

Research ICT Solutions

MOBILE USAGE BASKETS TO MEASURE ICT SECTOR PERFORMANCE

ITS SEOUL 2018

REGULATION IS ALL ABOUT FAIR COMPETITION

Price matches
demand & supply

High prices =
ineffective
competition

Prices below cost=
predatory prices

Prices =
indicator for
competition

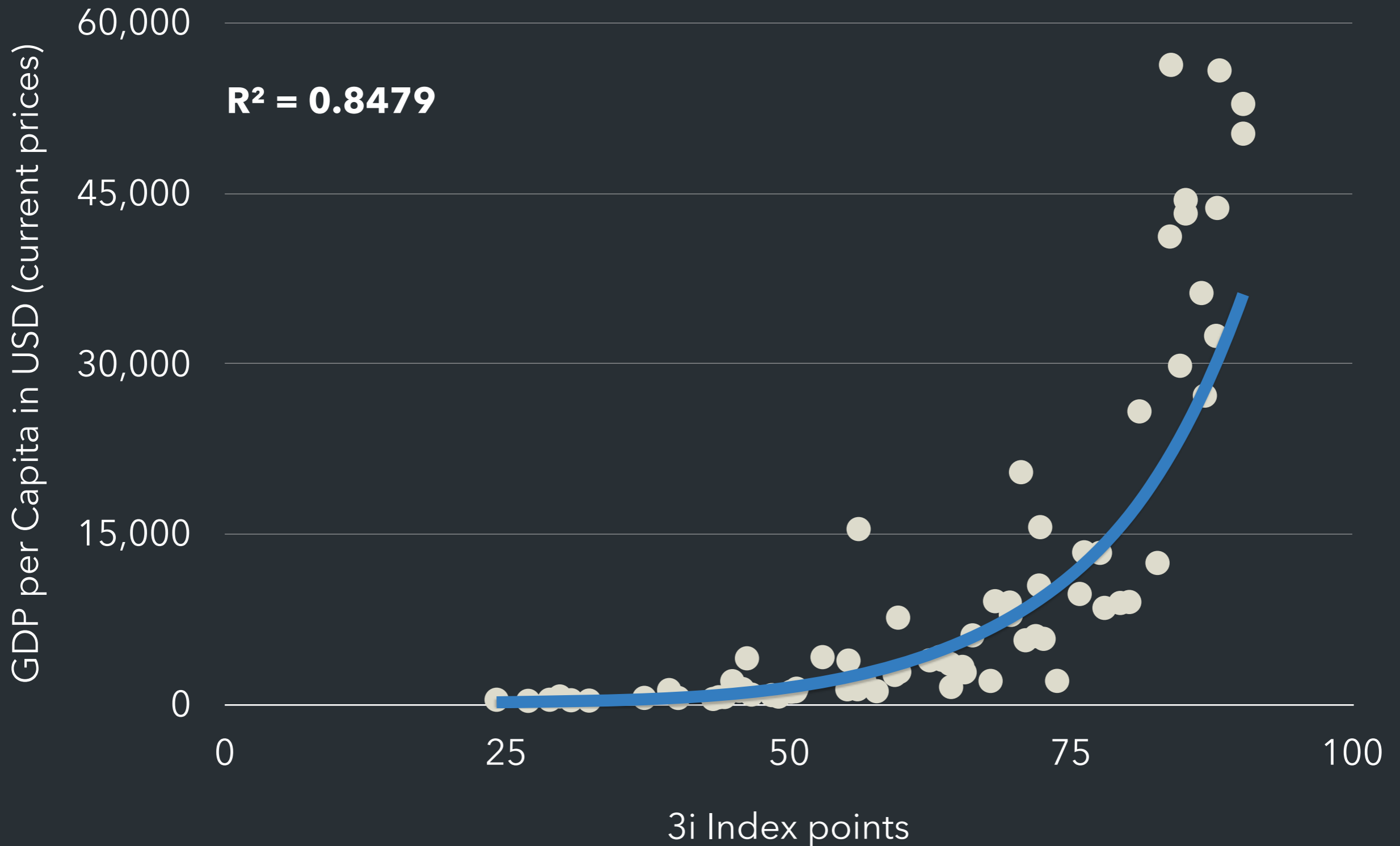
Cost based
termination rates =
fair competition +
lower retail prices

Market studies &
dominance determination
to safeguard fair
competition and
reasonable retail prices

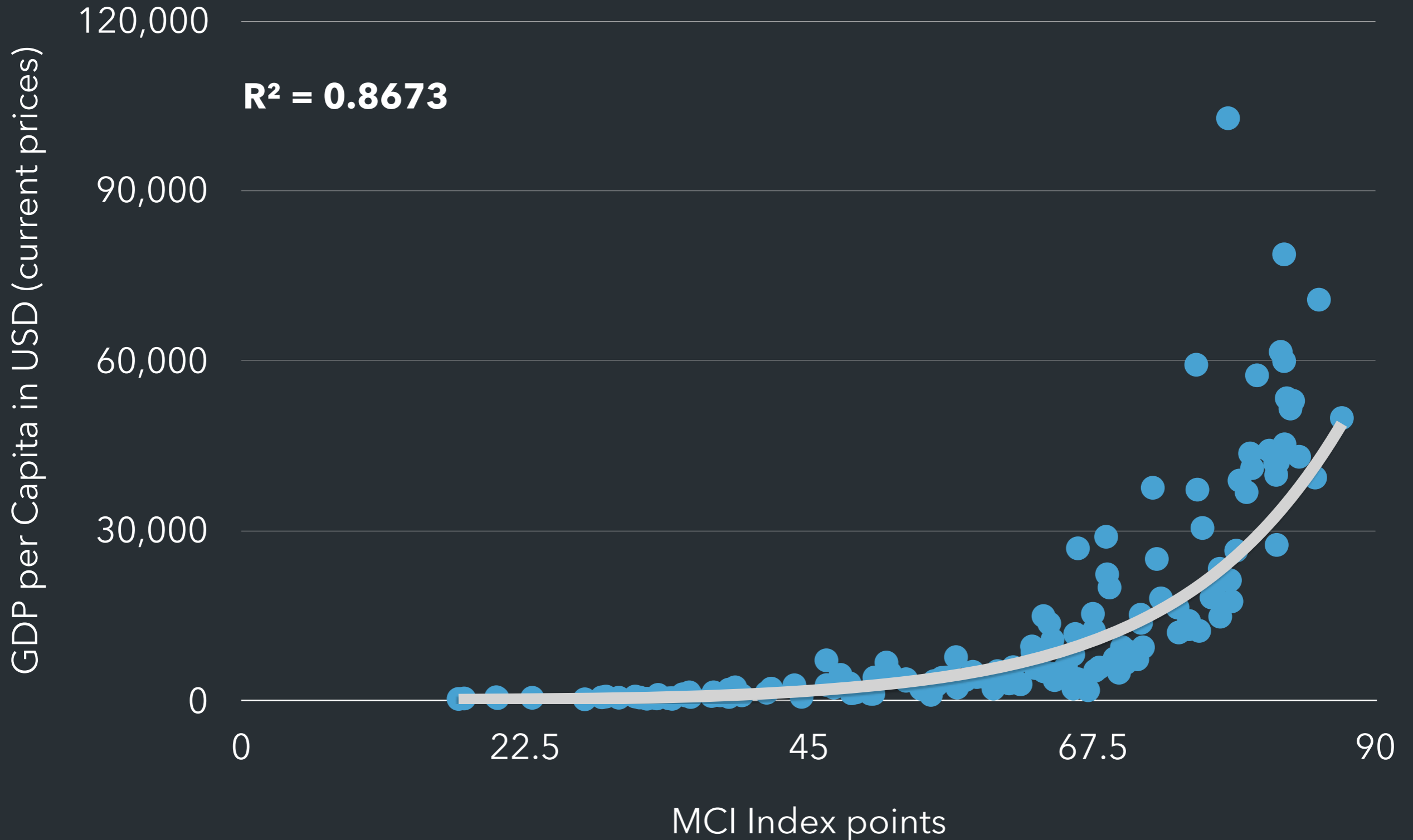
/ GLOBAL INDICES ARE NOT SUITABLE TO MEASURE ICT SECTOR PERFORMANCE

- They are not being collected frequently enough - annually with huge time lag
- They mostly capture GDP per capita
- Affordability indices cannot explain price differences between countries
 - Highly correlated to prices as a share of GDP per capita
 - A change in affordability index is result of changes in GDP per capita or foreign exchange fluctuations or both not sector performance

ECONOMIST INTELLIGENCE UNIT -3I (2017)



GSMA - MOBILE CONNECTIVITY INDEX (2017)

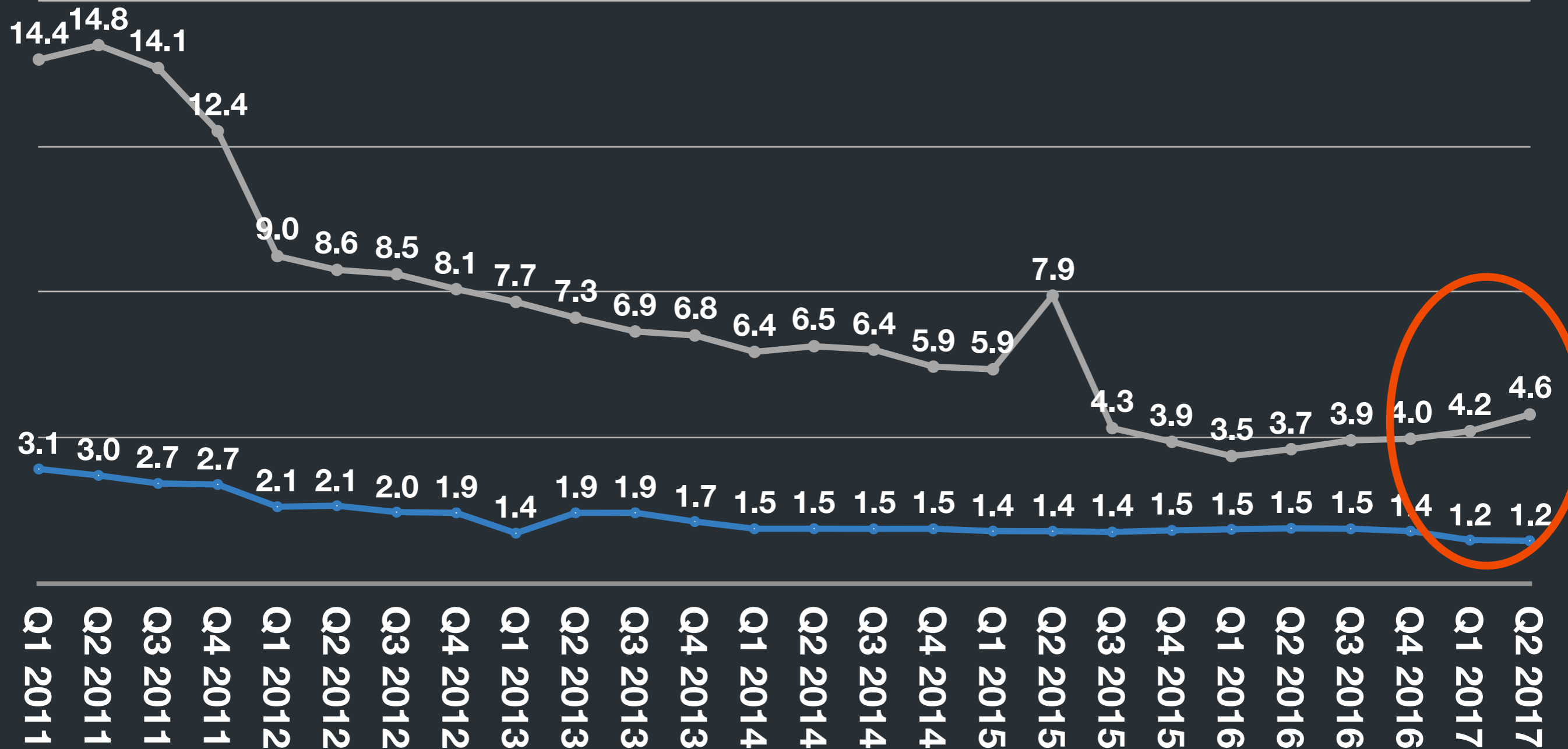


$R^2 = 0.8673$

OECD 30 CALLS 100 SMS BASKET

● Cheapest in Africa USD

● Cheapest in Namibia USD

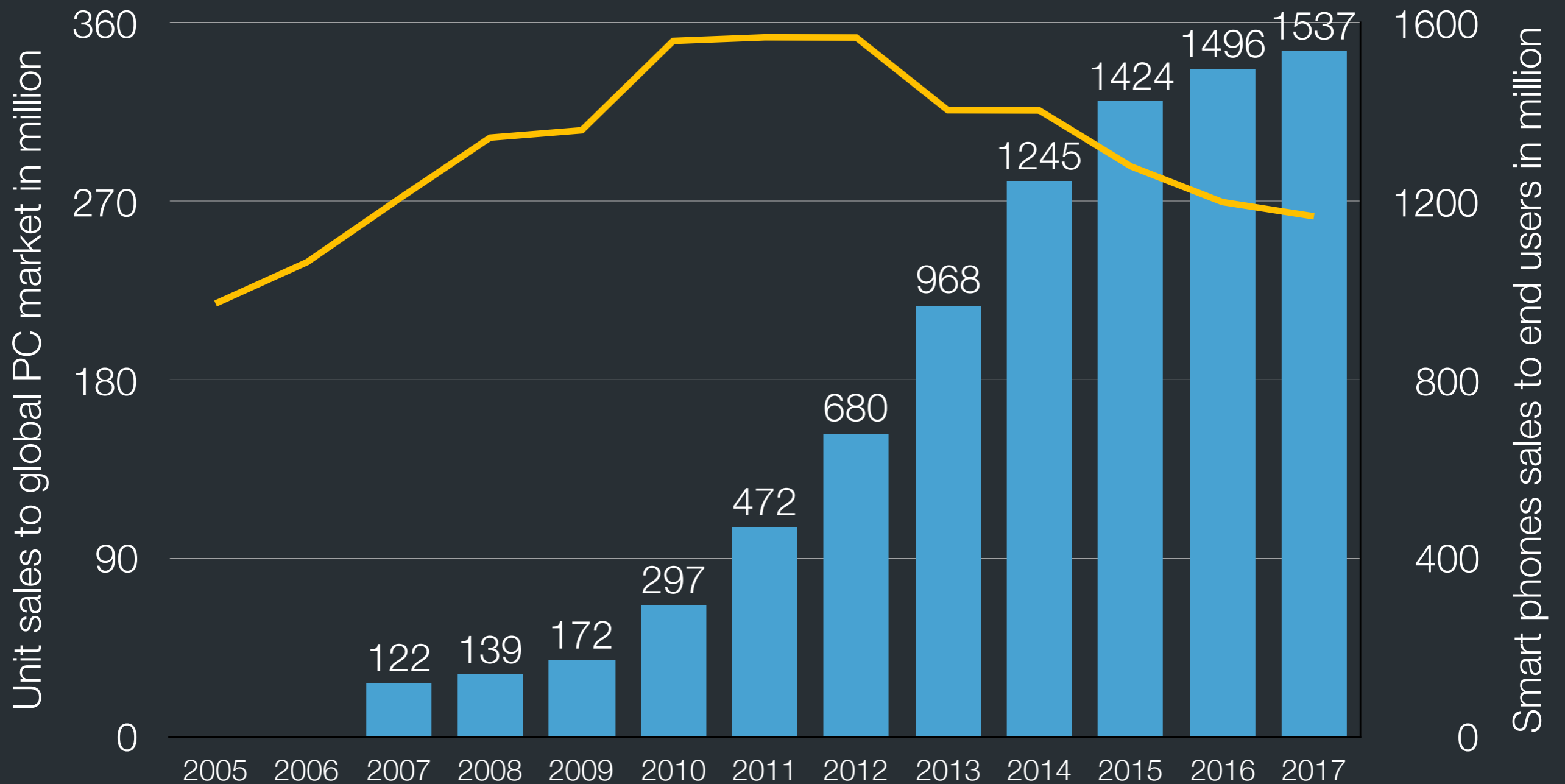


https://www.cran.na/images/docs/economics/CRAN_Quarterly_Newsletter_Q2_2017.pdf

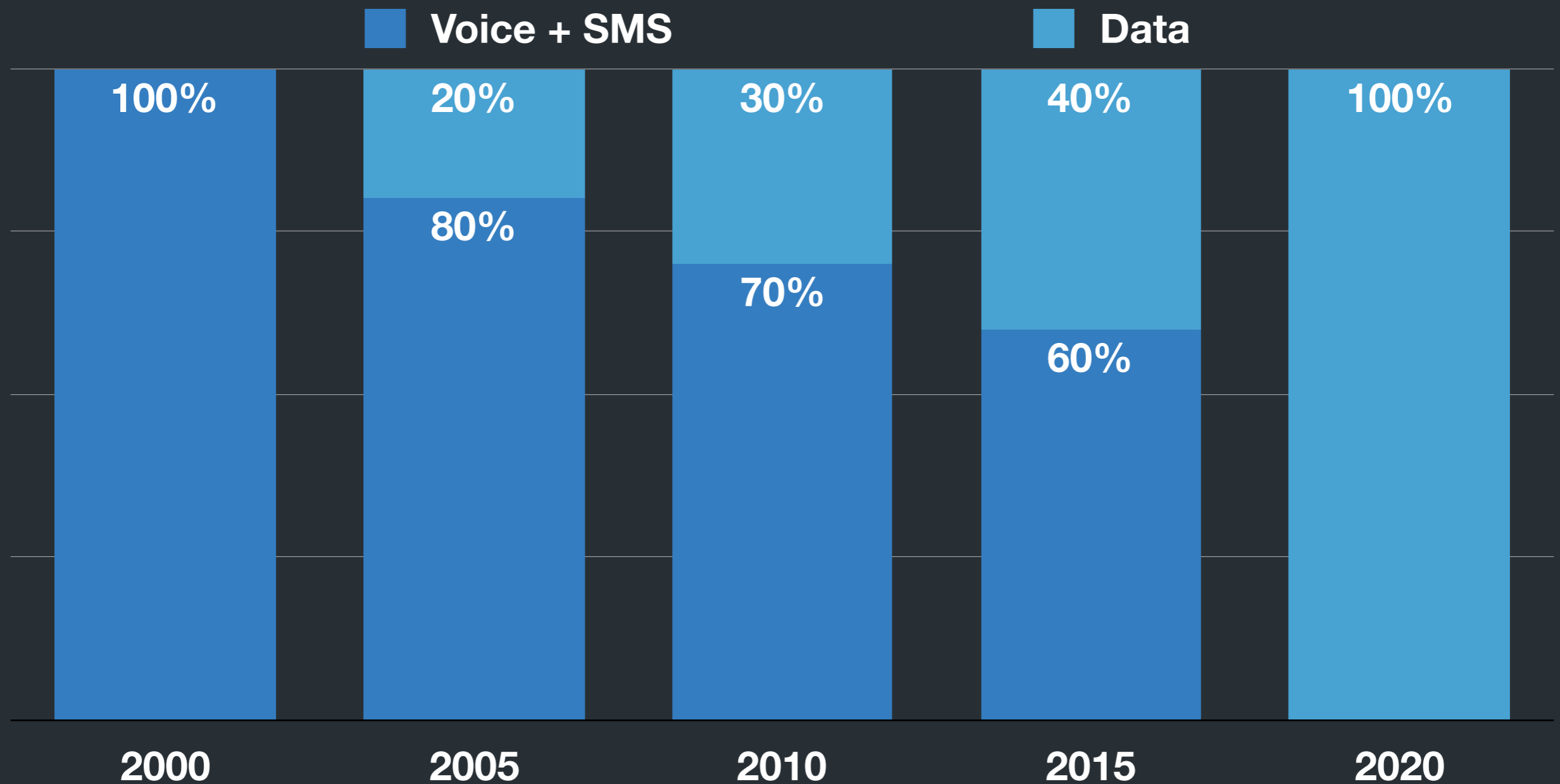
/GLOBAL TELECOMMUNICATION TRENDS

GLOBAL TREND 1: SMARTPHONES ARE REPLACING PCS

- Unit sales to global PC market (millions)
- Smartphones sales to end users (millions)

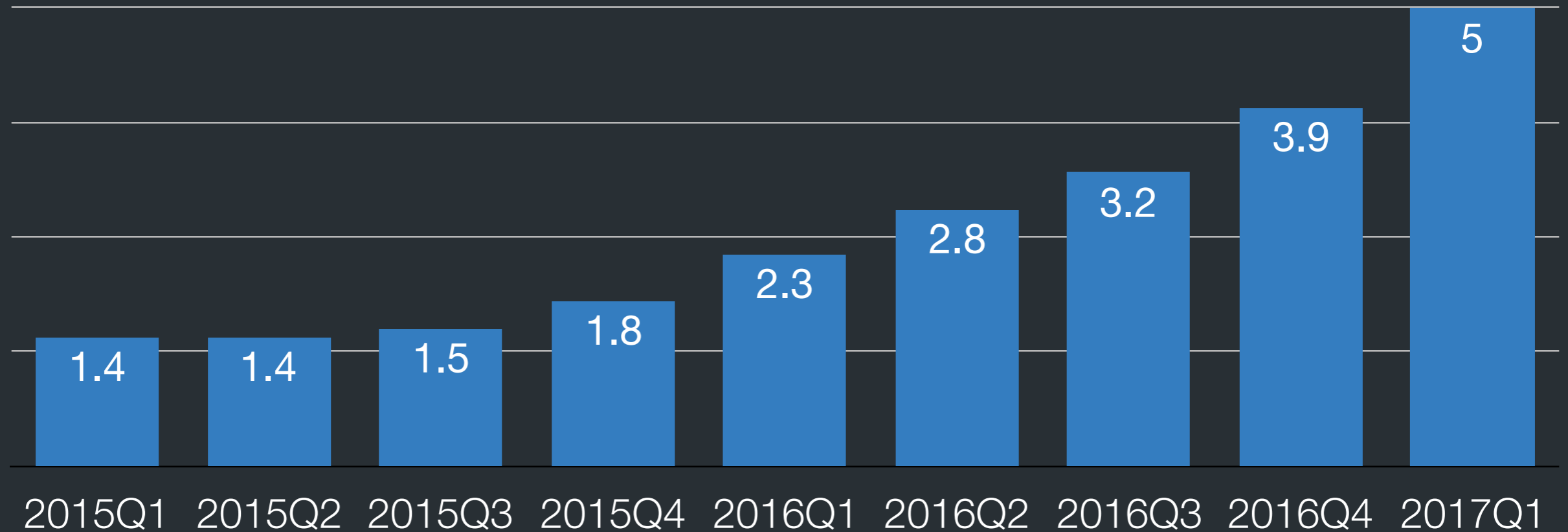


SEPARATION OF MOBILE ACCESS AND SERVICE PLATFORMS



TRENDS IN MOBILE DATA

- Because voice and SMS revenues are declining, operators are looking at mechanisms to drive data usage
- In Q3 2015, Digi Malaysia introduced free basic internet
- All subscribers get 500MB of data for free throttled at 64kpbs
- Data usage has grown by 257% between 2015 and 2017



Data usage in GB (Source: Digi Malaysia, annual reports)

/TRENDS IN MOBILE DATA

- Bundling different flavours of data:
 - Uncapped slow data (64-640 Kbps)
 - Social media data
 - Video streaming
 - Late night access
 - Wifi access
 - Purpose linked data for specific applications, often operator developed OTTs

/ACTUAL USER BEHAVIOUR

- Mobile user in Global South combine packages of their operator: Best prepaid package + top up bundle (voice, SMS and data)
- Or even use different packages (SIM cards) across operators: 1 SIM for voice and 1 for data
- Out of bundles calling, texting and data use often only for emergencies
- RIS captures all bundles and top up products that contain data or an MNO and combines it with the best prepaid package available for that MNO

RIS PRICE MONITORING

- Database currently covers Africa, Latin America and South- and South-East Asia (+ 8: China, Jamaica, Haiti, Yemen, Turkey, Kazakhstan, Dominican Republic and Jordan)
- Monthly data, prepaid, top-ups and bundles

	Countries	Operators	Total products	Active products
Africa	53	265	2472	1482
Southern Asia	9	65	389	297
South-Eastern Asia	11	90	504	379
Southern America	12	77	245	140
Central America	8	27	328	216
Additional	8	23	172	172
Total	101	547	4110	2686

OECD BASKETS DEC 2017

- The new mobile OECD basket definitions from December 2017:
 - No data use (2 baskets)
 - Low data and message use (5 baskets)
 - High data and message use (5 baskets)
- Various call durations
 - On-net, off-net and fixed line calls
 - Peak, off peak and off off peak
- SMS split between destination and time of day
- 7 new mobile data baskets, ranging in volume from 0.5 GB to 50 GB
- The default validity is 30 days, but shorter validities can be included by multiplying the price per period with the number of periods in a 30 day month

ASIA Q1 2018

OECD BASKETS (2017 DEF) IN USD

Minutes	50	50	50	188	188	188	577	577	1795	1795
SMS	10	20	10	20	40	20	80	40	160	80
Data GB		0.1	0.5		0.5	2	1	5	2	10
Iran	0.15	0.15	0.15	0.15	0.15	6.25	13.03	15.01	33.94	42.70
Indonesia	0.33	1.99	1.88	1.05	2.82	2.60	4.97	4.78	6.11	5.22
Bangladesh	0.40	1.48	1.87	1.21	3.02	4.52	4.97	9.49	14.33	24.37
Sri Lanka	0.63	1.26	1.26	1.85	2.50	4.00	6.87	12.10	24.09	27.80
Nepal	0.64	1.19	1.11	1.78	2.37	2.23	9.47	9.18	30.83	30.77
India	0.68	1.32	1.40	2.30	2.85	3.30	3.30	3.30	3.30	3.30
Myanmar	0.87	1.40	1.47	2.96	3.88	5.48	10.95	15.37	31.26	40.54
Pakistan	1.10	1.70	2.62	2.70	4.50	4.50	11.31	11.02	32.17	39.19
Malaysia	1.37	7.51	7.32	4.77	11.71	10.69	18.33	16.81	21.39	22.13
Bhutan	1.45	3.19	3.15	5.34	7.58	10.01	19.62	24.06	55.50	61.26
Afghanistan	1.49	2.87	2.66	5.08	7.08	11.21	17.55	26.57	66.82	70.27
Thailand	1.51	3.01	2.33	4.25	6.70	10.82	19.88	21.95	47.70	45.32
Vietnam	1.65	4.22	5.15	5.99	11.46	12.13	28.44	33.71	82.05	112.43
Jordan	1.83	4.23	4.23	6.15	7.05	7.05	7.05	7.05	12.93	12.93
Kazakhstan	1.99	4.44	4.16	6.98	10.27	9.72	26.51	25.40	70.34	69.54
Maldives	2.49	11.39	11.25	8.53	23.07	22.72	41.76	51.36	99.49	149.61
Cambodia	2.80	4.05	3.75	10.00	11.55	13.00	32.20	34.34	97.55	120.48
Yemen	3.23	3.99	7.98	3.99	7.98	29.68	48.01	71.38	129.18	
China	4.32	4.32	4.32							
Singapore	4.42	8.59	12.00	14.40	14.40	22.74	20.63	69.39	87.01	
Laos	4.98	6.36	8.58	11.88	11.88	22.01	43.27	59.71	161.28	178.90
Brunei Darussalam	5.43	13.39	13.01	15.15	22.73	22.73	22.73	68.19	22.73	68.19
Turkey	6.56	6.56	6.56	6.56	6.56	6.82	7.09	9.97	69.69	75.73
Timor-Leste	7.03	11.85	11.15	15.00	30.27	34.59	86.76	102.11	242.58	266.98
Philippines	7.16	11.73	11.54	26.58	31.35	32.40	87.77	89.42	258.36	

GREEN = 2 CHEAPEST

RED = 2 MOST EXPENSIVE

ASIA Q1 2018

MOBILE PREPAID DATA COSTS FOR MONTHLY USE IN USD

	100MB	500MB	1GB	2GB	5GB	10GB	20GB
Iran	0.15	0.15	3.00	3.00	5.10	12.00	16.50
Myanmar	0.39	0.60	1.18	2.37	6.24	12.49	31.61
Indonesia	0.44	0.44	0.44	0.44	2.21	2.21	2.21
India	0.47	0.82	0.82	1.62	2.48	2.48	2.48
Bangladesh	0.56	1.43	1.45	3.05	5.09	10.91	15.27
Pakistan	0.60	1.44	1.44	1.44	4.50	6.17	
Afghanistan	0.72	0.72	1.42	4.31	6.90	10.35	14.37
Thailand	0.81	0.81	4.75	5.64	9.46	9.46	9.46
Sri Lanka	0.82	0.82	1.15	1.64	6.45	10.92	16.09
Cambodia	1.00	1.00	1.00	2.00	4.00	4.00	4.00
Nepal	1.04	1.04	1.04	1.04	1.04	1.04	1.04
Vietnam	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Laos	1.20	3.60	3.60	3.60	3.60	5.14	18.00
Bhutan	1.55	1.55	3.11	4.67	7.80	10.92	15.61
Kazakhstan	1.82	1.82	1.82	1.82	4.30	6.15	9.24
Yemen	2.79	5.98	9.97	15.96	35.90		
Turkey	3.67	3.94	5.77	6.82	9.97	13.12	47.25
Singapore	3.79	7.58	7.58	10.61	21.22		
China	3.93	3.93	3.93	5.50	12.58	37.42	61.00
Malaysia	4.05	4.05	4.05	6.75	6.75	8.10	8.10
Jordan	4.23	4.23	4.23	4.23	4.23	7.05	13.08
Timor-Leste	4.29	4.29	7.50	7.50	25.00	40.00	100.00
Philippines	4.37	4.37	5.81	5.81	8.25		
Maldives	6.80	6.80	10.23	13.67	23.97	61.75	68.62
Brunei Darussalam	7.58	7.58	7.58	15.15	26.52	37.88	49.25

GREEN = 2 CHEAPEST

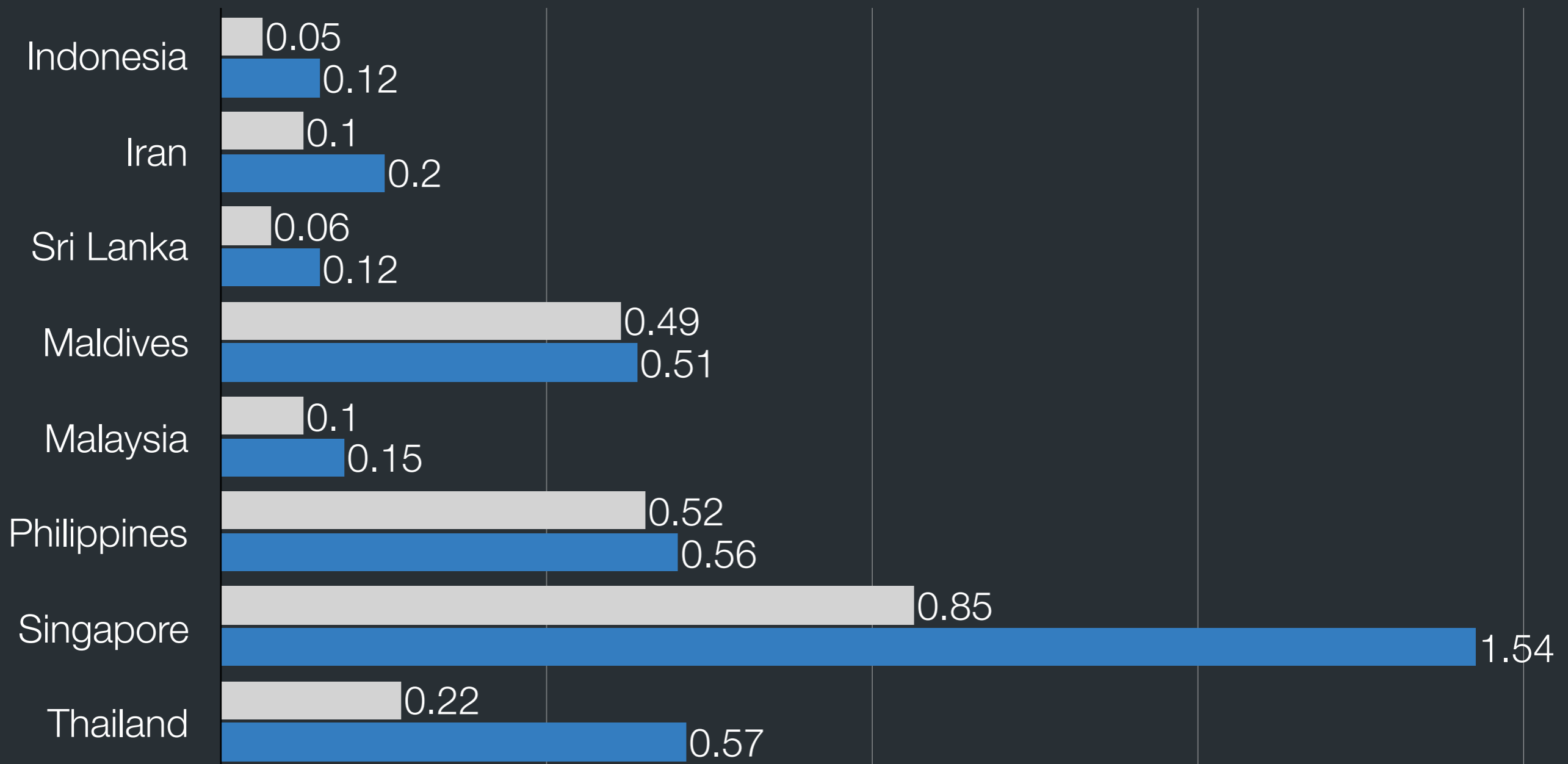
RED = 2 MOST EXPENSIVE

OECD 2017 DEFINITIONS

- Cover a broad range of user profiles
- Ranking mostly changes with the cost of data, it would be possible to reduce the number of baskets
- The highest usage baskets for data also contain large allocations of voice minutes
 - It would be unlikely for someone that uses 10GB of data to also use 1795 voice minutes
- OECD prices may be too high:
 - Cheaper to purchase multiples of smaller packages to make up a larger data package.
 - OECD baskets do not capture how people actually use the internet
- Baskets are not able to capture trends such as separation of access and service platforms

ASIAN COUNTRIES WITH DIFFERING AVERAGE MB PRICE FOR REGULAR DATA AND PURPOSE LINKED DATA

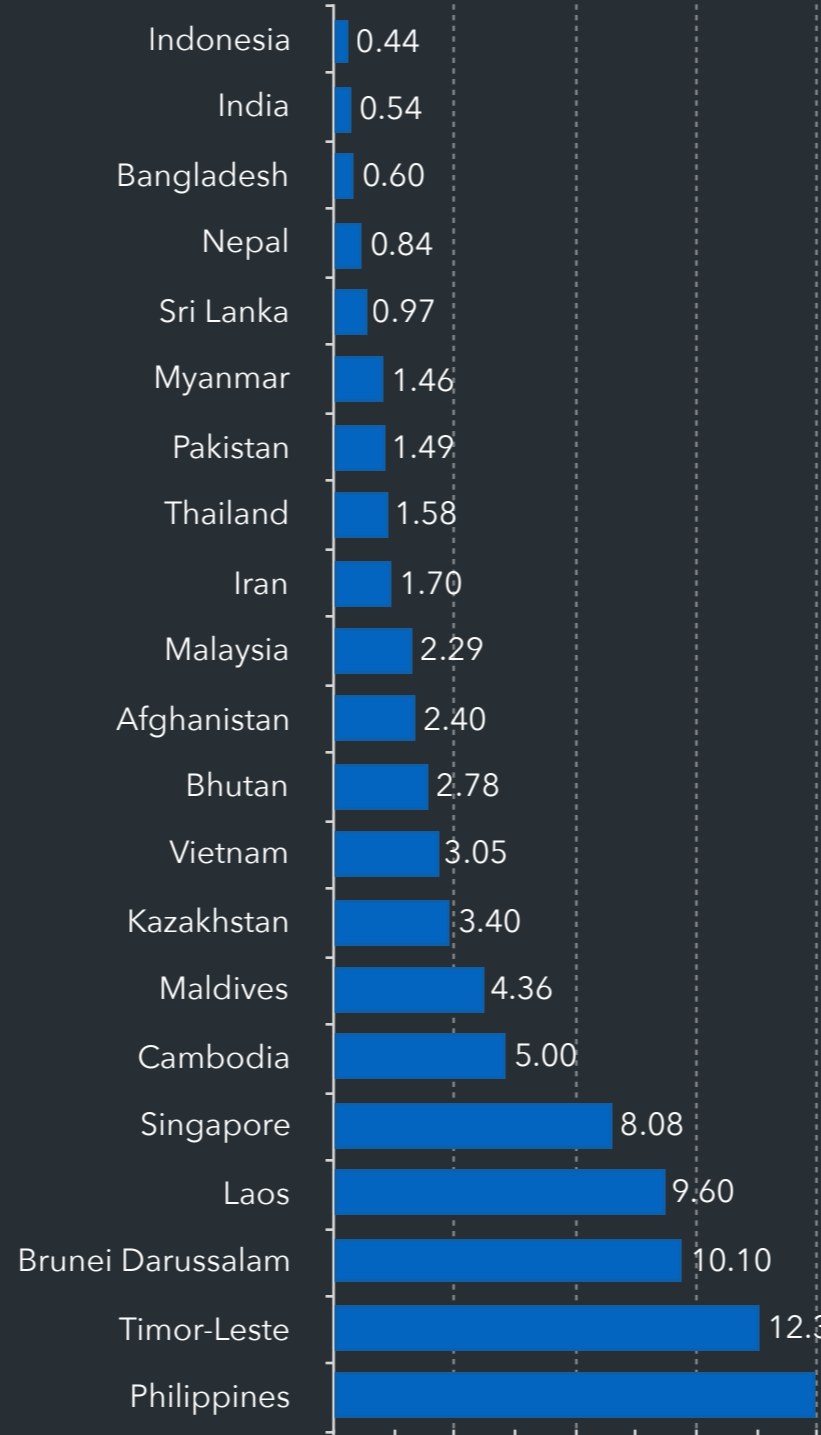
- Lowest cost per MB in US cents for all types of data
- Lowest cost per MB in US cents for regular data (not purpose linked)



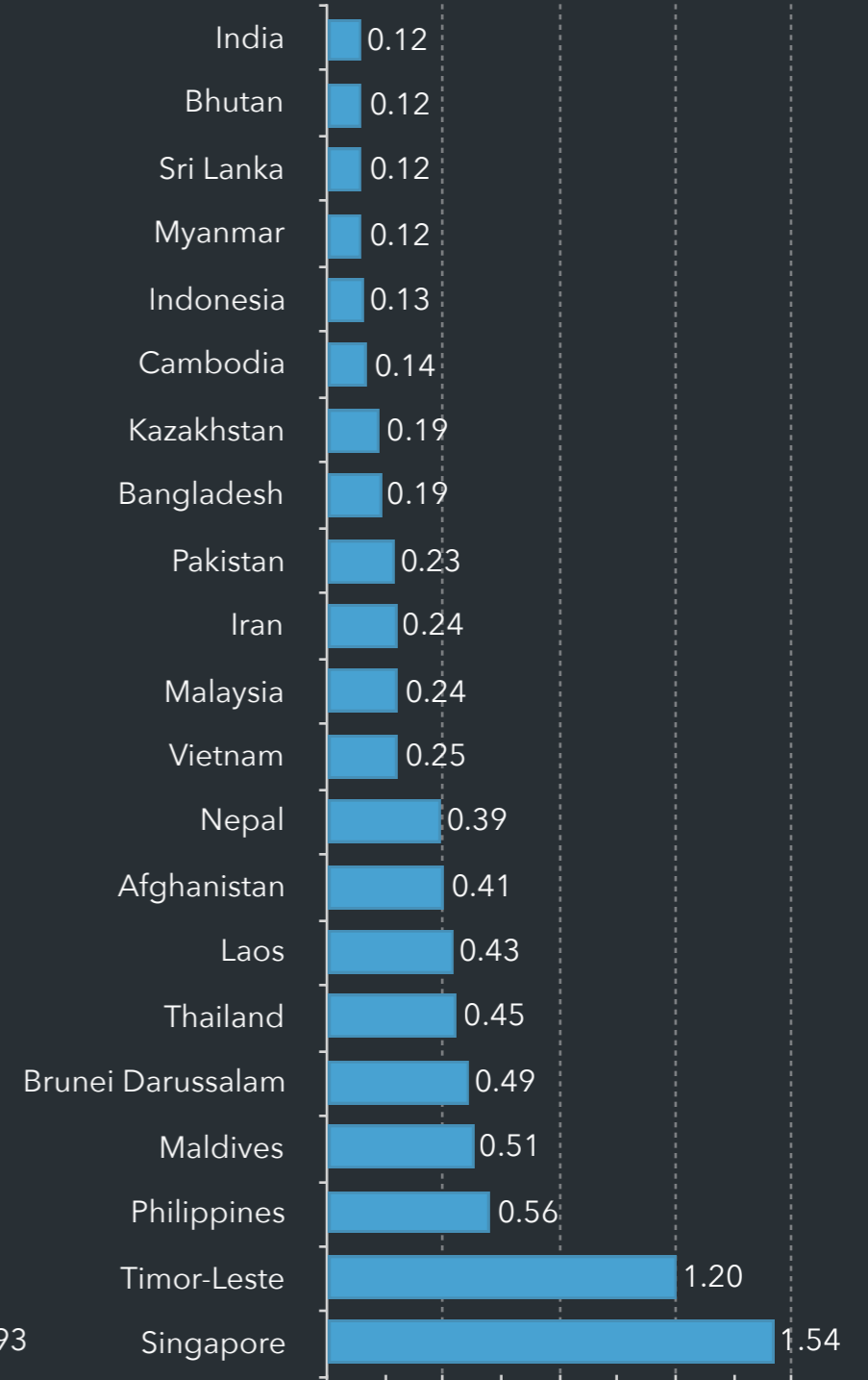
ASIA Q1 2018



CHEAPEST RATE FOR 1 SMS IN US CENTS



CHEAPEST RATE FOR 1 MINUTE IN US CENTS



CHEAPEST AVERAGE 1 MB RATE FOR 1 MB BASED ON OPERATOR AVERAGE RATES

/SEPARATION OF ACCESS AND SERVICE PLATFORMS INDEX: SASP

SASP Index =

(Price for 1 SMS + Price 1 minute) / Price 1 MB

MEASURING SEPARATION OF ACCESS AND SERVICE PLATFORMS

- Measure progress towards the separation of mobile access and service platforms
- If 1 MB of data is vastly cheaper than 1 voice minute or 1 SMS, then OTT use is encouraged
- The index is calculated on country level, based on the cheapest rate in the country so that the data can be easily compiled based on existing ITU data
- RIS can also compute it for all operators within a country to analyse business model

South and South East Asia - cheapest rates available in a country for Q1 2018

	1 SMS	US cents 1 Minute	1 MB	Number of MBs per 1 SMS	Number of MBs per 1 minute	SASP (Price for 1 SMS + Price 1 minute) / Price 1 MB
Afghanistan	2.16	2.40	0.41	5.3	5.9	11.1
Bangladesh	0.42	0.60	0.19	7.5	3.2	5.4
Bhutan	0.47	2.78	0.12	3.9	23.2	27.1
Brunei	3.79	10.10	0.49	7.7	20.6	28.3
Cambodia	3.00	5.00	0.14	21.4	35.7	57.1
India	1.55	0.54	0.12	12.9	4.5	17.4
Indonesia	1.10	0.44	0.13	8.5	3.4	11.8
Iran	0.30	1.70	0.24	1.3	7.1	8.3
Laos	1.80	9.60	0.43	4.2	22.3	26.5
Malaysia	1.40	2.29	0.24	5.8	9.5	15.4
Maldives	1.30	4.36	0.51	2.5	8.5	11.1
Myanmar	0.75	1.46	0.12	6.3	12.2	18.4
Nepal	0.73	0.84	0.39	1.9	2.2	4.0
Pakistan	0.45	1.49	0.23	2.0	6.5	8.4
Philippines	1.94	13.93	0.56	3.5	24.9	28.3
Singapore	3.79	8.08	1.54	2.5	5.2	7.7
Sri Lanka	0.13	0.97	0.12	1.1	8.1	9.2
Thailand	3.17	1.58	0.45	7.0	3.5	10.6
Timor-Leste	5.25	12.33	1.20	4.4	10.3	14.7
Vietnam	0.98	3.05	0.25	3.9	12.2	16.1

/CONCLUSION

- The 2017 OECD baskets are a welcomed modification
- The new baskets acknowledge the importance of mobile data
- However, OECD baskets prices look more expensive than they actually are
- When affordability is the prime motivation, OTTs are dominant and therefore data baskets are the key metric
- We propose a simple index, SASP, that can be compiled using ITU data, to measure the drivers of the separation of mobile access and service platforms

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