

# Device Affordability and Meaningful Connectivity:

Key cost drivers, a range of policy and financing solutions, and  
the need for better data to optimize programs at the country level



Presented by,

Rami Amin, PhD  
Project Lead

# Overview of Presentation

- **Part 0: World Bank, Development Finance, and Digital Development**
- **Part 1: Device Affordability and Meaningful Connectivity**
  1. Background, scope, methodological approach
  2. Findings from our report
- **Part 2: Measurement Challenges, and ideas for future data collection efforts**

# Part 0

World Bank, Development Finance,  
and Digital Development

# What is The World Bank? **A Multilateral Development Finance Inst.**

## Our Mission

### To end extreme poverty:

By reducing the share of the global population that lives in extreme poverty to 3 percent.

### To promote shared prosperity:

By increasing the incomes of the poorest 40 percent of people in every country.

# How does The World Bank achieve its Mission?

## Partnering with Governments

The World Bank works with governments of developing countries to provide:

1. Financing
2. Advisory services and knowledge products (research!)
3. Technical assistance
4. Convening services for development stakeholders

**A matrix organization: Regions and thematic practices units**

# Connectivity integrated within a holistic view of Digital Development



Broadband Connectivity,  
Access, and Use



Digital Data  
Infrastructure



Digital Safeguards



ICT Industry  
and Digital Jobs



Digital for Climate



Accelerating Digital  
Use Across Sectors

# Part 1

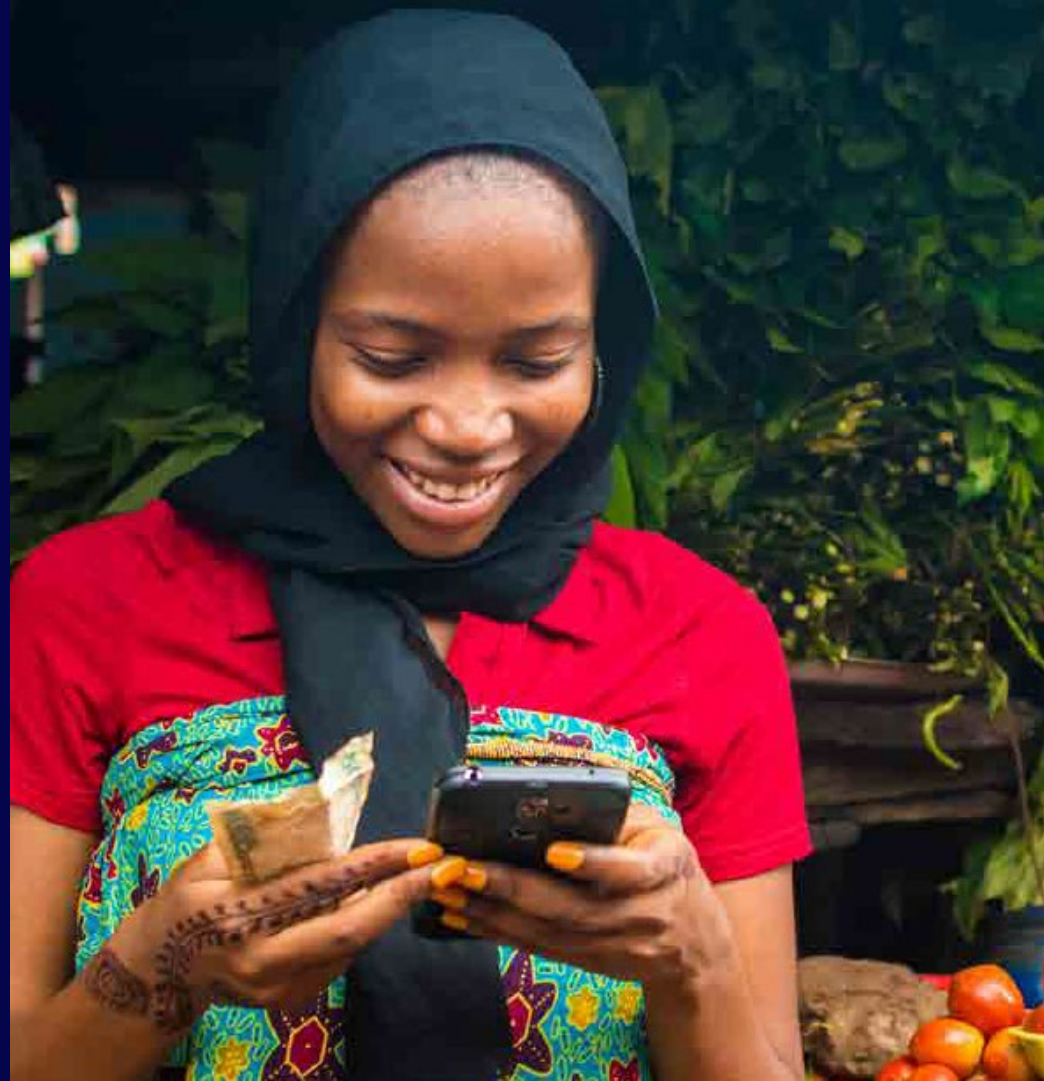
## Device affordability and Meaningful Connectivity



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# The Device Affordability Challenge

- In recent years, tremendous progress has been made to roll out mobile network coverage and help narrow digital divides
- 2.7 B people offline as of 2022, compared to 3.6 Billion in 2019, which was about half global population in 2019 (ITU)
- While focus on data packages and service plans is incredibly important – handset costs often receive less attention in the research
- Devices remain too expensive for many, especially the lowest 20% – even basic entry-level models; over 70% of average monthly income in some countries





# Demand motivating our Research

- Motivated directly by operational task team demand to support clients
- Building on other reports from GSMA, Smart Africa, and the Broadband Commission's Working Group
- Partnered with TMG and A4AI



Alliance for Affordable  
Internet

1100 13th St NW, Suite 800,  
Washington DC 20005  
USA

[a4ai@webfoundation.org](mailto:a4ai@webfoundation.org)

[www.a4ai.org](http://www.a4ai.org)



Telecommunications  
Management Group, Inc.

1600 Wilson Blvd, Suite 660  
Arlington, Virginia 22209  
USA

Tel + 1 (703) 224 1501

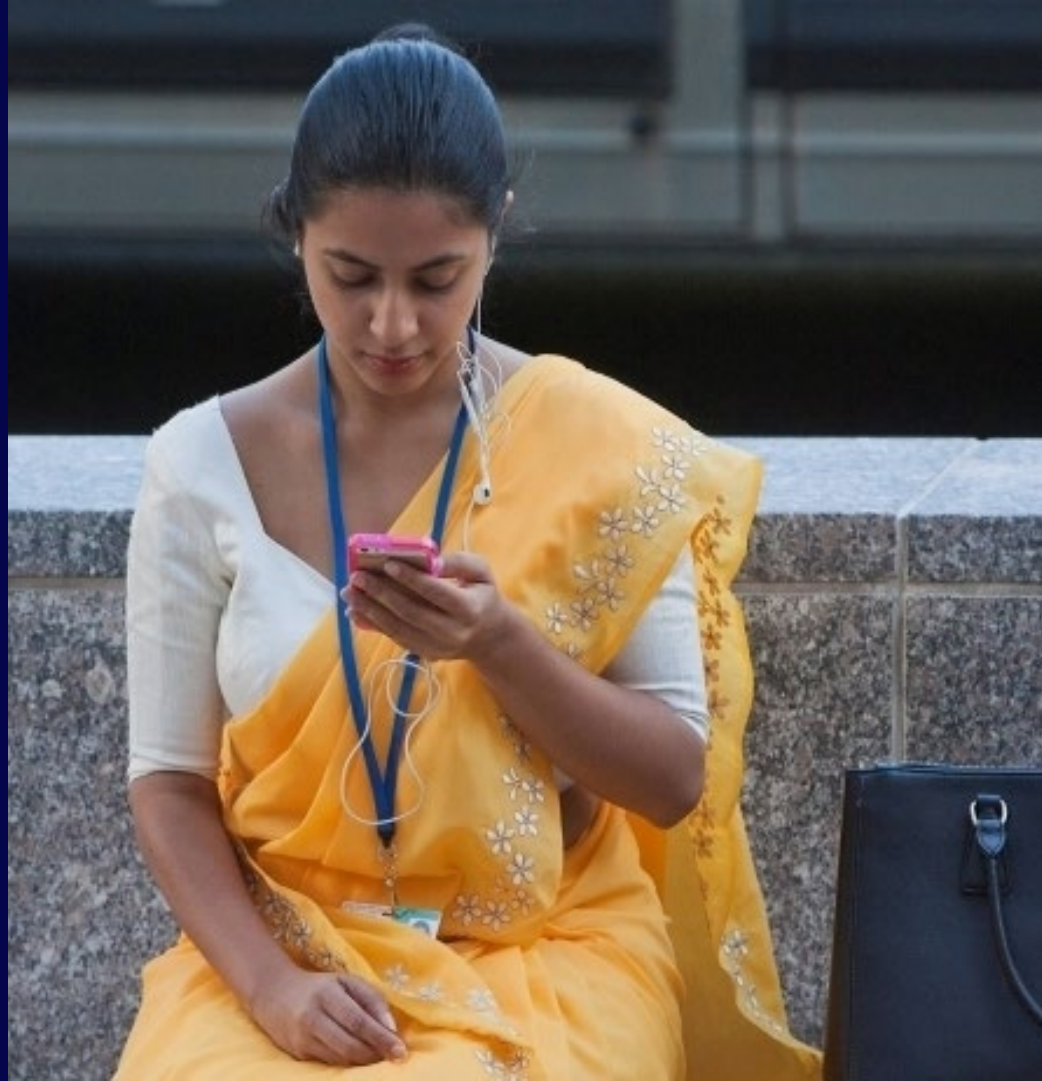
Fax + 1 (703) 224 1511

[www.tmgtelecom.com](http://www.tmgtelecom.com)



# What kind of Devices?

- Both smartphones and smart-feature phones, as well as new phones vs pre-owned / refurbished,

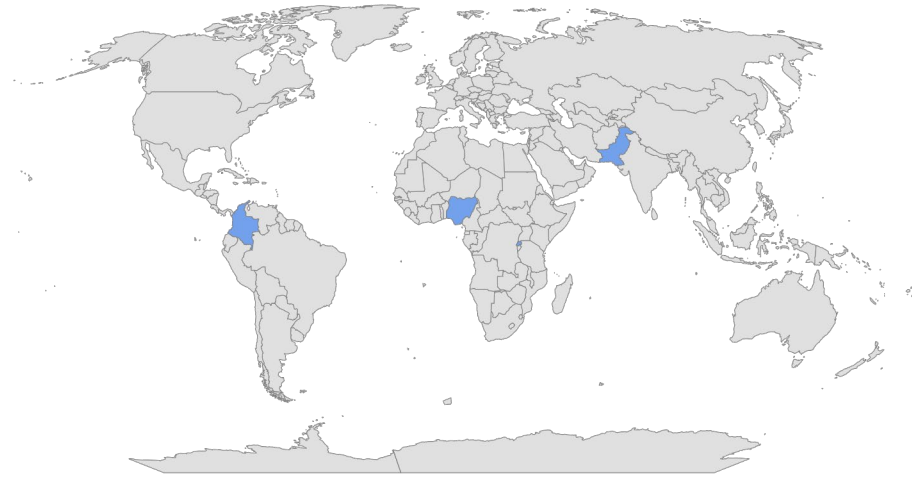


# Methodological Approach

- Analysis of supply-side and demand-side factors
- Desk research, interviews, Mobile surveys and in-person focus groups
- Global report, with deep dives into 4 target market:
  1. Rwanda
  2. Nigeria
  3. Pakistan
  4. Colombia



## 4 case countries in Africa, Latin America, South Asia



# Report Outline

- ❖ **Section 1:** Supply-side Analysis: Mobile Device Price Factors
- ❖ **Section 2:** Demand-side Analysis: Ownership and Use
- ❖ **Section 3:** Review of Financing Schemes for Device Ownership, and Mobilization of private capital for access to affordable credit
- ❖ **Section 4:** Policy Options for improving affordability of devices

# Section 1

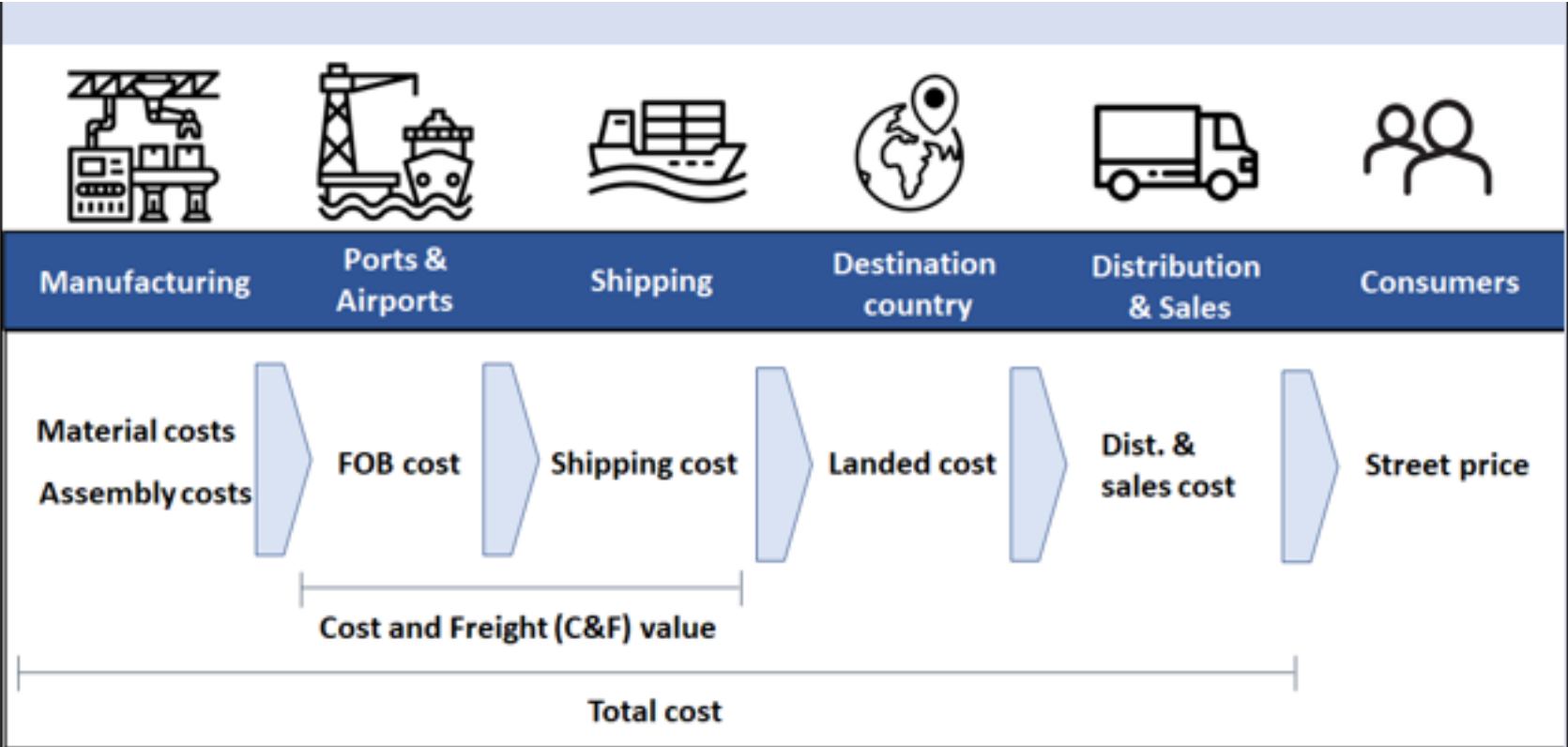
## Supply-side Analysis: Mobile Device Price Factors

# Approach

- Identify supply chain to frame cost structures for devices
- Apply country cases to cost framework using available data
- Assess areas with opportunities for cost reduction
- Deep dive in local manufacturing (Maraphone and Pakistan)
- Deep dive in pre-owned markets

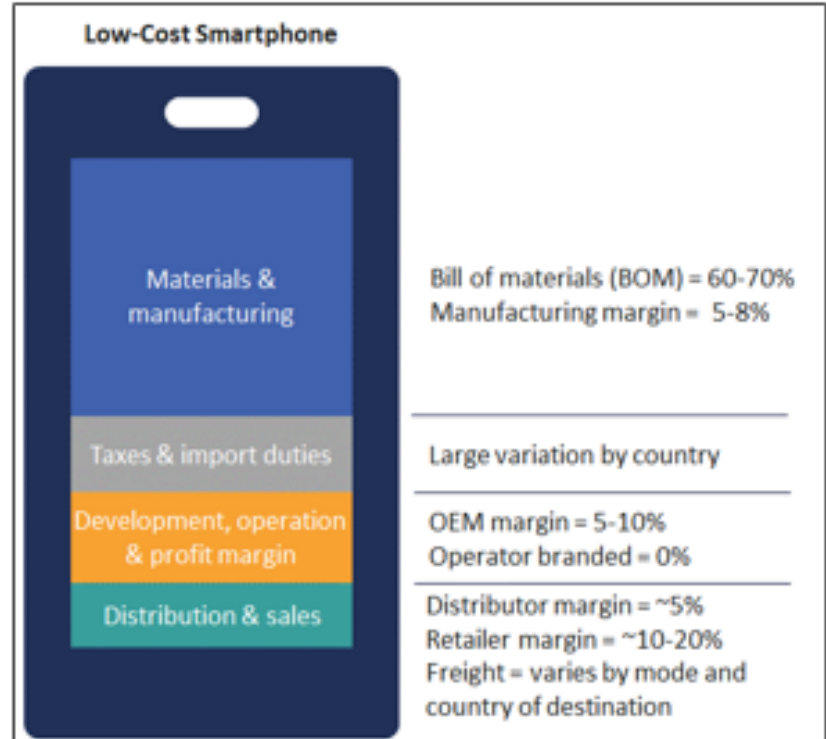
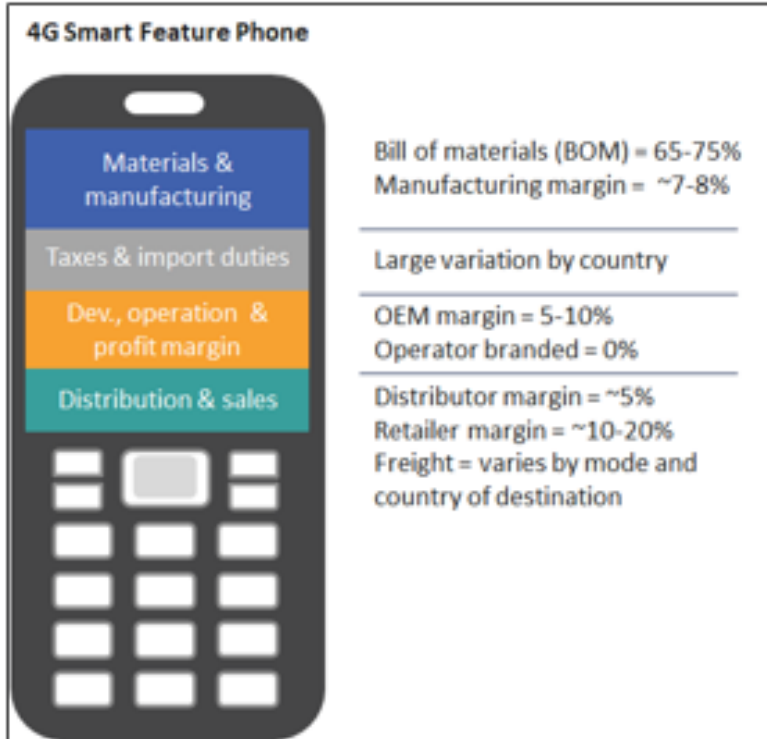


# Supply Chain for Entry-Level Devices to frame Costs





# Cost Structure of Entry-Level Devices





# Key Findings

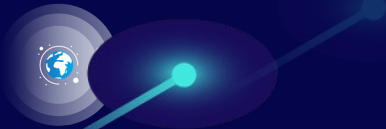
1. Materials and manufacturing costs have been optimized significantly for entry-level devices over last decade – limited opportunity to significantly reduce this cost component
2. Opportunities exist to reduce total cost by lowering tax burdens in many countries (import duties, national taxes, sales, VAT), but difficult tradeoff and needs to be carefully considered
3. Limited opportunities to further lower total cost of entry-level devices by compressing lead firm margins
4. Opportunities exist to lower distribution and sales costs in the value chain in these countries – just-in-time sourcing and large-volume sales (but demand critical)

# Section 2

## Demand-Side Analysis: Ownership and Use

# Approach

- Deeper understanding of affordability usage factors, and perception of value-proposition among the lowest quintile, women, and youth
- 1 Mobile-based survey per country, focusing more on usage factors (32 Qs; 300+/country)
- 2 Focus Group discussions per country, focusing more on ownership and value-proposition one women-only



## 4 Key Findings on the Demand side (much more granular insight in report)

1. The smartphone market grows in diversity as it grows in size — and stakeholders need to act to avoid emerging disparities in access by gender, geography, and income.
2. Price barriers interact with consumer motivations, creating unique market segments in the smartphone market based on consumer interest in greater functionality.
3. Financing strategies remain a fractional part of how people pay for major purchases.
4. **Consumers hold strong, negative opinions around interest repayments as financially inefficient. New schemes should mitigate this perception, or at minimum demonstrate its worth in accelerating device ownership**

\*Further insight into consumer motivation, purchase location, payment process, and activities conducted

# Section 3

Financing Schemes for Devices, and  
Mobilization of Private Capital to  
address credit risk

# Approach

- Motivation: subsidies can be expensive and difficult to scale
- Identified range of financing options
  1. Traditional lending
  2. Buy Now, Pay Later
  3. Pay-as-you-Go (PAYGo) financing
  4. Alternate asset-based financing
  5. Service subsidy





# Assessment framework

- Unit revenue of lending
- Operating costs
- Non-operating costs
- Scale effects
- Probability of default



# Overall assessment based on 3 key dimensions



		Traditional Lending	By Now, Pay Later	PAYGo	Alternate asset-based financing	Service Subsidy
<b>KEY VARIABLES</b>	Targeted population by income	Middle, upper, & high	Middle and low	Low	Middle and low	Middle and low
	Impact and reach	Not used extensively	Varied degrees of success	Realistic for the underserved	Limited	Traditional model for MNOs
	Lenders involved	Banks & other financing institutions	MNOs, retailers & OEM	NBFIs, MNOs	Specific providers of assets	MNOs & App service



# How to scale? Mobilizing Private Capital

- Facilitating the role of NBFIs
- Debt funding at favorable interest rates
- Equity funding with moderate return thresholds
- Kickstarting with early-stage support
- Receivable purchase facility
- Credit and risk guarantees



# Section 4

## Policy Options for Improving Affordability of Devices

# Policy Recs for Increasing Affordability

To address	Direct interventions	Enabling environment needed	Virtuous cycles
<b>Supply barriers</b>	<ul style="list-style-type: none"> <li>VAT exemptions for low-end smart devices, customs duty relief for device importation</li> </ul>	<ul style="list-style-type: none"> <li>Regulatory ease of doing business (as a retailer, importer, or manufacturer)</li> </ul>	<ul style="list-style-type: none"> <li>Adequate policies and infrastructure for e-commerce and distribution networks</li> </ul>
<b>Demand barriers</b>	<ul style="list-style-type: none"> <li>Device subsidization (through universal service and access funds or otherwise)</li> </ul>	<ul style="list-style-type: none"> <li>Framework for digital inclusion and disadvantaged populations (e.g., women, rural areas)</li> </ul>	<ul style="list-style-type: none"> <li>Local and relevant content generation</li> <li>Digital skills</li> </ul>
<b>Financing barriers</b>	<ul style="list-style-type: none"> <li>Credit guarantees</li> <li>Debt and equity funding</li> <li>Financial scheme subsidization</li> </ul>	<ul style="list-style-type: none"> <li>Financial and mobile money regulation</li> <li>Financial consumer protection</li> </ul>	

# Part 2

## Measurement Challenges and Looking Ahead

# Measurement challenges: where our research falls short

- We need a better understanding of how **taxes and fees** impact costs - this requires regularly updated, accurate data around the full range of associated taxes, fees, sales records and pricing details in order to optimize policy guidance
- In many developing countries, telecom sector is a critical base for fiscal revenue and requires robust and accurate data to estimate impact
- Data should be open public goods to facilitate research - A4AI exercise was a powerful research tool that can be replicated and improved upon



# Alliance for Affordable Internet (A4AI/Web Foundation)

Alliance for Affordable Internet (2022). 2022 prices and affordability of smartphones and feature phones by country [database]. Retrieved from <https://a4ai.org/research/device-pricing-2022/>



# Ideas for global dataset on device pricing, and some challenges to consider

- Should cover all countries, but can be expensive to regularly update fast-changing prices
- How to account for promotional pricing?
- How to account for bundling – either with data packages or other devices (including accessories or non-related items like solar panels?)





# Report to be published this month!



Contact for more information:

[ramin3@worldbank.org](mailto:ramin3@worldbank.org)