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Expanding Credit and Savings in Peru

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Economic Analysis

Expanding Credit and Savings in Peru[1]

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Summary

This study identifies a set of elements that determine the development of banking penetration, emphasizing macroeconomic, structural and institutional factors. The study also offers some recommendations aimed at promoting credit and savings in Peru. Specifically, the study identifies how to improve the coverage of information available to credit reporting bureaus, the formalization of property ownership and the system of guarantees, thus introducing a simpler and less costly registry, efficient use of guarantees and greater transparency in judicial auctions. With regards to factors inherent to the banking industry, developing products and services that are accessible to lower income populations will in some cases require state support. Firstly, it is essential that companies be required to pay salaries via the financial system. Likewise, "low cost default accounts" are recommended, in addition to increased investment in point-of-sale terminals for use with credit or debit cards (POS), tax incentives for payments made with cards and optimizing the correspondent ATM system (simplifying legalities). Bank lending should also be promoted in sectors such as the micro and small enterprises sector by use of commercial invoices as a means of funding, thus generating liquidity via other assets at micro and small enterprises and cutting their costs. To this end the regulations covering such financial operations must be clear and precise, with no gaps that might lead to uncertainty or make their use more expensive. The recommendations laid out in this study have been designed to be put into practice jointly. It is estimated that in a conservative scenario, implementing the proposals would increase banking penetration (measured by bank placements) by more than 65% over the next ten years.

Executive Summary

Theoretical reasoning and empirical evidence indicate that there is an important link between the reach of savings and credit markets, known as banking penetration, and economic growth. Firstly, banking reduces the cost of identifying the most profitable projects and overseeing their development. A climate such as this, in which more and better information is available on attractive projects and where there is a greater likelihood of recovering deposited funds, will encourage savings that can then be channeled towards such projects. Thus, capital is accumulated and allows growth to be sustained in the medium term. Secondly, by aggregating the funds of thousands of savers, many of whom are small savers, banking allows these projects to be implemented on an efficient scale while also optimizing capital accumulation. Thirdly, banking provides liquidity services that are conducive to the survival of many profitable investments. Finally, the facilities that financial entities provide for transactions allow specialization in productive processes, driving forward innovation and, therefore, economic growth. The benefits of banking penetration make it a goal worth pursuing.

The access that Peruvians have to products and services offered by financial institutions has steadily increased in recent years. The amount of credit provided by banks[3] stood at close to 30% of GDP in 2010, which means growth of nearly 12 percentage points since 2004, while deposits stood at over 33% (improvement of more than 10pp). The trend is therefore positive. However, despite this progress, Peru still lags behind the regional average and is even surpassed by some countries with lower per capita income levels. A similar situation can be seen in the fact that less than 25% of inhabitants hold a financial product of any kind, while Peru's banking infrastructure has one of the smallest scopes in Latin America. These weaknesses are more accentuated among lower income households and regions. The level of financial depth therefore presents an opportunity to improve Peruvians' access to savings and credit, and, thereby, provide the country's economic growth with greater impetus over the forthcoming years.

This study identifies a set of elements that generally determine banking development. On the one hand there are structural factors, i.e. those linked with macroeconomic stability and the degree of economic informality. Orderly and sustained business growth reduces uncertainty and supports decision making, which is conducive to well-functioning savings and credit markets. Less economic informality, meanwhile, helps a greater proportion of the population to access banking services by substantially reducing the cost of obtaining information and enforcing contracts. On the other hand, there are institutional factors. The first factor highlighted here is the coverage of credit information, which is required by banks to best understand their customers, and, secondly, the ease with which guarantees can be constituted (and eventually executed). A more favorable institutional environment would allow banks to offer products under better terms, which not only reduces the cost of credit, but also protects savers and has a positive impact on savings and credit markets. Lastly, there are factors inherent to the banking industry, such as the development of products, services and infrastructure suited for the needs of the majority of the population, in some cases with state support.

The study then offers some recommendations to help promote banking penetration in Peru. There is a particular focus on institutional factors and others inherent to the banking industry that determine the development of savings and credit markets. Notwithstanding, this working paper does not look in depth at other factors such as informality or macroeconomic stability, not because they are not important (the empirical evidence suggests that they are very important), but because such recommendations require further analysis that are beyond the scope of this study.

3: The financial institutions covered in this study include banking institutions, financial companies, microfinance institutions, financial leasing firms and state financial institutions (Banco de la Nación and Agrobanco). The study uses data available as per 2009.

Looking at the institutional environment, it has been identified **that the coverage of information available to credit reporting bureaus could be improved.** This will require combining the information currently used with that held by relevant non-financial corporates (utilities, commercial firms, municipalities), with banks able to access said consolidated data when expressly requested to do so by customers. Likewise, it will be necessary to further promote the **formalization of property ownership,** which would require extending plans to raise awareness of the benefits of formalizing property ownership and reducing costs associated with the procedure. Finally, it is recommended that **the system of guarantees be improved,** introducing a simpler and less costly registry, efficient use of guarantees and greater transparency in judicial auctions.
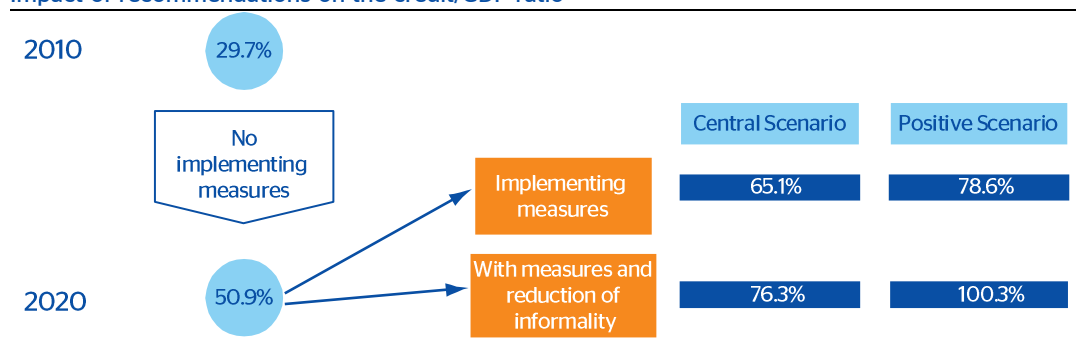
Looking at factors inherent to the banking industry, the development of products and services that are accessible to lower income populations will in some cases require state support. Firstly, it is essential that **companies be required to pay salaries via the financial system.** Likewise, it is recommended that *"low-cost default accounts"*, be introduced, which would be created automatically when an individual is born and would be enabled for use when they become of legal age. A significant proportion of the population is not accustomed to working with banks, as they are not aware of the benefits of doing so or have difficulty reaching banks (driving up the cost of banking for such people). These proposals will see the unbanked population made aware of the opportunities that they are missing. Evidently, reaching out to such sectors will require banks to launch new and improved products designed for them and suited to their needs, thus strengthening the ties with this population. One factor that should then be a priority is making new accounts easy to use in terms of transactions. This means greater investment in point-of-sale terminals for use with credit or debit cards (POS), **tax incentives for payments made with cards and optimizing the correspondent ATM model** (simplify legal requirements). Looking at support for saving, successful programs have been run in the south of the country**, where products were linked to incentives to encourage the low-income population to save.** These were run jointly with the state and should be extended. In summary, the recommendations would promote an initial link between the population and banking, while providing incentives (transactional and savings incentives) for this link to be sustained and reinforced.

Furthermore, there is room to promote banking credit in sectors such as the micro and small enterprise sector, as well as the mortgage segment. Looking at the former, it is important to **promote the use of commercial invoices (accounts receivable) as a means of funding,** providing liquidity to a new area of assets held by micro and small enterprises and cutting their costs. To this end the regulations covering such financial operations must be clear and precise, with no gaps that might lead to uncertainty or make their use more expensive. In the mortgage sector it is important to point out that there is a high level of unmet demand for homes in the country, in particular in the lower income segments of the population. Banking could help to improve this situation. On the supply side, state funds could be used to guarantee large social housing projects, making them attractive to developers. On the demand side, better access to mortgage lending could be provided to lower income groups by means of residential *leasing,* to reduce the risk of property being repossessed in the event of delinquency, leading to a reduction in the interest rates payable or making for more flexible down payments. Complementarily, it would be appropriate to promote the use of covered bonds to fund growth in mortgage lending. This would make it possible for banks to match the terms of their assets and liabilities appropriately, thus allowing them to offer more attractive conditions to borrowers. Thus, there is leeway to **implement measures that would increase supply and demand for housing, which would mean greater banking penetration via mortgage lending.**

The recommendations laid out in this study have been designed to be put into practice jointly. It is estimated that in a conservative scenario (the central scenario in the chart below), implementing these proposals would increase banking penetration (measured by total bank placements) from the current 30% of GDP to more than 65% in the next 10 years, an increase of close to 15 percentage points compared to the passive scenario (no measures

implemented), with all the benefits that this would bring to the population. In a somewhat more optimistic scenario ("positive" in the chart below) financial depth could reach close to 80% of GDP. As a result of the public having greater access to the products and services offered by banking, credit would grow at an average annual rate of between 17% and 19% in the medium term. The positive impact could be even greater if measures are also taken to reduce economic informality. In this case, banking penetration would reach a level of over 76% of GDP in the conservative scenario, while in the more optimistic scenario it could exceed GDP within 10 years. In summary, the country is missing out on opportunities for growth and improving the wellbeing of its population due to poor links between the people and banking. This needs to be corrected as soon as possible.

Chart 1
Impact of recommendations on the credit/GDP ratio

		Central Scenario	Positive Scenario
2010	29.7%		
	No implementing measures		
		Implementing measures	65.1%	78.6%
2020	50.9%	With measures and reduction of informality	76.3%	100.3%

Source: BBVA Research

1. Why is it important to increase banking penetration in Peru?

The Peruvian economy has recorded its most significant and sustained period of growth over the last ten years. This has been driven by a raft of structural reforms that have provided macroeconomic stability, seen the economy open up to the rest of the world in terms of trade and investment flows, and helped unlock the markets.

Despite this trend, a series of aspects still need to be improved. These aspects are important for optimizing growth and future sustainability. One of these is greater banking penetration, which is understood in this study as the access of the population to products and services offered by banks.

The financial literature emphasizes the importance for sustaining countries' economic growth of extensive access among the population to the products and services offered by banking. This is due to the following reasons:

- Financial institutions reduce the cost of identifying the most profitable investment projects and monitoring their development. They also bring risk diversification for savers, as lendable funds can be placed among projects in different economic sectors. Saving is incentivized as it can be channeled towards attractive and lower risk investments. A higher level of savings means greater sources of funding for investment, which is conducive to capital accumulation and, therefore, growth.

- Banking provides the liquidity that investors need, thus reducing the cessation rate among productive projects due to circumstantial problems. This means increased investment, increased capital accumulation and, subsequently, greater growth.

- The financial system extends the range of available payment channels, which makes transactions easier. This drives trade and, with it, economic activity.

- Monetary policy becomes more effective, which supports the adoption of contra-cyclical policies and macroeconomic stability.

In short, by promoting saving and supporting investment and business, the financial system optimizes economic growth. Furthermore, it is a means for the authorities to reduce GDP volatility.

The Peruvian financial system, however, is by various yardsticks lagging behind the rest of Latin America, even when allowing for different income per capita levels. This means the country is not taking advantage of the opportunities that banking penetration offers to shore up economic growth. What should be done? How can the process be spurred forward? The aim of the following chapters is to provide an overview of Peru's situation in terms of deepening bank and then, based on this, to establish recommendations to help gradually improve access to banking services and products among the population.

# 2. Banking penetration in Peru: where are we now?

In this chapter the degree of banking penetration in a country is measured using ratios for *financial sophistication* (aggregate credit or deposit ratios as a percentage of GDP) and *access to financial services* (percentage of the adult population that actually uses financial products and the development of infrastructure via which these services are provided). In general, both kinds of indicators tend to lead to the same conclusions and can therefore be considered complementary[4]. In Peru's case, the evidence does not look good.

Banking penetration in Peru: trends and international comparisons

Two indicators widely used to measure the level of banking penetration in a country are the credit/GDP ratio and deposits/GDP ratio. In Peru, since midway through the last decade these variables have shown growth trends, amid a scenario of sustained economic growth[5], increasing income per capita and a solid local financial system,[6] in the face of an international financial crisis.

Thus, the credit/GDP ratio stood at 29.7% at the close of 2010, up 11.8 percentage points compared to the level reached in 2004 (17.9%)[7]. Despite this improvement, the degree of banking penetration in Peru stands at an average position for Latin America, and is even beaten by some countries in the region that have lower income per capita.

Chart 2
Peru: credit from the financial system to the private sector* (% of GDP)
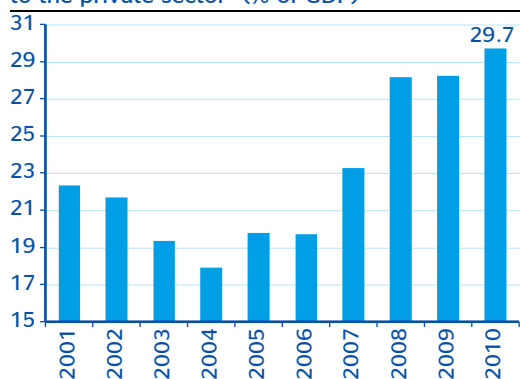
This is comprised of total credit in the financial system, including: banking companies, financial companies, non-banking microfinance institutions, financial leasing firms and state financial institutions (Banco de la Nación and Agrobanco)
Source: Superintendency of Banking, Insurance and PFAs (SBS)

Chart 3
Latam: bank credit to the private sector (% of GDP)
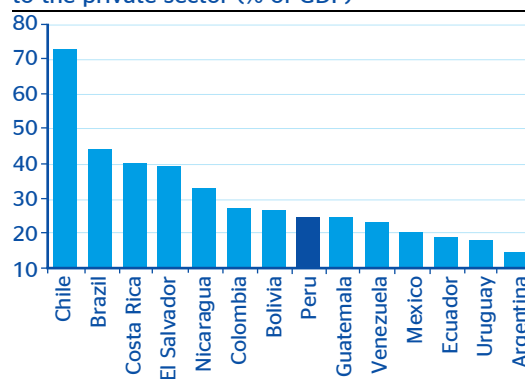
Source: FELABAN

Looking at a wider sample of countries, a simple correlation study suggests that, given the income per capital in Peru, its credit/GDP ratio would be consistent with a level about 40% higher, 10 percentage points above current figures.

4: See Rojas-Suárez (2007), p. 14-16.
5: GDP grew at an average annual rate of 7.2% in the 2005-2010 period.
6: For further details on the Financial System see Appendix A. For the purposes of this report, the financial system is made up of: (i) banking institutions, (ii) financial companies, (iii) microfinance institutions, (iv) financial leasing firms and (v) state financial institutions (Banco de la Nación and Agrobanco).
7: The decreasing trend in the loans/GDP ratio in the first half of the last decade is an indication of the problems faced by banking due to the effects of the Russian crisis on the Peruvian economy. In fact, this external shock was amplified by the financial system, with a restriction on credit supply exacerbating the recession, which in turn fed back into further problems for banks. In said period, as part of systemic restructuring, the number of banking firms decreased from 26 to 12.

Chart 4
**GDP per capital and credit from the financial system (% of GDP)**
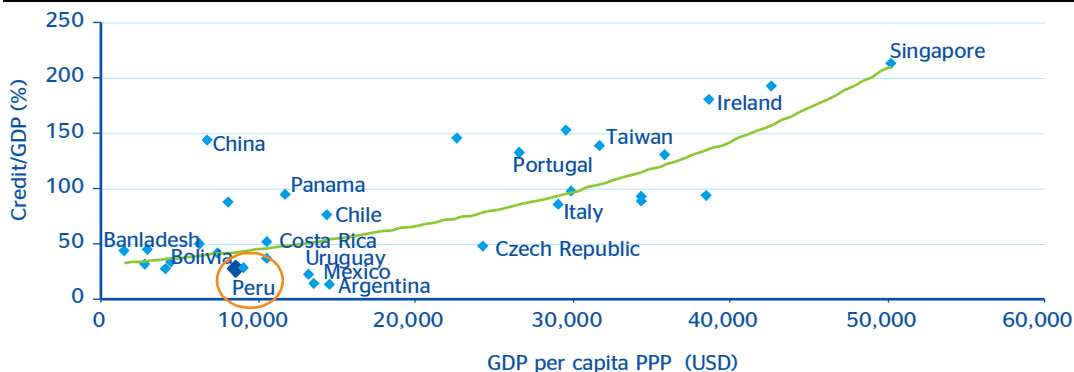
Source: The Financial Access 2010

In terms of the financial system's liabilities, as of 2006 there was a recovery from the deposits/GDP ratio, standing at 33.4% at the close of 2010. Taking only into account deposits in the banking system, Peru's ratio comes at the back of the field, beating only Mexico.

Chart 5
**Peru: Financial
system deposits* (% of GDP)**
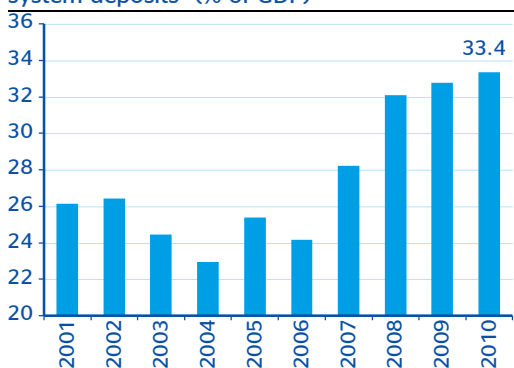
This comprises the total credit in the financial system, including:
banking institutions, financial companies, non-banking
microfinance institutions, financial leasing firms and state
financial institutions (Banco de la Nación and Agrobanco)
Source: Superintendency of Banking, Insurance and PFAs (SBS)

Chart 6
Latam: Bank deposits (% of GDP)
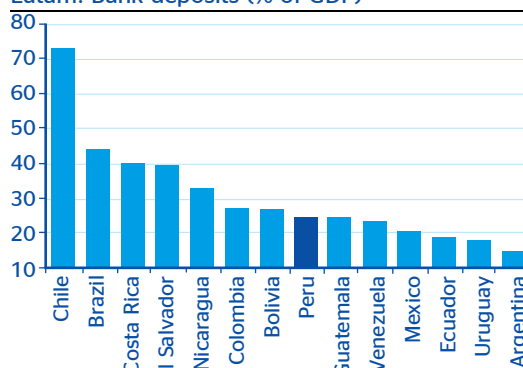
Source: FELABAN

Access to financial services

Access to financial services is measured using two kinds of indicators: (i) the percentage of the population that uses some kind of financial product (credit cards, savings accounts and personal loans, among others) and (ii) the development of infrastructure used to provide these services (branches, number of ATMs and number of POS).

Regarding the first indicator type, numerous studies reveal that there is a low level of access to financial products in Peru compared with international levels. They also point out that the problem is concentrated in the low-income population segments. For example, a study by Rojas-Suárez (2007) points out that, in Peru, just 24.6% of the population has access to banking services, one of the lowest levels in Latin America.

Chart 7
Indicator of access to banking services (%)

Country	%
Chile	60.0
Venezuela	49.5
Panama	46.0
Brazil	43.0
Colombia	42.7
Uruguay	42.0
Costa Rica	40.4
El Salvador	38.1
Honduras	36.7
Ecuador	35.8
Guatemala	32.0
Dominican Rep	29.0
Argentina	28.0
Mexico	25.0
Peru	24.6
Nicaragua	13.1
Bolivia	8.9
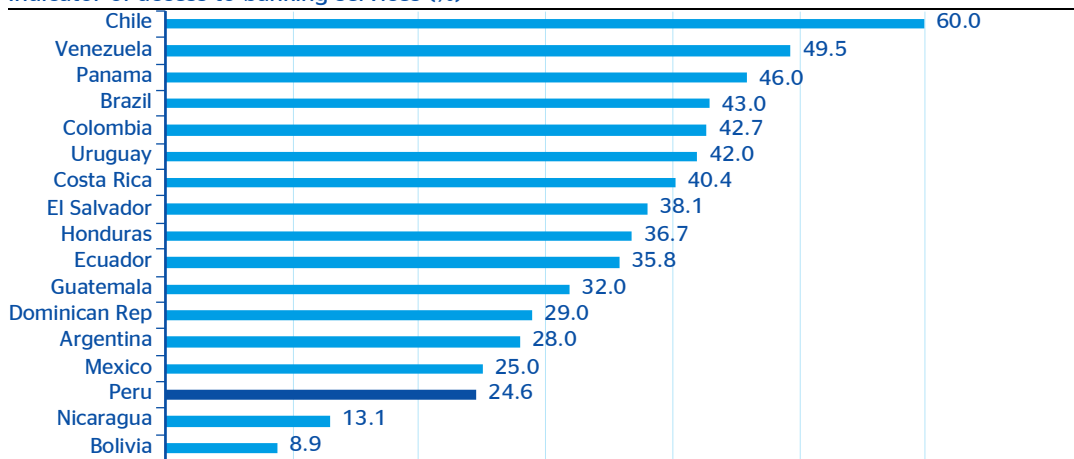
Source: Rojas Suarez (2007)

Similarly, information published by "The Financial Access 2010" shows that the number of accounts (savings and loans) per 1,000 adults is below the Latin American average, although it does exceed the average for emerging markets.

Chart 8
Number of commercial bank accounts (per 1,000 adults)

	Deposit accounts	Loan accounts
High-income economies	2,022	701
LatAm	1,140	428
		343
Emerging markets	737	258
Uruguay	529	
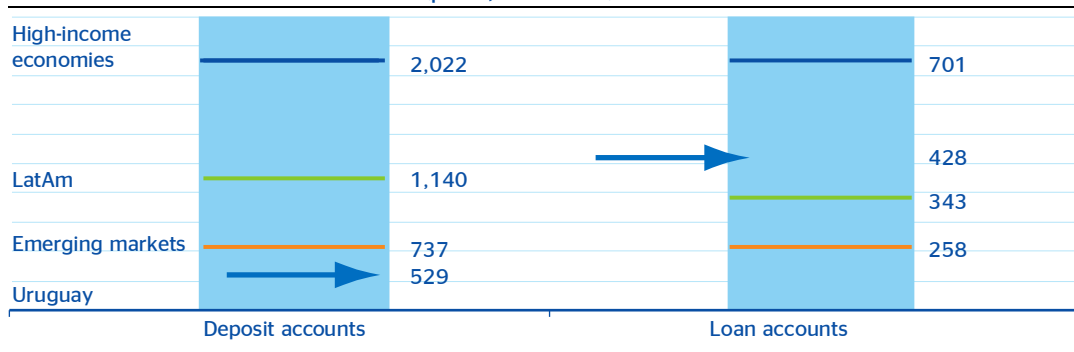
Source: The Financial Access 2010

Breaking down the data by income levels, it can be seen that sectors with the lowest purchasing power in Peru have limited access to financial products. This is an important aspect that must be taken into account when designing proposals to promote financial depth, as it reveals where action should be concentrated. A study by the consultancy firm Ipsos Apoyo[8] for the city of Lima found that 82% of unbanked people belong to the low income socioeconomic levels, C and D.

8: Report "Bancarización del limeño 2010" by the private consultancy firm Ipsos Apoyo

Chart 9
Profile of the unbanked by socioeconomic level*

SEL A; 3%
SEL B
15%
SEL C
39%
SEL D
43%
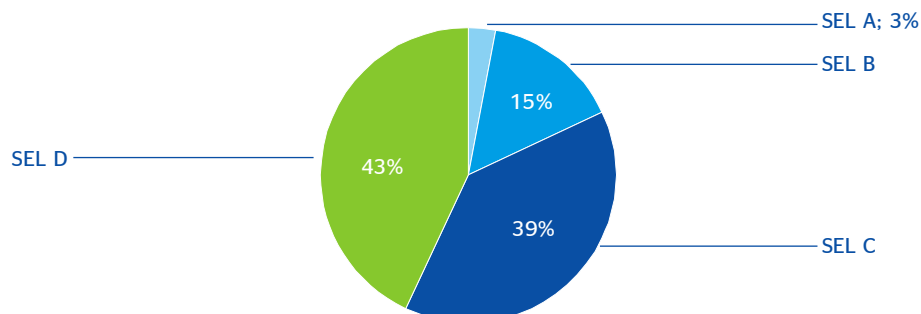
* Base: Total unbanked (270) out of a total of 562 surveyed
Source: "Bancarización del limeño 2010" by Ipsos Apoyo

In terms of the survey respondents who were banked, the study showed that access to financial products for the lowest income groups, C and D, is significantly lower than that registered in groups A and B. The low level of mortgage loan penetration at all income levels is striking.[9]

Chart 10
Banking penetration by socioeconomic level

Total 47
SEL A 76
SEL B 63
SEL C 46
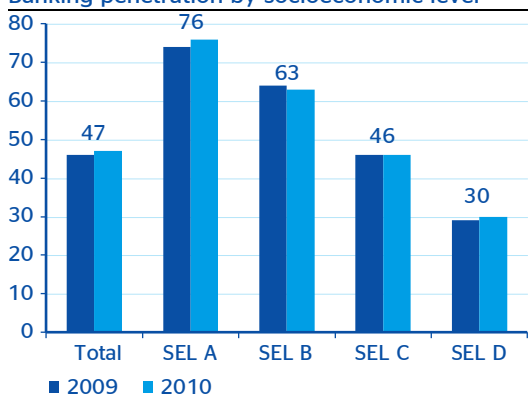SEL D 30

■ 2009 ■ 2010

Source: "Bancarización del limeño 2010" report from the private consultancy firm Ipsos Apoyo

Table 1
Penetration of the main banking products

Financial products	Total 2010 %	Socioeconomic level			
		A%	B%	C%	D%
Credit card	31	63	52	27	18
Assets Account	20	39	30	22	7
Savings Account	13	36	22	9	7
Personal loan	6	18	7	5	4
Time Deposits	1	9	0	0	0
Mortgage lending	0	5	0	0	0

Source: "Bancarización del limeño 2010" report from the private consultancy firm Ipsos Apoyo

The second group of indicators for access to financial services, concerning the development of banking infrastructure, reveals that Peru has recorded a significant improvement in recent years. In September 2010, the number of bank branches stood at 3,093 and the number of ATMs at 4,839, representing growth of 76% and 85%, respectively, against the figures at the close of 2006 (1,757 branches and 2,617 ATMs). With regard to correspondent ATMs (NBC), Peru has one of the most developed systems in the region, with 9,204 NBCs as per December 2010, a figure significantly higher than the 1,852 at the end of 2006.

9: Similar conclusions based on socioeconomic levels are drawn in the Inmark Group study: "Comportamiento Financiero de los Particulares Perú 2009". This study covers the urban areas of the cities of Lima, Arequipa, Cuzco, Huancayo, Iquitos, Chimbote, Trujillo, Chiclayo and Piura, considering socioeconomic levels A, B, C and D of the population.

Table 2
Peru: Banking infrastructure (number)

	Branches	ATMs	Correspondent ATMs
2006	1,757	2,617	1,852
2010	3,093	4,839	9,204
% Change 2010-2006	76.0	84.9	397.0

Source: Superintendency of Banks, Insurance and PFAs (SBS) and Banco de la Nación

However, despite these efforts from private and public financial entities, the financial system's channels for reaching the population are still insufficient, are distributed unevenly across the country and lag well behind other countries in the region. It is worth pointing out that banking infrastructure is concentrated in Lima and Callao and other departments with higher purchasing power. Lima and Callao alone make up approximately half or more of the total branches (48%), ATMs (67%) and correspondent ATMs (54%) that operate in the country. The gap in terms of banking infrastructure is even more evident in the lower income departments and rural areas, in which the number of branches, ATMs and correspondent ATMs stands at an average of 5 per 100,000 inhabitants, which severely restricts access to financial services.

Table 3
Peru. Banking infrastructure in the main departments (December 2009)

Department	No. of branches / 100 thousand inhabitants	No. ATMs / 100 thousand inhabitants	No. NBC / 100 thousand inhabitants	Poverty index, 2009
Tacna	16	16	23	17.5
Lima and Callao	14	27	34	15.3
Arequipa	13	20	47	21
Ica	12	17	24	13.7
La Libertad	10	12	18	38.9
Piura	10	9	14	39.6
Junín	9	9	20	34.3
Ayacucho	8	7	6	62.6
Apurímac	8	4	5	70.3
Pasco	7	5	9	55.4
Amazonas	6	5	6	59.8
Puno	6	4	5	60.8
Huánuco	5	4	5	64.5
Huancavelica	4	10	2	77.2
Nationwide	**10**	**16**	**21**	**34.8**

Shaded in are the poorest departments.
Source: Superintendency of Banks, Insurance and PFAs (SBS) and National Institute of Statistics and Information (INEI)

At the international level, according to "*The Financial Access 2010*" report, the number of bank branches per 100,000 inhabitants is 7, putting the country in 87th position (out of a sample of 142). This branch density is one of the lowest among the main economies of the region, beating only Bolivia and Ecuador.

Chart 11
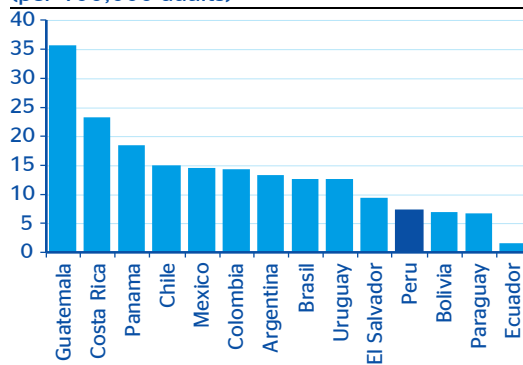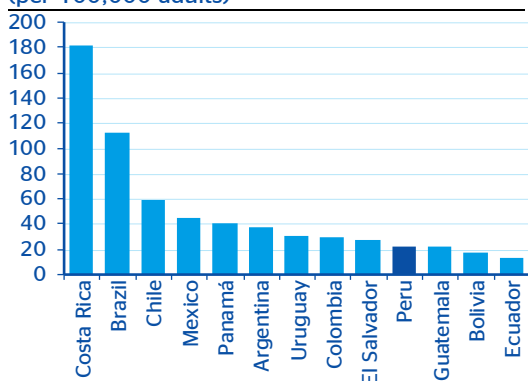**Infrastructure: overall comparison of branches and ATMs (for every 100,000 adults)**

High-income economies
94

LatAm Emerging markets
Peru

32
14
10
7

31
29
22
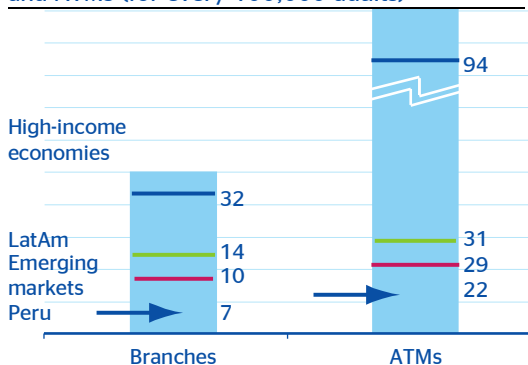
Branches | ATMs

Source: The Financial Access 2010

Chart 12
Peru: number of branches (per 100,000 adults)

Guatemala, Costa Rica, Panama, Chile, Mexico, Colombia, Argentina, Brasil, Uruguay, El Salvador, Peru, Bolivia, Paraguay, Ecuador
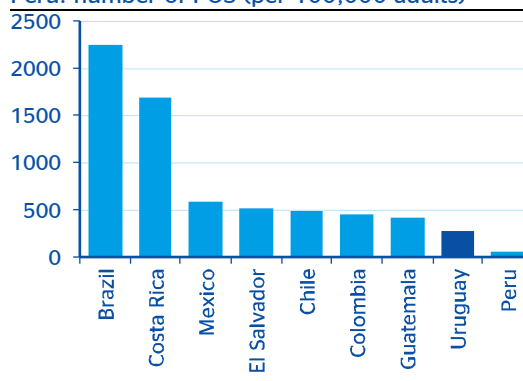
Source: The Financial Access 2010

In terms of the number of ATMs and POS per 100,000 inhabitants, again Peru is among the last positions in the region. ATM penetration per 100,000 inhabitants stands at 22, while in Chile the levels are close to 60 and in Mexico around 40.

Chart 13
Peru: number of ATMs (per 100,000 adults)

Costa Rica, Brazil, Chile, Mexico, Panamá, Argentina, Uruguay, Colombia, El Salvador, Peru, Guatemala, Bolivia, Ecuador

Source: The Financial Access 2010

Chart 14
Peru: number of POS (per 100,000 adults)

Brazil, Costa Rica, Mexico, El Salvador, Chile, Colombia, Guatemala, Uruguay, Peru

Source: The Financial Access 2010

Complementary to traditional banking infrastructure (branches), in recent years many economies have focused hard on promoting electronic banking channels, which in some cases has helped support the massification of financial services and products, an aspect that is very important for financial depth. For example, in countries such as the Philippines, Kenya and South Africa, mobile banking has played a key role in providing people with their first encounter with the banking system. However, use of these technologies in Peru is still in its infancy. According to Peruvian Association of Banks (Asbanc), out of the total of 680 million monetary transactions performed in Peru in 2009, the majority were processed via branches (42.2% of the total), followed by ATMs (20.8%) and POS (16.5%). Fewer transactions were performed using correspondent ATMs (9.50%), online banking (via software installed at the company) (5.1%), Internet banking (3.5%), telebanking (0.21%), mobile banking (0.04%) and other means (2.3%).

Table 4
Peru. Bank transactions (percent distribution)

	2007	2008	2009
Branches	46.6	44.8	42.2
ATMs	20.3	20.5	20.8
Telebanking	0.2	0.2	0.2
Mobile banking	0.0	0.0	0.0
Internet banking	2.3	2.4	3.5
Other online banking	6.1	5.8	5.1
Non-banking correspondents	5.2	8.0	9.5
POS terminals	16.3	15.7	16.5
Other	3.0	2.5	2.3
Total	100	100	100
Total number of transactions	483 million	602 million	680 million

Source: ASBANC

What factors are restricting deepening bank in Peru?

The evidence presented in the above section reveals that, despite advances made in recent years, the levels of banking penetration in Peru are relatively low. On the one hand, banking penetration indicators show a low level of penetration when compared internationally, even considering the country's income level. On the other hand, the access indicators show low use of financial products, a problem that is mainly concentrated in the lower income population segments. As stated in the first chapter, banking penetration in Peru must be extended in order to consolidate high, sustained growth levels over the next few years. To do so, the obstacles that are preventing greater financial depth in Peru must be identified.

The financial literature points to a set of factors[10] that determine an economy's level of banking penetration, which helps to identify the areas in which action will be most effective in helping to drive the penetration of the banking system and access to its products. In general, these factors can be divided into three groups.

Firstly, **structural factors** that are important for macroeconomic stability and the size of the informal economy. In terms of macroeconomic stability, key factors include maintaining low inflation rates and ensuring solid fiscal discipline in order to consolidate a low volatility climate for income and GDP. As for the informality of the economy, this has a negative impact on banking penetration as it prevents information from being gathered or collateral being provided that would allow access to credit from the formal financial system. It also has a negative impact on the liabilities side, as it reduces the amount of deposits made and therefore banks' capacity to intermediate.

Secondly, the **institutional factors are also worth looking at**. This group includes the appropriate coverage of credit information, which would help to reduce information asymmetries and therefore have a positive impact on financial depth. Additionally, countries with effective legal systems offer more flexible conflict resolution mechanisms, aspects that improve access to financing.

Lastly are the **regulatory factors and factors inherent to the financial industry.** Important factors here include the level of competition and efficiency in the system, infrastructure development, access and participation for stable and solvent entities.

While bearing in mind the main determining factors suggested by the economic literature, for this report a model was designed based on panel data[11] to identify the key determining factors for financial development (Appendix C). In general, the results corroborated the findings of the literature, particularly in terms of the importance of economic informality and institutional factors, such as the quality of credit information and the legal framework.

10: This section is largely based on the second part of the following articles: Demirguc-Kunt, A. and Levine, R., "Finance, Financial Sector Policies, and Long-Run Growth", Policy Research Working Paper 4469, World Bank, 2008, and Izquierdo, A. and A. Powell, "Unlocking credit: The quest for deep an stable bank lending", IDB, 2005.
11: The Fixed Effect Vector Decomposition, or FEVD, method was used, as introduced by Plumper and Troeger (2007). According to said authors, this method is much less biased than the random effects model, and it also has better properties in small samples than other alternatives, such as the method developed by Hausman-Taylor (1981).

Table 5
Model results: parameters

Structural factors	
Inflation	0.03
Spread	-0.39
Growth	0.00
Informal economy	-0.95 ***
Institutional factors	
Index of Credit Information	4.15*
Property Registration Cost Index	-3.87
Legal Framework Index	5.16**
Banking infrastructure	
Banking infrastructure	24.75***

***, **, * Indicate significance of 1%, 5%, and 10%, respectively.
Source: BBVA Research

In this regard, several studies have found that the Peruvian economy has a high degree of informality[12], which -as the econometric results stated above indicate- could be one of the main reasons why Peru lags behind in terms of deepening bank.

Likewise, the evidence for Peru shows some institutional weaknesses that may be inhibiting banking penetration. These are linked to the lack of legal security in contracts, protection of creditors' rights, bureaucratic red tape and scant respect for property rights. In the annual Global Competitiveness Report published by the World Economic Forum (WEF), Peru is among the last placed countries in terms of indicators for the efficiency of the legal framework in settling disputes, judicial independence and property rights.

Chart 15
Peru: Global competitiveness index[(*)(**)]

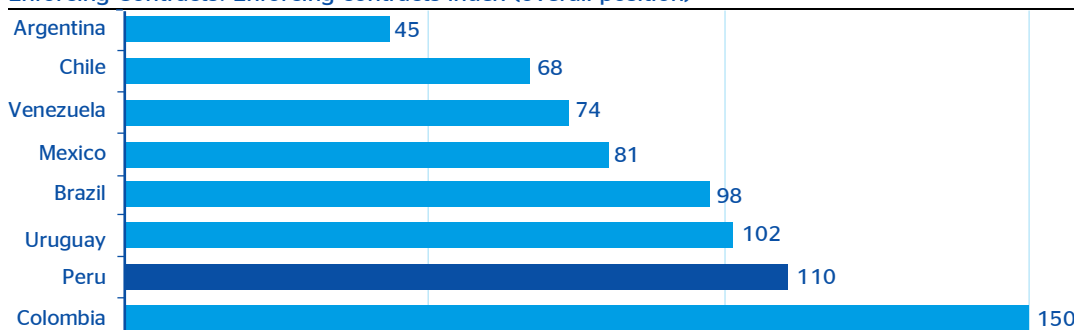|	
Institutions	96
Efficiency of the Legal Framework	108
Independence of the Legal System	119
Property rights	92

(*) Sample of 139 countries.
(**) The numbers along the side of the bar show Peru's relative position
Source: Global Competitiveness Report 2010-2011, World Economic Forum

Likewise, the 2011 Doing Business contract enforcement indicator from the World Bank shows Peru in 110th position out of a sample of 183 countries, putting it in a poor position globally and in terms of the region. This also means a two position drop from the previous year. This index shows the amount of procedures that are required (41) and the cost of resolving disputes (36% of the value of the claim).

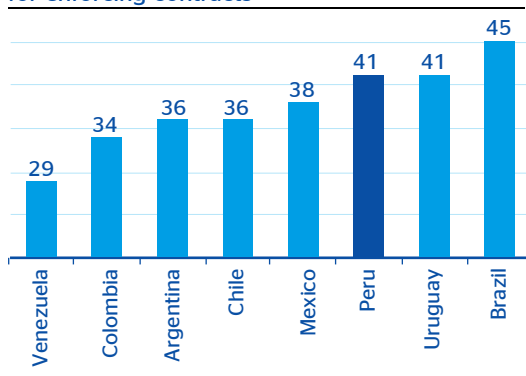12: The work of Loayza (2007) and Schneider (2004) finds that the size of the informal economy in Peru is equivalent to somewhat more than 60% of GDP, one of the highest levels in the region. However, it is worth pointing out that the sustained growth of formal employment and the duly employed population, as well as a reduction in poverty, has caused informality to decrease substantially in recent years.

Chart 16
Enforcing Contracts. Enforcing contracts index (overall position) [(*)(**)]

Country	Value
Argentina	45
Chile	68
Venezuela	74
Mexico	81
Brazil	98
Uruguay	102
Peru	110
Colombia	150

(*) Sample of 183 countries.
(**) The enforcing contracts indicator includes: the number of processes, number of days and cost (% of contract).
Source: Doing Business 2011 "Creating opportunities for entrepreneurs"

Chart 17
**Enforcing Contracts.
Number of procedures
for enforcing contracts** [(*)(**)]

Country	Value
Venezuela	29
Colombia	34
Argentina	36
Chile	36
Mexico	38
Peru	41
Uruguay	41
Brazil	45

(*) Sample of 183 countries.
(**) The enforcing contracts indicator includes: the number of processes, number of days and cost (% of contract).
Source: Doing Business 2011 "Creating opportunities for entrepreneurs"

Chart 18
**Enforcing Contracts.
Cost (percentage of contract)** [(*)(**)]

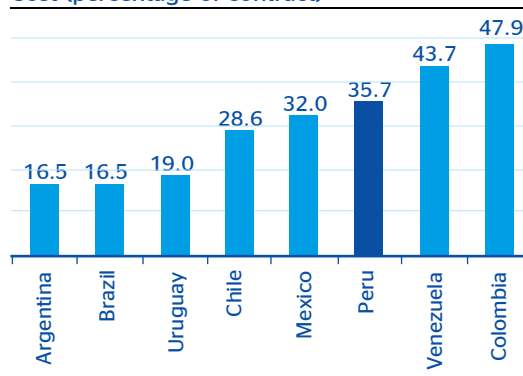| Country	Value
Argentina	16.5
Brazil	16.5
Uruguay	19.0
Chile	28.6
Mexico	32.0
Peru	35.7
Venezuela	43.7
Colombia	47.9

(*) Sample of 183 countries.
(**) The enforcing contracts indicator includes: the number of processes, number of days and cost (% of contract).
Source: Doing Business 2011 "Creating opportunities for entrepreneurs"

On the positive side, Peru has recorded improvements in terms of the number of days required to enforce a contract or guarantee. One of the studies that depicts this problem in the most graphic detail from an economic perspective is that of Arrieta and Luy (2002), who found that, on average, it can take more than 31 months to call on guarantees for loans in excess of S/. 20,000, which has a significant impact on interest rates. In fact, the authors state that this means an additional cost of 2% over the effective interest rate.

Lawyers and experts in the banking sector report that these delays have been reduced, although they still stand between 18 and 36 months, depending on the quality of the guarantee and resources used to follow up on the claim. A figure that demonstrates the current problem can be found in the 2011 Doing Business Report, under the number of days required to enforce a contract. The number of days for Peru stands at 428, which is significantly less than the 550 recorded in 2005 and compares well with the average for Latin America and the OECD.

One important constraint among the institutional factors is the fragile system in place for registering property, which makes it difficult to use property or goods as a guarantee for future loan repayments. Thus, the high cost of registering a property (3.3% of the ownership amount) relegates Peru to 63rd position, behind Chile, Colombia, Venezuela, Brazil and others, all of which have lower property registration costs.

Chart 19
Cost of property registration[*] **(% of the property's cost)**
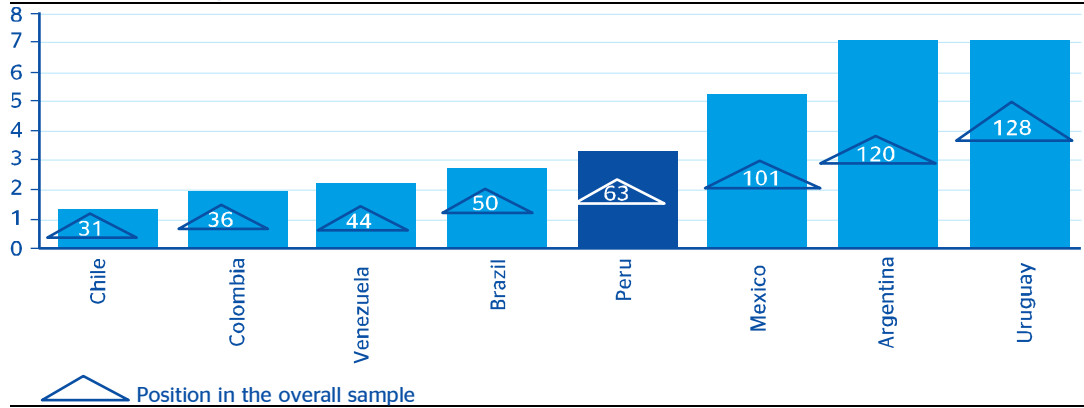
Position in the overall sample

(*) Sample of 183 countries.
Source: Doing Business 2011 "Creating opportunities for entrepreneurs"

Finally, recognition of property rights and respect for ownership are both weak, which, on top of the high levels of economic informality, make access to credit difficult. The positive correlation between the International Property Rights Index (IPRI) and credit in the financial system is evidence that a strong system of property rights boosts access to formal credit due the better quality of collateral.

Chart 20
Credit to the private sector and physical property rights index
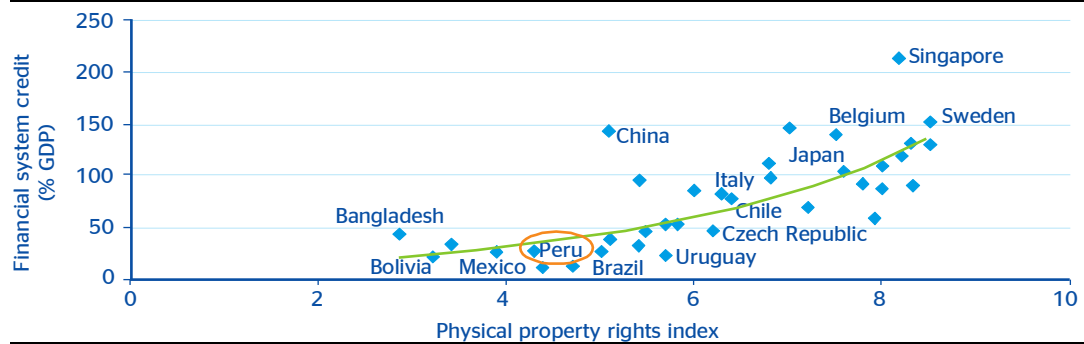
Source: World Economic Outlook (2010) and International Property Rights Index (2010)

3. Proposals to extend banking penetration in Peru

The evidence presented in the previous chapter shows that there is room to further increase banking penetration in Peru. This section covers proposals to spur the process forward over the next few years[13]. On the one hand are institutional measures to promote the appropriate functioning of the credit market. These include measures to improve the quantity and quality of information on potential clients, boosting efforts to formalize currently informal ownership, and to improve the system of guarantees to make it less costly, faster and more transparent. On the other hand are measures that encourage use of banking products and services, thus seeking to bring banking within reach of potential clients, particularly in sectors where relations with financial entities have been weak or non-existent. Although the recommendations are presented individually, they do complement each other and their success depends on them being rolled out as a set. The section concludes with an assessment of the quantitative impacts that some of these proposals would have on banking penetration in the country.

It is important to point out that the study does not look directly at proposals for structural elements that affect the banking penetration process, as these tend to be more aggregate in nature and therefore do not fall within the scope of this section. Likewise, the study assumes a scenario of macroeconomic stability over the forthcoming years, i.e. sustained economic growth, low inflation rates and orderly public and foreign balances, which is in line with current forecasts. This reduces uncertainty and supports decision making, which is desirable in any market. In terms of informality, the working assumptions are based on a reduction of informality in the economy, factoring in the positive impact had by sustained economic growth on formal job creation, the growth of the middle classes and poverty reduction (all of which tend to support formalization). Based on the empiric evidence, both macroeconomic stability and the gradual reduction of informality are beneficial to the financial depth process. However, the impetus could be even greater if measures are taken that are directly aimed at correcting informality. On the basis of the conclusions drawn from other studies, these should focus on reducing regulatory demands on formal economic agents (in terms of time, money and simplicity), improving the quality of public services and strengthening the state's capacity to ensure that the rules are respected.

Chart 21
Banking credit and the informal economy, 2000
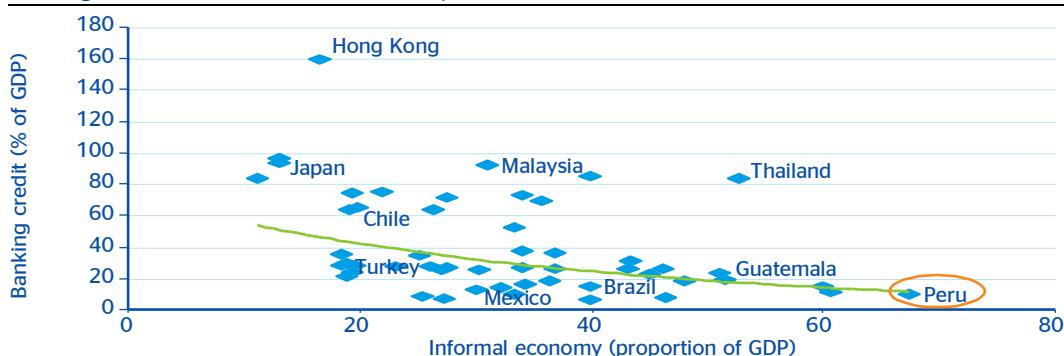
Source: World Economic Outlook (2010) and Schneider (2004)

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13 The summary of the measures as well as the impact had by some of these on the credit/GDP ratio is described in Appendix B.

Institutional factors

Institutional factors determine what incentives banks, the public and businesses have to be involved in exchange agreements, where trust is essential. Adequate information is required on the counterparty, the rights of all parties must be clearly delineated and parties must be able to exercise their rights at no great cost.

However, global indicators, such as the 2011 Doing Business report, show that Peru still needs to work on several of these aspects to establish an adequate framework that is conducive to credit market relationships. Looking at some of these in more detail, we find three areas that need to be worked on with the most urgency: client information, promoting property registration and improving the system of guarantees.

1. Greater information on the banking client: the roles of credit bureaus

1.1. Assessment

A credit bureau systematizes all relevant individualized information, which allows behavior profiles to be established for clients of the financial system, and sometimes for individuals who do not have relations with banks. This is vitally important in order to provide greater security for money brokerage operations between savers and potential borrowers.

In Peru there are two credit bureaus: one public and one private. The first is managed by the Superintendency of Banks and Insurance (SBS), which gathers accounting information directly from banks[14]. The SBS database is complemented by information from the private credit bureau, which aggregates information from the local tax authority (Superintendencia Nacional de Administración Tributaria, SUNAT), on protested checks from the Lima Chamber of Commerce (CCL), on public records, on bankruptcies and restructuring from Indecopi[15], records from some financial entities not regulated by the SBS (such as cooperatives and some NGOs) and information from some services companies and commercial firms.

The information from credit bureaus is quite detailed in terms of banking customer track records. However, there is little information available on the credit profiles of unbanked clients. This means the public credit bureau, according to the 2011 Doing Business Report, has coverage of 26%, while the private risk bureau has coverage of 33%. In terms of the latter indicator, Peru stands in 50th position out of 86 countries. This suggests that there may be significant growth to be found here, bearing in mind that Peru also lags behind other countries in the region.

14: The SBS database system was established in 2001 and is based on a balance credit bureau (CRS) and a Debtor Credit Report (RCD). It should be noted that these systems date back to 1991, when SBS created an internal database for supervisory purposes. The SBS also receives information from the tax authority (SUNAT) and the National ID and Civil Status Records (RENIEC).
15: Instituto Nacional de Defensa del Consumidor y la Propiedad.

Chart 22
Coverage of private credit bureaus* (% of the adult population)
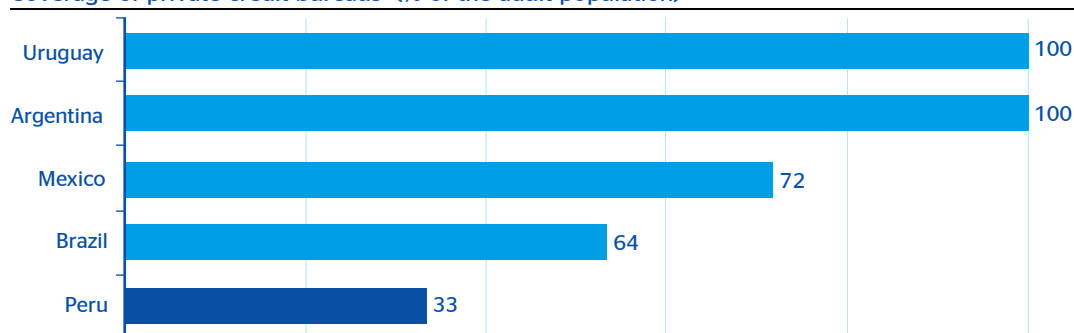
Country	Value
Uruguay	100
Argentina	100
Mexico	72
Brazil	64
Peru	33

* Sample of 183 countries.
Source: Doing Business 2011 "Creating opportunities for entrepreneurs"

According to a report from the CEMLA and the World Bank, one main reason for credit bureaus lacking information is that many non-financial entities refuse to share information, as they receive no tangible benefits from submitting customer data that they have worked hard to obtain and consider their own to a credit bureau. When they do collaborate, the data is often partial and restricted to a few delinquent customers. The same could be said of the information held by utilities companies.

Furthermore, the problems are not just in terms of clients but also the fact that there are insufficient resources to systematize the data, and the greater lack of the technology required to connect with and access the service.

1.2. Recommendations

Two measures are recommended in terms of regulations that could help to extend the coverage of credit bureaus. Combining the two will improve information on current and potential clients of the financial system.

Recommendation 1: Consider requiring key non-financial corporates to provide data concerning clients' credit profiles.

The important information held by commercial firms and other institutions on the credit histories of a significant proportion of clients would help complement the information on clients that already have relations with banks, thus providing a better risk balance. Likewise, new information on economic agents that have not yet had access to the financial system, but who have a good credit record, would help improve their ability to access financial services.

As has been mentioned, given that market incentives do not work, in order to create a scenario in which credit history information is held centrally at a credit reporting bureau, **the following is recommended: (A) assess regulatory measures to require the sharing of certain credit history data held by key organizations that have established deferred payment agreements (involving debt risk) with customers,** without this infringing companies' ability to use their databases for strategic decision making. **This could be achieved if the data is initially passed to the Banking Superintendency, which could build a new database that would subsequently be made available to regulated operators when approving credit, in the same way as information is transferred from the CRS and RCD.**

In order to allay fears that companies' client information will be used, the IFC-World Bank recommends: **(B) establishing explicit regulations that state that certain data provided by companies may only be viewed if credit is requested by the client.** One measure that could help is **allowing the users themselves to voluntarily ask that their record be shared with the SBS, and, therefore, with banks.** Evidently, the incentive for the client is that banks can build an idea of their credit risk by looking at the data.

Chart 23
Flow of credit information
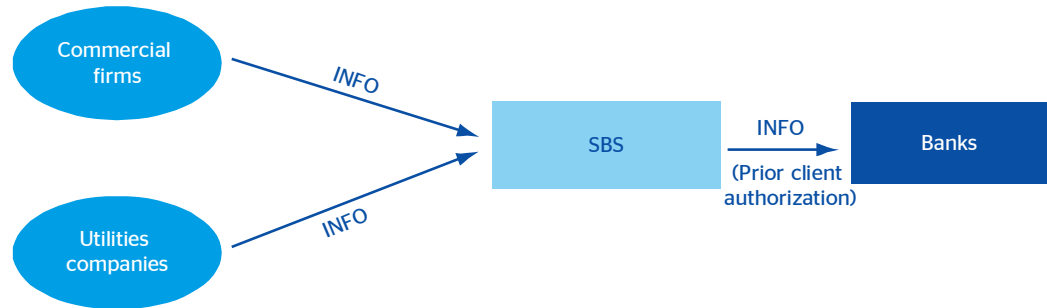
Source: BBVA Research

Recommendation 2: Promote the use of information technology by state entities so that financial information may be shared with credit bureaus.

Several governmental organizations in Peru may hold valuable information that would help better identify a banking client's credit profile. However, these institutions are subject to the constraints that face low-income countries with limited financial, human, technological and managerial resources. By systematizing the information held by state entities, such as municipalities, the data can be shared with credit bureaus.

Box 1. Experiences of other countries for improving the coverage of credit bureaus in Peru

One of the major shortcomings of the information held by credit bureaus is that its coverage is poor, standing at just 30% according to the 2011 Doing Business report. This is mainly due to the fact that the main systematized information comes from banking sources and some central bodies, such as the national tax administration.

This means that credit bureaus do not benefit from key information deriving from other sources that could help to improve the risk profiles based on existing records, as well as help to create risk profiles for others who have scant or practically nonexistent relations with the banking system.

For example, credit bureaus in the United States (*consumer reporting agencies-CRA*), systematize what is called "alternative information" from companies with which the private *bureaus* have established relations. This information is provided basically because it is in the company's own interest that credit bureaus have reliable information. Some of the most highly valued information is that provided by utilities, such as electricity and telecommunications companies.

Studies on a wide sample of U.S. cities show clear improvements to the risk profiles found in client records, as well as greater coverage. This is particularly true in the low-income segments. Other important data for identifying a complete risk profile is that provided by courts of justice. It is important to point out that the information provided by credit bureaus is solely for the purposes of assessing credit risk, thus allaying companies' fears that their data could be used by their competition.

Colombia, where the credit bureau system has coverage of over 40%, also has alternative information on its records. Particularly important is the information provided by utilities. This information, as the bureaus themselves state, is extremely important because the exchange of services and payment involved is very similar to that of a credit operation, with the service paid for after it is received and payments made over regular periods.

A similar situation can be seen in Spain. There the public bureau (the Bank of Spain's Risk Information Bureau-CIRBE), which has detailed credit histories and information on the judicial conduct of potential banking clients in commercial disputes, is complemented by information held by private entities. The information from commercial firms and utilities companies is thereby systematized.

Argentina is also worth mentioning. According to the 2011 Doing Business report, the coverage of the private credit bureau system in Argentina is one of the most extensive, not only in Latin America but in the world. Coverage in the country stands at 100%, mainly due to the quantity of private information sources, many of which have a tradition of keeping records dating back to the early stages of the last century. Likewise, the systematization of state data sources (including the police, courts and decentralized governments) has proven to be valuable. Indeed, the World Bank - CEMLA (2008) mentions around fifteen major private information bureaus (including extensive information on commercial activities), three public information bureaus (including a company balance sheets bureau) and seven databases from other state organizations. The systematization of information, the fact that information bureaus have been in place for several decades, as well as the respect or fear that a potential client might have for the information that Argentinean credit bureaus might send to banks, are the chief reasons why the system works. However, banking penetration in Argentina remains low, indicating that the way to improve banking penetration is to combine numerous variables and not to concentrate on this aspect alone.

2. Formalization of Property Records

Ownership is one of the cornerstones for credit backing. Ownership of a lasting asset that might be subject to trade means it could be constituted into capital that might be used in financial transactions, thus having a multiplying effect on the economy and the wellbeing of economic agents.

If a credit agreement guaranteed by a certain asset is to work, the creditor must hold legal ownership of the asset. For this to happen, property records must be in place that provide accurate and timely property information.

The National State Records Superintendency (SUNARP) is a decentralized Ministry of Justice office responsible for property records in Peru. It is supported by the Formalization of Informal Property Office (COFOPRI), which has the job of encouraging the formalization of property ownership and keeping it formal. When granting property deeds, COFOPRI evaluates the property held informally and works in partnership with SUNARP to avoid the overlapping of property.

The work done by these two offices has put the number of real estate properties included in public records at around 8 million, considerably reducing the percentage of informally owned real estate to 20% of the total (approximately 2 million informal properties).

However, two elements have been identified that make it harder to increase the level of property formalization: (i) ignorance of the benefits of joining the formal system; and (ii) even when people are aware of the benefits of being a legal owner, the cost of the process often discourages them from registering property with SUNARP.

2.1. Information on the benefits of registering property

2.1.1 Assessment

A significant percentage of the population has no real knowledge of the benefits that come with duly registering their property. Access to the financial system based on the legal right to a property is often a foreign concept for ordinary citizens due to low levels of education or for cultural reasons. In remote communities, where the state's presence may be minimal, the people have their own property rules. Camaiora (2009), for example, points to overlapping property systems (communal, family, individual) in various regions of the country, where communal assemblies allocate plots to their members with ownership records or letters. These agreements, not included in formal records, provide a basis for rental, sale or purchase agreements between private individuals in these communities. Likewise, some establish agreements with "outsiders", including contracts that contain defects that rule them void and unenforceable.

All of this requires a multidimensional approach covered in the following recommendations, which are long-term due to the nature of the problem:

2.1.2. Recommendation

Establish an education program on the benefits of registering property

In an economy such as Peru's, which faces significant issues in terms of accessing markets due to the lack of infrastructure, an extensive inaccessible terrain and poor financial education, a significant proportion of the population is unaware that an official system exists for registering property. Even when people are aware of the official property system, they are unaware of what benefits it might offer them.

As a specific measure to tackle this, a financial education program needs to be included in the curricula, which should include topics regarding the benefits of formalization, the culture of property registration and credit culture. There has been some progress thanks to a recent

cooperation agreement between COFOPRI and the Ministry of Education, under which students in the last two years of secondary education will receive classes on these topics.

2.2. The costs of registering property

Although the costs of registering a property are not as high as in other countries, there are aspects that should be taken into account to consolidate the process. According to Camaiora (2009), the cost of ownership grew between 2001 and 2005 when powers were removed from Cofopri, notaries public were involved in the process and documentary requirements grew. According to the study, in said period both the cost and time required to formalize extralegal property doubled.

This is a concern because additional changes are on the way, in particular the transfer of duties from Cofopri to regional governments, which could further increase the cost of registering property. The new decentralized bodies could seize on their new powers as an opportunity to add charges, thus driving up costs.

Recommendation 1: Prevent an increase in the time, procedures and costs required to register property as powers are transferred from Cofopri to regional governments

Given the importance of not losing ground in the push to formalize ownership, an orderly process is required with clear targets. Specific measures would therefore aim to **(A) Establish an orderly transfer under which regions must be cleared to assume these duties.** This latter aspect is essential to prevent the progress made with Cofopri from being rolled back, and thus to ensure an efficient, transparent and corruption-free system. The second goal would be **(B) to include certain limits on the powers allocated to regional governments to increase the charges (costs) involved in property formalization.** Furthermore, **(C) the transfer of powers should be subject to complying with certain goals concerning key aspects of Cofopri's duties.**

Recommendation 2: Consider further cuts to registration fees charged by SUNARP

SUNARP has been reducing its registration fees in order to invigorate and formalize the real estate market. In August 2010, SUNARP introduced special registration fees for regions where there is extreme poverty, as part of a policy to democratize services and incentivize registration of property among the low-income population.

Likewise, in October 2010 it cut the cost of its registration fees by 50% for homes and 39% for company registrations, for a term of six months[16]. A fee of PEN 19 is charged for all homes valued at no more than PEN 50,400, while fees for property of a greater value are eligible for a smaller 13% reduction.

Finally, there are other **registration fee reductions to point out**. Late last year, SUNARP launched an assessment of its full processes with a view to possibly cut registration fees. Measures should therefore be forthcoming.

16: According to information from the National Housing Authority, 30% of the 4.5 million land properties registered by Cofopri (approximately 1.35 million) have not been registered with SUNARP. If we add to this the fact that in recent months 62 thousand homes have been granted the Family Housing Bonus, approximately 1.4 million beneficiaries will be able to register their homes in public records at a cost lower than property registration fees.

Box 2. Case Study: Reforms and Counter-Reforms in Property Registration in Peru[17]

In the late eighties, Peru broached the problem of informality and property rights as part of a process to democratize the country, bring peace and improve access to credit. These initiatives were bolstered in the nineties when Cofopri-Informal Property Formalization Office, was set up. This was designed to help low-income Peruvians legalize their urban property ownership. This required technological infrastructure and resources, as well as a single national system for formalizing urban property, subsequently improving the quality and value of property titles. Furthermore, Cofopri was to help reduce property invasion.

The action taken by Cofopri improved several aspects between the mid-nineties and early 2001. Specifically, the body reduced registration times from 20 years to just 2 months, while also cutting registration costs from 230 dollars to 35 dollars.

However, according to Camaiora (2009), between 2001 and 2005 "a series of decisions were made that had a negative impact on these issues. Over the years several of the Cofopri's powers were transferred to Provincial Property Formalization Committees, and then exclusively to provincial municipalities. Likewise, the use of registration forms was restricted, introducing the requirement that they be legalized by notaries public rather than private notaries. And finally, requirements were included that bore no relation to presenting proof of ownership when registering a property (for example, proof of tax payments)".

As a result, the time and cost required to register property rose again. Registration times increased from 2 months to 4.8 months, while the cost rose from 35 dollars to 70 dollars.

In 2010, the government announced a new plan to transfer powers from Cofopri to regional governments. The challenge is to prevent this from leading to a further "counter-reform".

17: This text is based on the work of Camaiora (2009).

3. Improving the system of guarantees

3.1. Assessment

In a credit operation the interest rate demanded by the lender takes into account a set of factors, including funding costs and the probability of recovering the loaned amount. When the lender is very likely to recover the investment the interest rate tends to be lower. This makes more credit operations likely and therefore improves deepening bank. The probability of recovering an investment depends, in turn, on the quality of procedures in place to constitute guarantees and how easy it is to call on a guarantee in the event of non-payment.

There has been progress in Peru in recent years in terms of the regulations that govern the establishment of guarantees. The Secured Transactions Act of 2006, passed as part of Act 28677 and conceived with the support of the Inter-American Development Bank (IDB), introduced changes to support the process of establishing guarantees and calling on guarantees. The key action taken as part of this law included the creation of a single guarantees register, replacing the previous 16 separate registers; the definition of assets eligible for use as guarantees and the possibility of including a resolution clause between the parties. It also allowed parties to agree to the extrajudicial execution and confiscation of guarantees. According to experts, the law moves in the right direction: firstly because several dispersed regulations were aggregated into one, and secondly because by creating a single registry the cost of information on guarantees is reduced and the accuracy of the same is improved. Shortly after the regulations were introduced, Peru improved on the 2011 Doing Business Report strength of legal rights index from 3 to 7 points (on a scale with a maximum of 10).

However, despite these efforts, the impacts have been somewhat limited in practice. Firstly, the cost of registering a guarantee remains high, a problem that is accentuated by the records having to be updated each time the credit is renewed. According to Castillo (2006) and analysis from the IFC, World Bank and USAID, the registration cost is now even higher for guarantees that were previously constituted in a single asset pledge and did not require registration. Furthermore, the law still requires the involvement of notaries public. The study by the IFC, World Bank and USAID states that the associated costs are uncompetitive and notaries public are not available in all regions. It should be said, however, that the role of the notary is often key to providing legal security during the registration stage and therefore over-simplifying this role could have a negative impact on the public's confidence. Overlooking the notary stage and recording everything directly in the registry (especially aspects that cannot be verified) could lead to further delays and costs.

Secondly, improvements can be made in terms of the promptness with which information on a guarantee is made public. At present there is still a long delay between the guarantee being submitted for registration and it appearing online for public consultation, which represents an obstacle to granting credit. Finally, the law does not appropriately allow for the divisibility of collateral, rendering it impossible to make optimal use of the pledged good (as a guarantee for credit from other sources).

In terms of the ease of calling on a guarantee in the event of delinquency, the number of days required to call on a guarantee has declined, which is a positive development. This is not only thanks to improving economic conditions (which reduce the frequency of defaults and therefore workloads for courts, thus making procedures faster), but also the reforms that have gradually been introduced in the judiciary. In particular, specialist commercial courts have been introduced, operated by trained staff with the support of IT tools. This initiative has been acknowledged as one of the most interesting and was supported by the Institute of Bank Training-IFB and funded by the International Development Agency-IDA. The current average time taken by these courts to reach a ruling is under 10 months. There are still some elements yet to be included in this program, such as software to systematize information and the introduction of digital case files, which could see first instance proceedings (including

commercial court proceedings) further cut to 25 days, according to the IFB[18]. This will not only speed up legal proceedings, but also means information can be shared with credit bureaus more quickly, thus improving the quality of information available in the credit market.

Despite the progress, there are still some obstacles faced when legal proceedings are referred to higher levels, i.e. second instances or judicial auction. Regarding the latter, Villalobos (2003) , in particular, states that when the first instance legal options are exhausted and a judicial auction is ordered, the process can take an average of seven months (appointment of auctioneer, the process itself and payment to creditors). It can even take one or two years if an appeal is lodged with the Supreme Court. In short, the first instance process is still costly in terms of time and money. On top of this comes the lack of transparency in auction proceedings, which include discretional elements that can lead to uncertainty and often encourage mafia behavior[19].

3.2. Recommendations

Reinforce the single guarantees and contracts registration system to make the process simpler and less costly, and ensure that the information is published promptly.

The government seems to be aware of these issues, which is why the Ministry of Justice has been finalizing a new wording for the Property Guarantee Act. As a first measure: (A) **the process requires a significant investment of resources into infrastructure, IT systems and staff training, with the support of specialist institutions.** The success of the specialized commercial courts could provide an example to follow.

Other actions include: (B) **converting the Internet alerts database into one that includes information, even if minimal information, to allow alerts when a property guarantee exists and to establish a specific registration date.** This would give credit institutions a position of greater certainty when deciding whether to grant loans.

Finally, measures need to be considered that would: (C) **lower the cost of registering guarantees in certain cases where costs have been high,** particularly when registering assets jointly. A careful study of fees should be performed in order to find the right balance that would, on the one hand, cover the costs of the process and, on the other, not discourage registration.

Make guarantees more flexible

A flexible guarantee that can be used for different credit options is desirable. Act 28677, however, does not include the option of divisible collateral. Therefore, one action that would remedy this is to: (A) **allow the maximum possible use of capital based on a single collateral asset for credit with more than one lender, to the extent allowed by its value and credit relationships**. Evidently, operating aspects will be key to ensuring that registration is performed correctly.

Improve transparency in the judicial auction procedure for guarantees

One particular recommendation is: **(A) make the process transparent, as widespread as possible and limit any interference in the process. One way of achieving this would be to introduce Internet judicial auction procedures.** A good IT system that provides prompt details of the goods under auction, with clear rules for the process, could help make the process transparent. One benchmark that could be used is the recent introduction of an Internet judicial auction system in the Buenos Aires region of Argentina, which also aimed to eliminate any potential for collusion between interested parties.

18: Enrique Beltrán, Director of the Instituto de Formación Bancaria.
19: See El Comercio of 17 December 2008 (http://elcomercio.pe/edicionimpresa/Html/2008-09-17/los-problemas-martillo.html) and Diario Gestión of 10 February 2010 (http://gestion.pe/noticia/416011/martilleros-denuncian-corrupcion-jueces)

If, due to the nature of the asset, a traditional auction is required, two measures are recommended: **(B) The introduction of a random and transparent auctioneer selection system, minimizing opportunities for collusion and therefore mafia interference.** This process must be automatic and "blind" for all parties involved (judge, auctioneer, debtor, creditor and potential buyers), ensuring that the process is quick and prevents any losses in terms of the value of the asset, and **(C) use the Internet tool to publicize in advance details of the auctioned asset, as well as the process.** The aim is for the auctioned good to be well publicized and understood, thus generating greater potential demand to help maximize the end value of the asset.

Box 3. International experience of reducing judicial auction times by introducing electronic procedures

As we have seen, the final stage of the contract enforcement process, the judicial auction of the guarantee, is one of the slowest. Once the first instance legal options have been exhausted and a judicial auction is ruled, the process takes an average of seven months (appointment of auctioneer, the process itself and payment to creditor), and can even take a further 1 or 2 years if there is an appeal to the Supreme Court.

We concluded that there is insufficient transparency and information in the process as the auctions are poorly publicized. This poses a series of costs and obstacles for the debtor and creditor, as this stage of the process includes numerous discretional aspects that can become grey areas, even leading to reports of mafia behavior within the judiciary system and among auctioneers.

What have other countries done to tackle these problems? **Recently, in December 2010, the Lower Chamber of Buenos Aires, Argentina,** passed into law a system of electronic auctions that aims to make judicial auctions transparent and put an end to the mafia behavior that had seen pressure exerted on potential competitors, as the recitals of the law stated. The law requires judicial auctions to be conducted over the Internet, ensuring that all bidders can take part on equal terms and preventing the kind of criminal behavior that was seen from coercive groups known as "la liga".

It is worth pointing out that this system has a strong track record in several European countries and the United States. One example is **Spain's auction website, run by the Ministry of Justice,** providing a single source of public information on judicial auctions, thus allowing bidders to safely follow and take part in judicial auctions via the Internet. To make sure the site works properly, information on the Judicial Auction Website is published and managed by auction units that are members of the system. The official Spanish Ministry website states that the main objectives of the judicial auction website are to allow the public to take part in auctions and **to reduce the influence of auctioneers (no agreements struck for the price of assets or pressure on those who refuse not to take part in auctions).**

In order to achieve these goals, the official Spanish website provides all information on all auctions. The auction unit responsible for each public auction makes all information on the auction itself and the assets up for auction available to the public. This information can include photographs, site plans, documents concerning the state of the goods (encumbrances, ownership situation, etc.) and other key data. Thus the website provides access to said information and tools to search for auctions based on different search criteria: auction ID code, type of asset auctioned, location of the auction asset, etc. The website also provides online information on the auction itself and how both Internet and traditional auctions are progressing.

Banking industry factors

These factors relate to obstacles that prevent the banking system from reaching the population, particularly the unbanked. Improving this reach requires partnership between the financial industry and the state to ensure that any plans have the furthest possible scope.

4. Tax incentives to encourage the use of electronic payment channels

4.1. Assessment

The level of purchases made using electronic payment channels is still low in Peru[20], and are mostly being used for food purchases (63% of credit card transactions, chiefly at supermarkets and, to a lesser degree, restaurants). There is, therefore, room to increase banking penetration by incentivizing card payments. This will also bring other benefits, such as improving tax controls (which will eventually have a positive impact on tax revenue) and reducing informality.

4.2. Recommendation

Refund a percentage of the General Sales Tax (IGV in Peru) to the buyer of a good or service when they purchase with a debit or credit card.

It is proposed that part of the general sales tax (IGV in Peru) be refunded when the purchase is made using a credit or debit card. This refund could be of one or two percent of the sales tax (the average seen in countries that have adopted this measure) and would be refunded to the taxpayer's bank account.

This measure would incentivize formal workers (the majority of whom receive their salaries via deposits to their bank accounts) to increase the percentage of purchases that they make using credit or debit cards, thus reducing the amount of cash purchases of goods and services.

The effect of the measure would be different for informal workers (who are paid in cash or by check). The sales tax deduction would tend to improve the competitiveness of those large and formal stores that have high supply volumes, thus giving them bargaining power with their suppliers in terms of lower prices (small and informal stores do not have this same power). Informal workers may therefore choose to shop more at these formal stores. To benefit from the incentive, they would have to open a deposit account at a financial institution and make purchases using the card associated with said account, thus driving up banking penetration. This measure would also boost tax revenue (and formality), as operations that were previously informal, and therefore not subject to sales tax, would now pay the tax.

The international evidence shows that promoting the use of payment channels via tax incentives is among the most effective tools for encouraging banking penetration (see Box 1).

20: According to the SBS survey of December 2009, just 6.5% of people pay for purchases with debit cards.

Box 4. International cases of tax incentives to encourage the use of electronic payment channels

Although the South Korean experience is the most representative in terms of the success had by incentives for card payments, in Latin America there have also been recent cases of a tax system being used to promote the use of electronic payment channels. A brief overview of such cases:

South Korea

In 1991 the country rolled out measures aimed at incentivizing card use. Purchases made using cards were subject to an income tax deduction, a refund of taxes associated with representation expenses, a refund of the value added tax (1 percentage point of the 10% sales tax) and prize draws based on credit card receipts.

Between 1996 and 2003, the number of point-of-sale terminals (POS) and credit cards per person grew by nearly 200%. The measures were also partly responsible for growth in taxpayer numbers between 1996 and 2000 from 2.7 million to 3.6 million. Finally, tax revenue rose from 14% in 1996 to 17% in 2000, and the informal economy shrank from 16% of GDP in 1993 to 12% of GDP in 2000. One decade after adopting the measures, South Korea became the second placed country in terms of the use and penetration of credit cards.

Mexico

The measures adopted included: (i) tax deductions on investments to install terminals in sectors with low card acceptance in order to increase the number of point-of-sale terminals (POS) and (ii) tax deductions for fuel consumption subject to electronic payment.

The measures mainly improved levels of banking penetration and informality. Thus, it is estimated that between 2003 and 2007, the value of credit card transactions grew by 79 billion pesos (7.3 billion U.S. dollars) while the value of debit card transactions grew by more than 720 billion pesos (66 billion USD). Growth in the value of credit and debit card operations was coupled with growth in estimated VAT revenue of around 5.553 billion pesos (514 million USD) between 2003 and 2006.

Argentina

The incentives employed in Argentina were mainly VAT refunds, including: (i) VAT refunds totaling 5 and 3 pp for payments with credit and debit cards, respectively, and (ii) a value added tax deduction via a tax credit on 30% of the cost of the POS.

These measures partly explained growth in tax revenue in Argentina, which rose from 17% of GDP in 2002 to 23% of GDP in 2005.

5. Introducing "low-cost default accounts" and incentivizing their use

5.1. Assessment

The financial industry has made enormous efforts to extend the use of banking, whether by increasing the number of branches nationwide, including technology for remote access (e.g. Internet), or the intensive introduction in recent years of correspondent agents. This supported banking penetration in higher income and more urban populations, but banking penetration remains at precarious levels for lower income groups. Reaching these groups means adopting an extensive cost-benefit focus, looking to cover all elements that make such sectors perceive the net benefit of being banked.

These groups with less bankin access have little potential for savings, as their incomes tend only to cover basic expenses. Therefore, demand for savings products among them is limited. However, they still demand payment channels in order to consume, which can be used to drive up financial depth. Thus the approach should focus on transactional aspects. This means identifying strategies to make banking a familiar, widespread and low-cost tool.

5.2. Recommendations

Introduce new low-cost default accounts for the entire population, linked to National Identity Records, supported by the state and with the open involvement of banks

One way of promoting mass access to banking is **(A) by creating "low-cost default accounts".** An individual will be allocated a bank account number from birth. This account will be enabled when the individual registers as a citizen (18 years of age, with RENIEC), when they will be provided with a debit card along with their national ID card. This reduces the cost of establishing relations with banking. Programs of this kind have already been launched in Chile, called RUT accounts.

(B) The accounts would initially be administered by Banco de la Nación, with the possibility of private banking then voluntarily being involved in the program, subject to the individual's choice.

Include "low-cost default accounts" with extensive transactional facilities that benefit the new financial client

The aim is to encourage the individual choose to use their debit card to make payments rather than cash. Use of the same must therefore be made easy for the individual. This means the widespread distribution of point-of-sale (POS) terminals for use of these cards. For example, debit cards could be used to automatically access city and regional public transport (the card could work as a ticket to which the travel fare is charged), with cost incentives for use of the debit card. This measure could be supplemented by mandatory requirements that salaries be paid to a bank account and by offering tax incentives for making purchases with debit cards, as discussed above.

State subsidies to finance the opening of accounts and investments made by banking to roll-out point-of-sale terminals for debit cards

Mass distribution of debit card terminals could require a significant investment, but could also benefit from state support given its importance for the country's economy. Likewise, the process of opening an account incurs costs for the bank. The cost could be covered in full (in some cases) or partially by the state, bearing in mind the social benefits that default accounts provide. Such a subsidy could, for example, cover costs that exceed a given threshold of transactions (breakeven point), or a subsidy for products and services that would be provided to make them more attractive to certain segments. This subsidy might be associated with a subsidy to set up certain branches and correspondent ATMs in remote areas of the country. Examples of such subsidies have been seen in Mexico, with its Patmir program.

Box 5. International programs to reduce the cost of accessing financial products

In Chile, a program was launched to promote mass use of demand accounts with debit cards, supported by the state bank. For example, in early 2007 the Chilean state bank launched a product aimed at incorporating low income segments into the banking system en masse. The product is called a RUT account. This is a demand account with an associated debit card. The account name comes from the fact that to open the same the individual needs only their identity card (known as RUT) and to sign with the bank.

The account is for a single person and is available to all Chilean men over 14 years of age and women over 12 years of age. There are no income or business background requirements and there are no opening or maintenance fees. The account can only be used for transactions and, unlike a current account, cannot be used with checks. To make sure the product is simple, the account number is the same as the holder's national identity number, while the RUT account card PIN can be activated at ATMs, caja vecina (neighborhood teller, similar to non-banking correspondents), by Internet or by telephone. Furthermore, the card can be used to pay for public transport in the capital city of Santiago. In late 2009, just three years after its launch, the state bank had more than 2 million RUT account customers.

Looking at subsidy systems to reach low-income segments, the PATMIR system (Rural Microfinance Assistance) is one program worth mentioning. Although the program is aimed at supporting microfinance, its operating logic could also be used for the banking system as a whole. The program includes a subsidy to cover the cost of growth by means of developing more branches, i.e. covering costs for infrastructure, technology and new branch operations. In its pilot stage, PATMIR worked with 33 banks in 10 states in the south of Mexico, and brought the financial system within reach of 194,000 new users who opened savings accounts.

One key aspect behind the success of PATMIR was that new branches were opened that were accessible to people living in towns and villages with populations of less than 15,000. PATMIR is now in its second stage of growth and is expected to reach 32 Mexican states by 2011, up from the current 27, and will seek to reach 405,000 new users.

The subsidies provided to extend the banking branch network are focused, degressive and temporary, and aimed at providing support for infrastructure, technology and operating costs for new branches set up by both existing and new financial intermediaries, in order to accelerate institutional development and extend coverage. The roll out of an extensive service network has also begun, with the creation of modern, well-equipped and pleasant branches, or permanent or mobile service points via which services can be provided when and as frequently as users need, staffed by people who speak the regional language and can provide high-quality service.

6. Provide incentives for low-income segments to hold savings accounts

6.1. Assessment

There is greater room to improve banking penetration in the lower income segments of the population. A study from Tejerina and Westley (2007) concludes that there is a significant gulf between low-income households and medium- and high-income households in terms of use of credit or savings instruments in the various countries of the region, with a similarly wide gap between urban and rural households. In Peru in particular, 83% of unbanked people belong to the poorest segments of the population (socio-economic levels C and D).

6.2. Recommendations

Recommendation: Offer incentives or bonuses for both opening savings accounts and increasing bank balances.

A successful example to follow related with this measure can be found in the Puno-Cuzco Corridor Development Project, run by FONCODES and the Ministry of Agriculture over a 6-year period (2002-2008). The program cost a total of USD 30.8 million, which was covered by a combination of funds (FIDA, Peruvian public sector and beneficiaries). The purpose of the program was to provide technical support to those taking part in the project and promote use of savings accounts among women in rural southern regions of Peru.

The initial stage of the project was aimed at familiarizing women with savings institutions (rural savings banks: CREDINKA and Los Andes), by setting up small financial education groups. The hope was that by demonstrating the benefits of such accounts, the women would decide to open one themselves. The women had to submit a personal savings plan, as a savings group (SG), which were of two different types: (i) the growth type, with each user of the group creating a personal savings plan, and (ii) the self-help type (GAAA), with each member of the group agreeing to comply with a set savings plan.

The program provided savers with three kinds of additional bonuses for their savings efforts:

- **for opening an account** they are granted an incentive equivalent to 100% of the initial deposit, up to PEN 100, a bonus that helped users to overcome their mistrust

- **for increasing the balance,** a maximum of once each month and equivalent to 25% of the increase, up to PEN 10, or 33% for GAAA users, up to PEN 15

- **for using savings to** invest or in equivalent emergency situations, representing 20% of the amount withdrawn, up to PEN 700.

The project was a success. Over the course of the program, 7,466 female savers took part, while the project had initially targeted just 2,000 new savings accounts being opened. The target population of the project thus demonstrated their ability to save. For every sol that the project provided (PEN 2.7 million), the participants deposited five. Half of the incentives provided were for increasing account balances, 23% were provided for opening the accounts and 17% came as capitalization bonuses.

Table 6
**Enforcing Contracts.
Number of procedures
for enforcing contracts** [(*)(**)]

Item	PEN	(equivalent in USD)
Amount deposited by savers	11.8	3.9
Total project incentives	2.7	0.9
Total	14.5	4.8

Source: Puno Cuzco Corridor

Chart 24
**Enforcing Contracts.
Cost (percentage of contract)** [(*)(**)]
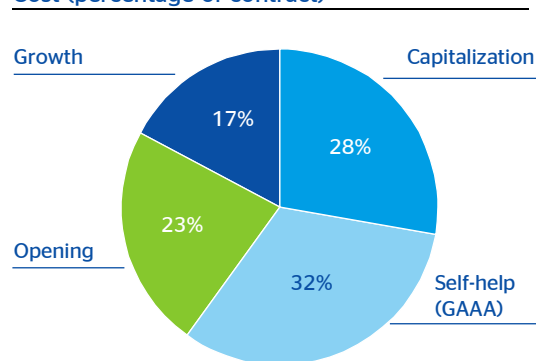
Source: Puno Cuzco Corridor

Furthermore, as stated in the Trivelli (2008) report, the financial savings program was made attractive to users, who demonstrated their ability to save using low-risk instruments. Evidence of this is that 93% of savers with a positive balance declared that they would continue to save, thus creating a long-term link between them and the financial institution, which in the future might lead to loans or other financial products being contracted. Of this group, 65% said they would continue to use the account, while 35% would or already were saving in another account or financial institution at the time of the survey.

7. Mandatory payment of salaries into bank accounts

7.1. Assessment

Most workers are paid via the financial system, particularly those working at large companies. However, there is still room for improvement.

According to data found in the Labor Ministry's spreadsheet, in June 2009, a total of 2.1 million workers were declared by formal private sector companies, 58% received payments via deposits to bank accounts, while the remaining 42% were paid in cash or by other means. Looking at the figures based on company size, 71.6% of all employees in formal companies with more than 11 employees received their salaries via bank accounts, while the figure drops to just 4.2% for employees of formal companies with 1 to 10 employees.

Chart 25
**Total formal private sector workers
by company size and by payment channel (% participation)**

	1 to 10 workers	11 to 20 workers	21 to 50 workers	52 to 100 workers	101 or more workers
Payment in cash or other means of payment	96%	79%	60%	39%	15%
Bank account deposits	4%	21%	40%	61%	85%

■ Bank account deposits ■ Payment in cash or other means of payment
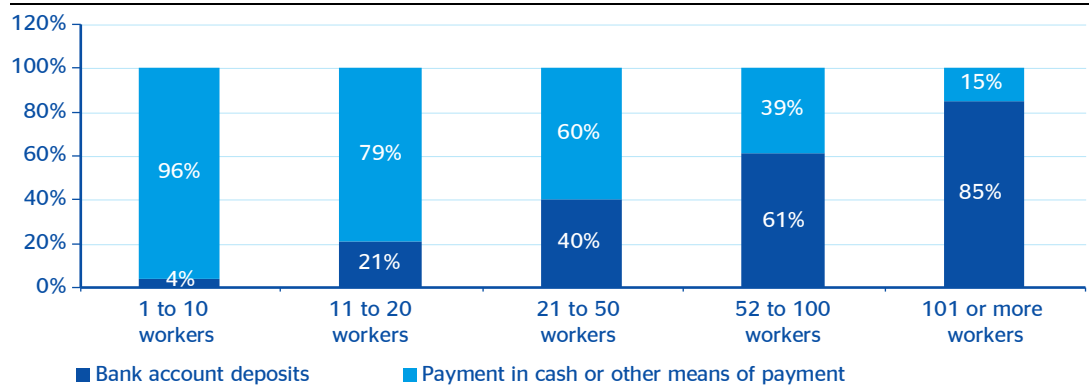
Source: Superintendency of Banks and Insurance and PFAs (SBS)

A first step in this direction came with the amendment of Article 18 of Supreme Decree No. 001-98. This decree stated that if an employee decides to be paid via a bank account, they must have the freedom to choose (within ten working days of beginning their employment) which financial system firm they wish to use for their deposits. This new provision, coupled with economic growth, drove growth in the number of payroll accounts. However, there is still plenty of room to incentivize the use of these, mainly among employees of small sized companies.

7.2. Recommendations

Promote mandatory salary payments by bank deposit or bank transfer, both for private sector and public sector workers.

Workers must open an account for salary payments at the bank of their choice, into which their employer will deposit their salary and other compensations.

It is worth pointing out that transactions at ATMs are subject to no charges of any kind, while rules on the number of withdrawals allowed via other channels such as at correspondent ATMs for example, could be relaxed. Additionally, these kinds of accounts are currently not subject to maintenance charges or similar fees. It is also important to point out that remuneration is intangible and that financial system companies may execute their right to compensation (recovery of loans), provided that the employee has authorized this when the loan was granted.

Greater use of deposit accounts would familiarize account holders with the financial system and start them using it for their transactions. This generates links that may then be extended on the assets side (loans). Thus, once the bank has registered the customers it can identify how they behave, reducing associated costs and risks by granting credit to the clients, which brings down the interest rates demanded. Thus, banking penetration is promoted.

From the company's point of view, if an employee holds an account with the same financial institution as the company, then the deposit will be free of operating fees. If the company and employee hold their respective accounts with different banks, an interbank transfer will be required, with a low operating cost as deposits to accounts in different institutions may be made via the electronic clearing house. This cost might discourage smaller companies from making use of deposit accounts. Therefore, mandatory salary payments via bank accounts could be introduced gradually, starting with larger companies. At the same time, mechanisms could be sought to reduce the cost of using the electronic clearing house, with smaller sized companies thus being less affected by the cost of making such deposits.

8. Incentivize funding using commercial invoices

8.2. Assessment

Micro and small enterprises (MSEs) represent a significant source of job creation and have a strong contribution to the economy. According to the Prompyme report "MSE Statistics" (March 2008), there are between 2.3 and 3.2 million MSEs in Peru, which are responsible for around 7.9 million jobs (63% of the economically active population). However, despite their significance, just 983 thousand MSEs (approx. 30% of total MSEs) are financed by the financial system[21], meaning there is plenty of room to incorporate such companies into the formal funding system.

To do this, financial instruments must be created that incentivize MSEs to take up financing with more attractive interest rates and better lending conditions. These products include financing via accounts receivable, a funding system that sees a company sell a financial institution its accounts receivable (represented through commercial invoices) at a discount. This gives companies simpler and cheaper access to credit than traditional systems (loans), generating working capital, improving productivity and encouraging the formalization of such companies.

Invoice financing offers clear advantages over other traditional funding systems, as the credit risk is assumed by the entity acquiring the accounts receivable (the company that buys or acquires the product or service) and not the supplier company. This therefore represents a highly attractive funding system for micro and small enterprises that are unable to provide sufficient guarantees for a loan or have insufficient financial information for a financial institution to assess.

Given this benefit, use of funding via accounts receivable has recorded significant growth in recent years. According to data reported by the Superintendency of Banks and Insurance and PFAs (SBS), total funding via accounts receivable grew by approximately 87% between 2008 and 2010, rising from PEN 600 million to PEN 1,12o million. However, despite this increase, accounts receivable funding remains underused, representing just 1.5% of total bank credit provided to companies in December 2010. The other means of obtaining advances on accounts receivable, bills discounting, plays a larger role in credit to businesses, standing at PEN 3,500 million in December 2010, approximately 4.7% of total credit granted to businesses. The difference between the uptake of these two options is due to bills discounting being deemed use of a security, and therefore is simpler and faster to execute, while prior to December 2010 invoices did not have this status.

Chart 26
Credit balance for discounting for bills and invoices (millions of new sol)
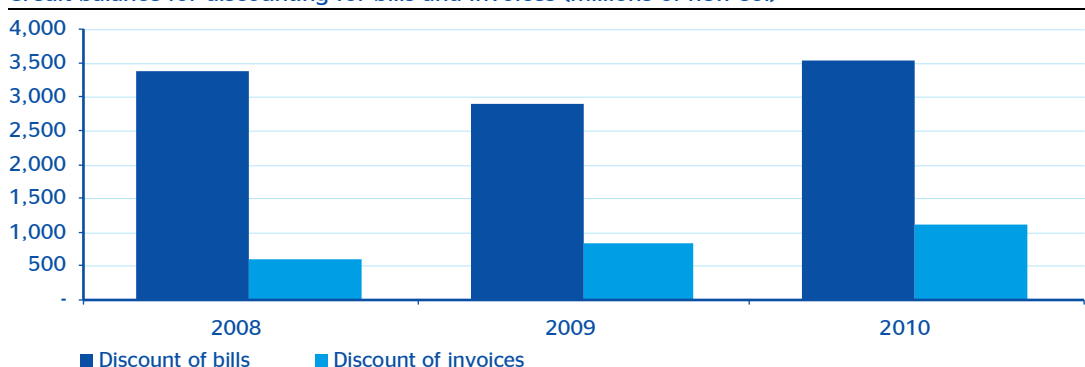
Source: Superintendency of Banks and Insurance and PFAs (SBS)

21: The lack of access to traditional funding represents an obstacle to the development and growth of MSEs.

Furthermore, international statistics show low levels of funding using bills, invoices and other securities in the Peruvian financial system. Based on the figures provided by Factors Chain International[22], the world's leading factoring association, Peru has some of the lowest levels in the region, behind countries such as Chile and Colombia, which have a more developed factoring industry. Both countries achieved fast and significant growth in the factoring business by adopting laws that granted security status to accounts receivable factoring[23].

Table 7
Volume of factoring by country (millions of euros)

	2005	**2006**	**2007**	**2008**	**2009**
Argentina	275	333	362	355	335
Bolivia	0	0	0	0	18
Brazil	20,050	20,054	21,060	22,055	29,640
Chile	9,500	11,300	14,620	15,800	14,500
Colombia	0	100	2,030	2,100	2,392
Mexico	7,100	8,150	9,200	9,550	2,120
Panama	240	607	483	460	500
Peru	95	563	648	875	758

Source: Factors Chain International

Given that the country is lagging behind others, in order to promote the use of funding via invoices among goods and services suppliers, on 9 December 2010 the Congress of the Republic approved its Factoring Act (Act 29623, promoting funding via commercial invoices), which will come into effect in June 2011. The law recognizes the legal status of receivables as a security, allowing businesses to transfer the right to collect receivables for goods and services to a financial institutions without having to wait long periods of time.

The main feature of the new law is the introduction of a third copy of receivables invoices, for transfer to third parties or collection by execution, known as a "Negotiable Invoice". The negotiable invoice is considered a made-to-order security[24] that is transferrable by endorsement, which includes the right to credit against the invoice value or considerations as agreed between the parties, with any agreement that limits or prohibits transfer of the negotiable invoice rendered void. Thus, the law aims to shake up the factoring market by introducing enforceability to receivables factoring. Enforceability will allow more active enforcement by the Judiciary.

The third copy of the invoice is enforceable if the following requirements are in place: (i) the user of the good or service has not registered their opposition to the same within the consent term; (ii) the invoice states that the goods have been received, or reception of the goods is stated in the waybill, with enforceability of the invoice requiring that the corresponding waybill is attached; and (iii) the corresponding protest is included, unless there is a "no protest" clause.

Furthermore, the law states that the debtor of the invoice will have 8 working days from receipt of the goods or services to challenge any information contained within the same or submit any claim with regard to the goods or services acquired. The challenge must be reported in writing, stating the date of receipt. Once the established deadline has passed without evidence to the contrary, it shall be presumed that the goods or services have been irrevocably accepted in all terms, and that the receiver has approved the same. When this presumption is invoked, the supplier must record this in the negotiable invoice. The negotiable invoice may be transferred once expressly accepted by the acquirer of the goods or once they are presumed to have approved the same. By virtue of the transfer, it is the legitimate obligation of the holder of the negotiable invoice to inform the debtor of their tenure no later than 3 days before the date on which payment is due.

22: These figures show the different kinds of discounting available in the financial markets of each country. Thus, they show not only invoice discounting but also the same practice for bills of exchange, checks and other documents.
23: In Chile, Act 19983 of December 2004 regulates the transfer and states that invoice copies are enforceable. In Colombia, Act 1231 published in July 2008 states that an invoice has the status of security and can be used to fund micro, small and medium enterprises.
24: Negotiable instruments must meet the formal requirements stated in law. If they fail to meet any of these requirements they shall lose security status.

8.2. Recommendations

Improve regulations that supplement the factoring act to ensure that it is clear and precise

On 27 March the Ministry of Economy and Finance published its Factoring Act Regulations, which established its rules and provisions. However, some aspects still have to be improved to make the regulations operational and applicable in the best possible manner. For example, it is yet to be cleared up how the invoice discount will be processed for companies subject to different tax systems. Under the system of discounts, it is not clear what percentage of an invoice should be paid to companies with operations that are subject to the SUNAT discounts system[25].

Transparent and precise regulations would optimize use of accounts receivable as a means of funding for MSEs. Likewise, there would be greater interest from several financial institutions in designing specific factoring products for MSEs, thus driving up their use.

Lift the current limit on factoring operations established in the Banking Act

Repealing operating limits on factoring would require the amendment of the Banking Act. The idea would be to allow unlimited factoring operations by scrapping the overall cap on such operations. According to the Banking Act, invoices acquired by financial institutions may not exceed 15% of a company's net equity[26].

9. Optimize growth of the correspondent ATM model

9.1. Assessment[27]

Both financial institutions and the regulator, SBS, have been looking to increase the penetration of financial services via different measures, including branchless banking. In 2005, under Circular B-2147-2005, the SBS authorized financial institutions to use correspondent ATMs[28] (NBCs) to provide services.

The main aim of Non-Banking Correspondents is to increase the number of customer service points by expanding non-traditional channels; authorizing banks and credit institutions to provide financial services via non-banking entities such as stores, supermarkets, drug stores, and others.

NBCs have recorded strong growth since their inception, rising from approximately 2,000 NBCs in December 2006 to close to 9,000 by the end of 2010, meaning average annual growth of 50% over these years[29]. This growth comfortably outstrips that seen in other channels, such as ATMs, which have seen average annual growth of 20% to close to 4,500 ATMs in December 2010. In 12% of districts, representing 20% of the population, banks are only present via correspondent ATMs.

25: The discount system consists of a detraction or discount applied by the buyer or user of a good or service as a percentage of the amount payable for these operations, which is then deposited with Banco de la Nación in a current account in the name of the seller or provider of the service. The latter, meanwhile, will use the funds deposited in the account to pay tax obligations.
26: If we take into consideration that the real equity of banking institutions stands at around USD 6 billion, the limit for factoring operations would be USD 900 million or PEN 2,500 million. Therefore, given that the balance for factoring operations stands at PEN 1,120 million, there is little leeway to pursue further growth in this product.
27: The assessment is based on the combined evaluation report from SBS and the Grupo Consultivo de Ayuda a la Población más Pobre (CGAP) "La Inclusión Financiera y la protección del consumidor en el Perú" (February 2010).
28: According to the SBS, correspondent ATMs are service operators constituted by legal entities or individuals that operate from their own premises or those of third parties that are not part of the financial system, which may provide the services and operations stated by the SBS based on a contractual agreement and under the responsibility of the financial system company.
29: Peru is the fourth placed country in the world in terms of the number of correspondent ATMs, after Brazil, the Philippines and South Africa.

Chart 27
**Number of ATMs and correspondent ATMs***
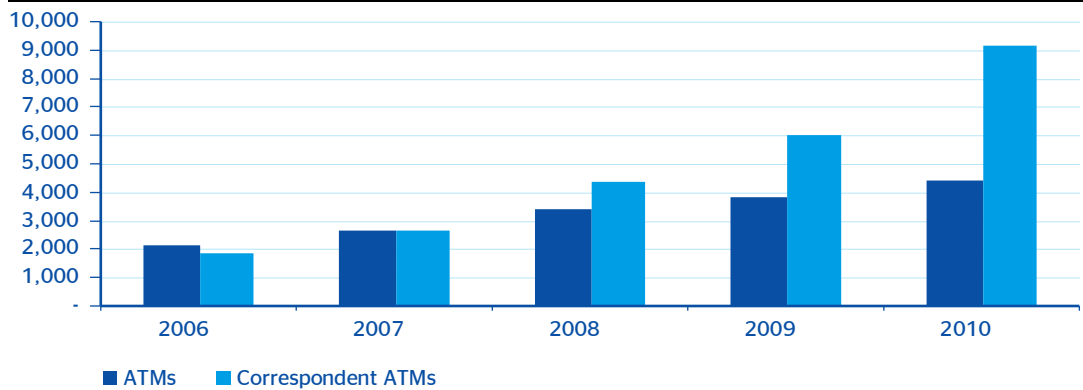
* Includes: Banking Companies, Financial Companies, Financial Leasing Companies, Municipal Savings Banks, Rural Savings Banks and EDPYMES. Banco de la Nación not included
Source: SBS

Likewise, in recent years branchless channels, such as the Internet, ATMs, POS terminals and, in particular, correspondent ATMs, have grown in terms of the number of transactions and their importance. In late 2008, the number of transactions performed via correspondent ATMs represented 8.0% of total banking sector transactions, although the figure was lower in terms of volume, at 5.4%.

However, some aspects still have to be worked on to improve the mechanism. These obstacles include:

a. Bureaucratic obstacles put in place by some municipalities that demand special permits from businesses that host "correspondent ATMs", as they deem such services to exceed the businesses' present permits.

b. The concentration of correspondent ATMs in metropolitan regions. Close to half of the NBCs are found in the metropolitan region of Lima and 34% in the 24 capitals of the remaining departments, which is a reflection of the fact that NBCs are largely used to relieve branches by reducing their high infrastructure costs. Thus, many correspondent ATMs are established close to a branch of the same bank. The leading banks of the Peruvian financial system have established around 80% of their correspondent ATMs in districts that already had a branch in place. Although this helps to make for more efficient management by the financial institution, greater geographic diversification is required.

Chart 28
Location of correspondent ATMs by department
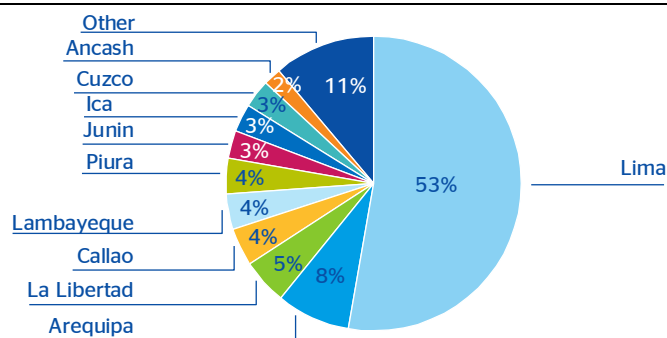
Source: SBS, as per December 2009

c. NBCs are established in regions where the population has fewer socio-economic requirements[30]. In 81% of districts, representing 28% of the population, there are no branches or correspondent ATMs at all. At the other extreme, 4% of the districts (43% of the population) has at least 3 branches and at least 3 correspondent ATMs.

Table 8
Distribution of banking correspondents and socio-economic needs

		Districts where there are correspondent ATMs				
		0	1	2	3	>3
Districts where there are banking branches	0	81%	3%	4%	1%	3% of districts
		28%	4%	4%	2%	9% of population
		0.56	0.41	0.40	0.40	0,38 Needs index
	1	0%	0%	0%	0%	1% of districts
		0%	0%	0%	0%	4% of population
		0.45	0.34	0.32	0.39	0,39 Needs index
	2		0%	0%	0%	1% of districts
			0%	0%	0%	2% of population
			0.41	0.00	0.00	0,38 Needs index
	3			0%	0%	0% of districts
				0%	0%	1% of population
				0.00	0.00	0,36 Needs index
	>3				0%	4% of districts
					0%	43% of population
					0.00	0.32 Needs index

Source: Ignacio Mas, data provided by the SBS during the CGAP mission in Lima in early 2008 and updated by the SBS in December 2009:

d. Finally, despite the high number of correspondent ATMs currently operating, and the growth in the number of transactions performed via this channel, the total number of transactions remains low. According to interviews with bank officials and the SBS, the still low volume of transactions via NBCs is related to operating issues at banks, due to regulations.

9.2. Recommendations

Establish a simple legal system for setting up correspondent ATMs

In order for the number of correspondent ATMs to continue to grow, a simple mechanism needs to be established that allows financial institutions and retail businesses to quickly obtain operating permits. Many municipalities have three demands prior to allowing use of a correspondent ATM: a correspondent ATM operating license, a sign license (for signs on the front of the premises) and a civil defense security certificate issued by the INDECI. However, in some cases, municipalities demand that businesses obtain special licenses, as they deem the role of correspondent ATMs not to fall within the scope of the initial business license. Therefore, municipalities should be required to use a simple and standard system for setting up correspondent ATMs, thus avoiding the arbitrary demands imposed by some municipalities.

Encourage basic accounts to be opened via correspondent ATMs

In mid-February, the SBS[31] approved legislation that allowed financial institutions authorized to accept deposits to open savings accounts via a simplified process, known as "basic accounts", aimed at improving access to basic financial services. One important benefit of a basic account is that one can even be opened at correspondent ATMs. Previously no savings accounts of any kind could be opened this way.

Basic accounts may be opened by Peruvian citizens or foreign residents. The holder may not have more than one basic account at the same firm and no more than four in the entire financial system. The accounts must be in sols and may not have a balance in excess of PEN 2,000.

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30 The needs index, which ranges from 0 to 1, is based on an analysis of various socio-economic variables. To view a description of the methodology, go to http://www.foncodes.gob.pe/mapapobreza/ and
http://www.foncodes.gob.pe/mapapobreza/docs/Foncodes2006_mapapobreza_PRES.pdf
31: According to Resolution SBS 2108-2011.

There is a limit on daily deposits of S./1,000, while monthly deposits and withdrawals may not exceed S/.4,000. Finally, the accounts may not be used for transactions outside of Peru.

Banks must provide NBCs with the tools required for opening of basic accounts en masse. This is a first step towards a better understanding of customers and also generating greater loyalty, offering financial products and services via new channels. It is worth pointing out that success in achieving this goal will depend on the above proposals being implemented: a sales tax refund for use of electronic payment channels, mandatory salary payments into bank accounts and widespread investment in electronic payment channels. These actions would encourage more basic accounts to be opened among the lower-income population.

10. Promote banking penetration via mortgage lending.

10.1. Assessment

Mortgage lending has been growing quickly, at 25% yoy. The penetration of this kind of financing has thus increased in a sustained fashion both in terms of GDP and the number of households with access to the same.

However, despite this good performance, penetration of mortgage products among the population remains low. Currently just 134 thousand families have financed their homes with bank loans, out of a total of 30 million inhabitants (around 6.5 million households according to a 2005 census). A similar trend can be seen in mortgage lending as a percentage of GDP: in Peru the figure stands at under 4%, while in Chile the figure is 15%.

Chart 29
Mortgage lending * (% yoy change)
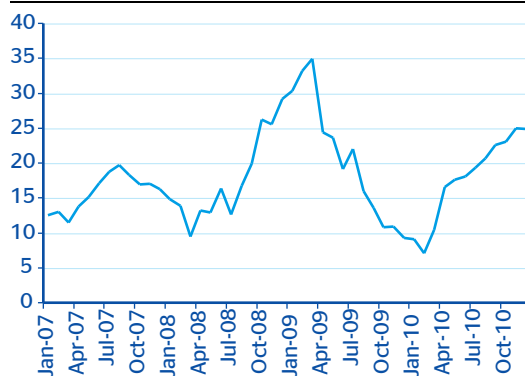
* Series corrected as of December 2008 due to changes in credit classification
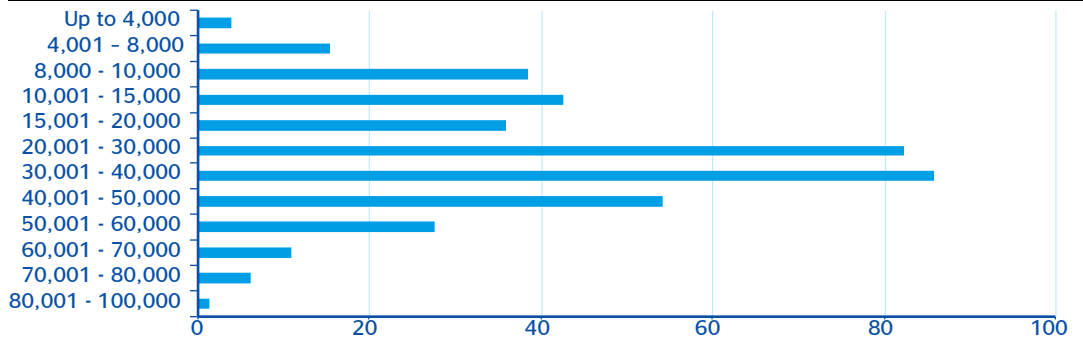Source: Superintendency of Banking, Insurance and PFAs (SBS)

Chart 30
Mortgage market: credit and debtors

- Credit as % of GDP
— Number of mortgage debtors (right axis)
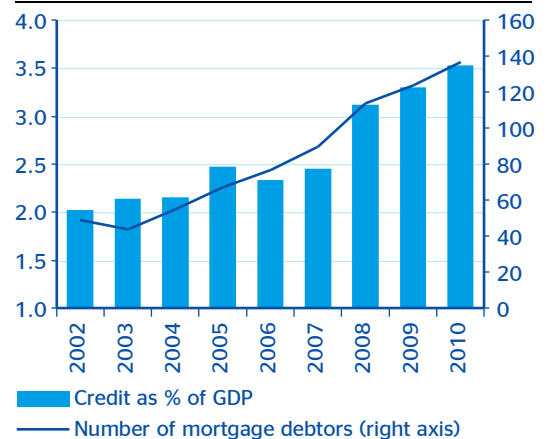
Source: Superintendency of Banks and Insurance and PFAs (SBS)

The low penetration of mortgage funding is partly a reflection of high levels of unmet demand for housing, i.e. a shortage of good quality housing demanded by those with the resources to buy them. In Lima (a third of the Peruvian population), for example, there is unmet demand for 400,000 homes, triple the amount currently financed by banks in the country as a whole, and the figure is growing. This is linked to the fact that housing supply has chiefly aimed to cater to demand from the higher-income population, where profit margins for developers are greater. As a result, more than 75% of unmet demand is concentrated among demand for homes costing less than USD 40,000.

Chart 31
Unmet demand in 2010: Lima and Callao (thousands of homes, by price range in USD)

Price range (USD)	Value
Up to 4,000	
4,001 – 8,000	
8,000 - 10,000	
10,001 - 15,000	
15,001 - 20,000	
20,001 - 30,000	
30,001 - 40,000	
40,001 - 50,000	
50,001 - 60,000	
60,001 - 70,000	
70,001 - 80,000	
80,001 - 100,000	

Source: Peruvian Construction Chamber (CAPECO)

In short, there is demand (from individuals that have access to bank credit) for low-priced homes, but this demand has not been met as the unitary profit margin for developers is very low on such properties. It is therefore desirable that a greater supply of housing aimed at this population segment be provided. The funding requirements that are generated as a result could be covered by banking. To achieve this, the following is recommended:

10.2. Recommendations

Set up a guarantee fund for large social housing projects

A social housing project could be made attractive for developers if it is of a large scale. This would reduce unitary costs (thanks, for example, to greater bargaining power when procuring materials on a large scale and diluting fixed costs), thus increasing the profit margin per home. Total earnings would also be driven up by the volume of homes built. Starting the project, however, would require large initial capital to buy up land and for urban authorization, among other expenses. Such projects would therefore be more attractive to developers if a governmental fund guaranteed part of this initial capital for an established period of time, thus bringing down interest costs.

Chart 32
Guarantee fund

Banco de la Nación	→ Funds →	Guarantee fund	→ Guarantee →	Financier bank	→ Funds →	Developer
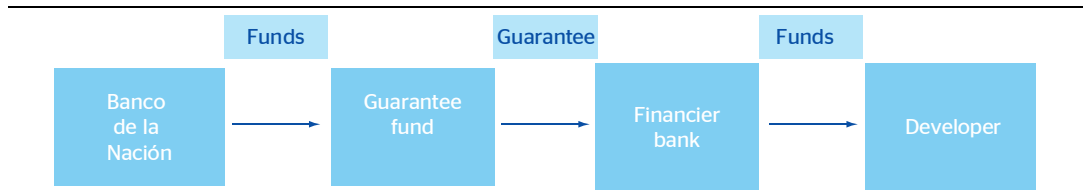
Source: BBVA Research

Specifically,

- Banco de la Nación would contribute funds from the facilities earmarked to promote mortgage lending

- a state institution, such as Mivivienda, would manage the same (guarantee fund)

- these funds would then be channeled via a lending bank, which would grant a credit facility to the developer, partly guaranteed by the guarantee fund. This would cover a percentage of the total project cost

- the funds that the developer raises could be used to cover initial project costs and part of the working capital. Use of the funds would be coordinated with the lending bank

- the state guarantee would remain in place until the project is completed and individual mortgage guarantees are set up (by those demanding housing) in favor of the lending bank

Such a system would incentivize the construction of social housing by formal companies, because the size of the project would reduce unitary production costs and increase the volume of earnings. Thus, the formal offer of low-priced homes would be driven up, reducing unmet demand. The project would be even more attractive if the lending bank not only grants credit to the developer of social housing but also to buyers of the same, thus supporting sales of the houses that are built.

Another way of optimizing the system, and mortgage lending in general, is to make it easier to repossess a property when the buyer of the same ceases to make payments. The recovery process is currently very costly for banks (in terms of money, time and damages to the property during the process). Financial institutions therefore include this cost in the interest rates they charge, thus driving up monthly payments. Such credit therefore becomes inaccessible to some households, creating a barrier to housing demand. A similar effect is seen when additional requisites are demanded prior to granting a loan. If the cost of recovering the property in the event of non-payment could be brought down, interest rates demanded by banks would decrease and demand for housing would benefit.

The effect of reducing mortgage interest rates would be particularly important because it would allow low to medium income households, currently priced out of the market, to access the same. Demand would therefore benefit in the sectors where the housing gap is at its greatest. It is important to bear in mind that despite interest rates for mortgage lending declining (and payment terms growing longer), they are still at high levels, particularly for low-income families. According to Morris (2009)[32], current interest rate levels (around 10%) do not allow households in the four lowest income deciles of the population to finance social housing in affordable monthly payments. This conclusion was drawn from on a study based on a home costing S/. 42,600 (12 tax units), funded as part of the Techo Propio program run by the state Mivivienda fund, with a down payment of 10%, a 20 year repayment period and a Family Housing Bonus (equivalent to 5 tax units or S/. 17 750).

To support recovery of a property in the event of non-payment, the following is recommended:

Introducing a property leasing system

In such a system,

- the home buyer and lending bank sign a leasing contract with a future purchase agreement

- the prospective buyer would make use of the home for the time stipulated in the contract, but the lending bank would retain ownership over the home

- for the duration of the contract, the prospective buyer would made a monthly deposit to the lending bank (as agreed between the two parties), which would be put to two uses: paying the bank for the lease and maintenance of the home, and also for accumulating funds (in a special savings account), which at the end of the contract would be used to fund the purchase of the home from the bank if the prospective buyer decides to go ahead with the purchase

This would eliminate the risk associated with recovering the property, thus allowing the bank to bring down the cost of mortgage lending or offer a more flexible down payment. Banks would also benefit from reaching a larger proportion of the population and borrowers (particularly low- to mid-income households), who can access to the mortgage market under better conditions.

Implementing the above recommendations would help to boost demand for homes and mortgage funding. There are two additional aspects that would further support housing demand (and funding) over the coming years. Firstly, the population structure has changed, with the segments most likely to demand homes (over 25 years of age) growing. Meanwhile, sustained

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32: Morris, Felipe, Las alternativas para el financiamiento hipotecario en el Perú. In Revista Moneda No. 140, 2009, Central Reserve Bank of Peru.

economic growth over the last decade has driven up formal employment, thus improving the purchasing power of households. Over the next few years GDP is expected to grow at an annual rate of 6%, which would also see household income rise further. This indicates that there will be significant room to drive up banking penetration via the expansion of mortgage funding.

Chart 33
Population Pyramid
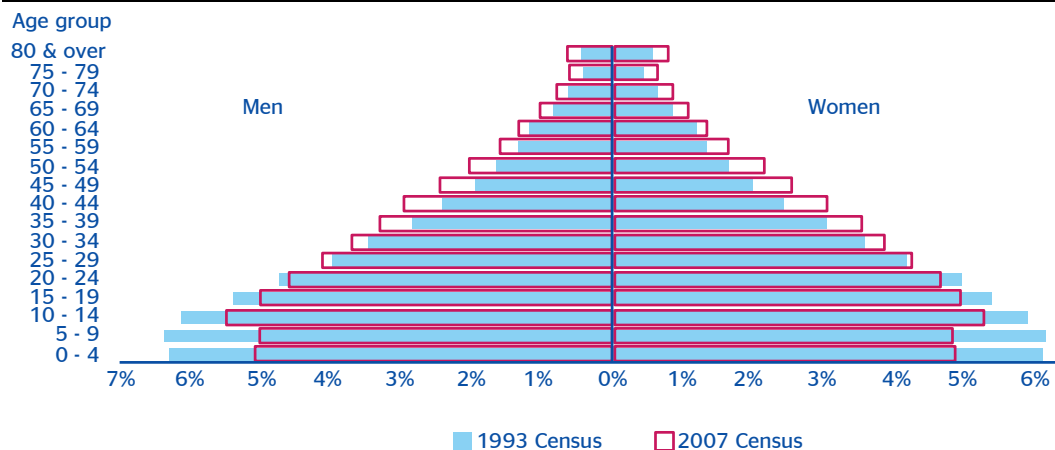
Source: Instituto Nacional de Estadística e Informática (INEI)

Banks currently finance most of their mortgage loans using deposits. Although this generates risks due to a mismatch of terms and interest rates (the number of placements at quasi-fixed interest rates is growing), the risks are still reigned in as there are currently not many placements in the sector. However, if the supply of homes can be focused better and demand remains on the rise, the market will grow and banking will seek financing that matches the terms of its longest placements. Otherwise, the cost of credit will rise as more risk is incurred.

To support increased long-term funding, the following is recommended:

Promoting the use of covered bonds to finance mortgage loans

A covered bond is a debt instrument backed by a set of top-quality assets (of a value equal to or greater than the bond), mainly mortgage loans. In the event of the eventual nationalization or bankruptcy of the issuer, these backing assets are excluded from the liquidated amount and investors have priority rights over the same, without this meaning the loss of rights over the issuer's other assets.

Beyond increasing demand for mortgage lending, promoting the use of this source of financing entails the following:

● establishing the legal status of collateral (standardization), its value (possibly including regular stress tests on the set of backing assets) and maintaining sufficient collateral for the duration of the bonds

● establishing legal separation between backing assets and the rest of the issuer's assets. This would require the amendment of General Financial System Act.

● establishing a state entity (a unit of the Superintendency of Banks, Insurance and PFAs, for example) to ensure that such collateral meets requirements and recovery rules

With regard to issuers, the covered bond would allow banks to raise long-term funding at fixed rates and cover mortgage demand under the same conditions. The instrument could be even more attractive for small and medium sized banks, as the improved debt issued (usually with an AAA rating, i.e. higher than that of other debt instruments issued by banks of this size) would reduce finance costs, while standardization of collateral would bring down recovery costs and, thus, the cost of issuing the debt instrument. Lower costs for this kind of debt would help small and medium banks to compete in the market, thus bringing down interest rates. As for buyers of

the security, there is significant demand from pension fund managers, which at present mainly use sovereign bonds to match their liabilities (long term). These securities, therefore, would improve the diversification and development of capital markets. Finally, this kind of financing for banks, unlike other instruments, brings the incentives for the issuer (bank) and the investor into line, as they are both exposed to the quality of the credit granted.

Estimated impact on the main proposed measures

According to estimates from BBVA Research, based on the aforementioned econometric model of the determinants of banking penetration[33], in a scenario in which none of the reforms discussed in this chapter is implemented, the credit/GDP ratio would reach a level of 50.9% by around 2020. In this scenario, GDP would grow by around 6% in said period and the inflation rate would stand at around the Central Bank's target (2% +/- 1%). Furthermore, this expansion in the ratio of financial coverage would be coupled with somewhat of a reduction in the level of informality. Thus, the ratio would grow by approximately 20pp, driven by demand generated by economic growth and convergence factors from financial development.

However, the impact that implementing some of the measures detailed above would have on the credit/GDP ratio by around 2020 has been estimated using the econometric model discussed in chapter 2.

On the institutional side, the three measures related with improving the following variables have been evaluated: (i) credit information, (ii) the legal framework and (iii) property registration. The first two institutional variables were quantified based on two scenarios: central and positive. The first of these two scenarios assumes that by 2020 Peru will have reached average levels for the region, or where it already is at similar levels, a sample of relevant countries would be taken from the Doing Business report. Under the positive scenario, Peru would reach the highest levels in the region or the maximum possible levels according to the same report. A single scenario was used for the property registration variable, as Peru's indicators for this item are the best in Latin America, with the only critical aspect being to reduce the cost of registering property.

Looking at banking infrastructure, the recommendations of the chapter refer to the expansion of the correspondent ATMs model. However, a proxy variable was used when measuring the impact, with this being growth in the number of ATMs, which is a good indicator for the development of banking infrastructure. For this indicator, the central scenario used the average growth recorded in the ratio of correspondent ATMs per thousand inhabitants over the last ten years, while the positive scenario uses the 75th percentile of the same ratio for the same period of time.

Assuming that both the institutional and banking infrastructure recommendations are implemented, the measures in the central scenario would add approximately 14.2% to the credit/GDP ratio by around 2020, putting the credit/GDP ratio at 65.1%. In the event of more favorable conditions and assuming the positive scenario, the recommendations would add 27.7% and credit would be equivalent to 78.6% of GDP.

33: For further detail on the econometric model, see Appendix C.

Table 9
Impact of some proposals on the credit/GDP ratio in 2020

| Measures	Central Scenario	Positive Scenario
Institutional	9.5	15.3
Credit information	4.5	7.3
Legal framework	4.1	7.1
Property registry	0.9	0.9
Banking infrastructure	4.7	12.4
Total impact of the measures	14.2	27.7
Informality	11.2	21.7

Source: BBVA Research

Furthermore, it is important to assess what levels of banking penetration might reach in Peru in the event of a reduction in informality. For this variable, the central and positive scenarios for the next 10 years were defined as follows:

- In the central scenario the level of informality in Peru stands at 11.8 percentage points, down from 66% of GDP to 54.2% of GDP. This reduction in informality is the same as recorded by the Ivory Coast between 1999 and 2007, with this being the country that reduced informality by the greatest degree out of a sample of 144 countries.

- In the positive scenario, informality in the country is reduced to 43.3% of GDP. This level corresponds to the 25th percentile of our sample of countries. In this scenario, Peru reaches levels of informality very similar to the current levels seen in Colombia (45%) or Brazil (43%).

Thus, in the central scenario, the reduction in informality would lead to a 11.2pp increase in the banking penetration ratio. In the positive scenario, the increase would be 21.7pp. Based on these figures, and also taking into account the effects of the proposed measures, the credit/GDP ratio in the central and positive scenarios would be 76.3% and 100.3%, respectively.

Chart 34
Impact assessment for the credit/GDP ratio
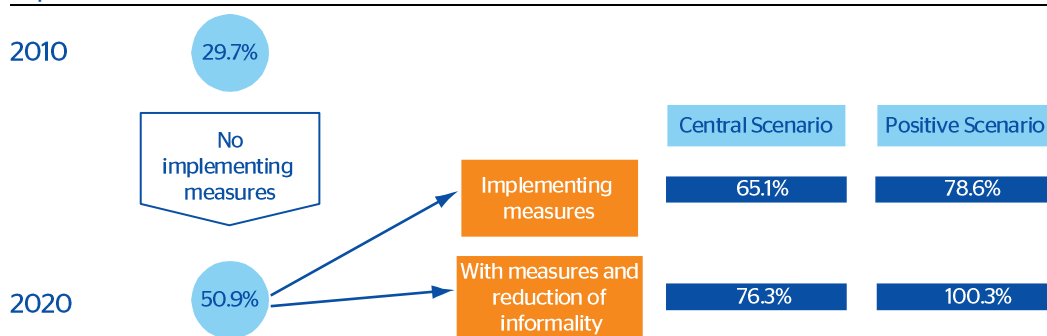
Source: BBVA Research

Conclusions

The empirical evidence shows a positive relationship between economic growth and the level of banking penetration in an economy. Thus, a higher level of banking penetration provides support for economic growth and improves the wellbeing of the country's citizens.

In recent years, banking penetration levels in Peru have recorded a positive trend. The credit/GDP ratio in 2010 stood at close to 30%, representing growth of nearly 12 percentage points against 2004, while growth in terms of deposits exceeded 33% (an improvement of more than 10pp). However, Peru still lags behind the regional average and is even surpassed by some countries with lower income levels per capita. Furthermore, fewer than 25% of inhabitants hold any financial products, while this percentage is even lower for low-income individuals. This low level of banking penetration indicates that there is room to further improve access to financial products and services among the population.

This study sought to identify recommendations that would promote banking penetration in Peru, focusing on institutional factors and factors inherent to the banking industry and that determine the development of savings and credit markets.

With regard to institutional aspects, three measures have been identified that would help the process of banking penetration in the country: optimizing the coverage of information available to credit bureaus, further promoting the formalization of property and improving the system of guarantees.

Looking at factors inherent to the banking industry, there are seven key measures that would support access to financial products and services for lower-income sectors. It is essential that companies be required to pay salaries via the financial system. Likewise, the introduction of "low-cost default accounts" is recommended. Both measures would be aided by tax incentives for payments made with cards and the strengthening of the correspondent ATMs network. Looking at ease of saving, one recommendation is to introduce products that are linked to incentives to encourage saving among the low-income population. This measure would require state support. Furthermore, there is room to promote banking credit in sectors such as the micro and small enterprise sector, based on greater use of factoring as a means of funding, while in the mortgage segment, measures could be introduced on both the supply and demand sides.

The recommendations laid out in this study have been designed to be put into practice jointly. It is estimated that, in a conservative scenario, implementing the proposals would increase banking penetration, measured as the credit/GDP ratio, to over 65% of GDP over the next ten years, while in the most optimistic scenario, the level could reach close to 80%.

Appendix A. The Peruvian Financial System

According to the definition from Peru's Superintendency of Banking, Insurance and PFAs (SBS), the financial system is made up of banking institutions, financial companies, non-banking microfinance institutions and financial leasing firms. According to the SBS report of December 2010, there are a total of 62 companies in the financial system[34], which operate under the SBS' supervision and regulations. Banking institutions make up around 80% of total loans and total deposits in the financial system, and therefore represent an important pillar for the country's banking penetration. Likewise, microfinance institutions (CM, CRAC and EDPYMES) play a key role in providing credit to micro businesses and attracting deposits in the provinces, as does Banco de la Nación, the state run bank.

Table 10
December 2010. Structure of the Financial System

	No. of institutions	% of GDP	
		Loans	Deposits
Banking institutions	15	25.2	26.9
Financial corporates	10	1.2	0.5
Non-banking microfinance institutions	33	2.6	2.3
Municipal savings banks (CM)	13	1.9	1.9
Rural savings and credit banks (CRAC)	10	0.4	0.4
Micro and small business development institutions (EDPYME)	10	0.2	-
Financial leasing firms	2	0.0	-
Banco de la Nación and Agrobanco	2	0.7	3.8
Financial System	62	29.7	33.4

Source: SBS

34: Although the total number of entities has remained relatively steady in recent years, the composition has varied. The number of financial institutions has increased from 4 to 10, while the number of EDPYMES (micro and small business development institutions) has shrunk from 14 to 10 between 2005 and 2010. Taking into account the operating, financial and image benefits that come with the transformation.

Appendix B. Proposals to extend banking penetration in Peru

Table 11
Recommendations

		Impact on Banking Penetration (% of GDP)	
		Central Scenario	**Positive Scenario**
I. Institutional			
1. Greater information on the banking client: the role of credit bureaus	1.1. Consider obliging key non-financial corporates to provide data concerning their clients' credit profiles 1.2. Promote the use of information technology by state entities to share financial information with credit bureaus.	4.5	7.3
2. Formalization of property registration	2.1. Establish an educational program to raise awareness of the benefits of registering property 2.2. Prevent an increase in terms of time, procedures and costs as powers are transferred from Cofopri to regional governments 2.3. Consider further reducing the registration fees charged by SUNARP	0.9	0.9
3. Improving the system of guarantees	3.1. Reinforce the single guarantees and contracts registration system to make the process simpler and less costly, and ensure that the information is published promptly 3.2. Make use of guarantees more flexible 3.3. Make the judicial auction procedure for guarantees more transparent	4.1	7.1
II. Banking Industry			
4. Tax incentives to encourage the use of electronic payment channels	4.1. Refund a percentage of the general sales tax (IGV in Peru) to the buyer of a good or service when they purchase with a debit or credit card.		
5. Introduce "low-cost default accounts" and incentivize their use	5.1. Introduce new low-cost default accounts for the entire population, linked to National Identity Records, backed by the state and with the open involvement of banks. 5.2 Introduce "low-cost default accounts" with extensive transactional facilities that benefit new financial clients. 5.3. State subsidies to finance the opening of accounts and investments to roll-out point-of-sale terminals for debit cards.		
6. Provide incentives for low-income segments to hold savings accounts	6.1. Offer incentives or bonuses for both opening savings accounts and increasing bank balances.		
7. Mandatory payment of salaries into bank accounts	7.1. Promote mandatory salary payments by bank deposit or bank transfer, both for private sector and public sector workers.		
8. Incentivize funding via factoring	8.1. Ensure that regulations to support factoring laws are clear and precise 8.2. Lift the current limit on factoring operations established in the Banking Act		
9. Optimize growth of the correspondent ATM model	9.1. Establish a simple legal system for setting up correspondent ATMs 9.2. Allow basic accounts to be opened via correspondent ATMs	4.7	12.4
10. Promote banking penetration via mortgage lending	10.1. Set up a guarantee fund for large social housing projects 10.2. Introduce a property leasing system 10.3. Promote the use of covered bonds to finance mortgage loans		

Source: BBVA Research

Appendix C. Econometric model

Aim and Procedure:

The aim of this exercise is to identify the most important factors that determine the level of financial development in the country, measured using the ratio of banking credit to GDP, and to quantify the effect that certain structural reforms in Peru would have on those determining factors or the impact of suitable state policies.

The first step in this exercise is to statistically estimate the main variables that determine financial development, bearing in mind the limiting principles and determining factors that are identified in the financial literature.

These estimates are used to simulate the effect had by potential improvements to the main institutional factors using coefficients estimated in the econometric model.

Methodology

As described above, one of the main aims of this exercise is to determine the effect that different institutional and/or regulatory variables will have on financial development. One of the chief problems encountered with said institutional variables in econometric models for data panels is that they either remain unchanged over time or change infrequently over time. For variables that remain entirely unchanged over time, a fixed effect panel model cannot identify what effect they have or their coefficients over the dependent variable. For variables that change little over time, and which show their greatest change between units (countries), a fixed effect panel model eliminates all variability between countries and only the effects of small changes over time can be estimated, which significantly dilutes the estimated impact.

Meanwhile, a random individual effect model does allow the inclusion of unchanging variables over time, but estimates using this method would be biased and inconsistent if any of the explanatory variables are correlated with any variable not observed at the individual level (country) that is not included among the model variables, which nearly certainly occurs when working with institutional variables. As a result, the Fixed Effect Vector Decomposition or FEVD method was selected, as introduced by Plumper and Troeger (2007). According to these authors, this method is much less biased than the random effects model, while its properties are better in small samples than other options, such as that developed by Hausman-Taylor (1981).

It is important to note that the results found using this method are quite robust, as both the estimated parameters and their statistical significance are very similar if the econometric model is estimated using feasible generalized least squares (FGLS) with random effects, either controlling for the possibility of error auto-correlation or not.

Furthermore, several indices are built using Principal Component Analysis to summarize the information found in the different indicators that measure very similar or interrelated variables.

Model and data specification

Different variables have been deemed to be factors that determine financial development (credit/GDP), in accordance with the relevant financial literature. The basic specifications of the model are as follows:

$$CREDIT/GDP_{it} = \beta_1 GDP\ GROWTH_{it} + \beta_2 INFLATION_{it} + \beta_3 SPREAD_{it} + \delta_t + u_{it}$$

Where:

$CREDIT/GDP$ is credit to the private sector as a percentage of the GDP of country i in year t.

$GDP\ GROWTH_{it}$ is the GDP growth of country i in the year t.

$INFLATION_{it}$ is the inflation rate in country i in the year t.

$SPREAD_{it}$ is the differential between the interest rate for loans and that for deposits in country i in year t.

The country effect δ_i breaks down into various regulatory and institutional determining factors that vary between countries, but that are invariable over time, plus an unknown country factor or effect ε_i as follows:

$\delta_i = \alpha_1$ *LEGAL FRAMEWORK STRENGTH INDEX$_i$ + α_2 INFORMATION INDEX$_i$ + α_3 PROPERTY RIGHTS INDEX$_i$ + α_4 INFORMALITY$_i$ + α_5 INFRASTRUCTURE$_i$ + ε_i*

Where:

LEGAL FRAMEWORK STRENGTH INDEX$_t$ summarizes two other variables. The first variable is an indicator of the strength of legal rights, which measures the degree to which guarantee and bankruptcy laws protect the rights of lenders and borrowers, thus supporting credit provision. The second variable is a proxy for the ease with which contracts can be enforced. The proxy is the average cost of a legal process seeking to enforce a contract, measured as a percentage of the value of the claim.

INFORMATION INDEX includes data generated by a group of credit information indicators, and measures the coverage, scope, quality and accessibility of credit information available via public and private credit records. This index factors in the following variables: credit quality information index (Doing Business), coverage of private credit bureaus (% of total adult population) and coverage of public data records (% of total adult population).

PROPERTY RIGHTS INDEX includes data from several indicators of how difficult it is to register property. The index therefore measures the ease with which economic agents can legally register recently acquired property to their name. The index factors in the following variables: number of procedures required to register a property, number of days required for registration procedures and the average cost of registration as a percentage of the value of the property subject to registration.

INFORMALITY. Percentage of informal economy in each country.

INFRASTRUCTURE is an indicator of the level of banking infrastructure. As a proxy for said variable we use an indicator made up of coverage of ATMs per inhabitant and by geographic area. Said indicator is the first component of a PCA model with two variables. The first variable is the number of ATMs per 100,000 inhabitants and the second is the number of ATMs per square kilometer.

The variables found in the Doing Business report, the informal economy variable and, more specifically, the new indices built based on the original Doing Business indicators, have been included in the estimate by taking the average of all observations made within each country for the period (1997-2010). This is due to the aforementioned low or even nil time variation in said variables and, in any case, because the country effect is unable to factor in the time effect of these variables. This means the estimated effect of said variables can also be associated with a long-term effect and, thus, the number of usable observations is increased.

A potential problem with the above estimate is the fact that both the levels of informality and banking infrastructure are potentially endogenous with the level of financial development. To check that there is no bias in the above estimate due to the endogeneity of the variables, another estimate is found that includes these variables lagged by one period. In this case, the original institutional variables are used rather than the average, as was the case with the FEVD estimate.

The specification in this case is as follows:

$CREDIT/GDP_{it} = \beta_1 GDP\ GROWTH_{it} + \beta_2 INFLATION_{it} + \beta_3 SPREAD_{it}$ + uit
+ β_4 *LEGAL FRAMEWORK STRENGTH INDEX$_{it-1}$ + β_5 INFORMATION INDEX$_{it-1}$ + β_6PROPERTY RIGHTS INDEX$_{it-1}$ + β_7INFORMALITY$_{it-1}$ + β_8INFRASTRUCTURE$_{it-1}$ + u_{it}*

The data used comes from different sources. The dependent variable comes from the World Bank, while the Inflation and Spread come from the IFS-International Monetary Fund.

Institutional variables such as the index of legal rights for lenders and borrowers, the index of the scope of credit information, the coverage of public credit records, the coverage of private credit bureaus, various contract enforcement indicators, and various property registration indicators are all sourced largely from the Doing Business report published by the World Bank and International Finance Corporation. The ATM coverage data is sourced from the IMF's Financial Access Survey database. The informality variable is sourced from Schneider et al (2010).

Regression Results

Table 12 shows the key results from the estimate found using the three different panel methods detailed in the methodology section. The first column shows the results of the first estimate using the fixed effects vector decomposition FEVD) model. The second and third columns show the results of the same specification, but estimated using the random effects model. The second column uses a simple random generalized least squares effects model while the third column uses a similar model, but allows the model errors to be auto-correlated. In the former case, a robust standard errors estimate is used, while in the latter the heteroscedasticity is modeled by FGLS.

According to the results of the former estimate, the level of financial development depends positively and significantly on the index of credit data (quality and coverage), and positively on the banking infrastructure index, on the strength of the legal framework and the credit information index. Likewise, it depends negatively on the property registration index (costs and difficulty registering a property) and the level of informality. In the estimates shown in columns 2 and 3, the signs of institutional variables coefficients are maintained, as is their significance (with the exception of the legal framework in the second estimate), which confirms the robust nature of the results.

Table 12
Regression results

	Number of obs= 1187	Number of obs = 620	Number of obs = 993
	R2 = 0.9611	R2 = 0.9395	R2 = 0.9569
	R2 adjust = 0.9549784	R2 adjust = 0.9287228	R2 adjust = 0.9501
	F(18, 1025)= 1489.28	F(19, 525) = 453.30	F(19, 855) = 1056.635
	Prob > F= 0.000	Prob > F = 0.000	Prob > F = 0.000

	FEVD	FGLS (Random Effects)	FGLS (Random Eff. With R(1))
Inflation	0.0295	-0.0051	-0.0206***
	(0.541)	(0.726)	(0.004)
Credit-Deposits Spread	-0.3883	-0.4122	-1.0986***
	(0.263)	(0.255)	(0.000)
GDP Growth	0.0001	0.0001**	0.0010
	(0.969)	(0.025)	(0.152)
Ind. Credit Information	4.1541*	5.8563*	4.5048***
	(0.064)	(0.055)	(0.000)
Ind. Property Registration Costs	-3.8700	-2.6738	-3.8192***
	(0.159)	(0.107)	(0.000)
Index of Legal Framework Strength	5.1638**	2.1614	1.4420***
	(0.043)	(0.317)	(0.005)
Informal economy	-0.9454***	-0.6718**	-0.7551***
	(0.000)	(0.014)	(0.000)
Banking Infrastructure	24.7469***	33.7967***	30.9965***
	(0.000)	(0.000)	(0.000)
Constant	16.38256***	83.7548***	90.9279***
	(0.000)	(0.000)	(0.000)

Source: BBVA Research

As an additional test of their robustness, also assessed were the effects of including the original variables of the Doing Business Report without summarizing them in the new indices built using principal component analysis. This meant the replacement of the indices that were constructed using PCA analysis for each individual variable included in each index. Although the results of each exercise are not detailed in this report, the estimated coefficients in practically every case showed the anticipated significance and sign.

Estimated potential improvements for determining factors behind credit as a percentage of GDP

To estimate the effect had by some of these potential reforms on institutional factors, the coefficients found using the econometric model are used. Given that some of the explanatory variables introduced in the model are made up of other variables weighted according to a PCA assessment, in this section we show a breakdown of indices and how they would vary if the underlying variables were changed.

To calculate how far the credit/GDP ratio might increase if the independent variables are changed, we use as our criteria the potential improvement to the highest value of each institutional variable among Latin American countries. If Peru has the best value among Latin American countries, then the average of the entire sample or the best possible value for the variable is used, depending on which of the two represents an improvement against the current value for Peru.

Working Paper
Madrid, December 2012

It is important to note that both the statistical model estimate and the estimate performed for the impact had by regulatory or institutional changes ignore the endogenous nature of financial development and/or economic growth. For example, the estimated impact had by reforms on institutional variables could have a downward bias, as changing these variables does not only lead to a change in the level of banking credit, but the increase in credit could also have an additional impact on the level of economic development (GDP per capital), which, in turn, has a positive impact on credit penetration.

Changes to the Quality and Coverage of Credit Data

The information indicator used for the analysis is a synthetic index that groups together three other variables from the Doing Business report. In 2010, Peru's Data Quality index score was equivalent to 6 points, on a scale with a maximum 6 point score. On the other hand, the critical variable for Peru is the coverage of private credit bureaus, which stands at just 31.8%, while the public records show coverage of 23%. These three indicators give Peru a score of 1.89 on our synthetic data index, according to the weightings for the Data index shown in Table 13 and Table 14. The country with the highest index score in the sample is Malaysia, with a score of 3.71, while Chile has a score of 1.906.

It is important to note that Peru has the highest possible score on the Doing Business Data Quality Index, and therefore this indicator cannot be improved. However, if the coverage of private credit bureaus in Peru was increased from 31.8% to a value matching that of Uruguay, which has the highest coverage in the region at 97%, then Peru's score on the synthetic index would increase to 3.221. This would increase the country's credit/GDP ratio by 5.52 points of GDP, as shown in Table 14, using the first specification coefficients of the regression model (first column of Table 12). In this first specification, the marginal effect of the synthetic data index is 4.15.

Meanwhile, if the coverage of public information records is increased from the current 23% to a level similar to the country with the largest coverage in Latin America, Ecuador (37%), then banking credit would increase by close to 1.698% of GDP.

Finally, if Peru manages to improve private and public coverage at the same time, its credit/GDP ratio would increase by 7.28 points (banking credit would increase by 7.28% of GDP) in the "High" reforms scenario.

In Table 15 we perform the same exercise, but assuming a "Central" reforms scenario. In this scenario, if Peru's private and public coverage increased to average levels for the sample (64.3%) and to Ecuador's level (37%) respectively, the credit/GDP ratio would increase by 4.48 points of GDP.

Table 13
Composition of the Data Index

Data Index	Weight in the index
Information Quality Index	0.701
Coverage of Private Bureaus	0.632
Coverage of Public Records	0.330

Source: Doing Business and BBVA Research

Table 14
Increases in the credit/GDP ratio due to improvements to the Information Index. Positive Scenario

Increases due to information improvements	Value 2010 Variable	Value Improvement	Value Information Index	Change Credit/GDP
Value Peru 2010 Index			1.8915	
Information Quality Index	6	6	1.892	0.000
Coverage of Private Bureaus	31.8	97	3,221	5.523
Coverage of Public Records	23	37	2,300	1.698
Quality and Coverage of Private Bureaus			3,644	7.282

Source: Doing Business and BBVA Research

Table 15
Increases in the credit/GDP ratio due to improvements to the Information Index. Central Scenario

Increases due to information improvements	Value 2010 Variable	Value Improvement	Value Information Index	Change Credit/GDP
Value Peru 2010 Index			1.8915	
Information Quality Index	6	6	1.892	0.000
Coverage of Private Bureaus	31.8	64.3	2.547	2.722
Coverage of Public Records	23	37	2.300	1.698
Quality and Coverage of Private Bureaus			2.970	4.481
Improvements to all indicators			2.970	4.481

Source: Doing Business and BBVA Research

Chart 35
Reforms on credit information variables
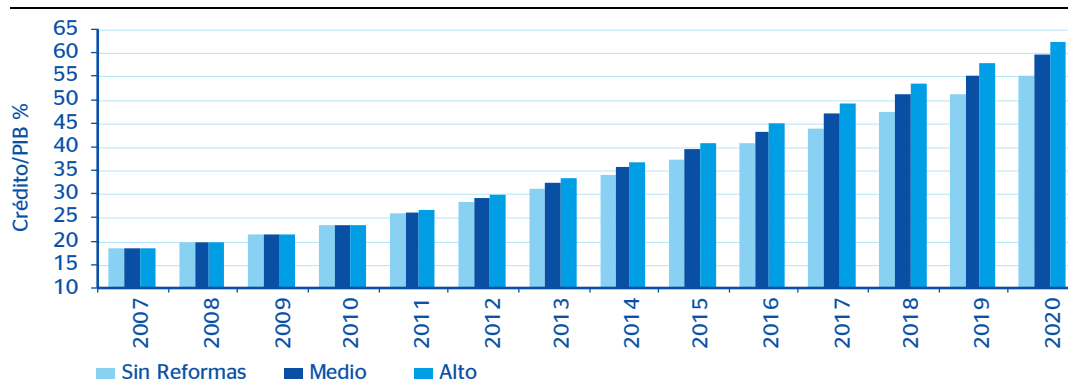
Source: BBVA Research

Changes to the strength of the legal framework: Reduction in contract enforcement costs and strengthening of the legal rights of creditors and borrowers.

The synthetic index of Legal Framework Strength used in the analysis is made up of two underlying variables sourced from the Doing Business report. According to said information for Peru, in 2010, the cost of enforcing a contract via legal channels stands on average at 35.7% of the total claimed. Likewise, Peru provides high levels of protection to lenders and borrowers, with a score of 7 out of 10. The world's highest levels of protection are found in Malaysia and Hong Kong, which both have scores of 10, while the highest level of protection in Latin America is found in Guatemala, with 8 points.

These two indicators give Peru a total score of 0.50 on our synthetic index for legal framework strength, according to the variable weightings detailed in Table 17. The higher the score on the index, the easier it is to enforce a contract by legal proceedings, and thus the more protection

there is for lenders and borrowers in a credit contract. The country with the best score in the sample is Hong Kong, with a score of 1.8, followed by Poland and Singapore with 1.7 and 1.64 respectively. The Latin American country with the best score is Guatemala, with a score of 1.03. Peru is the second-placed Latin American country, with the priority being to increase the legal protection provided to creditors rather than lowering the cost of enforcing a contract, as this last variable is already at quite a low level.

If Peru reduced the cost of enforcing a contract from 35.7% to 16.5% (the lowest level in the region, recorded by Argentina), Peru's score on the synthetic index of legal framework strength would improve to 0.993, meaning the credit/GDP ratio would increase 2.6 points of GDP, according to the first specification coefficients of the regression model (first column of Table 12). In this first specification, the marginal effect of the synthetic legal framework strength index is 5.17.

Meanwhile, if Peru implements legal reforms that improve the protection provided to creditors and lenders to levels seen in Guatemala (which recorded an increase from 3 to 8 between 2008 and 2010), credit would increase by 1.5 percentage points of GDP. If it manages to increase the index score to 10 points (positive scenario), credit would increase by 4.5 points of GDP.

Finally, if Peru implements legal reforms to improve both legal rights and reduce the cost of enforcing contracts, the credit/GDP ratio would increase by between 4.05 and 7.1 points of GDP in the central and positive scenarios, respectively.

Table 16
Composition of the index of legal framework strength

Index of Legal Framework Strength	Weight in the Index
Strength of Legal Rights for Creditors/Lenders	0.71
Cost of enforcing compliance with a contract	-0.71

Source: Doing Business and BBVA Research

Table 17
Increases in the credit/GDP ratio due to improvements in the Index of Legal Framework Strength

Increase due to legal framework improvements	Value 2010 Variable	Value Improvement	Value Legal Framework Index	Change Credit/GDP
Value 2010 Index			0.50	
Legal Rights Index (Central Scenario)	7	8	0.79	1.50
Legal Rights Index (Positive Scenario)	7	10	1.38	4.53
Costs of a suit as a percentage of the claim	35.7	16.5	0.99	2.54
Change to both indicators (Central)			1.29	4.05
Change to both indicators (Positive)			1.87	7.09

Source: Doing Business and BBVA Research

Chart 36
Reforms to the legal framework: enforcing contracts and legal rights
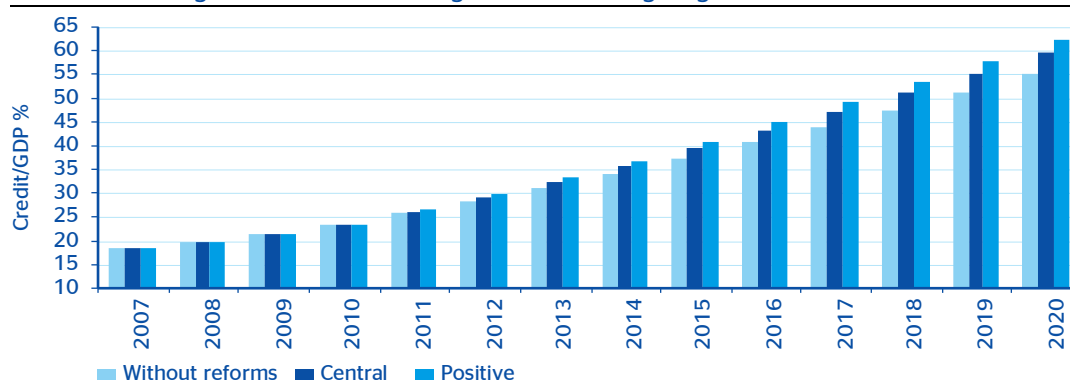
Source: BBVA Research

Changes to procedures, time and costs of registering property

As in the two above cases, the synthetic index for property registration used in the analysis is made up of three underlying variables sourced from the Doing Business report. According to said report, in 2010, a total of 4 procedures were required in Peru to register a property (home). These procedures require an average 14 days to process. This means the cost of registering a property is an average of 3.3% of the total value of the property.

These three indicators give Peru a score of -1.215 on our synthetic property registration index, according to the weightings for the variables shown in Table 18. The higher the index score the more difficult it is to register a property. The average for the sample is zero and the country where it is easiest to register a property is the United Arab Emirates, with a score of -2.1456. The Latin American country where the difficulty is the lowest is Guatemala, with a score of -1.356, followed by Peru and Chile with -0.8236.

Given that the property registration scores for Peru are among the best in Latin America, the only critical variable in this aspect would be to reduce the cost of registering a property. If Peru manages to reduce this cost from the current 3.3% to the 1.3% recorded by Chile, the property registration index would shift to -1.440 (the best in the region) and the credit score would increase by 0.87% of GDP, as shown in Table 19.

Table 18
Composition of the index of property registration

Property Registration Index	Weight in the index
Number of Procedures	0.604
Days required	0.587
Cost of registration as a percentage of the property value	0.540

Source: Doing Business and BBVA Research

Table 19
Increases in the credit/GDP ratio
due to improvements to the property registration index. Central Scenario

Increase due to improvement in property registration	Value 2010 Variable	Value Improvement	Property Registration Index Value	Change Credit/GDP
Value Peru 2010 Index			-1,215	
Number of Procedures	4	4	-1,215	0.000
Days required	14 days	14 days	-1,215	0.000
Cost of registration as a percentage of the property value	3.3%	1,3%	-1,440	0.87
Improvements to all indicators			-1,440	0.87

Source: Doing Business and BBVA Research

Improvements in banking infrastructure

Finally, the institutional variable with the greatest impact on the degree of financial development is the level of banking infrastructure. As a proxy for banking infrastructure, we use the coverage of ATMs. Peru has a mid- to low-coverage level. The banking infrastructure index that we use is comprised of coverage of ATMs in terms of population (ATMs per 100,000 inhabitants) and in terms of geographic area (ATMs per 1000 km^2). In 2009 Peru had 22.3 ATMs per 100,000 inhabitants and 3.5 ATMs per 1,000 square kilometers, with 4,500 ATMs operating in the country.

The central and positive scenarios in this case are as follows:

As a central scenario we use the average value (50th percentile) of the increase in the ratio of ATMs per one hundred thousand inhabitants in the last 10 years. As the positive scenario we use the 75th percentile of the increase in the ratio of ATMs per one hundred thousand inhabitants in the last 10 years. In the sample of countries assessed, there are cases such as Moldavia, which saw its ratio of ATMs per 100,000 inhabitants increase from 36 in 2004 to 236 in 2009. The United Arab Emirates and Macau also increased their ratios by close to 80 points in 5 years.

The average increase in the coverage of ATMs in the sample (over 10 years) is 12.4 points. Therefore, if we take this value as the central scenario, the ratio of ATMs per 100,000 inhabitants would increase from 22.3 in 2009 to 34.7 in 2020. If we assume that this change occurs, as well as a constant annual population growth rate of 1.2%, the ratio of ATMs per 1000 km^2 would grow from 3.5 in 2009 to 6.2 in 2020. Based on these changes to infrastructure ratios, our banking infrastructure ratio would shift from -0.416 to -0.211, leading to an increase of 5.1 points of GDP, as shown in table 21.

The 75th percentile of the increase in ATM coverage seen in the sample (over 10 years) is 32.7 points, which is used as the positive scenario. In this case, the ATM ratio per 100,000 inhabitants in Peru would rise from 22.3 in 2009 to 54.9 in 2020. As a result, the ratio of ATMs per 1000 km^2 would increase from 3.5 in 2009 to 9.8 in 2020. Based on these changes to the infrastructure ratios, the increase in the positive scenario would be 12.4 points of GDP (see table 21).

Table 20

Composition of the banking infrastructure index (ATMs)

Banking Infrastructure Index	Weight in the Index
ATM per 100,000 inhabitants	0.71
ATMs per 1000 km^2	0.71

Source: The Financial Access and BBVA Research

Table 21

Increase in Banking Infrastructure (ATM coverage)

Increase due to improvement in banking infrastructure	Value 2010 Variable	Value Improvement	Value ATM Coverage Index	Change Credit/GDP
Value 2010 Index			-0.416	
Central Scenario				
ATM coverage per 100,000 inhabitants	22.3	34.7	-0.212	4.696
ATM coverage per 1000 km^2	3.5	6.2	-0.400	0.036
Total Central Scenario			-0.211	4.732
Positive Scenario				
ATM coverage per 100,000 inhabitants	22.3	54.9	0.096	12.329
ATM coverage per 1000 km^2	3.5	9.8	-0.398	0.083
Total Positive Scenario			0.100	12.412

Source: The Financial Access and BBVA Research

Chart 37
Reforms to banking infrastructure
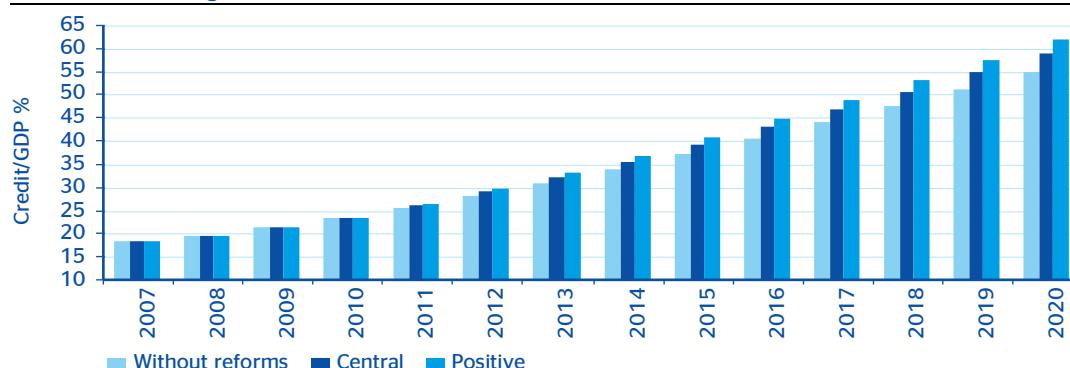
Source: BBVA Research

Summary of impacts on financial development (Credit/GDP) from potential reforms

In 2010, Peru's credit level as a percentage of GDP was 29.7%. If reforms are introduced for all of the institutional variables studied here, putting each variable at the level established in each scenario, the long-term impact on credit levels will be significant.

According to BBVA Research estimates, if Peru failed to carry out any reforms, then the estimated credit level would go from 29.7% of GDP in 2010 to 51% of GDP in 2020, thanks to the demand created by economic growth and convergence factors as part of financial development. In 2010, there was a credit gap as a percentage of GDP of 64.4% between Peru and Chile, the most financially developed country in Latin America. If no reforms are carried out in either of the two countries, development and economic growth in each country would see the financial development gap between the two countries shrink to 62.6% of GDP (55% in Peru and 117.6% in Chile).

But if Peru successfully implements all improvements to the institutional and regulatory variables seen here, the country's credit/GDP ratio could increase from 14 to 28 points in the central and positive scenarios, respectively, putting said ratio at 65 and 78.6 points for each scenario in 2020. Based on the "Positive" scenario, the appropriate reforms could put bank credit penetration at similar levels to South Korea in 2009 (79%), Panama in 2007 (78.5%) or Thailand in 2008 (77.9%). While in the "Central" scenario the reforms would put credit penetration levels at similar levels to Chile in 1999 (65.5%), Bulgaria in 2008 (66%) or the Czech Republic in 1997.[35]

Table 22
Impact of improvements on all variables

|	Impact of improvements on all variables
Credit/GDP Peru 2010	29.7
Credit/GDP Chile 2010	94.1
Level reached by Peru in 2020 without reforms	50.9
Level reached by Chile in 2020 without reforms	117.6
Long-term impact had by reforms on all indicators, Central Scenario	+14.04
Long-term impact had by reforms on all indicators, Positive Scenario	+27.65
Level reached by Peru in 2020, Central Scenario	65.0
Level reached by Peru in 2020, Positive Scenario	78.6

Source: BBVA Research

35: Not taking into account the endogenous effect that financial development might have on the country's economic development.

Chart 38
Impact of reforms on all variables

Chart 39
Forecast credit/GDP based on assumptions

Source: BBVA Research
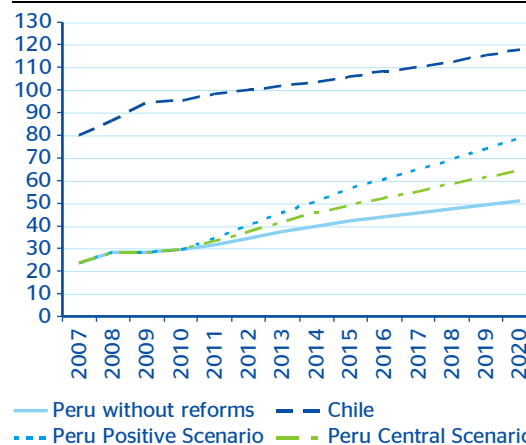
Source: BBVA Research

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