

# Fiscal incentives to accelerate digital transformation and economic growth

Raul Katz



**Columbia Institute for Tele-information**  
Columbia Business School

**THERE IS A TREND OF DECLINING INVESTMENT PER CAPITA IN TELECOMMUNICATIONS, PARTICULARLY IN THE DEVELOPING WORLD**

Annual investment in Telecommunications infrastructure per capita (in USD)

	2018	2019	2020	2021
World	\$ 51.96	\$ 51.27	\$ 51.72	\$ 52.28
Sub-Saharan Africa	\$ 9.94	\$ 8.53	\$ 7.59	\$ 7.41
Latin America and the Caribbean	\$ 34.03	\$ 36.36	\$ 33.67	\$ 35.20
North America	\$ 298.11	\$ 345.60	\$ 338.12	\$ 352.33
Asia Pacific	\$ 31.71	\$ 26.16	\$ 28.00	\$ 27.81
Western Europe	\$ 121.72	\$ 121.58	\$ 121.57	\$ 121.09
Eastern Europe	\$ 37.59	\$ 38.79	\$ 40.46	\$ 40.47
Arab States	\$ 38.82	\$ 39.69	\$ 43.64	\$ 42.95

Sources: ITU; GSMA Intelligence; Telecom Advisory Services analysis

- The developing world has been most affected by a negative trend in investment
- Investment in telecommunications infrastructure in Sub-Saharan Africa has consistently declined since 2018, while in Latin America the 2020 decline appears to have been reversed in 2021 and in Asia Pacific, the negative trend has resumed in 2021



**IN THIS CONTEXT, THE KEY POLICY OBJECTIVE IS TO DEFINE AN ENVIRONMENT TO STIMULATE THE INCREASE IN INVESTMENT – TAXATION IS ONE OF THE TWO COMPONENTS**

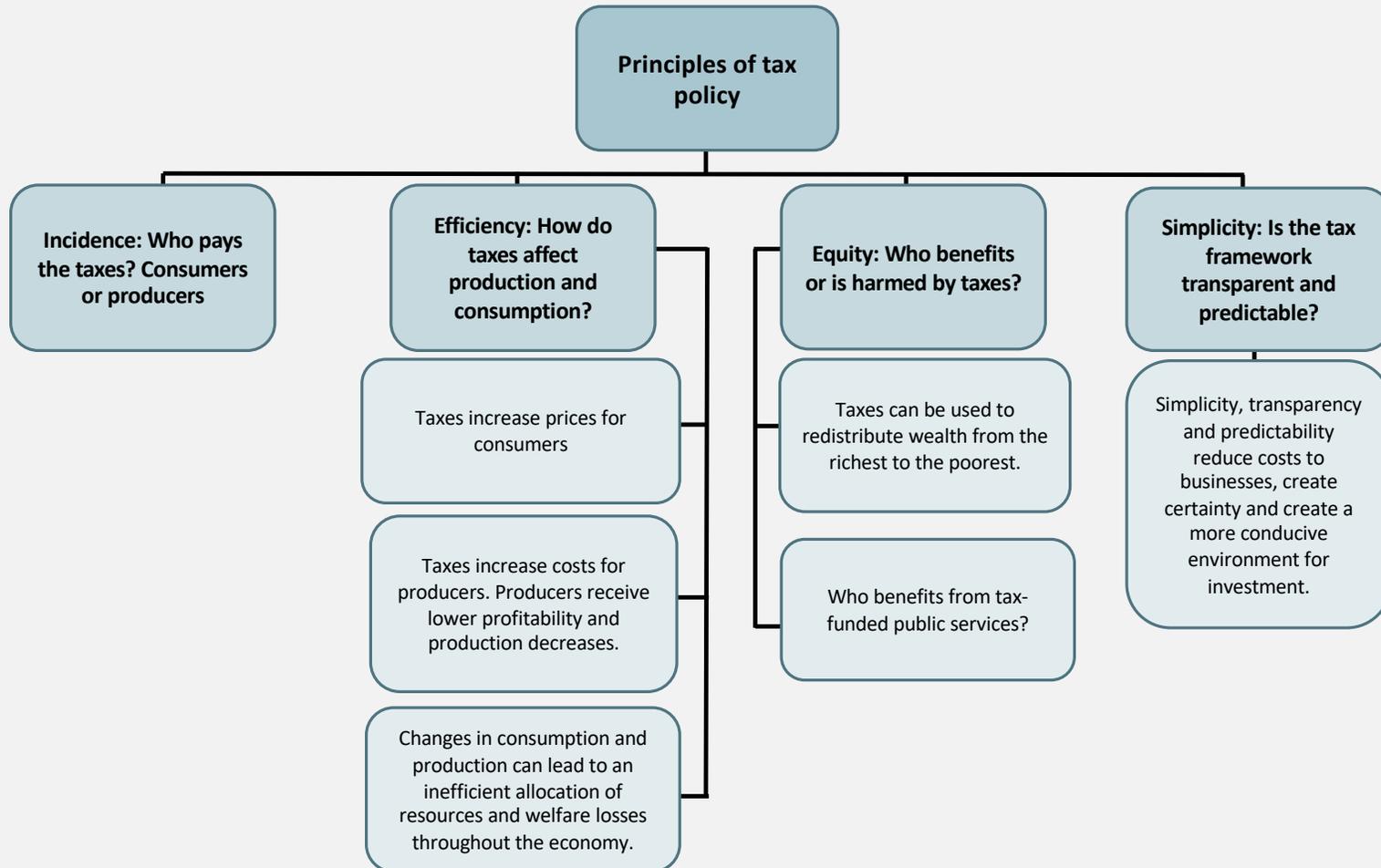
### REGULATORY CHANGES

- **Infrastructure sharing** as a way of reducing the CAPEX and OPEX burden: Some market structures will be more prone to reaching the coordination entailed by network sharing than others
- **Exploring new business opportunities** to increase revenues by promoting rural financial services, e-commerce, and media platforms as services that drive demand first, which would then stimulate telecommunications services providers to deploy networks
- Dramatically **change the supply side business model**: an alternative approach could be one that is based on different operating models with lower service economics (for example, community networks, microtelcos, Wi-Fi based wireless internet service providers) that are more suited to addressing the demand of rural areas

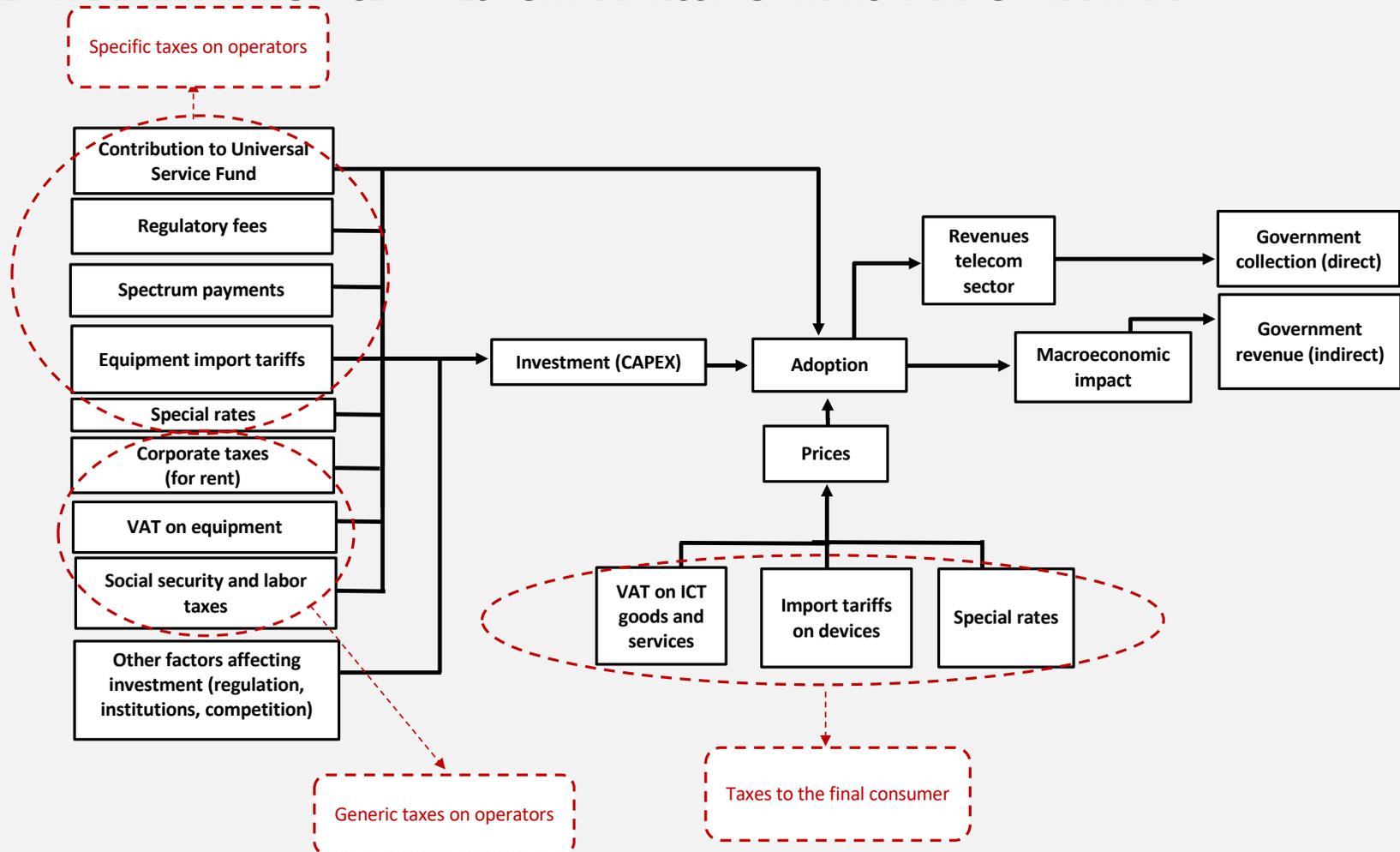
### FISCAL CHANGES

- **Reducing taxes as an approach to increasing the available capital to be invested**: provide incentives for network deployment in rural areas include reducing telecommunications regulatory fees, designing tax frameworks at the sub-national level to address the specific needs of rural deployment, eliminating equipment and consumer device import duties, and reducing spectrum license payments
- **Rebalance the fiscal framework to address asymmetries** between impositions on infrastructure service providers and Over the Top platforms: in particular, Universal Service Fund contributions could potentially be shifted to demand players that rely on networks to deliver their services (e.g., OTT platforms) to share in the burden of contribution

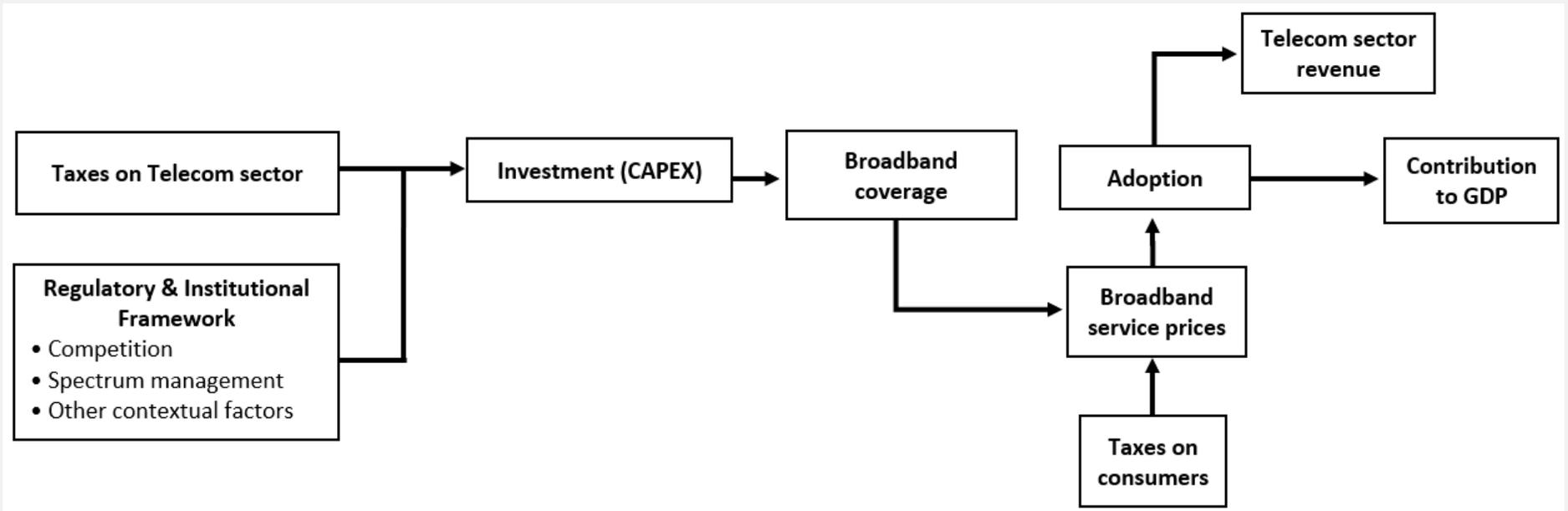
**AN EFFECTIVE TAX POLICY MUST BE BALANCED, ADDRESSING THE GOVERNMENT'S OWN FISCAL NEEDS, AGAINST INEFFICIENCIES AND DISTORTIONS THAT NEGATIVELY AFFECT MARKET PERFORMANCE**



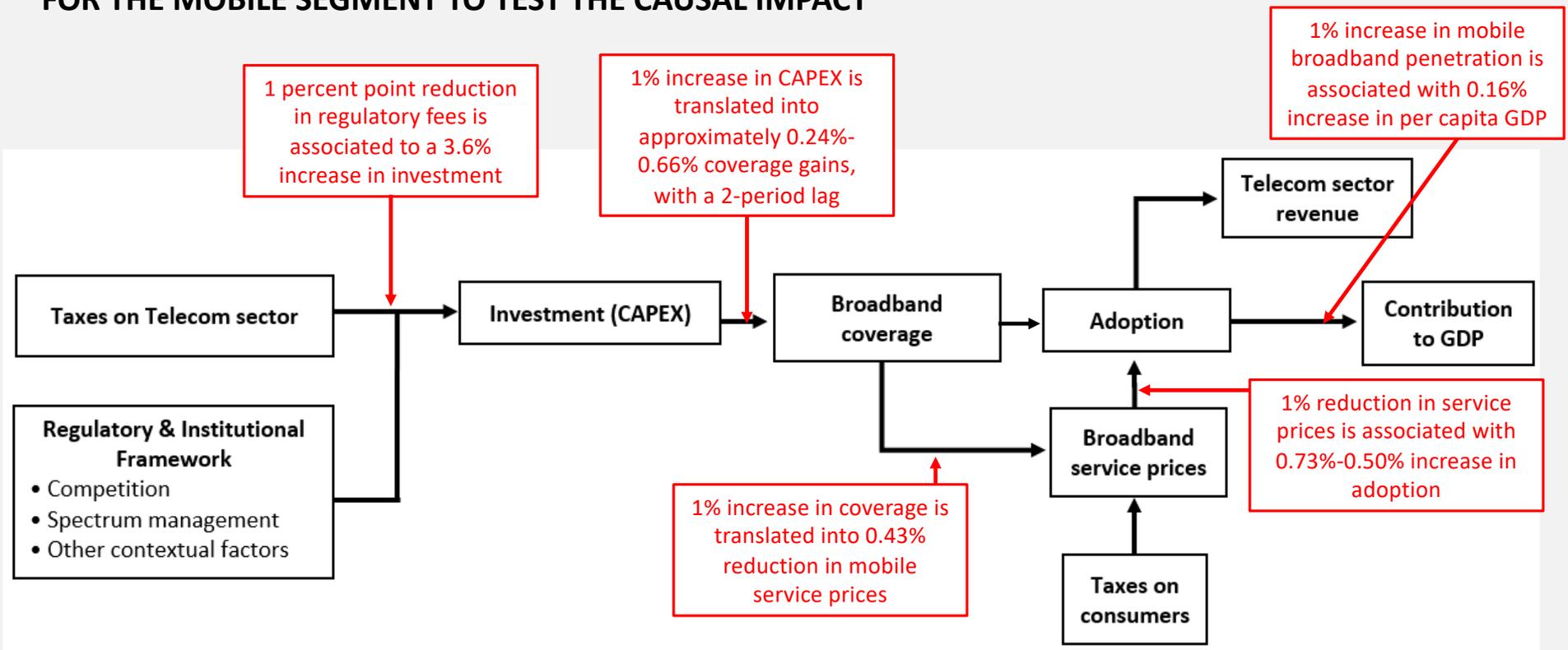
**WHEN TELECOMMUNICATIONS INVESTMENT IS DECLINING, TAXATION BECOMES A CRITICAL FACTOR TO CONSIDER IN DETERMINING INCENTIVES FOR ADDRESSING THE RURAL DIGITAL DIVIDE**



**WE TESTED THE IMPACT OF TELECOMMUNICATIONS TAXATION ON A CAUSAL CHAIN GOING FROM INVESTMENT TO GDP GROWTH**



**WE RAN A SERIES OF ECONOMETRIC MODELS ON A PANEL OF 108 COUNTRIES BETWEEN 2009 AND 2018 FOR THE MOBILE SEGMENT TO TEST THE CAUSAL IMPACT**

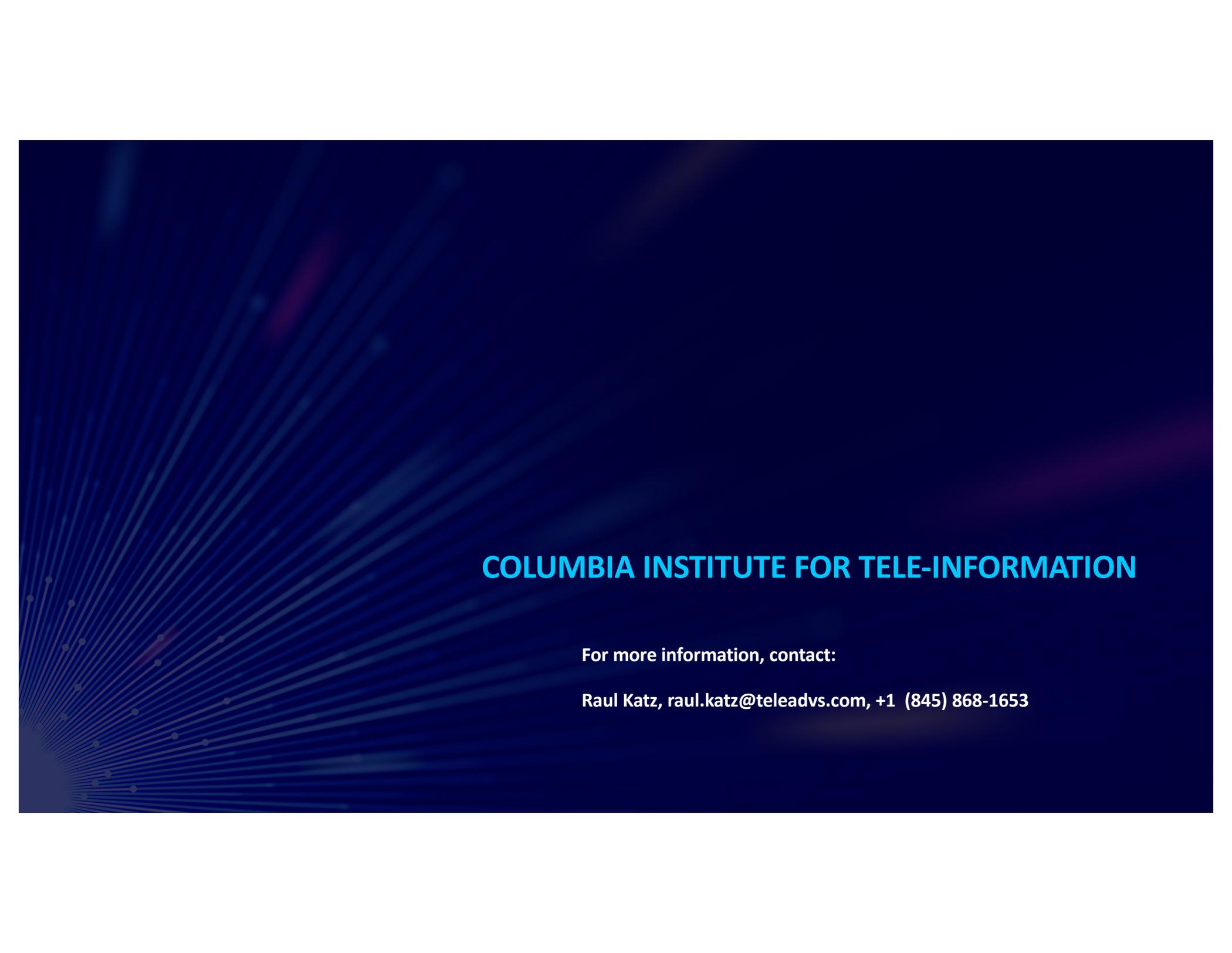


Sources: Katz, R., Jung, J. (2022). *The impact of taxation in the telecommunications industry*



## CONCLUSIONS AND IMPLICATIONS

- The imposition of regulatory fees, profit taxes, and excise taxes seem to restrict capital investment, and indirectly, affect coverage, prices and adoption
  - Limit regulatory fees to a maximum of 0.5% of revenues
  - Eliminate sector specific taxes
  - The USF contribution should not exceed 1% of revenues (consider the “fair share” rate)
- Taxes on mobile services increase end-user prices
  - Eliminate VAT on mobile services
- The imposition of import duties for equipment and smartphones limit investment and adoption levels, respectively
  - eliminate import duties



## **COLUMBIA INSTITUTE FOR TELE-INFORMATION**

For more information, contact:

Raul Katz, [raul.katz@teleadvs.com](mailto:raul.katz@teleadvs.com), +1 (845) 868-1653