



# A NEW COMPETITION POLICY TO ADDRESS THE DIGITAL DIVIDE

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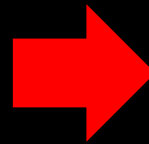
# AGENDA

- The need to reframe competition policy
- Market structure, infrastructure development, and affordability
- Latin American telecommunications market structure

## EMERGING COUNTRIES NEED TO RETHINK THE ORIGINAL COMPETITION POLICY PARADIGM

### COMPETITION POLICY PARADIGM BASED ON UNIVERSAL PREMISES

- Markets are efficient
- Through the pricing system provide a framework for efficient resource allocation
- The purpose of competition authorities is to monitor markets to benefit consumers, avoid dominance leading to market failures and collusive behavior



### NEW PARADIGM ADAPTED TO THE EMERGING COUNTRY CONTEXT

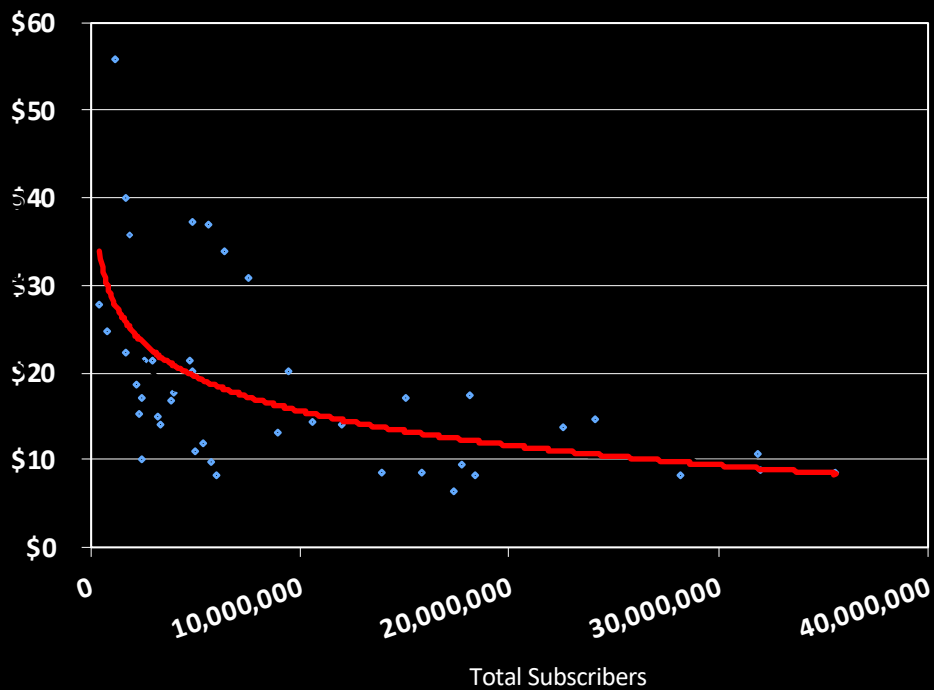
- Competition policies might not be universal across countries
- Competition laws need to reflect the social and economic environment in which they are applied
- Transplanting policies and legal frameworks might generate unintended consequences

## HOW SHOULD WE CONCEIVE A COMPETITION MODEL THAT ACCOUNTS FOR THE EMERGING MARKETS CONTEXT?

- Emerging countries are characterized by economic vulnerability, extreme inequality in the distribution of wealth and opportunities, limited state resources and corruption
- Telecommunications markets in emerging countries can comprise high barriers to entry, low per subscriber revenues, and high infrastructure costs
- Under these conditions, conventional concepts in competition policy such as limited market concentration metrics might not be adequate
- This is rejoined by the inverted “U” theory of competition

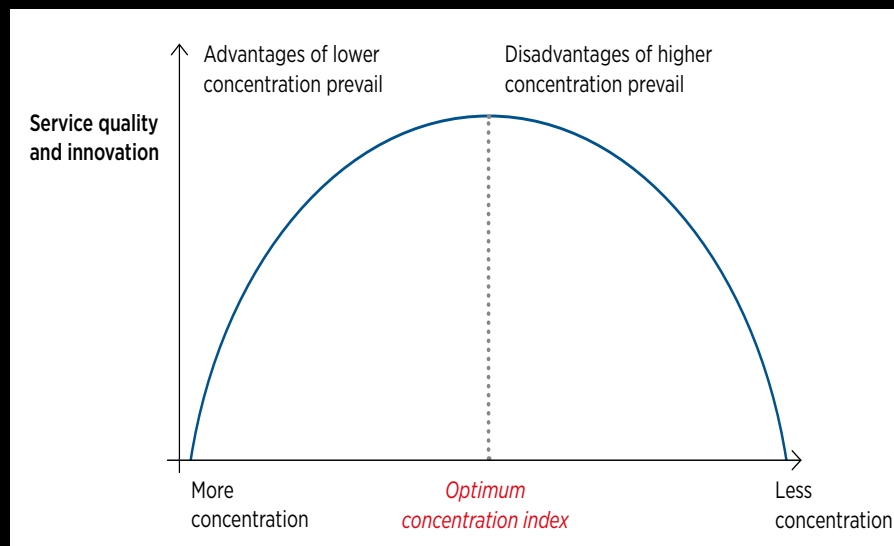
IN CAPITAL INTENSIVE INDUSTRIES, STATIC AND DYNAMIC CONSUMER BENEFITS ARE MAXIMIZED UNDER A CERTAIN LEVEL OF MARKET CONCENTRATION

### OECD TELECOMMUNICATIONS OPERATORS: SUBSCRIBERS VS. MONTHLY OPEX PER SUBSCRIBER



Sources: MLBOFA; Telecom Advisory Services analysis

### INVERTED "U" THEORY



Source: Aghion, P., Bloom, N., Blundell, R. Griffith, and Howitt, P. *Competition and innovation: and inverted-U relationship*

## COMPETITION MODEL APPROPRIATE FOR AN EMERGING MARKET

- Two or three operators serving the same market relying on their own infrastructure (or sharing portions of it)
- Each operator is vertically integrated, controlling all inputs required to deliver services
- Multidimensional competitive dynamics (pricing, services, service quality)
- Price discipline, but intense competition based on bundling and product differentiation (dynamic efficiencies)
- Competitive stimuli so each operator increases investment in its own network (reaching optimal point in inverted “U”)
- Operating benefits as a result of each operator controlling its infrastructure and supply chain
- Absence of tacit collusion due to high innovation rates and competition based on bundles

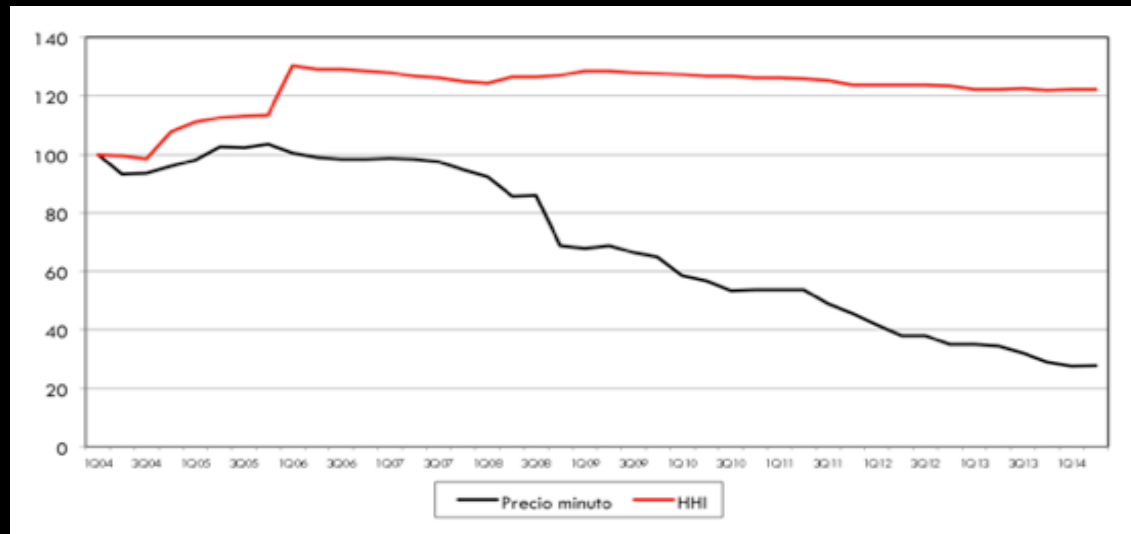
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IN GENERAL, THE RELATIONSHIP BETWEEN TELECOMMUNICATIONS MARKET CONCENTRATION AND PRICING IS COMPLEX

- Market concentration sometimes leads to price decline, but sometimes mergers indicate a price increase, although it is difficult to link this to the merger itself (Aguzzoni, Buehler, Di Martile, Ecker, Kemp and Schwarz, 2015)
- In general, the migration to concentrated industries is linked to price declines
- But sometimes price declines represent a natural evolution

### UNITED STATES: HERFINDAHL-HIRSCHMAN INDEX VS. MOBILE VOICE MINUTE PRICING





### INVESTMENT AS AN INTERMEDIATE VARIABLE

- Market consolidation leads to investment in infrastructure
- Infrastructure investment conveys a reduction in production costs (dynamic efficiency)
- Cost reduction allows in turn price decreases (static efficiencies)



- Ex-post experimental analysis of two mergers (Houngbonon, 2015)

### PRICE-INVESTMENT TRADE-OFF

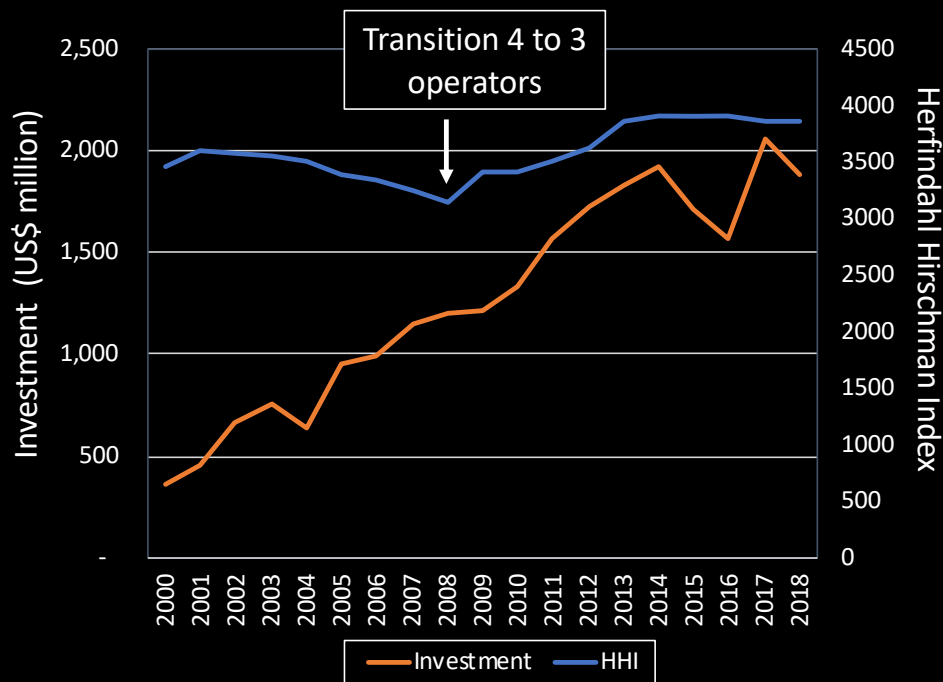
- Market consolidation (such as 4 to 3 concentration) has been found to yield a 16.3% initial price increase and 19.3% growth in capital investment
- Each additional operator in a given market diminishes investments by 10.7%



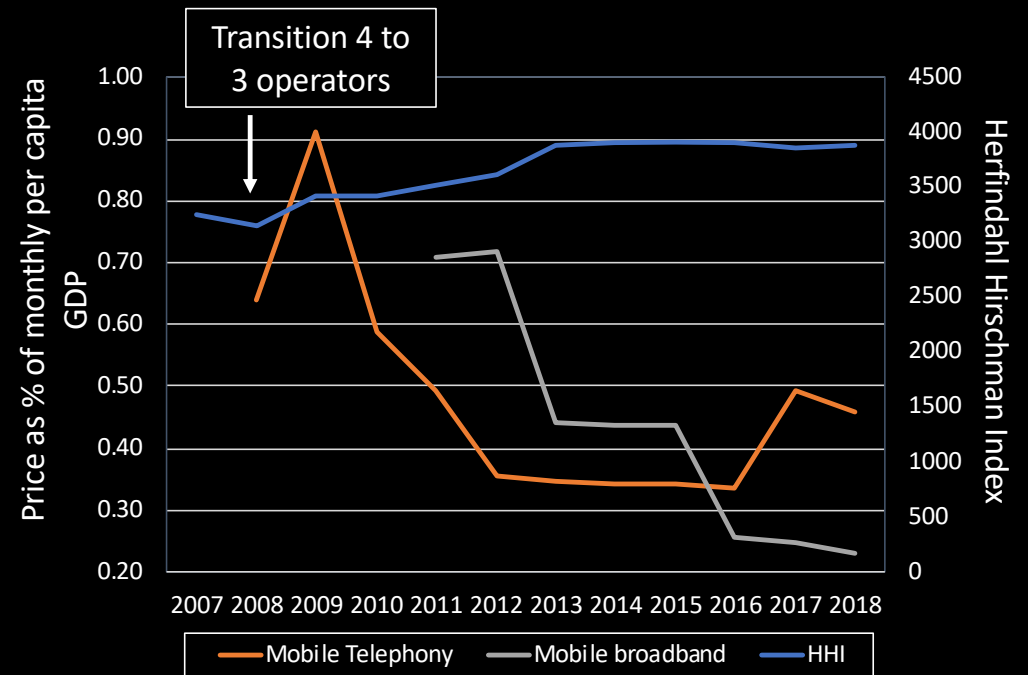
- Panel data of multiple mergers in OECD countries (Genakos, Valetti, Verboven, 2015)

INTERNATIONAL EXPERIENCE: AUSTRALIA - ACCELERATION OF INVESTMENT AND DRAMATIC REDUCTION IN PRICES

MARKET CONCENTRATION AND INVESTMENT



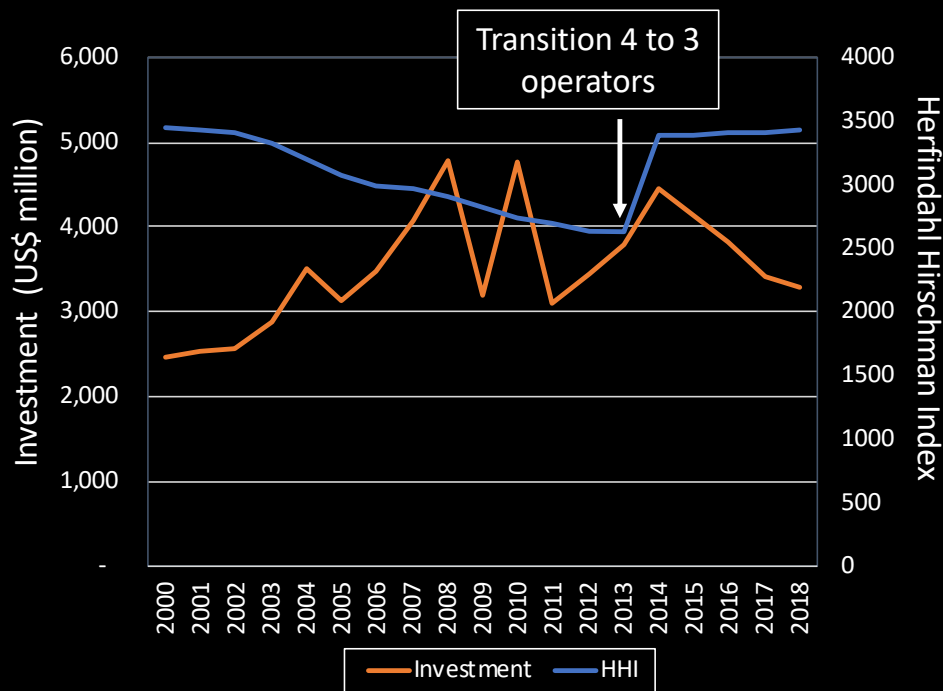
MARKET CONCENTRATION AND PRICES



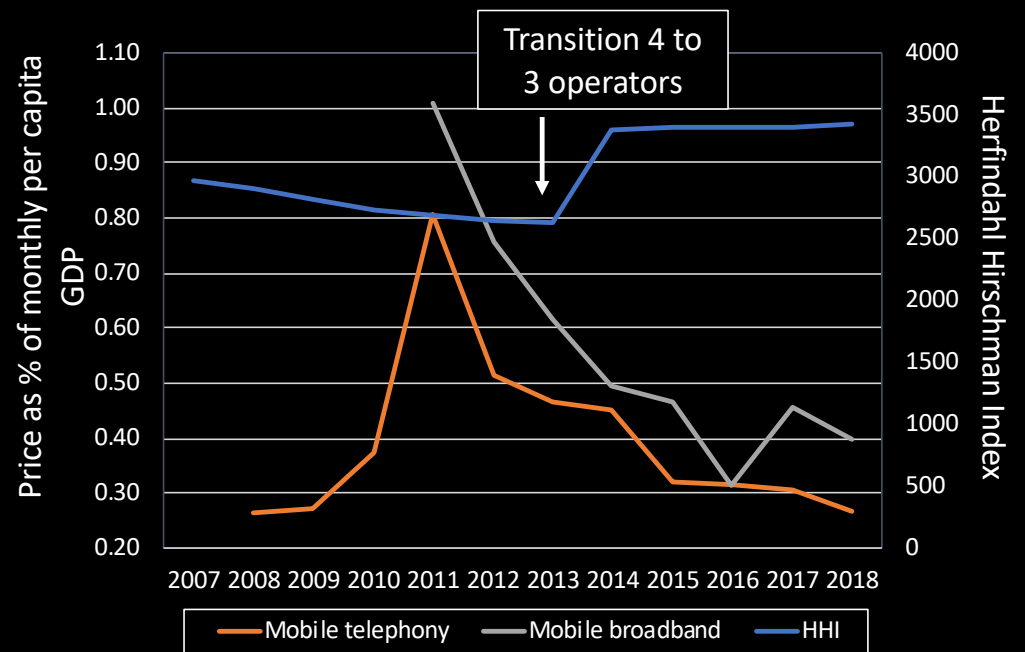
Sources: GSMA Intelligence; ITU telecom Advisory Services analysis

INTERNATIONAL EXPERIENCE: GERMANY - NO CLEAR INVESTMENT INCREASE BUT ACCELERATION OF PRICE DECLINE

MARKET CONCENTRATION AND INVESTMENT



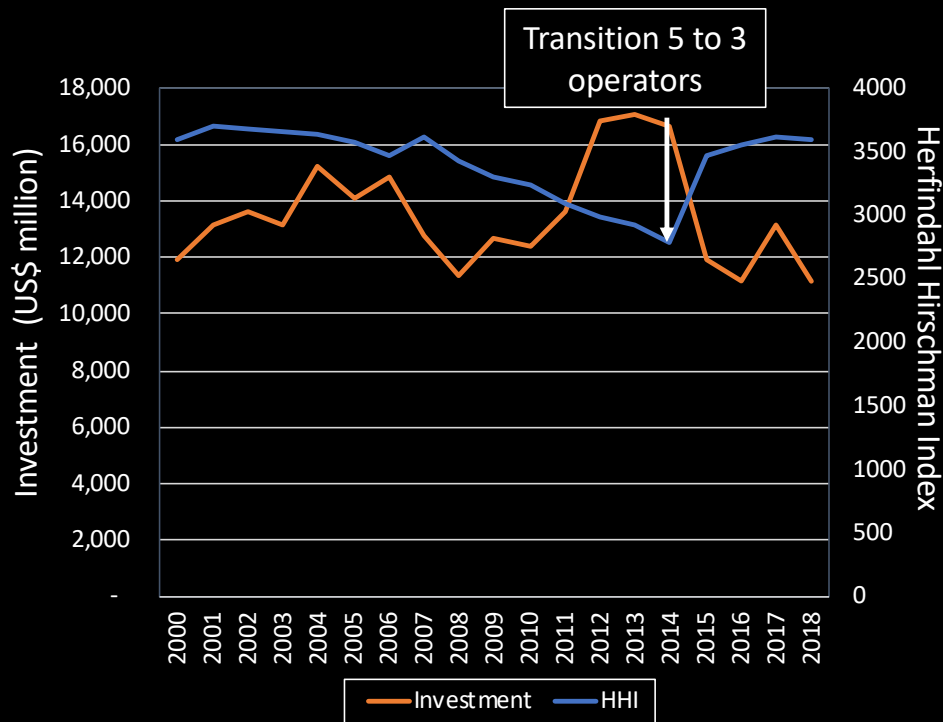
MARKET CONCENTRATION AND PRICES



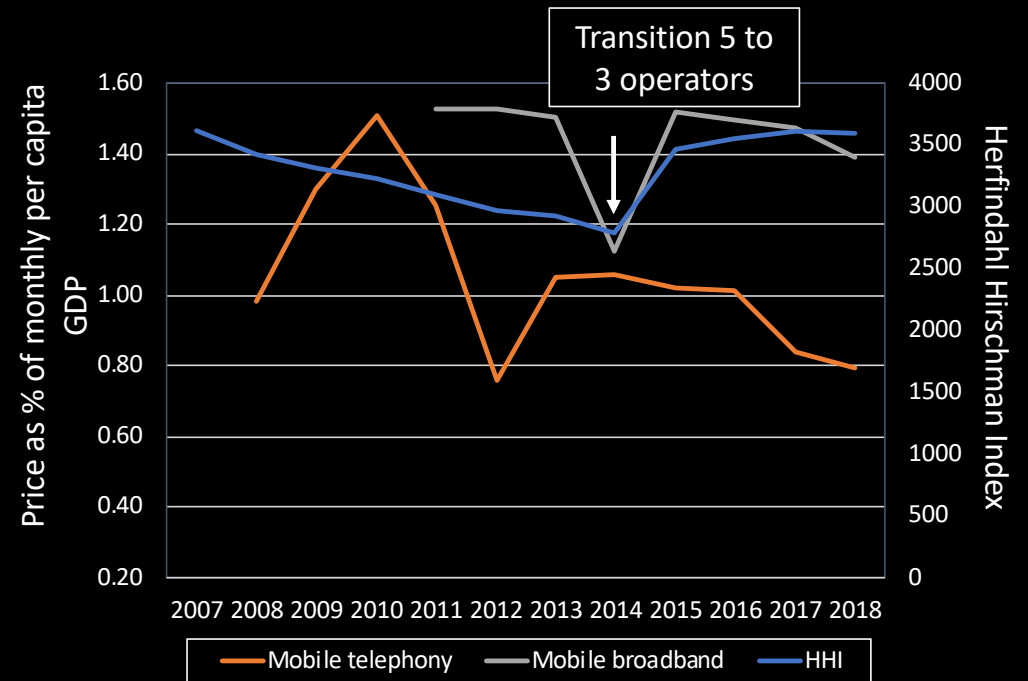
Sources: GSMA Intelligence; ITU telecom Advisory Services analysis

INTERNATIONAL EXPERIENCE: JAPAN - DECREASED INVESTMENT IN ANTICIPATION OF 5G DEPLOYMENT, DECLINE IN VOICE PRICES BUT INCREASE IN MOBILE BROADBAND

MARKET CONCENTRATION AND INVESTMENT



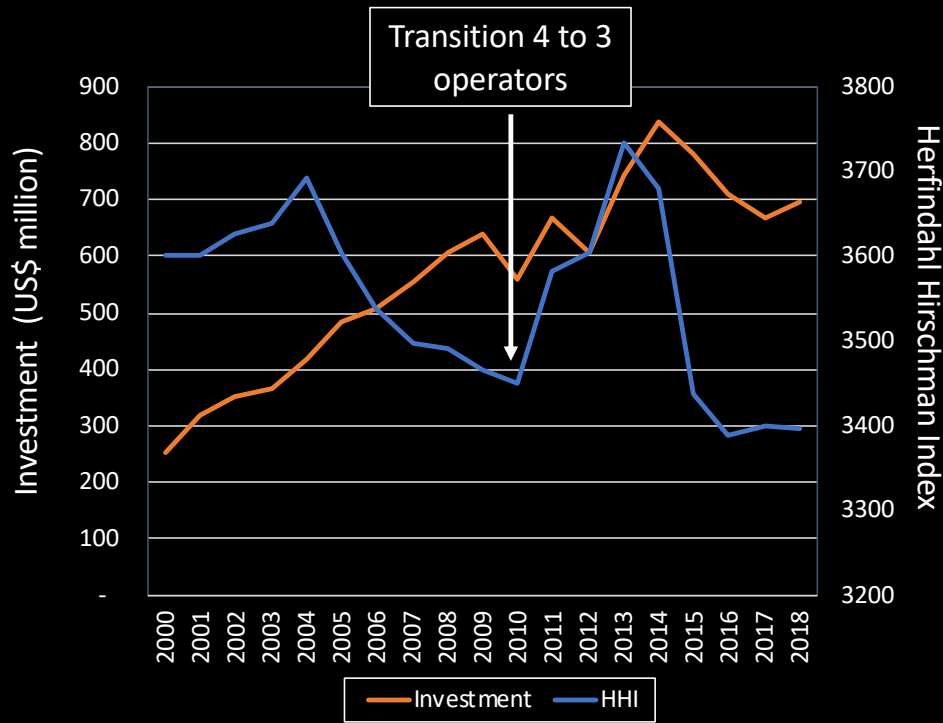
MARKET CONCENTRATION AND PRICES



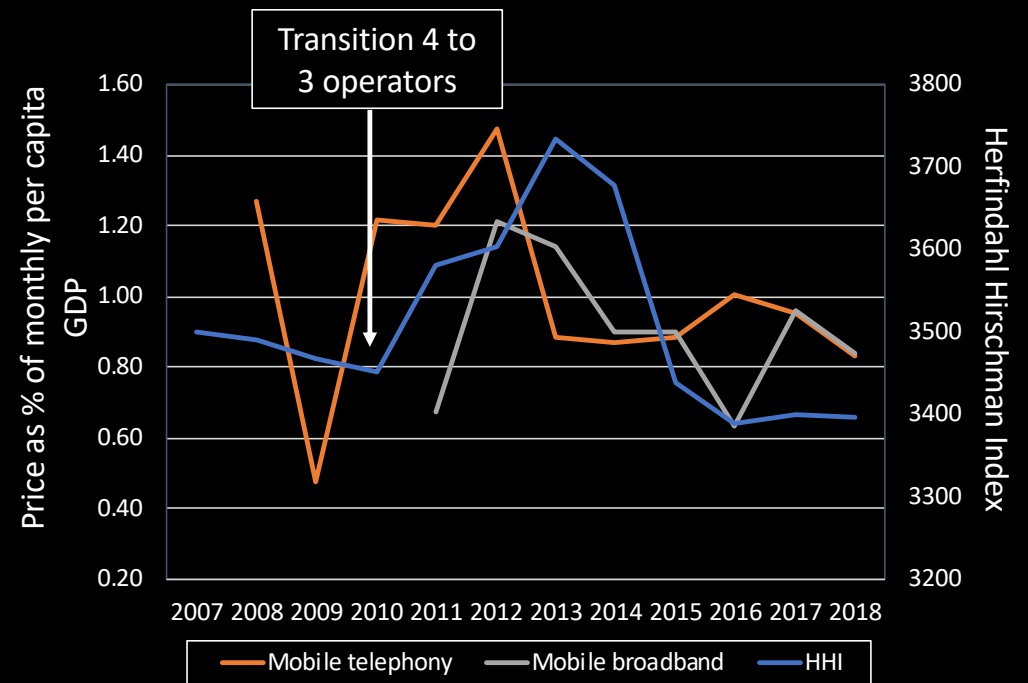
Sources: GSMA Intelligence; ITU telecom Advisory Services analysis

INTERNATIONAL EXPERIENCE: PORTUGAL - IMMEDIATE INCREASE IN INVESTMENT AND PRICE DECLINES AFTER INDUSTRY REGAINS DISCIPLINE FROM DISRUPTOR EXIT

MARKET CONCENTRATION AND INVESTMENT



MARKET CONCENTRATION AND PRICES



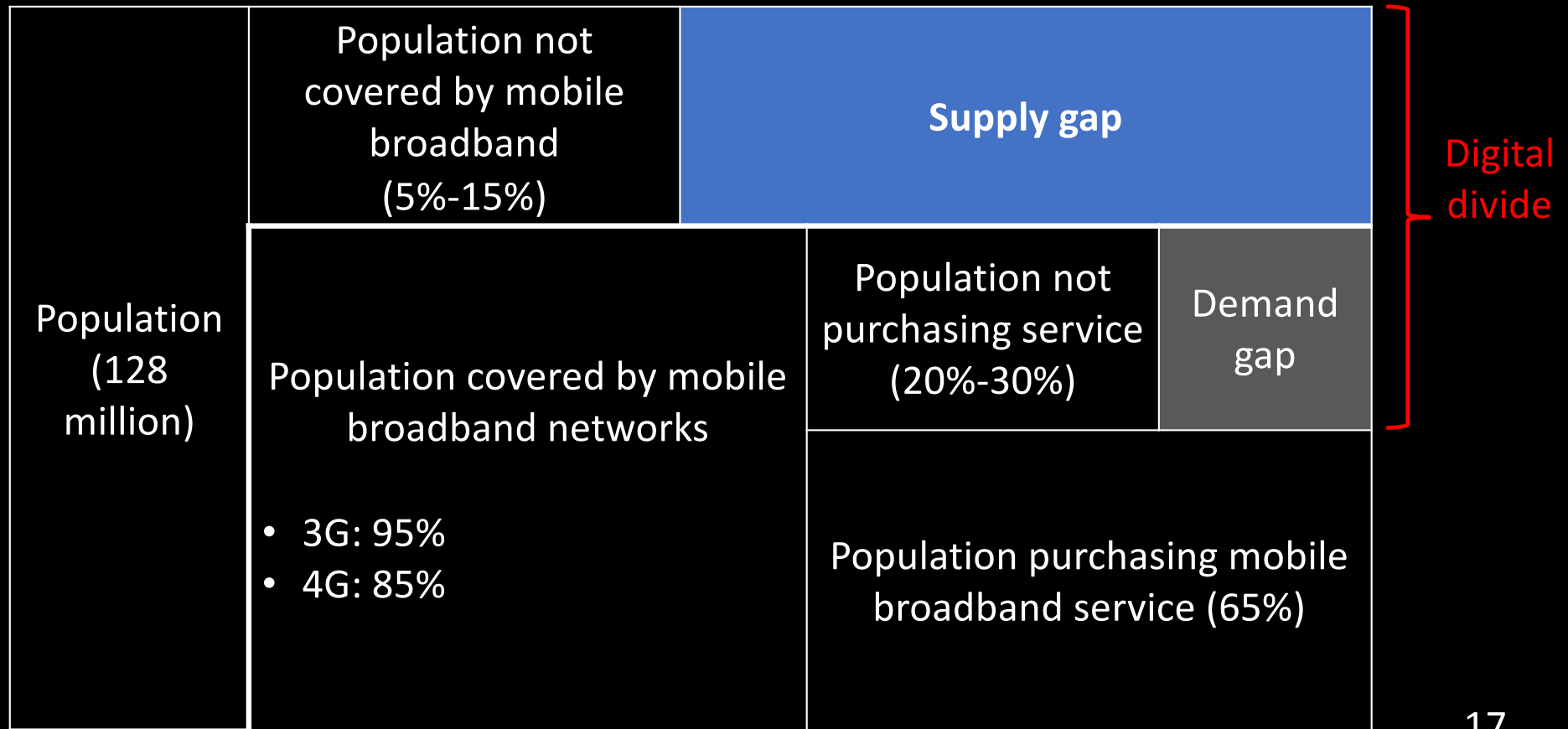
Sources: GSMA Intelligence; ITU telecom Advisory Services analysis

- In assessing static efficiencies, there is a need to decouple secular price declines from merger benefits
- First order investment increases can result in second order price declines
- Sometimes a static versus dynamic efficiency trade-off might emerge
- There is no common model for all concentrations
  - A 4 to 3 concentration always yields price decrease but not always investment growth
  - A 5 to 3 consolidation does not yield an immediate price decline or investment increase but prepares industry for next generation deployment
  - A 4 to 3 concentration following a disruptor exit yields temporary price discipline and a later decrease, but an immediate investment jump

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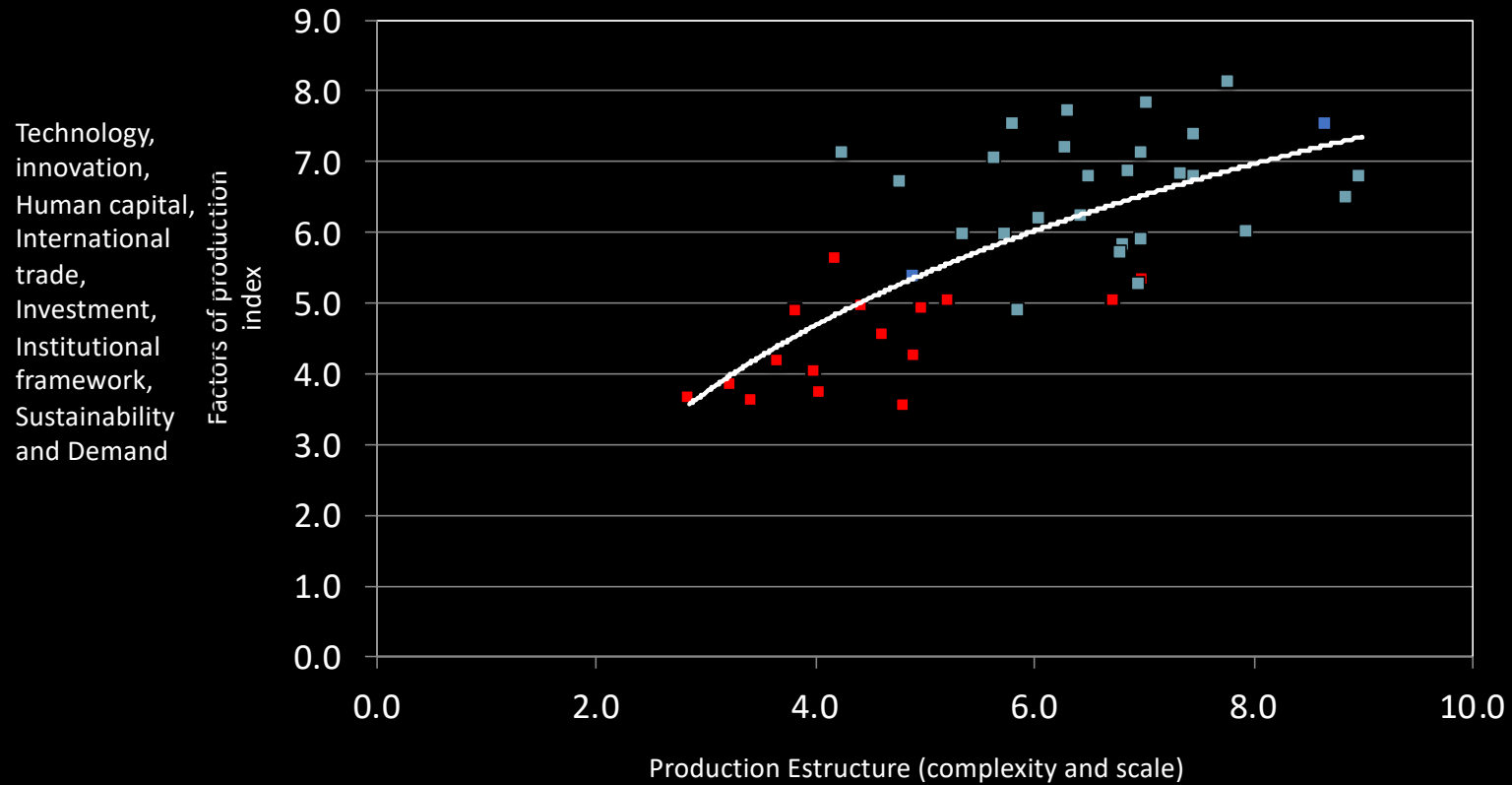
MEXICO: SUPPLY AND DEMAND OF MOBILE BROADBAND





THE CHALLENGE IS EVEN MORE COMPLEX WHEN CONSIDERING THE PRODUCTION SIDE OF THE ECONOMY

## COMPARATIVE ANALYSIS OF PRODUCTION STRUCTURES (2017)

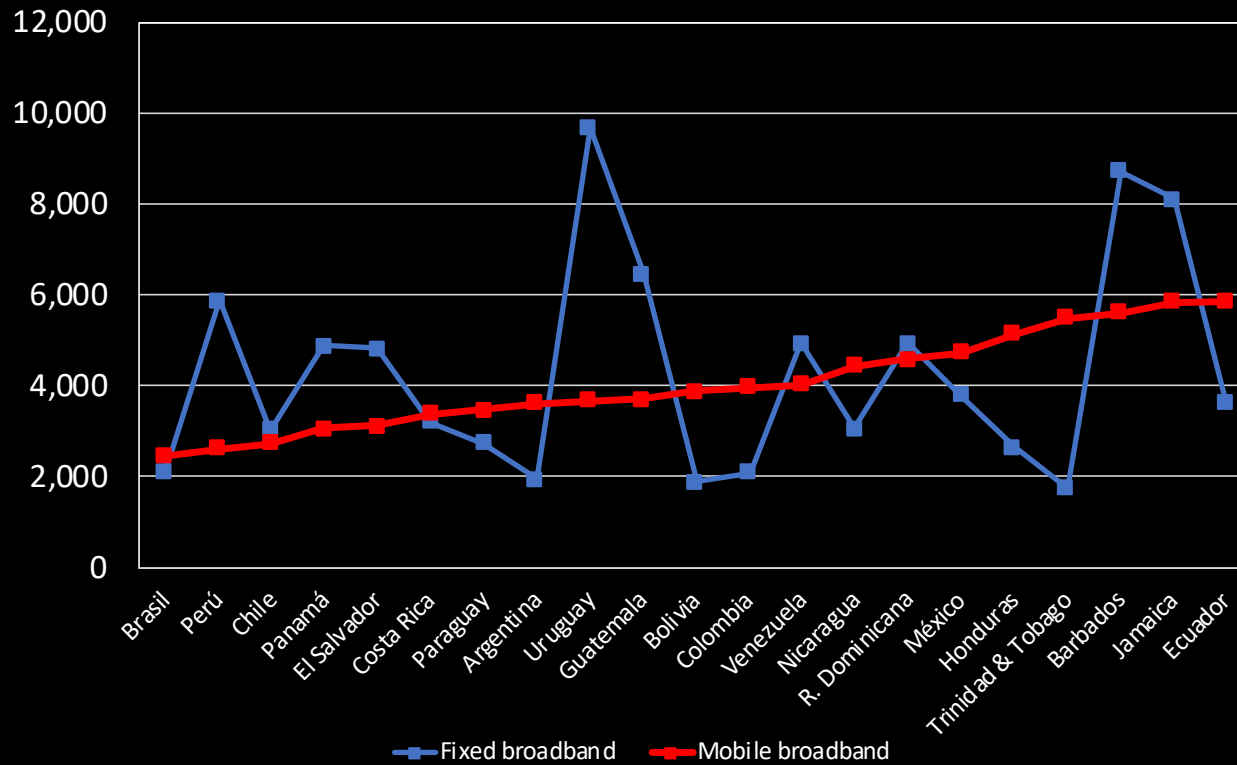


Source: World Economic Forum

Latin America OECD

THE STRUCTURE OF THE LATIN AMERICAN TELECOMMUNICATIONS MARKET REVEALS VARIOUS LEVELS OF CONCENTRATION

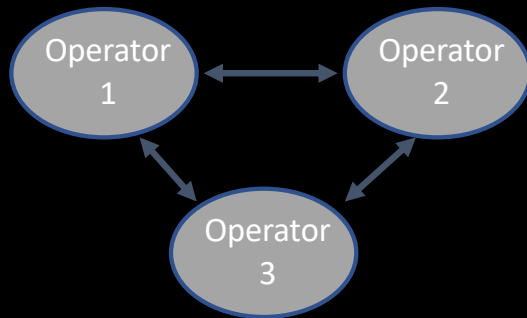
LATIN AMERICA: HERFINDAHL-HIRSCHMAN INDEX (2018)



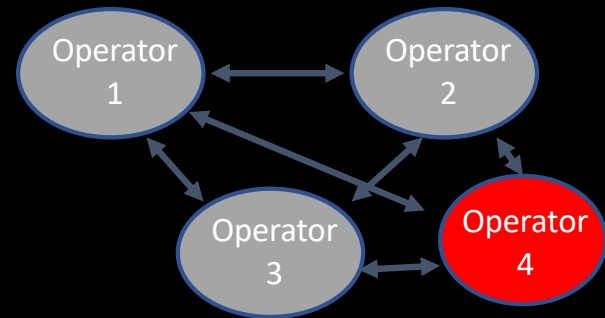
Source: GSMA Intelligence; Convergencia Research; Telecom Advisory Services analysis

THREE ALTERNATIVE MARKET CONFIGURATIONS EXIST

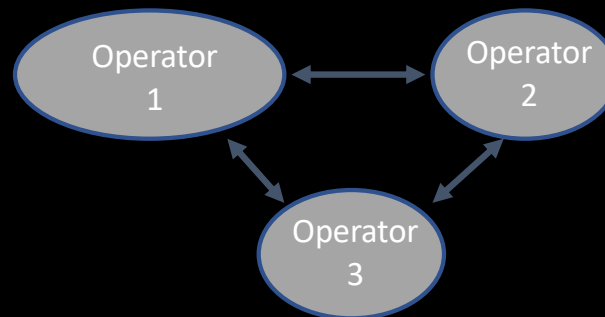
BALANCED MARKET



BALANCED MARKET W/DISRUPTOR

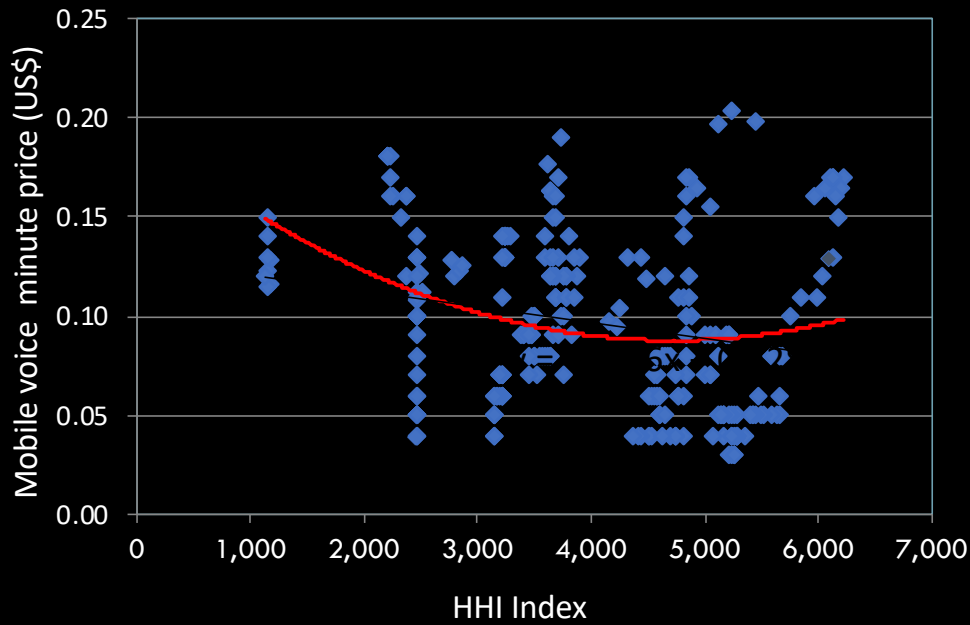


MARKET LED BY DOMINANT INCUMBENT



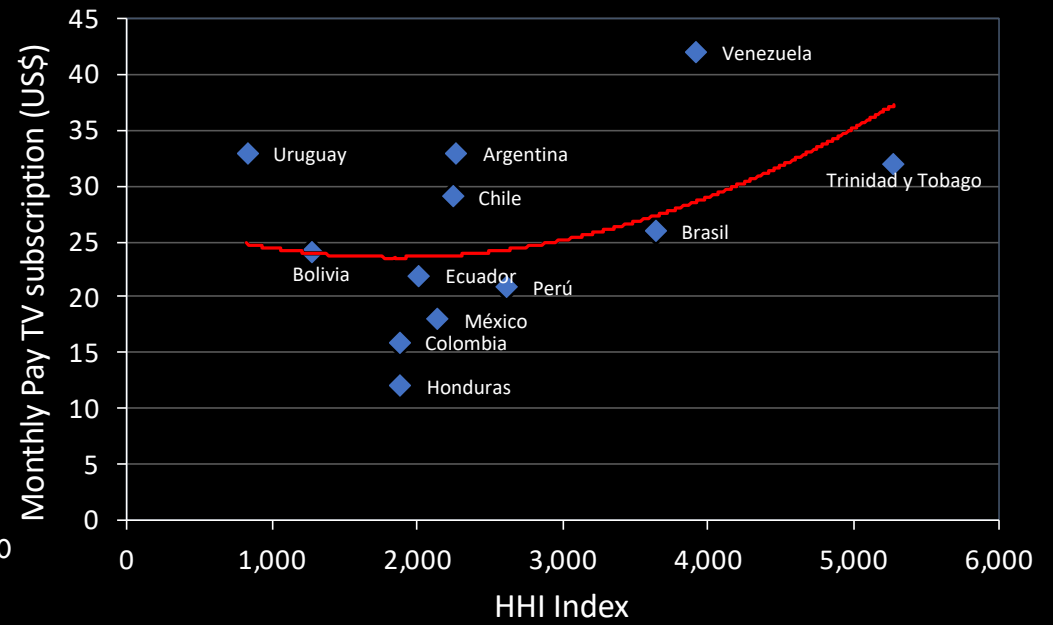
IN LATIN AMERICA MODERATE COMPETITION IS AN IMPERATIVE FOR PRICE REDUCTION

LATIN AMERICA: HERFINDAHL-HIRSCHMAN INDEX VS. MOBILE VOICE MINUTE PRICE (2004-2014)



Sources: GSMA Intelligence; telecom Advisory Services analysis

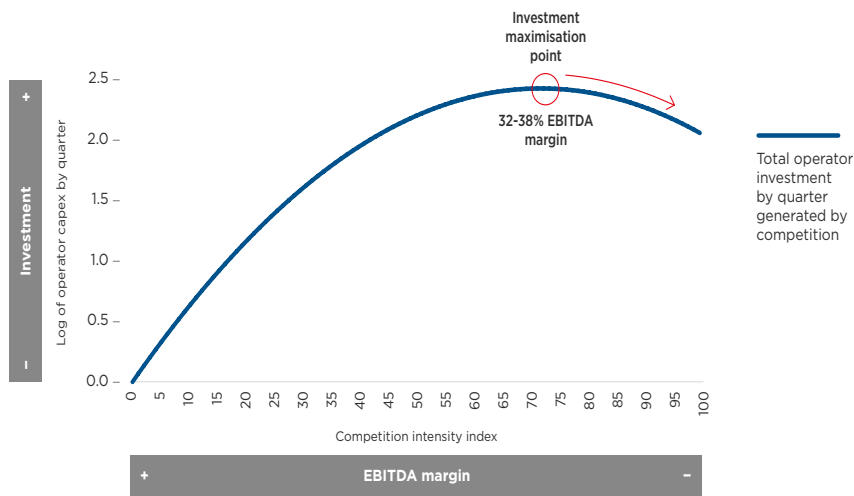
LATIN AMERICA: HERFINDAHL-HIRSCHMAN INDEX VS. MONTHLY PAY TV SUBSCRIPTION (2014)



Sources: Business Bureau; Convergencia Research; Dataxis; telecom Advisory Services analysis

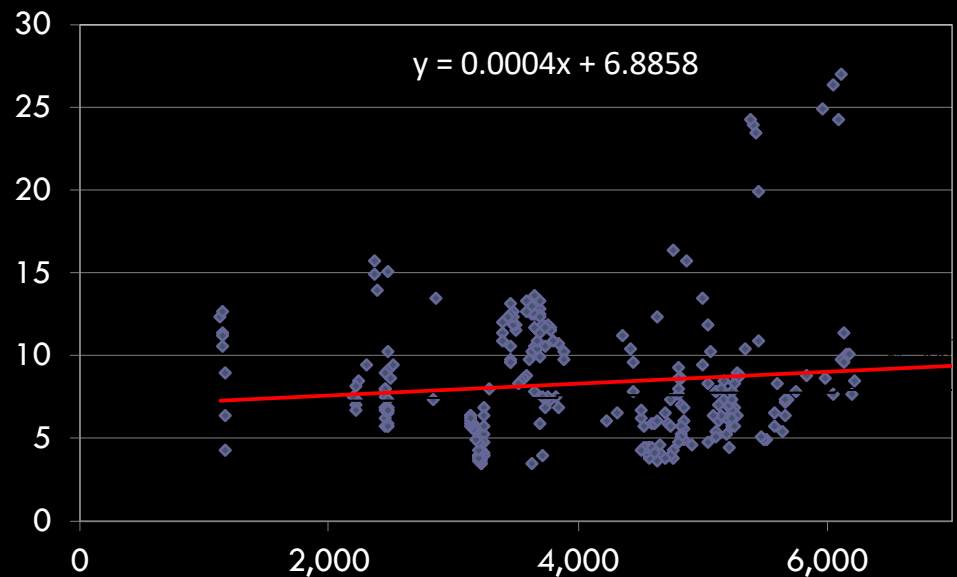
MODERATE CONCENTRATION IS ALSO APPROPRIATE TO STIMULATE INVESTMENT

LATIN AMERICA: INVERTED “U” RELATIONSHIP BETWEEN COMPETITION INTENSITY AND INVESTMENT



"Total operator investment by quarter generated by competition" shows the total contribution of the 'competition intensity index' variables to operator capex based on the results of column 3 in Table 4. It is the total of the coefficients found for the competition intensity index variables and the quadratic term of the competition intensity index, interacted with the competition value corresponding to each point.

LATIN AMERICA: MOBILE HERFINDAHL-HIRSCHMAN INDEX VS. CAPEX PER USER (2004-2014)



IN SUM, INDUSTRY CONSOLIDATION IN LATIN AMERICAN TELECOMMUNICATIONS MIGHT BE MORE ALIGNED WITH THE NEW PARADIGM OF COMPETITION LAW

- The digital divide is driven more by demand side issues than supply – thus, infrastructure development is, while relevant, a second question
- On the other hand, the industry needs to meet the regional needs of digital transformation of production
- Industry structure in some countries appears to be more aligned with advanced economies competition model than the emerging country paradigm
- Three player industry structure appears to be more conducive for meeting investment in infrastructure requirements, particularly when it comes to 5G
- This structure will also result in continuing price decline and increasing affordability over time

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