BBVA | RESEARCH

JULY
2016

Digital Context:
Peru

Outline

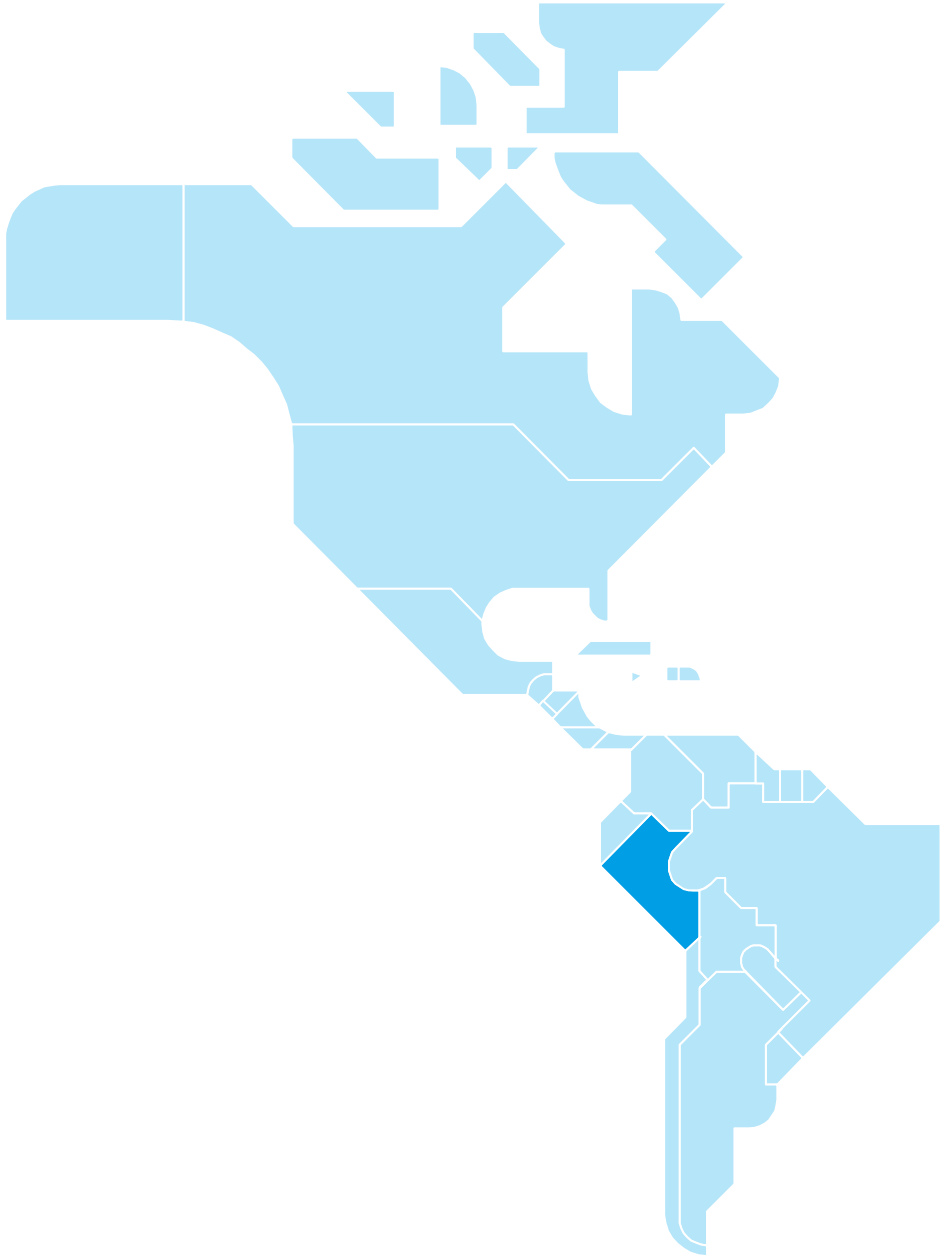
- Overview

1 Digital scenario

2 Demand side

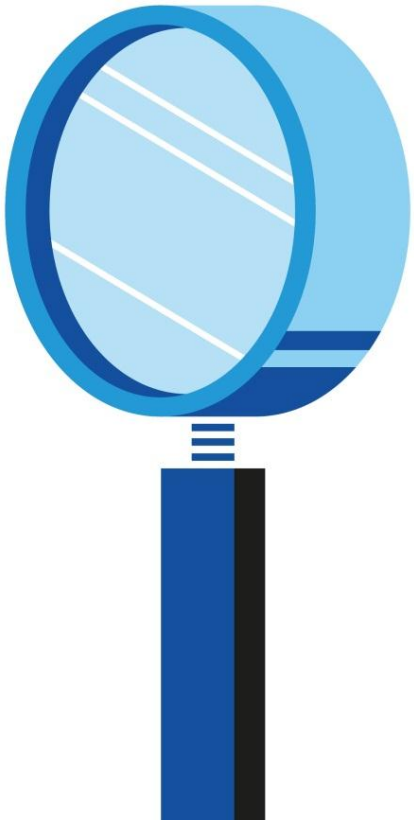
3 Supply side

4 Regulation side



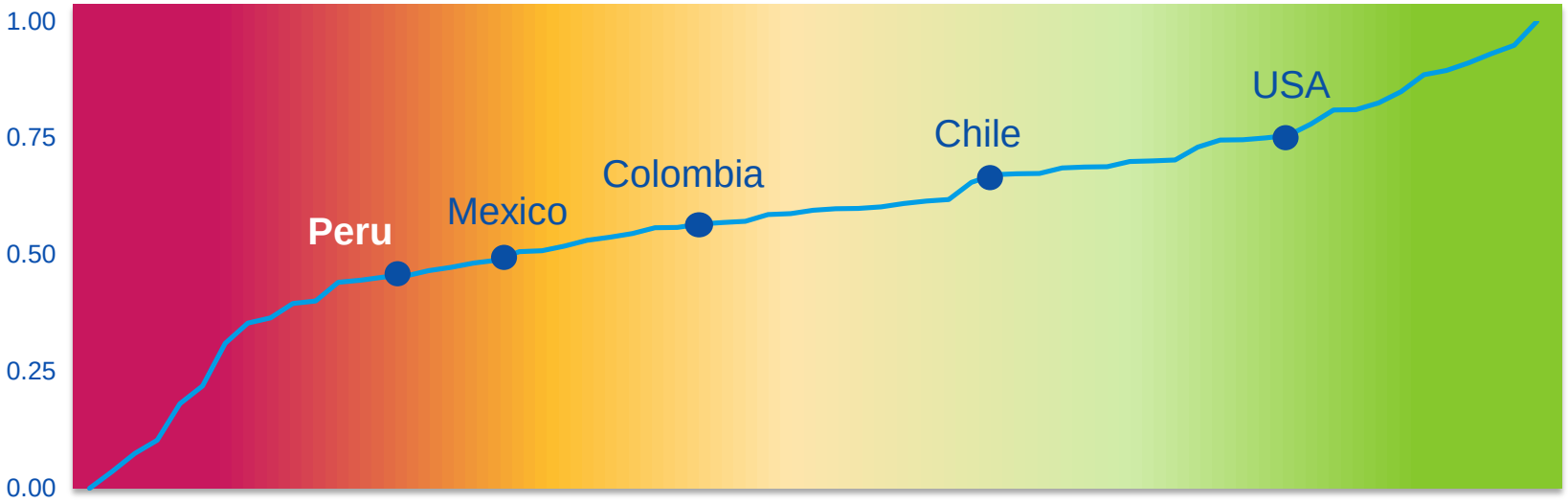
Overview

- Digital **contents** in Peru are **well developed**, although the country should **improve ICT affordability and regulation issues**
- Internet users on **daily bases overtake** the percentage of users on weekly bases in 2013
- **Mobile** phones are **widely spread** among Peruvians
- **Home becomes the main place** to use internet, instead of public cabins
- **Lima Metropolitana stands out** in both e-banking and e-commerce, but always with percentages **below 10%**
- **The east of the country** have the **least** level of **internet use,** while the **middle-west** register a **low usage** of **e-banking** and **e-commerce**
- **Fibre** infrastructure for internet connection **keep increasing** and its **use is continuously growing**
- Number of **mobile broadband** subscriptions have **increased 34 times in the last 5 years**
- **The Peruvians ICT-related laws** drive a high level of piracy and a low efficiency in the system



1 Scenario: Digitization Index

1.1. Structural digitization Index in 2015

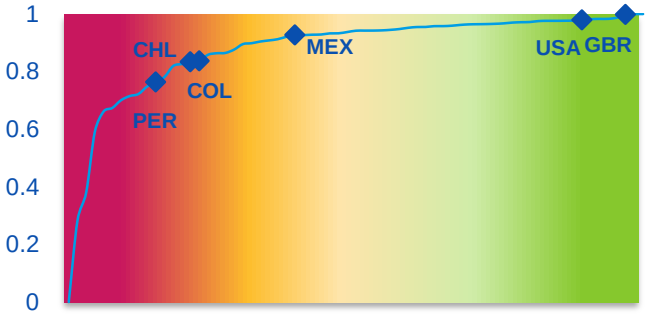


Algeria	Vietnam	Morocco	China	Hungary	Ireland	Germany	Sweden
Qatar	Peru	Thailand	Saudi Arabia	Turkey	Chile	Malaysia	Netherlands
Nigeria	Argentina	Mexico	Croatia	Romania	United Arab Emirates	Denmark	Finland
Pakistan	Egypt	Sri Lanka	Colombia	Uruguay	Belgium	Latvia	Lithuania
Bangladesh	Ukraine	Italy	Slovenia	Luxembourg	Spain	Canada	Korea, Rep.
Paraguay	Greece	Poland	Kazakhstan	Brazil	Singapore	Australia	Japan
India	Philippines	Bulgaria	Russian Federation	Czech Rep.	Austria	France	Estonia
Venezuela	Indonesia	Cyprus	Slovak Republic	South Africa	Portugal	United States	Hong Kong SAR
							United Kingdom

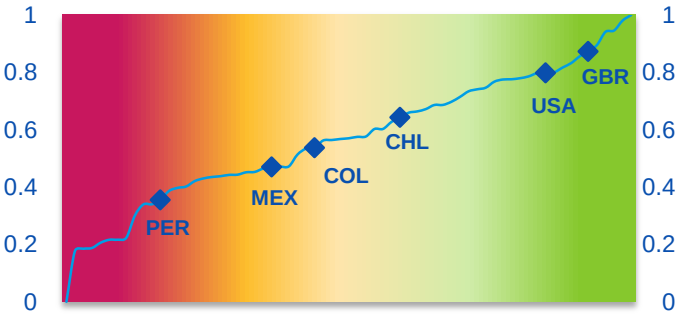
The index comprises the measure of infrastructure level indicators, adoption and use of technologies, costs and regulatory conditions

1.2. Structural digitization Index in 2015: By dimension

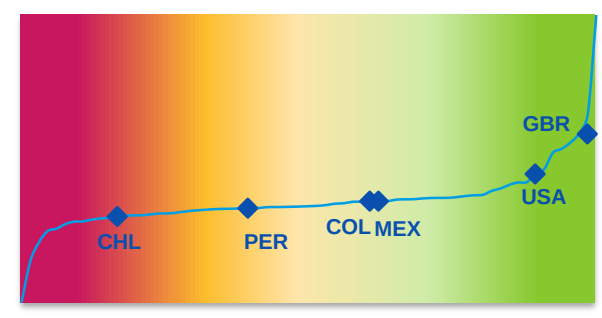
Affordability



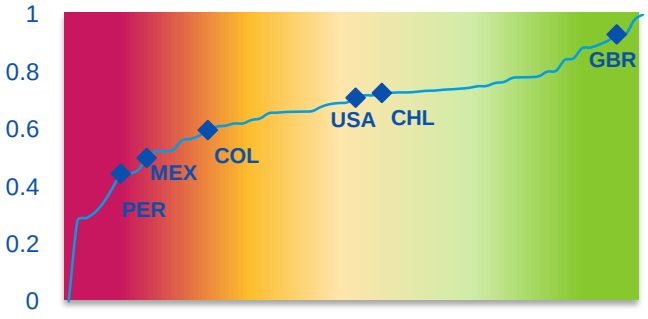
ICT Regulation



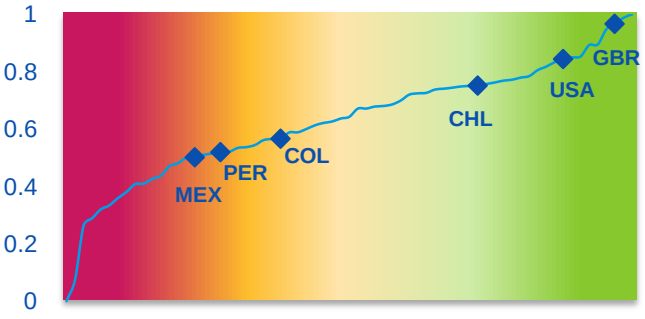
Infrastructure



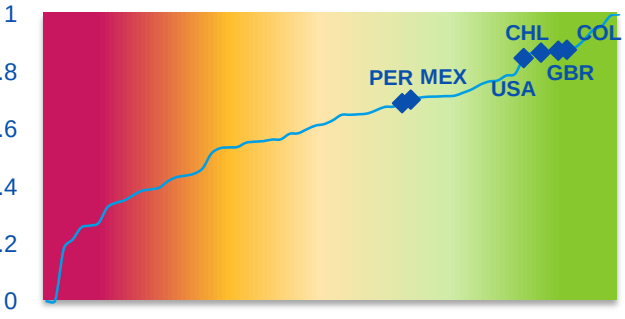
Individual usage



Enterprises usage



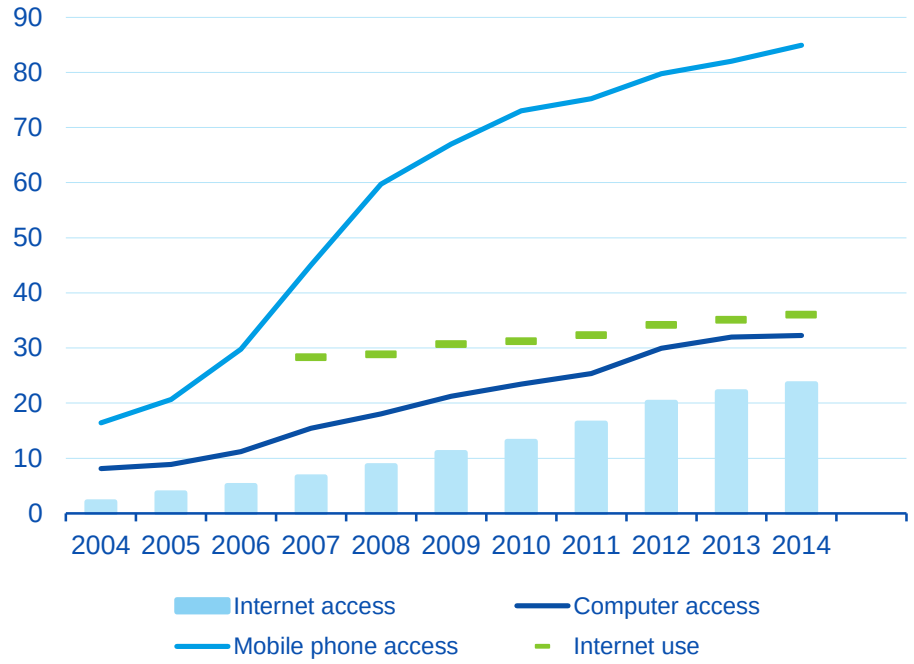
Content



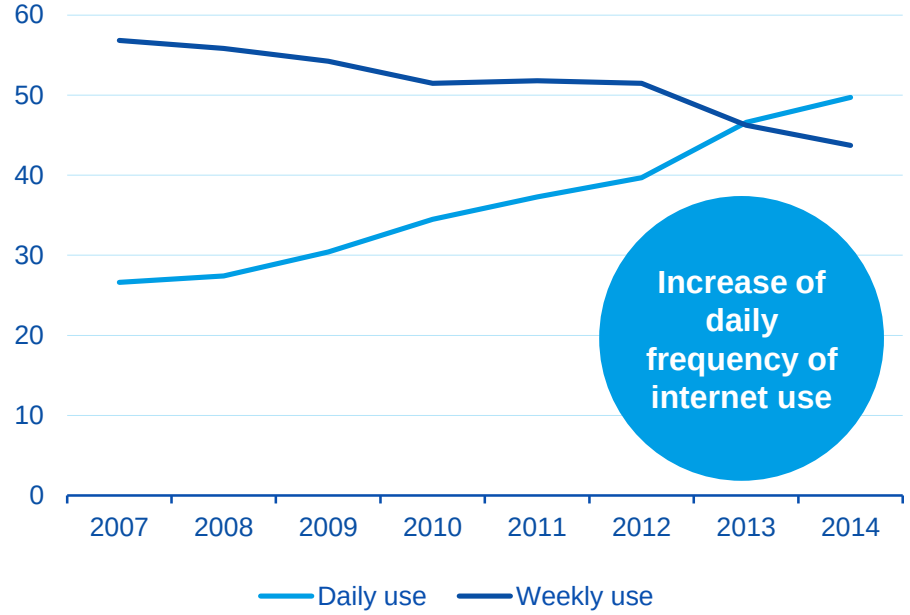
2 Demand side

2.1. Computer and internet: Access at home and usage

ICT access and internet use (%)



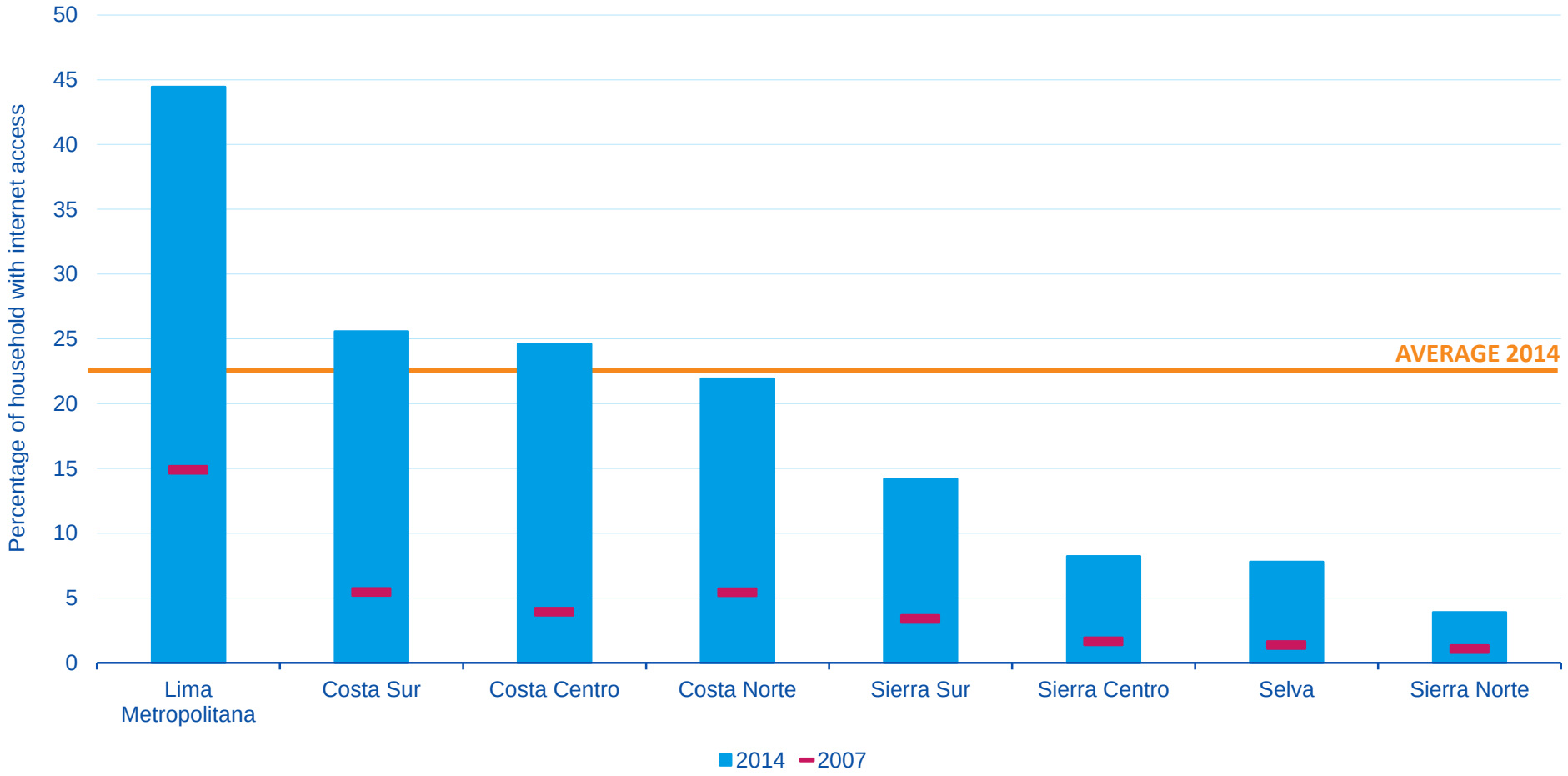
Internet use frequency (%)



Higher growth in mobile phone than computer access

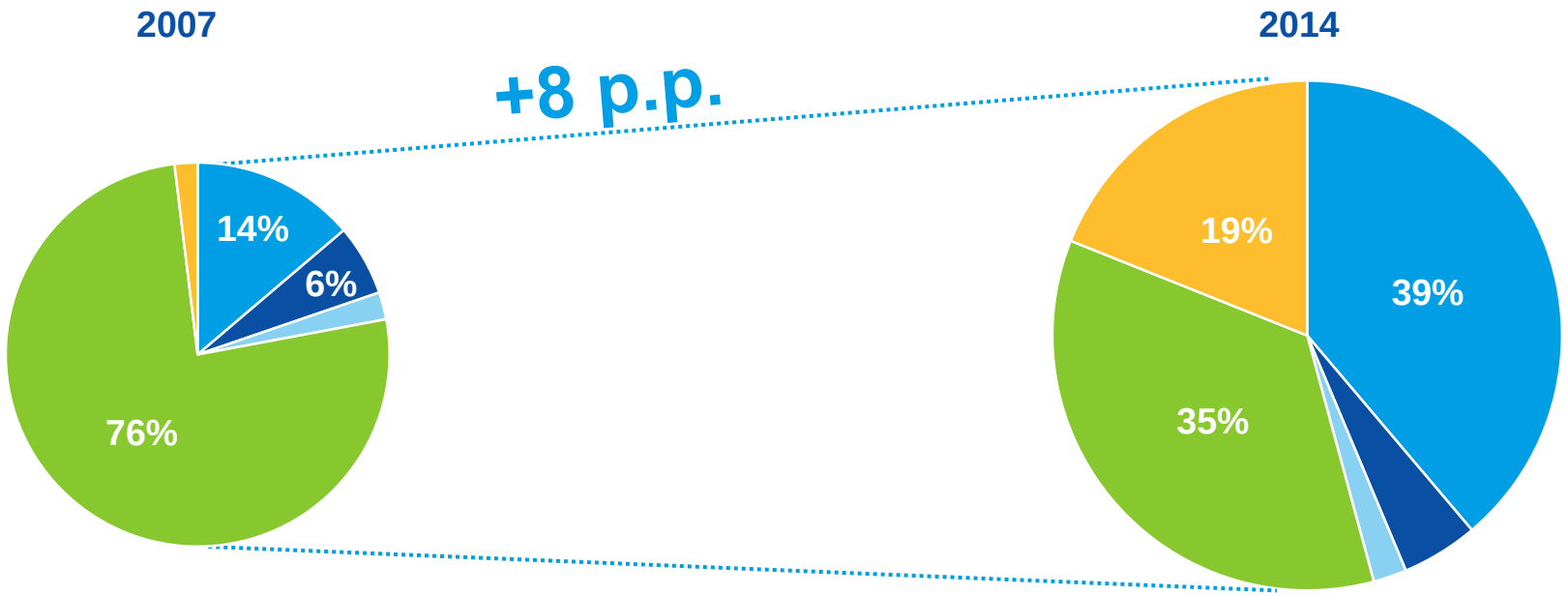
Note: Access to internet/computer/mobile phone means only the availability of them in the household. “Internet use” corresponds to both inside and outside home.

2.2. Internet access at home: Evolution by regions



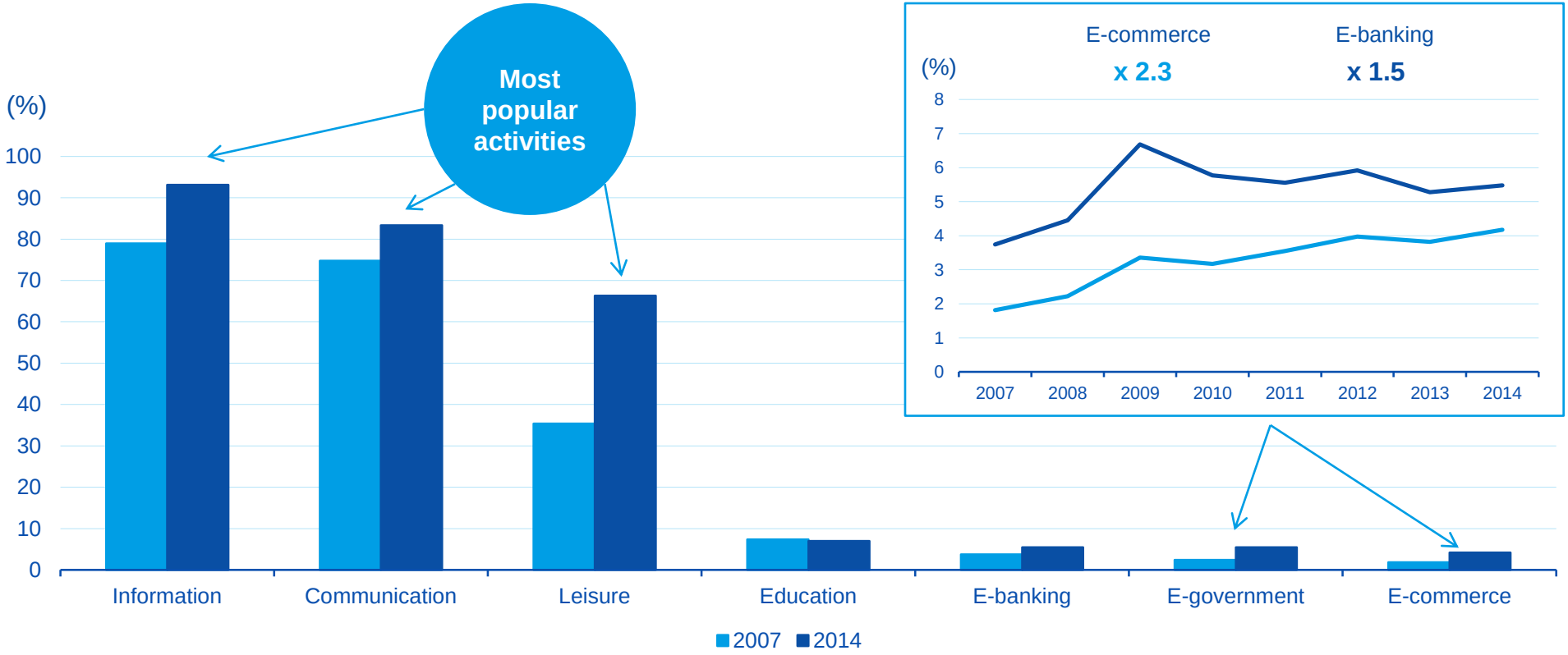
Note: See appendix for a detailed explanation about the departments that compose each region

2.3. Places for Internet use



Home is gaining momentum compared to public cabins

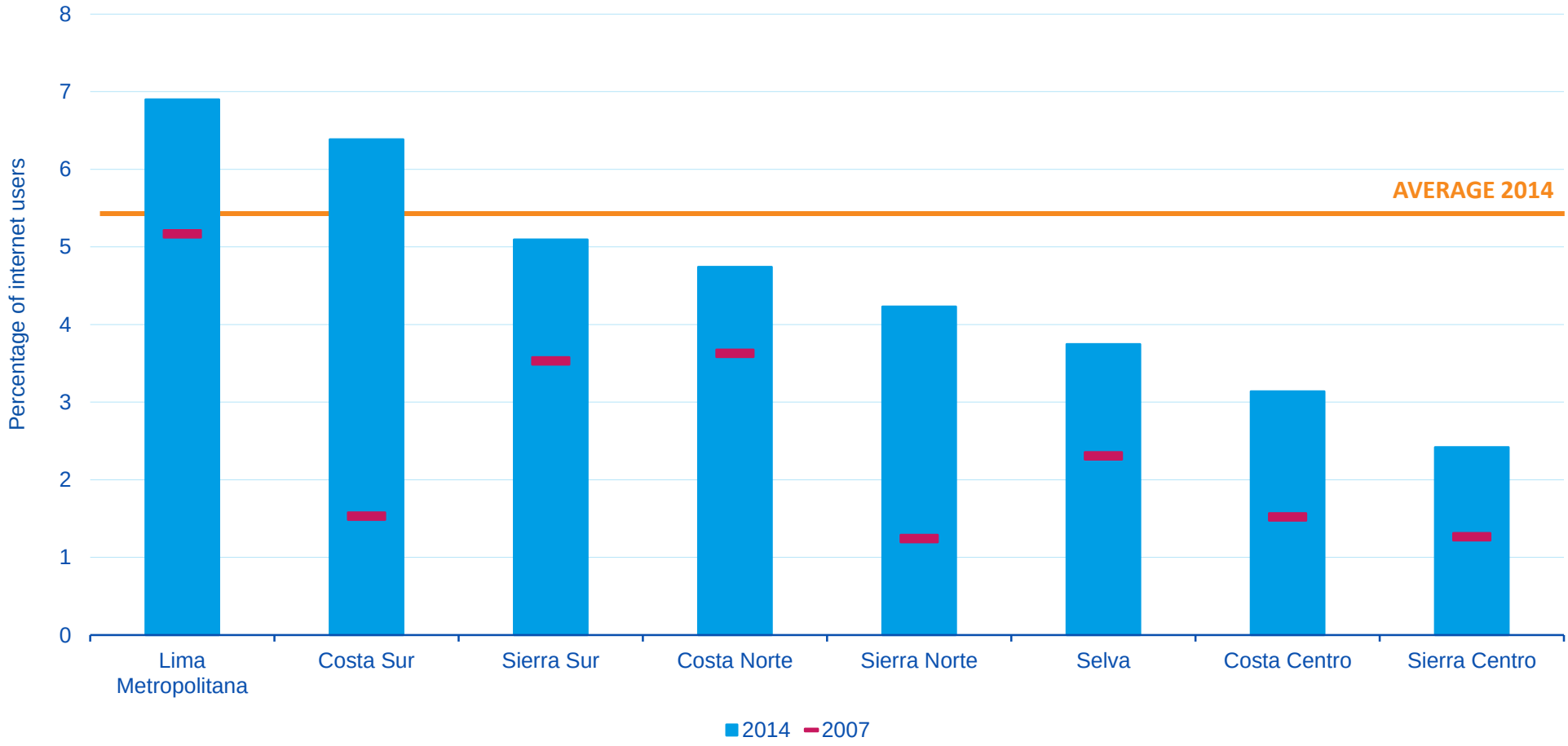
2.4. More frequent activities on internet



*Note: Options are not exclusive, all activities can be selected by one individual simultaneously

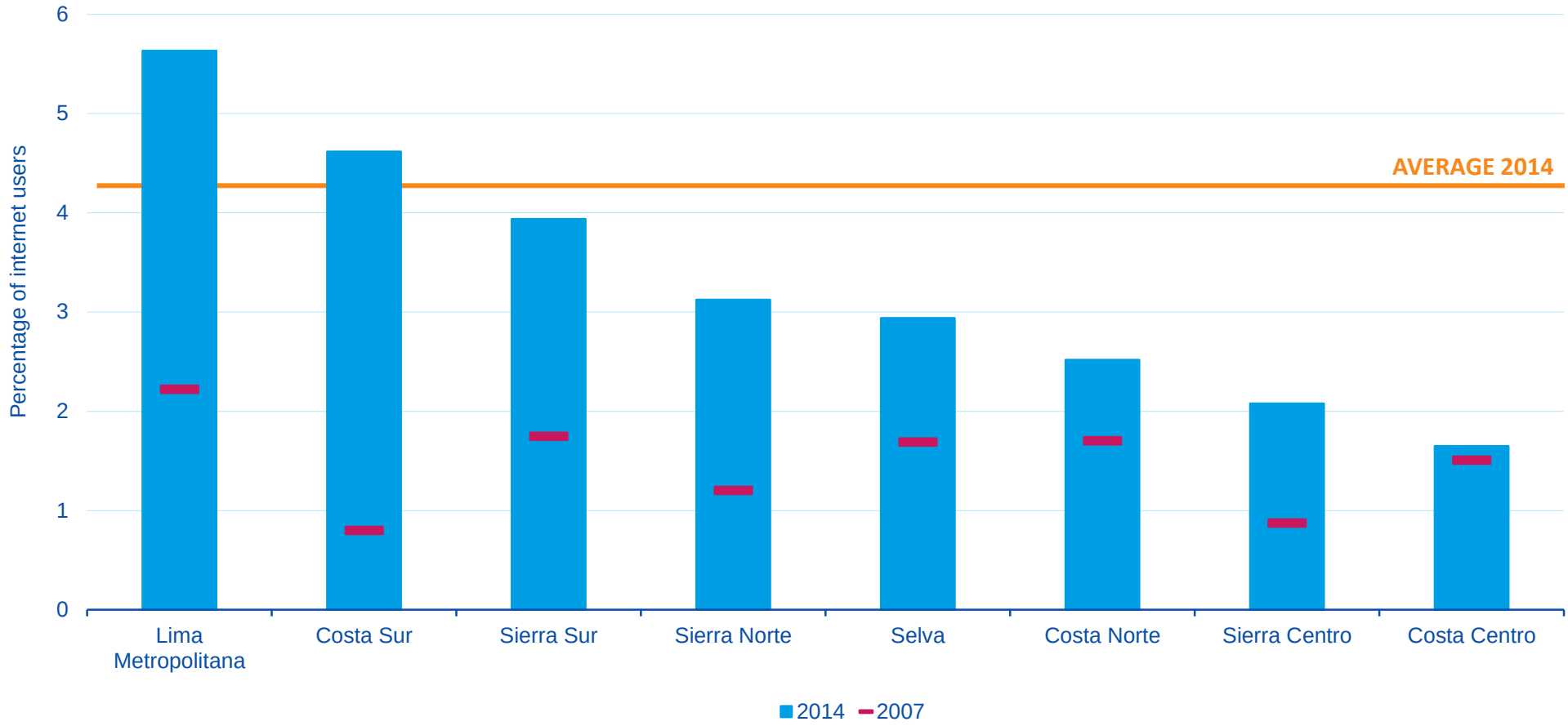
There is an increasing use of internet for e-commerce and e-banking

2.5. E-banking: Evolution by regions



Note: See appendix for a detailed explanation about the departments that compose each region

2.6. E-commerce: Evolution by regions



Note: See appendix for a detailed explanation about the departments that compose each region

2.7. Geographical distribution in 2014: Usage in the last month

Internet

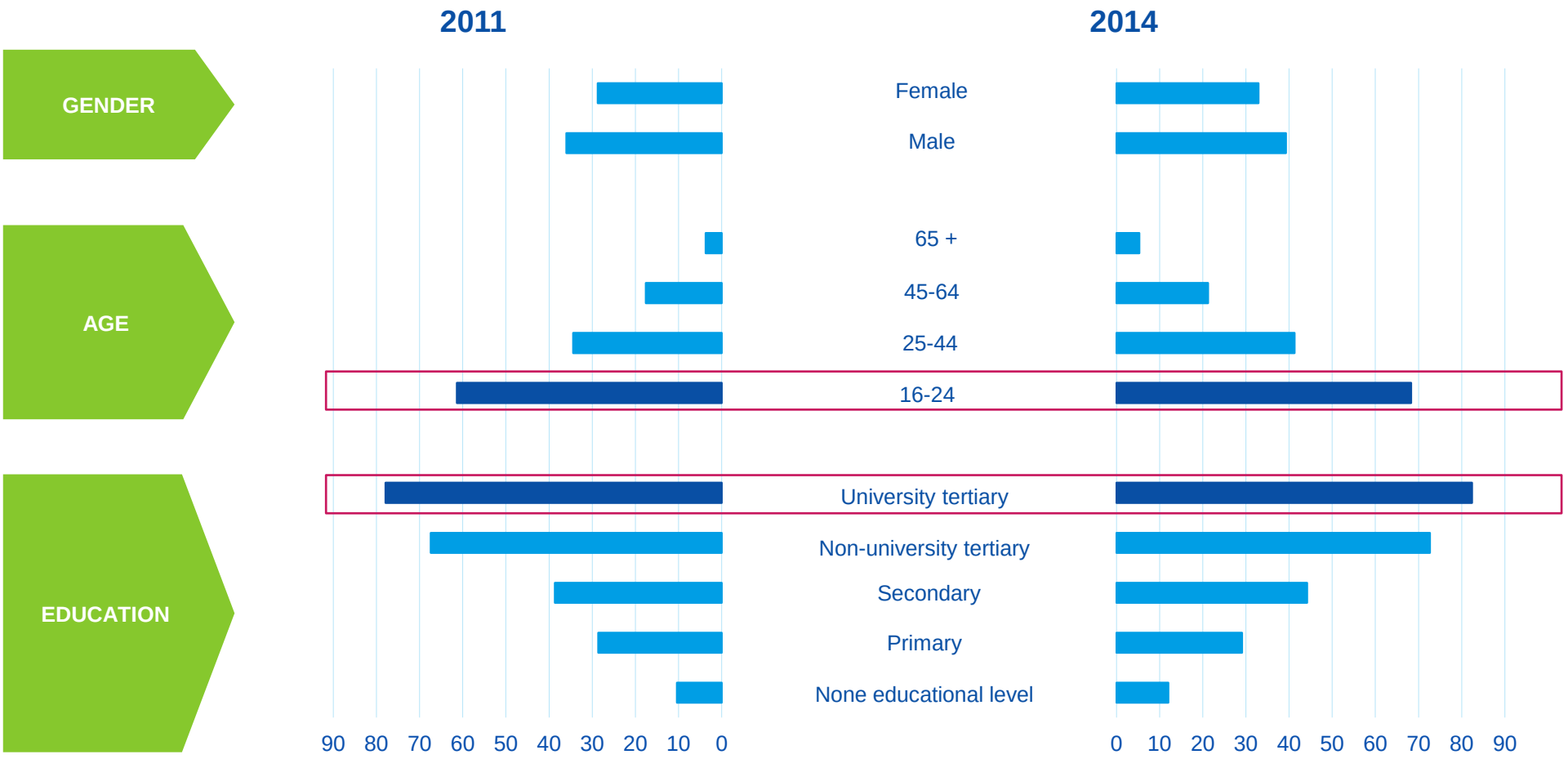
E-banking

E-commerce

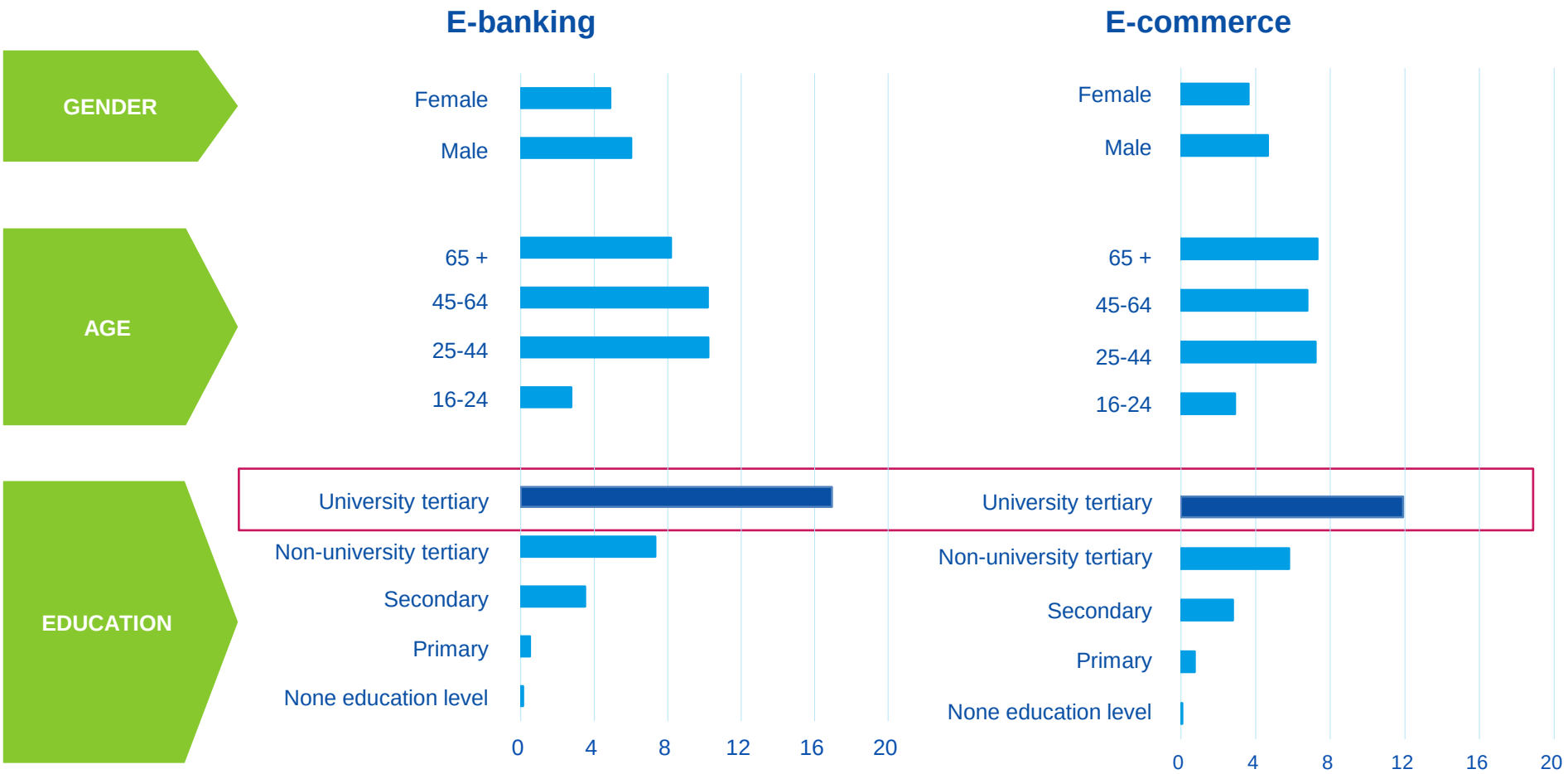
High
Medium-high
Medium-low
Low

Note: The different levels correspond to a distribution by quartiles (two regions for each quartile)

2.8. Population characteristics: Internet use (%)



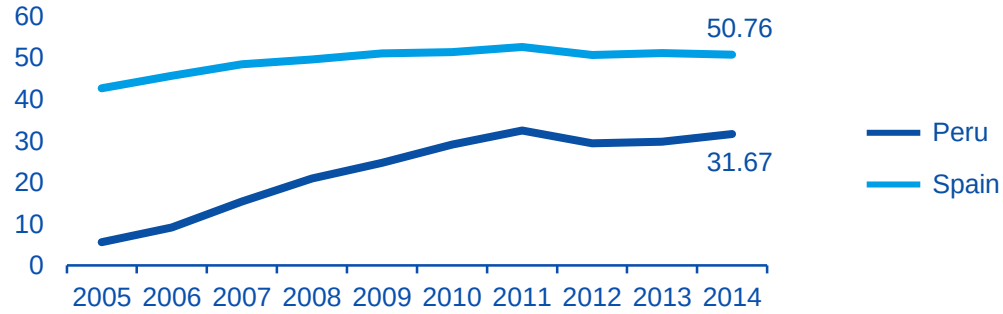
2.9. Population characteristics (% of internet users, 2014)



3 Supply side

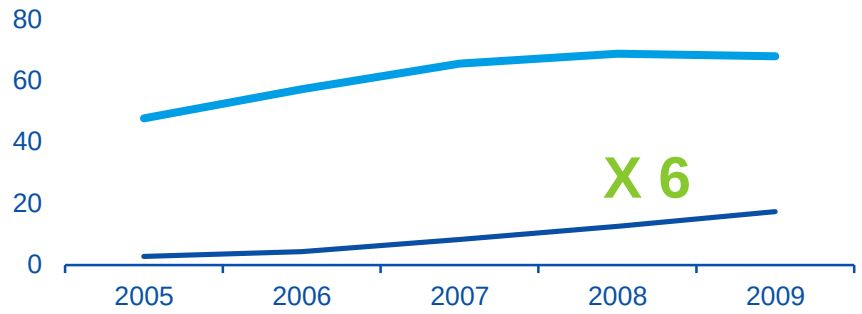
3.1. Mobile situation

Mobile-cellular telephone subscriptions (millions)



Domestic mobile-telephone traffic

(billions of minutes)

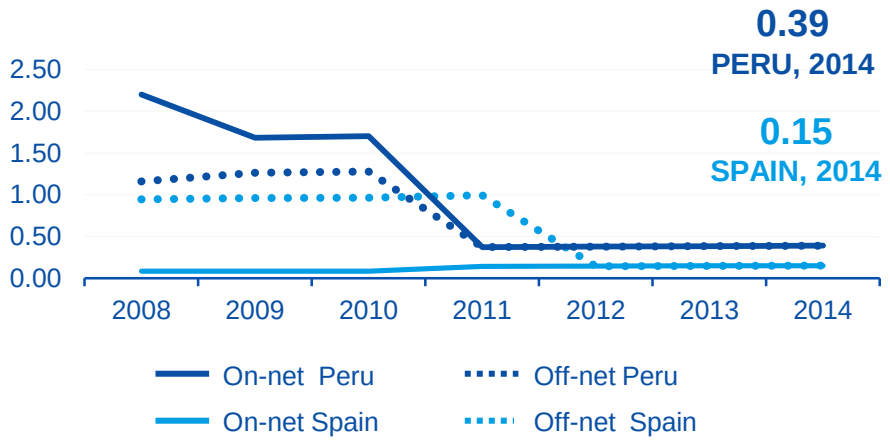


Mobile population Coverage

Peru 99.95%

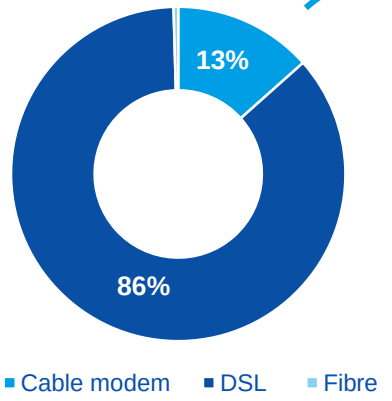
Spain 99%

Tariffs: Mobile-cellular prepaid-1 min call (USD)

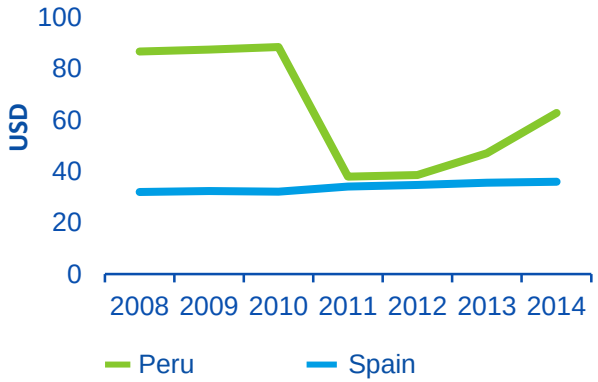


3.2. Fixed broadband by technology

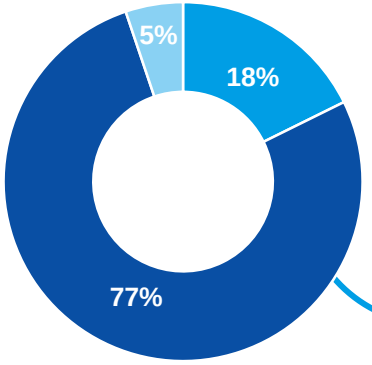
Peru 2013



Fixed broadband monthly subscription charge
63 USD2014

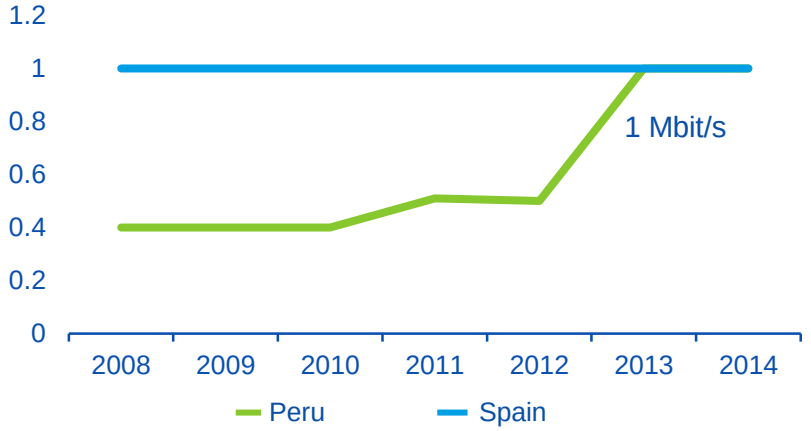


Spain 2013

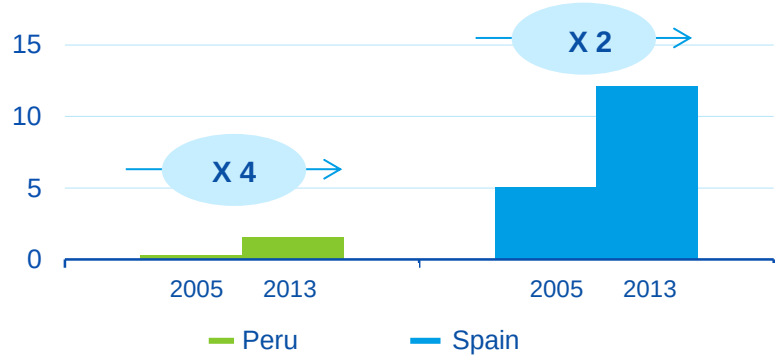


Fixed broadband monthly subscription charge
36 USD2014

Fixed broadband speed, (in Mbit/s)

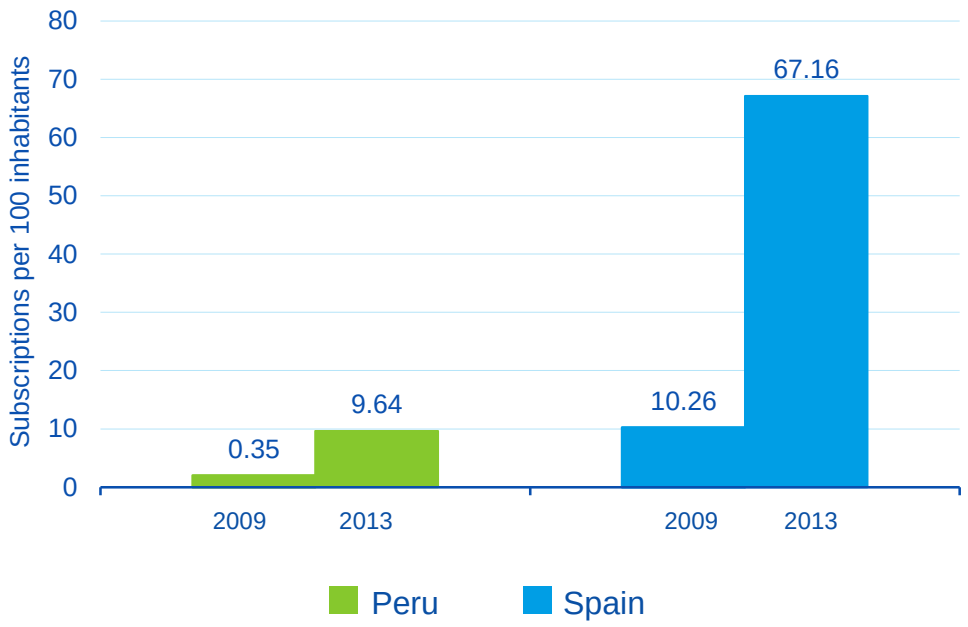


Fixed broadband subscriptions (millions)

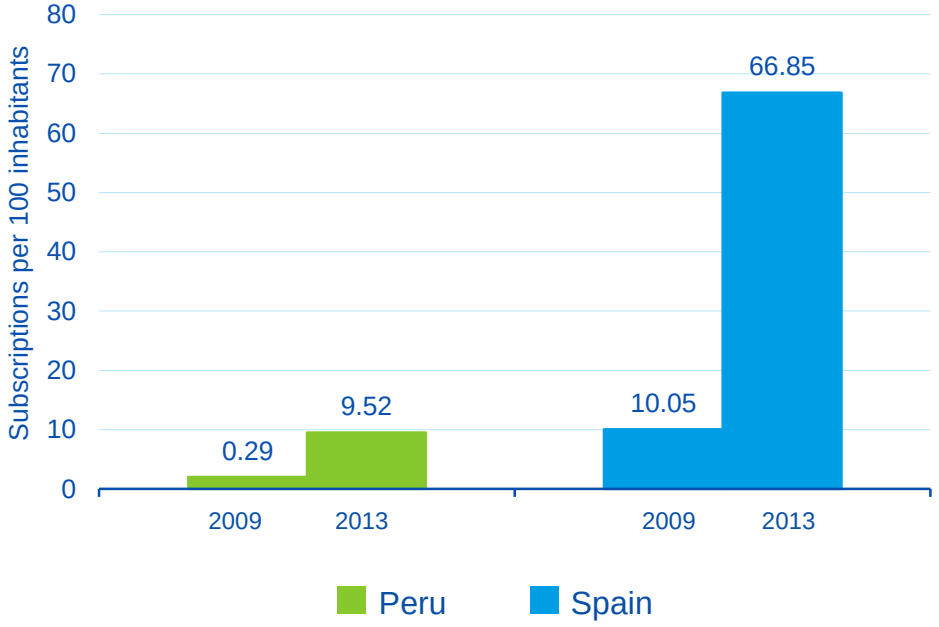


3.3. Wireless broadband

Wireless broadband subscriptions (%)



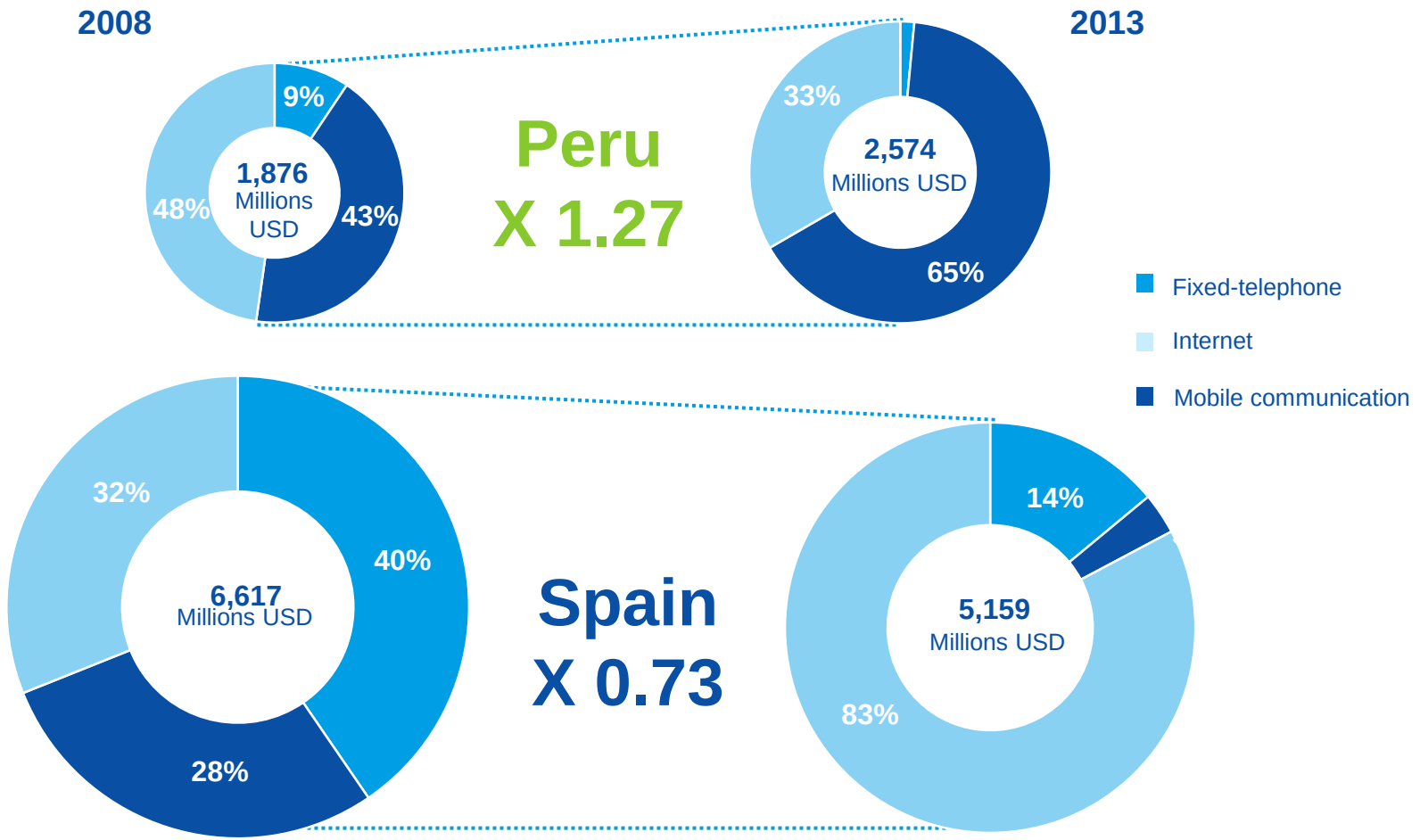
Mobile-broadband subscriptions (%)



Note: Total wireless broadband subscriptions indicator is composed by satellite, terrestrial fixed wireless and mobile broadband subscriptions

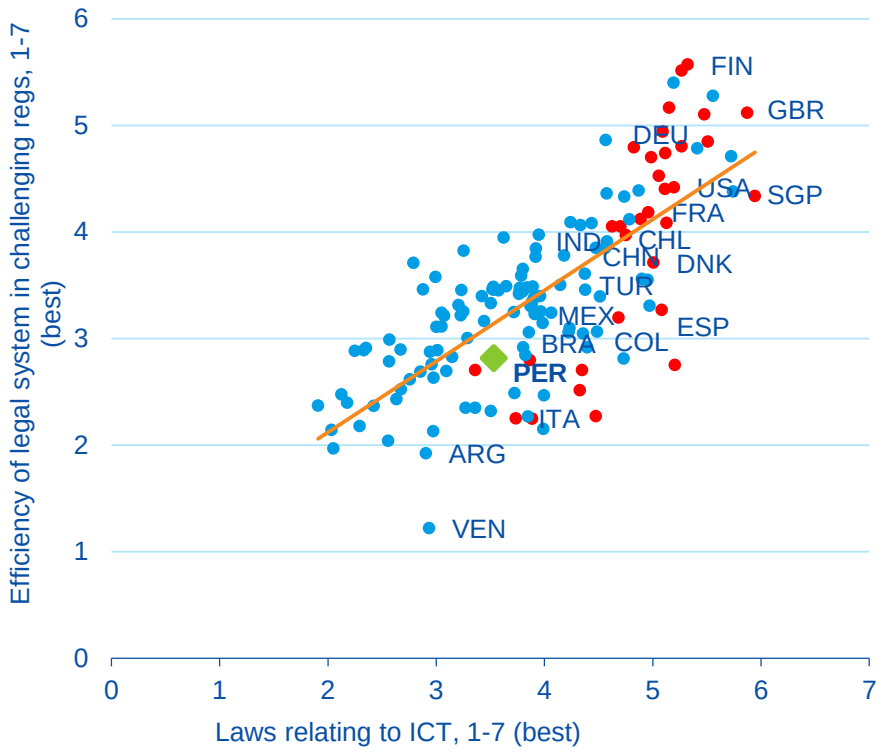
Around 98.7% of total wireless broadband subscriptions corresponds to the mobile-broadband type

3.4. Annual investment in telecommunication services

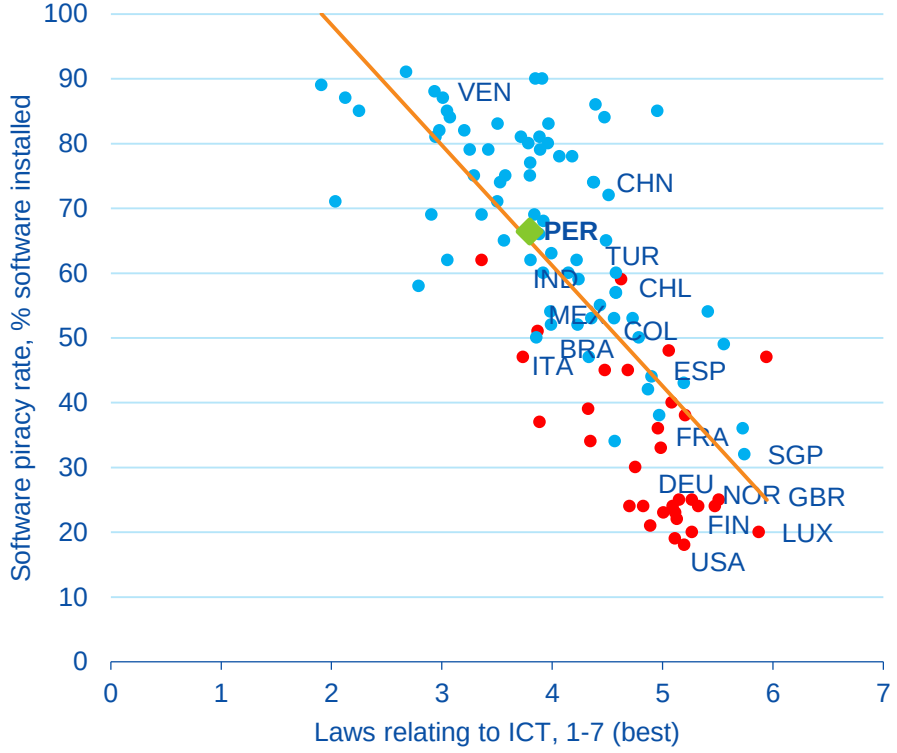


4 Regulation side

4.1. ICT laws: Relation with Efficiency and Piracy



Source : BBVA Research & World Economic Forum

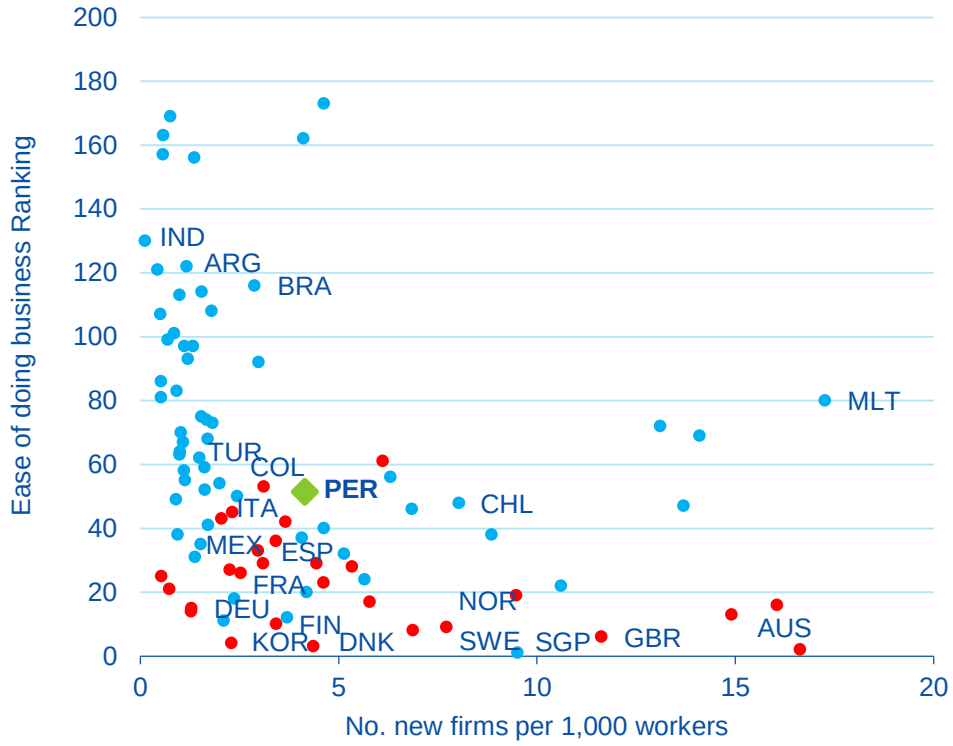


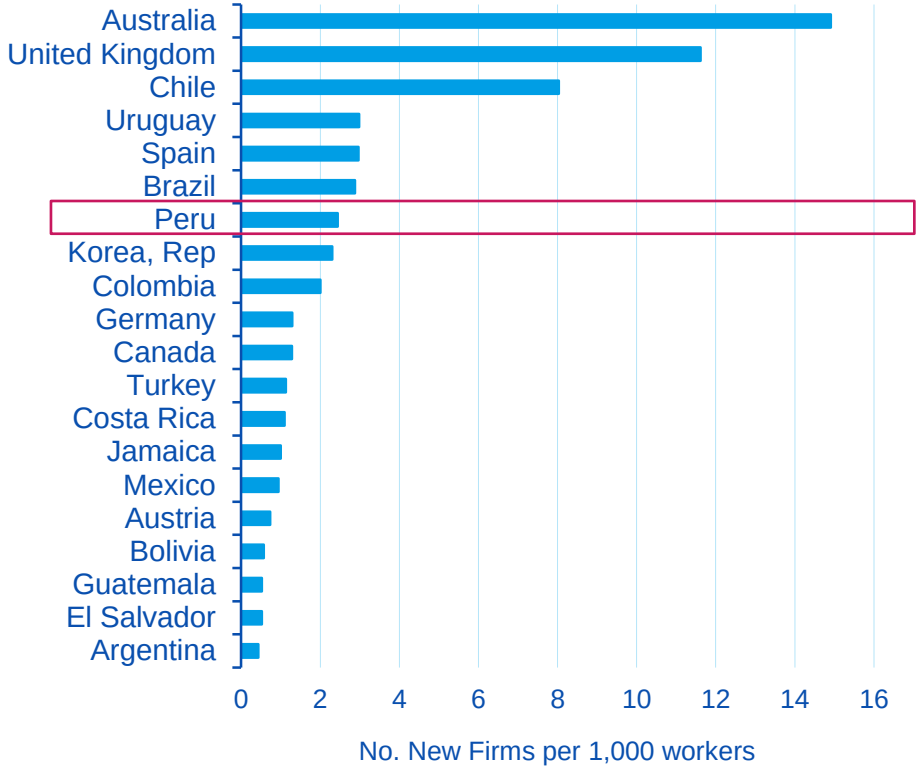
Source: BBVA Research & World Economic Forum

High income OECD countries

Rest (Peru is highlighted in green)

4.2. Ease of doing business & entrepreneurship





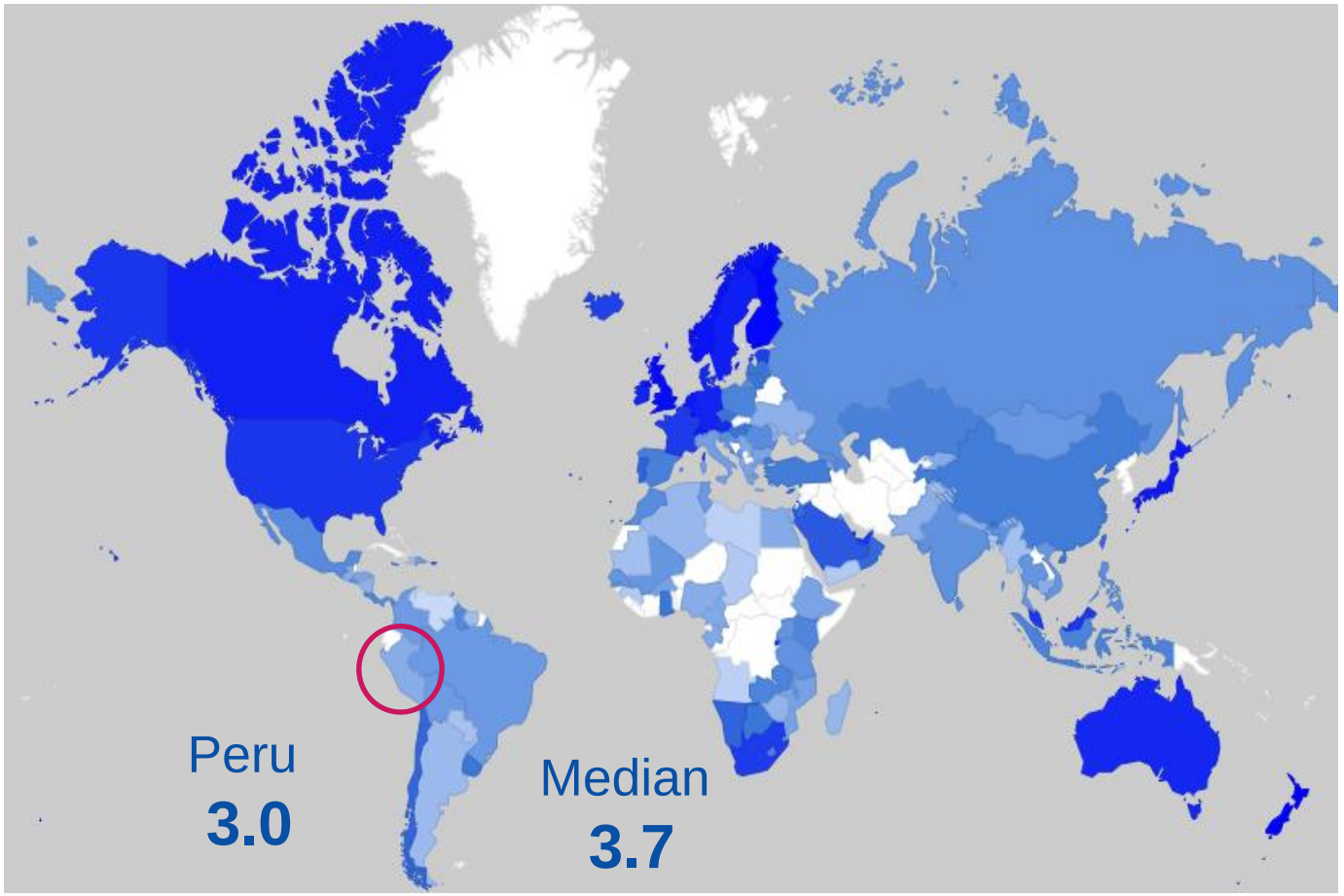
Source: BBVA Research & World Economic Forum

Source: Doing Business (World Bank Group)

High income OECD countries

Rest (Peru is highlighted in green)

4.3. Political and regulatory environment (1-7 best)



The political and regulatory environment of the country is slightly behind the global median

Source: BBVA Research & World Economic Forum, 2015

Note: In order to measure the political and regulatory environment indicators such as ICT-related laws, piracy rates, efficiency of legal system and protection of intellectual property are taken into account.

5 Appendices

Composition of the Digitization Index

Infrastructure

- ✓ Fixed (wired)-broadband speed, in Mbit/s
- ✓ International Internet bandwidth. It is measured in bits per second per internet users
- ✓ Percentage of total population covered by a mobile network signal
- ✓ International Internet bandwidth in megabits per second (Mbit/s)

Users adoption

- ✓ Active mobile-broadband subscriptions
- ✓ Fixed (wired)-broadband subscriptions
- ✓ Mobile telephone subscriptions
- ✓ Percentage of households with Internet access at home
- ✓ Proportion of individuals that used the Internet in the last 12 months
- ✓ how widely used are virtual social networks in the country

Firms adoption

- ✓ What extent do businesses use ICT for transactions with other businesses in the country?
- ✓ What extent do businesses use Internet for selling their goods and services to consumers in the country?
- ✓ What extent do businesses adopt new technology in the country?

[1 = not at all; 7 = to a great extent]

Cost

- ✓ Monthly subscription charge for fixed (wired) broadband Internet service (PPP $). Fixed (wired) broadband is considered any dedicated connection to the Internet at downstream speeds equal to, or greater than, 256 kilobits per second, using DSL

Regulation

- ✓ How developed are your country's laws relating to the use of ICT (e.g., electronic commerce, digital signatures, consumer protection)?

[1 = not developed at all; 7 = extremely well-developed]

Content

- ✓ The Government Online Service Index assesses the quality of government's delivery of online services on a 0-to-1 (best) scale. There are four stages of service delivery: Emerging, Enhanced, Transactional and Connected. In each country, the performance of the government in each of the four stages is measured as the number of services provided as a percentage of the maximum services in the corresponding stage

Source of data from the Demand Side: ENAHO

Survey elaborated by National Institute of Statistics and ICT (INEI) of Peru from 2005 and continuously over time

The information is collected from an especial module included in the National Household Survey (ENAHO) with quarterly frequency

The aim of the survey is to report reliable statistics about the Information and Communication Technologies in households, as well as the use of them by individuals

Source of data from the Supply Side: World Telecommunication/ICT Indicators database (ITU, 2015)

The World Telecommunication/ICT Indicators database contains time series data for the years 1960, 1965, 1970 and annually from 1975 to 2014. These data are available for over 200 economies, however the availability of data for the different indicators and years can vary

The data are collected from an annual questionnaire sent to official economy contacts, usually the regulatory authority or the ministry in charge of telecommunication and ICT. Additional data are obtained from reports provided by telecommunication ministries, regulators and operators and from ITU staff reports

Departmental disaggregation of Peru

REGIONS

1. Lima Metropolitana
2. Sierra Centro
3. Costa Centro
4. Costa Norte
5. Sierra Norte
6. Selva
7. Sierra Sur
8. Costa Sur

DEPARTMENTS

1. Loreto
2. Amazonas
3. San Martín
4. Tumbes
5. Piura
6. Lambayeque
7. Cajamarca
8. La Libertad
9. Áncash
10. Huánuco
11. Ucayali
12. Pasco
13. Junín
14. Lima
15. Callao
16. Ica
17. Huancavelica
18. Ayacucho
19. Apurímac
20. Cusco
21. Madre de Dios
22. Puno
23. Arequipa
24. Moquegua
25. Tacna

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