



**WORLD BANK GROUP**  
Transport & ICT

# Innovative solutions for rolling out broadband in the local loop: What really matters?

Experience from the WB analytical work  
applicable to the specific case of Iraq

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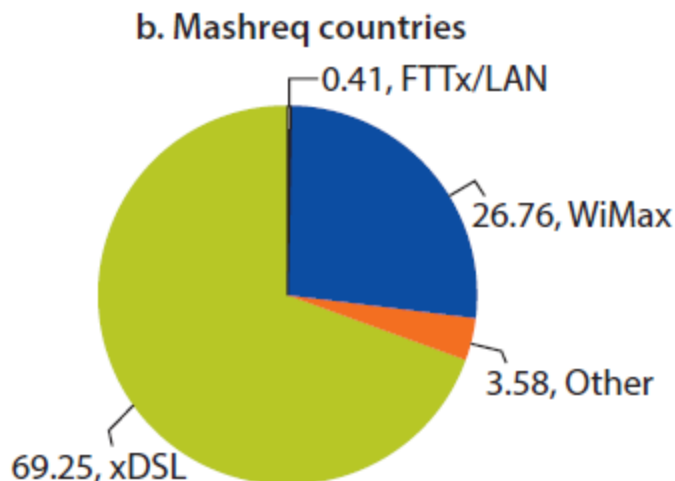
“Enabling Broadband in Iraq” Workshop  
9-10<sup>h</sup> of September, 2014  
Beirut, Lebanon

# Mashreq context: Access



- Particularly low development of the broadband Access networks across entire sub-region;
- There are two specific issues that Mashreq sub-region is facing:
  - Low level of infrastructure development:
    - Mobile Broadband: Subscriber penetration in 2012 was 14,04%, in 2013 – 18,10%;
    - Fixed Broadband: Household penetration in 2012 was 17,07%, in 2013 – 20,43%;
  - Low level of technological diversity in case of fixed Broadband:
    - ~70% of total connections delivered over the xDSL only;
    - ~27% of the total connections – WiMax.

Source: Telegeography



Source: WB analysis, Data for 2012

	Fixed Broadband	Mobile Broadband
<b>EMERGING markets</b>	Syrian Arab Rep. Iraq Iran, Islamic Rep.	Syrian Arab Rep. Iraq* Iran, Islamic Rep.*
<b>DEVELOPING markets</b>	Lebanon Jordan West Bank and Gaza	Lebanon Jordan
<b>MATURE markets</b>	-	-

Note: Mobile broadband is not available yet in West Bank and Gaza; \*Less than emerging markets in 2012.

# Mashreq context: Prices



- Prices for both fixed and mobile services are generally high, but there are some exceptions:
  - In case of **Mobile Broadband** prices are low in case of Jordan and high in Lebanon;
  - In case of **Fixed Broadband** prices are high in almost all countries with exceptions to Jordan and Iraq; Iraqi case is explained by cheap WiMax offerings, but only in one of the regions.

	Fixed Broadband	Mobile Broadband
HIGH prices	Syrian Arab Rep. Iran, Islamic Rep. Lebanon West Bank and Gaza	Syrian Arab Rep. Lebanon
LOW prices	Iraq (WiMax offer)* Jordan	Jordan

- Better achievements of Jordan is a consequence of **COMPETITION**;
- Jordan is the only country in Mashreq sub-region where market share of alternative operators above 40%; In all other countries <10%;
- Jordan is **4<sup>th</sup> most competitive market in MENA** (after Saudi Arabia, Bahrain and United Arab Emirates).

Note: In 2012 Mobile broadband was not available in West Bank and Gaza, Iran, Islamic Rep. and Iraq; \* WiMax offer in Iraq is provided in Kurdistan region. In rest of Iraq Fixed broadband prices are high.

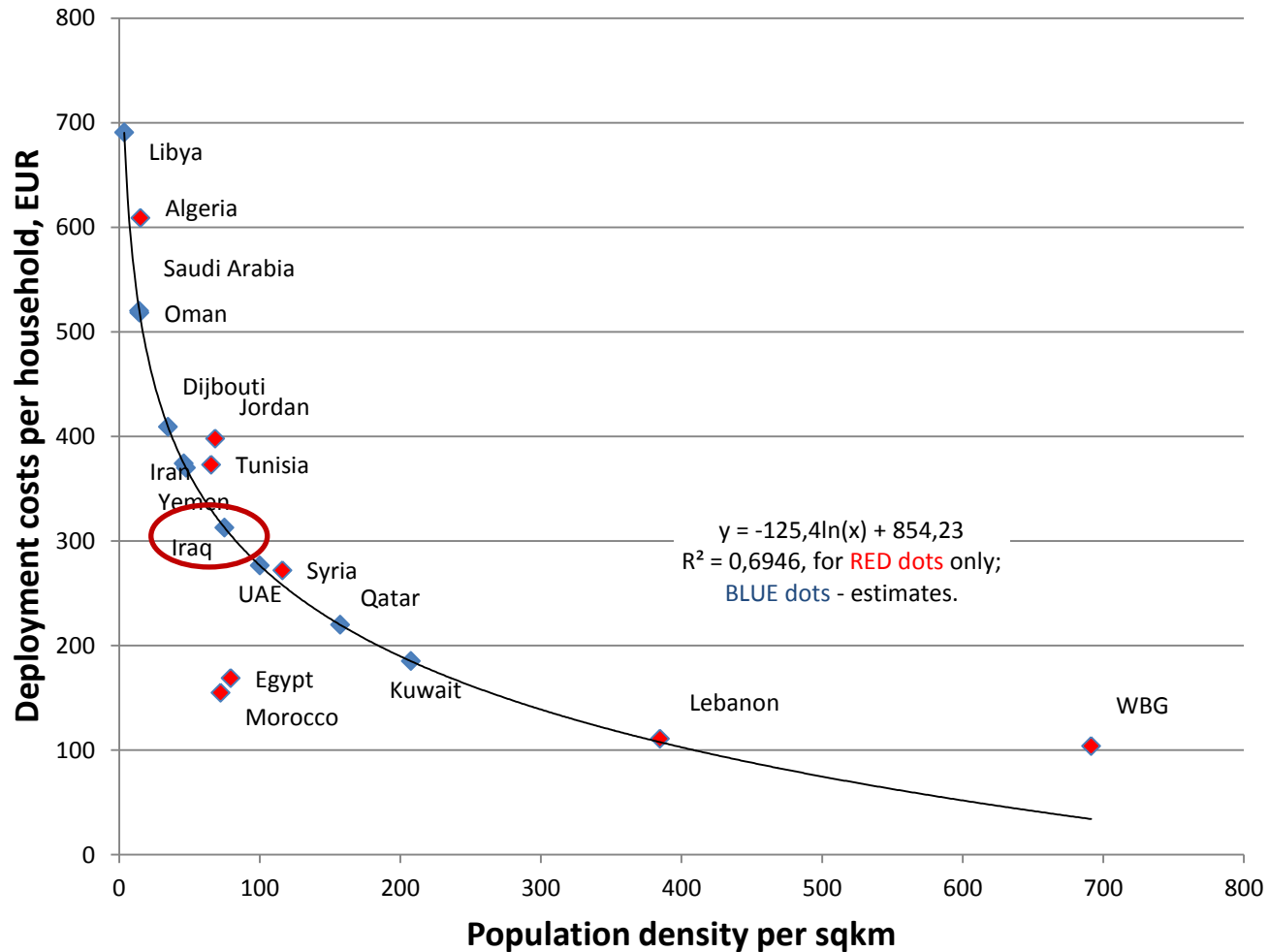
Source: WB analysis, Data for 2012

# MENA context: Investments (1)



- Deployment of Access network is the most costly part of the Broadband network;
- One of the most critical factors impacting deployment costs is population density;
- According to our rough estimates, costs of rolling out combination of FTTC and LTE with speed of 10Mbps to 100% of population and with speed of 30Mbps to 50% will require:
  - ~ 25EUR Billions to cover MENA;
  - ~ 11,4EUR Billions to cover Mashreq; and
  - ~ 1,6EUR Billions to cover Iraq. Source: WB analysis, very rough estimates, data for 2012
- Real numbers are likely to be lower because of the specific national context, e.g. presence of passive infrastructure which could be shared, more adjusted technological mix, etc.

# MENA context: Investments (2)



Note: Red dots Analysis Mason estimates for European Investments Bank; Blue dots WB estimates; Bahrain is not considered due to (a) already covered with broadband; (b) too small to make an impact .

Source: WB analysis, data for 2012

# Technology mix



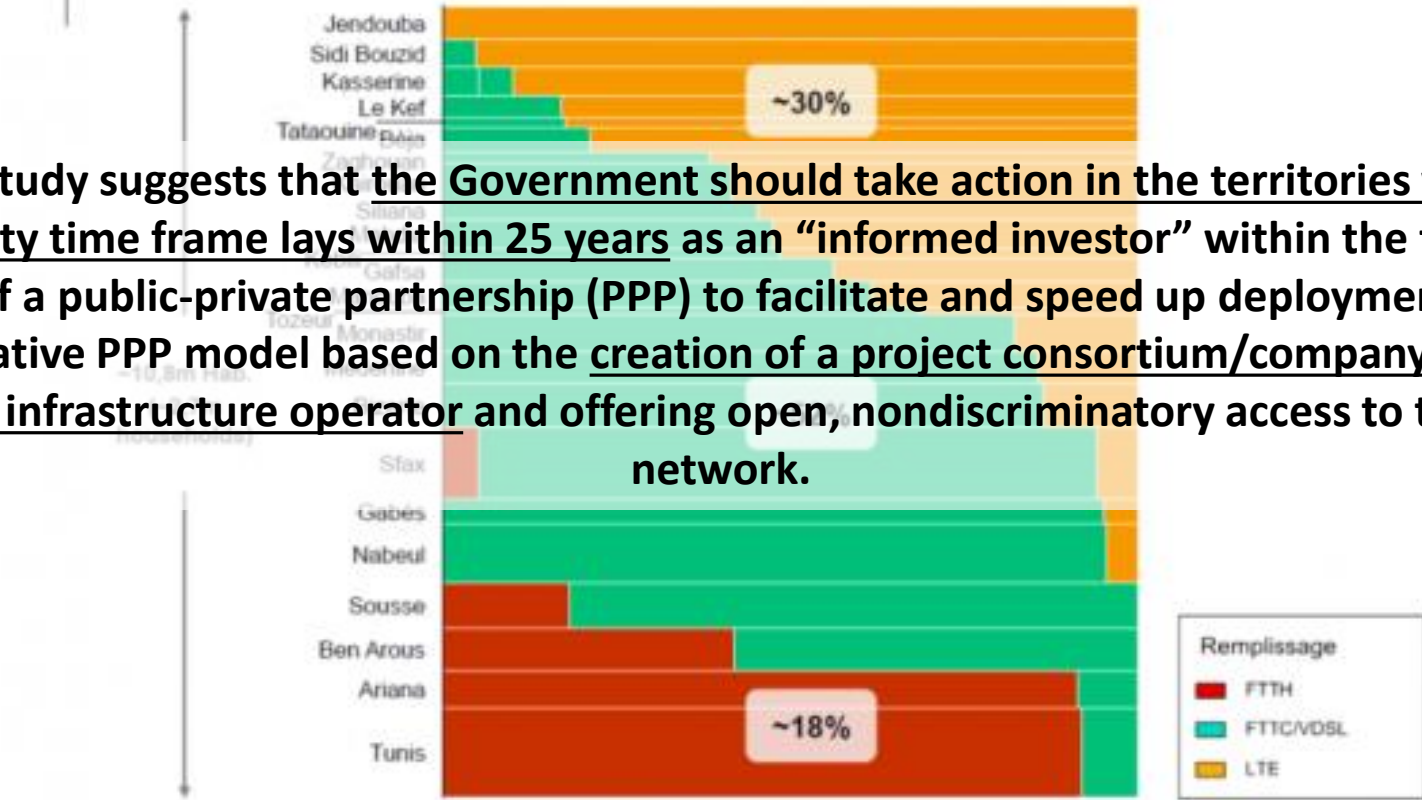
- For high-speed broadband the most optimal technology mix is usually combination of FTTx (e.g. FTTC+VDSL, FTTB, etc.) and LTE;
- In order to identify the optimal technological mix and more accurate investment requirements for deployment of ultra-fast broadband, it is required to perform comprehensive socio demographic study with a high degree of geographical granularity (municipality per municipality);
- For instance, our results from Tunisia shows that only 18% of the network coverage can be profitable form the commercial standpoint for FTTH deployment:
  - **Tunisia** – 33.6% of rural population; Population density – 65.4%;
  - **Iraq** – 33.5% of rural population; Population density – 75.04%.

*Source: Population data from UN (2011)*

# Technology mix: Case of Tunisia



Breakdown of technology mix by governorate



The study suggests that the Government should take action in the territories where profitability time frame lays within 25 years as an “informed investor” within the framework of a public-private partnership (PPP) to facilitate and speed up deployment; e.g. innovative PPP model based on the creation of a project consortium/company acting as a passive infrastructure operator and offering open, nondiscriminatory access to the FTTH network.

Note: Hab.=residents, remplissage=legend

Source: Consortium TERA CONSULTANTS (lead member), GIDE LOYRETTE NOUEL, CERT, EUDOXIA Conseil and CJBMI & ass, at: <http://blogs.worldbank.org/ic4d/tunisia-innovative-public-private-partnerships-could-open-door-ultra-fast-broadband-least-20-percent>



## Simple acceleration of Broadband penetration is not a goal in itself !

Creation of **competitive environment** for Broadband provision, ensuring  
(where possible) **infrastructure based competition** should be put on the  
top of the regulatory agenda for coming years.

Main task is to **avoid construction of second monopoly (of fibre)**.

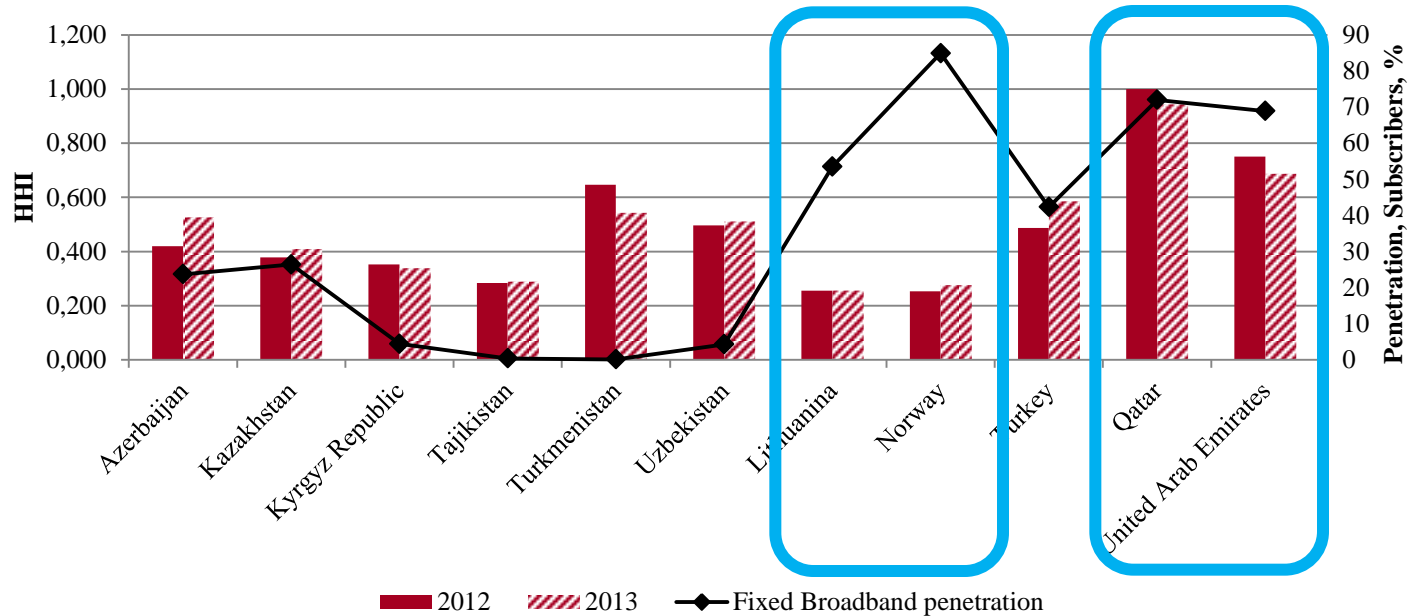
This task is gaining significant importance in the developing markets  
where incumbents are dominating in terms of:

*easy or privileged access to capital markets/financial resources;  
control of infrastructure not easily duplicated (i.e. Ducts).*

## Why competition is important?



# Role of Competition: Case Study



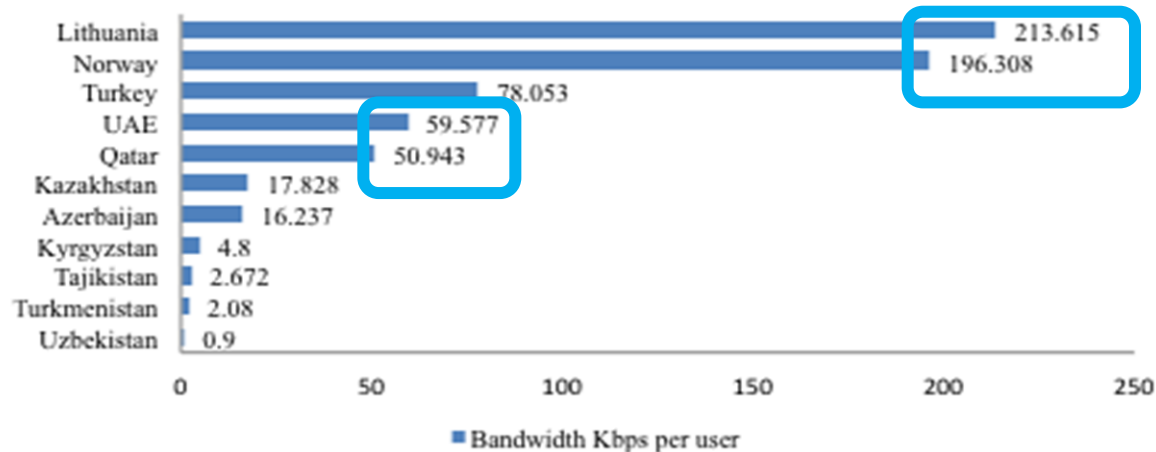
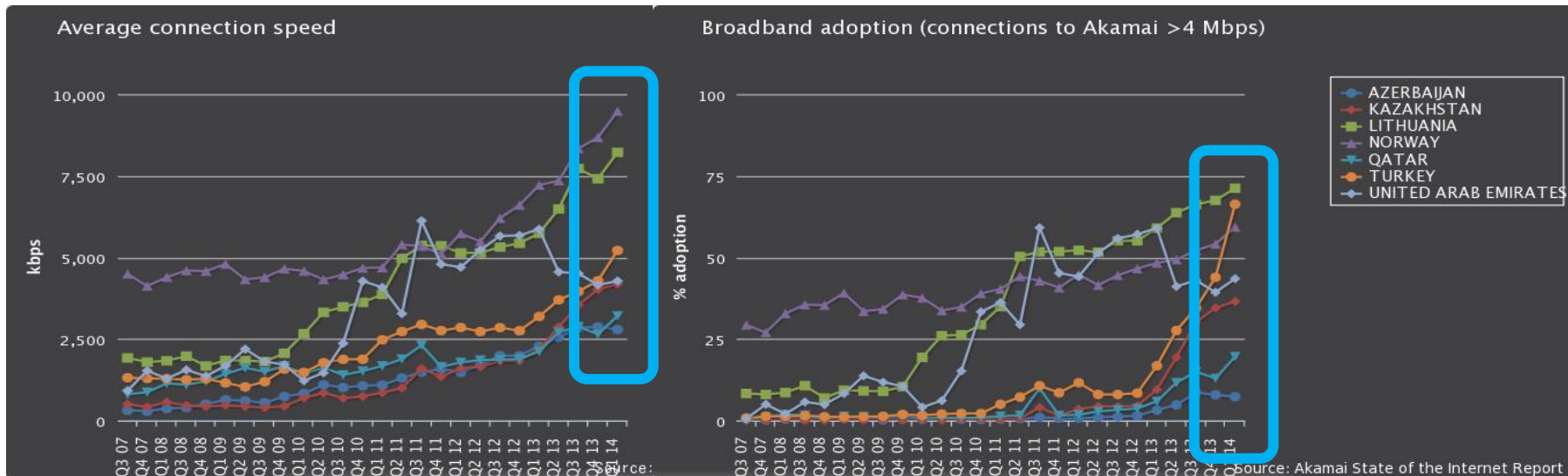
Source: WB analysis

Country	Fixed broadband price, PPP	Mobile broadband price, PPP	Average monthly disposable income, PPP	Fixed broadband price as % of average disposable monthly income, %	Mobile broadband price as % of average disposable monthly income, %
Azerbaijan	27.78	20.83	201.06	13.82	10.36
<b>Lithuania</b>	19.17	10.69	445.83	<b>4.3</b>	<b>2.4</b>
<b>Norway</b>	34.13	11.30	4,430.24	<b>0.77</b>	<b>0.26</b>
<b>Qatar</b>	120.97	26.21	7,146.12	<b>1.69</b>	<b>0.37</b>
<b>United Arab Emirates</b>	75.38	56.63	3,196.30	<b>2.36</b>	<b>1.77</b>

We analysed rich economies with very high penetration rates and found out that countries with high and low competition have low prices, **BUT...**



# Role of Competition: Case Study (2)



Only countries with strong competition have both:  
**GOOD QUALITY** and **LOW PRICES**



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