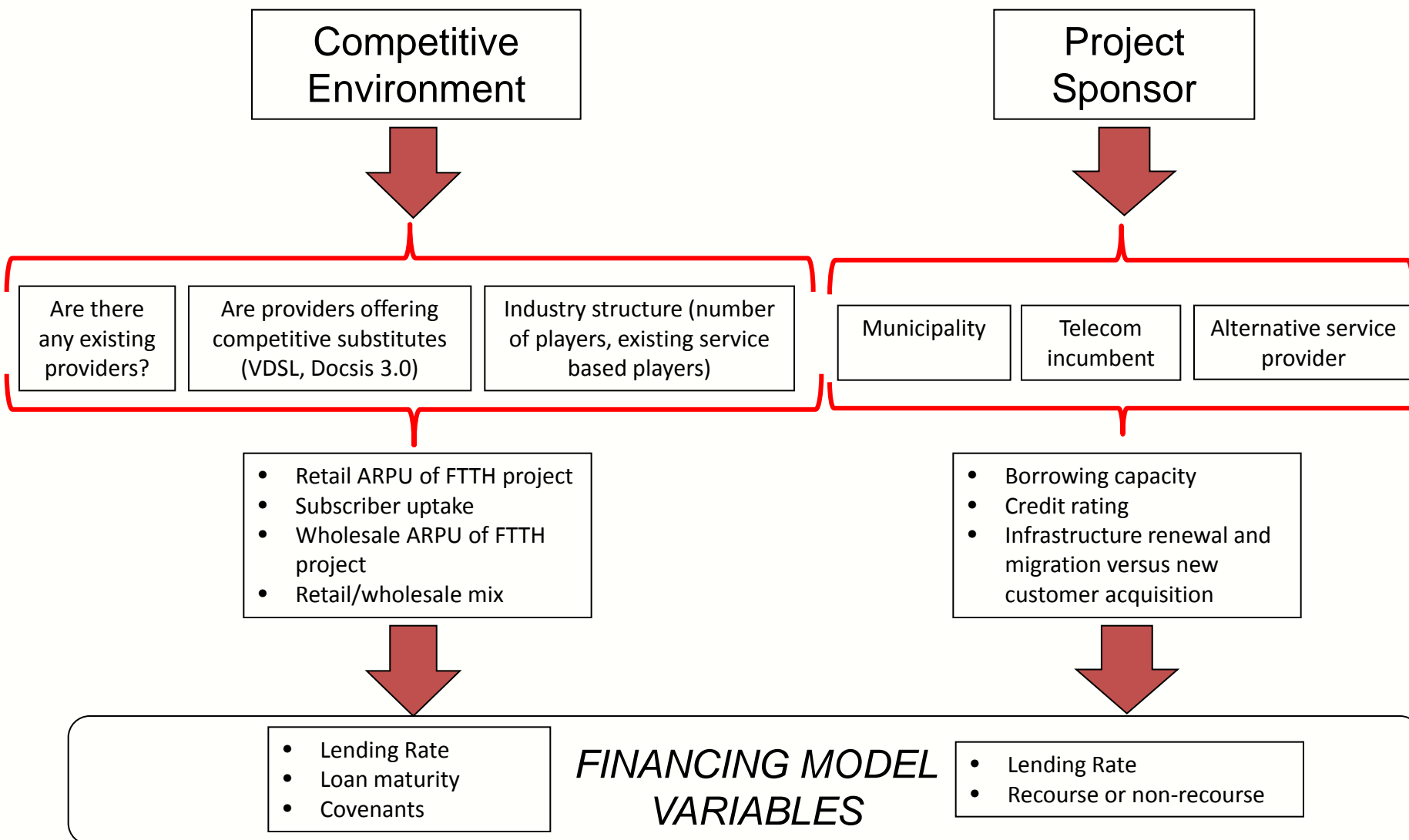
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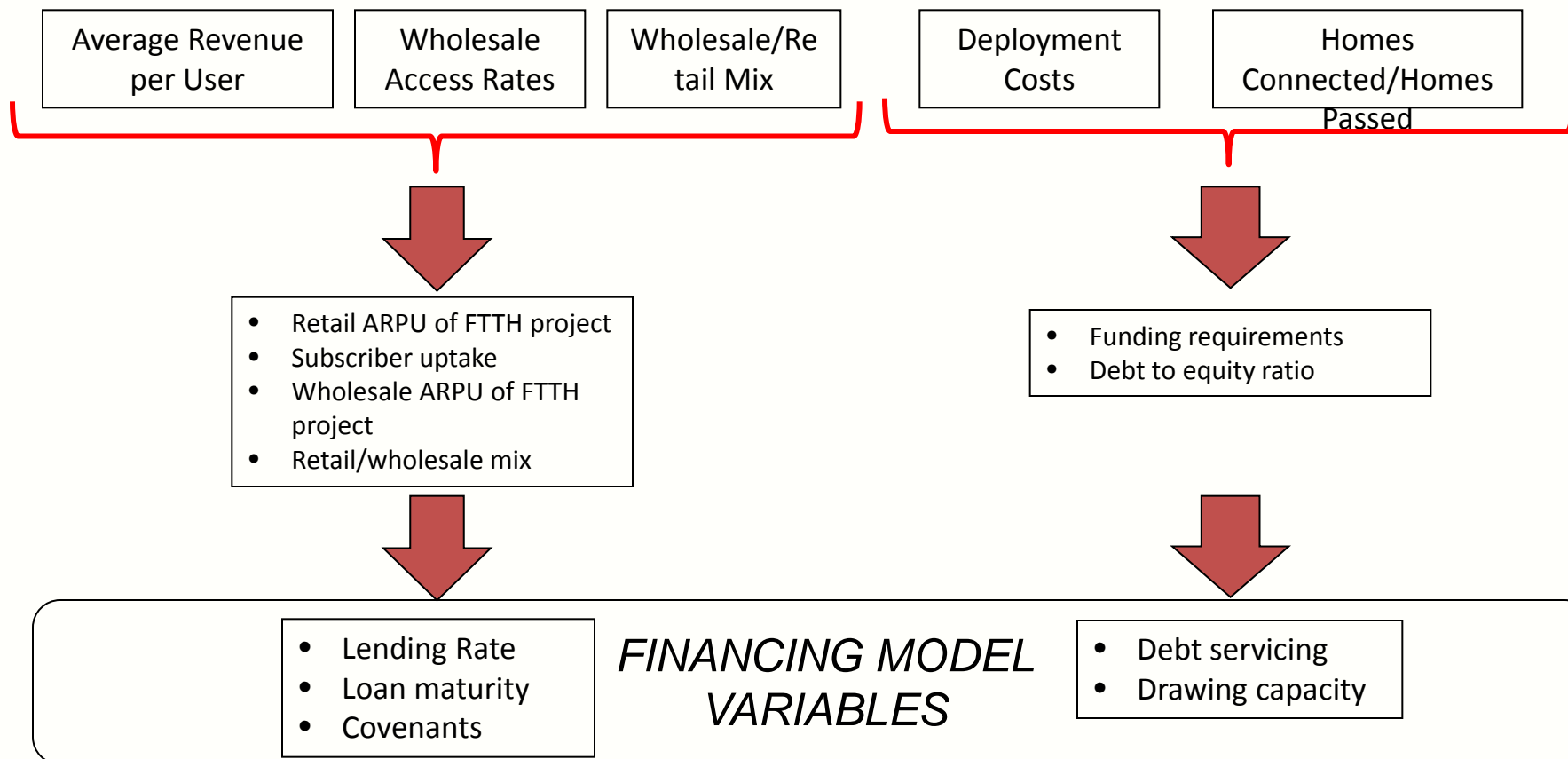
## Three drivers of FTTH project success



## Project context drives financing model



## Investment model drives financing model





# FTTH Financing Models

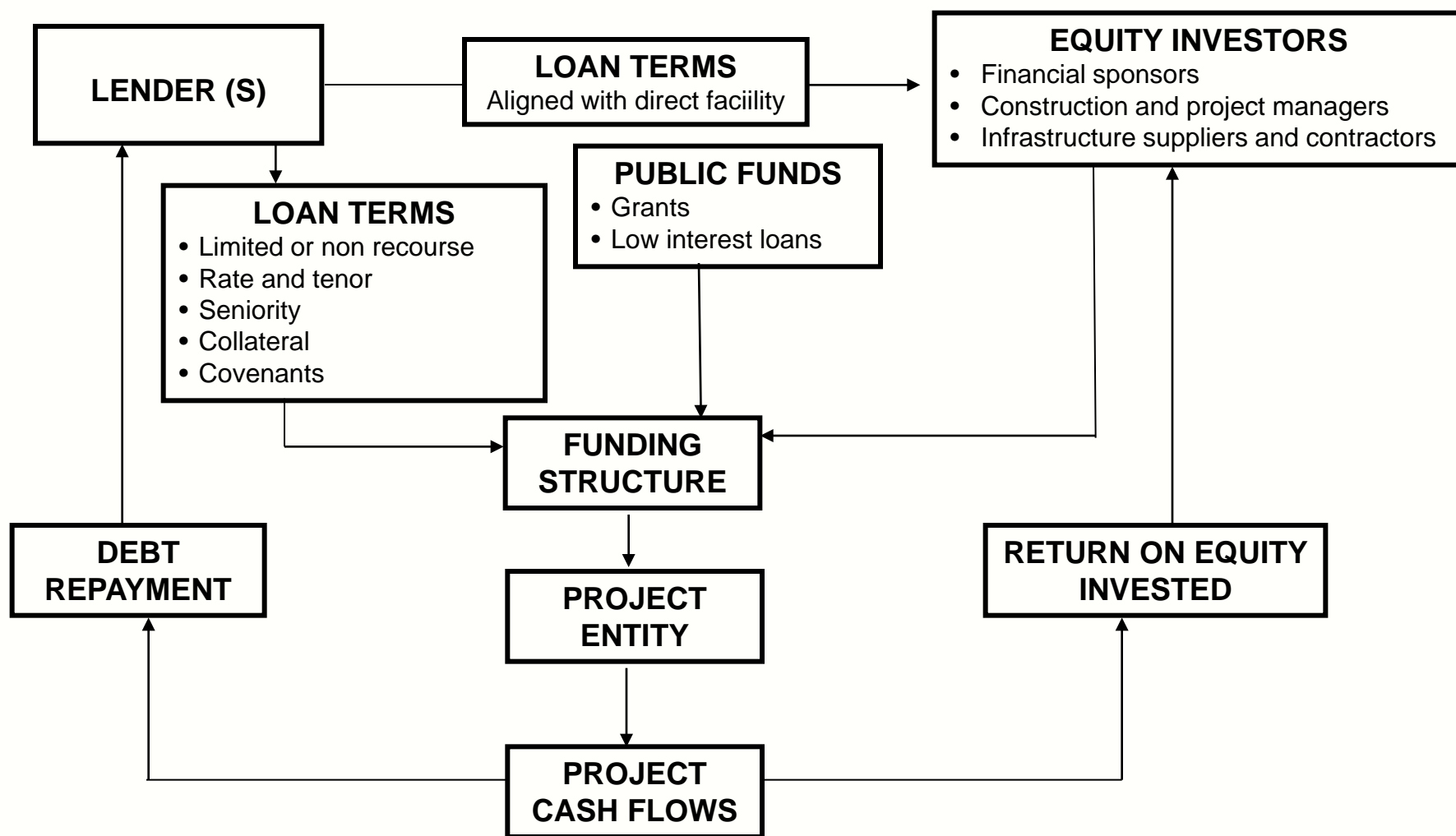
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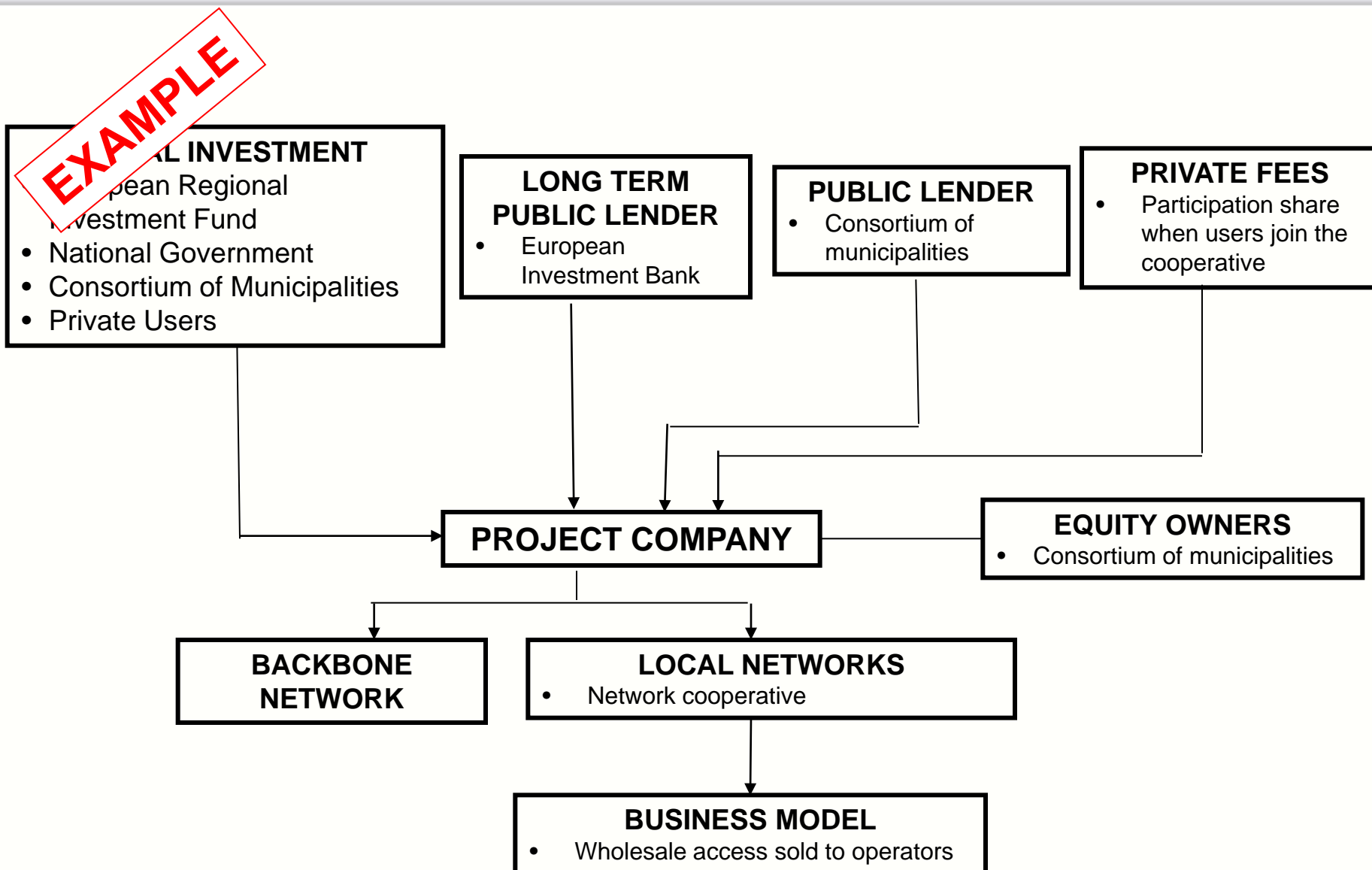
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## Typical financing model structure



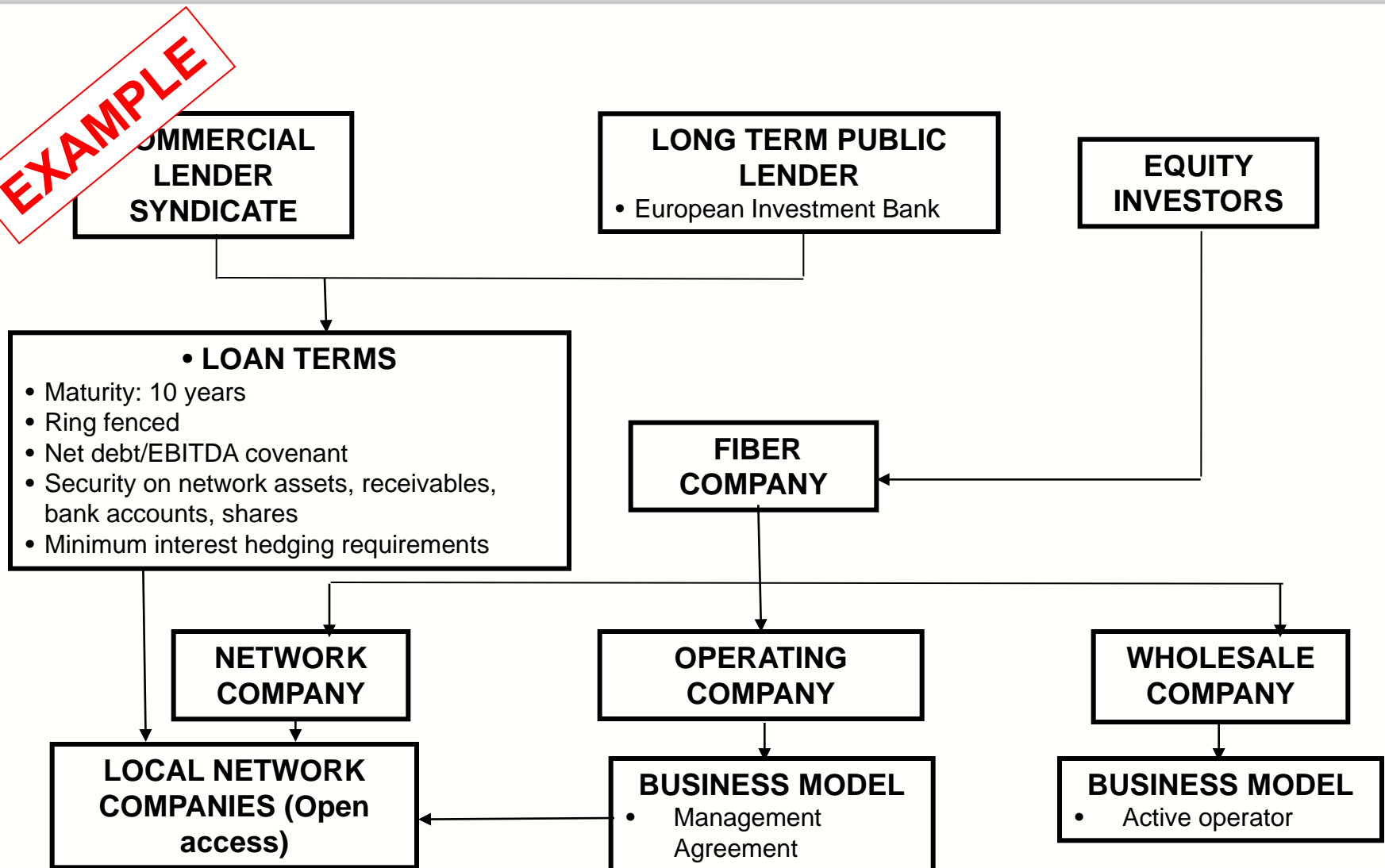


# Municipal financing model structure



# Joint Venture financing model structure

**EXAMPLE**





# Most suited FTTH Financing Models



## 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 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> |

# 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>   |

## Most Suitable Financing Models

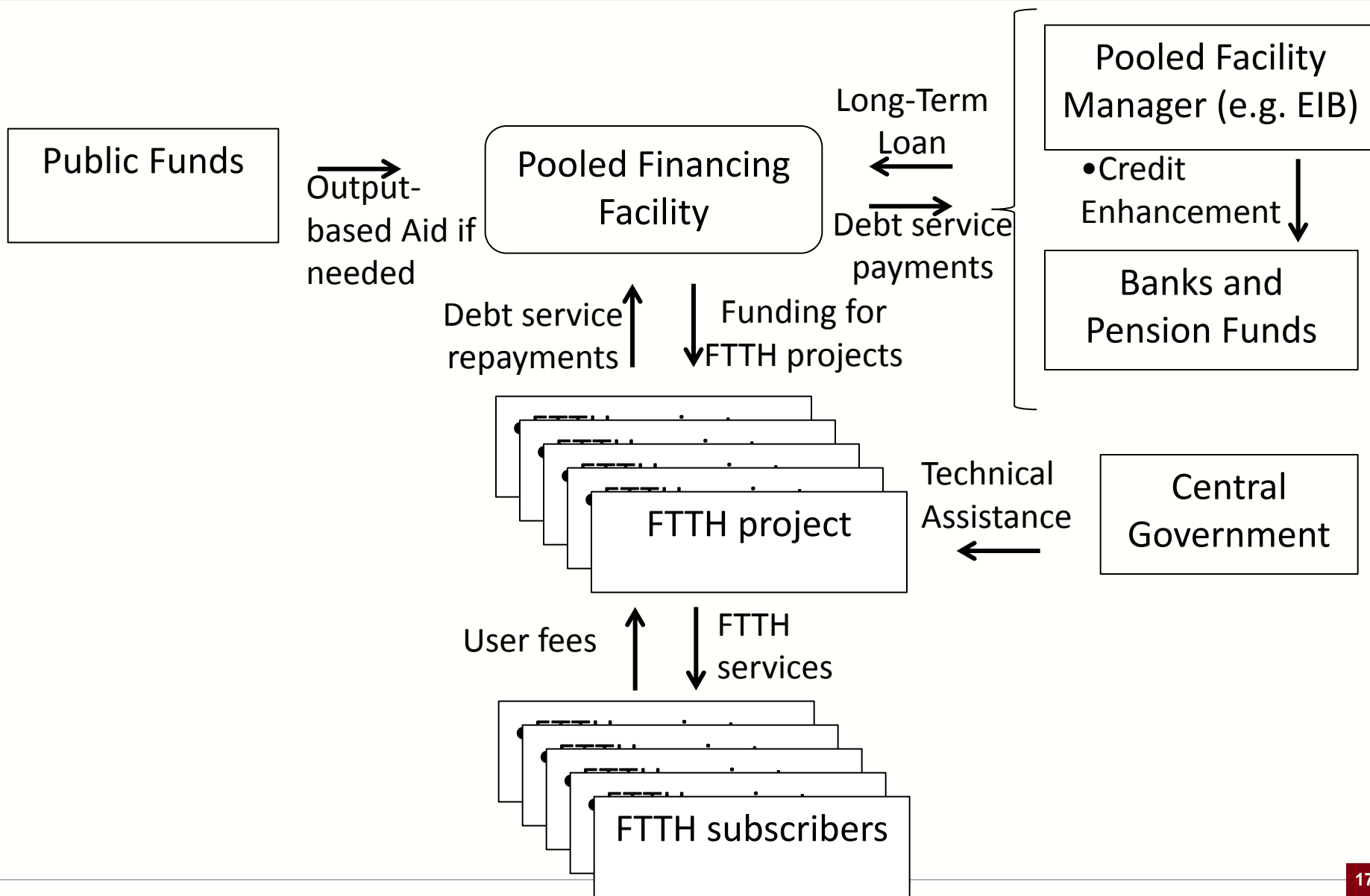
|                      |   | Geographic Mix   |  |   |
|----------------------|---|--|--|---|
|                      |   | Urban  | Sub-urban  | Rural   |
| Financing Strategies | Municipal/Regional                        | <ul style="list-style-type: none"> <li>• Municipality as an investor</li> </ul>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

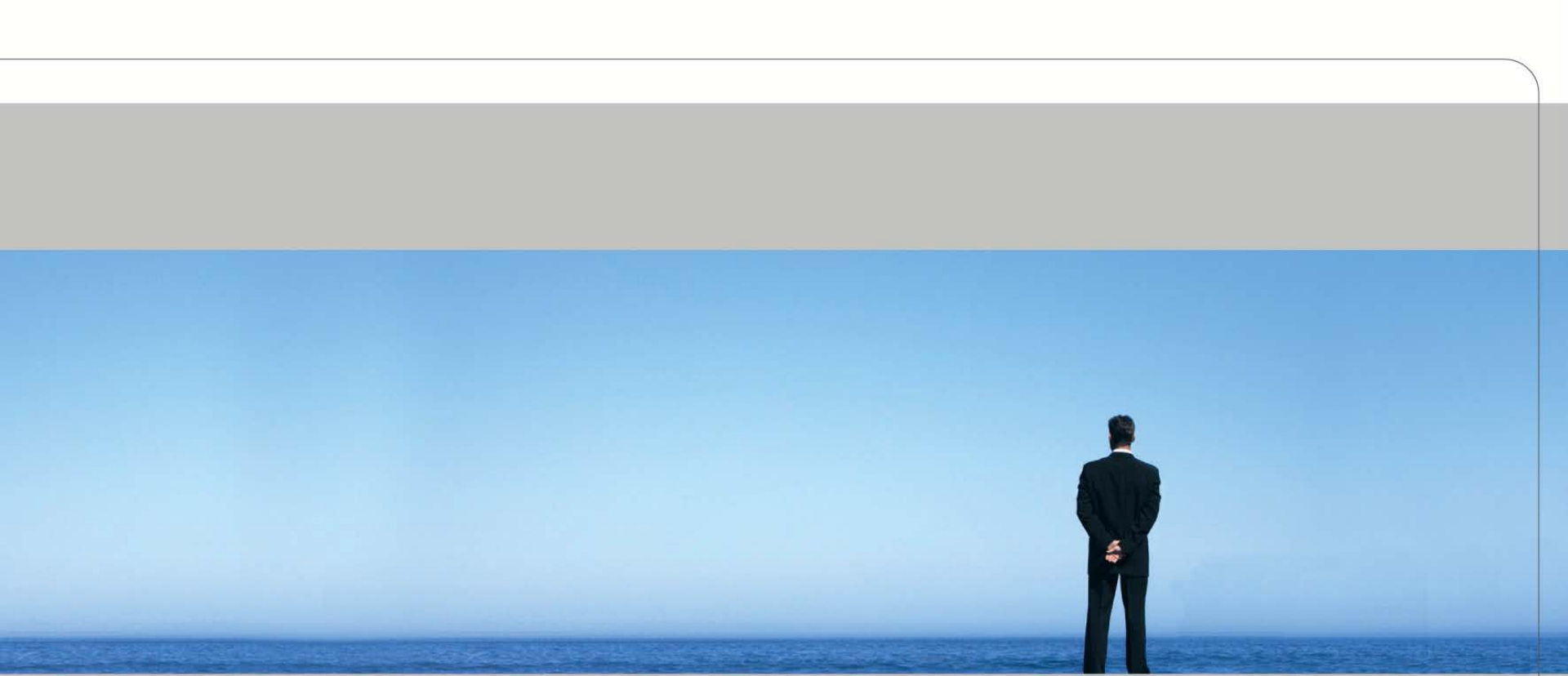
# **Consider Pooled Financing Approaches for small FTTH Projects**

- ▶ **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





# Practices Mitigating FTTH Financial Risk

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## Variables Explaining Success or Failure

| Project Success   | Project Failure  |
|---|--|
| <ul style="list-style-type: none"> <li>• Demand aggregation across neighboring areas in order to achieve critical mass</li> </ul>   | <ul style="list-style-type: none"> <li>• Limited support obtained to negotiate financial terms with lender syndicate</li> </ul>  |
| <ul style="list-style-type: none"> <li>• Sharing of deployment costs by competitors or value-chain players</li> </ul>   | <ul style="list-style-type: none"> <li>• Since project was treated as an infrastructure subsidy by central government, little attention was paid to the robustness of the business plan</li> </ul> |
| <ul style="list-style-type: none"> <li>• Focused FTTH deployment on the part of the incumbent</li> </ul>  | <ul style="list-style-type: none"> <li>• Competitive retaliation eroded the viability of original business plan</li> </ul>   |
| <ul style="list-style-type: none"> <li>• Financing of FTTH from capex</li> </ul>  | <ul style="list-style-type: none"> <li>• Over-optimism in assessment of customer acquisition</li> </ul>  |
| <ul style="list-style-type: none"> <li>• Careful development of business plan (demand assessment, technology decisions, commercial strategy, capital plan, etc.)</li> </ul> | <ul style="list-style-type: none"> <li>• Competitive retaliation of the incumbent could raise the issue that indiscriminate public intervention could pre-empt market forces</li> </ul>            |
| <ul style="list-style-type: none"> <li>• Open access business model utilized to rapidly gain critical mass of demand</li> </ul>   | <ul style="list-style-type: none"> <li>• Lack of initial commitment of project sponsor</li> </ul>  |
| <ul style="list-style-type: none"> <li>• Due diligence of credit facility conducted by an outside party on behalf of lenders</li> </ul>                                     |  |

## Recommendations

- ▶ **Careful development of business plan**
- ▶ **Careful assessment of project risks**
- ▶ **Demand aggregation to achieve critical mass**
- ▶ **Search for agreements to share deployment costs**
- ▶ **Secure a third party in search and negotiation of appropriate funding**
- ▶ **Local governments should avoid the “Build it and they will come” syndrome**



# Thank you!