DIGITAL ECONOMY

Digital Context in Chile

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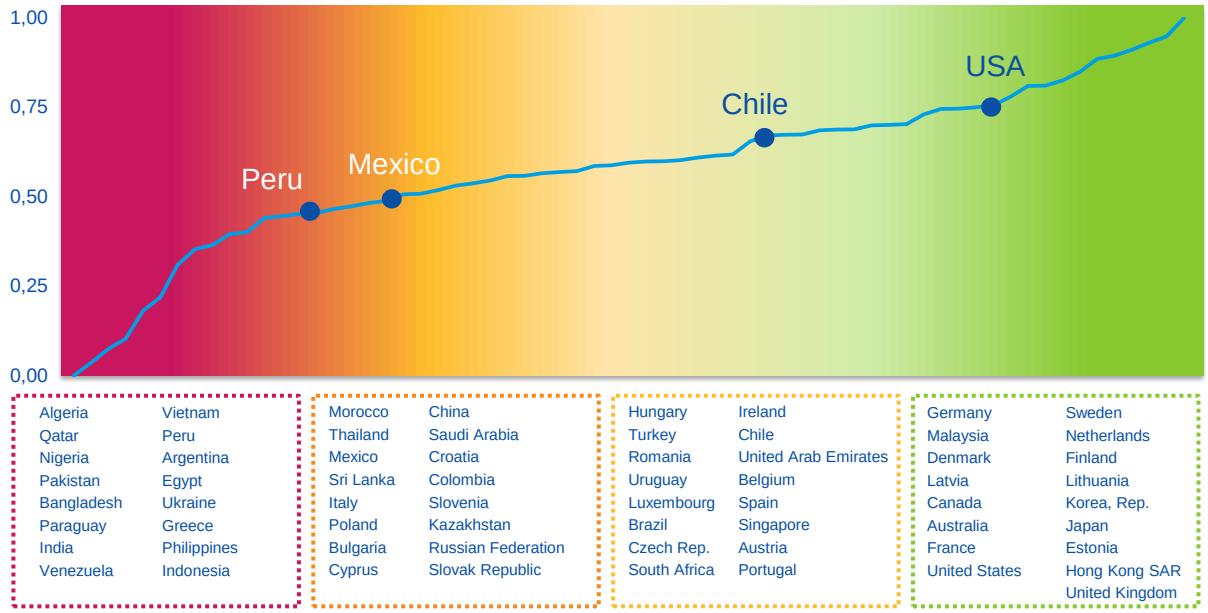
1. Digital scenario

Chile is the best positioned Latin American country according to the 2015 Structural Digitisation Index created by BBVA Research (see Figure 1). Chile's digital scenario is close to that of developed countries like Ireland, Belgium and Spain. Looking at the different dimensions of the index, Chile occupies advantageous positions especially in terms of use and content, while it has a margin for improvement in affordability.

The regulation related to Information and Communication Technologies (ICT) covers subjects related to the protection of the digital consumer, laws deriving from e-commerce and digital security guarantee concepts such as electronic signatures. Chile is positioned in the median as far as this type of regulation is concerned.

Figure 1
Structural Digitisation Index, 2015



Source: BBVA Research & ITU

2. Demand side

44 per cent of households in Chile had Internet access in 2013, this value multiplying by 6 in the period between 2000 and 2013. Around 60 per cent of Chileans use the Internet. In all the years, Internet use is higher than Internet access, which indicates that individuals use the Internet outside their home (see Figure 2.1). With regard to the availability of the computer and mobile phone at homes, their presence was at very similar levels in the year 2000 (15 per cent of households with computer and 19 per cent of households with mobile phone). However, over time, the gap between the devices has opened, leaving computers at 52 per cent while mobile phones reached 84 per cent.

Figure 2.2 shows the frequency at which individuals use the Internet between 2009 and 2013, differentiating between daily and weekly Internet use. We note that most individuals who use the Internet do so daily, with a proportion of nearly 80 per cent in 2013. On the other hand, weekly use of the Internet quickly reduced down to 18 per cent (2013). By regions, Magallanes and Antofagasta have the highest proportion of households with access to the Internet, both with a percentage over 55 per cent. On the other hand, in the Araucanía and Maule regions, access hardly exceeds 31 per cent.

Figure 2.1
Access to ICT and Internet use (%)

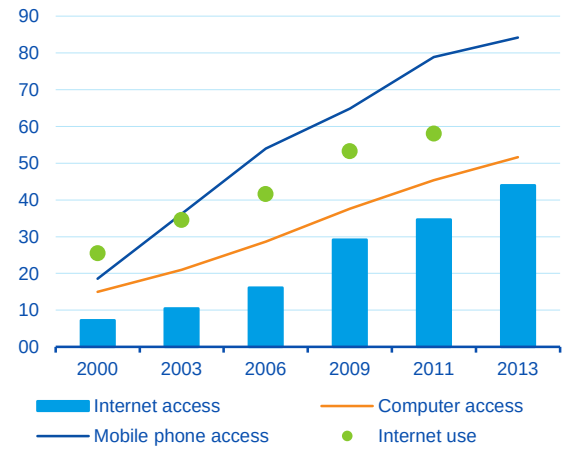
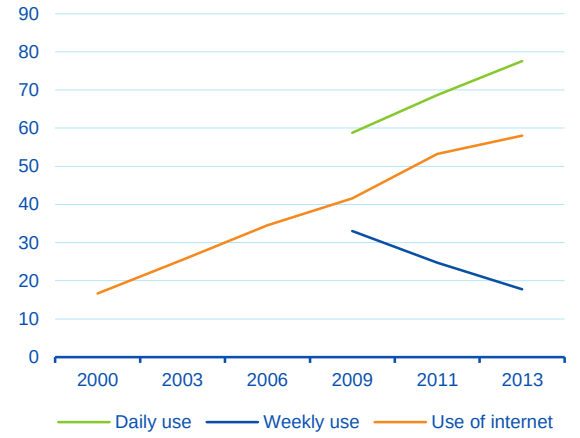


Figure 2.2
Frequency of Internet use (%)



Source: BBVA Research & CASEN survey

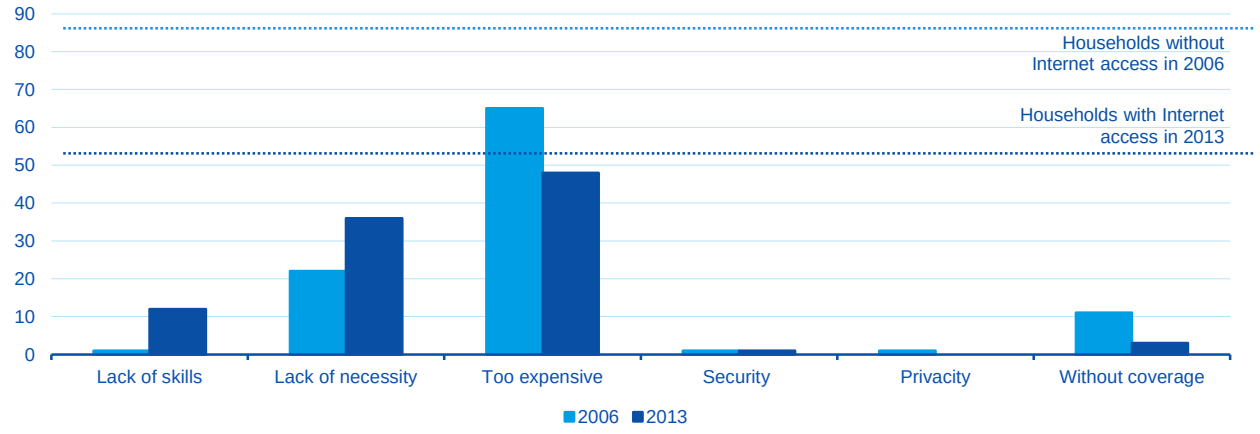
Despite the growth in households with Internet access, around 56 per cent of households in Chile do not have access to it due to various problems, perceived as access barriers by households. The magnitude of these barriers varies over time, changing as new households join the ICT environment.

In this context, we note that the perception of a certain barrier is exclusive to one of the individuals living in each household surveyed, this individual being considered the representative of the household as a whole.

As can be seen in Figure 3, the main barrier to Internet access is economic reasons (a factor indicated in almost all countries of the Latin American region). Nearly 50 per cent of households without Internet access in 2013 perceive the main barrier to be the cost of equipment or network connection, although it is true that its magnitude has reduced, standing at 65 per cent in 2006. While the economic barrier is being overcome, other obstacles are becoming increasingly important, such as lack of need (voluntary barrier) and lack of skills, the magnitude of these considerably increasing between 2006 and 2013. Consequently, 36 per cent of households in 2013 state they do not have access to the Internet because they don't need it and 12 per cent do not believe any member of the household has sufficient skills to use it. Other problems like security and privacy prove practically imperceptible among Chilean households (just 1 per cent of households without

Internet access perceives them as barriers in 2013). Based on the results obtained, we can affirm that the coverage of the Internet access service has increased in Chile, as the perception of this as an impediment has markedly decreased.

Figure 3
Internet access barriers in the household



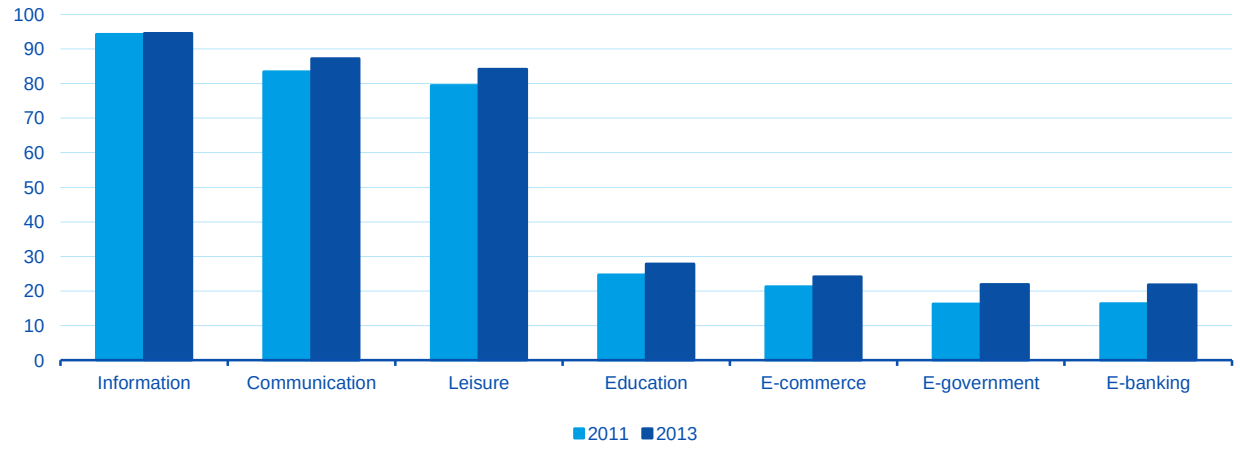
Source: BBVA Research & CASEN survey

Although not reflected in the figure, the three biggest barriers in Chilean society (cost, need and skill) have also been analysed for different age groups. We observed that the lack of skill and the lack of need are problems that increase with age, which is to be expected as the adult population is not as skilled or attached as young people to current digital trends. Indeed, in the case of lack of skills, individuals aged between 16 and 44 hardly perceive this problem at all. However, cost is particularly important for young people.

On the other hand, the cost barrier decreases with age, being displaced to second level of importance due to lack of need for persons aged over 65. However, the cost barrier continues to be above lack of skills for this age group.

Once the access problems have been analysed, we focus our analysis on individuals who use the Internet. This increased from 41.6 per cent in 2006 to 58 per cent in 2013. The pattern of access, understood to be the places from which individuals access the Internet and use it, did not change much between 2009 and 2013. Home predominates over all other options, being the main place of access to the Internet for over 73 per cent of users in 2013. As for the options other than home, workplace and centres of education follow with 8.6 per cent and 7.7 per cent respectively. Compared to 2009, home and work are the only places in which the percentage of users has increased, to the detriment of centres of education (academic institutions) and private centres (like cyber coffee shops for example).

Figure 4
Activities on the Internet: uses in the last twelve months (%)



* Note: Non-exclusive options, all activities can be selected by an individual.
Source: BBVA Research & CASEN survey

With regard to users' activities on the Internet in the last 12 months, information searches and activities related to communication and leisure or entertainment stand out, with percentages of over 80 per cent (see Figure 4). Next come activities that are less frequent due to the network knowledge and skills users have to have, such as on-line procedures with public authorities, email and electronic banking. These activities show a participation level of over 20 per cent. Since 2006, the proportion of users who make purchases on-line has multiplied by 3.8 and those who have used electronic banking by 3.4. The growth in e-commerce was slightly more pronounced than that of electronic banking as of 2009. However, as of 2011 it appears that electronic banking began to spread at a higher rate. In 2013, the percentage of e-commerce users was 24 per cent and electronic banking close to 22 per cent.

As for use of electronic banking and e-commerce by region, there are differences although not very marked. Santiago Metropolitan Region stands above the rest in the use of both with 28 per cent and 31 per cent respectively in 2013. On the other hand, Libertador General Bernardo O'Higgins region is one of the regions with least use (12 per cent and 13 per cent respectively in 2013).

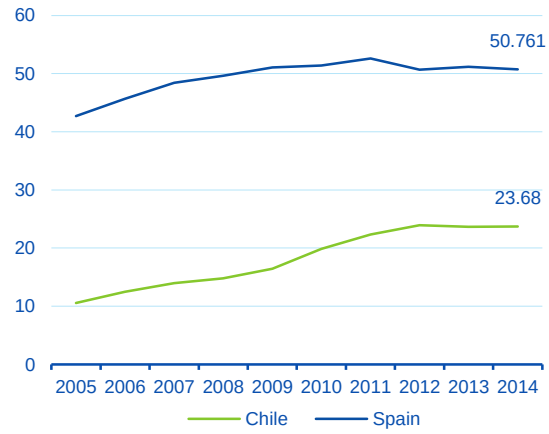
Differences are evidenced as to the socio-economic characteristics of Internet users. Young people and students are those who most use the Internet (a characteristic that closely links them) both in 2011 and in 2013. However, the same is not true of e-commerce and electronic banking, as here it is the individuals with the highest earnings that most use the Internet for these activities.

3. Supply side

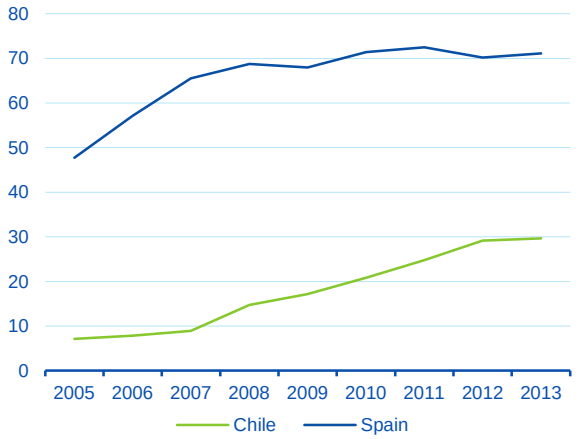
In drawing up this section, we used information provided by companies that provide services related to ICT, basically those that refer to subscriptions to certain services and their prices. We observe that the mobile phone is increasing in magnitude, with significant growth in the number of subscriptions between 2005 and 2014. This led to a significant increase in minutes traffic, which quadrupled between 2005 and 2013.

Figure 5

Mobile phone subscriptions (millions)



National mobile call traffic (thousands of millions of minutes)



Source: BBVA Research & ITU

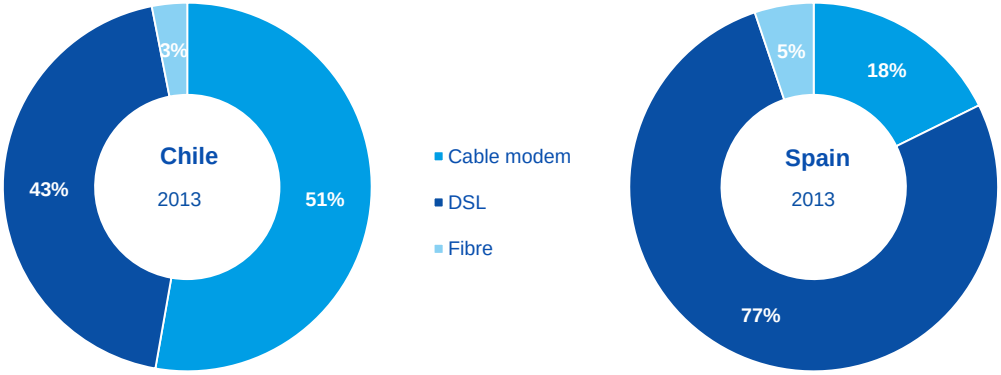
On the other hand, traffic in Spain grew less markedly partly due to the fact that it started from a higher level in 2005 (see Figure 5). With regard to the relationship between the number of subscriptions and minutes of traffic, Spain is above Chile in that in per capita terms the Spanish use the mobile phone more for ordinary communication purposes.

The cost of a call (of 1 minute) is, in equal purchasing power (PPA) terms, higher in Chile (0.32 USD) than in Spain (0.15 USD) in 2014. Also, in Spain the off-net and on-net charges became equal in 2012, which didn't happen in Chile until 2014. With regard to fixed broadband subscriptions, these tripled between 2005 and 2013, reaching slightly over 2 million, a figure that is a long way from the 12 million subscriptions in Spain, despite recording higher growth in the period analyzed.

Figure 6 shows unbundling per type of technology considered as fixed broadband used for the connection to the Internet, both in Chile and Spain for 2013. We note, Chile has a higher technological stock than Spain, as it has a higher proportion of cable subscriptions (51 per cent compared to the 18 per cent of Spain) and a lower percentage of connections via DSL technology (44 per cent compared to Spain's 77 per cent).

As for the price of the fixed broadband service (monthly cost), this is slightly higher in Chile (43 USD) than in Spain (36 USD). The cost of the service gradually fell in Chile, stabilizing between 30-45 USD; in Spain it remained relatively constant at around 36 USD.

Figure 6
Fixed broadband technology



Source: BBVA Research & ITU

Apart from the growth in fixed broadband subscriptions, Chile stood out for a considerable increase in mobile broadband subscriptions, quadrupling between 2010 and 2013, to reach nearly 6 million, which corresponds to 35.59 mobile broadband subscriptions for every 100 inhabitants (2013). In Spain this proportion reached 66.86 per cent the same year.

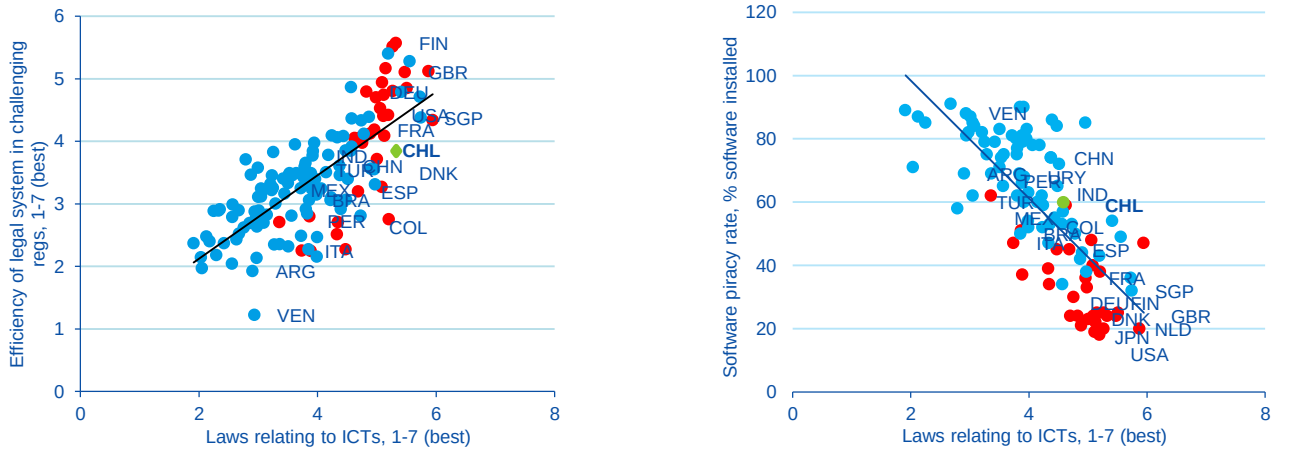
Lastly, the investment in telecommunications in Chile stood at 2,787 million USD compared to the 5,159 million in Spain in 2013. This represents an increase in investment in Chile of 140 per cent and a decrease of 30 per cent in Spain between 2006 and 2013.

4. Regulation

With respect to regulation, the scatter plots (see Figure 7) show that as regulation related to ICT increases, the system's efficiency level increases. Chile heads the Latin American countries in this respect, with a rating of around 5 out of 7 with respect to laws related to ICT and a score of 4 out of 7 with respect to the efficiency of the legal system. Furthermore, we observe that as the laws related to ICT increase, the level of piracy decreases, there being a strong negative relationship between both aspects. Chile is at a prominent point, with a status close to countries like Denmark and France. The Nordic countries and the United Kingdom top the list in this respect, with a great number of laws related to ICT.

Regulation is also vital for entrepreneurship (expressed in terms of creation of new companies for every 1000 workers). On relating this entrepreneurship indicator to the value each country holds in the ease of doing business ranking, we observe that there is a somewhat positive relationship between both, especially in countries with greater ease of doing business (Australia and the United Kingdom). However, there are exceptions, such as Korea and Finland, where business creation is scarce even though they hold high positions in the ranking. As for Chile, we note that entrepreneurship is significant, with the creation of eight new companies per thousand workers per year, while in Spain only 3 new companies are created.

Figure 7
ICT laws: Relationship with efficiency and piracy



Source: BBVA Research & World Economic Forum

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