

HOW TO ENGAGE IN BROADBAND POLICY AND REGULATORY PROCESSES

RESEARCH ON SUBSIDIES IN BROADBAND ECO SYSTEM

SESSION 13, APRIL 8, 2013

Why subsidize?

- Positive externalities
 - ✓ social benefit exceeds private benefits
 - ✓ markets will exclude people with low ability to pay
 - ✓ will not be able to provide a desired level of infrastructure
 - ✓ subsidizing service can be one way to achieve an efficient outcome
- Some services might be 'merit goods'
 - ✓ everyone should have, irrespective of willingness to pay
- Political factors or regional development goals
 - ✓ transfer resources to rural or low-income constituents

So the avowed objectives

- Ensuring full participation' of all citizens in 'information society'
- Promotion of inclusive growth
- Economic development
- Political, social and cultural cohesion
- Balanced' regional development etc.
- Universal Service Obligation (USO) is seen as a special case of redistributive pricing
- Redistribute essential services through subsidized prices
- ✓ redistributive fiscal measures such as income taxation and/or direct transfers

But some argue

- Network externalities are external to the individual
- ✓ they are not necessarily external to firms providing (budget telecom model)
- ✓ potentially removing the need for subsidies
- ✓ Budget telecom Model
- Even if we accept that that subsidies are nevertheless required (especially for BB)
- ✓ do not repeat the mistake of subsidy programmes for Voice
- ✓ as the manner in which we pay for those subsidies has historically been inefficient and even counterproductive
- ✓ by taxing other telecommunications services—in other words, via cross-subsidies

Collection of Universal Access Levy vis-a-vis Allocation and Disbursement of Funds from USOF (in Crores of Rupees)

Financial Year	Funds Collected as UAL (as per DoT A/Cs)	Funds allocated	Funds disbursed	Reimbursement of LF and Spectrum Charges to BSNL	Balance
(1)	(2)	(3)	(4)	(5)	(6)
2002-03	1653.61	300	300	2300	-946.39
2003-04	2143.22	200	200	2300	-356.78
2004-05	3457.73	1314.59	1314.59	1765.68	377.46
2005-06	3215.13	1766.85	1766.85	582.96	865.32
2006-07	3940.73	1500	1500	0	2440.73
2007-08	5405.8	1290	1290	0	4115.8
2008-09	5515.14	1600	1600	0	3915.14
2009-10	5778	2400	2400	0	3378
2010-11	6114.56	3100	3100	0	3014.56
2011-12	6723.57	1687.96	1687.96	0	5035.61
Total	43947.49 (USD 8.78 billion)	15159.4 (USD3.03 billion)	15159.4	6948.64	21839.45

USO justified to correct for market failures

- Optimal in a second-best setting; in the absence of necessary information to implement more efficient policies like direct transfers
- Government should try to correct a market failure only when the risks of “government failure” are low: expected benefits of doing so outweigh the potential costs
- Market Failures
 - ✓ persistence of monopoly-type structures in the provision of broadband infrastructure
 - ✓ lack of economies of scale
 - ✓ inefficient allocation of radio-spectrum
 - ✓ poor information and limited capital markets

Problems with USO policies

- Controversial public policy around the world influenced by interest group: tend to be used by market players to extract too many concessions
- Incumbent operator may pressure the policymaker to maintain a stringent USO as this may allow the incumbent operator, as the largest provider of USO, to treat it as an instrument to seek privileges and as an anti-competitive tool
- If the implementation of the USO leads to market inefficiencies the whole purpose gets undermined
- Policymakers and regulators have to be careful with USOs

Problems with USO policies

- Large information asymmetries about the real costs and benefits of implementing
- Competitive bidding approaches have been used to determine the actual subsidy amount disbursed for each project
- Benefits from using auctions to assign USOs since the regulator does not need to calculate net costing
- May be difficult to have sufficient participants bidding against the incumbent (in many cases entrants would need to use alternative infrastructure or access to the incumbent's infrastructure assets)
- Universal Service Funds has often been criticized for being inefficient and not always transparent or competition neutral to the required degree.

Financing USO

- Earlier monopoly operators “assumed” the costs of meeting the country’s universal access objectives
- Cross-Subsidies: Profitable segments subsidized the non-profitable segments
- Reforms: Tariff rebalancing exercise; elimination of the cross-subsidies
- Financing these funds causes distortions
- ✓ minimize losses of allocative efficiency
- Least distortionary way to finance net costs of providing universal service is from general taxation
- Second best method, in the presence of budget constraints, is raising revenues through universal service taxes.

Desirable Characteristics of a USO Policy

- Good targeting
- Cost efficiency
- Competitive neutral: Do not influence competition and let the market determine the efficient allocation of services
- Problem: How to conciliate competition and Universal Service Policies?

Desirable Characteristics of a USO Policy

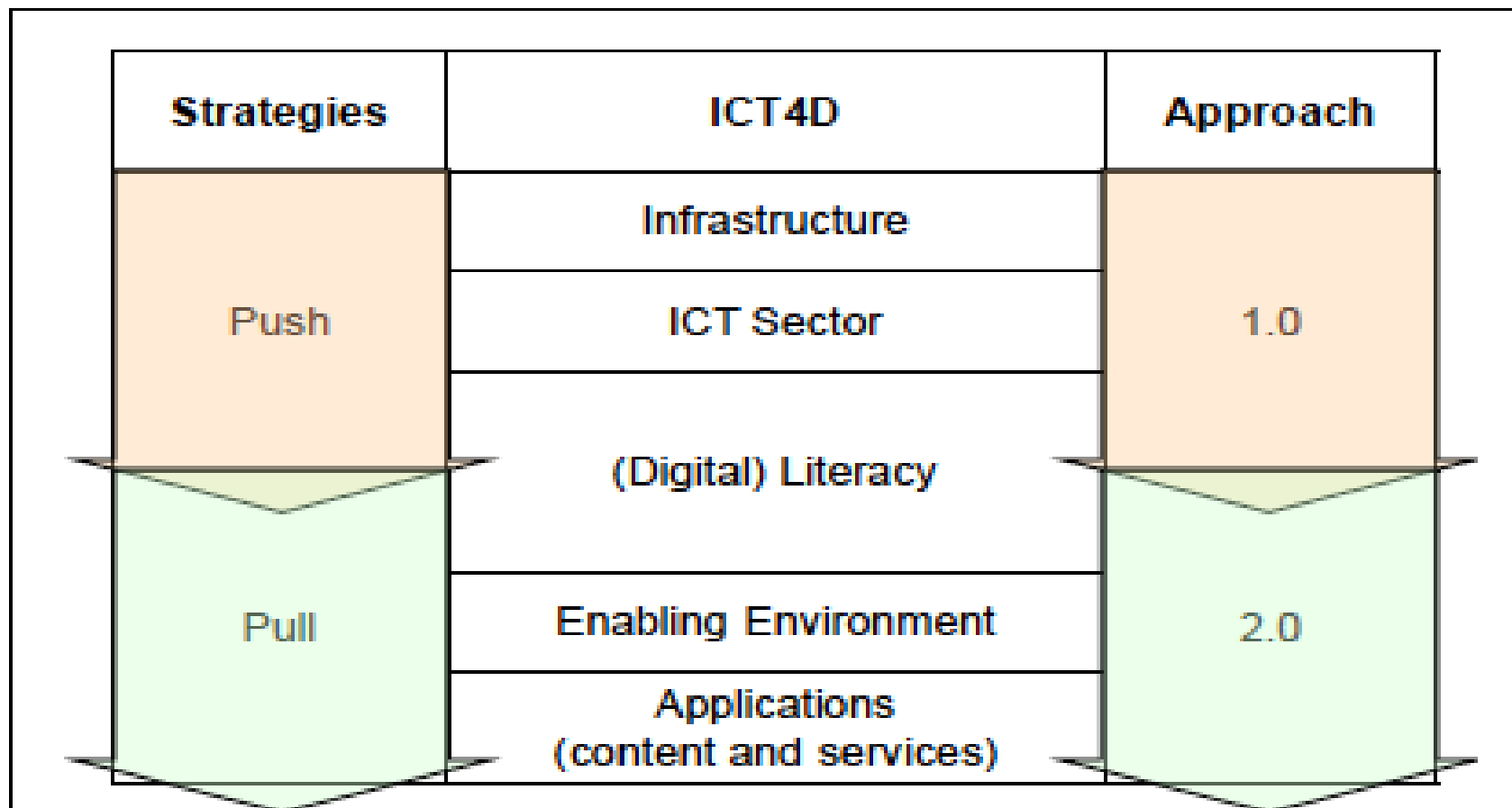
- WTO Reference Paper

“Any member of the WTO has the right to define the kind of universal service obligation it wishes to maintain. Such obligations will not be regarded as anti-competitive per se, provided they are administered in a transparent, non-discriminatory and competitively neutral manner and are not more burdensome than necessary for the kind of universal service defined by the member”

NTP-2012

- Affordable and reliable broadband on demand (year 2015)
- BB connections targets
 - ✓ 75 million (year 2017)
 - ✓ 600 million (year 2020) at minimum 2 Mbps DL speed
 - ✓ Higher speeds of at least 100 Mbps on demand.
- Recognise telecom and BB connectivity as a basic necessity like education and health & work towards 'Right to Broadband'
- Current thinking: Deployment of a National Broadband infrastructure is a prerequisite
- Government's intervention and support is necessary for the broadband ecosystem to reach a critical mass

Role of governments



How to deploy?

- **Ownership model**

- ✓ highest level involvement with the govt deploying and
- ✓ owning the broadband core/backbone and middle mile infrastructure

- **PPP model**

- relatively lower level of govt. role, with govt. partnering with
- one or more private operators in developing the BB
- infrastructure

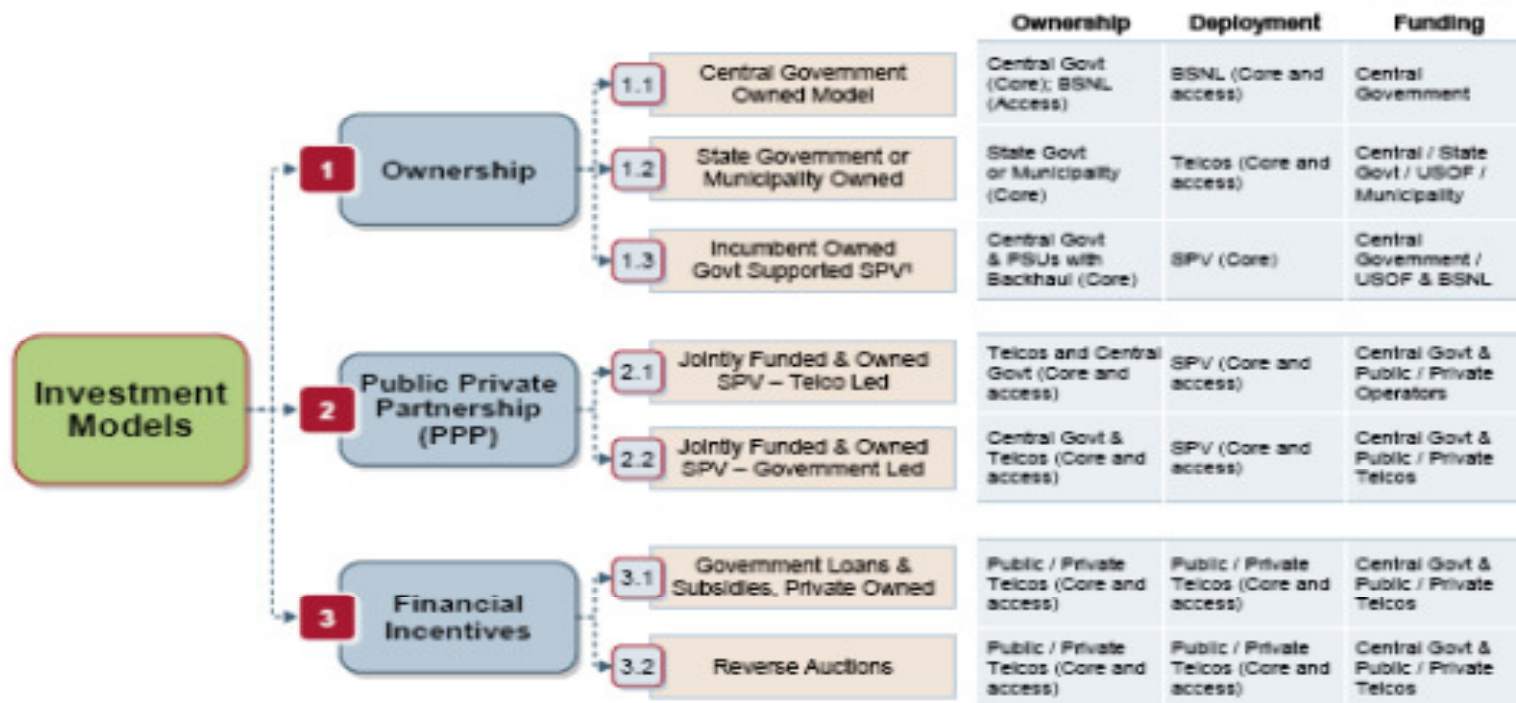
- **Financial incentives model**

- ✓ govt's role as a facilitator for providing incentives & subsidy grants to public and private sector companies for deploying
- ✓ without having any ownership

Investment Models

Based on analysis of international deployments and industry inputs, there are primarily seven investment models

Preliminary Analysis



What is National Optical Fibre Network (NOFN)?

- Connecting 2,50,000 Gram Panchayats (GPs) through OFC
- Approved by GoI on 25.10.2011
- To bridge connectivity gap between GPs and Blocks.
- Project to be implemented by NOFN-SPV namely Bharat Broadband Network Ltd (BBNL).
- Envisaged as a Centre-State joint effort
- Govt. of India to fund the project through the Universal Service Obligation Fund (USOF). Rs. 20,000 Cr.(\$4B)
- State Govts are expected to contribute by way of not levying any RoW charges (including reinstatement charges)
- Suitable Tri-partite MoU to be signed by GOI, State Govt & BBNL

Existing fiber 8,00,000 Rkm

REACH / COVERAGE

Service Provider	Total Fibre Laid	Cities / Towns Covered	Metros / Tier I Cities*	Other Cities / Towns	Gram Panchayats	Mid Sized Villages	Small Villages
BSNL 	814,755 RKm™	All cities & 28 K gram panchayats					
Reliance 	190,000 RKm™	44					
Airtel 	128,357 RKm™	130					
Tata Communications 	40,000 RKm™	80					
RaiiTel 	37,720 RKm	800					
PowerGrid 	21,852 RKm	110					
GAILTEL 	13,000 RKm	200					

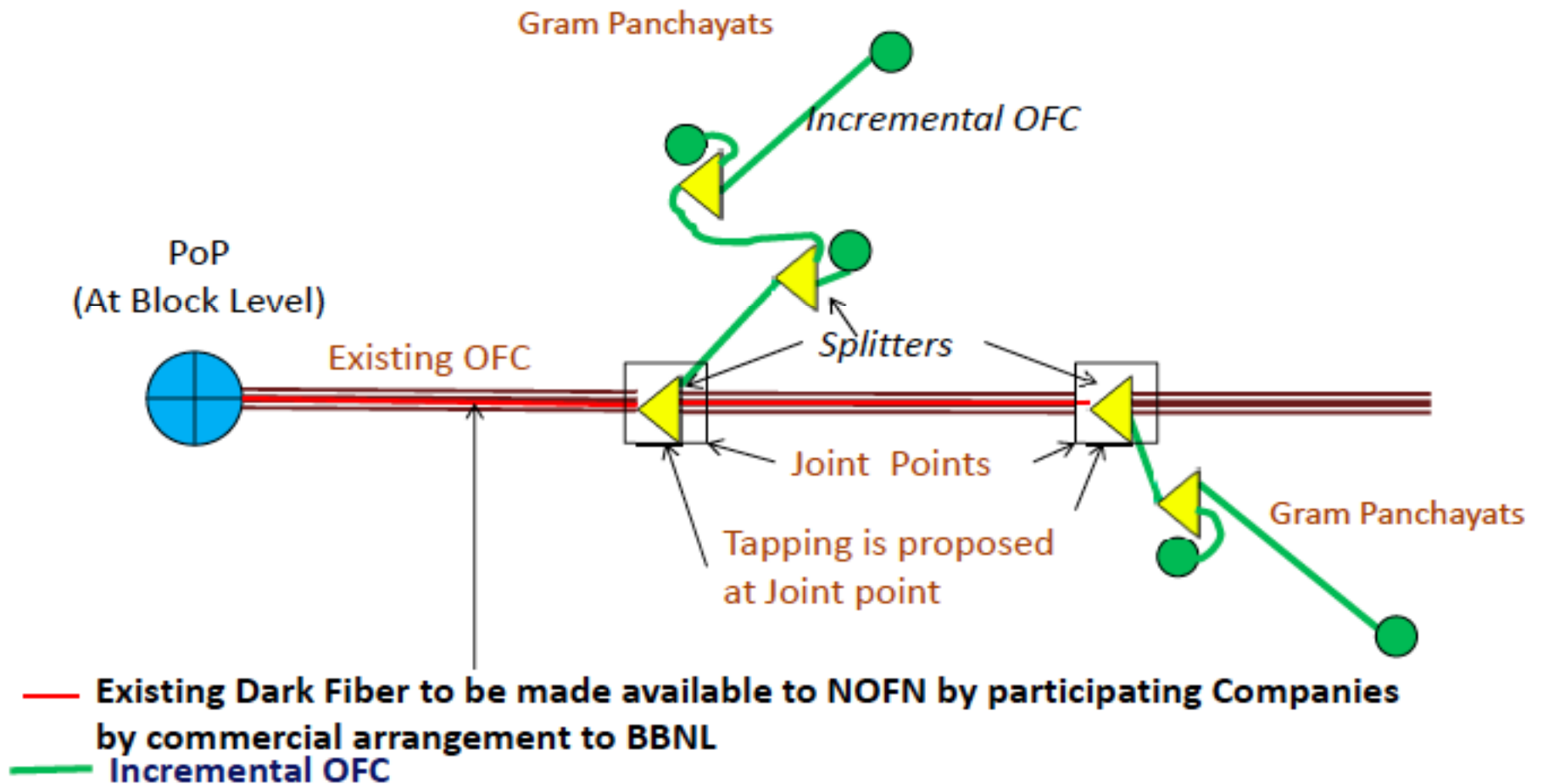
Level of Backbone Infrastructure Coverage : Very High  High  Medium  Low  No Coverage 

Source: Analysis Mason⁵⁵

BBNL-Infrastructure Provider

- Bandwidth Provider
- Gap filler in aggregate layer
- Users of NOFN are access operators(TSPs/ISPs/Cable TV operators)
- Enables them to launch various access services
- Operator of operators (carrier of carriers)
- B2B, No retailing
- Non-discriminatory access to all licensed operators
- Seeks to trigger Ecosystem opening up new Rural markets
- Incremental in nature

Concept: Making available dark fiber by participating companies by participating companies



Problems

- Delays in roll out expected
- Project implementation time 24 months (24/10/2013)
- Immediate formalisation of an action plan between the key implementing infrastructure agencies, [Bharat Broadband Nigam Ltd](#) (BBNL), BSNL, RailTel, and PowerGrid, to execute the NOFN project on schedule
- ✓ define the scope of work for the NOFN project and conclude all relevant tendering activity to meet project deadlines
- ✓ facilitate advance payments to BSNL, RailTel and PowerGrid and settle the leasing charges payable by BBNL on a cost-plus basis

Issues

- Open Access rules quota system?
- Row for other network providers (competition issues)
- Other augmenting technologies like fixed wireless
- Large government subsidy laden programs?? Huge governance issues

In summary

- Goals should be clear and explicit
- Funding explicit and transparent.
- Funding from the broadest possible base.
- Target subsidies as a one time to trigger the ecosystem make a difference in economic behaviour
- Design broadband universal service policies with the complementary demand of consumers in mind

Thank you