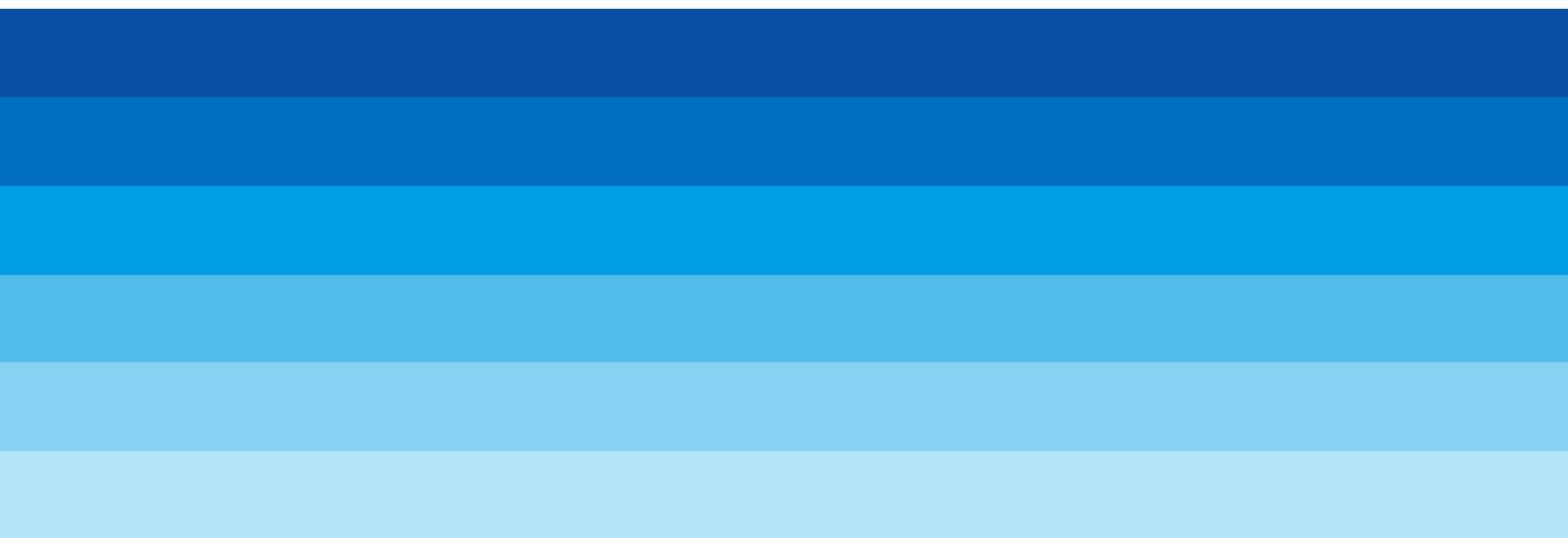


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Banking penetration in Uruguay

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Economic Analysis



Banking penetration in Uruguay¹

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Abstract

In recent years, financial depth ratios in Uruguay have trended upwards, although without reaching the levels seen prior to the crisis at the start of the century. The ratio of credit to GDP in 2010 was near 18%, while the ratio of deposits exceeded 33%. However, Uruguay is still lagging behind the regional average, above all in the ratio of credit to GDP, and it is even behind a number of countries with lower levels of per capita income.

By segments, credit for household consumption in Uruguay falls far short of the levels observed in more developed countries like Chile (11% of GDP) and Brazil (15% of GDP), as such credit amounts to only 3% of GDP. The segment of mortgage loans is a bit more developed - although still at low levels - at 7% of GDP. A more significant lag can be seen in corporate credit, which amounts to only 12% of GDP, whereas in countries like Chile or Brazil, it amounts to 52% and 26% of GDP, respectively. Moreover, although access to financial services in Uruguay stands at approximately the regional average, banking infrastructure - particularly in terms of ATMs and POS - is below the average of Latin America, as is the use of electronic means of payment.

The underlying thesis of this study is that banking institutions must assume the role of leading a serious process of increasing banking penetration in the country. From a broad technical perspective, an understanding exists of the role played by certain non-bank financial institutions, such as savings banks, mutual societies, cooperatives and non-governmental organisations, in reaching specific population segments. **However, such non-bank institutions face a number of structural limitations in becoming agents for change in a banking penetration process, such as the financing capacity and cost, economies of scale, development in risk management, professional staffing and broad supervision by regulatory bodies, among others.**

Our report discusses cases such as those of **China, Bangladesh and India**, where significant efforts have been made to develop non-bank institutions to deepen the coverage of financial services, but which ultimately face a number of obstacles. **Nor should we forget the financial failures of such non-bank institutions in Latin America. Even recent experiences in Europe (such as Spain and its savings banks) show that the risks of such institutions always make themselves felt when they become too large.**

Hence, this analysis has sought to provide recommendations for driving deepening banking in Uruguay, focusing on both institutional factors and those inherent to the banking sector that condition the development of savings and credit markets.

With regard to the institutional environment, two measures are identified that would benefit the banking penetration process of the country: strengthening the scope of information to which risk centres have access and reducing the time and cost of registering properties and guarantees. Development of the institutional pillar is essential for assuring creditors that borrowers will repay loans.

Factors intrinsic to the banking sector include measures to boost access of lower income segments to financial products and services. Options are considered to enable individuals to

1: This document was discussed on November 14, 2011 in a banking seminar organized by the Central Bank of Uruguay. The authors are grateful to Adolfo Albo, Alicia Garcia Herrero, Hugo Perea, Jorge Sicilia and Ana Rubio, for the detailed comments and suggestions as part of the review committee of this work. Special recognition to the support of BBVA Uruguay through Jose Manuel de la Cruz, Rafael González Moya and his staff directors who helped make this work possible. The work was valuable feedback through interviews with Julio de Brun of the Association of Private Banks of Uruguay, Bruno Gilli, Alejandro Pinto, Rafael Rodriguez Diego Mantero and CPA-Ferrere, Martin Vallcorba of the Ministry of Economy, Pablo Bazerque of the Commission, Pablo Roselli and Florencia Carriquiry of Deloitte Uruguay and Jorge Ottavianelli and Rosario Patrón of the Superintendent of Financial Services, also appreciate the comments and suggestions of Diego Torres and Javier Alonso at different stages of this research. The views expressed in this study are solely those of the authors and in no way subscribe to the position of the institution to which they are affiliated.

deepen their use of the banking system to meet their transactional needs, such as making it **mandatory for employers to pay wages through the financial system** or implementing "**low cost automatic enrolment accounts**". Both measures would be strengthened by proposals for tax incentives for **payments made with debit cards through VAT discounts**, and by promotion of the **banking correspondent model**.

Given the wide margin for expanding corporate credit, it is important to incentivise the penetration of loans to MSMEs, as the vast majority of the 114,000 enterprises in Uruguay are small and medium-sized and nearly a third of them do not use banking services. Bank financing could enhance enterprises' productive capacity and help grow their business and profitability, thus incentivising greater formalisation. One way of beginning to provide financing to these enterprises might be factoring, as financing through discounts on trade invoices is commonly known.

One important item to be discussed as part of a comprehensive reform is the **high costs borne by the banking sector in Uruguay**, as the consequence of regulations that directly affect it. Several studies - particularly, a recent one by the International Monetary Fund (2011) - indicate that labour costs have the largest impact on the banking sector's financial results. The same report points out that this factor has limited the potential for growth of the banking sector in Uruguay and incentivised the appearance of non-bank financial intermediaries that are subject to less stringent regulation than the banking sector. Thus, it is important for the country's lawmakers to bear in mind these problems and be aware of the risk that such "extra costs" will limit the capacity of the banking sector to expand its services to broader segments of the population.

According to the estimates of BBVA Research based on a statistical model of credit growth and potential economic growth, if Uruguay makes no reforms, the level of credit would increase from 18% of GDP² in 2010 to 32.5% of GDP in 2020, owing to the demand generated by growth of the economy and to factors of convergence in financial development. The recommendations set forth in this study are conceived to be implemented jointly. It is estimated that in a conservative scenario, implementation of the proposals will lead to banking penetration, measured as the credit-to-GDP ratio, of 53.9% of GDP in the next ten years, whereas in a more optimistic scenario, it could exceed 68.4%. **The foregoing is without taking into account the impact of other measures that could contribute to reducing informality in Uruguay. Hence, the impact could surpass 76% in a best-case scenario.**

Keywords: banking penetration, financial inclusion, banking coverage.

JEL: B26, G2, G21, G28, G32.

2: The model of estimation used in the study is based on the credit-to-GDP ratio of 2009 owing to the availability of information on other variables used in the methodology described in the appendix.

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

Uruguay is one of the Latin American countries to have shown a significant upward trend in economic growth, while also successfully overcoming both regional and worldwide crises in the last ten years. Its advance has been boosted by reforms that have provided greater macro-economic stability. However, a series of aspects still need improving, and these are important for strengthening the country's future growth and sustainability. One of these is financial depth.

The economics literature has highlighted the importance of broad access by the population to the products and services offered by banks in order to foster savings and facilitate investment and commercial activities, and to strengthen economic growth. Further, it is a channel through which the authorities can reduce the volatility of the GDP.

There are a number of reasons for this:

- Financial institutions reduce the costs of identifying the most profitable projects and of monitoring their development. They also diversify savers' risk by placing lendable funds in projects in different economic sectors. Hence, they incentivise savings by channelling funds towards attractive investments with a lower risk. Greater savings means larger sources of financing for investment, which favours the accumulation of capital and, thus, growth.
- Banks provide the liquidity that investors need, thus reducing the rate at which productive projects are halted owing to temporary problems. This means greater investment, greater accumulation of capital and, consequently, greater growth.
- The financial system widens the range of payment means, which facilitates transactions. This drives commerce and economic activity.
- It boosts the effectiveness of monetary policy, favouring the implementation of countercyclical policies and the attainment of macroeconomic stability.

The financial system in Uruguay, however, according to a number of measures, is lagging behind the rest of Latin America, even if differing income levels per inhabitant are taken into account. In other words, the country has failed to take advantage of the opportunities of financial depth to bolster the growth of activity. What is to be done? How can this process be driven forward? The object of the following chapters is to describe the situation in Uruguay in terms of banking penetration and then, on this basis, make recommendations to help gradually improve the population's access to the products and services offered by banks.

2. The degree of banking penetration in Uruguay: the starting point

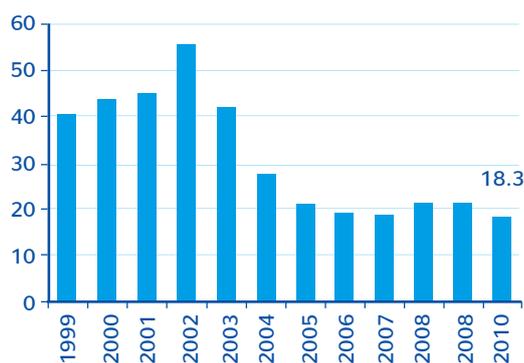
This chapter uses indicators of **financial depth** (aggregate credit- or deposit-to-GDP ratios) and **access to financial services** (percentage of the adult population that actually uses financial products and the development of the infrastructure through which such services are provided) to measure deepening banking in Uruguay. Given that *non residents* hold a significant share of total deposits in the Uruguayan banking system, we have excluded them in order to achieve a more precise measure of the banking penetration of the resident population.

Financial depth in Uruguay and international comparison

Two indicators that measure financial depth are ratios of credit to GDP and of deposits to GDP.

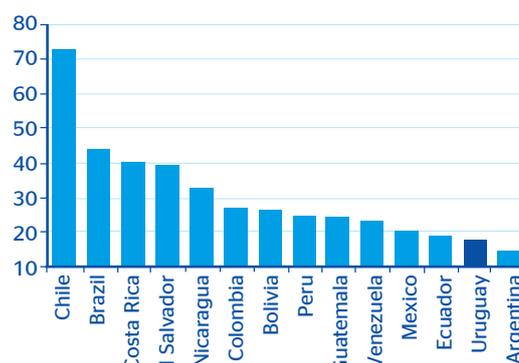
The **credit-to-GDP** ratio of Uruguay was relatively high in regional terms prior to the 2002 crisis, in which banks restricted the credit supply owing to the fall in deposits. As the strong economic growth of recent years was not accompanied by a similar expansion in loans, the ratio declined to 18% of GDP in 2010.

Chart 1
Uruguay: credit to resident private sector as share of GDP



Source: Banco Central de Uruguay

Chart 2
Latam: credit to private sector as share of GDP



Source: FELABAN

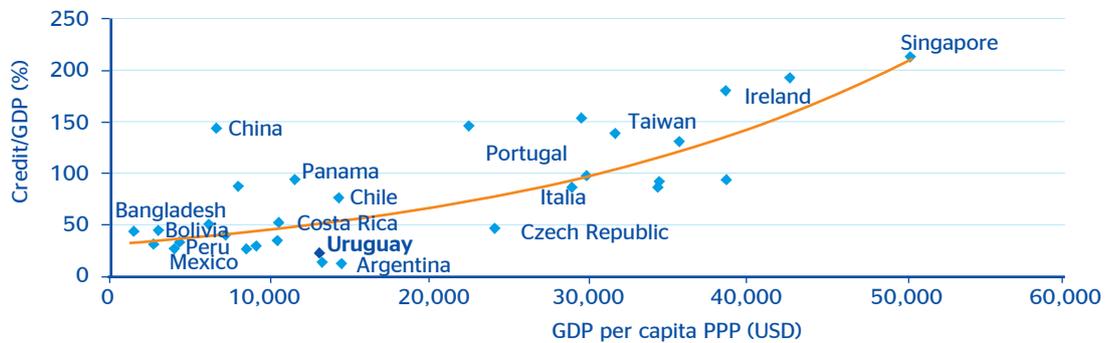
The level of credit penetration of Uruguay is currently one of the lowest in the region, surpassing only Argentina and far below that of first-ranked Chile, which has a ratio greater than 60% in terms of commercial banks alone, and more than 70% if we include other specialised credit institutions.

However, since 2005, there has been broad growth in Uruguay in the role of non-bank lenders, such as *OCA*, *Pronto!*, *Creditel*, *Así*, etc. Such institutions had granted credit - mainly for consumption - of approximately 670 million USD by mid-2010³. However, even if we include this financing, the credit-to-GDP ratio would amount to 22.5%, which is still below regional averages.

Credit penetration in Uruguay falls short of some countries with lower per capita income. This suggests that if this variable were controlled for, the credit-to-GDP ratio in Uruguay should be far higher, nearer to 50%.

3: According to estimates in the paper presented in the Third National Congress of Consumption, Payments and Recoveries "Acercar el horizonte: El panorama macroeconómico y el progreso al consumo" Pablo Rosselli, Deloitte.

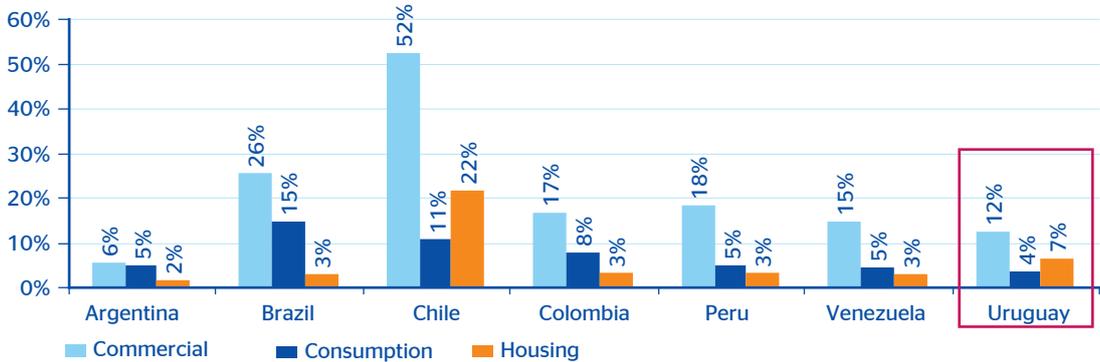
Chart 3
GDP per capital and credit from financial system (% of GDP)



Source: The Financial Access 2010

By credit type, the biggest gap with the rest of the region is seen in corporate credit (12% of GDP), while the mortgage segment is relatively better developed (7% of GDP), surpassed only by Chile's 22%. Consumer loans are slightly below the average of the seven largest countries of Latin America, but they are considerably lower than those in the most developed markets, such as Brazil and Chile.

Chart 4
Uruguay: credit by segments as % of GDP: international comparison

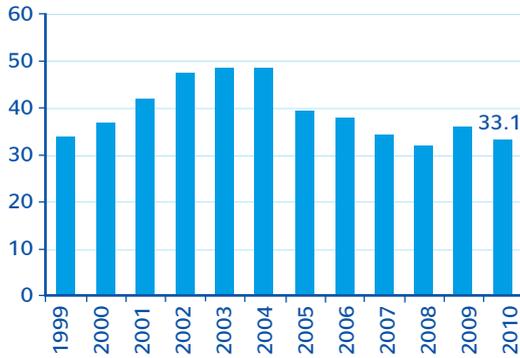


Source: BBVA Research

The ratio of **private sector deposits to GDP** now stands at 33%, 10 points below the level seen prior to the 2002 crisis, thus showing that the effects of the crisis have not yet fully subsided.

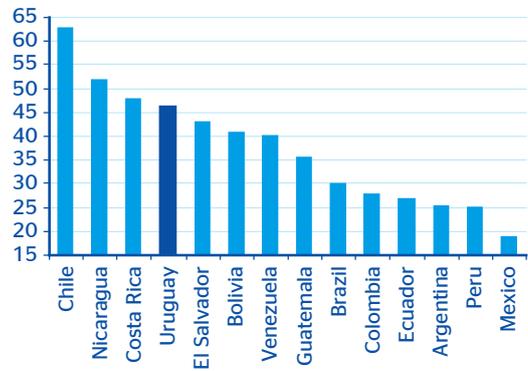
In relative terms, the post-crisis deterioration is lesser than in credit, which suggests the existence of specific factors unrelated to lack of funding that impede greater credit development. If non-resident deposits are included (see chart 2.6), the deposit ratio stands among the highest in the region.

Chart 5
Uruguay:
resident private sector deposits as share of GDP



Source: Banco Central de Uruguay

Chart 6
Latam: private sector deposits as share of GDP
(residents + non-residents)



Source: FELABAN

Uruguay is relatively well positioned in the deposit-to-GDP ratio, as it ranks fourth in a broader sample of Latin American countries, in which Chile again stands out with the best deposit-to-GDP ratio.

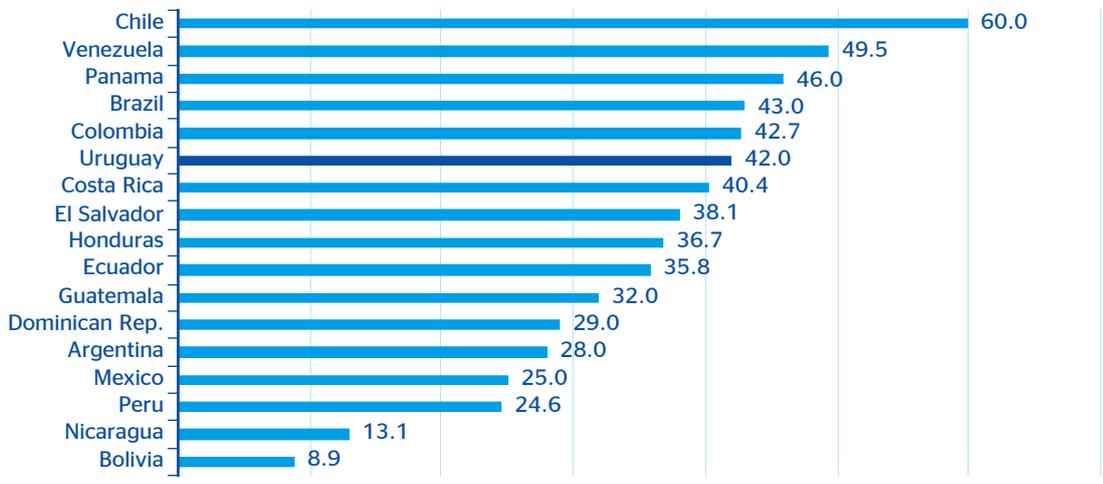
Access to financial services

The level of access to financial services is measured with two indicators: (i) percentage of the population that uses some type of financial product (credit cards, savings accounts, personal loans, among others) and (ii) development of the infrastructure through which such services are provided (branch offices, the number of ATMs and POS).

(i) Access to financial products

In relative terms, according to the information provided by Rojas-Suárez (2007) based on the FELABAN, the population's access to banking services in Uruguay stands at a midway level, among the first 6 countries in the region, as 42% of the population are bank clients (59.6% in Montevideo and 21% in the interior), which is near Brazil's 43%, although far short of Chile's high of 60%.

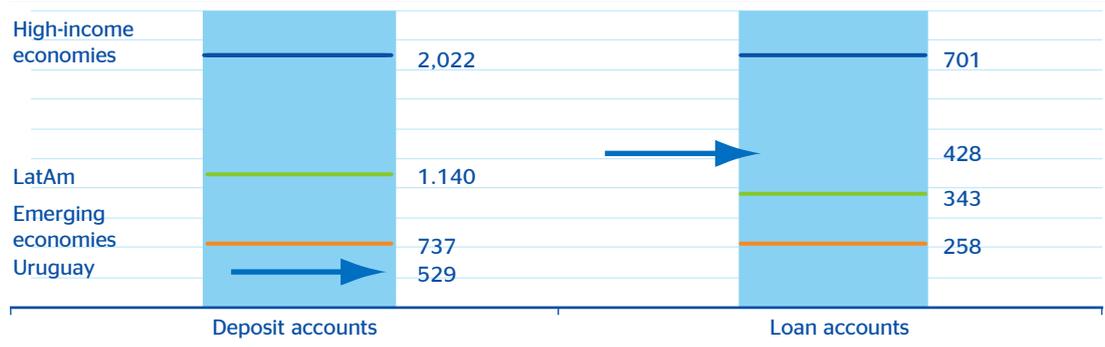
Chart 7
Indicator of population access to banking services



Source: Rojas Suárez (2007)

According to the information of Financial Access 2010, if we measure the number of loans for every 1,000 adults, Uruguay is better positioned than the mean in Latin America and the rest of the emerging economies. However, the number of savings accounts for every 1,000 adults is below the average not only in Latin America, but also below the average of other emerging economies.

Chart 8
Number of accounts with commercial banks (every 1,000 adults)



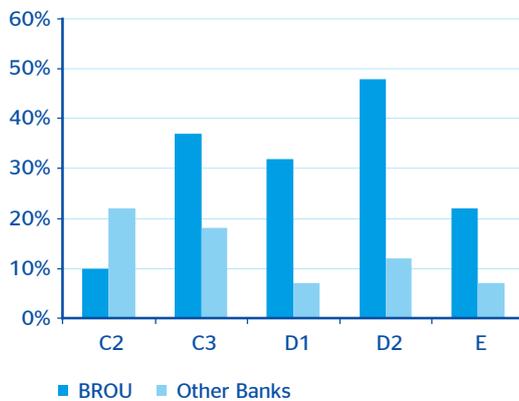
Source: The Financial Access

A breakdown of the data by income family levels shows that lower income sectors have the lowest level of banking penetration. According to 2009 figures⁴, only 20% of families in segments C2 and C3 were paying off a credit in a private bank, while in segments D1 and D2, the level was 10% and in segment E the proportion fell to 5%.

The population in the three lowest income brackets in Uruguay (D1, D2 and E) represents more than two thirds of the inhabitants of the country. This is important because non-bank financial institutions have achieved greater credit penetration in such segments. According to market surveys⁵, credit penetration through non-bank institutions reached more than 70% of segment D1, more than 50% in segment D2 and more than 60% in the poorest segment, E.

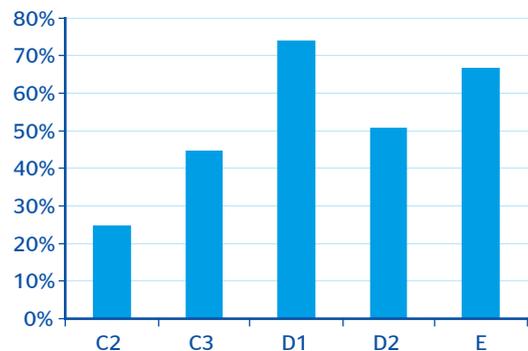
However, non-bank institutions' large share of the credit market is not reflected in business volume, as the most lower income individuals become indebted in small amounts⁶, which increases the cost of granting loans and of debtor follow-up.

Chart 9
Uruguay: percentage of respondents with outstanding credit in banking institutions



Source: Pablo da Silveira on Mercoplus data

Chart 10
Uruguay: percentage of respondents with outstanding credit in non-bank institutions



Source: Pablo da Silveira on Mercoplus data

4: Pablo Rosselli in Mercado de Crédito a las Familias. Presentation

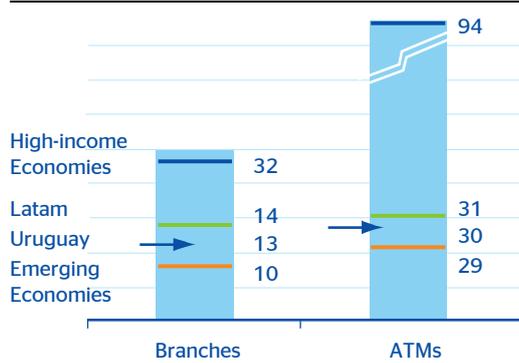
5: Pablo Da Silveira, Llevando el crédito a la población no bancarizada (2010) and Mercoplus (2009)

6: The banking sector, accounting for more than 70% of the money which is in the business of consumer credit, serves higher income sectors.

(ii) Development of infrastructure for provision of financial services

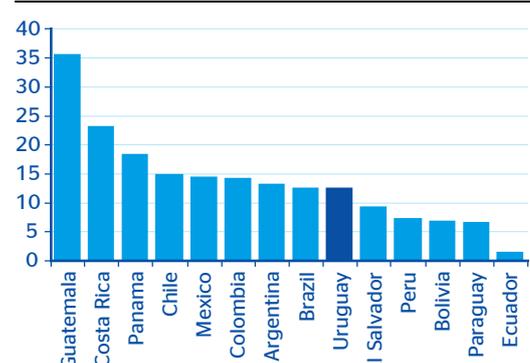
The physical infrastructure of the Uruguayan banking system presents certain deficiencies, as it has 13 branch offices for every 100,000 adults, which is below the regional average.

Chart 11
**Infrastructure: global comparison
(every 100,000 adults)**



Source: The Financial Access 2010

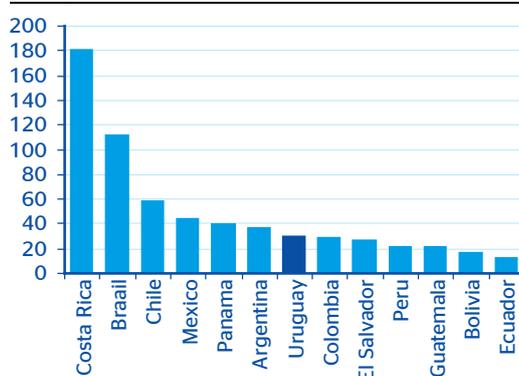
Chart 12
**Uruguay: number of branch offices
(every 100,000 adults)**



Source: The Financial Access 2010

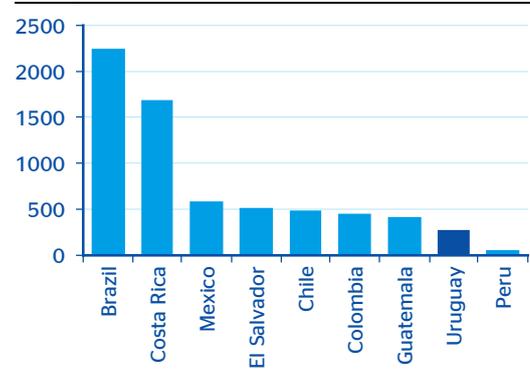
Differences with other Latin American countries are more notable in the number of ATMs and POS, as Uruguay's indicators are below the average and far below the rates of Brazil, the country with the best such infrastructure.

Chart 13
**Uruguay: number of ATMs
(every 100,000 adults)**



Source: The Financial Access 2010

Chart 14
**Uruguay: number of POS
(every 100,000 adults)**



Source: The Financial Access 2010

Geographically, the greatest financial depth is concentrated in the capital and the south of the country, and it drops off towards the north.

Table 1:
Banking system infrastructure. June 2010

Province	No. Branch Offices	No. Branch Offices /10,000 inhab.	Level of Bancarisation (1)	Workers not registered in social security (%) (2)
Artigas	6	0.8	182	48.8
Canelones	28	0.6	202	36.8
Cerro Largo	5	0.6	165	49.5
Colonia	24	2.0	412	31.1
Durazno	7	1.2	244	39.0
Flores	4	1.6	313	34.3
Florida	5	0.7	235	33.3
Lavajella	6	1.0	237	34.8
Maldonado	20	1.4	476	34.6
Paysandú	8	0.7	260	33.7
Río Negro	9	1.7	267	32.5
Rivera	6	0.6	186	53.0
Rocha	8	1.1	298	44.3
Salto	10	0.8	261	42.5
San José	6	0.6	211	38.8
Soriano	12	1.4	283	39.9
Tacuarembó	10	1.1	280	41.3
Terinta y Tres	5	1.0	210	40.3
Interior Total	179	0.9	257	38.8
Montevideo	145	1.1	731	30.0
Country Total	324	1.0	451	35.0

1: No. resident clients for every 1,000 inhabitants.

2: 2006, EN HA - INE.

Source: Boletín de Estabilidad Financiera, Banco Central de Uruguay based on INE data

The regions with lower bank deepening include Artigas, Cerro Largo and Rivera, all of which have a smaller physical network of branch offices. The banking penetration gap is sharper in less economically developed regions, where the degree of labour market informality is also higher.

The case of payment networks

In Uruguay, a large portion of the transaction services provided by the banking system, unlike in other countries, are covered by networks of small businesses that make collections and payments. The so-called "payment networks", such as Abitab and Red Pagos, channel some 49% of the transactions of the retail payment system, with credit cards (39%) and cheques (9%) second and third, respectively.

These enterprises have an extensive network of some 800 branch offices throughout the country, with longer public opening hours that make them the first choice for payment of public utility bills, payments to suppliers and payments of subsidies and pensions. They mainly receive payments in cash from the public and transfer the sums collected to public and private entities through cheques, thus eroding incentives for the public to use electronic and banking systems. They also transfer money between different places in the country, allowing people to send sums to distant geographic areas.

Limits to credit development

The preceding section shows that levels of deepening banking, both in terms of credit penetration and in access to financial services, are still low in Uruguay and have substantial potential for growth. In order to define areas in which action can be taken to increase the degree of banking penetration, three groups of factors are used.

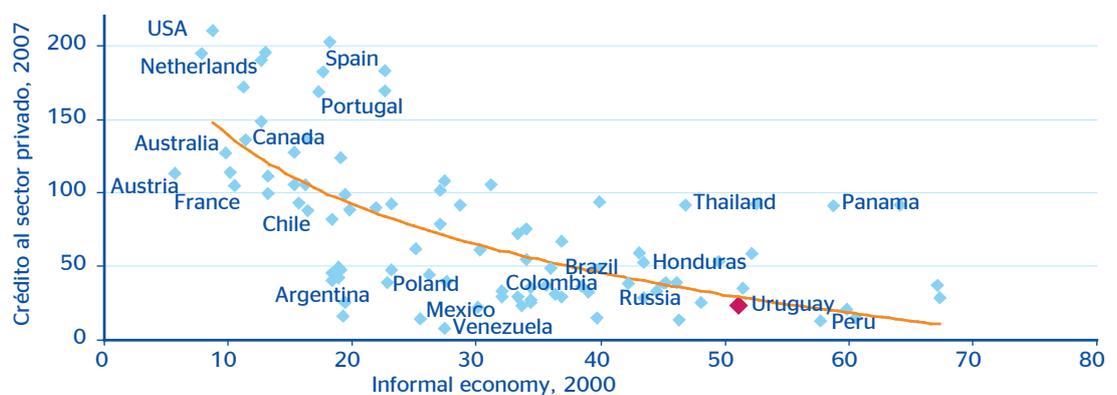
Structural factors, notably macroeconomic stability and the degree of informality of the economy. Control of inflation and fiscal discipline are key factors in facilitating banking development, as they enable allocation of credit to the private sector and an extension of the terms of such credit.

International experience shows an elevated correlation between ratios of financial intermediation and the degree of informality of the economy. Uruguay has one of the highest levels of informality in the region - amounting to 51.5% of GDP⁷ - which is reflected in the low levels of banking penetration. The profile of the population with no financial access functions as a constraint for access to banking: low income levels and an absence of credit histories combine with a lack of collateral as the most significant obstacles to access to credit.

A number of studies have shown that individuals with low incomes and low educational levels do not feel comfortable using banks: they exclude themselves from banking for fear of feeling intimidated in a branch office. However, this has been changing in banks' recent operations in Latin America. Innovations in the banking sector have led to the creation of new service systems for lower income clients residing far from major cities through the incorporation of so-called correspondent banks (see box below). This more down-to-earth, familiar approach has had huge success in Brazil, Mexico, Colombia and Peru.

Chart 15

Uruguay: credit to the private sector and informal economy (% of GDP)



Informal economy: Legal activities that create value that either do not pay taxes or which are not registered.
Source: Schneider (2000) and World Bank

Schemes of this kind would allow for banks to support to expansion of deepening banking in Uruguay among lower income sectors, where the ratio is 8%, versus the 36% rate observed in the high-income group.

A second group of **institutional factors** may also act as a barrier to financial depth. A low degree of coverage and the low quality of the information on the credit history of individuals and enterprises, combined with cumbersome and costly administrative processes for registering properties and collateral tends to increase the costs related to allocating credit. Moreover, countries with an effective legal system that offer more flexible mechanisms for resolving conflicts favour access to financing.

Regulatory factors that influence banking costs, such as high reserve requirements or provisions for bad debt risk, maximum interest or "usury" interest rates may also weaken the dynamism of credit expansion. Uruguay has a maximum or usury rate (60% above the average rate) that does not generally function as a constraint how to its relatively high level, although it does affect some SMEs. This limit does not apply to consumer credits through non-bank lenders which account for the majority of credit provided to low-income sectors.

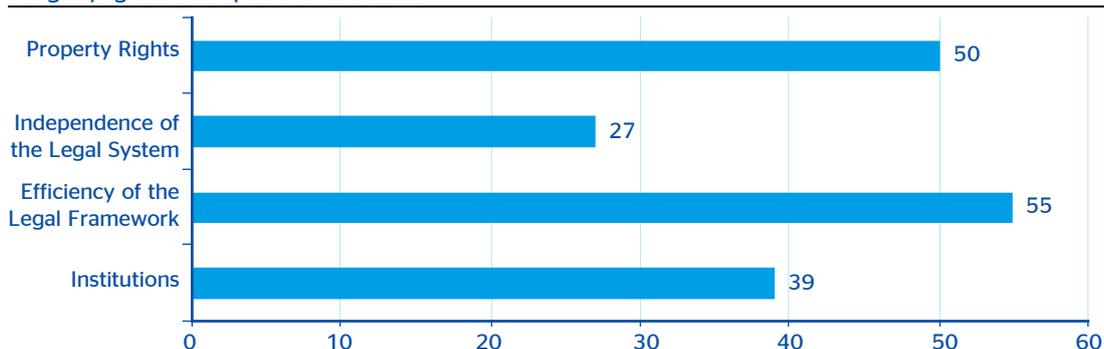
Factors intrinsic to the financial industry include the degree of competition and efficiency of the system, the development of infrastructure and the access and participation of stable and solvent institutions. In the case of Uruguay, the low profitability margins of financial institutions in recent years is a cause for concern, and it is partly explained by the weight of wage costs (40% of ROA) and high liquidity held by banks.

7: According to "Shadow Economies all over the World: New Estimates for 162 Countries from 1999 to 2007" Schneider 2010.

Institutional factors: competitiveness and business climate

Uruguay stands midway in the World Economic Forum's ranking of world competitiveness, at 64 of out of a total of 139 countries. It is one of the most highly regarded countries in the region in terms of rule of law and respect for property rights, as it is in education and healthcare.

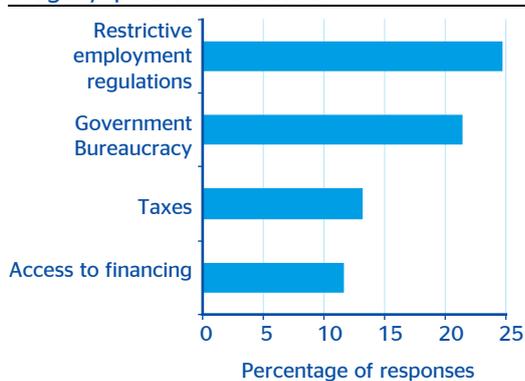
Chart 16
Uruguay: global competitiveness index ^(*)^(**)



(*) Sample of 139 countries.
(**) The numbers on the margin of the bar show the relative position of Uruguay, where the best ranked is number 1.
Source: Global Competitiveness Report 2010-2011, World Economic Forum

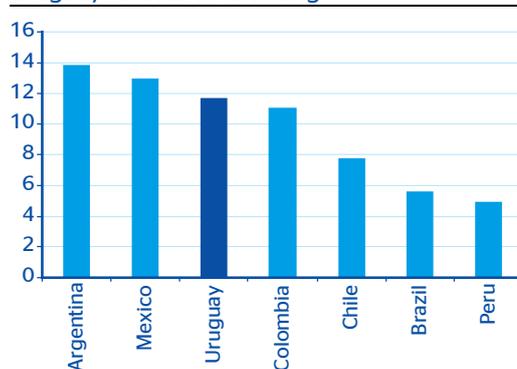
The report states that **restrictive labour regulations** and **excessive red tape** are factors that most hinder doing business, while problems of access to financing are the fourth factor. Compared with the core Latin American economies, Uruguay is one of the countries in which access to financing is most difficult, after Argentina and Mexico.

Chart 17
Uruguay: problematic factors



Source: The Global Competitiveness Report 2010-2011 (WEF)

Chart 18
Uruguay: access to financing



Source: The Global Competitiveness Report 2010-2011 (WEF)

In spite of its good institutional quality⁸, in the World Bank's *Doing Business* report of 2001, Uruguay is not rated as one of easiest countries for doing business, as it is ranked 124th out of 183 countries, as against the average of 30 for high-income countries and 96 for Latin America and the Caribbean.

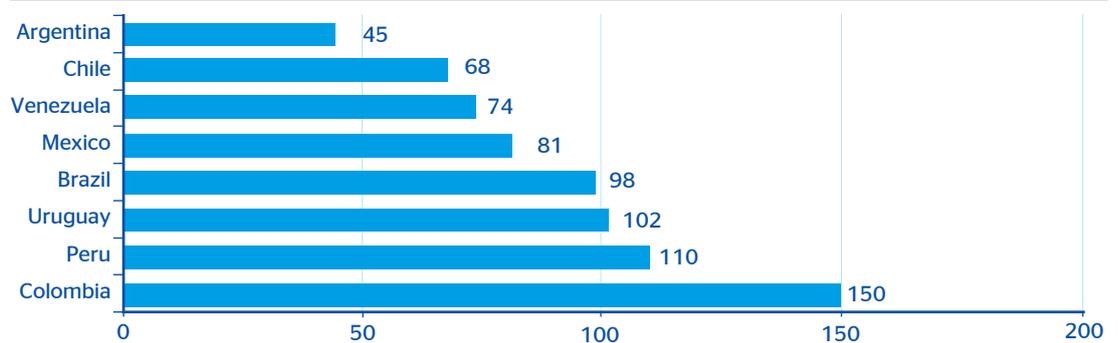
A detailed look at the indicators mentioned in the report shows that Uruguay has high procedural costs for registering a property (159th in the ranking), paying taxes (155th), dealing with construction permits (141st) and starting a business.

8: According to *Doing Business* 2011 of the World Bank.

The relative disadvantage in **registering a property** is due to the high number of procedures that must be carried out (8), taking 66 days and at a high cost, amounting to 7.1% of the value of the property.

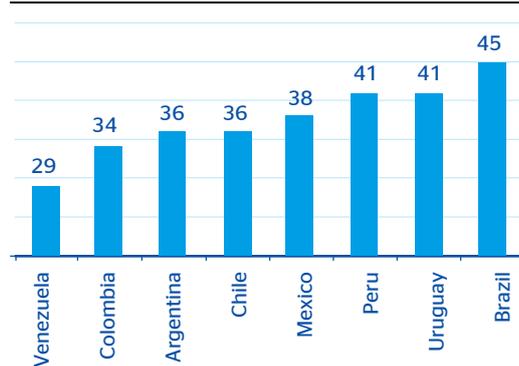
In getting credit, the rank is relatively good (46) owing to the broad coverage of the private credit bureau and the depth of credit information. However, the private credit bureau records only negative information on credit applications. Hence, total information on clients' indebtedness and their credit history is limited. The **enforcing contracts** indicator is problematic in Uruguay. This index highlights the number of procedures to be undertaken (41) and the cost involved in settling disputes (19% of the value of the claim).

Chart 19
Enforcing contracts ^(*)^(**)



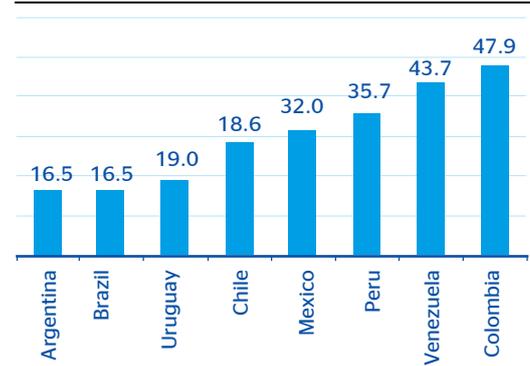
(*) Sample of 183 countries.
(**) The enforcing contract indicator includes: the number of procedures, the number of days and the cost (% of contract).
Source: Doing Business 2011 "Making a Difference for Entrepreneurs"

Chart 20
Enforcing contracts. Number of procedures for contract compliance ^(*)^(**)



(*) Sample of 183 countries.
(**) The enforcing contract indicator includes: the number of procedures, the number of days and the cost (% of contract).
Source: Doing Business 2011 "Making a Difference for Entrepreneurs"

Chart 21
Enforcing contracts. Cost (percentage of the contract) ^(*)^(**)



(*) Sample of 183 countries.
(**) The enforcing contract indicator includes: the number of procedures, the number of days and the cost (% of contract).
Source: Doing Business 2011 "Making a Difference for Entrepreneurs"

Hence, difficulties in registering a property and enforcing a contract tend to increase the price of credit and limit banking depth.

3. Proposals for increasing financial depth in Uruguay

This section proposes measures to drive the process of banking penetration in the coming years by eliminating some of the constraints in both the institutional setup and in access to financial services. The section concludes with an assessment of the quantitative effects some of these proposals would have on banking penetration in the country.

The underlying thesis of this study is that banking institutions must assume the role of leading a serious process of increasing banking penetration in a country. From a broad technical perspective, an understanding exists of the role played by certain non-bank financial institutions, such as savings banks, mutual societies, cooperatives and non-governmental organisations in reaching specific population segments. However, non-bank institutions face a number of structural limitations in becoming agents for change in a banking penetration process, such as the financing capacity and cost, economies of scale, development in risk management, professional staffing and broad supervision by regulatory bodies, among others. Significant emerging countries like Bangladesh, China and India, where non-banking institutions have played a significant role, clearly show their limitations in becoming the driver of financial penetration (see box). Nor should we forget the financial failures of such non-bank institutions in Latin America. Even recent experiences in Europe (such as Spain and its savings banks) show that the risks of such institutions always make themselves felt when they become too large.

Box 1. Limitations for non-bank institutions in leading a process of financial penetration: the cases of China, Bangladesh and India

Who should lead a process of financial penetration? The literature has allowed for different spaces for the development of diverse institutions and their role in integrating different population groups in the financial system. The role of non-bank financial institutions (NBFIs), for instance, has been recognised as significant in bringing the benefits of the financial system to population groups that have usually been marginal for geographic, cultural, labour, income-related or other socio-economic reasons.

However, it is another thing for financial development to rely solely on NBFIs for a process of penetration that normally occurs over the long term, in which elements of prudential regulation and supervision must be preserved. This is in addition to elements that ensure service for an ever larger population, which requires the size, efficiency and experience that can be provided by banks.

The experiences of some large emerging countries in which NBFIs have played a significant role can supply us with lessons for Uruguay. For example, Degryse and Cheng (2006) clearly show that **the process of financial penetration in China through banking has been led mainly by the banks** and not by non-bank financial institutions (NBFIs).

This empirical study, based on the information from 27 provinces, controlling for institutional, legal and cultural factors, and focusing on the impact of banks versus that of NBFIs, finds that the importance of the former in leading the process is due to their broad geographic scope, hierarchical organisation, integration of subsidiaries, technological development and experience in the credit system.

They also find that provinces with a greater level of banking development show statistically significant

results of greater local economic development. Although it is true that the results of the study show that banks lend at lower rates when businesses are starting, banks become the most significant lender when companies gain in experience, thus supporting their future growth. Nevertheless, it is interesting to note that the impact of banks in the growth of provinces with greater lags is more significant than that of NBFIs.

Bangladesh is another significant case. According to Hossain and Shahiduzzaman (2003), NBFIs have played a very important role in driving the development of groups and areas that had not yet been integrated in the financial system. Nonetheless, their initial pace of growth was adversely affected when institutions became larger and thus faced serious problems of cost, difficulties in raising funds, constraints on investment in the technology necessary for greater expansion, in addition to problems of human capital. This has usually led to requests for institutional and regulatory support from the authorities, with the risk of complicating tasks of supervising such institutions.

Along the same lines, the case of India is quite illustrative. As noted by Singh Kaint (2008), NBFIs played a significant role by achieving penetration in areas where banks had not participated, owing to a lack of tools for monitoring and managing regulatory risks. Until 2008, expansion was accompanied by the incorporation of some NBFIs in banks, or their acquisition by banks. However, the regulator began to find that broader regulatory latitude induced excessive growth of credit on the part of NBFIs. As confirmed by Rani Kopala (2010), these institutions began to lose weight following the introduction of more stringent regulations governing financial discipline.

As mentioned above, the penetration of credit in Uruguay significantly lagged in all segments, whether household, mortgage or corporate. Corporate credit, which is the largest recipient of credit from Uruguayan banks, nevertheless shows the greatest lag compared to this segment's size in other Latin American countries. Hence, although we believe the proposals herein will have a broad impact across the entire credit network, some measures - particularly institutional steps and those related to commercial invoices or factoring - seek to provide special support for corporate credit, above all for small and medium-sized enterprises. Different studies have shown the impact of credit on business units' productivity and job generation.

It is important to note that this study does not enter into a discussion of the structural problems that affect the process of banking penetration, such as the size of the informal economy. In any case, some of these variables are included below as part of the econometric model developed herein. First, a baseline scenario is considered that maintains the basic pillars of economic stability and endogenously incorporates a gradual decrease in informality, thus reflecting the positive impact of sustained economic growth on the generation of formal employment and the growth of the middle class. With this baseline scenario, proposals are made for the improvement of key factors for the process of financial depth and its likely impacts.

Institutional factors

Institutional factors determine the incentives of banks, individuals and enterprises to interact in a process of exchange in which trust is a fundamental factor. Adequate information on the counterparty is required, the rights of the parties must be clearly established and such rights must be enforceable at no significant cost.

Global indicators such as those in *Doing Business 2011* suggest, however, that Uruguay still needs to work on several of these aspects to build an adequate framework for facilitating interactions in the credit market. Examining some of these in greater depth (see Chapter 2), we find three areas which progress could be made: **expanding information on clients** (both households and enterprises), **scaling back procedures, times and costs for registering property and improving enforcement of contracts**.

1. More information on financial clients: the role of credit bureaus

1.1. Diagnosis

A credit bureau systematises all significant individual information in order to establish a performance profile of a client of the financial system and, in some cases, of individuals with no relationship to the banking system. It is of vital importance to lend greater security to the intermediation of money, from the saver to the potential credit recipient.

The aforementioned *Doing Business 2011* data show that Uruguay is in an excellent position, with a level of coverage near 100%, that it collects a great deal of the information related to any connection a Uruguayan citizen has ever had with a financial institution. This provides an important decision-making tool to lenders. However, it requires improvements in certain aspects.

In Uruguay, there are two credit bureaus: one is public and the other is private. The former is managed by the Superintendency of Financial Services of the Central Bank of Uruguay, and it gathers accounting information directly from the banks. The central bank database is supplemented by information from the private credit bureau.

First of all, the information in Uruguay's private credit bureau is negative: that is, it is more sharply skewed towards recording credit defaults with greater detail. Positive credit history,

however, is not included, thus limiting the formation of complete profiles of potential credit applicants⁹.

Secondly, **credit bureaus in Uruguay have not yet developed so-called "alternative information" for the financial system** from "quasi-credit" transactions by the public related to the delivery of deferred payment services, such as electricity or telephony. The payment performance history of such services may be a significant element in determining a credit compliance profile.

Finally, a large portion of financial transactions in Uruguay are executed through non-bank financial institutions, such as payment networks and non-bank lenders. It would be important to provide credit bureaus with both positive and negative information on the intermediations carried out by such institutions, in order to achieve the broader scope of information that would be convenient in minimising information gaps in the market.

1.2. Recommendations

This study recommends actions to be considered for strengthening the information in the possession of credit bureaus.

Recommendation 1: Work to include "alternative information" in the credit bureau databases

The significant information possessed by commercial enterprises and other institutions on the debt history of a substantial portion of clients would supplement the profile of clients that already have a relationship with banks, thus allowing for a better balance sheet of risks. Further, new information on economic agents that have not yet acceded to the financial system, but who have a good profile as debtors, could enhance their access to financial services.

As noted, given that the incentives of the market do not function in a way that would give rise to a common, centralised base of information on debtor performance in credit bureaus, **we recommend the following: (A) consideration of regulatory actions to make it mandatory to share at least certain information on the debtor risk profile of clients of key organisations that enter into a relationship of delivery against deferred payment (which imply a debt risk), without compromising the core decision-making databases for business. This could be achieved if the information were transmitted first to the Superintendency, which could build a new database.** To avoid fears of the use of information on clients from company information sources, the IFC-World Bank¹⁰ recommends: **(B) establishing express rules and regulations that certain information provided by providers of such services can be retrieved only if a credit application has been filed by the client.** An action that might be initially useful would be for **users themselves to voluntarily request that their credit history be shared with the regulator and, therefore, with financial institutions.** An obvious incentive for the client is the possibility for the bank to gain a perception of his moral risk through an analysis of the information. Thirdly, and bearing in mind that the credit and deposit system in Uruguay has been growing ever larger, non-bank lenders and payment networks should **(C) incorporate non-bank lender data in the Superintendency's database** in order to provide a complete overview. Finally, **(D) positive information should accordingly be added to credit bureaus' databases in order to create a real instrument for granting credit.**

The Superintendency of Financial Institutions of the Central Bank of Uruguay plans in 2011 to include information from non-bank lenders in its credit registry and continue to reduce the threshold from which debtor information is included in the system (currently, starting with credits for USD 1200).

9: The *Doing Business* report of 2011 notes the inclusion of negative information. This situation has been confirmed through field interviews with significant actors in the financial sector.

10: IFC (2006) "Credit Bureau Knowledge Guide". Washington, DC.

Recommendation 2: State institutions should use information technology that would allow the sharing of financial information with credit bureaus.

A number of government bodies in Uruguay may possess data that would be valuable in better profiling financial system clients. Nevertheless, such institutions working within the limitations of low-income countries, namely constraints on financial, human, technology and management resources. Hence, the following is proposed: **pursuing the systematisation of the information held by public institutions, such as municipalities, DGI and the Banco Previsión Social [Social Welfare Bank] to enable such information to be shared with credit bureaus.** Advances in this field will help create a broader system that will better cope with problems of asymmetry of information in banking systems.

Box 2. Relevant experiences of other countries for attaining greater coverage of credit bureaus in Uruguay

In the United States, consumer reporting agencies (CRAs) systematise so-called "alternative information" through companies with which private bureaus have established a relationship. This information is delivered mainly due to companies' interest in having reliable information in the CRAs. The most-highly rated information includes that which is provided by utilities such as electricity and telephone companies.

Studies of a broad sample of cities of the United States show clear impacts in improving the risk profile of client records and broader coverage of such records. Recorded impacts mostly occur in lower income segments. Other significant information for creating a complete risk profile

relates to the courts of law. The data provided by credit bureaus is solely for evaluating credit risk, in order to minimise companies' fears that their data may be used by the competition.

Colombia, with a credit bureau system that provides more than 40% coverage, also records alternative information. Particularly noteworthy is utilities information.

A similar situation exists in Spain, where the public credit bureau, the Bank of Spain's Central Credit Register (CIRBE in Spanish), has detailed information on the credit history and the court performance in commercial disputes of potential bank clients and information from commercial firms and telephone and electricity utility companies.

2. Institutional improvements to reduce the costs of registering a property and ensuring protection of creditors' legal rights

2.1 Diagnosis

The institutional framework is a key factor to assure the property rights of both creditors and debtors, bearing in mind that credit involves a relationship of trust in which a service is provided and paid for subsequently. This includes a legal framework that provides guarantees to creditors in case of failure to pay, and system that ensures that the law will actually be enforced.

Property is one of the basic pillars backing credit: the debtor must possess legal ownership over the asset, and this requires a Property Registry that ensures accurate and timely provision of such information. There must also be a state body that safeguards compliance with financial contracts and allows for efficient execution of guarantees.

On a regional level, Uruguay is relatively better positioned than many other Latin American countries. Nevertheless, certain aspects need improvement, especially those which could have a positive impact on the process of financial depth. These bureaucratic elements are also recorded in the World Bank Report, *Doing Business 2011*, where Uruguay is ranked 124th out of 183 countries. Among the elements related to registering property, it has been found that Uruguay presents one of the highest costs for such registration in the region, representing 7.1% of the value of the asset.

Examining in greater depth the interrelations of banking and the defence of contracts, the World Bank report *Getting Credit* of 2010 reaches some interesting conclusions. For example, although the study finds that Uruguay has a good average position (ranked 46th) - which is due to the coverage of the private credit bureau and the quality of its information - constraints are seen in the strength of legal rights. In fact, in the enforcing contracts indicator, it is ranked at levels similar to countries with low levels of financial depth, like Peru. If we break down the indicator, it can be clearly seen that both the time for enforcing contracts and the number of procedures is quite high.

2.2. Recommendations

Recommendation 1: Detailed study of the functioning of public registries in Uruguay and actions to improve them

According to the worldwide studies discussed above, the cost of registering a property may be an element that keeps a larger percentage of the population in Uruguay from gaining access to credit, thus preventing intermediation with the financial system.

Uruguay has been taking important steps to streamline procedures. Indeed, in spite of the high costs still detailed in the *Doing Business* report (2011), a procedure with the City Council of Montevideo hitherto required by the government for selling a property has been eliminated.

Uruguay has also achieved recognition for instituting the "company in a day" initiative that makes it possible to incorporate or register a company (either a public company or limited liability company) in a one-stop shop, thus significantly cutting the number of steps, the time and the costs of starting a company.

It is also possible that in certain regions of the country, the public is unaware of the functioning of the property registry and advantages it can have for their wellbeing. Hence, in addition to the proposed study, a financial education programme will be required, with a long-term impact, that covers subjects related to the benefits of formalisation, registry culture and the credit culture.

Recommendation 2: optimise processes and expertise of civil and commercial courts in financial matters

One of the prominent issues in the diagnosis is the delay that arise in court procedures to enforce financial contracts, as noted by the World Bank and Uruguay jurists. With regard to court procedural delays in enforcing financial contracts, Ettlín's (2010)¹¹ study reports that, according to official judiciary figures, civil-commercial trials took an average of 25 months in 2008. Cases that reach the second instance add between 4 and 6 months and appeal processes between 10 and 15 months. At the date of the study, it was estimated that 10% of court cases last more than five years.

Ettlín's study (2010) highlights the importance of providing more expertise to judges, improving working processes, and the role of technology. Public investments in improving these three aspects can have significant impacts. One example is the measures implemented in Peru in recent years, where the support of the Agency for International Development (AID) and the Instituto de Formación Bancaria [Institute for Banking Education] enabled the introduction of specialised commercial courts, which are operated by skilled personnel backed by technology.

This initiative has been recognised as one of the most interesting to have been implemented. At present, the average time of resolution of these courts in Peru is less than 10 months. Some elements have yet to be incorporated in this programme, such as software to systematise information and digital case files in order to reduce first instance court procedures (commercial court level) even further, to as little as 25 days.¹²

Banking sector factors

These factors are related to obstacles keeping the banking system from coming into closer contact with the public, particularly sectors that do not have yet access to the bank. Facilitating such access to banking services requires the joint action of the financial sector and the state to enable plans to achieve broader scope.

3. Fiscal incentives to foster use of electronic means of payment

3.1. Diagnosis

Use of debit cards is not particularly widespread among Uruguayan consumers, and the lower the socio-economic level, the lower the percentage of their use. Although use of credit cards is more common than of debit cards, they have not achieved significant penetration either, and possession of a credit card depends on the socio-economic level, as is the case with the debit cards.

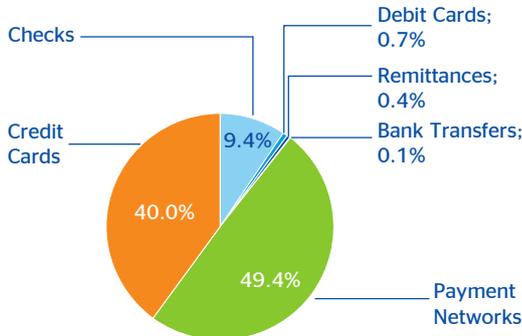
Surveys¹³ show that 83% of respondents' preferred method of payment is cash, and 87% in the interior of the country, followed by credit cards with 14%. Some 49% of transactions in the retail payment system are executed through payment networks, which account for 12% of the funds handled in the system, while credit cards (which represent 40% of total transactions) have only a 4% share in the total handled. Use of debit cards is minimal, accounting for less than 1% of transactions in the retail payment system.

11: Ettlín, Edgardo "Una justicia más eficiente para la República Oriental del Uruguay" Draft, Las Piedras, August 2010.

12: BBVA (2011) "Lineamientos para impulsar el crédito y el ahorro en el Perú".

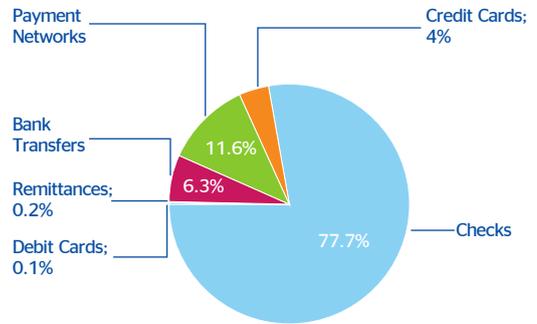
13: EQUIPOS SPES Presentation. August 2010.

Chart 22
Retail payment system - number of transactions



Source: EQUIPOS SPES

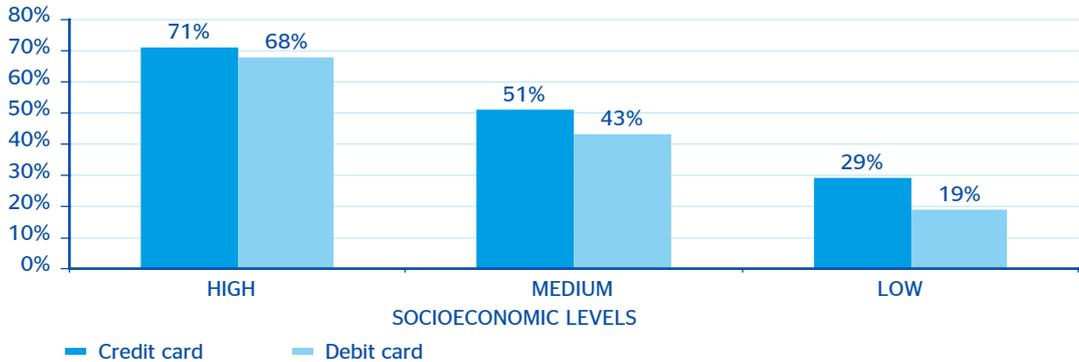
Chart 23
Retail payment system: amounts processed in millions of dollars



Source: EQUIPOS SPES

Debit cards are used mainly in ATM withdrawals, as their function as a means of payment in retail is not generally known, and the POS network in Uruguay is fairly small (273/100,000 adults), below the regional average. According to the same surveys¹⁴, 42% of respondents said they were unaware that debit cards could be used to make payments in retail shops, and this lack of awareness was greater the lower the socio-economic level of the respondent. Only 13% of the people who have a debit card said they had used it as a means of payment in the last six months. The main categories of purchases were food and beverages and clothing and footwear.

Chart 24
Possession of credit and debit cards by socio-economic level



Source: EQUIPOS SPES

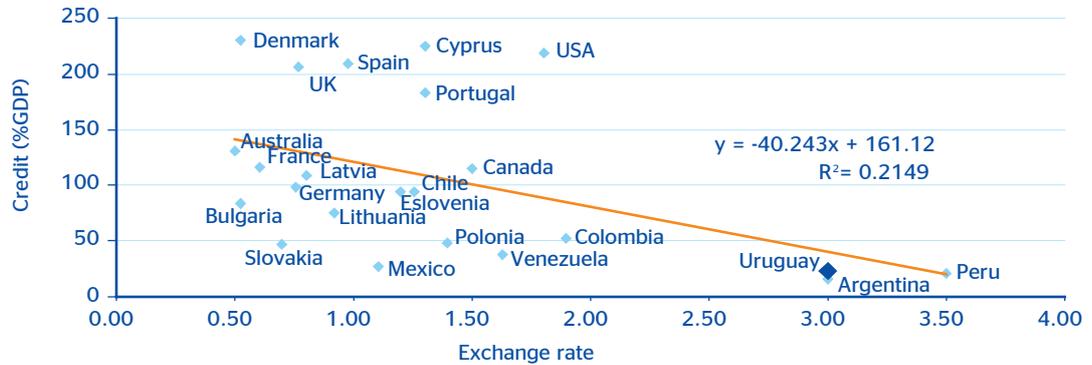
Hence, there is room for increasing financial depth in the economy by boosting the appeal of electronic transactions, especially through the use of debit cards, which requires not only a substantial publicity campaign but also expansion of the network of POS available in retail outlets. More widespread use of these media would also have other benefits, such as improving tax processes (which would ultimately have a positive impact on tax revenue) and reducing informality.

As shown in the following chart, apart from the low levels of use of debit and credit cards as a means of payment, transaction costs for retail outlets (transfer rate) are higher than in developed countries. This would also be related to the low volume of transactions with these means, and reflect the low level of deepening banking. As suggested in the paper of CPA

14: EQUIPOS SPES. Presentation, August 2010.

Ferreres¹⁵, increasing the use of cards as a means of payment requires not only advances in the physical infrastructure (POS) and reducing the informality of retail outlets, but also incentivising their use on the part of cardholders.

Chart 25
Average exchange rate in supermarkets and credit penetration



Source: BBVA Research

3.2. Recommendation

Refund of a percentage of the Value-Added Tax (VAT) to purchasers of goods or services who use debit or credit cards for transactions

This recommendation consists of refunding part of the VAT for purchases made with credit or debit cards. Such refunds could amount to one or two percentage points of the VAT (the average refund in which these measure was implemented) and it would be made in the taxpayer's account in a financial institution.

This measure would incentivise agents who already have access to the bank to increase the percentage of transactions with credit or debit cards and reduce the proportion of cash purchases of goods and services. This, in turn, would have a positive impact on the incorporation of POS by retail outlets, as a failure to use the new technology could result in a loss of market share.

In the informal sector, the measure would have a different effect. The VAT reduction would tend to make competitive the large and formal retailers whose high volume of turnover would lend them bargaining power vis-à-vis their suppliers to attain lower prices. Here, informal workers could become clients of the same in order to benefit from the incentive, opening deposit accounts in financial institutions and making purchases with cards associated with the accounts, thus increasing levels of banking penetration. The measure could be supplemented by payment of social benefits through bank accounts, with provision of a debit card that would allow low-income sectors to benefit from the tax break, as was the case with the "Bolsa Brazil" implemented in Brazil from 2003.

It would also boost tax revenue (and formality), as transactions hitherto executed informally, without VAT, would not become part of the tax base. In Uruguay, it would also help reduce the use of cheques (77% of the total executed in the retail payment system) and the difficulties related to the physical clearing of the same, which produce delays in processes.

International experience shows that tax incentives to foster the use of means of payment is one of the most effective tools in promoting financial depth (see box below).

15: Rafael Mantero and Gabriel Oddone, El mercado de tarjetas en Uruguay: ¿es oportuno regular?, April 2011.

Box 3. International experience with tax incentives to foster use of electronic payment means

Although the South Korean experience is the most representative example of the success of incentives to stimulate the use of cards, Latin America has also recently seen cases of the use of tax schemes to foster the use of electronic payment means. A brief overview of these experiences:

Korea

Measures to incentivise the use of cards were implemented from 1991. Purchases made with plastic included income tax deductions, refund of taxes associated with entertainment expenses, refund of the value-added tax (1 percentage point of the 10% rate) and drawings for prizes using credit card receipts.

Between 1996 and 2003, the number of points of sale (POS) and credit cards per person grew by nearly 200%. The measures account for part of the increase in the number of taxpayers, which went from 2.7 million to 3.6 million between 1996 and 2000. Finally, tax revenue went from 14% in 1996 to 17% in 2000, and the informal economy decreased from 16% of the GDP in 1993 to 12% of GDP in 2000. A decade after the implementation of the measures, Korea had become the second-ranked economy in the world in the use and penetration of credit cards.

Mexico

The following measures are noteworthy: (i) tax deductions for investments in POS in sectors with low card use rates in order to increase the number of POS terminals and (ii) tax deductions for consumption of fuel with electronic payments.

The measures mainly improved levels of financial depth and informality. It is estimated that between 2003 and 2007, the value of transactions with credit cards increased by approximately 79 billion pesos (USD 7.3 billion) and the value of transactions with debit cards increased by 720 billion pesos (USD 66 billion). Growth in the value of transactions with credit and debit cards was coupled with estimated growth in VAT collections of some 5.553 billion pesos (USD 514 million) in the period between 2003 and 2006.

Argentina

In Argentina, the incentives consisted mainly of refunds of value-added tax (VAT), including: (i) VAT refunds of 5 and 3 pp for payments with debit and credit cards, respectively, and (ii) deduction as tax credit for payment of value-added tax of 30% of the cost at the POS terminal.

These measures account for part of the growth in tax revenue in Argentina, which went from 17% of GDP in 2002 to 23% of GDP in 2005.

4. Implement low-cost automatic enrolment accounts and incentivise their use

4.1. Diagnosis

In urban sectors with higher income levels, there is a relative high penetration of bank accounts (54% in Montevideo). However, the constraints are greater in lower income levels. Although demand for bank savings products is limited in this segment, it may be possible to increase bank penetration through transactionality. This will require finding strategies to make banking a familiar, common tool that is inexpensive to use.

An initial effort along these lines has been made in Uruguay, with the introduction of "cedula", or national ID card accounts for small enterprises. This initiative through the National Development Corporation for SMEs, however, is insufficient, as submission of the ID card only entitles the holder to registration of the account and integration of capital, which requires presentation of the by-laws and review by the bank, which defines how the account operates. In many cases, these accounts are used only for the incorporation of the enterprise, and then left dormant.

For individuals, opening of a bank account requires presentation of a series of documents, such as: ID document, verification of domicile, registration of economic activity and income certificate. Further, opening a current account requires 3 banking references.

Low-income individuals likely require simpler banking access, with fewer procedures, with the assurance of a low-cost product.

4.2. Recommendations

Implement low-cost *automatic enrolment* accounts for the entire population linked to the National Identity Registry, led by the State and with freedom of participation by banks

One way of promoting wholesale access by the population to banking is **by creating low-cost *automatic enrolment* accounts**. Individuals will have a bank account number from birth. The account will become available when the person registers as a citizen, and they will be given a debit card along with a national ID card. This reduces the costs of establishing a relationship with the banking system. Initiatives of this kind have already begun to be implemented in Chile with RUT accounts.

Include in low-cost *automatic enrolment* accounts broad transactional powers in the benefit of the new financial client

The aim is for individuals to use debit cards, not cash, as the means of payment. To achieve this, their use in payments must be made easier. This requires the massive dissemination of points of payment with this instrument (POS). Debit cards might be used to allow automatic access to urban and provincial public transport - where the card functions also as a ticket and is charged for the trips - at attractive prices to foster use of this medium.

This could be supplemented by making it mandatory for payrolls to be paid into bank accounts, and by providing tax incentives for purchases with debit cards, as noted above. Such accounts integrated into the number of products and services offered by banks can generate significant economies of scale that directly benefit the process of banking penetration.

State subsidies to finance both new accounts and banks' investments in debit-card points of sale

Massive expansion of access points for debit cards may require substantial investment, but some form of state support could be provided, given its importance to the country. Subsidies might cover, for example, costs that exceed a certain transaction threshold - point of equilibrium - or products and services to be provided to make it more attractive to certain segments or in more remote regions. Developing such scheme would also require agreements in Uruguay between banks and non-banking correspondents.

Box 4. International experiences in favour of reducing the costs of access to financial products

A massive expansion programme of sight accounts with debit cards was introduced in Chile with the support of the state bank. For example, at the start of 2007, the Banco Estado launched a product that seeks to achieve wholesale incorporation of low income segments in the banking system. The product is called a RUT account, which is a sight account with an associated debit card. It bears this name because an individual need only possess an ID card (RUT) and affix a signature in the bank.

The account is non-transferrable and personal for all Chileans above the age of 14 (men) and 12 (women). There are no requirements related to income, commercial background, and no fees are charged either for commitment or for maintenance. The account can be used only for making transactions, and unlike a current account, it has no cheques. To make the account simple, the account number is the ID number of the holder and the PIN of the CUT account card can be activated in ATMs, *caja vecina* (neighborhood cashiers, which are similar to non-banking correspondents), by Internet or telephone. The card can also be used to pay for public transport in the capital city Santiago. By the end of 2009, only three years after its launch, RUT accounts in the state bank were held by more than 2 million clients.

With regard to subsidies to boost penetration in low-income sectors, mention could be made of the initiative in Mexico called the PATMIR programme (Project of Technical Support for Rural Microfinancing). Although the programme is dedicated to supporting microfinance, its logic may also be applied to the banking system as a whole.

The programme provides a line of subsidies to cover the costs of expansion through the establishment of branch offices. That is, it covers the costs of infrastructure, technology and operation of new offices. In its pilot phase, PATMIR worked with 33 institutions in 10 states of the south of the country and brought the financial system to 194,000 new clients who opened savings accounts.

A vital factor in the success of PATMIR was the creation of new branch offices accessible to the population living in towns and villages of less than 15,000 inhabitants. PATMIR is now in its second phase, undertaking expansion that, in 2011, is estimated to bring the programme from the 27 current states to 32 Mexican states and seek to reach 405,000 new users.

The subsidies provided to extend the network of bank branch offices are focused, decreasing and temporary. They are allocated to new branch offices of both existing and newly-created financial intermediaries to accelerate their institutional development and the growth of their coverage.

Work is also underway to establish an extensive network of service outlets with the installation of modern, well-equipped and pleasant branch offices, or permanent and mobile service outlets to provide quality service with the frequency and timetable that is most convenient to users, with staff who speak the local language.

Spain's home savings accounts are an example of incentives for savings worth consideration. These are voluntary deposits in credit institutions that are entitled to a deduction in income tax. The acknowledged aim is the purchase, construction or refurbishment of the taxpayer's primary residence

These sums are deposited in special accounts that meet certain requirements of formalisation and availability, such as: (i) the sums must be deposited in accounts that are separate from any other tax, although they need not have the specific name of home savings account; (ii) each taxpayer can have only one home savings account; (iii) account balances must be used solely for the initial purchase or construction or refurbishment of the taxpayer's primary residence; (iv) this allocation must be realised within 4 years of the opening of the account; (v) home savings accounts must be identified separately in the tax return with the bank account number, account holder and opening date.

5. Mandatory payment of payrolls through bank accounts

5.1. Diagnosis

In the aforementioned SPES survey, most respondents (53%) said they received their income in cash, while 32% received their remuneration in a bank account. Broken down by socio-economic levels, some 69% of individuals receive their wages in cash in lower income segments (D2E), while only 41% receive them in cash at the high ABC1 level.

In the case of MSMEs, surveys¹⁶ show that only 3.2% of such enterprises pay wages through ATMs, but this is due mainly to the fact that a majority are micro-entrepreneurs who make practically no use of banking services, as 37.2% of medium-sized enterprises, which employ between 20 and 99 people, pay wages through ATMs.

5.2. Recommendations

Make it mandatory to pay wages through deposits or bank wire transfers for workers in both the public and private sector

Workers must open a wage payment account in the financial institution of their choice, in which the employer will deposit remuneration and any other labour compensation.

It should be noted that transactions in ATMs are not subject to any fees, and consideration could be given to allowing greater flexibility for withdrawals through other channels, such as non-banking correspondent ATMs.

Remuneration is intangible, and enterprises in the financial system could collect accounts receivable (such as credits), provided that the worker has given authorisation upon the granting of the credit. If credit is granted, the right to shift the wage account to another bank must be temporarily suspended until complete payment of the loan, in order to not encourage default.

Greater use of wage accounts would allow holders to gain familiarity with the financial system for making transactions. This creates links that could be expanded on the asset side (loans). For instance, once the financial institution has incorporated the client, it can learn more about the latter's behaviour and thus reduce the costs and risks of granting credit, which decreases the required interest rate.

For enterprises, it must be emphasised that if the accounts of the company and the worker are in the same financial institution, there is no fee for making the deposit.

If the employer and the work have accounts in different financial institutions, this will require a bank wire transfer, the cost of which is not high, as deposits in wage accounts in different financial institutions could be carried out through an electronic clearing house. As this could discourage smaller enterprises from using wage accounts, implementation of mandatory payment of wages into bank accounts could be gradual, starting with larger enterprises.

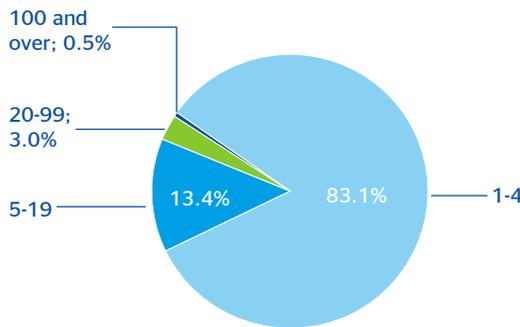
16: DINAPYME survey, 2008.

6. Incentivising financing of a MSMEs

6.1. MSMEs in Uruguay make little use of banking services

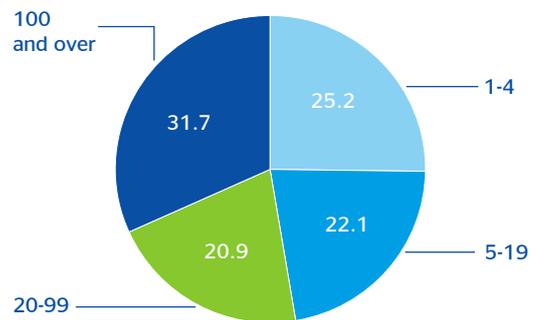
According to the INE¹⁷, there are 114,551 enterprises in Uruguay, the vast majority (83.1%) of which are micro-enterprises (up to 4 people). Small enterprises (between 5 and 19 people) represent 13.4% of the total, while medium-sized enterprises (20 to 99 people) account for 3%. Finally, large enterprises (100 people or more) amount to less than 1%.

Chart 26
Breakdown of enterprises by number of workers



Source: INE

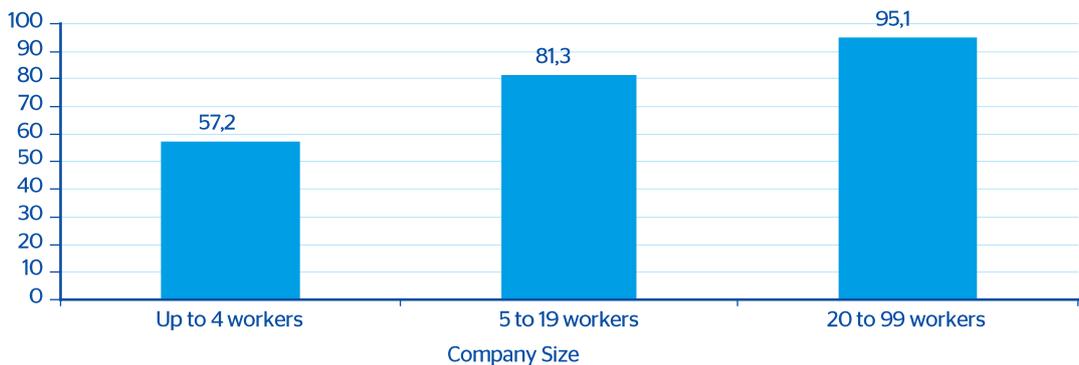
Chart 27
Workforce employed by each group of enterprises



Source: INE

In fact, according to the same survey, practically one third of enterprises stated that they do not use banking services, while those which do use such services mainly use the most basic such services, such as current accounts and savings accounts, followed by credit cards and, to a lesser extent, payment of suppliers through banks. As shown in Chart 3.6, use of banking services has penetrated to 95% of medium-sized enterprises (between 20 and 99 people), but only 57% of enterprises with up to 4 employees use banking services.

Chart 28
Use of banking services by enterprise size (%)



Source: INE

Nor is banking credit widely used among Uruguayan MSMEs. There is a positive correlation between the size of the firm and the use of credit. Small and medium-sized enterprises' main source of funding (80% of the total) is reinvestment of profits and, secondly, equity, followed at a greater distance by family loans.

17: "Uruguay en Cifras"[Uruguay in Numbers], 2010 of National Institute of Statistics of Uruguay.

Table 2

Main financing sources for starting company, according to size of MSME

	Equity		Loans from family and friends		Bank loans	
	Financing more than 50%	Using %	Financing more than 50%	Using %	Financing more than 50%	Using %
Up to 4 people	71.9	82.6	10.0	17.0	4.0	7.0
Between 5 and 19 people	69.0	82.0	8.0	14.0	4.0	10.0
Between 20 and 99 people	60.0	86.0	6.0	11.0	1.0	81.0
Total	71.7%	82.3%	9.5%	16.2%	4.0%	8.1%

Source: Dynapyme

6.2. Recommendations

Improving micro and small enterprises' access to credit at competitive rates.

One of the most significant products that facilitate access to credit by MSMEs is financing through commercial invoices, under which an enterprise sells its accounts receivable (in the form of a trade invoice) to a financial institution at a discount rate. Invoice financing presents a clear advantage over other, more traditional forms of financing, as the credit risk is assumed by the account receivable (an enterprise that purchases a product or service) and not the supplier. It is a very attractive scheme for small enterprises that lack sufficient collateral and have less available financial information for evaluation by a financial institution.

The legal nature of the commercial invoice is recognised and it is categorised as a security, that can be used by entrepreneurs to transfer to a financial institution collections on goods and services provided to customers and receive payment with no long waiting periods. Its executability will allow for more expeditious enforcement by the courts. Although factoring is regulated in Uruguay by Law 17202, the costs of registering a collateral assignment are too high for micro and small enterprises and limit the use of this avenue. A regulatory change that reduced such costs would allow SMEs to extend the discounts on commercial invoices.

The SiGa, the National Collateral System, is designed to provide Uruguayan MSMEs with access to credit through bank or state guarantees for up to 60% of the bank credit for working capital or investment. Although the procedure is relatively simple, as financial institutions apply for use of the guarantee if they deem it necessary, legal enterprises must be formally incorporated, thus excluding from the programme a broad majority of small enterprises (some 70,000).

7. Promote expansion of banking correspondents

7.1. Diagnosis

The low number of customer service points one of the factors limiting banking penetration in Uruguay, especially in rural or less populated regions in the north of the country. The low density of branch offices and ATMs in some areas is due to the high costs of installing and operating bank branches compared to the low potential of local business.

7.2. Recommendations

Establishing a simple legal scheme for establishing banking correspondents

The main purpose of non-bank correspondents (CNBs) is to expand the number of customer service centres by increasing the use of non-traditional channels, authorising banks and credit institutions to provide financial services through non-bank entities such as shops, supermarkets, chemists and others. Underlying this scheme are the control and supervisory capacities that have been developed by banking institutions.

This penetration strategy, which has already been implemented in several countries of the region, would allow for broader geographic diversification, with the establishment of CNBs in regions with low concentration of branch offices and ATMs owing to low per capita incomes and thus reducing financial exclusion. CNBs operate at lower costs than traditional banks, with longer opening hours, and they do so through online data transmission systems in real time. Penetration of telecommunication services is decisive for the cost of installing banking correspondents, as such models are based on the exploitation of technology to reduce operating costs. At the same time, the services they offer are focused on facilitating transactionality, mainly in the dispatch and receipt of payments and clearing cheques.

For the system of banking correspondents to function properly, it is important to establish a clear regulatory system with precise controls that provide assurance to users. Establishments selected as correspondents must be of a minimum age, as this can be considered an indicator of the sustainability of the business.

In Uruguay, the coverage provided by the present extensive network of payment agencies could be exploited to establish banking correspondent operations. Nevertheless, it must be borne in mind that such correspondent activity would be undertaken by the banks, as it is significantly different from the present activity of the payment agency network, both in the scale of services and in supervision and control, which is superior in banking institutions.

In approximately 50% of ABITAB branch offices, the BROU has self-service facilities that can issue receipts for cashier withdrawals and make deposits. However, private banking institutions do not offer such facilities to their clients either through payment networks or through other establishments such as supermarkets and service stations where POS are available. This is partly due to the high costs of transferring money remittances between different points of sale for reasons of security.

One constraint on the development of this system for private banks is the problem of the clearing house administered by the central bank of Uruguay. But in the interior of the country, this is carried out through the physical clearing of cheques (with transfer of sums) in BROU branch offices, with a 48-hour delay in confirmation.

Box 5. International experiences in the introduction of correspondent banks¹⁸

Brazil is one of the countries that has a long history in the external provision of bank services for economic agents through the “non-bank correspondent” model. The model was created during the 1970s so that through retail stores, transactions such as receiving loan applications, analysis of personal information and the credit record of those applying for loans, collecting payments on loans, and data processing could be carried out .

In 2003, any financial institution authorized by the Banco Central do Brasil was allowed to contract any legally constituted entity as a correspondent to provide a wide range of services in any locality. At the present time, there are more than 95,000 registered correspondents throughout the entire country and in each of Brazil's 5,567 municipalities there is at least one correspondent that acts on behalf of some financial institution subject to regulation and prudential supervision, while in 1999, in contrast, there were 1,679 municipalities that lacked banking services.

It should be pointed out that most of the correspondents are commercial establishments, but financial institutions can also act as bank correspondents. The main networks processed approximately 104 billion dollars involving 1.5 billion transactions undertaken in 2006, which is a very low proportion, this number still represents only four percent of the 37 billion transactions operated in the bank sector.

According to data from the seven largest correspondent networks in Brazil, the payment of different accounts represents 70% of the transactions and 46.5% of the total value of the operations that all the correspondents undertake. This is followed by withdrawals and deposits (13.2% of the transactions and 25.6% of the total value) and credit operations (0.5 percent of the transactions and 12.0 percent of the total value). It is not necessary for the clients to have a bank account and they can conduct transactions in any of the bank's customer service windows, using cash or debit cards, although only bank account holders can receive payment transfers. For the banks, the main reasons for using correspondents are to

reduce costs and increase the client base through an expansion of their activities through correspondents in less populated and geographically dispersed villages.

In the **case of Mexico**, efforts to improve access to financial services through establishment by banks of branch offices, ATMs and TPVs have been supplemented in recent years by the use of correspondent banks. Since 2005, six banks (Banamex, Bancomer, Banorte, HSBC, Inbursa and Scotiabank) signed, with Telegrafos de Mexico (Telecom for its Spanish initials), mandate or commission agreements authorized by the National Banking and Securities Commission (CNBV for Comisión Nacional Bancaria y de Valores) to offer basic bank services (mainly receiving deposits in checkbooks and in credit and debit cards) through the 1,563 offices of the Telegraph Network that are linked with connectivity via land and, in some cases, through satellite. In this plan, Telecom acts as the customer's agent and for each bank transaction made, gives the customer a voucher from Telecom. Other retail establishments can carry out mandates for the provision of services related with money transfers for deposit in a bank account or cash availability.

The banks will be allowed to sign contracts with third parties (they can be commercial or service establishments, including other credit institutions or financial entities) to offer through them diverse basic financial services, such as: i) payments of diverse services, ii) cash withdrawals, iii) money deposits, iv) loan payments, v) fund transfers, vi) payments of cheques, and vii) consultation of balances and movements. In contrast with the mandate, under the new model, the correspondent agent always carries out the operations in the name and for the account of the bank, so that the funds that the customers deliver to him will be the responsibility of the bank from the moment they are received in the establishment. To this end, the establishment should keep a checking account that will allow it to compensate the different operations that customers might request, as described above (which reduces the risk of making a transaction in an erroneous account).

18: This box is based on several research papers prepared by BBVA Research in 2010 and 2011, particularly Mexico Bank Watch (February 2010) by BBVA Research.

The most recent modification to the correspondent bank plan occurred in June 2009, to set the limits on the operations of reception of money bank deposits (sight, term and in savings) and on the acceptance of loans and credits realized by the banks through the correspondents to reduce the risk of money laundering. The cap on transactions is USD 1,500 per individual (approximately 6,597.90 pesos); while the cap on aggregate transactions per commission agent is fifty percent of the total amount of transactions in the period by the bank.

According to some estimates of the Banco de Mexico published in the most recent Report on the Financial System, through the correspondents, in a few years, the coverage of the network of access to bank services could grow from 13.97 distribution points for every 100,000 inhabitants in 2008, to almost 20 distribution points for every 100,000 inhabitants. The exact number of years to reach this goal will depend on the speed and ease with which the banks and the retail establishments develop the business models that will meet the requirements specified by the authorities and that generate trust among the users of the financial services.

In Colombia, authorisation was granted the operation of CNB financial establishments as part of promoting the "Banca de Oportunidades" programme. In April 2010, some 5,568 CNBs were operating in the country, 4,213 (75%) of which were owned by Citibank, whose CNBs operate at Baloto lottery outlets. This mechanism takes on great importance in the country, as prior to their functioning and, according to a study by the National Council of Economic and Social Policy (Conpes), banks (not including the state-owned Banco Agrario) reached only 25% of the municipalities of the country and 73% of the population. At present, CNBs cover 1,102 municipalities with at least one CNB per municipality. Between June 2007 and April 2010, the number of transactions handled by these established increased to 32 million, with an aggregate total of 6.1 billion pesos in transactions (approximately USD 3 billion). In 2007, some 262 monthly transactions were executed, for a total amount of 45.3 billion pesos (approximately USD 23 million). However, by April of this year, some 1,683,544 transactions were executed, amounting to 323 billion pesos (approximately USD 165 million).

In Peru, statistics indicate that the financial system possessed a total of 3,093 branch offices and 4,839 ATMs, growth of 76% and 85%, respectively, on the totals at year-end 2006 (1,757 branch offices and 2,617 ATMs). Peru has one of the most highly developed systems of banking correspondents (CNBs): at December

Chart 29
Number of correspondent agents in selected countries. (Units)

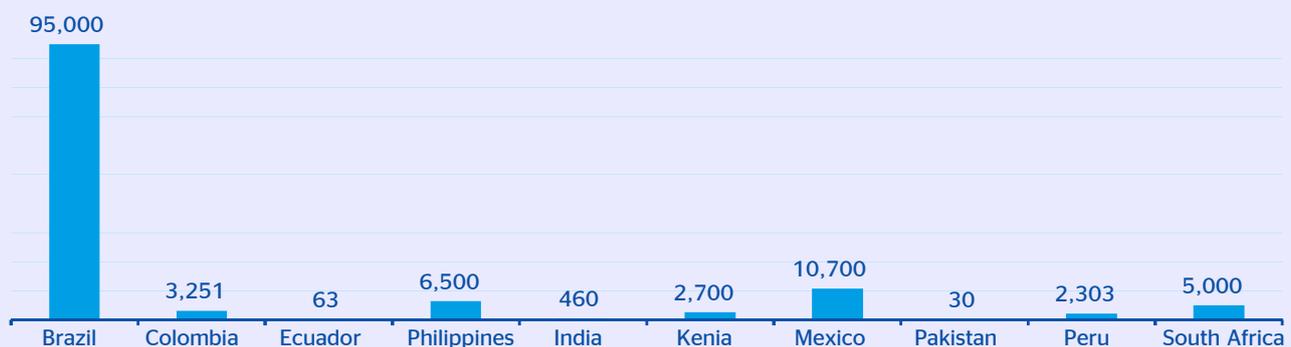


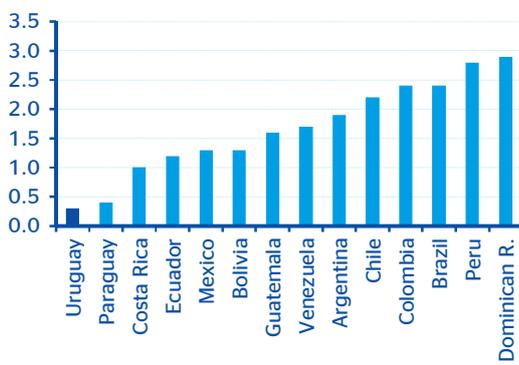
Figure includes commercial units that do not yet offer services and have commercial associations with banks under schemes prior to changes in the LIC of 2008. For other countries, "Notes on Regulation of Branchless Banking in Brazil". CGAP, February 2008. Sources: For Mexico, "Reporte sobre el Sistema Financiero", Banco de Mexico, 2009

8. Banking cost structure

8.1 Diagnosis

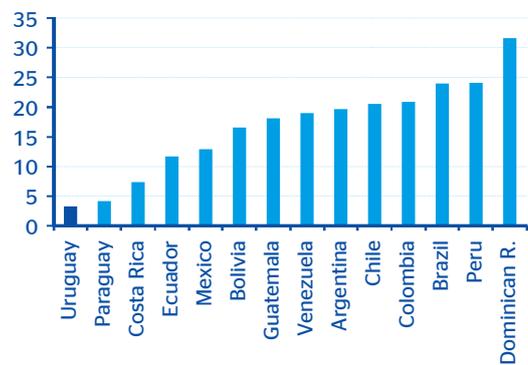
One of the most oft-cited issues in studies of the state of the Uruguayan banking system is the high operating costs. Lorenzo (1999) noted that Uruguay had some of the highest labour costs in the world. In fact, a comparison of return ratios such as in Chart 3.7 shows that Uruguay has the lowest Return on Assets (RoA) and Return on Equity (RoE) for banks in Latin America.

Chart 30
Comparison of return ratios for Latin America
(%). Return on assets (RoA), 2010



Source: IMF

Chart 31
Comparison of return ratios for Latin America
(%). Return on Equity (RoE), 2010



Source: IMF

With current low rates of return, it is clear that the possibilities of expanding credit in Uruguay are quite limited. Research by Buchello (1992) highlighted that one of the main factors that raise operating costs relates to the sector's labour costs. The study noted that a bank employee earned 116% more than other employees of similar qualifications. This factor becomes more complicated in the present macroeconomic environment, with its high levels of liquidity and correspondingly low returns, in addition to upward exchange rate pressures.

According to the International Monetary Fund (2011), compensation of bank employees grew from 10% to 40% of the net financial margin between 2005 and 2009. This measure includes not only wages, but also social security payments. The IMF also points out that **low returns, influenced by the high costs of banking, especially labour costs, is hindering bank penetration in broader sectors.** Any hypothetical growth of banking faces the problem of having to hire costly employees while, in contrast, it would have to grant very cheap credit, particularly in current liquidity conditions. This structural problem of high costs means that the room left open by the banks has been occupied by other entities that have been creating tangible financial relations with the public. So-called payment networks and non-bank lenders are not governed by bank employee labour law. Hence, such entities do not incur the same high costs as banks when hiring employees.

The **emergence of such financial institutions with limited experience, or with experience based solely on their recent advances in the market, has aroused concern in some studies, mainly in the evaluations of the International Monetary Fund (2009, 2011).** Although the recent extension of credit to broader sectors of the population has come from non-bank institutions, certain risks may exist, as such institutions are subject to lesser regulation compared to banks. In addition, a process of financial penetration without such experienced institutions may run the risk of not being sustainable over time.

8.2. Recommendations

The problem of banks' operating costs includes aspects related to the Uruguayan labour market, an extremely sensitive matter to solve. The current government's efforts to address these problems are known, and the same report by the International Monetary Fund (2011) also emphasised these efforts, while it underscored the risks of incurring larger wage increases in this sector in the future.

Estimate of the impacts of the proposed core measures

According to World Bank data, Uruguay's level of credit to GDP stood at 24.5% in 2009. In the event of reforms of all the institutional or regulatory variables in the analysis, with each of the variables shifted to the levels defined in each scenario, the long-term impact on the level of credit would be considerable.

According to the estimates of BBVA Research based on a statistical model of credit growth and potential economic growth, if Uruguay makes no reforms, the level of credit would increase from 24.5% of GDP in 2009 to 32.5% of GDP in 2020, owing to the demand generated by growth of the economy and to factors of convergence in financial development. In 2009, the credit gap between Uruguay and Chile in terms of percentage of GDP was nearly 70 points of GDP. If no reforms are undertaken in either country, the dynamics of development and economic growth in each country would widen the financial development gap between the two countries to 85% of GDP by 2020 (32.5% in Uruguay and 117.6% in Chile).

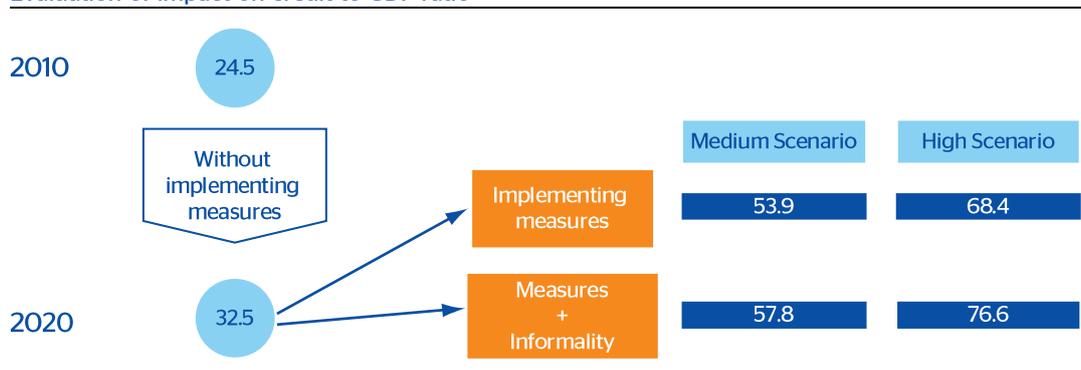
Table 3
Impacts of some proposals on credit-to-GDP ratio of 2020

	Medium Scenario	High scenario
Credit information	2.4	2.4
Legal Framework	4.1	6.0
Property Registry	6.1	11.5
Banking Infrastructure	5.2	10.3
Cost Structure	3.7	5.8
Total	21.4	36.0
Informality Reduction Measures	3.9	8.2
Total with Informality Reduction Measures	25.3	44.2

Source: BBVA Research

But if Uruguay managed to enact all the proposed institutional and regulatory improvements, the credit-to-GDP ratio in the medium and high scenarios could increase by 25.3 and 44.2 points, up to 57.8 and 76.6 points of GDP, respectively, by the year 2020. In the high scenario, the appropriate reforms could boost bank credit penetration to levels similar to that of Vietnam in 2007 (98.8%) or Thailand in 2008 (78%), while in the medium scenario, the reforms would take credit penetration to levels similar to Hungary in 2007 (57.2%) or Tunisia in 2009 (58.5%).

Figura 1
Evaluation of impact on credit-to-GDP ratio



Source: BBVA research

Appendix 1: the Uruguayan financial system

The Uruguayan banking system consists of two public banks (Banco República and Banco Hipotecario) and 12 private banks that, except for Nuevo Banco Comercial, are fully or majority owned by foreign capital. The financial system is also composed of 1 cooperative, 5 financial houses, 4 external financial institutions (offshore banks) and 4 savings banks.

The bulk of operations lies in the hands of commercial banks (banking system), in which private banks account for practically half of the assets and liabilities of the financial system, while public banks account for between 40% and 42%.

Table 4
Structure of the Uruguayan financial system

Institution Type	No. Institutions	Assets	%	Liabilities	%	Equity	Institution Type
Public Banks	2	11,223	39.9	10,414	40.3	1,810	54.2
Private Banks	12	14,623	51.9	13,254	51.3	1,369	41.0
Cooperatives	1	20	0.1	13	0.1	7	0.2
Financial Houses	5	282	1.0	210	0.8	72	2.2
External Financial Institutions	4	1,985	7.0	1,905	7.4	79	2.4
Pension Fund Managers	4	30	0.1	25	0.1	5	0.1
Total	28	28,163	100	25,821	100	3,342	100

Figures in millions of dollars and % of share at 31 March 2011.
Source: CBU

Some 71% of public bank liabilities correspond to deposits of the resident non-financial sector and only 3% to non-resident deposits, while in private banks the share of non-resident deposits is 20% of total liabilities, where the resident share stands at 60%; the rest comprise deposits of other financial institutions along with the BCU and other liabilities.

Table 5
Liability structure (%)

	OIF SF and BCU	Resident Private SNF Deposits	Non-Resident Private SNF Deposits	Others OIF SNF	Other Liabilities
Public Banks	2	71	3	18	5
Private Banks	4	60	20	4	12
Total	3	65	13	10	9

At 31 March 2011.
Source: CBU

In terms of banking system assets, there is no differentiation between residents and non-residents, as the latter do not carry as much weight. Some 37% of the public bank assets are credits to the resident non-financial sector, while 31% of the private bank assets are loans to the private sector, according to central bank data at September 2010. A significant portion of assets is allocated to the interbank market and the central bank, which may be a constraint on credit expansion.

Table 6
Asset structure (%)

	Available	Securities	SF and BCU Credits	SNF Credits	Other Assets
Public Banks	6	14	37	37	6
Private Banks	11	16	30	31	13
Total	9	14	33	34	10

At 31 March 2011.
Source: CBU

Appendix 2: panel data exercises for Uruguay

Objective and Procedure:

The objective of this exercise is to identify the most important factors in the level of financial development, as measured by the ratio of bank credit to GDP and quantify the effect in Uruguay of certain structural reforms in factors that may be subject to regulatory changes or through appropriate public policies.

The first step is to make a statistical estimate of the principal variables determining financial development, taking into account the main constraints and factors identified in economics literature.

The estimate result is used to simulate the effect of possible improvements in key institutional factors, through use of coefficients estimated in the econometric model.

Specification of Model and Data Used

A number of variables have been included as the determining factors of the level of financial development (credit/GDP) in accordance with the relevant economics literature. The basic specification of the model is as follows:

$$CREDIT/GDP_{it} = \beta_1 GDP\ GROWTH_{it} + \beta_2 INFLATION_{it} + \beta_3 COST/INCOME_{it} + \delta_i + u_{it}$$

where:

- $CREDIT/GDP$ is credit to the private sector as a percentage of the country's GDP i in year t .
- $GDP\ GROWTH_{it}$ is the country's GDP growth rate i in year t .
- $INFLATION_{it}$ is the country's inflation rate i in year t .
- $COST/INCOME_{it}$ is the ratio between total costs as a proportion of total income of all the country's commercial banks i in year t .

The country effect δ_i breaks down into several regulatory and institutional factors that vary from country to country, but which are invariable over time, plus an unknown country factor or effect ε_i as follows:

$$\delta_i = \alpha_1 LEGAL\ FRAMEWORK\ STRENGTH\ INDEX_i + \alpha_2 INFORMATION\ INDEX_i + \alpha_3 PROPERTY\ RIGHTS\ INDEX_i + \alpha_4 INFORMALITY_i + \alpha_5 INFRASTRUCTURE_i + \varepsilon_i$$

where:

$LEGAL\ FRAMEWORK\ STRENGTH\ INDEX_t$ is the first component of a PCA model that summarises two other variables. The first variable is an indicator of legal rights that measures the collateral and insolvency laws protect the rights of borrowers and lenders, thus facilitating the granting of credit. The second variable is a proxy for the ease with which a contract can be enforced. The proxy is the average cost of a legal process to enforce a contract, measured as a percentage of the claimed amount.

The $INFORMATION\ INDEX$ is the first component of a PCA model that includes data from a group of credit information indicators, and it measures the coverage, scope, equality and accessibility of available credit information through public and private credit registries. This index weighs the following variables: the credit information quality index (as per *Doing Business*), the coverage of private credit bureaus (% of total adult population) and the coverage of public information records (% of total adult population).

$PROPERTY\ RIGHTS\ INDEX$ is the first component of a PCA model that includes data from a number of indicators of the difficulty in registering a property. The index measures how easy it

is for economic actors to legally register a property they have recently acquired in their name. This index weighs the following variables: The number of procedures required to register a property, the number of days required by registry procedures and the average registration cost as a percentage of the value of the property to be registered.

INFORMALITY. Percentage of informal economy of a country.

INFRASTRUCTURE is an indicator of the level of banking infrastructure. As a proxy for this variable, we used a compound indicator of the coverage of automatic teller machines (ATMs) by inhabitant and by geographic area. The indicator is the first component of a PCA model with two variables. The first variable is the number of automatic teller machines (ATMs) for every 100,000 people and the second is the number of automatic teller machines (ATMs) for every square kilometre.

The variables from the *Doing Business* report, namely the informal economy variable, and more specifically, the new indices based on the original indicators of Doing Business, were introduced in the estimate by using an average of the period 1997-2010 of all the observations in a country. This was done due to the aforementioned low or null temporal variability of said variables and because the country effect cannot capture the time effect of such variables. Hence, the estimated effect of such variables can be associated to a long-term effect and thus increase the number of usable observations.

One potential problem of the foregoing estimate is the fact that both the level of informality and of banking infrastructure are potentially endogenous to the level of financial development. To verify whether the above estimate is skewed by the endogeneity of these variables, another estimate is made in which the variables are included, lagged by one period. In this case, original institutional variables are used without averages, as in the estimate by means of FEVD.

The specifications in this case is as follows:

$$CREDIT/GDP_{it} = \beta_0 GDP GROWTH_{it} + \beta_1 INFLATION_{it} + \beta_2 SPREAD_{it} + \beta_3 LEGAL FRAMEWORK STRENGTH INDEX_{it-1} + \beta_4 INFORMATION INDEX_{it-1} + \beta_5 PROPERTY RIGHTS INDEX_{it-1} + \beta_6 INFORMALITY_{it-1} + \beta_7 INFRASTRUCTURE_{it-1} + u_{it}$$

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

Institutional variables such as the Legal Rights Strength Index of borrowers and lenders, the Credit Information Scope Index, the Public Credit Registry Coverage Index, Coverage of Private Credit Bureaus, several indicators on Enforcing Contracts, and several indicators on Registering Properties come mainly from the World Bank's *Doing Business* programme and the International Financial Corporation. Data on ATM coverage come from the *Financial Access Survey* database of the International Monetary Fund. The informality variable comes from Schneider et al (2010).

Methodology

As noted above, one of the main objectives of this exercise is to determine the effect of different institutional and/or regulatory variables on financial development. One of the main problems of such institutional variables in a data panel econometric model is that they are either invariable over time, or the changes over time are very infrequent. If variables remain totally invariable over time, a fixed-effect panel model cannot identify the effect or coefficient on the dependent variable. With variables that vary very little over time and in which the largest variation occurs between units (countries), a fixed-effect panel model eliminates any variability between countries and can estimate only the effect of small changes over time, significantly diluting the estimated effect.

Moreover, an individual random effects model can include variables that do not vary over time, but the estimate with this methodology will be skewed and inconsistent if any of the explanatory variables is correlated to any variable not observed at an individual level (country)

that is not included among the explanatory variables of the model, which almost certainly occurs when working with institutional variables. Consequently, this paper uses the Fixed Effect Vector Decomposition (FEVD) method introduced by Plumper and Troeger (2007). According to this authors, this method is much less skewed than that of random effects, and it also shows better properties in small samples than alternatives such as that developed by Hausman-Taylor (1981).

It is important to note that the results found with this methodology are quite robust, as both the estimated values of the parameters and their statistical significance are quite similar if the econometric model is estimated with a regression of feasible generalised least squares (FGLS) with random effects, whether controlled by possible self-correlation of errors or not.

Further, several indices are built with the Principal Component Analysis to summarise the information in different indicators that measure variables that are either very similar or related to one another.

Results of the Regression

Table 1 shows the main results of the estimation with the three different panel methodologies discussed in the methodology section. The first column shows the results of the first estimation with the fixed-effect vector decomposition model (FEVD). The second column estimates the same specification as in the first column, the Cost to Income variable is lagged in order to minimise possible problems of multicollinearity between this variable and inflation, and to reduce any possible endogeneity of this variable.

The third and fourth columns give the results of the same specification, but estimated with a random effect model. The second column uses a simple model of random effects through generalised least squares and the third column uses a similar model, but allowing model errors to be self-correlated. In the former case, a standard robust errors estimate is used, and heteroscedasticity is modelled with FGLS.

As per the results in the first estimate, the level of financial development positively and significantly depends on the credit information index (quality and coverage), positively on the banking infrastructure index, the strength of the legal framework and the credit information index. It also negatively depends on the property registry index (costs and difficulty of registering a property) and the level of informality. In the estimates of columns 3 and 4, the signs of the institutional variable coefficients are maintained, although the statistical significance does not hold in some variables of the third specification. However, the results do hold in specifications 1, 2 and 4, which are the most adequate specifications, which confirms the robustness of the results.

Table 7

Estimation and results

	FEVD	FEVD	FGLS (Random Effects)	FGLS AR(1)
Inflation	-0.0157 (0.694)	-0.0209 (0.639)	-0.0181* (0.062)	-0.0192*** (0.004)
Growth	-0.0001 (0.939)	-0.0001 (0.950)	0.0001 (0.880)	0.0006 (0.185)
Cost/Income	-7.0924* (0.095)	-14.0410** (0.048)	-1.1478 (0.797)	-7.4338*** (0.000)
Information index	3.7627* (0.089)	4.1055* (0.095)	3.6017 (0.277)	4.2259*** (0.000)
Property Registration Cost Index	-5.3729* (0.079)	-5.4848* (0.076)	-3.0398 (0.158)	-5.5780*** (0.000)
Legal Framework Index	6.5017** (0.044)	6.3298** (0.035)	4.7201 (0.112)	4.7066*** (0.000)
Informal economy	-1.1562*** (0.000)	-1.1301*** (0.000)	-0.9410*** (0.000)	-1.0121*** (0.000)
ATM Coverage	27.1844*** (0.000)	27.0511*** (0.000)	38.6408*** (0.000)	35.2747*** (0.000)
Constant	93.7565*** (0.000)	97.6199*** (0.000)	94.7338*** (0.000)	100.9222*** (0.000)

Source: BBVA Research

To further test the robustness of the results, an evaluation was made of the effect of including original variables from the *Doing Business* report without summarising them in new indices built through principal component analysis. That is, the indices constructed with PCA analysis were replaced with the individual variable included in each index. Although the results of each exercise are not shown in this document, the estimated coefficients maintain their significance and the trend in practically all cases.

Estimation of possible improvements in determinants of credit as percentage of GDP

To estimate the effect of possible reforms in institutional determinants, the coefficients estimated in the econometric model are used. Coefficients from the second specification (column 2) are used in every case. Given that some explanatory variables introduced in the model are comprised of other variables weighted according to a PCA analysis, this section explains the breakdown of the indices and how they vary if the underlying variables change.

To calculate how the credit/GDP ratio can increase if independent variables are changed, we use the the highest value of each institutional variable in Latin American countries as the criteria for possible improvement. If Uruguay has the best score of Latin American countries, the distribution of changes in the variable within the sample countries in the last 10 years is used as the criterion.

It should be pointed out that both the estimate of the statistical model and in the estimation of the impact of regulatory or institutional changes, the endogenous nature of financial development and economic development and/or economic growth is ignored. For instance, the estimation of the impact of reforms in institutional variables could be skewed downwards, as a change in such variables generates not only a change in the level of bank credit, but the increase in credit can also generate a further impact in the level of economic development (GDP per capita), which in turn has a positive impact on credit penetration.

Changes in the Quality and Coverage of Credit Information

The information indicator used in the analysis is a synthetic index that groups together another three variables from the *Doing Business* report. As this is the variable in which Uruguay shows the best relative results, only one improvement scenario is analysed. In 2010, Uruguay presents an information quality index of 6 points, out of a maximum of 6 possible points. In addition, Uruguay has 97% coverage of private bureaus in Latin America.

The variable with the best likelihood for improvement would be the coverage of public credit registries, which comes out at 18% in Uruguay. These three indicators give Uruguay a score of 3.07 in our synthetic information index, as per the weights of the information index shown in Table 2, one of the highest in the region. Malaysia has the highest level in the sample, with a score of 3.71, while Chile has a much lower score, 1.91.

Uruguay has the highest possible score in the *Doing Business* information quality index, so the value of this variable cannot be improved. Moreover, the coverage of private bureaus would be difficult to improve. However, there is room for increasing the coverage of public information registries from its present level of 23% up to a level comparable to that of the country with the best coverage in Latin America, Ecuador (37%). If such an increase in coverage were to occur, Uruguay's score in the synthetic information index would increase to 3.65, and the credit/GDP ratio would increase by 2.36 points of GDP, as shown in Table 3.

Table 8

Composition of Information Index

Information Index	Weight in index
Information quality index	0.701
Private bureau coverage	0.632
Public registry coverage	0.330

Source: Doing Business and BBVA Research

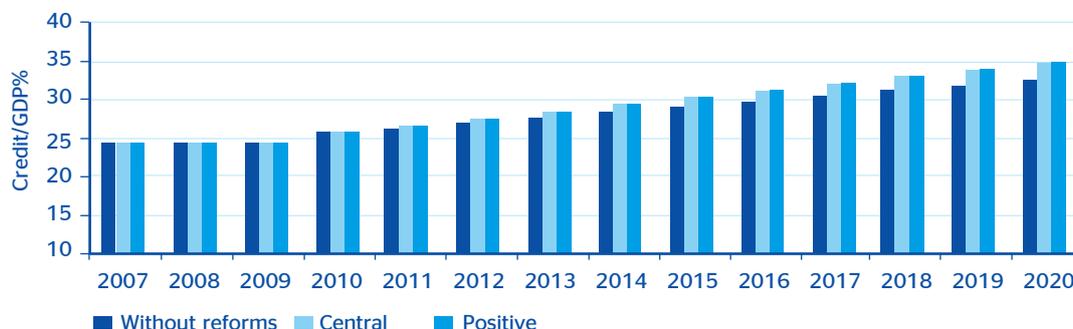
Table 9

Increases in the credit/GDP ratio due to improvements in Information Index. High scenario

Increases due to improvement in information	Variable value 2010	Improvement value	Information index value	Credit/GDP change
Uruguay index score 2010			3,073	
Information quality index	6	6	3.07	0.00
Private bureau coverage	97%	97%	3.07	0.00
Public registry coverage	17.8%	37%	3.65	2.36
Improvements in all indicators			3.65	2.36

Source: Doing Business and BBVA Research

Chart 32
Reforms in credit information variables



Source: Doing Business y BBVA research

Changes in Strength of Legal Framework: Reduction in costs of enforcing contracts and strengthening of legal rights of borrowers and lenders

Our synthetic index on the Strength of the Legal Framework used in the analysis is comprised of two underlying variables from the *Doing Business* report. According to the report, the cost of enforcing a contract through the courts in Uruguay accounted for an average of 19% of the claimed total in 2010. Uruguay also has an average level of legal protection for borrowers and lenders, with a score of 5 out of 10 possible points. The highest level of protection in the world is provided in Malaysia and Hong Kong, which have scores of 10, while the best protection in Latin America exists in Guatemala, with 8 points.

These two indicators give Uruguay an overall score of 0.34 in our synthetic index of Strength of the Legal Framework, in accordance with the relative weights of variables shown in Table 4. The higher the level in the index, the easier it is to enforce a contract in court and better protected are the rights of borrowers and lenders in a credit contract. The country with the best level 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. Uruguay has a good score, as it is a higher priority to boost the legal protection of creditors than lower the cost of enforcing a contract, as the latter variable is quite low by both global and regional standards.

Given that room for improvement in enforcement of contracts is quite limited, only one scenario is analysed in this case. In such a scenario, Uruguay could equal the country with the best level, which is Argentina with 16.5%. Uruguay's score in the synthetic index of the strength of the legal framework would increase to 0.41, and the ratio of Credit/GDP would rise by 0.41 percentage points of GDP.

Further, the improvement in legal protection of creditors is much greater. For this variable, we have used the "High" scenario, in the even Uruguay should equal the Latin American country with the best score, which is Guatemala with 8 points (having increased from 3 to 8 between 2008 and 2010). In this scenario, credit would increase by 5.58 percentage points of GDP.

If the increase were slightly lower, and Uruguay managed to equal the second best country in the region, which is Peru with 7 points (medium scenario), credit would increase by 3.72 percentage points of GDP.

Finally, if Uruguay were to enact legal reforms that both improved legal protection of creditors and reduced the costs of enforcing a contract, it would increase the level of Credit/GDP between 4.13 and 5.99 percentage points of GDP in the medium and high scenarios, respectively.

Table 10

Composition of strength of Legal Framework Index

Strength of Legal Framework Index	Weight in index
Strength of Legal Rights of Lenders/Borrowers	0.71
Cost of enforcing a contract	-0.71

Source: Doing Business and BBVA Research

Table 11

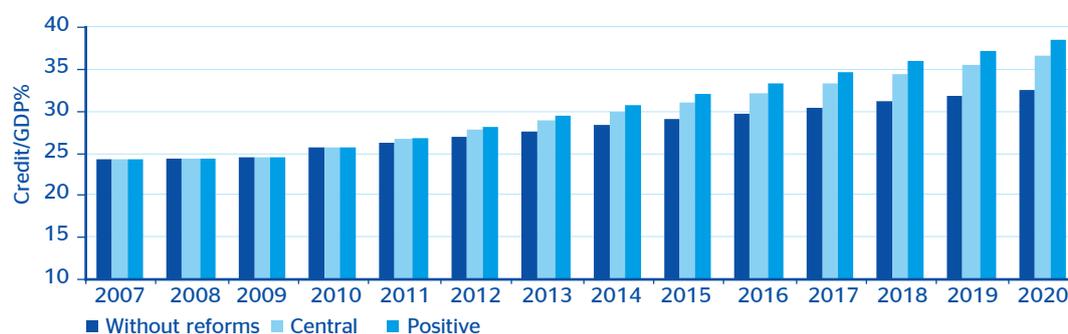
Increases in the credit/GDP ratio due to improvements in strength of Legal Framework Index

Increase due to improvement in Legal Framework	Variable value 2010	Improvement value	Value of Legal Framework index	Credit/GDP change
Index value 2010			0.34	
Legal Rights Index (medium scenario)	5	7	0.93	3.72
Legal Rights Index (high scenario)	5	8	1.22	5.58
Cost of enforcing a contract as percentage of claim	19%	16.5%	0.41	0.41
Change in two indicators (medium)			0.99	4.13
Change in two indicators (high)			1.29	5.99

Source: Doing Business and BBVA Research

Chart 33

Reforms in Legal Framework: enforcing contracts and legal rights



Source: Doing Business y BBVA research

Changes in procedures, time and costs of Registering Properties

Similarly to the two previous cases, our synthetic index of registration of properties used in this analysis is composed of three underlying variables from the *Doing Business* report. According to the report, some 9 different procedures were required in Uruguay to register a property (dwelling) in 2010. Said procedures take approximately 66 days. This means that the cost of registering a property accounts for an average of 7.1% of the total value of the property.

These three indicators give Uruguay a score of 0.679 in our synthetic Registering Properties index, as per the weights of the variables shown in Table 6. The higher the value in the index, the more difficult it is to register a property. The mean in the sample is zero, and the least difficult country for registering a property is United Arab Emirates, with a score of -2.1456. The least difficult Latin American country is Guatemala, with a score of -1,356, followed by Uruguay and Chile with -0.8236.

The degree of difficulty to register a property in Uruguay could be considered relatively high.

The values for improvement in a "medium" scenario are defined as follows:

i) For the "number of procedures" variable, we assume that the improvement is equal to the value of the percentile 75 of the change in the variable in the last 10 years within the sample total. ii) For the "number of days required to register a property", the improvement would be equal to the percentile 50 of the change of said variable in the last 10 years within the countries of the sample. iii) For the "cost of registering a property" variable, the improvement would be equal to the value of percentile 75 of the change in the last 10 years in the variable within the countries of the sample.

In this scenario, if Uruguay were to reduce the number of procedures required to register a property from 9 to 6, its score in the synthetic index would change to -0.056 and credit would increase to 4.03% of GDP, as shown in Table 7. If it reduced the number of days needed to register a property from 66 to 49, credit would increase by nearly 0.53% of GDP. Finally, if Uruguay reduced the cost of registering a property from the current 7.1% to 4.3%, the synthetic index of Registering Properties would change to 0.405 and credit would increase by 1.5% of GDP. In aggregate, if Uruguay were to carry out reforms that reduced all the above variables, credit could increase by 6.06% of GDP, as shown in Table 7.

The improvement values in a "high" scenario are defined as follows:

i) For the "number of procedures" variable, we assume that Uruguay would equal the best Latin American country, which is Guatemala with 4 procedures. ii) For the variable "days required to register a property", we assume that Uruguay would equal the best Latin American country, which is Peru, with 14 days. iii) For the "cost of registering a property" variable, we assume that Uruguay would equal the best Latin American country, which is Chile with 1.3%.

As per these values, the effect of reducing the number of procedures would represent an increase in credit of 6.72% of GDP, the effect of reducing the time required to register a property would be 1.63% of GDP and the effect of reducing the cost of registering a property would be 3.11% of GDP. If Uruguay carried out reforms that reduced all the foregoing variables, credit could increase by 11.46% of GDP.

Table 12
Composition of Registering Properties Index

Registering Properties Index	Weight in index
Number of Procedures	0.604
Days required	0.587
Cost of registration as percentage of property's value	0.540

Source: Doing Business and BBVA Research

Table 13

Increases in the credit/GDP ratio due to improvements in Registering Property Index. Medium Scenario

Increase from improvement in registering properties	Variable value 2010	Improvement value	Value in Registering Properties Index	Credit/GDP change
Uruguay index score 2010			0.679	
Number of Procedures	9	6	-0.056	4.03
Days required	66 days	49 days	0.581	0.53
Cost of registration as percentage of property's value	7.1%	4.3%	0.405	1.50
Improvements in all indicators			-0.427	6.06

Source: Doing Business and BBVA Research

Table 14

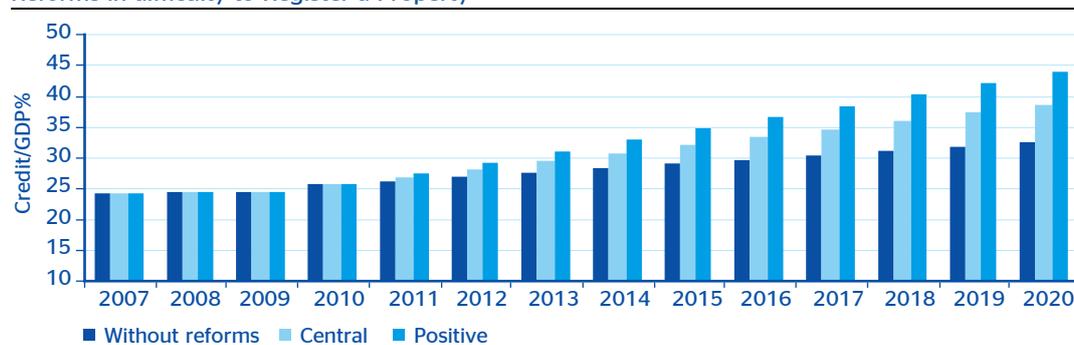
Increases in the credit/GDP ratio due to improvements in Registering Property Index. High scenario

Increase from improvement in registering properties	Variable value 2010	Improvement value	Value in Registering Property Index	Credit/GDP change
Uruguay index score 2010			0.679	
Number of Procedures	9	4	-0.546	6.72
Days required	66 days	14 days	0.381	1.63
Cost of registration as percentage of property's value	7.1%	1.3%	0.111	3.11
Improvements in all indicators			-1.411	11.46

Source: Doing Business and BBVA Research

Chart 34

Reforms in difficulty to Register a Property



Source: Doing Business and BBVA research

Improvements in bank efficiency ratio

In accordance with the Cost to Income ratio, the Uruguayan financial system has a medium-to-low level of efficiency, both in Latin America and worldwide. Hence, there is wide room for improvement.

In efficiency, the medium and high scenarios for the next 10 years were defined in accordance with the statistical distribution of the change of the cost to income ratio in the sample:

- i. In the medium scenario, Uruguay improves its efficiency by 26 percentage points, going from 0.73 to 0.47. Such an improvement in efficiency corresponds to the percentile 75 of the change in the variable in the last ten years within the countries of the sample.

- ii. In the high scenario, Uruguay improves its efficiency ratio to 0.32. Such an improvement in efficiency corresponds to the percentile 90 of the change in the variable in the last ten years within the countries of the sample.

In the medium scenario, a reduction of informality would lead to an increase in the Credit/GDP ratio of 3.69 percentage points. In the high scenario, the increase in the credit/GDP ratio would be 5.81 percentage points.

Table 15

Increases in the credit/GDP ratio due to increase in cost-to-income ratio

Increase from improvement in efficiency	Index value	Credit/GDP change
Uruguay 2009 value	0.73	
Medium Scenario	0.47	3.69
High scenario	0.32	5.81

Source: Doing Business and BBVA Research

Improvements in banking infrastructure

One of the reforms that would have the greatest impact on the level of Uruguayan financial development is an improvement in banking infrastructure. As a proxy for banking infrastructure, we have used ATM coverage. Uruguay has a medium-to-low level of coverage. The banking infrastructure index we are using is comprised of ATM coverage in terms of population (ATMs per 100,000 inhabitants) and in terms of geographic area (ATMs per 1000 km²). In 2009, Uruguay had 30.6 ATMs for every 100,000 inhabitants and 4.5 ATMs for every 1000 square kilometres, with 785 ATMs functioning in the country.

The medium and high scenarios in this case are as follows:

As a medium scenario, we used the median value (percentile 50) of the increase in the ratio of ATMs for every one hundred thousand inhabitants in the last 10 years. As a high scenario, we used the value of percentile 75 of the increase in the ratio of ATMs for every one hundred thousand inhabitants in the last 10 years. Within the sample of countries analysed, there are cases such as Moldavia, which went from a ratio of 36 ATMs for every one hundred thousand inhabitants in 2004 to a ratio of 236 in 2009. United Arab Emirates or Macao also increased their ratios by nearly 80 points within 5 years.

The median increase in ATM coverage in the sample (in 10 years) is 12.4 points. So if we use this value as the medium scenario, the ratio of ATMs for every 100,000 inhabitants of Uruguay would increase from 30.6 in 2009 to 43 in 2020. If we assume such a change, and assuming a constant rate of population growth of 1.2% a year, the ratio of ATMs for every 1000 km² would change from 3.5 in 2009 to 6.7 in 2020. In accordance with these changes in the infrastructure ratios, our banking infrastructure index would change from -0.416 to -0.273, which would generate an increase of 5.16 points of GDP, as shown in Table 13.

The percentile 75 of the increase in ATM coverage in the sample (in 10 years) is 24.8 points, which is used to define our high scenario. In this case, the ratio of ATMs for every one hundred thousand inhabitants of Uruguay would increase from 30.6 in 2009 to 55.4 in 2020. Consequently, the ratio of ATMs per 1,000 km² would go from 4.5 in 2009 to 8.7 in 2020. In accordance with these changes in the infrastructure ratios, the increase in the high scenario would be 10.25 points of GDP (see Table 11).

Table 16
Composition of Banking Infrastructure Index (ATMs)

Banking Infrastructure Index	Weight in index
ATMs for every 100,000 inhabitants	0,71
ATMs per 1000 km ²	0,71

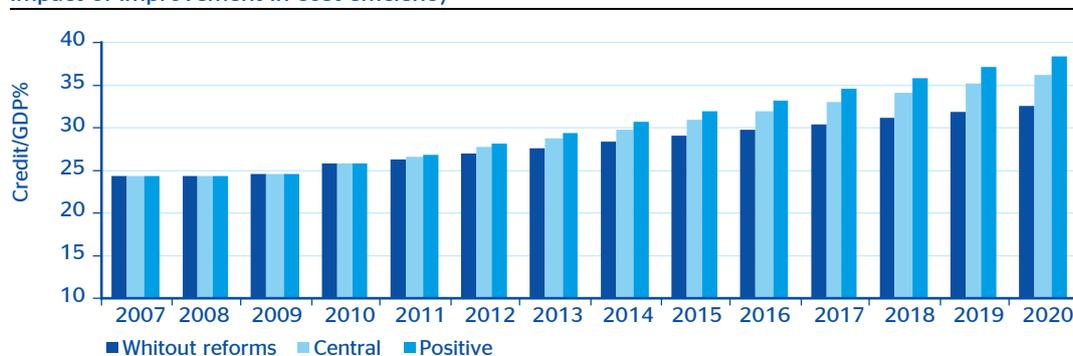
Source: Financial Access and BBVA Research

Table 17
Increases in Banking Infrastructure (ATM coverage)

Increase from improvement in Banking Infrastructure	Variable value 2010	Improvement value	ATM Coverage Index value	Credit/GDP change
Index value 2010			-0.416	
Medium Scenario				
ATMs for every 100,000 inhabitants	30.6	43.0	-0.085	5.13
ATMs per 1000 km ²	4.5	6.7	-0.273	0.03
Medium Scenario			-0,083	5.16
High Scenario				
ATMs for every 100,000 inhabitants	30.6	55.4	0.224	10.20
ATMs per 1000 km ²	4.5	8.7	-0.271	0.02
High Scenario Total			0.227	10.25

Source: Financial Access and BBVA Research

Chart 35
Impact of improvement in cost efficiency



Source: BBVA research

Changes in level of Informal Economy

In accordance with the present values of all the variables analysed, one of the variables that could have the greatest impact and which has room for improvement is the level of the informal economy. Uruguay has a very high level of informal economy, both in Latin America and worldwide, especially if it is compared with its level of economic development.

In the case of informality, the medium and high scenarios for the next 10 years were defined in accordance with the statistical distribution of the change of the informality in the sample:

- i. In the medium scenario, Uruguay reduces its informality level by 3.4 percentage points, going from 56% to 52.6%. Such a reduction in informality corresponds to the percentile 75 of the change in the variable in the last ten years within the countries of the sample.
- ii. In the high scenario, Uruguay reduces its informality level to 35.2%. Such a reduction in informality corresponds to the percentile 90 of the change in the variable in the last ten years within the countries of the sample.

In the medium scenario, the reduction of informality would lead to an increase in the Credit/GDP ratio of 3.86 percentage points. In the high scenario, the increase in the credit/GDP ratio would be 8.16 percentage points.

Table 18

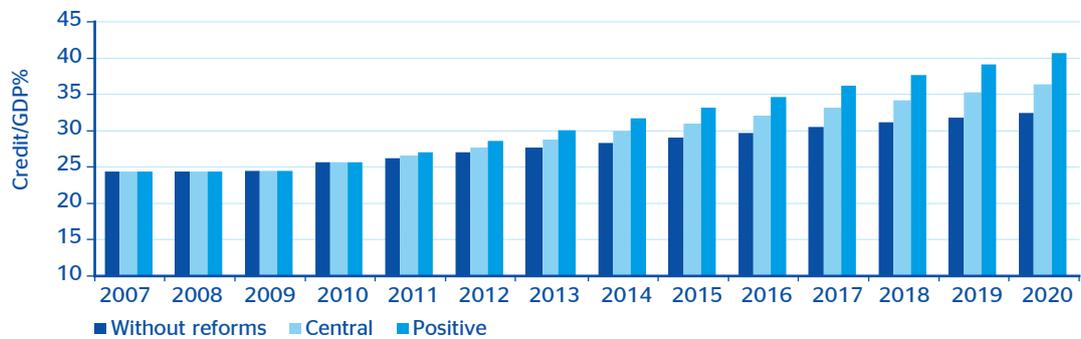
Increases in the credit/GDP ratio due to reduction of informal economy

Increase due to improvement in informal economy	Index value	Credit/GDP change
Uruguay 2007 value	56%	
Medium Scenario	52.6%	3.86
High scenario	48.8%	8.16

Source: BBVA Research

Chart 36

Impact of reduction in informal economy



Source: BBVA research

Summary of Impacts of Possible Reforms in Level of Financial Development (credit/GDP)

According to World Bank data, Uruguay's level of credit to GDP stood at 24.5% in 2009. In the event of reforms of all the institutional or regulatory variables in the analysis, with each of the variables shifted to the levels defined in each scenario, the long-term impact on the level of credit would be considerable.

According to the previous estimates of BBVA Research based on a statistical model of credit growth and potential economic growth, if Uruguay makes no reforms, the level of credit would increase from 24.5% of GDP in 2009 to 32.5% of GDP in 2020, if we extrapolate growth from two years subsequent to the global financial crisis and due to the demand generated by growth of the economy. Therefore, in 2009, the credit gap between Uruguay and Chile in terms of percentage of GDP is nearly 70 points of GDP. If no reforms are undertaken in either country, the dynamics of development and economic growth in each country would widen the financial development gap between the two countries to 85% of GDP by 2020 (32.5% in Uruguay and 117.6% in Chile).

But if Uruguay managed to enact all the proposed institutional and regulatory improvements, the credit-to-GDP ratio in the medium and high scenarios could increase by 25.3 and 44 points, up to 57.8 and 76.6 points of GDP, respectively, by the year 2020. In the high scenario, the appropriate reforms could boost bank credit penetration to levels similar to that of Vietnam in 2007 (98.8%) or Thailand in 2008 (78%), while in the medium scenario, the reforms would take credit penetration to levels similar to Hungary in 2007 (57.2%) or Tunisia in 2009 (58.5%).¹⁹

19: This does not take into effect any endogenous effect financial development might have on the country's economic development.

Table 19

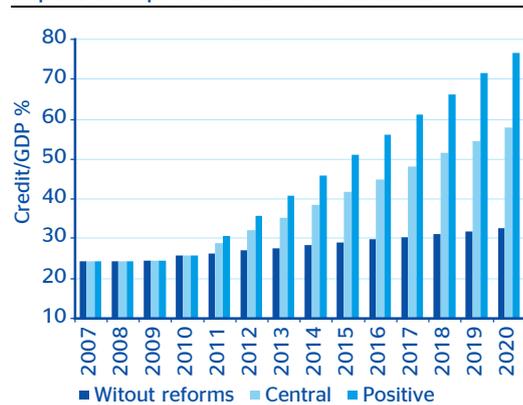
Impact of improvements in all variables

	Impact of improvements in all variables
Credit/GDP of Uruguay in 2009	24.5
Credit/GDP of Chile in 2009	94.1
Uruguay level in 2020 with no reforms	32.5
Chile level in 2020 with no reforms	117.6
Long-term impact of reforms in all indicators, Medium Scenario	+25.3
Long-term impact of reforms in all indicators, High Scenario	+44.0
Uruguay level in 2020, Medium Scenario	57.8
Uruguay level in 2020, High Scenario	76.6

Source: BBVA Research

Chart 37

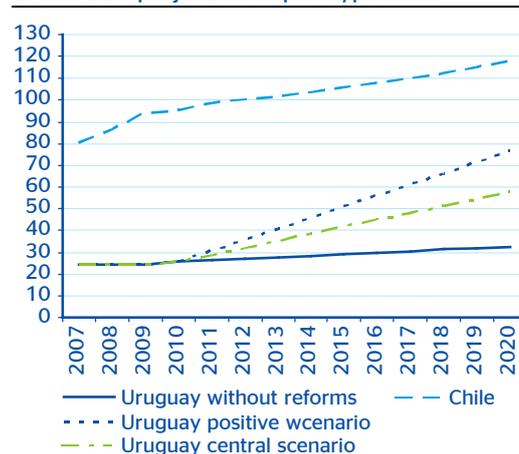
Impact of improvements in all variables



Source: BBVA Research

Chart 38

Credit/GDP projection as per hypothesis



Source: BBVA Research

Finally, even if we do not take into account any improvements in the country's level of informal economy, the increase in the level of financial development would be considerable, as shown in Table 14. Without taking into account any reductions in the level of the informal economy, the increase in the credit/GDP ratio in the two scenarios would be 21.4 and 35.9 in each case, which would increase the credit/GDP ratio to 53.9 points in the medium scenario and to 68.4 points in the most optimistic scenario.

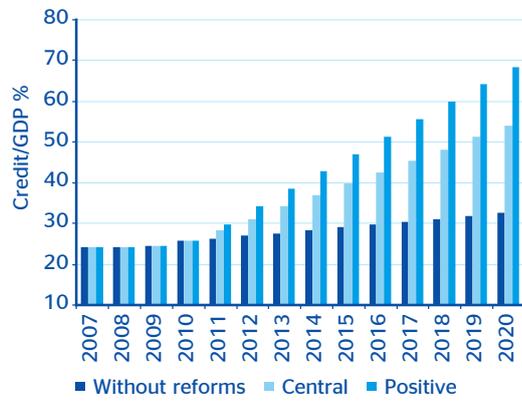
Table 20

Scenarios and impact without including informality improvements

Scenario	Impact without including informality improvements
Long-term impact of reforms (w/o informality), Medium Scenario	+21.4
Long-term impact of reforms (w/o informality), High Scenario	+35.9
Uruguay level in 2020, Medium Scenario (w/o informality)	53.9
Uruguay level in 2020, High Scenario (w/o informality)	68.4

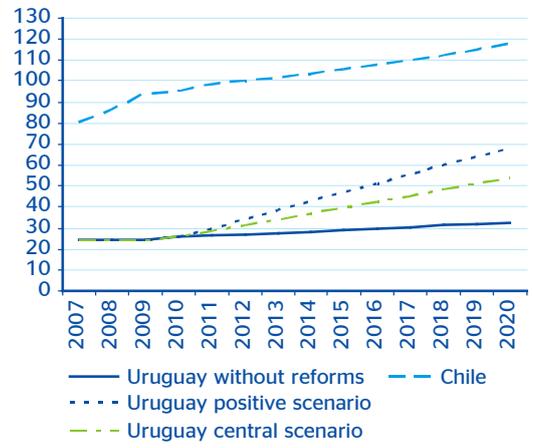
Source: BBVA Research

Chart 39
Impact of reforms in all variables
(no informality)



Source: BBVA Research

Chart 40
Credit/GDP projection as per hypothesis (no improvements in informality)



Source: BBVA Research

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