

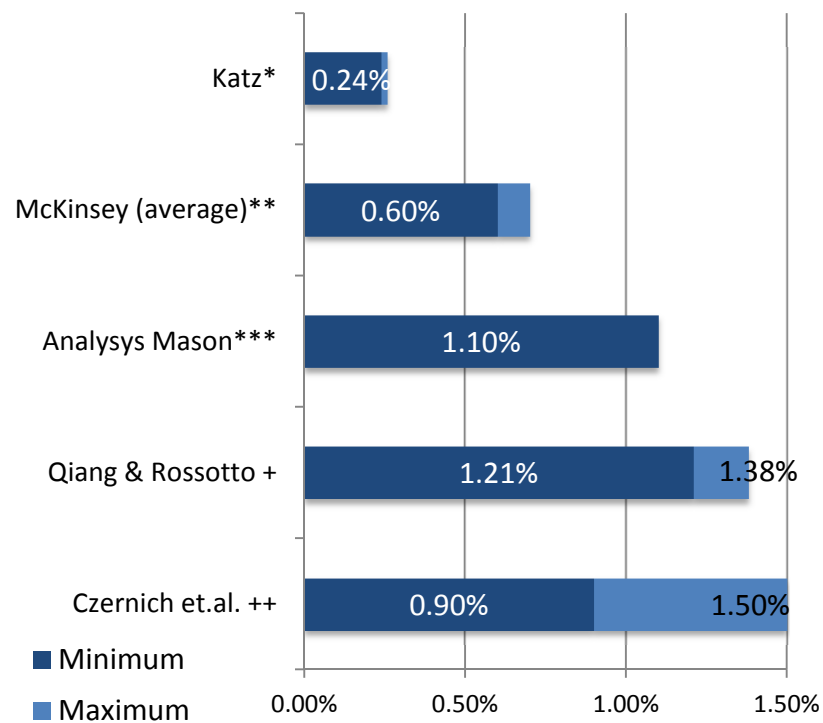
Broadband: Key Infrastructure for Central Asia's Competitiveness and Access to Markets

Carlo Maria Rossotto
Regional Coordinator, ECA/MENA
The World Bank

UNESCAP-WB High-Level Regional Roundtable on Telecom Connectivity in Central Asia
Almaty, June 3, 2014

Broadband drives growth and jobs and opens up new opportunities

Impact on GDP of an increase of 10% in broadband penetration



Estimated broadband employment creation multipliers

Study	Year	Scope	Type I	Type II	Network Effect
Crandall et.al.	2003	US	...	2.17	...
Katz et.al.	2008	CH	1.4
Atkinson et.al.	2009	US	...	3.60	1.7
Katz et.al.	2009a	US	1.83	3.43	...
Libenau et.al.	2009	UK	...	2.76	...
Katz et.al.	2009b	DE	1.45	1.93	...

Impact of BB investment is well established.

- 10% annual broadband penetration increases annual GDP growth by 0.24-1.5 p. p., and creates 1.5 to 4.5 indirect jobs for each job created.

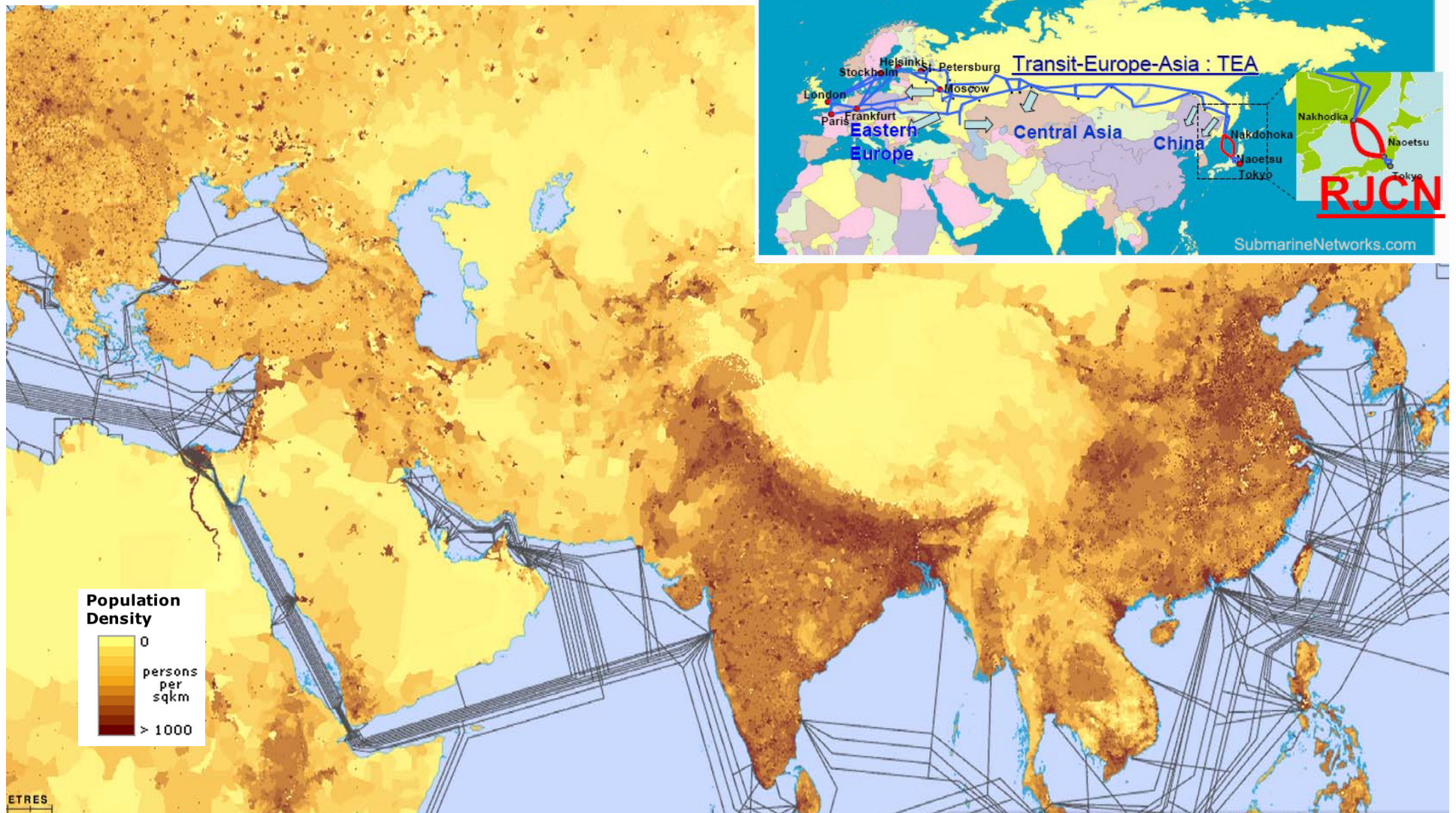
Source: Katz (2010); Analysys Mason (2010); Qiang & Rossotto (2009); and Czernich et.al. (2009)

* Only includes Germany. ** Average of 5 country studies, including the UK, Australia, New Zealand, Malaysia, and a Middle Eastern country, from various sources (2003 and 2004) and Qiang and Rossotto 2009 study; *** Limited to mobile broadband impact in India; + various countries, upper range applies to developing countries and lower range to developed countries; ++ sample of 20 OECD countries.

Source: Katz (2009), citing Crandall et.al. (2003); Katz et.al. (2008); Atkinson et.al. (2009); Katz et.al. (2009a); Libenau et.al. (2009); and Katz et.al. (2009b)

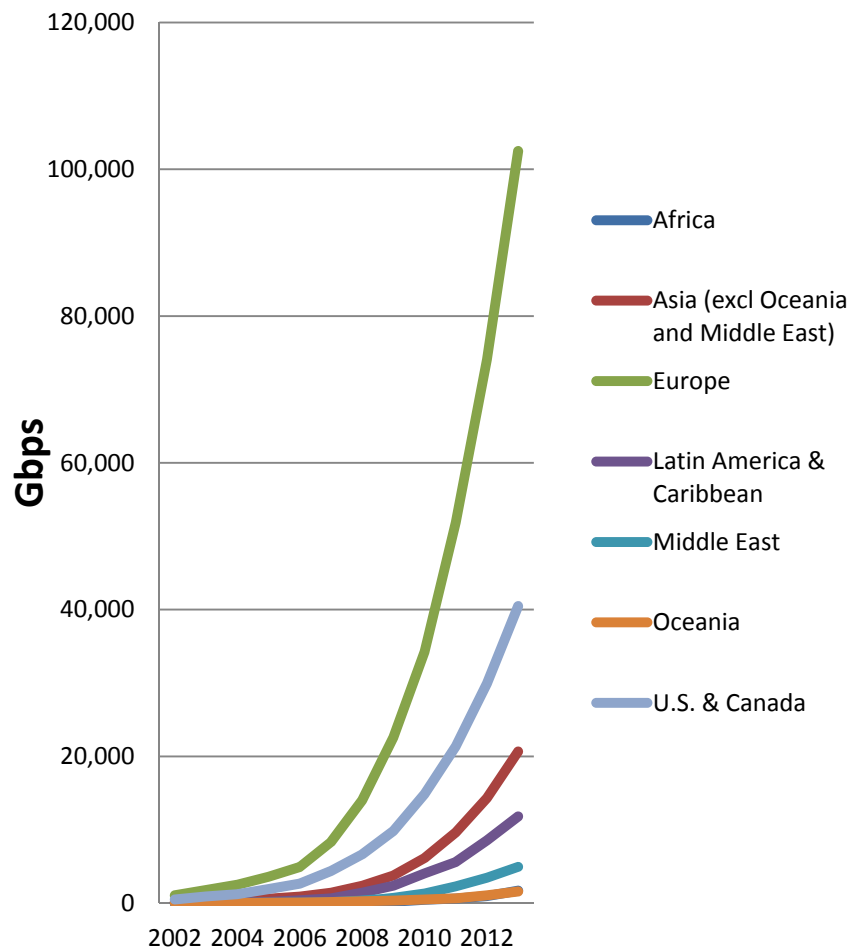
Note: Type I (Direct+Indirect)/Direct; Type II (Direct+Indirect+Induced)/Direct

International connectivity to the region is provided through submarine cables



Europe-Asia data transit flow is the fastest growing data market

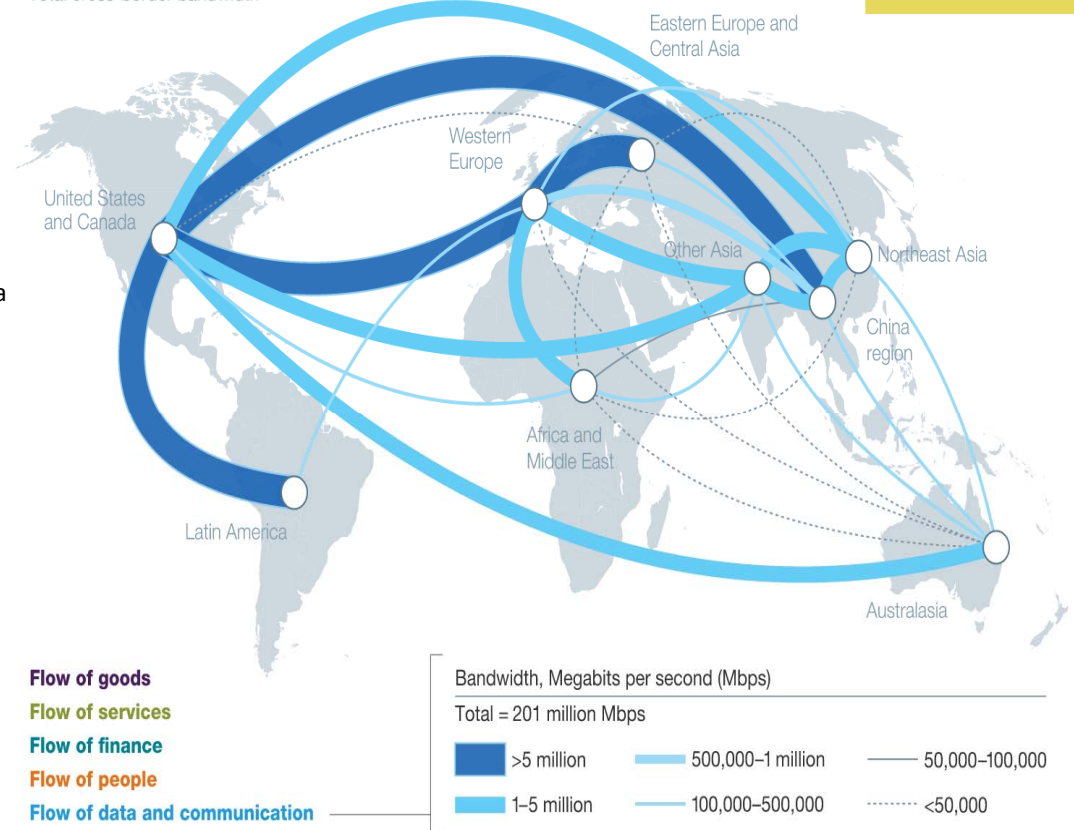
International Bandwidth Usage by Region, 2003-2013



Flow of data and communication in 2013

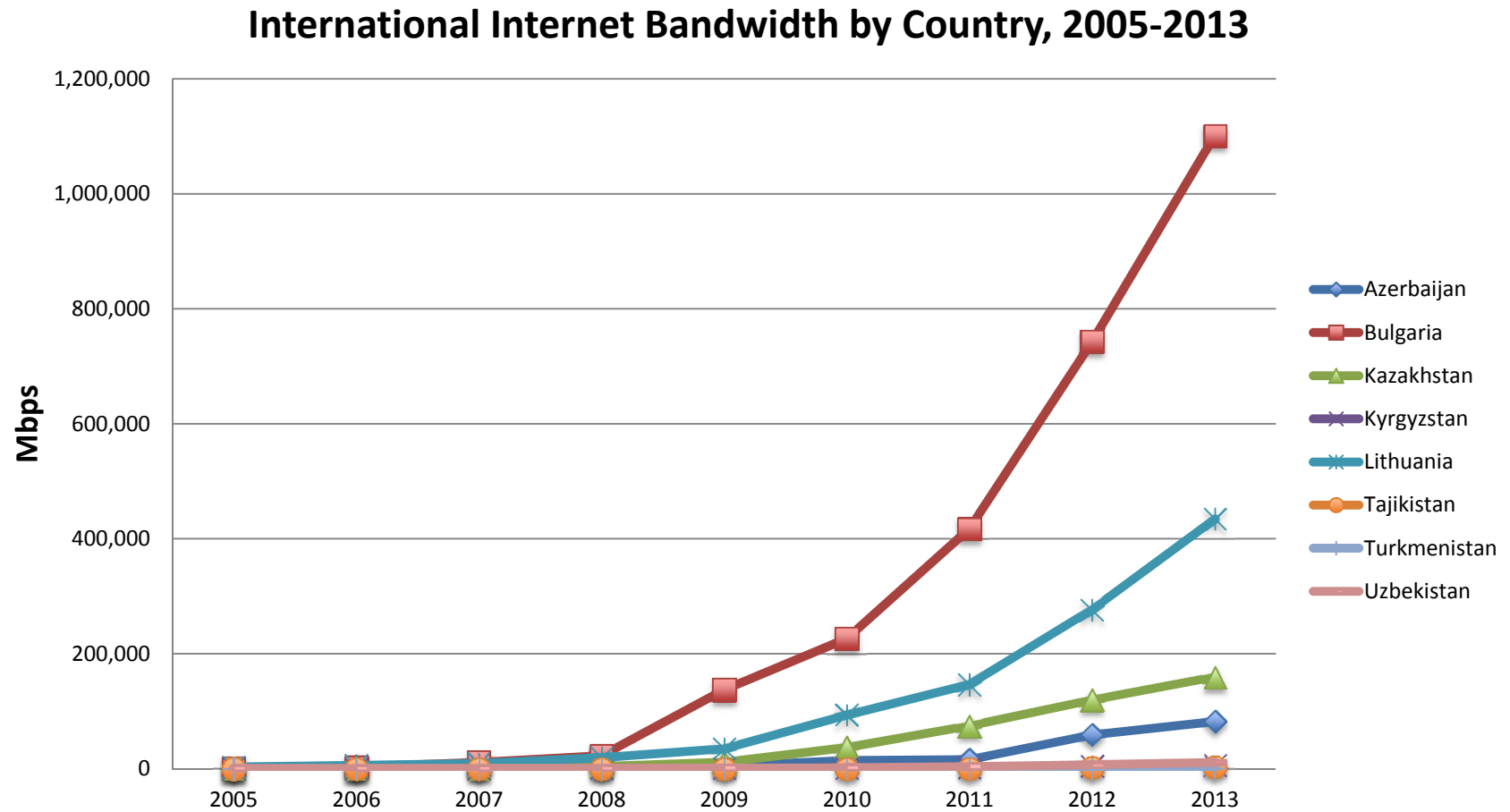
Total cross-border bandwidth

7x increase since 2008



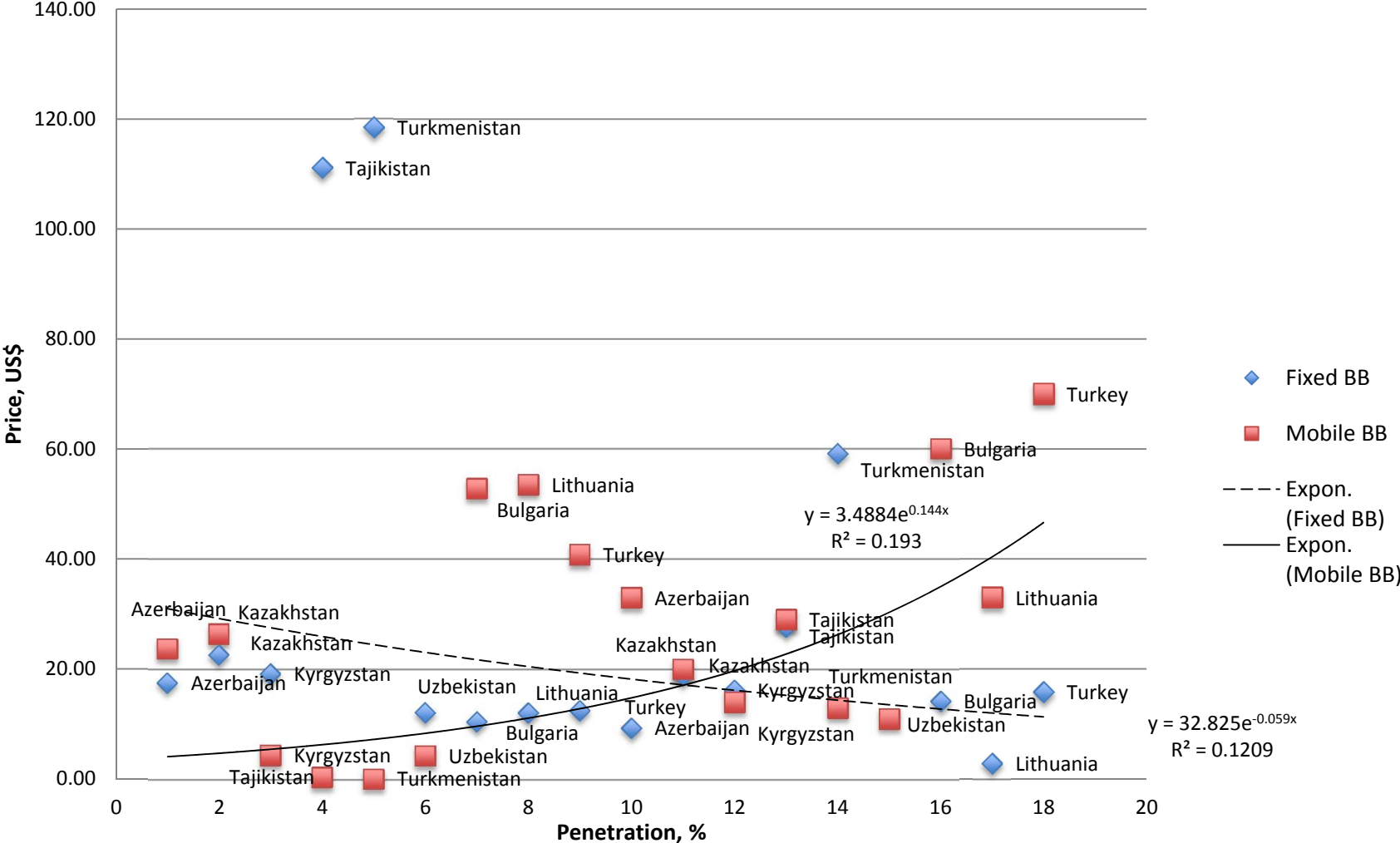
Source: TeleGeography; World Trade Organization; McKinsey Global Institute analysis

Central Asia significantly lags behind Eastern European countries in terms of international Internet capacity



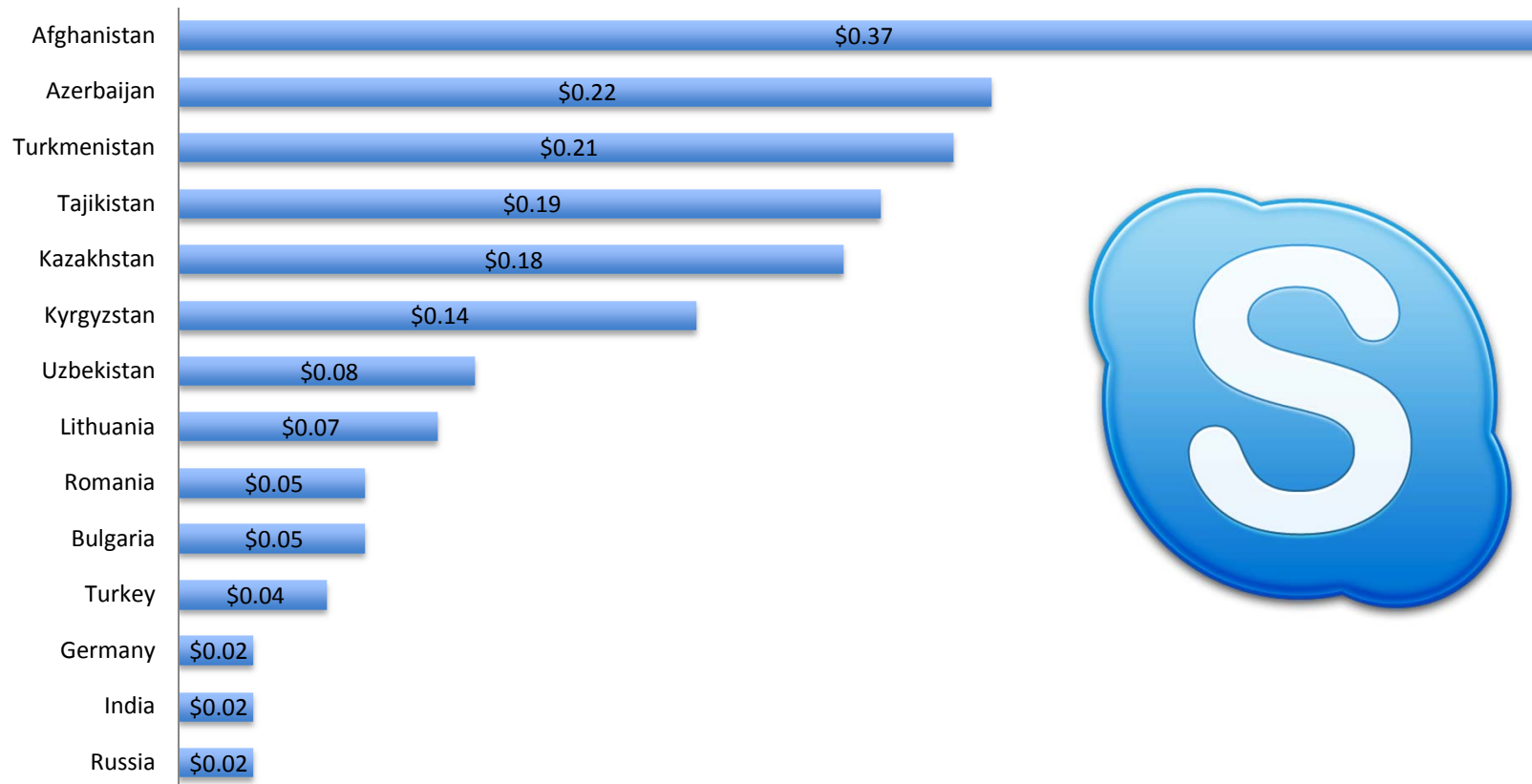
Competition is the key driver of broadband penetration growth and price reduction

Price and penetration in case of fixed and mobile broadband, 2014 (ITU)



Open markets substantially lower international rates, boosting competitiveness

SkypeOut Rates, US\$/min.



How can the WBG help?



**Through leveraging public & private funding
and alternative infrastructure
WB assisted governments with connectivity solutions
at international, regional, cross-border, and national levels**

- Caribbean Regional Communications Infrastructure Program (CARCIP) – \$22 mln.
- Africa:
 - RCIP (East/Southern) – \$424 mln.
 - EaSSy Submarine Cable – \$32 mln.
 - Central Africa Backbone – \$215 mln.
 - West Africa Regional Communications Infrastructure – \$305 mln.