

Factors behind financial inclusion in Peru

Internal Forum on Financial Inclusion

Corporación Financiera de Desarrollo - COFIDE

Lima, June 12, 2013

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Financial inclusion: a subject of growing interest

- **Financial inclusion:** use of formal financial services.
- An important factor for **sustained** and continuous growth in emerging markets.
A subject of growing interest
- **The most recent G20 communiqué** agreed to:
 - *"continue to make progress with the **financial inclusion agenda**"*
 - *"support countries, politicians and stakeholders to focus their **effort on measuring and monitoring global progress in access to financial services**"*
 - **67% of banking regulators**, out a total of 143 economies, are responsible for **promoting financial inclusion** (Cihak et al., 2012)

The problem of "financial exclusion" and possible alternatives

- **Without financial inclusion** individuals and companies trust in their **own resources to satisfy their financial needs and deal with shocks**. This is inefficient. Contemporary consumption tends to be related to contemporary income
- **Transaction costs** may make **the financial services not viable** for some groups
- Technology provides the possibility of offering financial services at a reduced cost.
- **Appropriate regulation** for these new channels is essential to balance the objectives of financial stability and financial inclusion
- In **Peru** there are signs of a trend to **greater penetration** in an environment of growth, **but only 20% of households use banking services**, compared with 56% in Brazil or 42% in Chile

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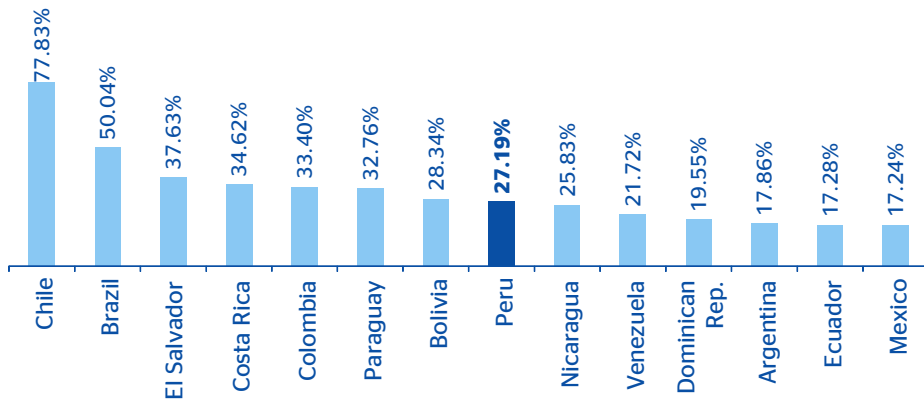
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Conclusions and recommendations

A summary of banking penetration

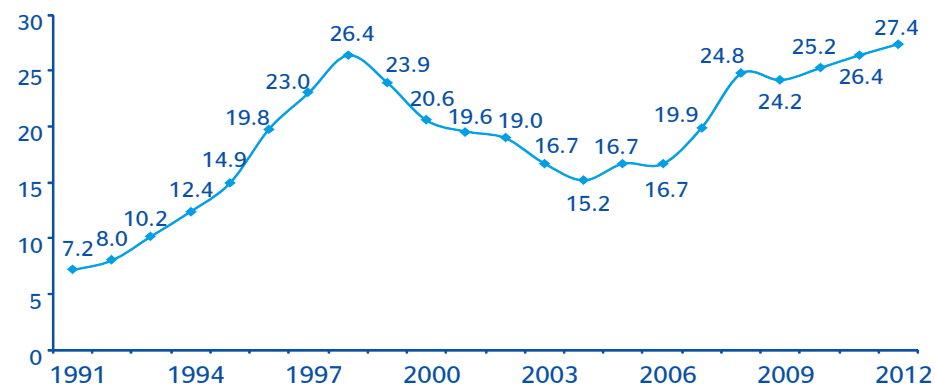
Credit in the banking system in November 2012 / GDP (%)

Source: FELABAN



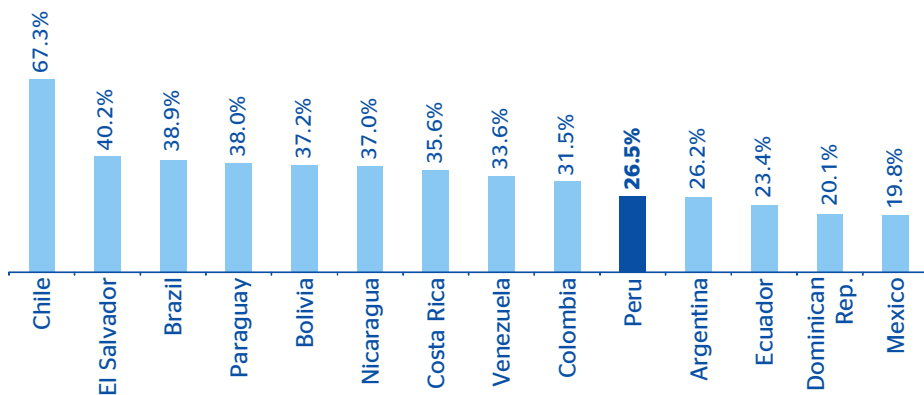
Credit in the banking system / GDP (%)

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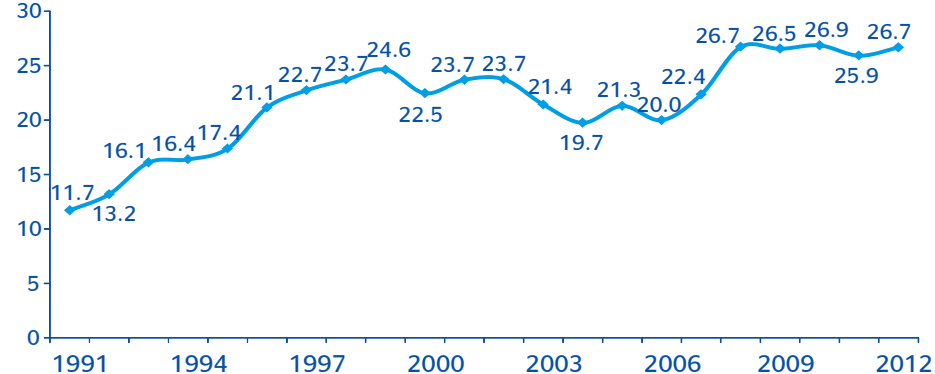
Deposits in the banking system in November 2012 / GDP (%)

Source: ASBANC



Deposits in the banking system / GDP (%)

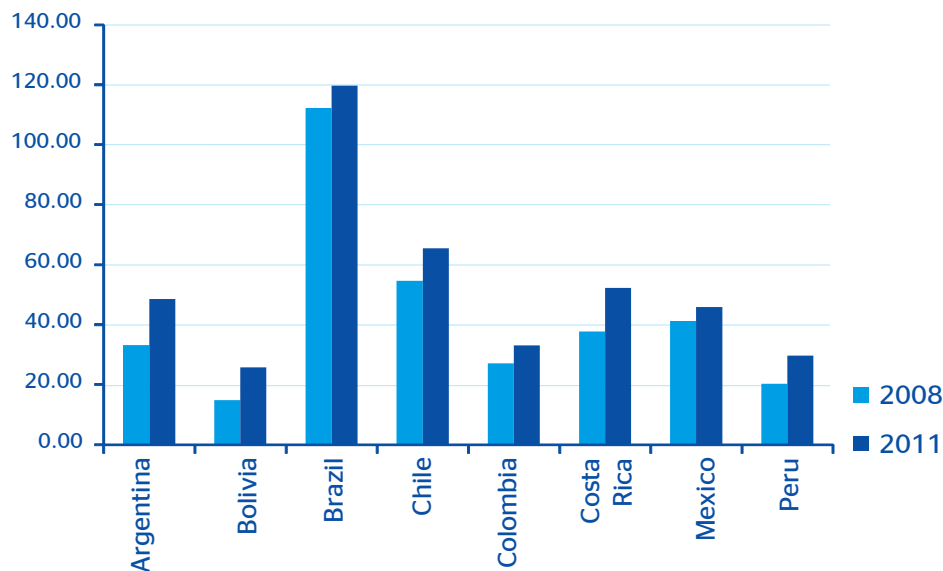
Source: ASBANC



A summary of banking penetration

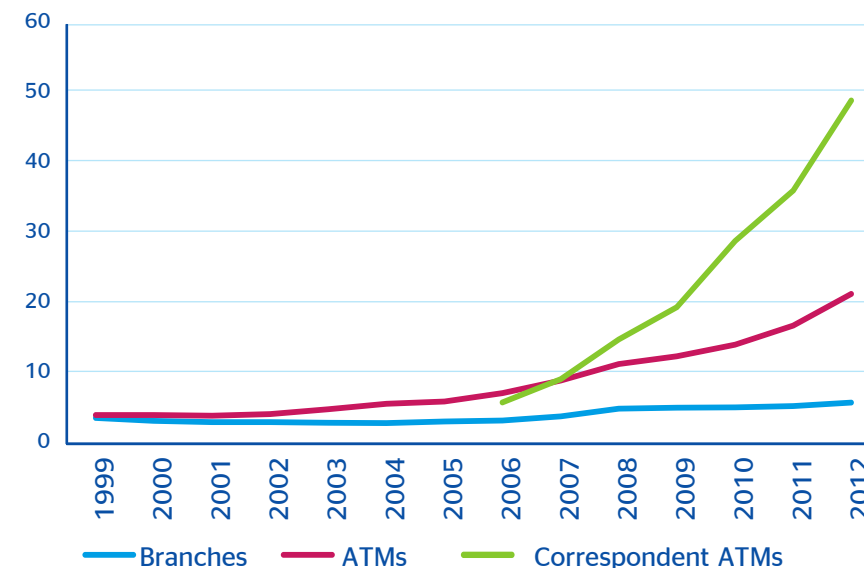
ATMs per 100,000 people

Source: ASBANC



Coverage of banking services per 100,000 people

Source: ASBANC

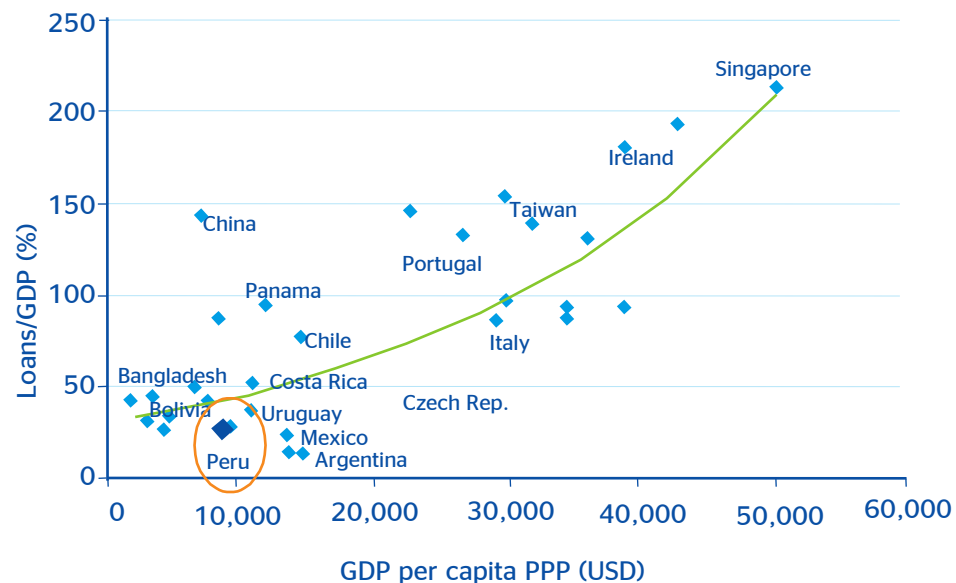


- **Aggregate data** with respect to GDP show progress, **recently** exceeding the levels of the **late 1990s**
- **Greater potential access** to channels, particularly **correspondent channels**
- A regional comparison shows **great room for improvement**

Financial inclusion and structural aspects

GDP per capita and loans in the financial system

Source: The Financial Access 2010



Determinants of credit: estimates with panel data: fixed-effects vector decomposition

***, **, * Indicate significance to 1%, 5% and 10% respectively
Source: BBVA Research (2012)

Structural factors

Inflation	0.03
Spread	-0.39
Growth	0
Informal economy	-0.95***

Institutional factors

Credit information index	4.15*
Property registration cost index	-3.87
Legal framework index	5.16**

Banking infrastructure

Banking infrastructure	24.75***
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- Beyond any significant effort to increase financial inclusion we should not forget the **importance of solving the structural problems in the country that lie behind the low current levels of penetration**

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Financial inclusion and improvement in welfare

- The **lack of access** to financial services could lead to the **poverty trap** and **greater inequality** (Banerjee and Newman, 1993; Galor and Zeira, 1993; Aghion and Bolton, 1997; Beck, Demirguc-Kunt and Levine, 2007)
- The **provision of access** to financial instruments **increases savings** (Aportela, 1999; Ashraf et al., 2010), **productive investment** (Dupas and Robinson, 2009), **consumption** (Dupas and Robinson, 2009; Ashraf et al., 2010b) and **women's empowerment** (Ashraf et al., 2010)
- **Access to credit and insurance** has **beneficial effects** but the results are **less robust** (Karlan and Morduch, 2010; Banerjee et al., 2010; Roodman, 2012)

Challenges in the research on financial inclusion

- Despite the importance of financial inclusion, **little is known about its measurement** (particularly in emerging and less developed countries), the **policies needed to promote it** (Demirguc-Kunt, et al., 2008) or its **determinants from a microeconomic point of view** (Allen, Demirguc-Kunt, Klapper and Martinez Peria, 2012)
- **Existing studies are mainly based on macroeconomic data** (Beck, Demirguc-Kunt and Martinez Peria, 2007; Honohan, 2008; Kendall, Mylenko and Ponce, 2010). This **makes it difficult to analyze to what extent individual characteristics determine financial inclusion**
- This study aims to throw light on microeconomic determinants, using data from surveys and other sources

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Description of the data and methodology

- Methodology: estimates using a **probit model**
- Processing of **available information** to analyze financial inclusion in Peru

Data	Source	Period	Representativeness	Information on financial inclusion
National household survey of Peru-ENAHO	National Institute of Statistics and IT - INEI	2011 (Annual survey)	<ul style="list-style-type: none"> • By regional area: Jungle, Metropolitan Lima, North Coast, South Coast, Center Coast, North Sierra, South Sierra, Center Sierra • Urban-Rural • Department 	<ul style="list-style-type: none"> • Mortgage loans • Savings products: interest from fixed payments, savings accounts • Online banking: use of the Internet for financial transactions
Global Index	World Bank	2011	By country for 144 countries including Peru	<ul style="list-style-type: none"> • Ownership and use of accounts, credit and insurance • Reasons for not using financial products

Description of bank users

- **Global Findex:** 20% of the population of Peru **use banking services** (have an account at a financial institution)
- The National Household Survey **ENAHO:** strong **contrast** among **bank users** depending on the income quintile

Distribution of bank users by income quintile

Source: BBVA Research based on ENAHO 2011

Income quintile	Households	Companies
Quintile 1 (poorest)	2.2%	0.9%
Quintile 2	7.7%	4.6%
Quintile 3	14.3%	9.2%
Quintile 4	24.2%	14.9%
Quintile 5 (richest)	51.5%	70.4%

Households: probability of using banking services

	Regression 1		Regression 2		Regression 3	
	Coefficient	Sig.	Coefficient	Sig.	Coefficient	Sig.
Bank users						
Rural	0.0295723	***	- 0.03205	***	- 0.03474	***
Woman	0.0078964	**	- 0.00841	***	- 0.00833	***
Single	0.0078101	**	- 0.01004	***	- 0.0103	***
Literate	0.028042	***	0.026133	***	0.026403	***
Family worker	0.0186287	***	- 0.01989	***	- 0.01951	***
Independent worker	0.0021988		- 0.00287		- 0.00279	
Employer	0.0015086		0.001032		0.001189	
Annual household spending	5.39E-07	***	4.99E-07	***	4.92E-07	***
Annual household income (net)	1.49E-07	**	1.48E-07	**	1.51E-07	**
Annual income from wages	5.22E-07	**	4.72E-07	**	4.77E-07	**
Annual income from remittances from abroad	- 2.95E-07		- 3.21E-07		- 3.43E-07	
Annual income from private transfers	- 2.39E-07		- 5.13E-08		- 4.59E-08	
Annual income from public transfers	- 8.59E-08		- 1.21E-07		- 1.15E-07	
Age	0.000117		6.34E-05		2.51E-05	
Age squared	- 9.09E-06		- 9.62E-06		- 9.19E-06	
Educational level	0.008809	***	0.008786	***	0.008798	***
Annual household spending on cell phones	0.0000111	***	1.08E-05	***	1.11E-05	***
Recipients of income in household	0.0068679	***	- 0.008	***	- 0.008	***
Poor household	0.0009046		- 0.00156		- 0.00174	
Income quintile 1	0.0491466	***	- 0.04847	***	- 0.04745	***
Income quintile 2	0.0407063	***	- 0.04045	***	- 0.03966	***
Income quintile 3	0.0285549	***	- 0.02937	***	- 0.02878	***
Income quintile 4	0.0140551	***	- 0.01474	***	- 0.01454	***
Per capita spending (district)			2.82E-08		- 1.11E-07	
Own home bought			0.019534	***	0.019947	***
Household saves			0.003827		0.004201	
Household in debt			0.031356	***	0.031118	***
Towns of 20,001 to 100,000 homes					- 0.00309	
Towns of 10,001 to 20,000 homes					- 0.00053	
Towns of 4,001 to 10,000 homes					0.005019	
Towns of 401 to 4,000 homes					- 0.00549	
Towns of fewer than 401 homes					- 0.02499	***

***Significance to 99%, **Significance to 95%, *Significance to 90%
Source: BBVA Research based on ENAHO 2011

Endogenous variable

An individual is a user of banking services if he/she...:

- Has a mortgage or...
- Receives interest from **savings products** or...
- Carries out **online banking operations**

What factors affect the probability that households will be users of banking services?

- **Reduced probability** of using banking services: **women, rural, being single, No. of recipients of income in the household, family workers, low-income quintiles**
- **Increased probability** of using banking services: **education, income and spending by the household, consumption on cell phones, owning a home and household debt**
- The **size of the towns** determines the probability of using banking services. People in small towns of **under 401 homes** are less likely to use banking services than those in bigger ones

SMEs: probability of using banking services

	Regression 1		Regression 2		Regression 3	
	Coefficient	Sig.	Coefficient	Sig.	Coefficient	Sig.
Bank users						
Woman	0.0067911		0.011817		0.012072	
Single	-0.0112878		-0.01333	*	-0.01308	*
Literate	0.0417396	***	0.036902	**	0.037092	**
Age	0.0005321		0.000141		7.39E-05	
Age squared	-0.000013		-9.57E-06		-9.01E-06	
Educational level	0.0120576	***	0.00998	***	0.010036	***
Poor household	-0.0148802	*	-0.0149	*	-0.01507	*
Income quintile 1	-0.0430422	***	-0.03736	***	-0.03776	***
Income quintile 2	-0.0308052	***	-0.02504	***	-0.02556	***
Income quintile 3	-0.0151873	**	-0.00754		-0.00792	
Income quintile 4	-0.0155053	***	-0.00996		-0.0102	
Formal company			0.028594	*	0.028968	*
Company revenue or profits			8.46E-08	*	8.29E-08	*
Towns of 20,001 to 100,000 homes					-0.00563	
Towns of 10,001 to 20,000 homes					-0.00489	
Towns of 4,001 to 20,000 homes					-0.0002	
Towns of 401 to 4,000 homes					0.005162	

***Significance to 99%, **Significance to 95%,
*Significance to 90%

Endogenous variable

Employer or independent worker who employs 5 to 100 people uses **banking services** if he/she...:

- Has a mortgage or...
- Receives interest from **savings products** or...
- Carries out **online banking operations**

What factors affect the probability that SMEs are users of banking services?

- Belonging to the two poorest income quintiles **reduces the probability of using banking services**
- Higher **education**, higher **company revenue** and being a formal company, **all increase the probability of using banking services**

Vulnerability of individuals to barriers for banking penetration

- Global Findex: **main barriers** to having an account in a financial or micro-financial institution: high service costs (55%), lack of money (54%), lack of confidence in financial institutions (37%), distance from financial institution (23.7%) and not having the documentation required (15.7%).

Probit model - perceived barriers and individual characteristics

***Significance to 99%, **Significance to 95%, *Significance to 90%
 Source: BBVA Research based on the Global Findex Survey

	Distance		Costs		Documentation required		Mistrust of financial institutions		Lack of money	
	Coefficient	Sign.	Coefficient	Sign.	Coefficient	Sign.	Coefficient	Sign.	Coefficient	Sign.
Woman	0.05188		-0.01077		0.01898		-0.08049 *		-0.02239	
Primary education	0.16553 ***		0.06535		0.06799		0.02187		-0.00658	
Age	-0.00103		0.01497 **		-0.02218 ***		0.00234		0.00480	
Age 2	0.00000		-0.00014 **		0.00021 ***		-0.00001		-0.00004	
Quintile 1	0.18785 **		0.02460		-0.03426		-0.07862		0.13641 *	
Quintile 2	0.00883		0.04029		-0.03003		-0.07728		0.16636 **	
Quintile 3	0.07313		0.03127		-0.04813		-0.04195		0.08427	
Quintile 4	-0.03154		0.08521		-0.04744		0.06595		0.09672	

Conclusions on the model for identifying barriers

- Individuals with lower educational levels and lower income see **distance as a barrier to using banking services**
- For older individuals **costs are perceived as an obstacle to using banking services**; this happens up to the age of 53. However, the youngest point to the **documentation required** as the main inconvenience. **This perception declines with age (53 years)**
- Women have more **trust in financial institutions**
- **Lower income quintiles** point to **lack of money as a significant** obstacle to banking use

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General aspects of mobile banking

- Implemented as a **financial inclusion policy mechanism in environments where there are limitations on** access to financial services
- Linking **cell phones** to a **bank account** (bank-telephone company association) and options for **physical access** (correspondents, ATMs) for cash-in / cash-out with extended **hours**
- Services that require a **minimum of registration information** and **take advantage of** the significant penetration level **of cell phones**
- Mobile banking **is a secure and low-cost alternative** compared with other traditional forms. It offers a limited range of services
- Some **cases of success**: Kenya, the Philippines and Paraguay

Cases frequently cited

Paraguay: Giros-TIGO

- Mobile money service
- Retail payments and particularly domestic remittances
- Payment for public services and electronic transactions

Kenya: M-Pesa

- Payment services and mobile banking
- Account for basic transactions
- The account number is the cell phone number
- Minimum information required

Philippines: Smart money and G-Cash

- All kinds of purchases and payments through the cell phone
- Money transfers
- Cash withdrawal from ATMs

The case of Cuenta Express-Mexico

- Mexican regulations **allow financial intermediaries to provide services that can overcome geographical obstacles**
- **The Bancomer Express Account-BBVA (2011): Simple and low-cost** products with **more accessible operating channels** (network of 22,000 correspondents, a basic pillar for financial inclusion, broad geographical coverage and service hours)
- Attracts **people with low incomes** through a **sustainable product** (cheap and easy to access)
- Characteristics: (1) **Simple activation** process; (2) Only needs **ID**; (3) **Single payment** on opening; (4) Access from **cell phone** with number that is **same as account**; (5) **No transaction fee for customer**

The case of Cuenta Express-Mexico

- A total of **2,170,000 Cuenta Express accounts** have been accessed January 2011 - April 2013
- In 2012 **70% of deposits were at a counter**, followed by 16% through **electronic transfers**, 10% at **correspondents**
- **65% of the Express segment is an open market**, 27% are low work incomes, 8% are social programs and the rest retired

The Cuenta Express accounts are NOT exclusive in the segment, nearly 500,000 are in other segments

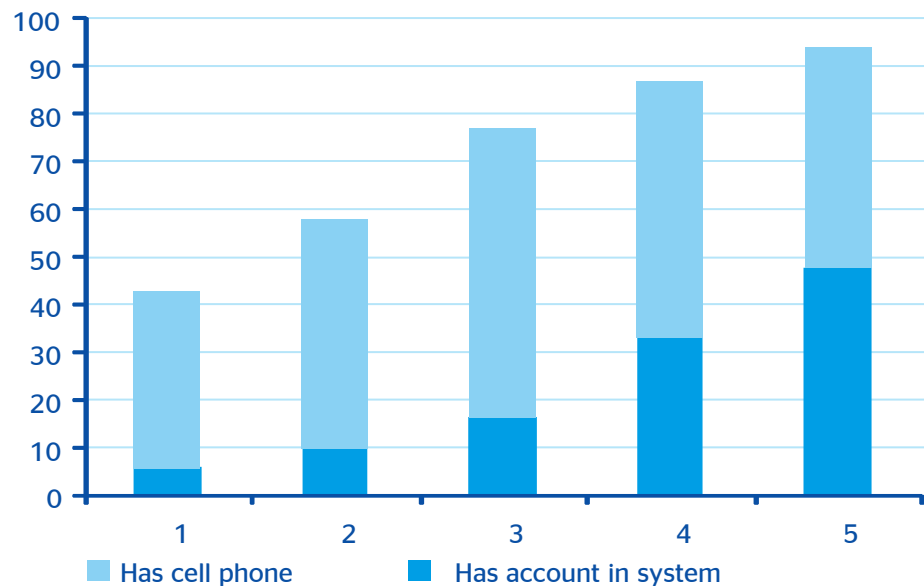
Segment	Stock	%
Express Banking	1,364,183	75%
Banking (mass)	374,229	21%
Other	79,15	4%
Total	1,817,565	100%

Mobile banking in Peru: potential

- Extensive presence of cell phone devices, above all among groups that are currently not attached
- Average potential of 40%, mainly focused on the middle classes
- The biggest gaps are in quintiles 2 and 3 and in the groups with secondary education (70%)

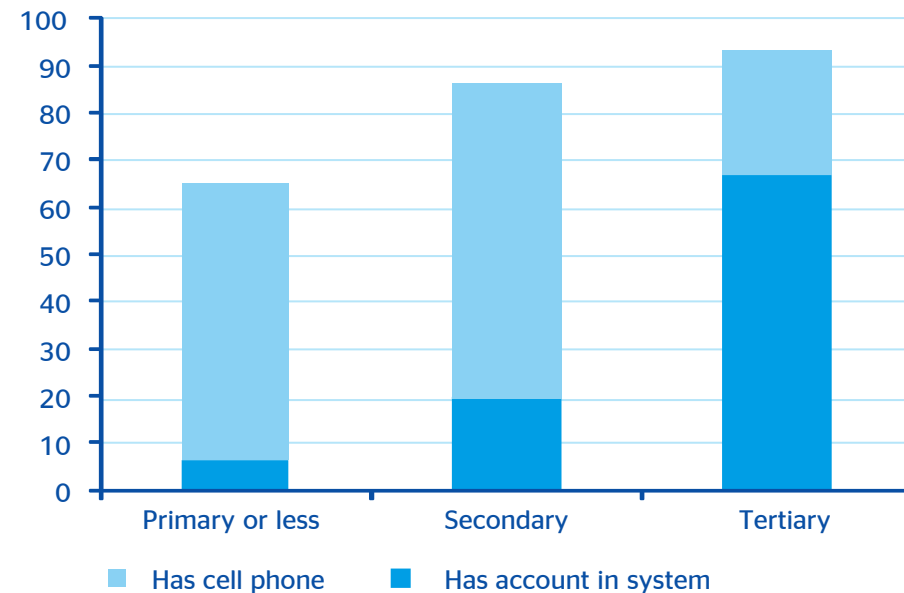
Potential market by income quintile

Source: ENAHO, Global Findex, BBVA Research



Potential market by educational level

Source: ENAHO, Global Findex, BBVA Research



Mobile banking in Peru: for consideration

- **Appropriate regulation of mobile banking and electronic money:** simplify and ease access while taking the necessary precautions to avoid incentives for the development of shadow banking or other kinds of threats to the stability of the financial system
- **Minimizing risk through regulation:** Anti Money Laundering, Know your Customer, etc
- **Adequate record of transactions made and full identification of users**
- **Balance** between necessary registration details and requirements

Mobile banking in Peru: for consideration

- Take into account **all the actors involved in the service**: incentives for non-financial institutions that act as correspondents to provide services for recharging electronic money cards
- **Appropriate advertising campaigns**. This has been important in all cases for deployment

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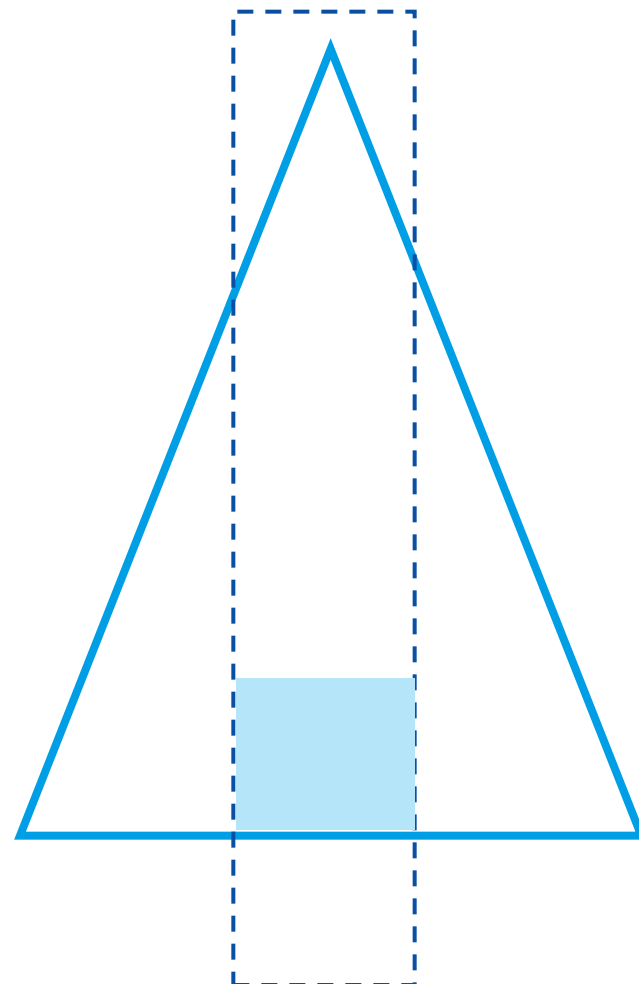
- **Promoting financial inclusion** for individuals and companies means tackling **market faults** that make extensive use of financial services difficult
- The **estimates** show that the **potential for financial inclusion in households is focused on the middle classes**
- It is important to bear in mind the **factors that reduce the probability of using banking services in households: being a woman, rural, family worker, low-income quintiles and living in small towns**
- For **SMEs**, poorer **quintiles lower the probability of using banking services**, while **education, company revenue and being formal increase it**

Conclusions

- The perception of **barriers to using banking services varies according to characteristics of the individual** (for example: cost is most important for older people; documentation requirements are most important for the young). Relevant for thinking of the way to focus **financial inclusion policies**
- **Financial exclusion requires political action to combat market faults**: presence of individuals whose marginal benefit from the use of financial services exceeds the marginal cost, but are excluded due to the barriers of cost, geography, documentation

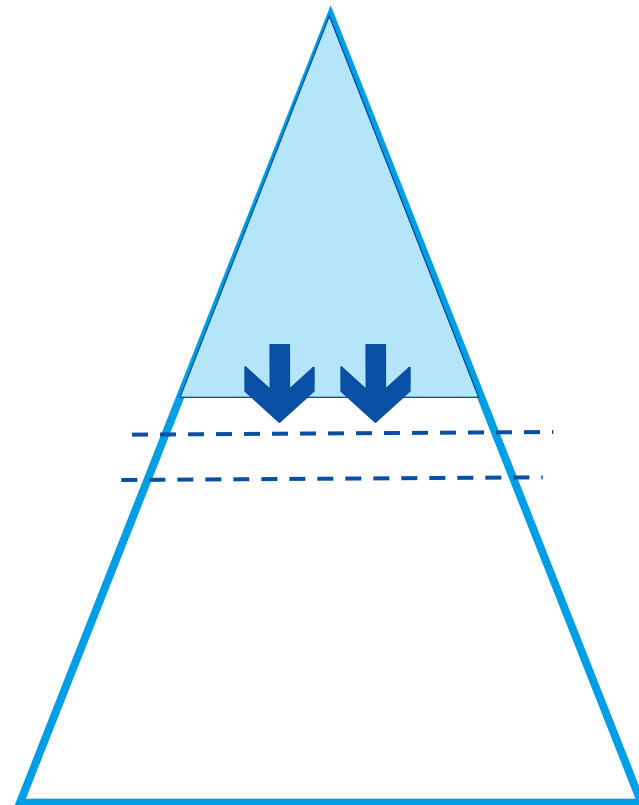
Conclusions

- Reflection on **strategies for financial inclusion**:
 - Strategy 1: **payment by cell phone** - allow access to account services for **lower income segments**, with limited products that allow the use of financial services and reduce the transaction costs of intermediation, fundamentally through **payment services / use of cash** and then give access to more complex products (that imply finance)



Conclusions

- Reflection on **strategies for financial inclusion**:
 - Strategy 2: **mobile financial services** - look for access to the **middle strata with a broader range of financial products**, including finance, and that will gradually seep down to lower-income sectors
- The two strategies **are not exclusive, but complementary**



Recommendations

- It is important **to identify the barriers to financial inclusion by population strata**, in order to **target the most** appropriate policies
- **A more complete approach to financial inclusion requires additional statistical information** that (1) helps identify the problems; (2) shows the size of the market faults and based on this (3) allows governments to implement the right policies (pilots and general regulations)
- Approach suggested for the **short term**: develop a **permanent module of financial inclusion in ENAHO**, taking advantage of the richness of individual characterization
- Approach for the **medium term**: develop a specific **Financial Inclusion Survey, as recently developed in Mexico (ENIF)**. Other models such as the Financial Surveys in Chile and Spain are good examples

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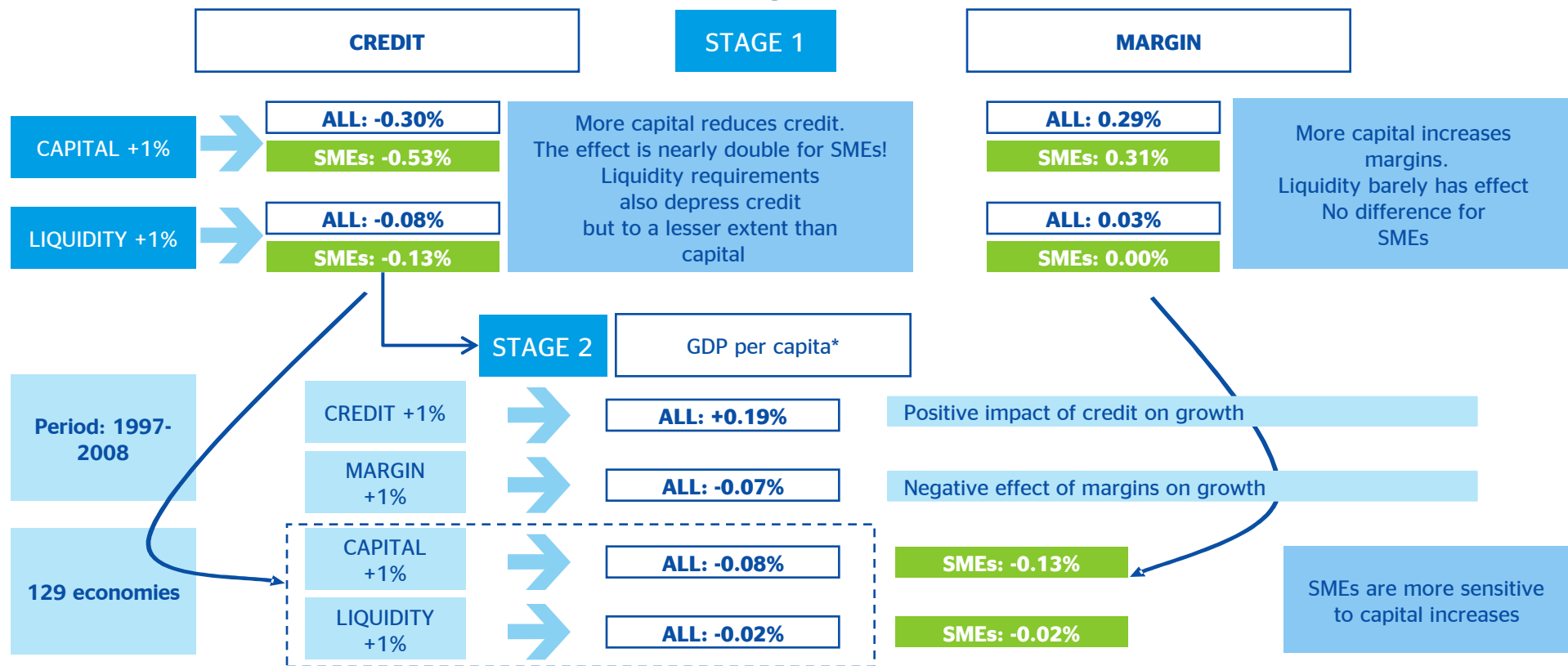
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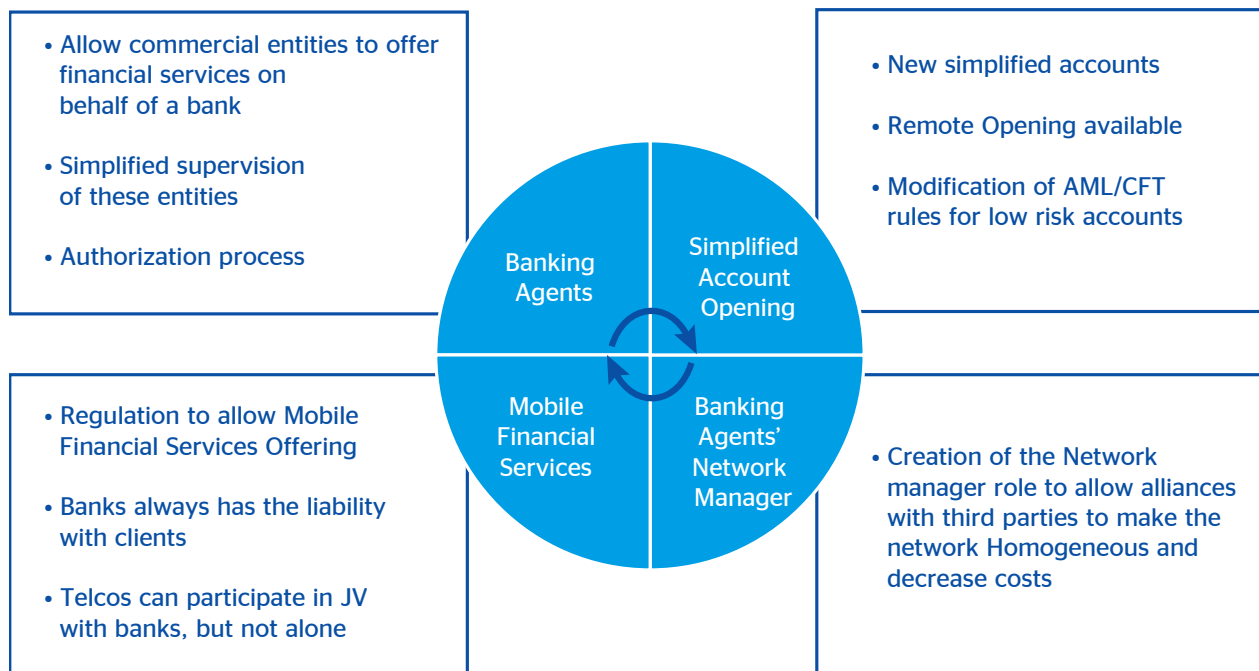
Appendix: Effects of the regulation

IMPACT OF THE NEW REGULATION ON CREDIT, THE MARGIN AND GDP A 2-stage estimate



The regulatory framework

- The regulatory framework should have four core aspects



Easy opening of accounts

The case of Mexico

A tiered account scheme helps authorities provide solutions for financial institutions and the underserved. Countries establish a set of rules in order to decrease new customer acquisition

	Level 1	Level 2	Level 3
Account Holder Data	None (Anonymous)	Name, State & Date of birth, Gender, and address	Country of birth, Nationality, Occupation, economic activity, profession or line of business, phone number, and ID type and data
Opening and KYC Requirements		-If opening is face-to-face, name and date of birth data must be cross-checked against valid ID -If account opening is not face-to-face data must be cross-checked against national registry -Account opening and KYC can be outsourced	Account opening MUST be face-to-face. Data must be cross-checked against valid ID
		-Only data, no hard copies	
Distribution / Account Opening Points	Account opening need not be face-to-face.		
	Commercial Establishments	Companies	
Account Activation	Agents, Bank's website, bank's branches		
	Bank's call centers and websites		
Cash-in	Agents and branches		
	Agents and Branches		
Limits	\$290 USD in monthly deposits and \$380 USD as maximum balance	\$1,160 USD in monthly deposits	\$3,860 USD in monthly deposits
Access to Funds	Mobile phones		
	Branches, ATMs, POS and agents		
Use			International
	National		