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Financial inclusion and the role of mobile banking in Colombia: developments and potential

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Abstract

Colombia has a low level of financial depth. Efforts have been made by governments and the private sector in recent years to encourage the development of models which might provide enhanced access to financial services. These financial inclusion plans are based on creating access channels that can reduce high transaction costs for agents. They use the high level of coverage available through mobile telephony, the gradual development of banking correspondents and regulatory modifications to provide easier access to financial services. Against this background, this work has a twofold objective: first, to analyse recent experiences in the regulatory field with respect to mobile banking in Colombia; and second, to explore the potential for greater development of these programs. The work uses microdata analysis for Colombia to confirm the gradual progress being made in the country, identifying the huge possibilities for promoting an even greater level of financial inclusion.

Keywords: Mobile Banking, Financial Inclusion, Colombia.

JEL: G21, O16.

Executive Summary

- In Colombia, financial depth (measured as private credit to GDP) and the coverage of financial services are low compared with other countries in the region, and even more so in relation to high-income countries.
- In recent years, the coverage provided by less traditional channels such as the Internet, audio-response systems, banking correspondents and mobile telephony has become increasingly important, and in fact Internet transactions now account for the highest proportion of total transactions.
- Major efforts have recently been made to increase financial coverage. The number of banking correspondents has grown an annual 70% on average over the last 3 years. They now cover to 9.1 of every 10 people and 29 for each 1000 km2, for the total financial system. Correspondents are concentrated in the smallest municipalities, and in some of them they have been the only access point to the financial system. As of December 2012, only 10 municipalities (0.9% of the total) did not have a branch or a banking correspondent in Colombia.
- Political efforts have been reflected in the design of products that are better suited for people with lower incomes, such as e-saving accounts, simplified saving accounts and e-deposits. These products have been made possible due to the regulator's efforts to find a balance between more flexible requirements that promote financial inclusion, and security requirements to comply with the System for Managing the Risk of Money Laundering and Terrorist Financing (SARLAFT). For example, under the new regulations people have been able to open accounts without being physically present.
- Cross-cutting regulatory developments of channels and products have helped to promote mobile banking focused on financial inclusion. In this regard, the extensive banking correspondent network, with two models of access to these correspondent networks (network managers and alliances) and the creation of easy access products, have boosted the development of mobile banking models (meaning when the cell phone number is associated with a saving or demand account). This has increased the current number of online deposits to 1.5 million, equivalent to 8% of saving accounts in Colombia. These products allow banks to create electronic money so that people can use their mobile phone to buy things in retail stores that are not banking correspondents. So far it has yet to be implemented on a mass scale by any credit institution. But some steps have already been taken in this direction.
- According to the data of the World Bank's Financial Inclusion Survey (Global Findex), 30% of the population of Colombia has an account in a financial institution. The study shows that Colombia is in a better position in terms of financial inclusion than countries with similar levels of development such as Peru, Mexico and Panama, for example. However, Chile and Venezuela are ahead of Colombia by over 12 pp, and Brazil by 16 pp.
- The survey also shows that 35.9% of men have a bank account, compared with 25.4% of women. Furthermore, when the information is broken down in terms of level of education, there is a positive correlation between higher level account holding and number of years of studies. The percentage of account holders in a financial institution in the wealthiest quintile is 6.5 times that of the poorest quintile, at 62.4% in quintile 5 and 9.5% in quintile 1.
- Interestingly, respondents said that one of the main reasons why they do not have a formal account (65.8% of adults do not have an account) is lack of money. Beyond this structural factor in Colombia's economy are four other factors: the cost of accessing banks, the documentation required from applicants, distrust and geographic distance. Importantly, it is exactly these points that aim to be mitigated with the development of mobile banking models, in conjunction with regulation, simpler processes, the role played by banking correspondents to increase the number of customer service points, and the extensive use of the mobile telephony channel.

- Given the low level of banking penetration compared with mobile telephony cover, there is evidently ample room for penetration for mobile banking if people come to use this medium as a way of accessing the financial system. In December 2011, according to the Quality of Life survey, mobile telephony penetration was over 67% for people aged 5 or over, and of 94.2% of households. This gives a clear idea of the potential of this financial services channel in Colombia.
- Regulatory efforts geared towards mobile banking development may be relevant in providing a model that provides: (1) cheaper access; (2) a simpler process for opening the account; (3) fewer geographical restrictions by an increased presence of banking correspondents; and (4) use of a technological channel such as cell phones as a mass connecting point to bring about greater banking usage.

Introduction

The object of this document is to analyze the potential for mobile banking in Colombia in terms of financial inclusion, which according to the CGAP means access to and the effective use of financial services by people and companies. These services must also be provided in a responsible and sustained way in a properly regulated environment.

The low levels of financial inclusion in Colombia (at both overall and regional level), as well as their causes and possible solutions to them, are widely discussed issues. This subject has become more pressing in the economic agendas of emerging countries, not only because increasing financial penetration is important in macroeconomic terms - given its impact on higher investment, consumption and economic growth levels - but also because higher financial inclusion can help to improve living standards and quality of life for individuals. Furthermore, these strategies associated with the use of accounts, cards, transfers and other financial products or services in many cases simplify processes for users and offer greater security because they do not involve the use of cash.

At overall level, various methods have been attempted to make progress in these goals. They range from increasing the supply of products, services and channels offered by different credit companies; simplifying regulatory measures in order to facilitate or reduce the cost of access to credit for certain segments of the population; to attempting to modify demand habits and customs, increasing levels of confidence in the system's institutions and promoting financial culture. Amongst these alternatives, developing mobile banking programs has shown encouraging results in several emerging economies. Wide segments of the population have been included by offering more accessible channels and service points that adapt to their lifestyles and businesses. This study will focus on analyzing the main regulatory aspects and the potential mobile banking would have for offering greater access to financial products in Colombia.

With the aforementioned objectives in mind, this report is structured as follows: The first chapter addresses the current situation of financial inclusion, measured as people's access to and use of services. In the second chapter, we begin by outlining the country's strategy in terms of financial inclusion and the role of electronic channels, particularly mobile banking. We shall also describe the way banks' access points have evolved, putting particular emphasis of banking correspondents, which are the cornerstone in the development of mobile banking focused on financial inclusion. We shall also describe regulatory changes, given that inclusion is not simply a matter of increasing the physical infrastructure and widening geographical cover; but regulations must also be in place to encourage the design of low-cost financial products and services so people can use real-time electronic payment systems, to make their transactions more efficient[1]. The chapter ends with a description of the supply of mobile banking products, particularly those included under the following definition: "… electronic banking channel in which the mobile device is used to perform operations and its number is associated with the service. The services performed through mobile devices and Internet browsers are considered Internet banking"[2].

The third chapter describes the mobile telephony market and the mobile banking connection model implemented in Colombia. In this section, the Quality of Life Survey is used to establish the potential demand for mobile banking in terms of mobile telephony cover. In the fourth part of this report, we describe the demand characteristics of potential banking customers and the relation between this demand and mobile banking development using the World Bank Global Findex report for Colombia. Lastly, the fifth section will set out the main conclusions of the study[4].

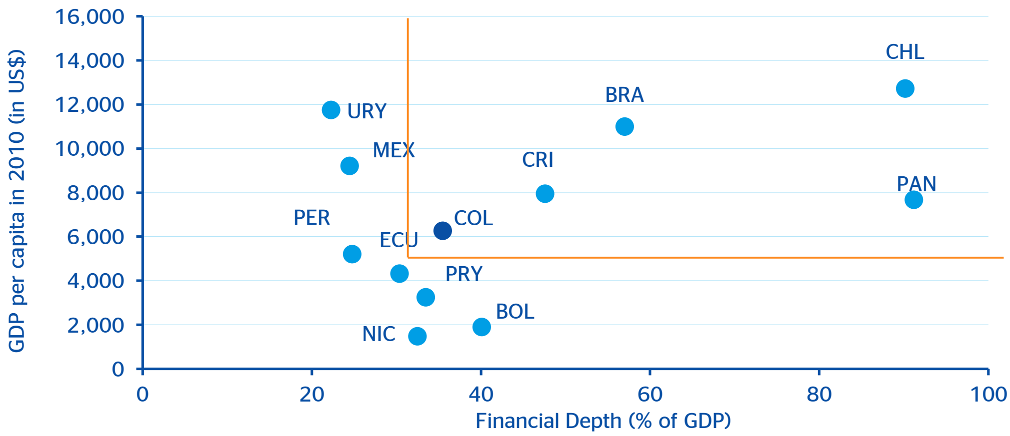
1: Financial Inclusion Report 2012.
2: External Circular 42 of October, 2012.

1. General aspects and the challenge of financial inclusion in Colombia

1.1. Greater depth in the financial system

Access to financial services in Colombia is relatively low compared with the financial depth indicators in other countries with similar characteristics. According to the World Bank, financial depth, measured as private credit to GDP, is approximately 35% in Colombia**.** Although this level is higher than the levels observed in a number of Latin American countries with a similar degree of development (Chart 1), countries such as Chile, Brazil and Panama have levels over 10 percentage points higher than Colombia. Needless to say, the region's levels are a long way off the levels found in developed nations.

Chart 1
Financial depth in certain Latin American countries (2010)



Source: World Bank. and International Monetary Fund

1.2. Access to financial services

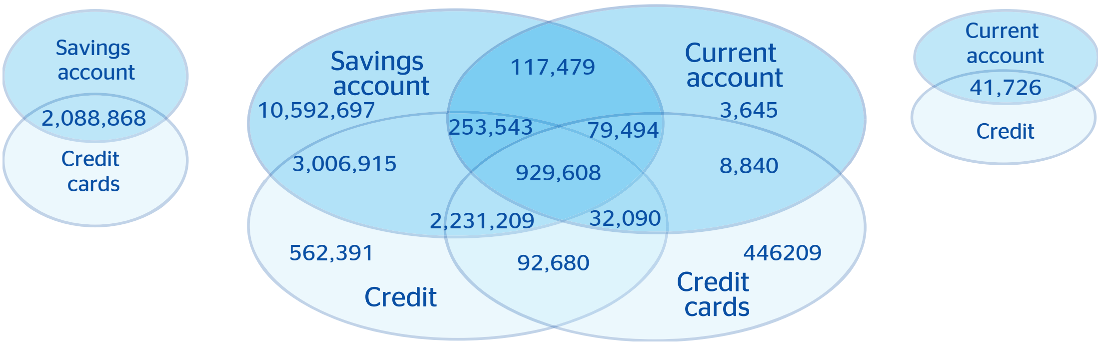
Access to financial services is measured using two indicators: (i) the percentage of the population that uses some kind of financial product; and (ii) the development of the infrastructure through which these services are provided.

(i) Population with financial services

Currently, 66.5% of people over the age of 18, or 20.6 million, have some kind of financial product[3]. In terms of access by product, Chart 2 shows that 19.3 million people are estimated to have a savings account, 1.5 million a current account, 7.1 million credit and 5.9 million a credit card. Most people using banking services have more than one financial product. The number of companies with at least one financial product is 510,000. In terms of combinations between different financial products, 170,000 companies have only a saving account, around 83,000 companies only have a current account, 17,000 have one credit and 1,600 only have a credit card. The rest of companies have combinations of these products.

3: Source Asobancaria. Financial inclusion report. Data as of September 2012.

Chart 2
Population with financial products (Number of people. Source: Financial Superintendency of Colombia. *Data as of 2012)

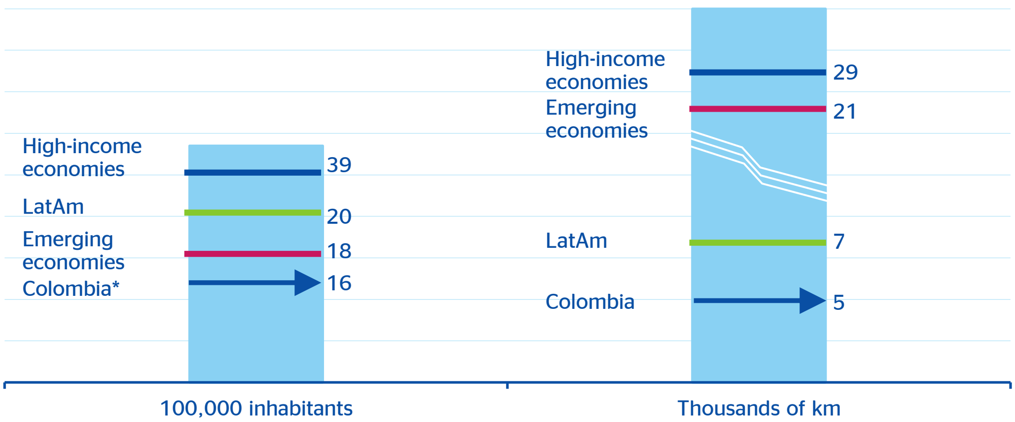


Source: Asobancaria and BBVA Research

(ii) Services provided

There are relatively few bank branches. As of December 2012, there were 16 bank branches per 100,000 adults, compared with an average of 39 branches per 100,000 people in high income countries and 20 for Latin America (LatAm (Chart 3). Colombia also has a relatively low rate of ATMs and credit-card terminals, with 33 ATMs per 100,000 adults and 10 per 1,000 km2 compared with 38 and 20, respectively for LatAm as a whole and 122 and 105 for high-income economies (Chart 4). There are an estimated 710 point-of-sale terminals (POS)[4] for every 100,000 inhabitants in Colombia, compared with 2,855 in high income countries and 747 in LatAm (Chart 5). In terms of geographical cover, the gap is even wider, with 229 POS per 1,000 km2 in Colombia vs. 2,884 for high-income countries.

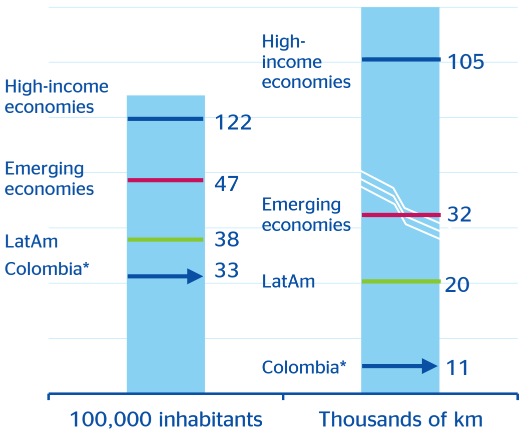
Chart 3
Branches per 100,000 people and per 1,000 km2 (Financial Access 2011, Financial Superintendency of Colombia and DANE. *Data as of 2012)



Source: Financial Access 2011, Financial Superintendency of Colombia, BBVA Research calculations

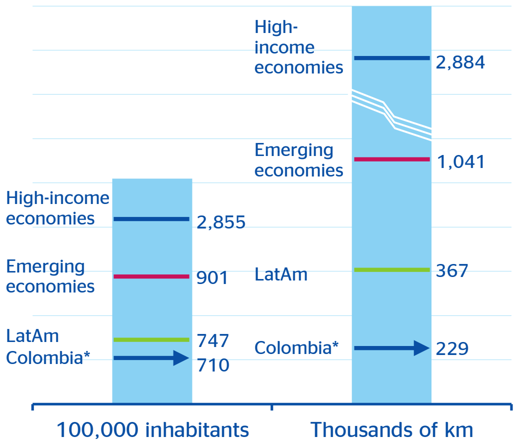
4: The number of POS includes all those in the financial system.

Chart 4
ATMs per 100,000 people and per 1,000 km2** ((Financial Access 2011, Financial Superintendency of Colombia and DANE. *Data as of 2012



*2012 Data
Source: Financial Access 2011, Financial Superintendency of Colombia 2012 and BBVA Research calculations

Chart 5
POS for per 100,000 people and per 1,000 km2 (Financial Access 2010, Financial Superintendency of Colombia and DANE. *Data as of 2012



*2012 Data
Source: Financial Access 2011, Financial Superintendency of Colombia 2012 and BBVA Research calculations

Coverage through less traditional channels such as the Internet, audio response, banking correspondents and mobile telephony, has become increasingly important, and now Internet transactions account for the highest proportion of total transactions (Table 1). In fact, during the second half of 2012, the Colombian financial system performed a total of 1,537 million transactions (999 million monetary transactions for a value of COP 2,766.6 trillion and 538 million non-monetary transactions), the largest proportion of which were Internet transactions (32% of total transactions). Transactions made via Internet represented 27.9% of the total value of transactions; branches were the channel with the highest share of the total (transactions through this channel represented 54.6% of the total value of transactions in 2012).

Table 1
Transactions by channel (Second half of 2012)

	Total number of transactions		Amount of Monetary transactions	
Channel	**(in Million)**	**(%)**	**(in Millions of Pesos)**	**(%)**
Internet	504	32.8	771,927,090	27.9
Branches	346	22.5	1,510,604,457	54.6
ATMs	330	21.5	76,403,187	2.8
Dataphones	174	11.3	32,858,699	1.2
Audio-Response	50	3.3	1,738,718	0.1
ACH	40	2.6	347,643,889	12.6
Banking Correspondents	38	2.5	8,153,372	0.3
Automatic payments	35	2.3	17,248,301	0.6
Mobile telephony	20	1.3	82,867	0.0
Totales	1537	100	2,766,660,581	100,0

Source: Financial Superintendency of Colombia

It is important to note that although the transactions via banking correspondents and mobile telephony are low, accounting for 2.5% and 1.3% of total transactions, respectively, the proportion of these channels has increased considerably in recent years.

Coverage has also been increased in terms of the number of municipalities covered and the services offered by these channels. In the case of the banking correspondents, between 2007 and 2012 the proportion of collections has fallen from 70% of the total transactions in the channel to 54.6%, with other transactions such as deposits, withdrawals and bank drafts becoming increasingly important this last year. Transactions potentially carried out by banking correspondents thus include the payment of public and private services, the payment of the PILA[5], withdrawals with debit card, transfers, balance inquiries, topping up cell phone credit, deposits in cash with and without a card, debits, national bank drafts, etc[6].

5: Single contribution settlement form, through which the health and pension contribution is paid.
6: Financial inclusion report 2012. Financial Superintendency and Banca de las Oportunidades.

2. Mobile banking, its regulatory framework and recent developments

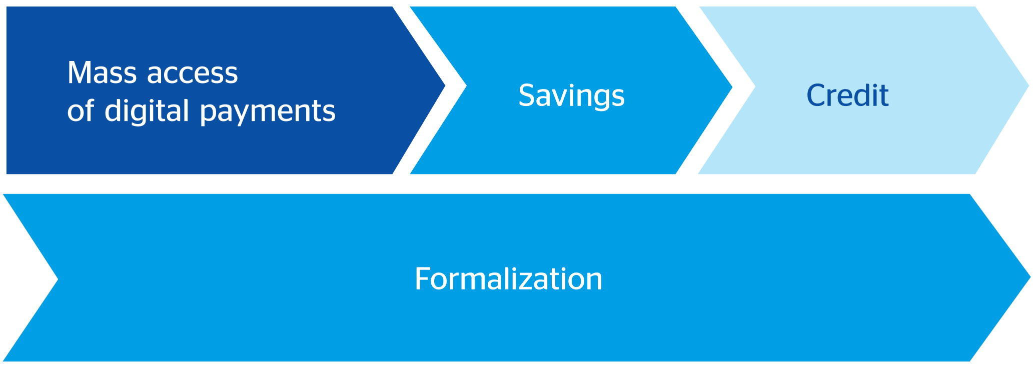
2.1. National financial services strategy and the role of mobile banking

The government's global policy of financial inclusion includes the design of a regulatory framework, support for market development, and direct assistance to financial institutions with subsidies in low-profit areas[7]. Major efforts have been made in this respect by increasing channels and product development. The economic agents have been discussing their opinion of the "Pague Fácil, Pague Digital" (Simple payment, digital payment) draft **Bill for some time now. One of the proposed** measures in the Bill is the creation of a simplified financial license for the new Specialized Electronic Deposit Companies (SEDES), which could attract deposits from the public and would have lower minimum capital requirements than credit institutions. Although this initiative has been public for some time, it has not yet reached a more decisive phase in Congress.

The geographical coverage of the banking correspondents and mobile banking have been promoted as ways of creating channels. Furthermore, easy-access products have been created such as online deposits, online savings accounts and simple process accounts, while actions to extend the use of banks have included, for example, beneficiaries of social programs, who have had these kinds of accounts opened for them.

The government aims to boost the use of transactional accounts in operations. On a number of occasions the Financial Superintendency[8] and the Ministry of Public Finance have referred to the new focus for financial inclusion starting with transactional banking, moving on to deposits and then goes on to credit, as summed up in the following diagram:

Chart 6
Financial Inclusion



Source: Ministry of Finance and Public Credit

7: The "Banca de las Oportunidades" (Opportunities Banking) Program, as part of its lines of action, supports the extension of financial coverage, granting subsidies to cover costs in unprofitable areas. It has supported the opening of banking correspondents in 187 municipalities and the installation of cooperative branches, NGOs and commercial finance companies in 139 municipalities. See: http://www.bancadelasoportunidades.gov.co/contenido/contenido.aspx?conID=690&catID=300&pagID=376
8: Speech by the financial superintendent, Gerardo Hernández Correa at the III Congress of access to financial services, systems and payment instruments of Asobancaria. March 22, 2012.

In the first phase, the object is to achieve a higher transactional banking by making use of information technology and communication through electronic payment systems. What the government is aiming to do is to ensure that people can access transactional services securely at low cost. The next phases of the government's financial inclusion policy after transactional banking are based on knowledge of customers' patterns of income and expenses and on building databases during the first phase of the policy, which is crucial for the design of risks policies. The second and third phases of the policy consist of inclusion on the side bank's liabilities and assets, respectively.

Mobile banking offers opportunities to increase financial inclusion as it reduces operating and transaction expenses (such as time in which people would travel to carry out the transactions), as most mobile transactions do not currently have any cost for users.

The progress in creating easy-access products, as well as the consolidation of a regulatory framework corresponding banking correspondents, for example, are the bases for developing mobile banking that can access the base of the pyramid and transform the system. The type of technology used to support this model is thus also not applied to the use of applications on smart terminals but rather to text messages. The development of mobile banking as a transformational model will be affected by the future cost of services, which, in turn, will depend on the structure of the mobile telephony market.

2.2. Some relevant statistics

In December 2012, the Colombian financial system had 7,100 branches, 28,000[9] banking correspondents, 12,300 ATMs and 220,000 credit card terminals. In total, there were 267,500 credit institution access points. As can be seen in Table 2, the number of bank branches and banking correspondents amounted to 5,100 and 27,400, respectively. This means that banks provide 72% of branches, 97% of the banking correspondents and 84% of the ATMs in the financial system.

Table 2
Banking access points (according to type) (Number, 2011-2012)

Banks	2011	2012	Growth
Branch offices	4,921	5,102	3.7%
Banking Correspondent	16,157	27,376	69.4%
ATMs	9,153	10,328	12.8%
Dataphones-POS	12,618	13,947	10.5%
Total	**42,849**	**56,753**	**32.0%**

Source: Financial Superintendency and Banca de las Oportunidades

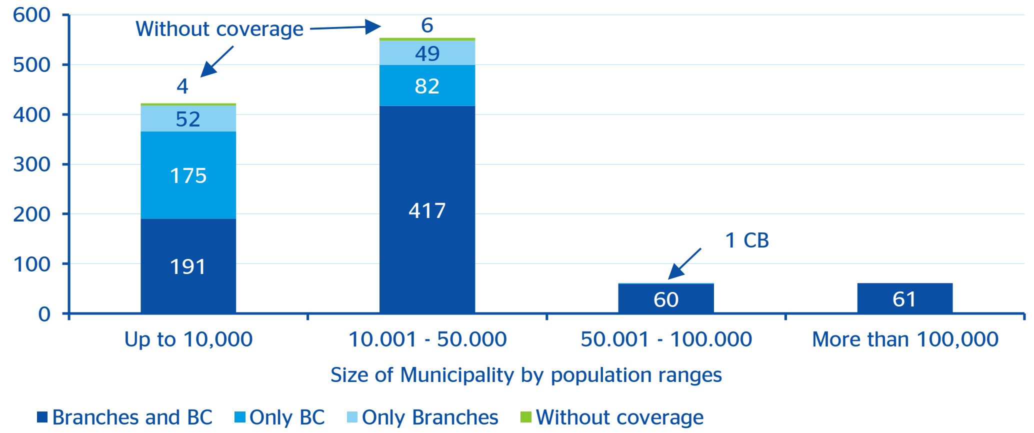
There was a notably sharp growth in banks' access points over the last year, at 32% between 2011 and 2012. The highest growth was in banking correspondents, with a rise of 69.4%, which is in line with the growth figures for the last 3 years, and which amounted to around 70% as an annual average. The number of branches rose at a rate of 3.7%, much slower than the other access channels.

The coverage rate of the banks' banking correspondents was 88.4 per 100,000 adults compared with 16.5 per 100,000 adults for bank branches. The geographical coverage of the banking correspondents is also fairly high, at 29 for each 1000 km2. These coverage figures show the success of both the government's policy and private initiative in this regard. It is also important to note that there is a strong presence of banking correspondents in the smaller municipalities; in fact, in many of them they are the banks' only access point, as shown in the following chart.

9: This data registers banking correspondents shared between banks once only.

Chart 7

Bank coverage through branches and banking correspondents (BC) by size of municipality (Number of branch offices and bancking correspondent, 2012)



Source: Financial Superintendency and Banca de las Oportunidades

Indeed, there is a banking correspondent in 366 of the 422 smallest municipalities (up to 10,000 people) and in 499 of the 554 municipalities with a population of between 10,001 and 50,000. Furthermore, 175 of the smallest municipalities only have a banking correspondent and no branch. Also worthy of note is that in 2012 there were only 10 municipalities (0.9% of the total) without a branch or a banking correspondent in Colombia. It is in this context of broad coverage by banking correspondents and branches in which mobile banking is developing. It therefore has considerable room for expansion, especially taking into account that there are not only access points in most of the country, but also 28.3 million people with access to mobile telephony, and this is becoming an alternative channel for broad access in several geographical areas. However, in terms of financial inclusion the progress is not only shown in the increase in physical infrastructure and the greater geographical coverage, but also in the design of low-cost financial products and services which might enable people to use real-time electronic payment systems, to make their transactions more efficient[10].

It is also important to point out the development of simplified saving accounts and deposits and electronic accounts, which have played a role in bringing new groups into the financial system through physical access points or by the use of text messages. According to the Financial Superintendency of Colombia,[11] in December 2012 there were 17,200 simplified savings accounts (CATS) and 809,605 online deposits. According to the Financial Superintendency, the total balance of online deposits as of December 2012 was COP 6,144 million, bringing the average balance of online deposits to COP 7,500 per deposit. By the first quarter of 2013, there were 1.5 million online deposits. In 2011 and 2012, an average of 400,000 online deposits were opened, and in the first quarter of 2013 the number opened was 736,000. This increase in deposits in 2013 is due to the awarding of the contract for mobile banking payment to 750,000 beneficiaries of the "Familias en Acción" (Families in Action) subsidy in 359 Colombian municipalities, many of who did not previously have any financial product.

10: Financial Inclusion Report 2012.
11: The CIFIN is the Financial Information Centre of the Banking Association and of the Colombian Financial Entities. It acts as a Credit Bureau.

2.3. The regulatory context for mobile banking

According to External Circular 42 of October, 2012, mobile banking is an "… electronic banking channel in which the mobile device is used to perform operations, with its number being associated with the service. The services performed through mobile devices and Internet browsers are considered Internet banking"[12].

Given that mobile banking is a transactional channel, mobile banking cannot be conceived independently of the banking sector and of the regulatory framework of credit institutions as institutions which capture public funds.

According to Colombia's Political Constitution, financial activity is of public interest and thus the regulatory framework of the financial system is fairly inclusive, in fact it addresses many aspects relating to the structure, capital requirements, the operation of risk administration systems, etc.

Within this regulatory framework, there is ample opportunity for credit institutions to use distribution channels: "Credit institutions have the possibility of using different distribution channels as well as those stipulated by law for each type of contract or product."[13] This is because within their legal framework these institutions are authorized to handle their customers' resources through different kinds of deposits, allowing the deposits to be used and transferred by the aforesaid mechanisms, while other institutions are unable to perform these kinds of activities."[14]

Mobile banking operations were initially subject to the general regulation specified above, and there were no specific laws to regulate such operations. What there was consisted simply of the banking industry providing customers with a technological platform to carry out monetary and non-monetary transactions, and receive security notifications and alerts via mobile phones.

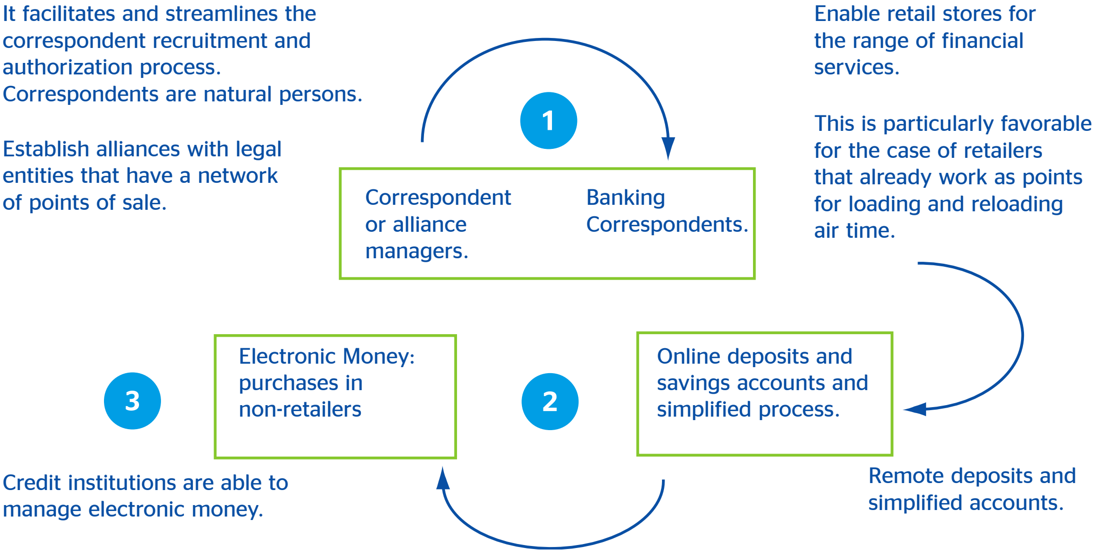
The regulatory background for distribution channels is set out in Circular 52 of 2007 of the Financial Superintendency of Colombia, which increases security and quality standards for handling information through methods and channels for the distribution of products and services offered by financial institutions to their customers and users. At that time, this already included Internet channels and mobile devices as well as the traditional channels. Subsequently, Circular 22 of 2010 replaced Circular 52 of 2007. More recently, Circular 042 of 2012 included mobile banking as a specific distribution channel and regulates its security and quality levels. The purpose of this law is to specify what mobile banking is in terms of the transactions carried out in the Internet environment with a mobile device.

From 2011 on, in accordance with this general regulatory framework, and the regulation which promoted the creation of savings accounts and electronic deposits, mobile banking products in which the cell phone number is associated with a service were launched. Consequently, the regulation of the simplified account process and of online account and deposit is considered to be one of the milestones in mobile banking in Colombia.

Chart 8 below summarizes the different parts making up the developments in mobile banking in Colombia; the regulation is analyzed based on this structure.

12: External Circular 42 of October, 2012.
13: Concept 2010003390-001 of February 22, 2010 of the Financial Superintendency. In this regard, for example: i) pursuant to Article 1382 of the Code of Commerce (Decree-Law 410 of 1971), the holder of a bank current account will be able to avail himself of its balances through drawing checks or in any other way previously agreed with the bank and, ii) as stipulated in Article 127 number 6 of the Fundamental Statute of the Financial System (Decree 663 of 1993), credit institutions will be able to pay savings deposits on presentation of the respective passbook or through the user's use of an electronic means that provides proof of the transaction performed.
14: Deposit and money transfer activities are classified as financial services. In that sense, they can only be developed by financial suppliers. Concept 2009096216-001 of January 29, 2010.

Chart 8
Milestones in mobile banking



Source: BBVA Research

2.3.1. Banking Correspondents

Component 1 in the diagram consists of correspondents and network managers or alliances with network points. The banking correspondent network is a cornerstone of the plan for the development of mobile banking products in Colombia. This channel has allowed people in remote and inaccessible locations to have easy access to banking services, given that the banking correspondents are really just another bank. They instil confidence in the system, as mobile banking users are assured that they will be able to get at their money at any time. Furthermore, as correspondents are usually in locations which are close to users, that they are familiar with, and where they can even do their shopping, the switch from buying in cash to buying with electronic money through mobile banking is made easier.

Correspondent networks are basically structured in two ways. First, through network managers, who are responsible for finding the possible correspondents and managing everything necessary in order for them to become correspondents; and second, by forging alliances with companies with a network of access points. In this part of the process, it is important to note that according to the regulation, banking correspondents can be natural persons (shop owners, for example) or corporate entities (for example, companies).

The main features of banking correspondents in Colombia are:

- They can be natural persons or corporate entities.
- The regulation obliges the banks to apply limits to the amounts handled by their correspondents. These limits are determined by banks and limit their risk.
- Transactions are carried out in real time. This is vital for instilling confidence in the channel.
- Correspondent banking can be carried out with the technology determined by the bank: POS, cell phones, etc.

According to the Banca de las Oportunidades (2010) the correspondents model allows financial entities to provide greater coverage in places where there are insufficient incentives for opening a branch, such as extremely small municipalities, rural areas or underprivileged areas. As we noted above, banking correspondents are mainly to be found in the smallest municipalities of Colombia.

The primary obstacle to the expansion of banking correspondents by financial institutions is reputational risk, although the risk of losses is limited by the restricted amounts handled by correspondents. Another reason which has been mentioned, and which might also explain why the use of banking correspondents has not expanded as quickly as it might, is how long banking correspondent contracts take to be approved by the Financial Superintendency, thus discouraging banks and correspondents from entering the system. In addition, the requirement for exhaustive presentation of technological solutions does not appear to be justified if the aforesaid regulation for channels is complied with (Circulars 052 of 2007, 022 of 2010 and 042 of 2012), and it does indeed appear to be a factor which might discourage the development of banking correspondents. One of the motivations for the development of banking correspondents by the companies that are prepared to offer this service, is the economic incentive of higher revenue; and one of the factors which discourage its development is the responsibility required in handling a bank's cash.

The regulatory development of the banking correspondents is outlined below:

Banking correspondents are a channel created through Decree 2233 of 7 July 2006. The services they offer have been expanded since they were created, and they now offer a broad range; it is even possible to open savings accounts[15] and to grant loans[16]. Documentation and information for opening and closing accounts can be picked up and handed in at banking correspondents, deposits can be arranged, and loan applications submitted. Through correspondents, credit institutions can collect, send, and receive bank drafts nationwide, make cash deposits and withdrawals, including electronic deposits, make fund transfers, balance inquiries, issue and hand over statements, credit withdrawals and payments in cash, receive and hand over funds corresponding to the foreign exchange purchase and sale transactions, receive or hand over funds in pesos corresponding to the purchase and sale of foreign currency and send bank drafts. However, the range of products offered depends on how each credit institution uses its correspondent.

2.3.2. Online deposits and savings accounts

Component 2 in the diagram consists of online deposits and online savings accounts. These products have lower requirements in terms of risk management for money laundering and terrorist financing, as well as being less costly as they do not have devices associated with the product and because they are subject to tax allowances, among other benefits.

At present, thanks to the law simplifying the process of opening accounts, these products can be opened using the mobile phone, simply by accessing the SIM of the device, entering the bank menu, registering the bank, and keying in the identity number, the names and surnames and the ID issue date. A mobile banking alias must also be entered. So in order to open an account people only need the information about the mobile phone; this not only helps to make it easier to open the account but also to update of customer details, which is required by the Money Laundering and Terrorist Financing Risk Administration System (SARLAFT). In fact, given that information set out in the identity document does not vary, the data update requirement is automatically complied with.

The regulator compensates for the greater flexibility of requirements by imposing limits on the balances and operations handled with these products. In line with this, the recent Circular concerning security and quality in information on channels, referring to mobile banking, increases the security requirements but at the same time allows monetary transactions which individually or on aggregate are not in excess of twice the current legal monthly minimum wage (SMLMV) to be exempted from the implementation of strong encryption mechanisms[17]

External Circular 53 of 2009**,** which refers to the simplified process for opening accounts changed the previous system by which all these accounts had to comply with the general

15: Decree 112 of 2009.
16: Decree 2672 of 2012 recently extended the range of services provided by correspondents, so that they can offer correspondent banking services to credit institutions, investment management companies, stock market brokerages, pension fund administrators, trust fund companies and foreign exchange agents (IMC).
17: See Annex 1 for further details regarding security and quality standards in information.

requirements of credit institutions under SARLAFT. With the simplification guidelines indicated in the Circular, the minimum customer registration requirements of around 20 items were eased (Annex 2). Circular 53 sets out the following aspects with respect to simplification:

- Credit institutions will have to obtain at least the following information in the customer identification document: full name, the type, number, date and place of issue of the identification document, and the date and place of birth.
- The requirement of processing the standard customer application form and of carrying out interviews was lifted.
- The customer could only have one savings account of this kind in the whole financial system (it is now possible to have several saving accounts of this kind in the financial system although only one in each institution) [18]
- The limit on the amount of the debit transactions simplified saving accounts is twice the minimum wage per month and the balance limit is 8 times the minimum wage (the limit on debit transactions in simplified savings accounts is currently 3 times the minimum wage).

Online deposits were created under Decree 4687 of December 2011 with the purpose of promoting transactions through online mechanisms. These are demand deposits are d offered by credit institutions. The deposits have certain minimum conditions and requirements, including the following:

- They are associated with instruments or mechanisms which enable their holder to pay loans, and/or transfer funds and/or make withdrawals using physical documents or data messages.
- The contract for opening the account must clearly specify which channels there is access to and which are restricted.
- Should the account remain without funds for more than 3 months, it must be unilaterally closed (unlike online saving accounts).
- They may or may not earn interest.

The decree stipulates that when cash withdrawals can be made with online deposits, they have to be marketed as "E-money deposit", otherwise they have to be marketed as "transactional online deposit".

An important requirement for the easy to open E-money deposits, recently regulated through External Circular 07 of 2013, is that in one calendar month debit transactions cannot be in excess of 3 times the minimum wage and the maximum balance of online money deposits cannot exceed, at any time, 3 times the minimum wage (this restriction does not apply in the case of government benefits). One factor which makes these online deposits particularly attractive is that they are exempt from payment of the Financial Transaction Charge (GMF)[19].

Online Saving Accounts (CAE) are accounts designed for people with low incomes, classified at level 1 of the System for Identification of Potential Beneficiaries of Social Programs (SISBEN) and the displaced population. They have numerous benefits:

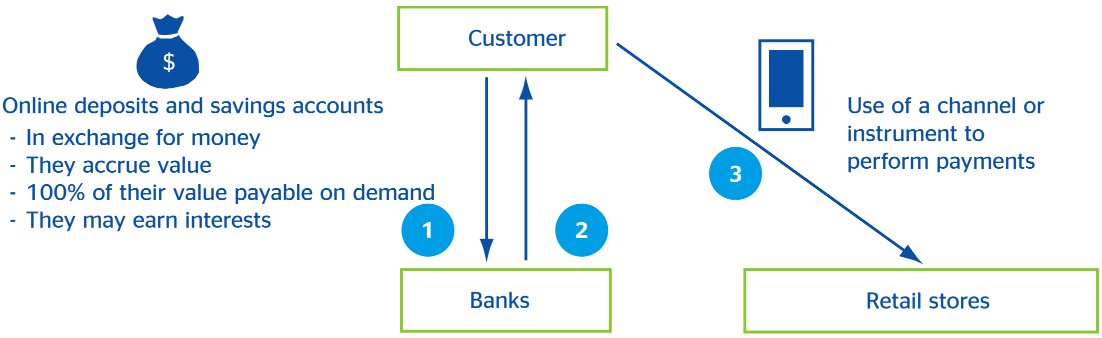
- They are exempt from the financial transactions charge.
- They do not require a minimum deposit on opening.
- They do not require a minimum balance.
- No administration fee is charged.
- There is no charge for one of the channels enabled for its operation.
- Two cash withdrawals and one balance inquiry free of charge every month.

18: External Circular 13 of 2013.
19: Tax reform Law 1607, which amends the Taxation Statute.

2.3.3. Electronic money

Component 3 of the mobile banking plan consists of electronic money that allows shopping in retail stores that are not banking correspondents with a mobile device, as shown in Chart 9 below.

Chart 9
Shopping in retail stores



Source: BBVA Research

The bank's customer has or opens a Mobile Banking product, either an online deposit or savings account. This is done, as we explain above, without going to the bank. After that the customer goes to a retail store and pays using his cell phone. At present, none of the credit institutions is implementing shopping by mobile banking in retail stores on a mass scale. However, there have been certain developments in this direction which are being tested and perfected. The regulation allows credit institutions to carry out this kind of activity because gathering deposits is an inherent activity of these institutions. As we said before, money could already be withdrawn without using a card via Mobile Banking.

Over a year ago, the government issued a draft Bill known as “Pague fácil, Pague digital” which included the creation of a simplified financial license for the inclusion of Companies Specialized in Online Deposits (or SEDES). It is not yet known whether there will be final version of the Bill will be presented.

In the present context, the cases of mobile banking in Peru and Mexico can be used as a comparison. They are outlined below.

Box 1: Mobile banking models in Peru and Mexico

Mobile banking in Peru

The recent law approved in early 2013 creates a scheme based on the use of electronic money. This is defined as monetary value stored in electronic media such as cell phones, prepaid cards and other equipment or devices, designed for general use, and which have technological platforms allowing transactions to be made securely in real.

The regulations also establish that providing an e-money service is limited to companies under the supervisory framework of the financial system, regulated by the Banking and Insurance Superintendency (SBS), such as banks, finance companies and savings banks. Nevertheless, in order to boost competition among providers of this service, the law has created Electronic Money Issuer Companies (EEDE) which are specialized companies supervised by the SBS whose main purpose is to issue e-money. EEDEs are not permitted to grant loans and may only carry out transactions linked to their main purpose. In addition, the regulations implementing the law establish that EEDEs may contract third parties to channel transactions, while themselves remaining responsible for carrying them out. According to the law, e-money functions mainly by users having to go to a branch office or non-banking channel (such as an EEDEs), where they hand over cash that is then converted into virtual money with which customers are able to carry out transactions over their cell phones or another devices, charged to the converted cash balance. The main features of e-money set out in Law No. 29985 are:

- It is not a deposit nor does it earn interest. It is therefore not supported by the Deposit Guarantee Fund.
- e-Money issuers should constitute trusts for the e-money value issued under the provisions stipulated by the SBS
- A bank account is not required to use e-money.
- E-Money issuers are subject to the e-money issuing limit of one "Unidad Impositiva Tributaria" (UIT, currently PEN 3,700) per transaction.

Thus, in Peru, issuers of e-money can provide natural persons with "simplified e-money accounts". Identification and verification requirements applicable to the holders of these simplified accounts shall contain as a minimum the full name of the holder, shown on their ID card, Overseas National Card or passport with their current address as stated by the holder. In order to open e-money accounts using cell phones as the electronic devices, the phone number associated to the cell phone is also required.

Mobile Banking in Mexico

The mobile banking system in Mexico has steadily and firmly gathered hold. In April 2010, the Credit Institutions Act (LIC) was amended in order to include a new alternative for opening deposit accounts that would allow simplified, flexible procedures to be applied, thus facilitating the provision of financial services by banking correspondents and by mobile telephony. This led to the creation of three levels of accounts, according to the potential levels of money laundering and fraud risk, providing a place for Simplified Accounts which can be opened in a very simple way at any banking correspondent, or remotely via any other channel. This multi-channel option for opening the accounts significantly reduces the costs for mobile financial service providers and for the users of these services.

The development of banking correspondents has been crucial to ensure that simplified accounts were viable from an operational standpoint (with laws enacted since 2008). These correspondents are third parties that establish business relationships or connections with a credit institution in order to offer financial services to its customers for and on the institution's behalf, in a similar way as they operate in Colombia.

A key element in Mexico's regulatory framework was the creation of the concept known as niche bank between 2008 and 2009. The aim was to promote greater competition in the sector by streamlining the levels of mandatory capitalization for entities that operate in and/or develop a limited or specialized financial market without offering all the services associated with multiple banking. The minimum amount of capital required by credit institutions now depends on the operations expressly included in their company bylaws, the infrastructure necessary for their development and the markets in which they intend to operate.

In order to promote greater competition in the banking sector, the levels of mandatory capitalization were made more flexible for entities that operate in and/or develop a limited or specialized financial market without offering all the services associated with multiple banking. The minimum amount of capital required by credit institutions now depends on the operations expressly included in their company bylaws, the infrastructure necessary for their development and the markets in which they intend to operate.

2.4. Current Mobile Banking Products

Currently, 16 of the 23 banks in Colombia offer mobile banking services in a broad sense (this includes Internet banking transactions via mobile), which are provided either through smart phone apps, or text messages in low end phones. The text message technology is being implemented by eight banks in Colombia, thereby allowing balance inquiries, cell top-ups, utilities payments and transfers to be performed through this channel. Three banks have carried out further developments, consisting of the creation of online deposits and online savings accounts and process accounts with simplified procedures.

As of December 2012, there were three mobile banking products linked to a cell phone number. They have the following characteristics in common:

- The product is activated from the cell phone, which can be a low-end device (no physical presence required).
- No papers are required.
- Immediate registration.
- Information is online: we know what transactions are being carried out online.

The following table is a list of the transactions made through these products:

Table 3
Type of transactions carried out with mobile banking

	Type of product	Online deposits or simplified process account
	Transfers	X
	Balance enquiries	X
	Withdrawals	X
	Making payments	X
Transactions	Deposits	X
	Receiving international remittances	X
	Making drafts	X
	Changing alias	X
	Cell top up	X

Source: Financial inclusion report 2012 and BBVA Research

Furthermore, purchases of non-financial products are being made in stores in which the banking correspondents operate; in reality, these are transfers to the banking correspondents. In addition, as stated above, a system has already been developed for payment in non-banking correspondent retailers, but it is too marginal and has to be improved.

Table 4 shows some of the characteristics of existing products:

Table 4
Characteristics of existing products

	Product 1	Product 2	Product 3
Type of product	Online Deposit which allows withdrawals, which is why it is called electronic money. It is a simplified process.	Electronic Savings Account. It is a simplified process.	Savings account. It is a simplified process.
Customers		Level 1 of the SISBEN or Displaced Population and which is registered in the database of the CIFIN.	
Security	The alias is a security measure as it is the electronic signature which identifies the account holder in his relations with the Bank, subject to other possible security requirements, such as second alias, to carry out certain transactions or operations. Depending on the transaction, another alias is created to approve certain transactions.		
Limit in the upper limit of the transactions	3 monthly minimum wages.	3 monthly minimum wages.	The amount of the debit transactions of the simplified process savings accounts is 3 legal monthly minimum wages in force Once this limit is reached. The Bank will block debit transactions, enabling them again in the following month. If the amount indicated here is exceeded. The bank will be able to block the account, ask for necessary explanations and, as the case may be, cancel it.
Minimum balance	It has a minimum balance which must be maintained; when it remains without funds during three (3) months, the entity will be entitled to cancel it unilaterally.	The minimum balance to be maintained cannot be demanded.	Minimum balance to be maintained in the Account during the validity of the contract will not be required 0.
Maximum balance	8 monthly minimum wages.	8 monthly minimum wages.	8 monthly minimum wages.
Minimum deposit		For opening is not allowed a minimum initial deposit.	An initial deposit cannot be demanded to open the Account. The Account will be opened by registering the mobile/cellphone.
Recognition of interests	Does not recognize an interest rate on the deposit of electronic money.	Deposits have to be remunerated.	The funds deposited are remunerated at the official interest rate in force for natural persons published in all the Bank's branches.
Grounds for dissolution	Grounds for cancellation by the institution when it is left without funds during three (3) months (3) the balance is over the established limit, THE BANK.	Balance exceeds the set limit.	If there are no transactions during over 180 calendar days, it will be disabled To reactivate the account, the customer will have to communicate with the Telephone Branch and bring forward the procedure indicated by the Bank for that purpose.
Costs	Transactions carried out from the product are without cost. At any time, the entity shall be entitled to modify the service charges, and will do so by providing information on the web page of the product or through other appropriate means within the terms defined by laws applicable. Remittances have a cost.	During each calendar month, the Customer shall be entitled to make up to two withdrawals and a balance enquiry through the channels expressly authorized by the bank. Transactions, services and additional consultations shall be charged according to the tariffs established by the bank. In the product, the transaction costs are between €0 and $1300. The latter value refers to the withdrawal of money in the entity's branches, if it is done in a banking correspondent or in an ATH ATM it is $790.	

Continúa en la siguiente página

Table 4
Characteristics of existing products (cont.)

	Product 1	Product 2	Product 3
Administration devices	Does not have the device associated.		
Administration fee		No administration fee is charged.	No administration fee is charged.
Tax exemptions	4x1000 with a limit.	4x1000 with a limit.	4x1000 with a limit.
Otros			Bonus of $25,000 daily pesos for hospital treatment or $50,000 per birth, as long as you have had an average balance of $350,000 in your account the previous month.

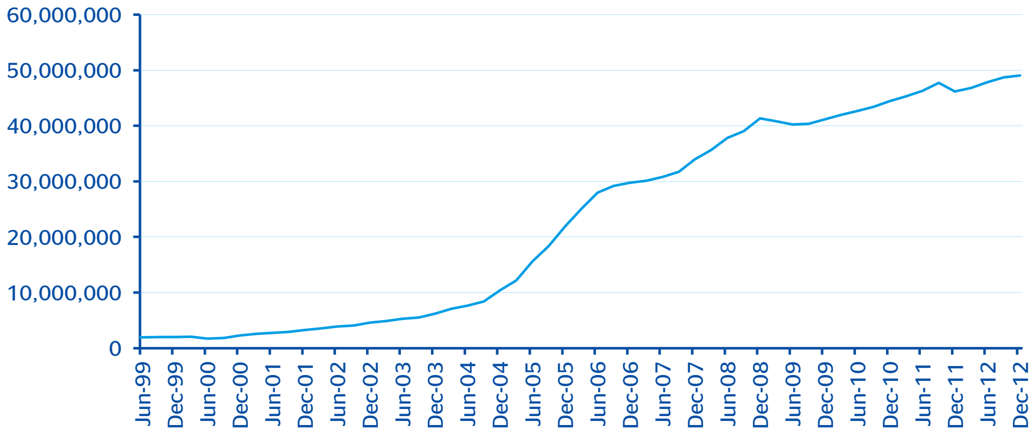
Source: Financial Superintendency of Colombia

3. The Mobile Telephony market

3.1. Mobile phone usage

The mobile system has 49 million subscribers in Colombia. The rate grew by 2600% between 1999 and 2012 (Chart 10). The increase in the number of subscribers was greater between 1999 and 2006 than between 2006 and 2012, with average annual growth of 59% and 9%, respectively, for these periods. For 2012, the penetration, measured as the number of subscribers against the general population, is higher than 100%, meaning that some people have more than one cell phone.

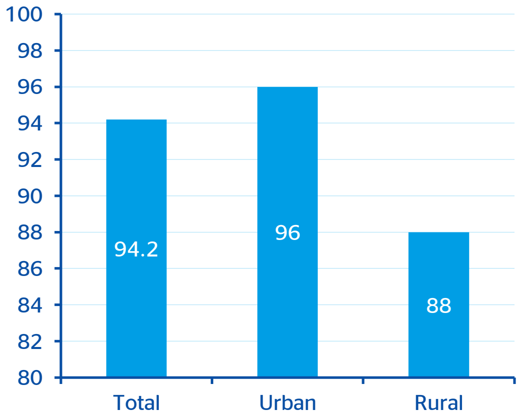
Chart 10
Number of subscribers in mobile telephony



Source: MinTIC

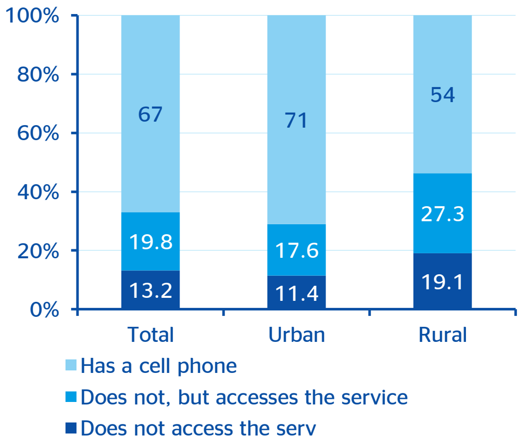
According to the 2012 National Household Survey, 94.2% of households in Colombia have at least one cell phone (12,300 households out of a total of 13,060 households). The coverage rate in cities is higher than in the rural environment, at 96% and 88%, respectively (Chart 11).

Chart 11
Mobile coverage by zone (% of total households in each zone, 2012)



Source: DANE 2012 Quality of Life Survey

Chart 12
Mobile coverage by zone (% of people aged 5 or over in each zone, 2012)



Source: DANE 2012 Quality of Life Survey

This is not surprising when we consider that rural areas are poorer than urban areas. Furthermore, the poorest rural areas are those with the lowest coverage, specifically the rural

Atlantic and Pacific regions with household mobile telephony coverage of 84% and 81%, respectively. Bogota, where 98% of households have coverage, is the region with the highest percentage.

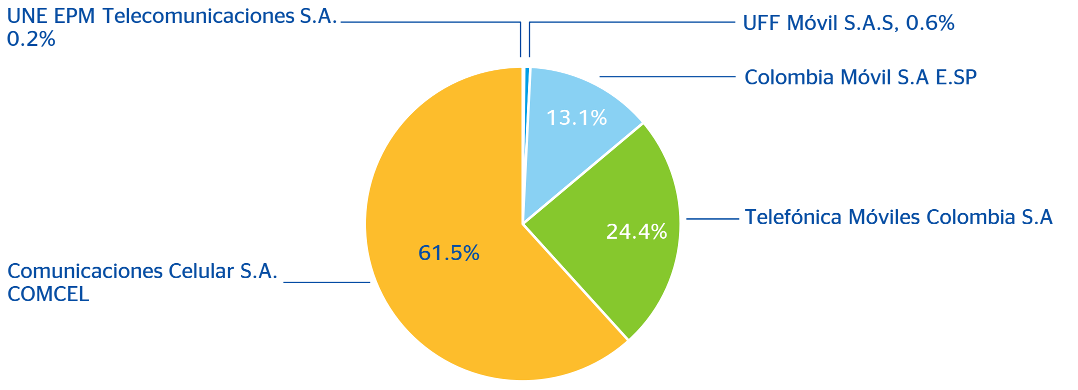
Of the total of people aged 5 years or over (42.2 million), 87% (36.7 million) have a cell phone or access the service by buying credits or because another person lends them their cell. For mobile banking purposes, what is of interest are cell phone owners, given that in that case the cell phone has to be associated with the service. The number of proprietary cell phones owned by people over 5 years old in Colombia is 28.3 million, which means a cell phone coverage of 67% for people aged 5 and over (Chart 12). Of these, 23.2 million live in towns and cities, and 5.1 million live in rural Colombia, with coverage rates of 71% in the city and 54% in the countryside.

Of those aged 5 or over in Colombia, 13.2% do not have a cell phone and do not access the service (Chart 12). These percentages are 11.4% and 19.1% in urban and rural areas, respectively. In the Pacific region, 48.7% of people aged 5 or over living in rural areas do not access the cell phone service. This percentage is 47.1% in the Orinoco-Amazon, 42% in rural Antioqueña and 40.5% in the central rural area. Therefore, although total coverage is high at a global level, there are still areas in which it is difficult to access the cell phone service, particularly in the poorest areas in the country, which are predominantly rural.

3.2. Mobile telephony operators, technological and market aspects

Three large operators account for most of the mobile telephony services offered in Colombia. These operators are: Comcel, Telefónica (with the Movistar brand) and Colombia Móvil S.A. (with the Tigo brand), with of 61.5%, 24.6% and of 13.1% of total subscribers, respectively. Uff Móvil S.A.S. has a share of 0.63%., and UNE EPM Telecomunicaciones S.A. has 0.15%. (Chart 13). Annex 3 provides greater details of the telephony market and its mobile services.

Chart 13
Operators' market shares in mobile system

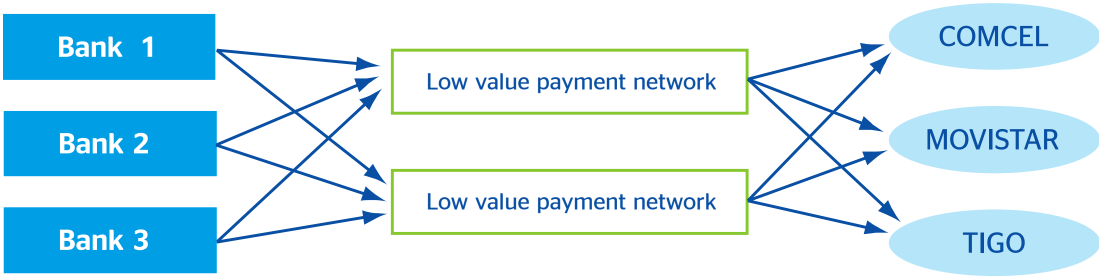


Source: Ministry of Technologies and communications

In Colombia, the mobile banking technology currently used is largely based on text messages (SMS Short Message Service). Hence, a dominant position in the mobile telephony market has strong implications in developing the use of the mobile banking channel. The current interconnection system consists of three mobile telephony operators - Claro, Movistar and Tigo - and banking networks which are major users of mobile providers, with low-value payment networks, Redeban Multicolor and Credibanco.

Each banking network connection is currently made through each operator, as shown in Chart 14. The other way is for the network to be connected alone to one or several operators and for them to connect amongst themselves in order to be able to offer the service. The drawback of the latter system would be the higher cost arising from the interconnection between operators, given that operators are able to control their online traffic but not offline traffic. The advantage would be the bidding between operators to obtain the contract with the banking network and therefore the better conditions they might be able to obtain. A third option would be for the banking network to have a mobile operator.

Chart 14
General mobile banking interconnection system



Source: BBVA Research

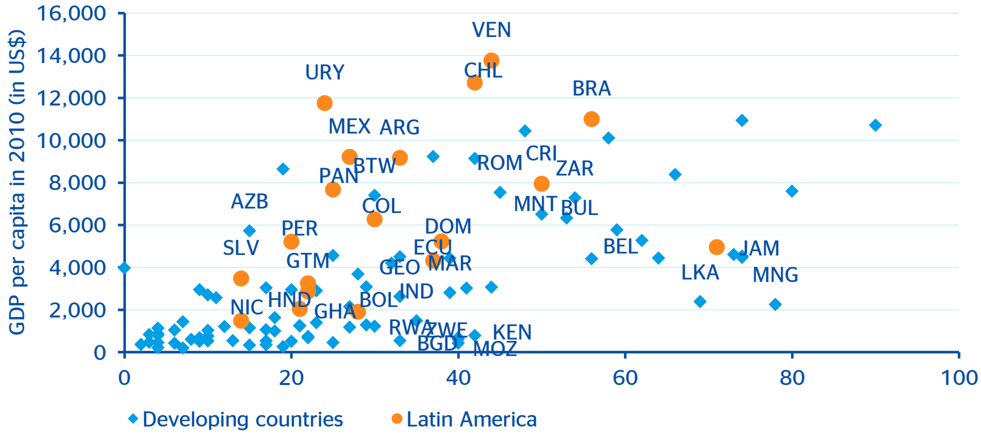
It is important to note that in most cases these services have no cost for financial consumers, but they allow banks, no matter what the volume of their transactions might be, to access this service at reasonable prices.

The conclusion we might draw is that a dominant position in the mobile telephony market has strong implications in developing the use of the mobile banking channel. This means that solutions, probably technological ones, have to be found to prevent the development of mobile banking being solely dependent upon such market power.

4. Demand characteristics of potential banking customers and the relation to the development of mobile banking

The microdata of the Global Financial Inclusion Survey carried out by the World Bank for 144 countries, including Colombia (Global Findex), are displayed below in order to help characterize the population with a financial account in Colombia. According to this survey, 30% of the population in Colombia has an account in a financial institution. It shows that Colombia is in a better position in terms of financial inclusion than countries with similar levels of development such as Peru, Mexico and Panama, for example. However, Chile and Venezuela are ahead of Colombia by over 12 pp, and Brazil by 16 pp (Chart 20).

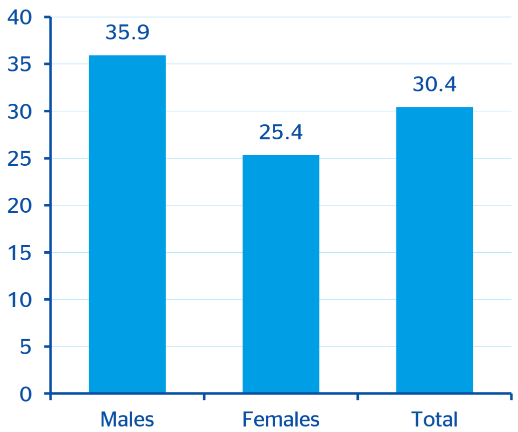
Chart 15
Financial inclusion rate and GDP per capita (2012)



Source: World Bank and International Monetary Fund ..

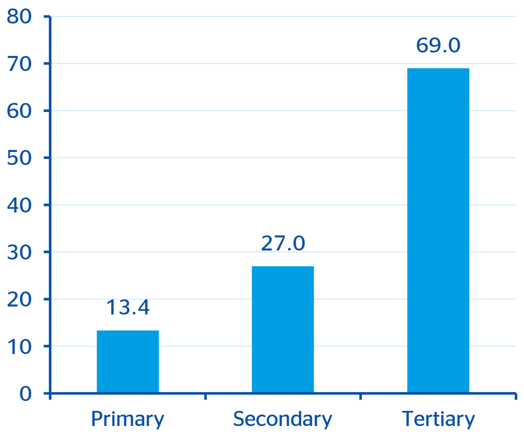
The survey for Colombia shows that 35.9% of men have a bank account, compared with 25.4% of women (Chart 16). This relationship might be expected, given the differences in the job market. There is also a correlation when information is analyzed by education levels. There is a positive correlation between having an account and the number of years studied, ranging from 13% in people with primary school education, to 27% for people with secondary school education, and reaching 69% for people with tertiary education (Chart 17).

Chart 16
Population in Colombia with an account in a financial institution, by gender (% of total, 2011)



Source: Global Findex and BBVA Research

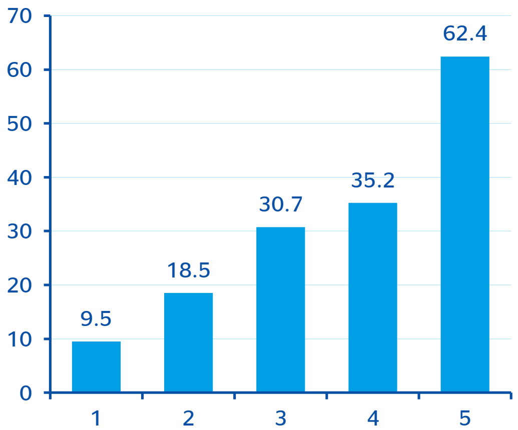
Chart 17
Population in Colombia with an account in a financial institution, by educational level (% of total, 2011)



Source: Global Findex and BBVA Research

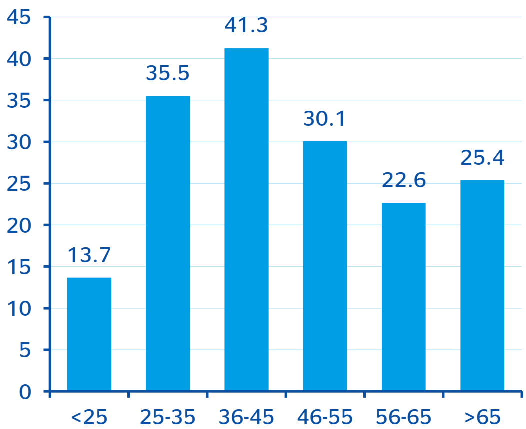
It is also observed that the rate of account holders in financial institutions increases with people's level of income. The data show that the percentage of account holders in a financial institution in the wealthiest quintile is 6.5 times that of the poorest quintile, with the indicator at 62.4% in quintile 5 and 9.5% in quintile 1. For quintiles 2, 3 and 4 the percentages are 18.5%, 30.7%, and 35.2%, respectively (Chart 18). In addition, the percentage of account holders in a financial institution grows with age until the age range of 36 to 45 years, when it stands at 41.2% (Chart 19).

Chart 18
Population in Colombia with an account in a financial institution, by income (% of total, 2011)



Source: Global Findex and BBVA Research

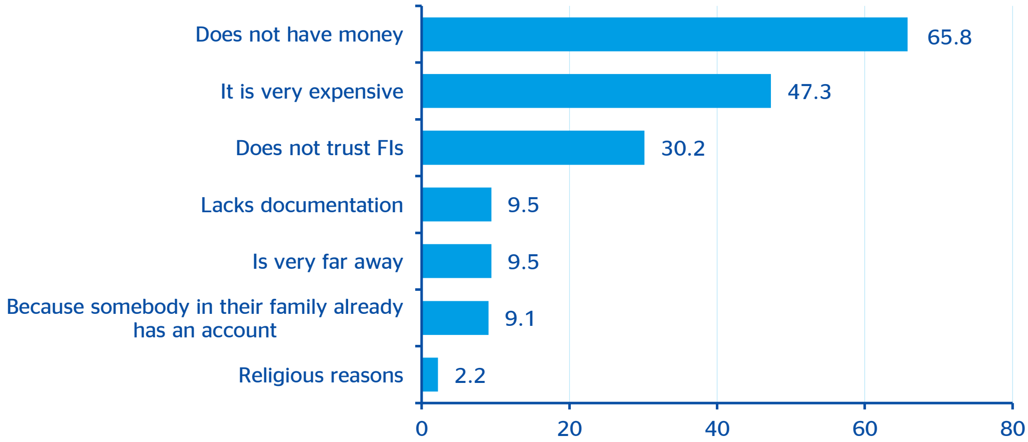
Chart 19
Population in Colombia with an account in a financial institution, by age (% of total, 2011)



Source: Global Findex and BBVA Research

According to the Global Findex Survey in Colombia, the reason most commonly cited by people aged over 25 for not having a formal account (65.8% of adults without an account) is lack of money (Chart 20). Next after this factor, which is a structural factor in Colombia's economy, there are others: the cost of accessing banks, the documentation required from potential customers, and the distance to the financial channel. Interestingly, it is precisely these four factors, namely the lack of money, the cost of accessing banks, the documentation required and the geographical distance, which aim to be addressed through the development of mobile banking models, in conjunction with regulation and simpler processes, the role played by banking correspondents in extending the service points, and the use of the mobile telephony channel, which is fairly common throughout the country.

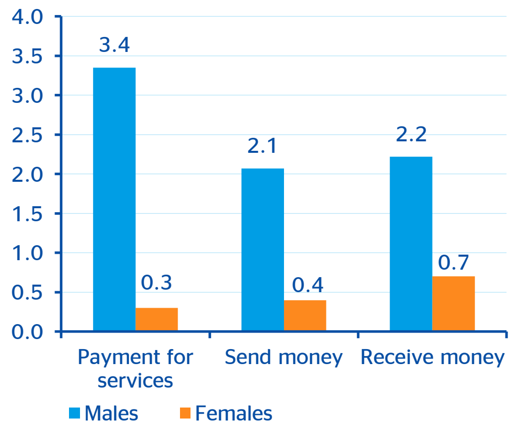
Chart 20
Reason why people over 25 do not have a bank account (% of adults older than 25 without account)



Source: Global Findex and BBVA Research

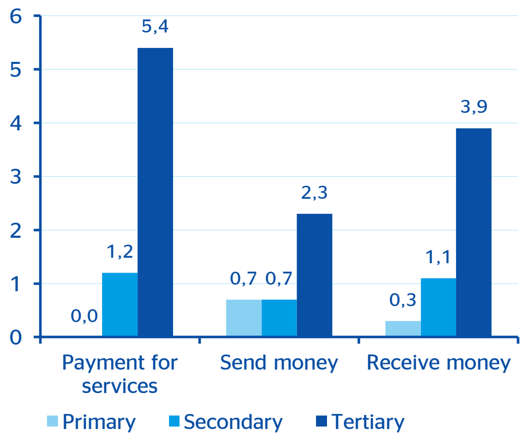
On breaking down the use of mobile telephony to make monetary transfers, we find males are the biggest users. Of all the men with a cell phone, 3.3% use it to pay for services, 2.1% do so to send money and 2.2% do so to receive money. In the case of women these percentages are 0.3%, 0.4% and 0.7% respectively (Chart 21). By educational level, we find that 0.7% of the people with only primary education who have a cell phone use it to send money and 0.3% to receive money. The percentages are increased with level of education, although even in the case of tertiary education, they remain very low: 2.3% and 3.9% for sending and receiving money. It is important to note the higher use of cell phones (5.4%) for payment for services by people with tertiary education (Chart 22).

Chart 21
Population in Colombia which uses cell phones to perform monetary transactions, by gender (% of total, 2011)



Source: Global Findex and BBVA Research

Chart 22
Population in Colombia which uses cell phones to perform monetary transactions, by educational level (% of total, 2011)

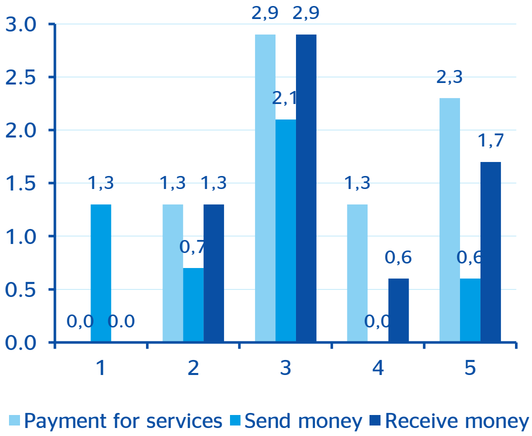


Source: Global Findex and BBVA Research

If we analyze the use of mobile banking by socioeconomic level, we see that decile 3 uses it most, although it still has a very small level of penetration. It is true that this segment may have greater access to other channels (such as Internet banking, for example). When we classify individuals by age, the group between 36 and 45 years makes the greatest use of cell phones, with payment for services and money transfers being the most frequent types, although at low penetration levels (Chart 24).

Chart 23

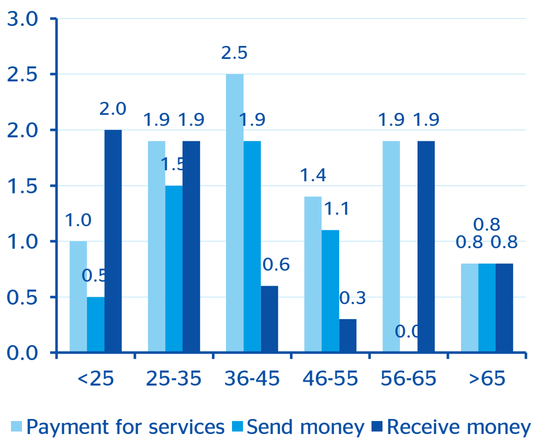
Population in Colombia which uses cell phones for monetary transactions, by income (% of total, 2011)



Source: Global Findex and BBVA Research

Chart 24

Population in Colombia which uses cell phones for monetary transactions, by age (% of total, 2011)



Source: Global Findex and BBVA Research

By and large, the microdata information can be used to extract a number of interesting concepts with respect to the significance of mobile banking development in Colombia. First, confirmation of structural socioeconomic variables as the basis of limitations on access to the financial system in Colombia. The purchasing power of the population, mainly associated with educational factors and, to a lesser degree, gender, is a central limiting factor which becomes visible when segmenting the survey data.

Second, it is important to note the reasons given by people who do not have access to the financial system, when they explain their situation. In addition to the income factor, which is a structural limitation, we can observe other factors where it is possible that mobile banking policies may act in the short term; in other words, by finding a model that offers cheap access, where the processing is simple, where the geographical limitations are offset by the higher presence of banking correspondents or alternative options to the traditional channels, and where the use of a technological channel - which is fairly common in Colombia in the different population layers using cell phones - may be a mass connecting point for increasing the use of banking services.

Low levels of use of the mobile banking channel are in contrast with the potential demand for it, given that as we have stated previously, there are 28.3 million people aged 5 and up in Colombia with their own mobile phones.

5. Conclusions

In recent years, efforts have been made to increase financial coverage through promoting non-traditional channels such as banking correspondents or mobile banking. Thanks to them, 99% of the country's municipalities have a channel to access financial services.

Regulatory developments have paved the way for the design of products that are better suited for people on low incomes, such as online savings accounts, simple-to-arrange saving accounts and online deposits.

The potential for development in mobile banking should arouse great interest in the industry, and in fact this is already happening, given the low current coverage in this channel, in marked contrast with the high level of penetration of mobile telephony and the strong geographic expansion in access points. Mobile banking products have been developed in which a cell phone is associated with a product, while future developments are being sought such as use of cell phones for purchasing goods in retail stores.

Future growth in mobile banking will depend on the development of products that can address the main barriers for accessing the financial system. In order to progress in the future, products will have to be cheaper, simples, easy to access geographically (particularly in rural areas) and able to inspire enough confidence for people to want to interact with them.

Accordingly, continued development of mobile banking regulations will be crucial. It will be vital to establish a regulation that can maintain a balance between the obligations required of all financial institutions and the functions and responsibilities this implies, so as to keep the regulatory playing field level for those taking part. Furthermore, judging by the experience of other mobile banking and electronic money developments worldwide, it will be important to clearly establish regulation in the mobile operator market in order to generate greater efficiency in the future development of mobile banking.

Annex 1:

The regulatory framework for security and quality of operations: Circular 42 of October 2012

The law defines mobile banking is an "… electronic banking channel in which the mobile device is used to perform operations, with its number being associated with the service. The services performed through mobile devices and Internet browsers are considered Internet banking".

In addition to the general obligations required for all channels, the Circular adds specific aspects relating to mobile banking, which will begin to be applicable no later than in early July 2013:

- "Have authentication mechanisms of two (2) factors for monetary and non-monetary transactions[20].
- "For individual monetary transactions or which on a monthly aggregate basis per customer **are in excess of twice (2) the current statutory monthly minimum wages (SMMLV)**, to implement strong end-to-end encryption mechanisms for the sending and receipt of confidential information on transactions performed, such as: alias, account number, card number, etc. Under no circumstances can this information be known by telecommunications networks or services suppliers, nor by any other entity other than the financial institution which provides the service through this channel; nor may this information be stored in the mobile telephone."
- Any communication sent to the cell telephone as an alert or transaction notification service does not have to be encrypted, unless it includes confidential information.
- For individual monetary transactions, or transactions which on a monthly aggregate for a single the customer are **lower than twice (2) the current statutory monthly minimum wage** (SMMLV) and which do not encrypt the information from end to end, the institution will have to take the necessary measures to mitigate the risk associated with this type of transaction, considering the security mechanisms where the information is not encrypted. The Financial Superintendency of Colombia (SFC) will be entitled to suspend the use of the channel if it detects failures that could compromise the security of information.
- Have measures to guarantee the atomicity of transactions and to prevent them from being duplicated due to failures in communication caused by the quality of the signal, transfers between cells, etc.
- Services provided for carrying out transactions via Internet, in sessions originated from the mobile device, have to comply with Internet requirements."[21]

The aforementioned Circular defines authentication as follows: "A set of techniques and procedures used to verify the identity of a customer, entity or user. Factors for authentication are: something that is known, something one has, something one is." According to the Circular, strong encryption mechanisms are as follows:

1. Biometry.
2. Digital signature.
3. OTP (one-time-password), combined with a second authentication factor.

20: It is important to note that the concept of authentication and strong authentication mechanisms were not included in the previous law. The authentication mechanisms are, according to the law, the set of techniques and procedures used to verify the identity of a customer, entity or user. Factors for authentication are: something that is known, something one has, something one is. Strong authentication mechanisms are understood to be the following: 1. Biometry; 2. Digital signatures; 3. OTP (one-time password), combined with a second authentication factor; 4. Cards that comply with the EMV standard, combined with a second authentication factor; 5. Registration and validation of certain characteristics of computers or mobile equipment from which transactions will be carried out, combined with a second authentication factor.
21: The requirements needed for Internet are indicated in number 4.9 of Circular 42, of 2012.

4. Cards that comply with the EMV interoperability standard[22], combined with a second authentication factor.
5. Registration and validation of certain characteristics of computers or mobile equipment from which the transactions are performed, combined with a second authentication factor.

The Circular states the regulator's intention of seeking the adequate balance between measures which might promote financial inclusion without overlooking the security conditions that must be followed. While security requirements are increased for mobile banking, monetary transactions which individually or on aggregate are not in excess of twice (2) the current statutory monthly minimum wage are exempted from having to implement strong encryption mechanisms."[23]

22: The letters refer to Europe, Visa and MasterCard, and to the global interoperability between the cards of these companies through their different channels.
23: Speech by Financial Superintendent in the III Congress of access to financial services, systems and payment applications of Asobancaria.

Annex 2

Minimum data required for association

The framework of SARLAF includes some minimum requirements. Below is an example with the minimum data required for association, as indicated in chapter XI of the Basic Legal Circular.

Table 5
Minimum data required for bonding

Description	NP	CE
Full name and surnames or company name.	X	X
Nationals: Identification number: NIT, civil birth certificate, citizen's identity certificate or identity card.	X	X
Foreign nationals: Identification number: Foreign national certificate, valid passport for holders of tourist visas or visitor or other type of visa with validity of lower than three (3) months, or permit issued by the Protocol Department of the Ministry of Foreign Affairs for holders of Preferential Visas (diplomatic, consular, service, international or administrative bodies, as the case may be, and according to migration rules in force).	X	
Tourists of the member countries of the Andean Community of Nations. Identification number: Identification document valid and in force in the issuer country with which the tourist entered Colombia.	X	
Full name and surnames of representative, authorized officer and identification number.	X	X
Address and telephone of the representative.		X
Place and date of birth.	X	
Address and telephone of residence.	X	
Occupation, trade or profession.	X	
Description of activity: Independent, dependent, position occupied.		
- Main economic activity: commercial, industrial, transport, construction, agro-industrial, financial services, etc., as established in the ISIC international code.	X	X
Name, address, fax and telephone of the office, company or business where he works, if applicable. Address, telephone, fax and city of the main office and of the branch or agency which acts as client.	X	X
Identification of the shareholders or associates who directly or indirectly have over 5% of the shares.		X
Company type: private, state-owned, mixed.		X
Declaration or origin of the goods and/or funds, as the case may be (can be attached as an annex).	X	X
Monthly income and expenses.	X	X
Details of other income, non-operating income or income arising from activities other than the main activity.	X	X
Tax assets and liabilities.	X	X
For a trust, the type of resources or identification of the asset delivered.	X	X
Authorization for consulting and reporting to risk centers.	X	X
Statement on foreign-currency activities.	X	X
Applicant's signature and fingerprint.	X	X
Processing date.	X	X

Fuente: Capítulo XI de la Circular Básica Jurídica

NP: Association of natural person. **CE:** Association of corporate entity

If the activity of the potential customer involves foreign-currency transactions, the form must contain a space for the following information:

Table 6
Minimum data required for foreign currency transactions

Description	NP	CE
The type of foreign-currency transactions it normally carries out.	X	X
Financial products held in a foreign currency specifying at least: product type, product identification, entity, amount, city, country and currency.	X	X

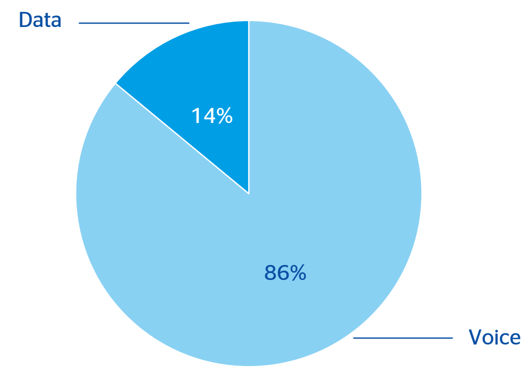
Source: Chapter XI of the Basic Legal Circular

Annex 3

Mobile telephony market and services offered

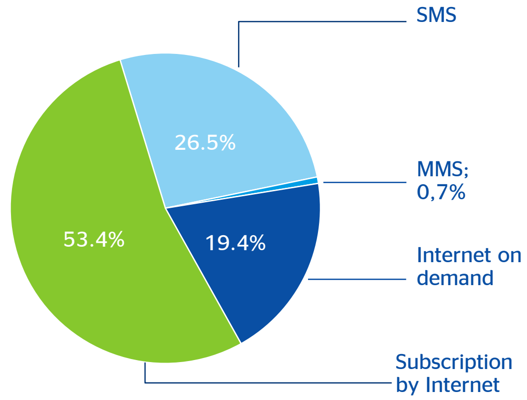
The services offered by these providers include data on demand and by subscription plans, SMS and MMS type messaging, and the prepaid and contract voice service. The share of the total income received by telephony companies from these services shows the greater importance of voice services, with 86% of revenues, and data accounting for 14% (Chart A3.1). As far as data are concerned, mobile Internet accounts for around 73% of revenue from data, and SMS and MMS 27% and approximately 1%, respectively (Chart A3.2).

Chart 25
Share of voice and data services (%share of total revenues by service, third quarter 2012)



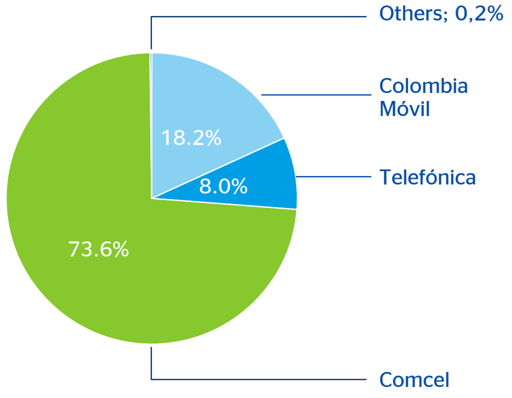
Source: Ministry of Technologies and Communications

Chart 26
Share of data services (% revenues by service as % of total revenues, third quarter 2012)



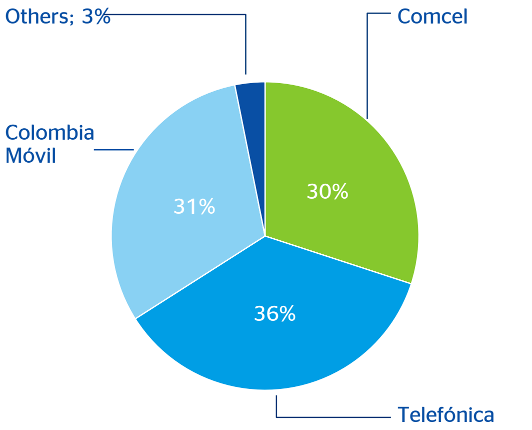
Source: Ministry of Technologies and Communications

Chart 27
SMS by provider (% share for each provider of total SMS revenues, third quarter 2012)



Source: Ministry of Technologies and Communications

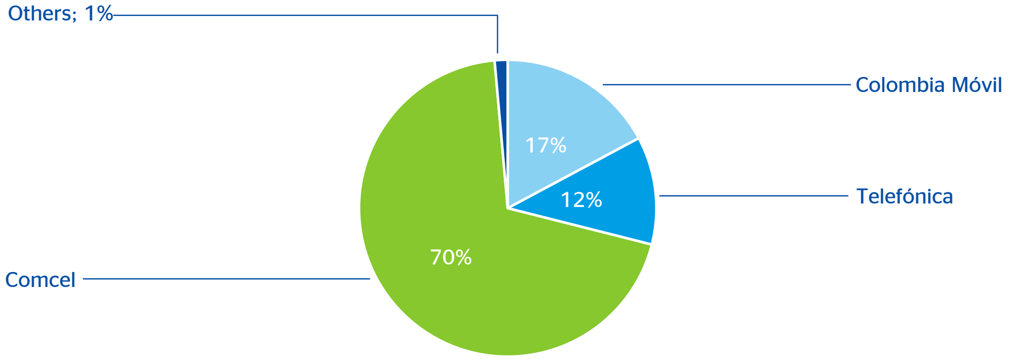
Chart 28
Internet by subscription by provider (% share for each provider of total subscription internet revenues, third quarter 2012)



Source: Ministry of Technologies and Communications

It is also important to analyze the operators' share in each of the services (Charts A3.4, A3.5 and A3.6). They reveal that a single operator has a share of 74% in SMS text message revenues and 70% in Internet on demand.

Chart 29
Internet on demand by provider (% share for each provider of total internet on demand revenues, third quarter 2012)



Source: Ministry of Technologies and Communications

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