ITU Asia-Pacific Regional Workshop on ICT Indicators
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12. Update on the ICT Development Index (IDI)

ICT Data and Analytics Division
Telecommunication Development Bureau
International Telecommunication Union

The ICT Development Index (IDI)

- The IDI is a composite index that combines 11 indicators

- Designed to be global and reflect changes taking in countries of different levels of development

- Was developed by ITU in 2008 in response to member states' request to establish an overall ICT index

- Results first reported in the Measuring the Information Society Report (MISR) 2009
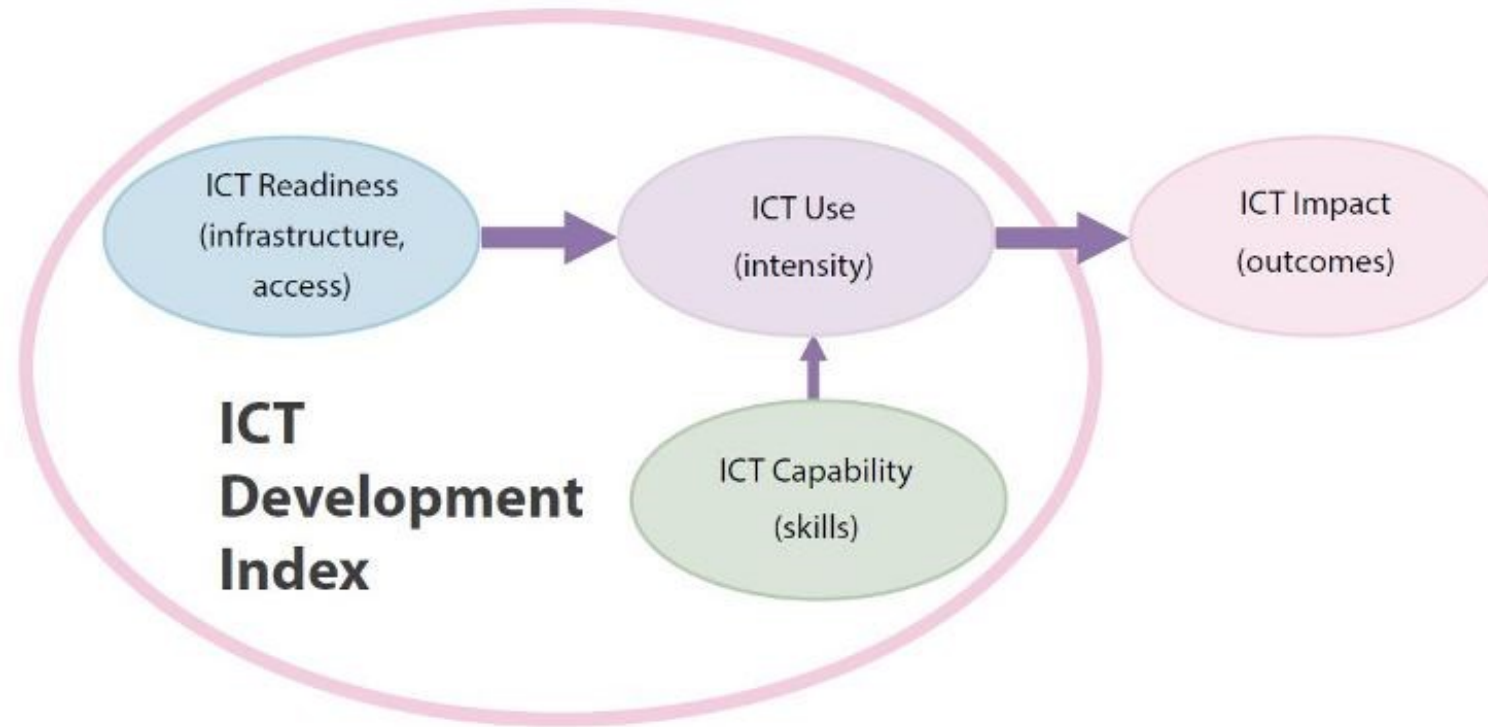
Objectives of the IDI

To measure:

• the *level and evolution over time* of ICT developments in countries and the experience of those countries relative to other countries;

• progress in ICT development in *both developed and developing countries*;

• the *digital divide*, i.e. differences between countries in terms of their levels of ICT development; and

• the *development potential* of ICTs and the extent to which countries can make use of them to enhance growth and development.

Three stages in the evolution towards an information society

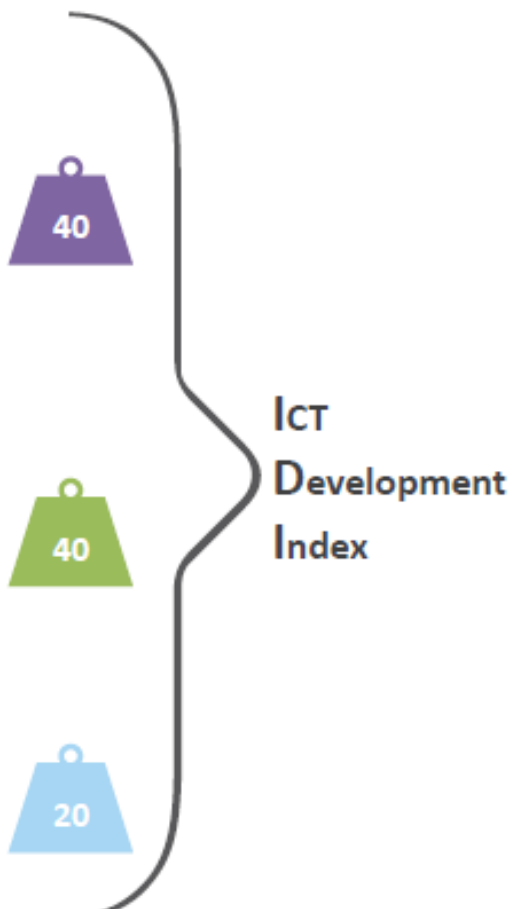# ICT Development Index – indicators, reference values and weights (until 2017)

ICT access	Reference value	(%)
1. Fixed-telephone subscriptions per 100 inhabitants	60	20
2. Mobile-cellular telephone subscriptions per 100 inhabitants	120	20
3. International Internet bandwith (bit/s) per internet user	2'158'212*	20
4. Percentage of households with a computer	100	20
5. Percentage of households with Internet access	100	20

ICT use	Reference value	(%)
6. Percentage of individuals using the Internet	100	33
7. Fixed-broadband subscriptions per 100 inhabitants	60	33
8. Active mobile-broadband subscriptions per 100 inhabitants	100	33

ICT skills	Reference value	(%)
9. Mean years of schooling	15	33
10. Secondary gross enrolment ratio	100	33
11. Tertiary gross enrolment ratio	100	33

40

40

20

ICT Development Index

Note: * This corresponds to a log value of 6.33, which was used in the normalization step.
Source: ITU.

Nb: Reference value = ideal value

ICT Development Index - Revision

IDI revision

- Call from countries to make IDI a stronger tool to monitor ICT trends
- New list of 14 indicators adopted in March 2017

Table Original and revised indicators for the ICT Development Index (IDI)

Original IDI	Change	Revised IDI
ICT Access		
Percentage of households with a computer	No change	Percentage of households with a computer
Percentage of households with Internet access	No change	Percentage of households with Internet access
International internet bandwidth (bit/s) per Internet user	No change	International internet bandwidth (bit/s) per Internet user
Fixed-telephone subscriptions per 100 inhabitants	Dropped	N/A
Mobile-cellular subscriptions per 100 inhabitants	Dropped	N/A
N/A	Added new indicator	Percentage of the population covered by mobile networks - At least 3G - At least LTE/WiMax
N/A	Added new indicator	Fixed broadband subscriptions by speed tiers as % of total fixed broadband subscriptions - 256 kbit/s to 2 Mbit/s - 2 to 10 Mbit/s - Equal to or above 10 Mbit/s
ICT Use		
Percentage of individuals using the Internet	No change	Percentage of individuals using the Internet
Fixed-broadband subscriptions per 100 inhabitants	Dropped	N/A
Active mobile-broadband subscriptions per 100 inhabitants	No change	Active mobile-broadband subscriptions per 100 inhabitants
N/A	Added new indicator	Mobile broadband Internet traffic per mobile broadband subscription
N/A	Added new indicator	Fixed broadband Internet traffic per fixed broadband subscription
N/A	Added new indicator	Percentage of individuals who own a mobile phone
ICT Skills		
Mean years of schooling	No change	Mean years of schooling
Gross enrollment ratio (secondary level)	No change	Gross enrollment ratio (secondary level)
Gross enrollment level (tertiary level)	No change	Gross enrollment level (tertiary level)
N/A	Added new indicator	Proportion of individuals with ICT skills
11 indicators	3 dropped indicators, 6 new indicators	14 indicators

1. Challenge: Missingness (data availability)

- 58% of revised IDI data are estimates (28% for 2017 IDI)
- 77% of revised IDI missing for (6) new IDI indicators (34% for (8) old indicators)
- More than 80 countries have ≥ 50% estimated data
- Minimum threshold (50%) for indicator coverage not met

2. Challenge: Newness (data quality)

- Some data submitted not in line with ITU definitions
- Selected countries did not agree with estimates; some requested more time
- PP-18 calls for use of country data
- Concerns were confirmed by index results

New IDI: **Indicators added** in 2018

Access sub-index	Use sub-index	Skills sub-index

Households with a computer (%)

Households with Internet access (%)

International Internet bandwidth (bit/s/Internet user)

Population covered by 3G mobile networks

- At least 3G (%)
- At least LTE/WiMAX (%)

Fixed-broadband subscriptions by speed tiers

- 256 kbit/s to 2Mbit/s (% of total)
- 2 to 10 Mbit/s (% of total)
- Equal to or above 10 Mbit/s (% of total)

Individuals using the Internet (%)

Active mobile-broadband subscriptions (/100 inhabitants)

Mobile-broadband Internet traffic (/subscription)

Fixed-broadband Internet traffic (/subscription)

Mobile phone ownership (%)

Mean years of schooling

Secondary gross enrollment ratio (%)

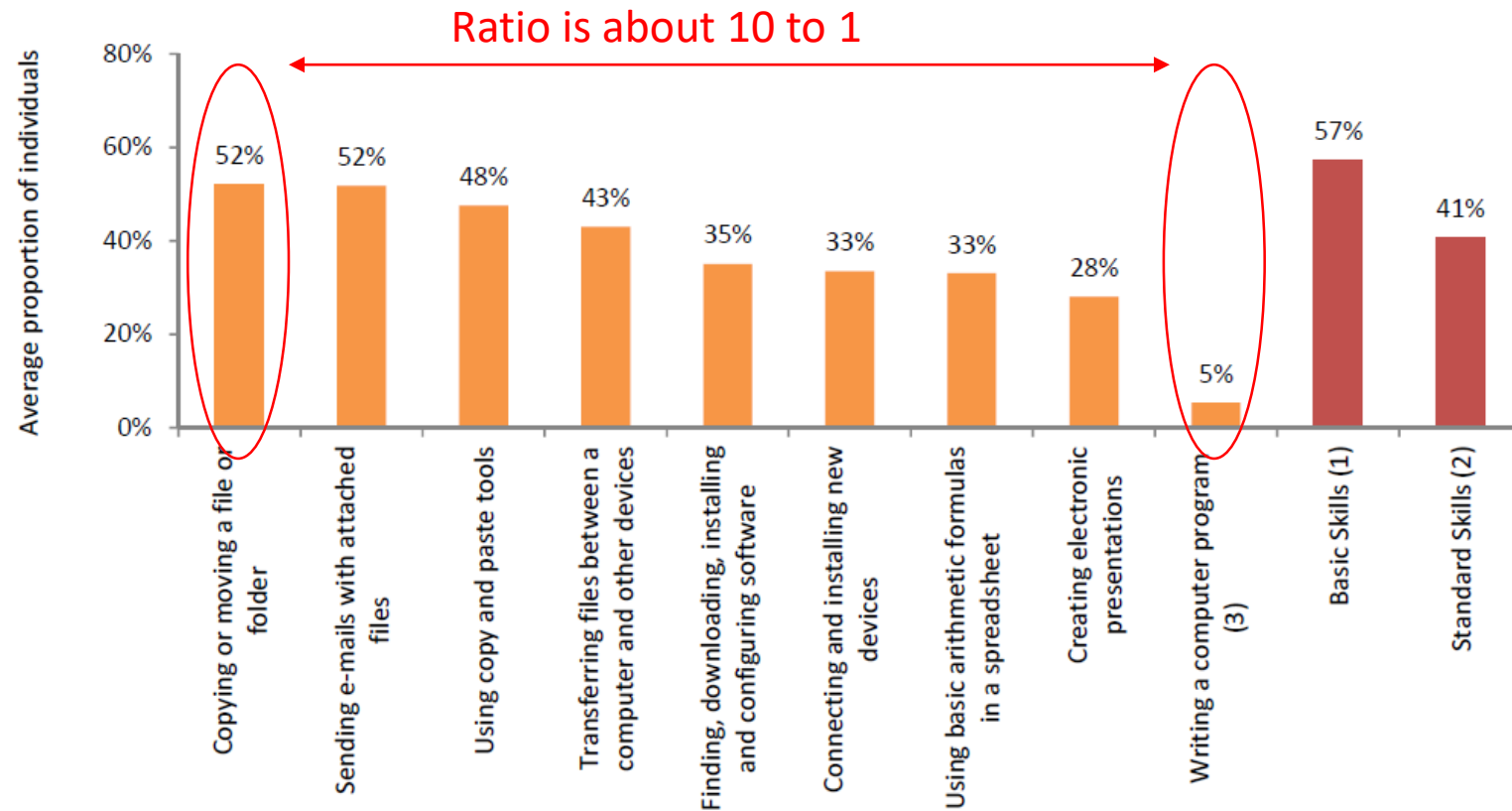Tertiary gross enrollment ratio (%)

Individuals with ICT skills (%)

1. Copying or moving a file or folder
2. Using copy and paste tools to duplicate or move information within a document
3. Sending e-mails with attached files
4. Using basic arithmetic formula in a spreadsheet
5. connecting and installing new devices
6. Creating electronic presentations with presentation software
7. Finding, downloading, installing and configuring software
8. Transferring files between a computer and other devices
9. Writing a computer program using a specialized programming language

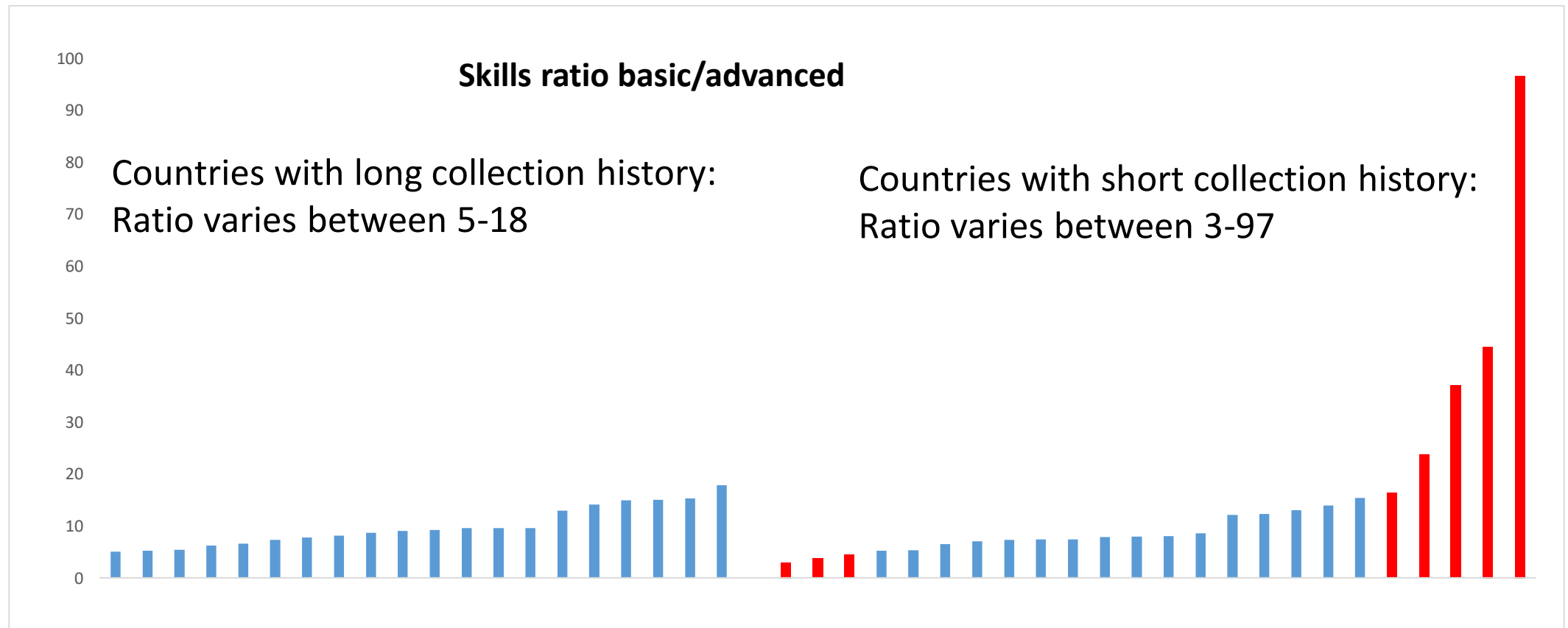# Individuals with ICT skills: data estimated for 145 countries

- More people can copy/paste than write a computer program: Ratio of 10 to 1

Chart 2.1: Distribution of specific digital skills among individuals, 2017

Ratio is about 10 to 1

Average proportion of individuals

- Copying or moving a file or folder: 52%
- Sending e-mails with attached files: 52%
- Using copy and paste tools: 48%
- Transferring files between a computer and other devices: 43%
- Finding, downloading, installing and configuring software: 35%
- Connecting and installing new devices: 33%
- Using basic arithmetic formulas in a spreadsheet: 33%
- Creating electronic presentations: 28%
- Writing a computer program (3): 5%
- Basic Skills (1): 57%
- Standard Skills (2): 41%

Source: Adapted from MISR 2018

Skills ratio – concerns about data quality but also estimates

Skills ratio basic/advanced

Countries with long collection history:
Ratio varies between 5-18

Countries with short collection history:
Ratio varies between 3-97

3. Challenge: Indicator selection

New IDI: **Indicators added** in 2018

Access sub-index

Households with a computer (%)

Households with Internet access (%)

International Internet bandwidth (bit/s/Internet user)

Population covered by 3G mobile networks

- At least 3G (%)
- At least LTE/WiMAX (%)

Fixed-broadband subscriptions by speed tiers

- 256 kbit/s to 2Mbit/s (% of total)
- 2 to 10 Mbit/s (% of total)
- Equal to or above 10 Mbit/s (% of total)

Use sub-index

Individuals using the Internet (%)

Active mobile-broadband subscriptions (/100 inhabitants)

Mobile-broadband Internet traffic (/subscription)

Fixed-broadband Internet traffic (/subscription)

Mobile phone ownership (%)

Skills sub-index

Mean years of schooling

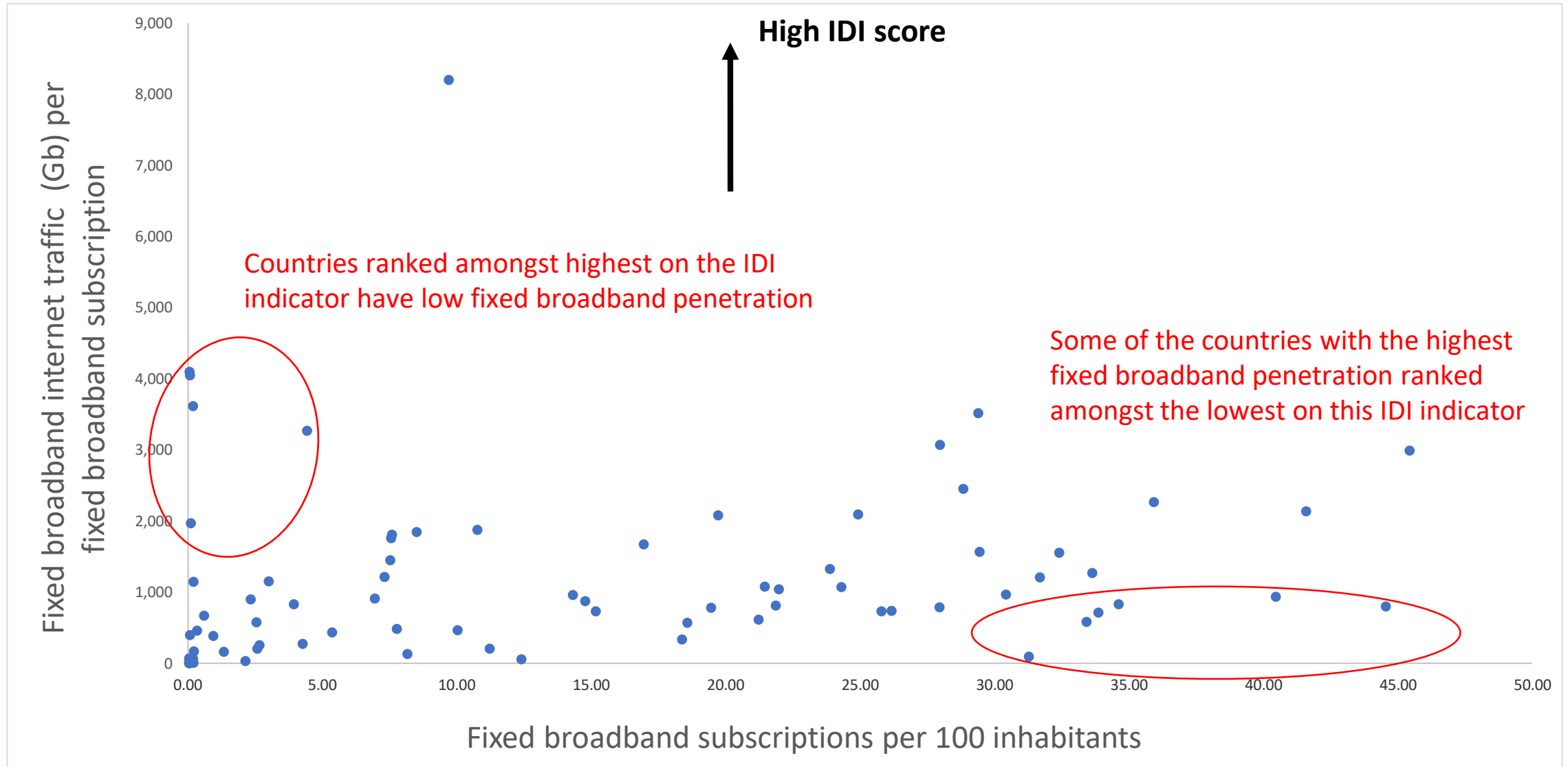Secondary gross enrollment ratio (%)

Tertiary gross enrollment ratio (%)

Individuals with ICT skills (%)

1. Copying or moving a file or folder
2. Using copy and paste tools to duplicate or move information within a document
3. Sending e-mails with attached files
4. Using basic arithmetic formula in a spreadsheet
5. connecting and installing new devices
6. Creating electronic presentations with presentation software
7. Finding, downloading, installing and configuring software
8. Transferring files between a computer and other devices
9. Writing a computer program using a specialized programming language

Fixed-broadband traffic per subscription: data estimated for 116 countries

New IDI: **Indicators added** in 2018

Access sub-index	Use sub-index	Skills sub-index
Households with a computer (%)	Individuals using the Internet (%)	Mean years of schooling
Households with Internet access (%)	Active mobile-broadband subscriptions (/100 inhabitants)	Secondary gross enrollment ratio (%)
International Internet bandwidth (bit/s/Internet user)		Tertiary gross enrollment ratio (%)
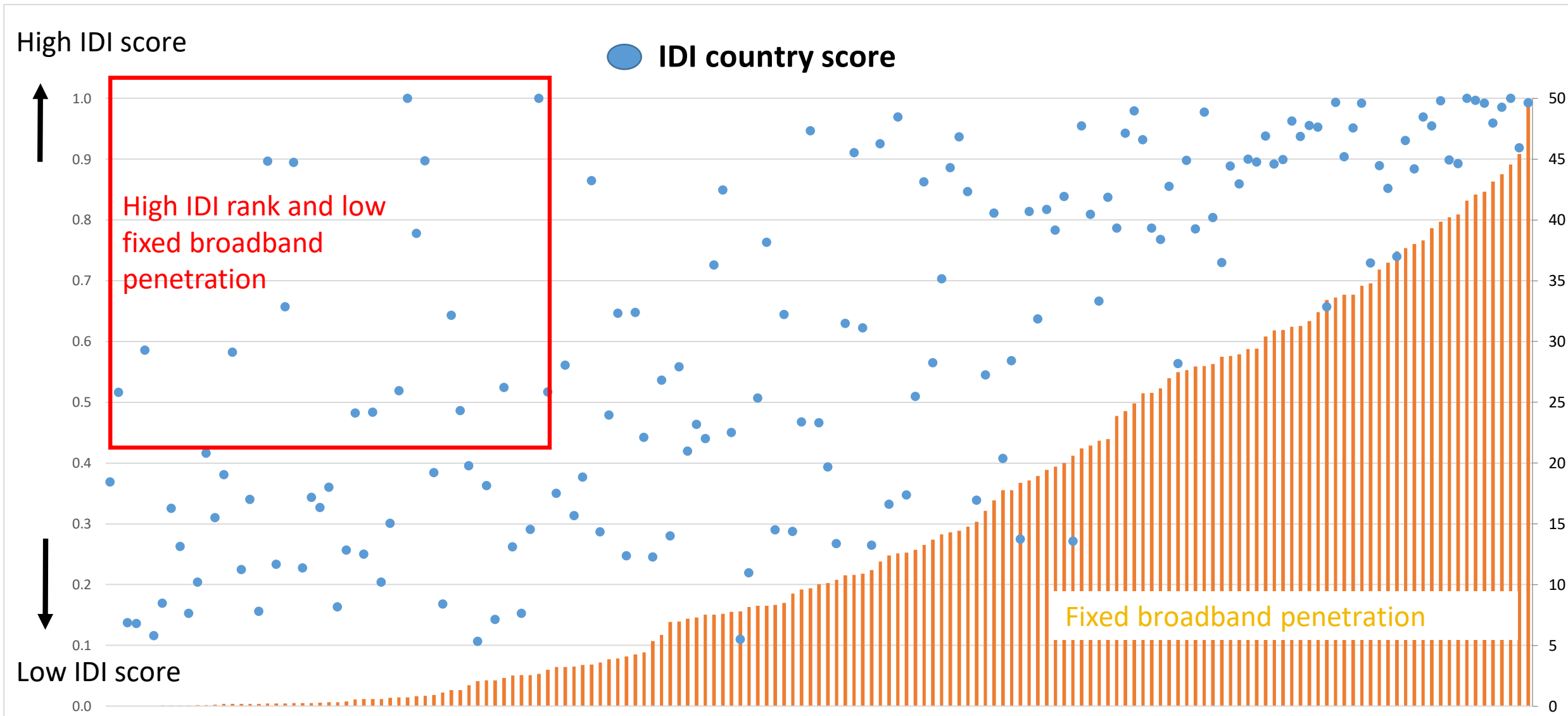| **Population covered by 3G mobile networks** | **Mobile-broadband Internet traffic (/subscription)** | **Individuals with ICT skills (%)**

1. Copying or moving a file or folder
2. Using copy and paste tools to duplicate or move information within a document
3. Sending e-mails with attached files
4. Using basic arithmetic formula in a spreadsheet
5. connecting and installing new devices
6. Creating electronic presentations with presentation software
7. Finding, downloading, installing and configuring software
8. Transferring files between a computer and other devices
9. Writing a computer program using a specialized programming language |
| - At least 3G (%)
- At least LTE/WiMAX (%) | **Fixed-broadband Internet traffic (/subscription)** | |
| **Fixed-broadband subscriptions by speed tiers**

- 256 kbit/s to 2Mbit/s (% of total)
- 2 to 10 Mbit/s (% of total)
- Equal to or above 10 Mbit/s (% of total) | **Mobile phone ownership (%)** | |

Fixed broadband by speed tiers

Update

- Data availability did not improve for new indicators (same situation as in 2018)

- For 2019, ITU recommends publishing the IDI using the original set of indicators, for the following reasons:
    - Publishing the IDI on an annual basis is part of the mandate of ITU, cf. Resolution 8 of the WTDC and Resolution 131 of the Plenipotentiary conference.
    - Many countries have requested ITU to publish the index again, even using the original methodology.
    - Countries use the IDI to track their performance – not publishing it a second year in a row will impose a problem for these countries.
    - Countries (ex. Asia-Pacific) calculates provincial IDI (China, India, Mongolia, Indonesia)

Update

- Using the original methodology has as additional benefit that the results for 2018 can also be calculated; it will also guarantee comparability across the previous ten years.

- There is a confirmed quality of the data and the index is statistically coherent and robust.

- Several other international agencies are using the ITU IDI (based on the original methodology) in their own work and publications, such as WIPO's Global Innovation index, and UN's E-government index

Short survey – to be sent to ITU Members

- Consultation on whether the administration agrees to use the old methodology (used until 2017) to calculate IDI 2018 and 2019
  - Yes, No, no preference

- Sent on 3 October 2019 to ITU official focal points (ministry)

- Open for one week (deadline: **10 October 2019**)

- Background document and circular letter - available at https://www.itu.int/en/ITU-D/Statistics/Pages/IDI2019consultation/default.aspx.

IDI 2019

Consultation

Does your government agree that ITU publishes the ICT Development Index (IDI) for 2018 and 2019 using the methodology used until 2017?

- ◉ Yes
- ○ No
- ○ No preference

Note 2019

Sauvegarder

Sauvegarder et envoyer