



# Copper pricing & fibre transition: impact assessment

**Brian Williamson**

**8 February 2012**

**ETNO Expert Forum**

# The starting point conditions expectations

- **Neutrality, competition and choice**
  - Technology neutral: platform mix (including VDSL with vectoring)
  - Investor neutral: it doesn't matter who invests
  - Competition and choice with current & next generation access
- **Copper pricing – replacement cost applied by most regulators**
  - European Commission - use CCA/LRIC approach
  - BEREC observe that replacement cost is
    - Predominant method
    - Could send better investment signals

# Equity investor perspective



- **Trends, cash flow and health of balance sheet matter**
- **Lowering price of copper would**
  - Undermine regulatory credibility – what will happen with fibre?
  - Reduce free cash flow – lower discretionary investment to maintain return
  - Increase debt/EBITDA ratio – potentially raising cost of capital
- **What about other potential investors/business models?**
  - May be seeking level of certainty inconsistent with competition and choice which characterises the telecommunications market

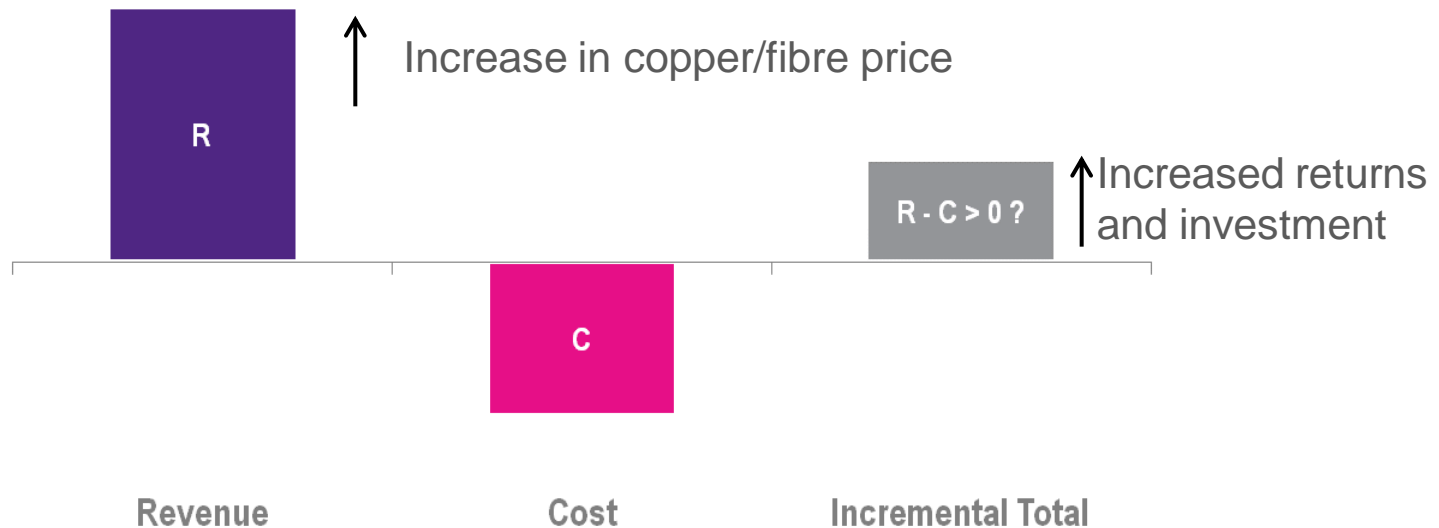
Long-term investment requires credibility, not policy reversal to reduce prices

# Qualitative analysis

# Entrant/platform competitor



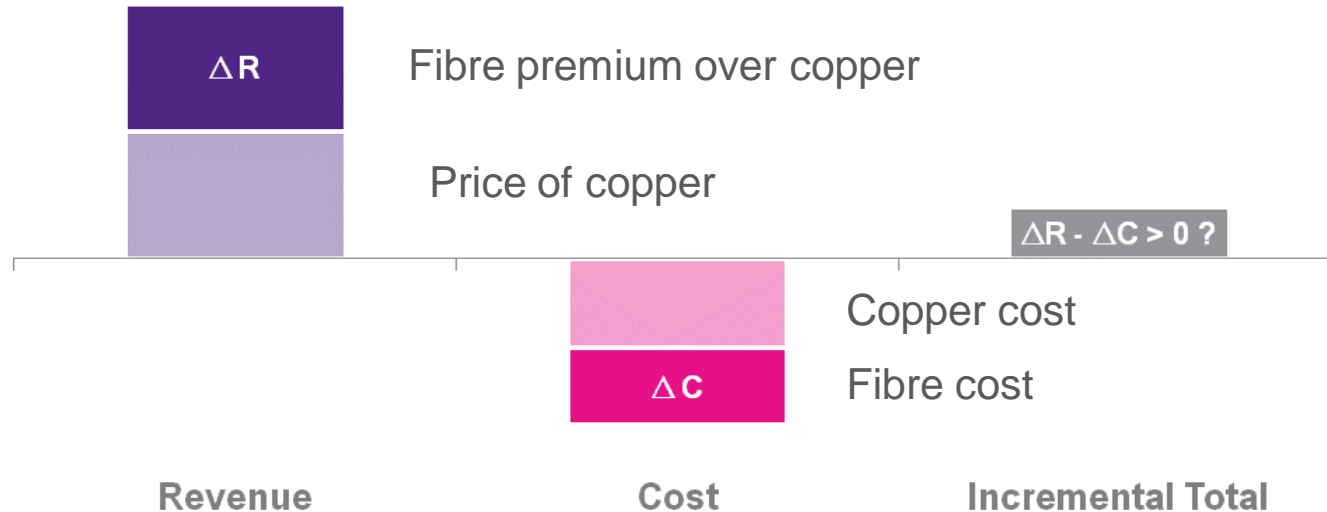
## Entrant's investment decision



Cu price↑ => NGA price↑ => entrant/platform competitor investment↑

# Incumbent - no platform competition

## Incumbent's investment decision without platform competition



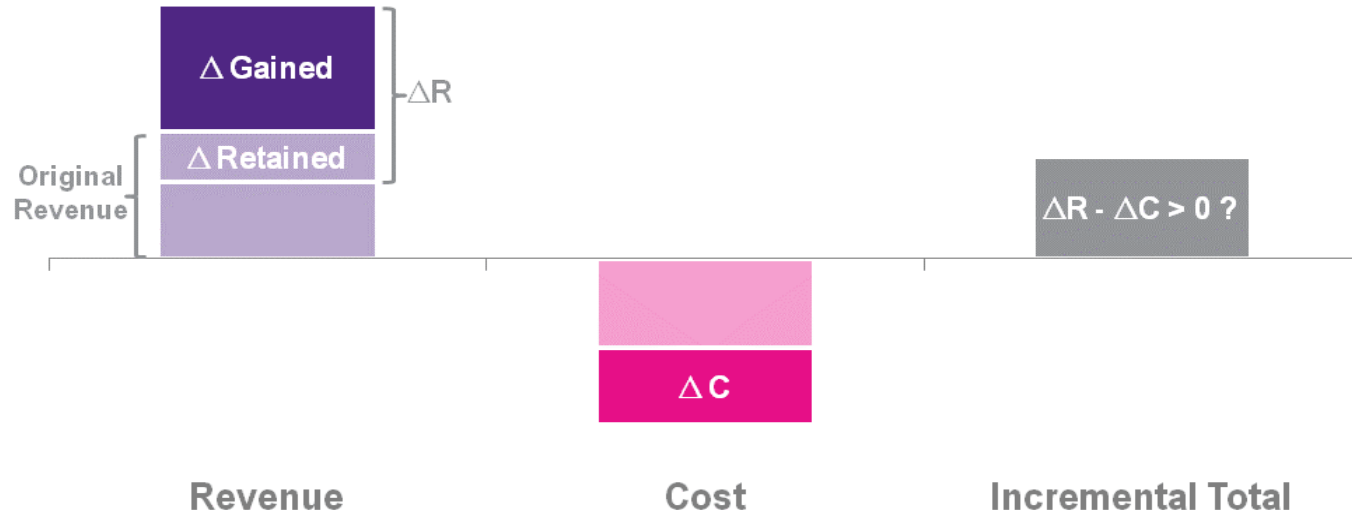
Simple and restricted analysis

Cu price  $\uparrow$   $\Rightarrow \Delta R$  unchanged  $\Rightarrow$  Neutral (static view), harm (dynamic view)

# Incumbent + platform competition



## Incumbent's investment decision with platform competitor



Cu price  $\uparrow$   $\Rightarrow$  Gain from retaining customer  $\uparrow$   $\Rightarrow$  NGA investment  $\uparrow$

# Why do some reach a different conclusion?



WIK Consult modelling	Market reality
Consider FTTH only considered, not FTTC	Both FTTH and FTTC investment
Parallel running of copper & fibre ruled out	Sustained parallel running with selective copper 'retirement' in case of FTTH
Therefore fibre price & demand independent of copper price	Copper price and fibre price/demand linkage
Platform competition has almost no impact on copper return (and 'over time' customer loss not modelled)	Platform competition impacts on copper customer retention – incentive to invest
Impact of change to lower copper price on investor expectations not factored into analysis of investment incentives	Investor expectations critical in relation to investment in long-lived assets

Key investment considerations not captured by WIK Consult analysis



# Quantitative analysis

# Base case (incumbent with limited competition)



- **Baseline for FTTH and FTTC**

- Costs increase with coverage
- Hurdle rate 10%
- Copper price €9
- Take-up 45% after five years
- Customer loss 2% pa

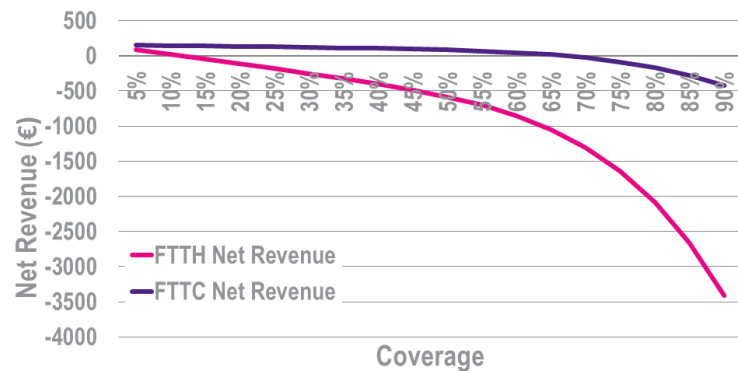
- **Fibre premium (+2% pa growth)**

- FTTC €5 per month
- FTTH €10 per month

- **Commercial coverage**

- FTTH 11% (if only FTTH)
- FTTC 67% (if only FTTC)

Incremental net revenue per premise connected



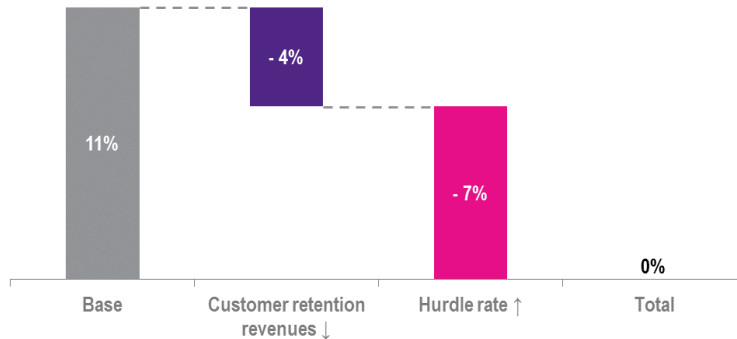
Source: Plum Consulting AIM

Test sensitivity: Cu price 1/3 ↓ or ↑; Hurdle rate 4 or 2 percentage points ↑

# Incumbent (limited competition): unconditional price reduction

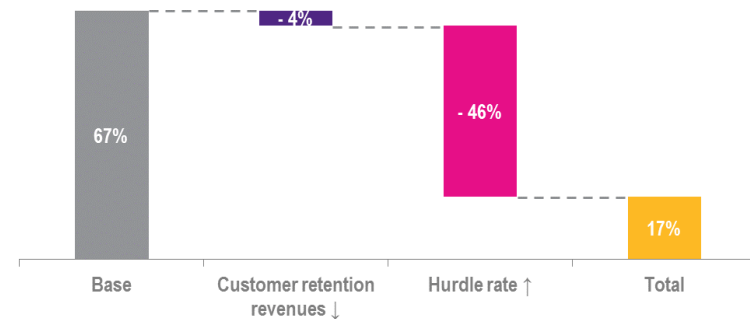


Impact of a reduction in the price of copper on FTTH coverage



Source: Plum Consulting AIM

Impact of a reduction in the price of copper on FTTC coverage

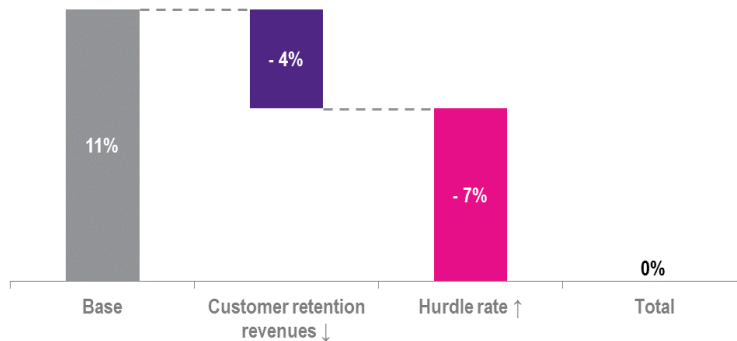


Source: Plum Consulting AIM

# What if hurdle rate increase is halved to 2 percentage points?

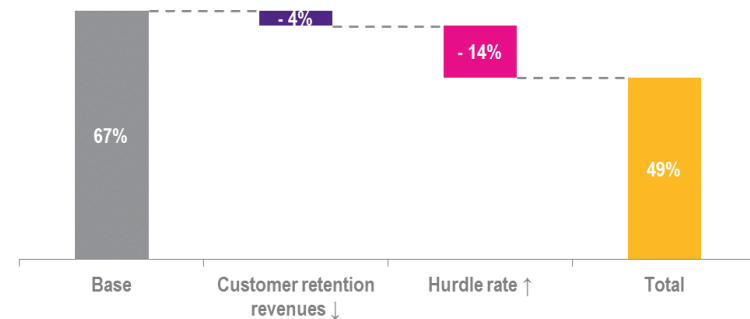


Impact of a reduction in the price of copper on FTTH coverage



Source: Plum Consulting AIM

Impact of a reduction in the price of copper on FTTC coverage

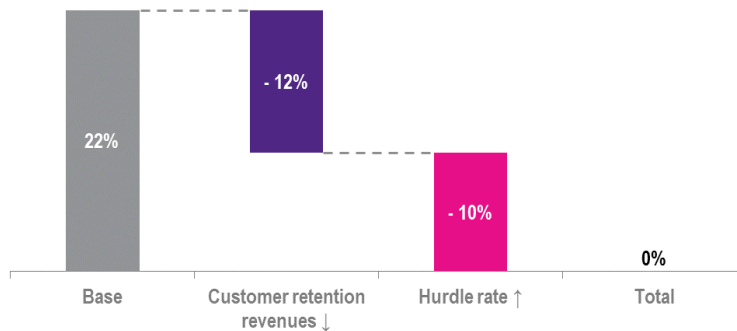


Source: Plum Consulting AIM

# Incumbent (strong competition): unconditional price reduction

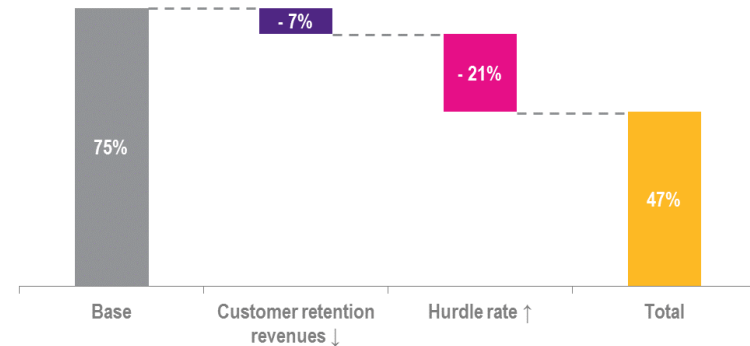


Impact of a reduction in the price of copper on FTTH coverage



Source: Plum Consulting AIM

Impact of a reduction in the price of copper on FTTC coverage

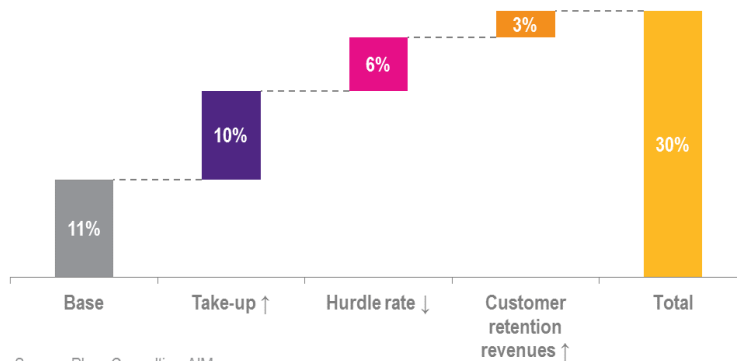


Source: Plum Consulting AIM

# Impact of a positive package

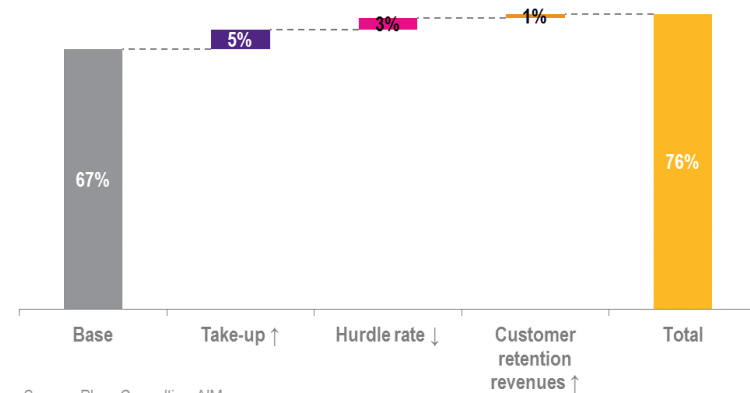
(Differentiation, investor confidence/lower hurdle rate & greater customer retention value with higher copper-fibre price)

Impact of better regulation on FTTH coverage



Source: Plum Consulting AIM

Impact of better regulation on FTTC coverage



Source: Plum Consulting AIM

Flexibility, but not obligation, regarding copper retirement may improve further

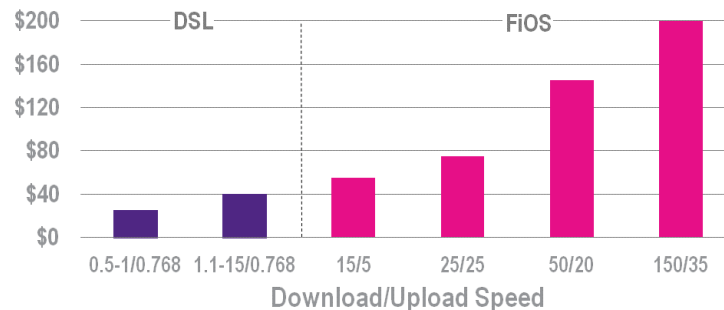


# Policy

# Verizon in US invested in FTTH in absence of price control from 2006



Verizon broadband DSL and FiOS pricing  
Monthly charge (USD)



Source: Plum Consulting. Pricing for one-year contract with phone service.

- **Freedom to experiment & differentiate price of fibre**
  - Increase overall demand
  - Supports business case
  - Supports digital inclusion
- **Freedom to phase out copper**
  - No quick phase out in practice
    - Let lines lie fallow as customers switch
    - One exchange in Texas phased out in late 2011 (50%+ FTTH)

Grounds for different fibre remedy to support price differentiation & learning



# Way forward – contingent approach

