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International Financial Inclusion: Some Multidimensional Determinants

Inclusión Financiera Internacional: Algunos Determinantes Multidimensionales

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Abstract

The generalized access to financial services is a promising source of growth and social inclusion to reach “decent life for all”, just as is conceived in the development agenda in the Millennium Declaration and ratified in the 2030 agenda for sustainable development of the United Nations. Some groups in financial terms are more excluded than others: the poor, women, youngsters, and the inhabitants of far rural communities scarcely populated, tend to face a larger number of barriers to access these services. Recently created businesses and small ones face a greater number of insuperable obstacles. This paper analyzes the recent financial inclusion in the global scope, with special emphasis on SMEs. Its importance and meaning are deeply examined; some of its determinants are presented and tested, such as credit banking, through a model based on panel data. It is found that, given some country cultural traits linked to their risk aversion and long-term vision, achieving a larger financial inclusion on the credit side, depends not only on the access channels and the characteristics of the offered products, but on different demand aspects as some socioeconomic features of their potential customers.

Keywords: *financial inclusion, cultural traits, SMEs, credit*

Resumen

El acceso generalizado a servicios financieros constituye una fuente de crecimiento e inclusión social prometedora para alcanzar “una vida digna para todos”, tal y como se concibe en la agenda para el desarrollo en la Declaración del Milenio y ratificada en la agenda 2030 para el desarrollo sostenible de las Naciones Unidas. Algunos grupos están más excluidos que otros en términos financieros: los pobres, las mujeres, los jóvenes y los habitantes de zonas rurales remotas y poco pobladas, suelen afrontar obstáculos mayores para acceder a servicios de esta naturaleza. Entre las empresas, las recientes y

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las pequeñas enfrentan un mayor número de obstáculos insalvables. Este trabajo analiza la inclusión financiera reciente en el ámbito mundial, con un especial énfasis en las PyMEs. Se profundiza en su importancia y significado, para después presentar algunos de sus determinantes y someterlos a prueba para el caso del crédito bancario, mediante un modelo con datos panel. Se encuentra que, dados ciertos rasgos culturales del país vinculados a su aversión al riesgo y visión de largo plazo, lograr un mayor número de prestatarios del sistema bancario depende de los canales de acceso y de los atributos de los productos que este ofrece, pero también de aspectos de demanda como son ciertas características socioeconómicas de sus clientes potenciales.

Palabras clave: inclusión financiera, cultura, PyMEs, financiación

1. Introduction

This paper analyzes world's recent financial inclusion, it examines its meaning, highlights its importance for sustained growth and, at the same time, explores and verifies its possible determinants.

The main goal is to identify which components of the supply and demand affect the general use of financial services internationally and build a model that will allow to valid them statistically. This kind of analysis is crucial to do a diagnosis that guides public policy, development banking actions and supra-international organizations, among others, to more effective fields to promote financial inclusion, particularly in the case of SMEs.

The hypothesis to prove is that, given some cultural traits from a country, linked to their risk aversion and their long-term vision, financial inclusion depends on the access channels of the products and services offered, on some of their attributes such as relative cost, but also on socioeconomic characteristics of their potential users linked to the vulnerability of their job.

The analysis period is limited to 2006- 2015 and to commercial bank borrowers, because of the constraints on available data due to the multiplicity of consulted sources; the panel data includes 26 countries

The paper is structured as follows:

First, the importance of financial inclusion is raised and its status in the world is briefly explained. Afterwards, the multidimensional character of financial inclusion is studied through a bibliographic review of the access and use of financial services, as what inhibits or promotes its use. These segments permit to identify the model's variables estimated in the second part of this paper. The different statistical sources limit the choice of the sample variables, the sample itself, and the analysis period; the nature of the collected data determines the methodology followed. At the end, results and conclusions are presented. It also outlines some recommendations and points out some of its main limita-

tions as possible investigation lines to be pursued.

2. Financial inclusion definition and importance

To understand the importance of financial inclusion, let's go back to the modern theory of economic growth, whose starting points are Solow's paper (1956), where the economy converges to a steady state, and once there, the capital accumulation stops. In this model of decreasing returns, the only source of growth is technological progress, what leads to the prediction of convergence.

Empiric evidence shows, however, divergent growth phenomena, more or less transitory, opposite to this initial hypothesis (sigma convergence), causing the first questionings about the validity of the neoclassical model (Sala I Martin, 2006). As a defense of Solow's model arises the hypothesis of conditional convergence (beta convergence) where the approach among countries depends on certain similar parameters such as saving or investment rates, population growth, economic policies and institutions, giving place to the literature of endogenous growth.

In recent years, global inequality, environmental deterioration, and the ambivalent role of technological progress, showed that economic growth is a necessary condition but not enough to achieve a greater well-being. This increased the literature about sustainable growth and inclusive development models (Spence, 2011 & Rodrik, 2017). Furthermore, some of this literature emphasizes the productive character of this new vision of economic progress and its links with the theories of endogenous growth, because caring of the environment and equity, are not simply a desirable result of growth, but an essential input for its long-term sustainability (Agénor et al., 2007). Under this approach, the concepts of social and environmental sustainability emerge; they focus on productivity as an engine of growth and prosperity (WEF, 2017).

From this perspective, the World Bank (WB) highlights that the generalized access to financial services is a promising source of growth and social inclusion to reach “decent life for all”, just as is conceived in the development agenda in the *Millennium Declaration* (UN, 2000) ratified in the 2030 agenda for sustainable development of the United Nations (UN, 2016).

To achieve access to financial services for all is not a recent concern (Mosley & Hume, 1998), but it is not until 2003 that Kofi Annan, former general secretary of United Nations, uses the term of financial inclusion in a lecture given on December 29. Even though there is not a unique definition, it has gradually achieved a consensus about its meaning.

In the current investigation, financial inclusion is defined as an easy access, constant and intensive use of a full range of affordable, appropriate and suitable financial services on behalf of all the segments of society. This, within a context of enough competence, transparency, and financial education, to sponsor welfare of its users and systemic stability, contributing to a sustained economic development that fosters economic and social inclusion (Pavón, 2016).

Access to financial services for all has gained prominence, as its benefits are known in different economic and social areas analyzed in the theoretical and empirical literature, such as:

- Importance of the financial system as a palliative to growth disturbances, stabilizing the evolution of private investment and the exchange rates (Aghion et al., 2009).
- Positive and significant relation among financial development, business performance, and economic growth (King & Levine, 1994), specially through progress in productivity and innovation, that reduces costs, improves the capital assignation and the risk management (Roa et al., 2014).
- Possible non-linear relation between economic activity and financial penetration, which might face diminishing returns and take away resources from other areas (GPFI, 2011).
- High correlation between poverty and exclusion from the formal financial sector that in-

creases social instability and the country risk (Roa et al., 2014).

- Financial inclusion as a business, since the credit portfolios diversification reduces risk and improves the expected benefits of banking as its margins decreases in the corporate and governmental scope (Chauvet & Jacolin, 2015).
- Financial inclusion as a primary source of growth and social inclusion, that aloud seven of the seventeen Sustainable Growth Objectives (SGO). Those, based on the United Nations Millennium Development Goals, are universally applicable and not only in developing countries. Moreover, they pay more attention to the media mobilization of financial resources, development of capacities and technology, data, and institutions to achieve them (UN, 2016).

Taking in account the previous findings, financial inclusion must be conceived as a productive insertion policy that expands the savings and consume possibilities for persons and enhances entrepreneurial talents and investments opportunities for business (Pérez, 2017). This confirms the importance of financial inclusion farther than the sphere of equity, since despite of their differences, all the theories and empirical studies of economic growth agree that it will depend on the country's capacity to develop and distribute its capital. Savings and its appropriate distribution to an investment that turns into a quality capital accumulation in a broad sense (physical, human, social, and natural capital) is an essential requirement to relieve liquidity restrictions implied in this process.

3. Financial inclusion in the international field

Financial inclusion varies from one place to another. In the world, 62% of adults own a banking account, while the rest, lack of it: this means that there are 2 billion of non-banked adults (WB, 2017a) and the most part of them live in emergent countries. According to the most recent data of the Global Findex (WB, 2015) around 90% of the adults of high income economies reported that they owned an account in a formal banking institution, whi-

le in developing countries only 54% of adults did.

So, while in European Union the levels of inclusion are generally high, for instance 99% in Germany and 98% in Spain according to World Bank data, in Middle East and North Africa four out of five adults are non-banked adults, and is some of the poorest countries of the planet, more than 95% of adults do not own an account in a formal financial institution.

Financial inclusion must be focused not only on the excluded ones, but on those who under-utilize the available financial services, as on the ones whose bank account works as a deposit receiver for unemployment insurance or any other kind of government transfers, and where funds are removed as soon as possible. Financial inclusion must not be limited to own a bank account.

Some groups in financial terms are more excluded than others: the poor, women, youngsters, and the inhabitants of far rural communities scarcely populated, tend to face a larger number of obstacles to access these services. Recently created businesses and small ones face a greater number of insuperable obstacles. As an example, in emergent economies, 35% of small firms state that access to financing in one of their main obstacles, in comparison to 25% of larger enterprises of these economies and 8% of the large companies in advanced countries (WB, 2017d).

In Latin America and the Caribbean (LAC), 40% of the small firms have access to financing in the formal banking system while in the large nations, this figure increases to 70%. Internationally, 59% of the excluded adults refer that the main reason to nonexistence financial access is their low-income revenue. This implies that these services are not affordable or are not designed to adjust to the needs of the lower income users. Other obstacles are the required documentation, mistrust or informality, as educational, cultural, or even religious factors. In the case of the productive sector, more than 200 million of small and medium enterprises (SME) formal and

informal, in the emergent economies, lack of adequate financing to develop (WB, 2017e).

4. Financial Inclusion and its determinants: Potential Indicators

To study the determinants of financial inclusion it is required to choose the indicator that will represent it, and this has to do with the use of these services. Table 1 presents the main actual candidates available at this moment and their sources. The ones from World Bank (WB) and International Monetary Fund or IMF (WB, 2017b & IMF, 2017) stand out among others.

The available instruments to evaluate the use of financial services are limited, both in time dimension as in the cross-sectional one, especially for international research. Besides, many of them do not measure the degree of financial inclusion but the financial penetration. So, at least for now, financial inclusion is measured in terms of the use of concrete products and only the ones that refer to the commercial banking system allow to make an international comparison through time.

On one hand, candidates to play the role as the dependent variable of the model are: borrowers from commercial banking and banking accounts for each x habitants. These two indicators pretend to capture, even though partially, the financial inclusion that a general indicator is not able to do, as is the case of the credit of the non-financial private sector, therefore the financial deepening does not assure financial developing as the funds traditionally concentrate in a small number of firms and individuals.

The use of these variables is too justified, not only for the starring role of the commercial banking as provider of financial services (Sarma, 2008), but because the access to any of them requires, in general, that the individual is a bank costumer. Nevertheless, the indicators per number of persons have in common the inconvenience of not capturing the information about frequency, intensity and temporary length of use, so they only give a general outline of it.

Table 1. Potential indicators for measuring the use of financial products and services

| | | | |
|----------------------|--------------------------------|------------------------------------|--------------------------------------|
| | Generals (GDP %) | Bank credit | IMF (2017) |
| | | Domestic credit to private sector | |
| | | Stock market capitalization | FIAP (2017) |
| | | Financial leasing | White Clark Group (2015) |
| | | Financial factoring (world %) | Factors Chain International (2015) |
| Use indicators | Adults (for every 10,000) | With a formal financial account | WB (2017) |
| (dependent variable) | | Commercial banking borrowers | |
| | Businesses (% of the total) | With loans or credit lines | |
| | | With checking or savings accounts | |
| | | Commercial banking credit to SME's | IMF (FAS) (2017) |
| | | Bank credits for SME's | y OECD (2017) WB (2017) |
| | | Financed investment | |
| | | | Internally |
| | | | Externally |
| | | Financed working capital | Banks Suppliers Participations |
| | | | By business size |

Source: Own elaboration based on the sources cited on the table.

On the other hand, the number of borrowers is chosen over the number of accounts per x habitants as an indicator of financial inclusion, because the second one does not capture in what extent the providers of this service get over the liquidity restrictions, main obstacle for the individuals with less resources and the SME's.

Table 2 summarizes the next step in the research: measure the access to financial services. Evaluate it implies to go over the infrastructure to provide them, and its outreach is one of the tasks of the points of contact (channels) between individuals and institutions.

The number of Automated Teller Machines (ATM) and of bank branches for each x habitants are the most commonly used in the literature about this subject. (Roa et al., 2014). The first ones usually work better, because even though the bank accounts are activated at the bank bran-

ches, the use of the financial services depend more and more in the geographical availability and the channels time efficiency, which is easiest to achieve through ATM or electronic banking. The estimated model used here is not the exception that is why is the chosen access indicator.

The barriers and the inductors to the use of environmental financial products are explored once the access to the model is incorporated. These are found inside the financial sector as the competition, regulation and supervision, users' protectionist policy, and the access obstacles such as collateral requirements, documentation, or dealership costs. Never the less, they can also be found out from the financial environment, yet can really influence the inclusion, such as physical capital (infrastructure), human capital (financial education and training) and social capital (institutions and cultural traits), among others (Table 3).

Table 2. Potential indicators of access to financial services

| | | | |
|--|---------------------------------|----------------------------------|-------------------|
| | ATM (Automated Teller Machines) | | |
| | | - every thousand km ² | |
| | Branch offices, commercial bank | | |
| Access indicators (explicative variable) | | - every hundred thousand adults | IMF and WB (2017) |
| | Credit unions | | |

Source: Own elaboration based on the sources cited on the table.

Table 3. Barriers and inductors to financial inclusion: selected indicators

| | | |
|--|-----------------------|--|
| | Financial context | Regulatory framework (BIS & IMF, 2017) |
| | | Guarantees or collaterals (WB, 2017a) |
| | | Credit Information Societies (CIS) (Central National Banks) |
| | | Concentration of credit suppliers on vulnerable population or SME's. (Central National Banks) |
| Context indicators (explicative variables) | | Protection for financial consumers (WB, 2017a) |
| | | Cost of financing (WB, 2017c) |
| | Non-financial context | Business atmosphere and macroeconomic environment (WB, 2017a) |
| | | Financial education, technological readiness and training (WEF, 2017) |
| | | Information and communication technologies (ITC) (Iglesias et al, 2015) |
| | | Rule of law and business ethics (The Economist Intelligence Unit, 2017) |
| | | Employment and it's quality (ILO, 2017) |
| | | Cultural features: Hofstede et al. (2010), Hofstede, (2011) Inglehart & Welzel (2005), Schwartz (2006) & Globe Project (House, et al., 2004) |

Source: Own elaboration based on the sources cited on the table.

The background significance of the financial inclusion is demonstrated in the international surveys. In the World Bank Financial Development Barometer (WB, 2014), asked about the main engine of financial inclusion, 32% of the firms mentioned financial education, 18% the legal framework and 17% new technology.

One of the information sources that gathers various candidates to be explanatory of financial inclusion is the World's Economic Forum Global Competitiveness Report (WEF), that publishes a global competitiveness index of different countries (GCI)² made up with twelve pillars³. This investigation tests them all, resulting relevant health and primary education, and technological readiness.

2 Global Competitiveness Index

- 3 Institutions, infrastructure, macroeconomic stability, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market development, technological readiness, market size, business sophistication, and innovation.

In the absence of significance regarding the economic environment and the employment as determinants of the use of banking products, what seems to be against intuition, indicators as quality or deficiency of the last one is tested. The use of certain financial products as credit, carry a long-term commitment, besides that they demand requirements and guarantees that the potential users are not always able to meet. In recent years, the worldwide economic slowdown is linked to decrease in the growth rate of private investment (residential and business investment); this, despite the plentiful current liquidity, which has stopped the increase in productivity (ECLAC, 2016).

The employment fragility is reflected on its insecure and informal nature, without social benefits and regulation. This refers to features that create on workers a sense of socioeconomic insecurity and vulnerability, which prevent them to move forward in a life project that involves, among other factors, building a heritage (Hyman 2016).

The international indicator chosen to approximately reflect the labor fragility, is the one of the vulnerable employment of the International Labor Organization (ILO, 2017), published as a percentage of the total employment. It represents the unpaid family workers and workers who labor on their own. A high proportion of fragile employment might show a primary or informal economy, sometimes caused by low creation of formal jobs. These groups are the most liable to fall on poverty, because of their lack of formal labor arrangements, social protection or security nets that will keep them safe from economic shocks. This disables them to create savings or to be subject to credit approval (WB, 2016).

As the last category of variables, cultural traits of the country are included, that show themselves as population characteristics that determine attitudes and competences that are part of the human asset (Diamond, 1998). Among intercultural investigations, the papers of Hofstede et al. (2010 and 2011), Inglehart and Welzel (2005), Schwartz (2006) and the Global project (House, et al., 2004) stand out, as the ones with

a major impact in specialized literature (Hsu et al., 2013). A comparison among different investigations suggests that Hofstede's model precise and identifies more cultural dimensions and it is closer to the current theoretical frame: that is why it is used as an information source (Pavón, 2015).

Hofstede et al. (2010) defines culture as a mental programming that distinguishes members of a group of persons from other groups; in the case of national culture, this group refers to individuals from the same country. They consider that a cultural dimension is a feature that may be measured in relative terms and they classify this features in six dimensions: power distance, individualism, masculinity, uncertainty avoidance, pragmatism, and indulgence. They are incorporated to the investigation as a control variable, which is valid in a medium or short-term temporal horizon, yet these characteristics are passed to individuals through their lifetime and change in relatively low rhythm (Becker, 1976). Their importance lies on their allowance to explain why the same channels and financial inclusion policies can give dissimilar results depending on the country.

5. The model: results

As mentioned in Table 4 of results, the sample is of annual periodicity, for the period of 2006-2015 including 26 countries⁴, which gives a balanced panel of 260 observations.

The information sources are World Bank (WB), International Labor Organization (ILO), World Economic Forum (WEF), International Monetary Fund (IMF), The Economist Intelligence Unit, and Hofstede et al. Introducing information from a variety of sources requires to remove several years and countries and to estimate some missing isolated data through a linear extrapolation (Armstrong & Collopy, 1993).

4. Albania, Arab Republic of Egypt, Argentina, Bangladesh. Belgium, Brazil, Chile, Colombia, Croatia, Dominican Republic, Estonia, Indonesia, Italy, Lebanon, Latvia, Malaysia, Namibia, Peru, Portugal, Rumania, Serbia, Singapore, Tanzania, Thailand, Uruguay and Zambia.

Table 4. Results of the PCSE¹ static panel

| Variable | Model 1 | | Model 2 | | Model 3 | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|
| | Coefficient | SE (hetero) | Coefficient | SE (hetero) | Coefficient | SE (hetero) |
| Credit spread | -0.2252** | 0.0968 | -0.2085* | 0.1022 | -0.1898* | 0.1020 |
| Index of ATM per 10,000 inhabitants | 0.4275*** | 0.1074 | 0.2946*** | 0.1091 | 0.2930*** | 0.1143 |
| Index of ATM2 per 10,000 inhabitants | -0.0037*** | 0.0011 | -0.0025** | 0.0011 | -0.0023** | 0.0012 |
| GCI health and primary education | 3.6869*** | 0.7866 | 2.3790** | 1.0541 | 1.5787*** | 0.7635 |
| GCI technological readiness | 8.3145*** | 1.1404 | 7.1431*** | 1.1513 | 5.9387*** | 0.9911 |
| Vulnerable employment (total employment %) | - | - | -0.1998*** | 0.0539 | -0.2262*** | 0.0463 |
| Uncertainty avoidance index | -0.1118* | 0.0566 | -0.1363** | 0.0581 | -0.1510** | 0.0591 |
| Pragmatism index | 0.1872*** | 1.1404 | 0.1837*** | 0.0373 | 0.2023*** | 0.0432 |
| Constant | -32.3210** | 6.1957 | -9.9808 | 8.5226 | - | - |
| R ₂ | 0.601 | | 0.622 | | 0.80 | |
| Wald Chi ² | 319.01 | | 317.30 | | 947.45 | |
| Prob>Chi ² | 0.0000 | | 0.0000 | | 0.0000 | |
| Rho | 0.7951 | | 0.7937 | | 0.8524 | |
| Hausman | | | | | | |
| Chi ² | 7.42 | | 4.03 | | | |
| Prob>Chi ² | 0.1912 | | 0.6725 | | | |
| Breusch-Pagan Lagrangian multiplier test for aleatory effects | | | | | | |
| Chibar ₂ (01) | 601.44 | | 624.08 | | | |
| Prob>Chibar ² | 0.0000 | | 0.0000 | | | |
| Observations | 260 | | | | | |
| Individuals | 26 | | | | | |

Notes: * Significant at the 10% level; ** Significant at the 5% level; *** significant at the 1% level.

The three models passed the tests of non-existence of omitted and redundant variable, as well as over-identification.

¹ The estimation method used PCSE (Panel-Corrected Standard Error); estimation method used to deal with the problems of heteroscedasticity and autocorrelation. A Prais-Winsten regression is estimated [xtpcse het ar(1)].

Source: Own elaboration based on the sources cited on the table.

It also prevents from doing the investigation separating business from individuals or distinguishing firms by their size as the World Bank does in its *Enterprises Surveys*, because countries present two or three observations during time, and besides, not all of them publish their data in the same years.

The dependent variable, commercial bank borrowers for every ten thousand inhabitants, is incorporated to the model as an index with a value equal to zero to standardize the scale of the different variables. The first explanatory variable, which is the access to financial services and is represented by the number of ATM for every ten thousand inhabitants, is also incorporated to the model as an index which takes values from zero to one hundred.

It is chosen to use the indicator per inhabitants instead of kilometers, because it incorporates population density, which is inseparable of the concept of inclusion. However, this measurement might indicate a potential extensive coverage even though there is a low presence in rural municipalities with low population density. The problem is that major commercial chains, main expansion of ATM nets, are concentrated in urban areas, where a banking branch previously existed. Therefore, their contribution to financial inclusion decreases as these multiply. The index of the cashiers is entered by squaring it to verify this fact.

It is found, as expected, that when the ATM index increases, financial inclusion increases too, but every additional cashier has a lesser effect than the one before. This is reflected in the negative sign of this same squared indicator.

The next step is to find the determinants of the financial inclusion related to the environment.

Regarding the barriers imputable to the financial services suppliers, the most important variables are: in the first place, the relative cost of credit, represented by the credit spread. A narrow margin cheapens the funds and increases the viability of the residential or business investment. This validates the negative sign of its coefficient.

When Credit Information Bureaus (CIB) or a depth of credit information index are incorporated to the model, its relation to the dependent variable is not relevant. What is more surprising, it does not verify the expected negative correlation with credit spread that is usually linked to the credit risk that increases as the asymmetric information does (Greenwald et al., 1984)⁵. Thus, it is not useful as proxy of this variables. For both reasons CIB are excluded.

There are also included non-financial barriers as the lack of basic requirements of health and primary education or technological readiness, which inhibit financial inclusion. Higher education and training is discarded from the model, supporting the importance of measuring human capital beyond formal education (Mulligan & Sala-i-Martin, 1995) as the relevant role that information technologies play as access channels to financial services.

The quality of employment is more relevant for the financial access than the employment itself (Chen & Ravallion, 2012). Although, its correlation with health and primary education, suggests presenting three models where this variable or the constant are excluded. The purpose of this exercise is to avoid multicollinearity that the temporary component of the data base failed to correct, verify the significance of the vulnerable employment and, if according to principle of parsimony, it is justified to include it in the estimated panel. The robustness of the coefficients according to the scarce variabi-

lity of its magnitude, significance or signs, as well as the greater explanatory power of the model when this element is included, allowed its validation (Gujarati, 2003).

Finally, the initiatives to achieve a greater financial inclusion cannot be separated from social context where they are applied, particularly the cultural traits that characterize a country or a region strike on their attitudes towards uncertainty and the temporal horizon of its planning (pragmatism). The model shows that in a tolerant risk country and with long-term vision, the hiring of a bank credit is more likely to happen, as it was expected.

6. Conclusions

In this paper it is proven that financial inclusion for individuals and firms is encouraged by a pragmatic cultural system and a low risk aversion. Financial inclusion is potentialized if there are enough access channels, especially through ATM. Although this is a positive decreasing relation, since its effect loses strength as the access channels multiply.

The access to credit has increased during the last years and this behavior is likely to continue due to a non-attended market and the different possibilities it presents. Even though, there are different restraining factors that slow down this tendency, such as cost, apparently less linked to asymmetric information problems than to institutional inefficiencies and regulations of the sector, as suggested by the low correlation between the intermediation margin and the Credit Information Bureaus (CIB). It is also required that its potential users have good health and high standards of primary education as a minimum of technological readiness, so they can benefit from the new information technologies as the only viable instrument to allow general access to financial products in a timely manner and at a low cost. Finally, the decision of an economic agent to join a project that requires financing, will be conditioned to its viability, as to the quality and stability of his income sources.

Therefore, besides of including multidimensional factors and national and regional features in any financial strategy, a coordination effort between the different actors and a long-term country project is needed. Financial inclusion will benefit everyone such as the development of human and social capital, therefore is a main component of sustainable development.

Even though this paper must be valued because its innovation, making an almost unprecedented effort to quantitatively evaluate financial inclusion and its possible determinants in a global scope with a multidimensional approach, the weaknesses attributed to panel models must not be overlooked: these models assume that the different economies share the same role and that is relatively stable on time (Donoso & Martín, 2009). Never the less, it contributes to the research standardization of this relevant topic but slightly studied. Its main contribution is that it compels to establish analysis priorities while considering sources of information and its limits in schematic way through an international comparison.

The narrow definition for social capital that underlies in this paper, is another limiting that must not be underestimated. On one hand, this definition restricts the investigation to a national field, without considering the existing differences within regions or even in the same country, and ignores intertemporal changes. In defense of this limitation, it must be remembered that the period of analysis of ten years validates the unidirectional character established between culture and financial inclusion, then the persistency of the cultural traits of any society guarantees that any temporal effect that might take to double causalities be marginal. On the other hand, is only sought to establish if there exists a significant effect of the national cultural features on the financial inclusion of a country and its sign, and not an exact quantitative correlation with statistical inference.

This also applies to the rest of the indicators included in the model, where the analysis period avoids its endogeneity. These change slowly in all cases, which is demonstrated by the low explanatory power of the used panel on its temporary component, compared to the cross-sectional one.

A deep study on the endogenous nature of these explanatory variables in a long-term horizon, is one of the most promising lines of research that result from this document. Moreover, it would be productive to precisely identify the channels that inhibit or enable financial inclusion through a national development analysis, or by sorting individuals from firms or these by size. Although this data is now available, it will be necessary to wait a few years to have cross-sectional and time series data that enable this kind of analysis.

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