Department of Economics and Finance – Chair of Money and Banking

FINANCIAL INCLUSION: IMPACT ON GROWTH AND POVERTY-REDUCTION

SUPERVISOR

Prof. Paolo Paesani

CANDIDATE
Lorenzo Danieli
Matr. 183821

ACADEMIC YEAR 2015 / 2106

Summary

Introduction

Financial inclusion has become an important topic on the agenda of many international organizations for sustainable long-term economic growth. Both central banks and institutions such as the International Monetary Fund, the World Bank, and the G20 are assuming an increasingly active role at the international level in collecting data and and setting standards to improve financial inclusion. Financial inclusion or inclusive financing is the delivery of financial services at reasonable costs to sections of underprivileged and low-income sectors of population, in contrast to financial exclusion where those services are not available or affordable. The interest derives from the recognition that, despite advancements, large segments of the population are impeded to access financial services. Use and access would ensure a penetration of financial development throughout the population. In general, firms and households invest to smooth consumption and accumulate capital over time, and financial access can ease the creation of businesses and help to improve people's livelihood by allowing them to protect in case of economic shocks. Despite increasing interest, the evidence on the effects of financial inclusion, especially the macroeconomic effects, is still scarce due to lack of consistent macro-level data on the topic. Moreover, this concept has not been a policymaker's concern since the beginning of 2000s, when there were the first findings about financial exclusion and its direct correlation with poverty. Inclusive financial systems provide individuals with superior access to resources to encounter their financial needs, like saving for retirement, investing in education, capitalizing on business opportunities, and confronting shocks. Real world financial systems are far from inclusive.

The aim of this paper is, first of all, to provide a detailed definition of financial inclusion, and analyze, afterwards, all the aspects that gravitate around the definition (barriers, policies and strategies, measurements), making a drive through the issues of Latin America and Mexico. More in particular, Latin America showed strong effort in undertaking specific policies to promote inclusion. It was also the perfect region to analyze because it is an area that show strong potential for enhancing financial inclusion due to its modest and volatile growth, high poverty and inequality, and low savings and investments. Moreover, Mexico was the country where financial inclusion had the greatest impact on GDP due to the multitude of policies undertaken especially by the government authorities. It was also interesting to look at the case of the opening Banco Azteca, event that revolutionized the world of microcredit, understanding what are the consequences of broadening access to finance to all segments of population.

In the first chapter an overview of the global financial access condition identifies the unserved segments of population, and analyzes the reasons why still part of the world is financially excluded. Afterwards, a deep focus on finance and the importance of it, taking inspiration from one of the most important contemporary economists Ross Levine, will explain why financial inclusion is important and what is the impact of finance on long-term growth and poverty-reduction. A brief descriptive analysis of facts and achievements of financial inclusion will be at the end of the chapter: the purpose is to show the weaknesses and strengths of the measures undertaken so far through empirical evidence. Data has been taken from the World Bank Group's Global Financial Inclusion Index (Findex), which is the most recent and reliable database available at public. Since measurements have been made only in 2011 and 2014 it is difficult to derive precise conclusions.

The second chapter presents Latin America as a continent that has experienced improvements in economic stability, but which still presents inequality from a social point of view. However, following a period of instability and crisis, financial systems in Latin America have been strengthened and progress has been made in the expansion of bank networks, improvement of payment systems, and diversification of credit. This reflects the governments' effort to create an enabling environment for finance. The paper identifies the current status of financial inclusion in the region, using a descriptive approach to analyze the impact on growth and inequality. The case of Banco Azteca fits very well the methodology used to address financial inclusion in Mexico. The last part of the chapter will highlight an important channel through which access affects poverty. The paper exploits the opening of Banco Azteca in Mexico, an exclusive occurrence in which over 800 bank branches opened almost simultaneously in pre-existing Elektra retail stores. Importantly, the bank has concentrated his attention on previously underserved low-income customers. The key finding is a significant effect of financial access on labor market activity (jobs held and earnings growth) and income levels, especially among poor individuals and those located in rural areas, where the existence of bank branches was previously low. At the same time, the analysis of the Banco Azteca case shows also a perverse effect in terms of consumption distortion since lenders proved to be less eager to save and accumulate assets.

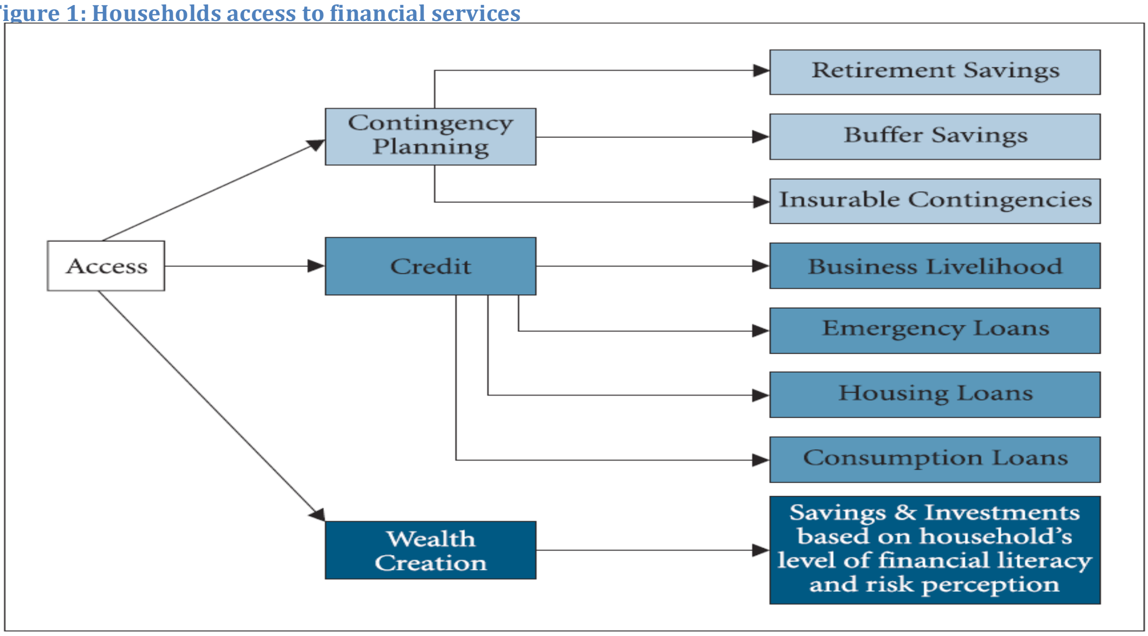
Overall, it is possible to say that Financial Inclusion is beneficial for the growth and welfare of a country, however there are still margins of improvements, especially in those fields that take into account the gathering of data and the identification of the indicators. One of the main challenges, in fact, is to find universal indicators that are perfectly suitable with the measurement of financial inclusion among countries. In these last decade there have been significant improvement in the reduction of the percentage of population excluded from finance. Findings show countries are on the right path to financial inclusion and, if they worked together towards a common objective, policies and strategies that are being implemented can take them far away. It is only the beginning, more steps need to be made, but the direction is the right one.

Chapter 1 – Financial Inclusion: Definition

"Financial inclusion is no longer something that it is 'nice to do' but is now an essential part of the global economic development agenda. It is a public policy issue that we regulators cannot shy away from[1]".

Financial Inclusion, broadly defined, refers to universal access to a wide range of financial services at a reasonable cost. Households need access to finance for several purposes, the most important being for contingency planning and risk mitigation. Families build buffer savings, allocate savings for retirement (for example via pension plans) and purchase insurance and hedging products for insurable contingencies. Once these needs are met, households typically need access to credit for livelihood creation as well as consumption and emergencies (in the event that they do not have savings/insurance to fund them). Finally, wealth creation is another area where financial services are required. Individuals require a range of savings and investment products for the purpose of wealth creation depending on their level of financial literacy as well as their risk perception[2]. Figure 1 precisely represents the description given above.

Figure 1: Households access to financial services



Source: IISS, 2007.

Globally, around 2.5[3] billion people remain financially excluded. In most developing countries, more than two-thirds of the adult population has no access to formal financial services, exclusion being highest amongst women, youth and the very poorest segments of the society.

[1] Njuguna Ndung'u, governor, Central Bank of Kenya

[2] A Hundred Small Steps: Report of the Committee on Financial Sector Reforms, Planning Commission Government of India

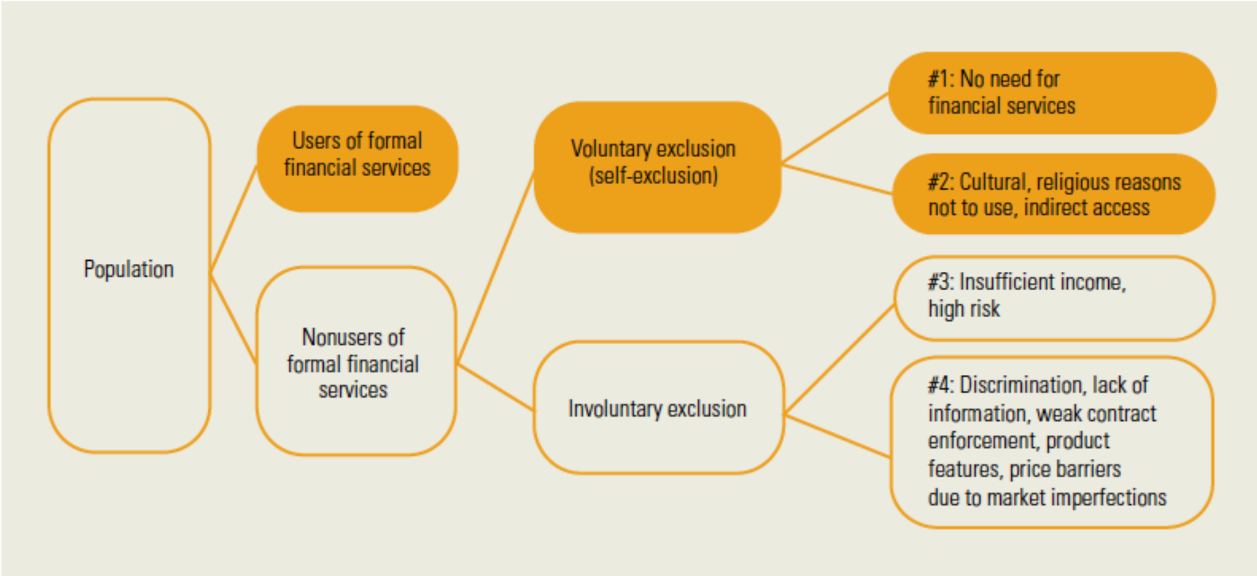
[3] World Bank, 2014. Global Financial Development Report: Financial Inclusion. Washington.

Financial inclusion is an important topic that has increased in importance over the past years, especially since when the G20, as well as other international organizations, have deepened their interest in the topic. The strengthening of the focus has been reflected by a better understanding of the importance of financial inclusion for economic and social development. The interest also comes from the increasing recognition of large gaps in access to credit by the world's population: half of the world's population, in fact, do not have an account at a formal financial institution. This fact depends both on a lack of demand, and, most importantly, on barriers deriving from cultural, political and social factors. Having access to finance plays a major role in reducing poverty and promoting growth in developing countries, possibly allowing the poor to save and borrow, in order to make it possible for him to build assets. As a consequence of an increase in available assets, for example, individuals are able to invest in education, or small and medium sized firms can take advantage of promising growth opportunities. In short, the ability to have access to financial services helps the promotion of growth and welfare. The boost on growth and reduction of poverty and inequality, through a mobilization of saving and an easier access to resources, functions as an insurance against economic shocks. In addition, fighting exclusion can promote labor and firm formalization, helping enhance government revenues and strengthen social safety nets. Nowadays, around 50 of the World Bank clients, each client representing a country of the world, have set up policies and strategies for financial inclusion.

1.1 What is it?

Before proceeding with the description of financial inclusion, it is important to stress the distinction between access to finance and use of finance. While use of finance can be observed, access to finance cannot be spotted. More precisely, even if people do not use financial services, they could still have access.

Figure 2: Use of and Access to Financial Services



As shown in figure 2, those who do not use financial services can be divided into voluntary excluded and involuntary excluded. The group of individuals that voluntarily does not use financial services may do so for 2 reasons: they have no need for them or can have cultural and religious reasons. Moreover, it may happen that they have indirect access by using the bank account of someone else. Some other individuals may be involuntarily excluded from the use of financial services. Many of them have insufficient income and carry high risk of repaying any amount of money borrowed. In this case the lack of use is not caused by inefficiencies of markets and governments. Others do not have access because of discrimination, lack of information, poor environment and price barriers. Having described this, financial exclusion deserves policy action if it is driven by barriers that restrict access by individuals for whom the marginal benefit of using a financial service would otherwise be greater than the marginal cost of providing the service[4].

From a macroeconomic point of view, the objective to build an inclusive financial system should be the limitation of the percentage of individuals belonging to group 4 of the figure presented above.

Once assessed the meaning and the objectives of financial inclusion, it is necessary to understand the reason why it is becoming a global concern. There are, in fact, several issues that need to be taken into account: first of all, the attention has to be shifted on barriers that prevent individuals to access financial services and, secondly, to what are the access channels that favor use and approach to finance. In the next paragraph the paper will linger on listing and analyzing the problems just stated.

[4] World Bank, 2014. Global Financial Development Report: Financial Inclusion. Washington.

1.2 Access Channels and Barriers

"More than 2.5 billion people have no bank accounts or insurance – services which can make the difference between surviving and thriving. Small businesses account for over 45 per cent of all employment in developing countries. Their growth is vital to creating jobs and increasing prosperity – yet they are typically stymied by difficulty in raising finance"[5]

In many developing economies, financial institutions continuously cope with a number of barriers that lower their efficiency. Poor people are not considered suitable clients for formal financial services providers; therefore, most of the banking products and processes that we see today have been designed specifically for the middle-income or high-income population groups. The fact that poor people are isolated from formal banking is crucial to understand their lack of financial literacy that would allow them to deal with operations performed by banks. Moreover, many of these processes, which include requirements of physical collateral, preferences of banking with individuals and debt-repayment culture based on Equal Monthly Installments, are designed for clients who can produce identity documents and salary statements, and demonstrate stable and regular income[6]. Avoiding a risky segment of population and focusing on more reliable groups appears to be a reasonable choice and an indispensable practice in a competitive environment. Within this context and recalling the benefits of financial inclusion, a crucial question to be addressed refer to the possibility that financial sector is missing an auspicious opportunity by not innovating and not investing in the poorest segment of the population. It is likely indeed that they are leaving behind millions of people who could both take advantage from, and contribute to, healthy and inclusive economies.

It is widely agreed that there are many barriers to poor people becoming financially included. It is important to underline that these obstacles are self-perpetuating. Also, while reasons vary amongst countries and regions, there are a number of common barriers that emerge and represent a mix between supply-driven and demand-driven factors. The Global Findex survey, in which people were asked the reasons why they would not have an account, provides fresh data on the barriers[7].

- **Lack of enough money to have and use** – this is the most cited reason and represent the thirty per cent of the overall answers. Most of the times, this comes from the belief that they have not enough income to transact with formal financial institutions and that they are concerned about requirements around collateral. Additionally, irregular and unreliable cash

[5] DFID, 'The Engine of Development: the private sector and prosperity of poor people', 2011
[6] Barclays, 2013. Banking on Change: Breaking the Barriers to Financial Inclusion
[7] Global Financial Inclusion Database, World Bank, Washington D.C.

flows provided by banks dissuade the underprivileged from availing herself of formal financial services.

- **Another family member already has an account** – this response identifies indirect users, and mostly women and adults living in high-income and upper-middle-income economies cited it. Mostly women suffer a lack of account ownership, which implies that they are less eager to pursue self-employment opportunities. However, there is a double interpretation of this voluntary exclusion: while on the one hand it may be linked to individual preferences or cultural norms, on the other hand it may highlight a scarce financial literacy or a narrow awareness of financial products.
- **Affordability** – this is the most popular reason among the unbanked. Fixed transaction costs and annual fees tend to make small transactions unaffordable for large parts of the population. Analysis finds a significant relationship between cost as a self-reported barrier and objective measures of costs[8]. Also, underdeveloped infrastructures in a country and lack of competition are correlated to high costs of opening and maintaining a bank account.
- **Distance** – as one moves down the income level of countries, the number of answers citing distance sharply increases. The shortage of physical points where financial services are performed harms mostly the populations who live in rural areas, but in some countries this is the case also for people living in urban areas.
- **Lack of necessary documentation** – most of the times, documents that are required for opening an account may exclude workers in the rural or informal sector who are less likely to have wages slips or formal proof of residence. There is a significant relationship between subjective and objective measures of documentation requirements as a barrier to account use that holds even after one takes into account GDP per capita[9]. Actually, the Financial Action Task Force, whose aim is to combat the threads to the financial system, stated that safeguarding money laundering and terrorist financing would exclude some legitimate businesses and consumers from financial systems, stressing, consequently, also safeguards that support financial inclusion.
- **Lack of trust in banks** – this is one of the most difficult barriers to address in the short term because it can stem from cultural norms, discrimination against certain segments of the

[8] Demirguc-Kunt A., Klapper L., April 2012. "Measuring Financial Inclusion". Policy research working paper. Washington, the World Bank, Development Research Group, Finance and Private Sector Development Team.

[9] Demirguc-Kunt A., Klapper L., April 2012. "Measuring Financial Inclusion". Policy research working paper. Washington, the World Bank, Development Research Group, Finance and Private Sector Development Team.

society, past episodes of government expropriation of banks, or economic crises and uncertainty.

- **Religious reasons** – about five per cent of the interviewed gave this answer, however it was all concentrated in Middle Eastern and South Asian economies. The development of financial products compatible with religious beliefs could potentially increase account penetration and the use of various financial services.
- **Age discrimination** – mainly young individuals, over 1.2 billion people, aged 15 to 24, face the most significant obstacles to financial inclusion, representing huge opportunity costs for the global economy. One of the main reasons why many young people are not able to become financially independent, is the fact that, worldwide, unemployment rates for the young are about two to three times higher than for adults, and poverty is widespread even among those who are actually working[10]. If young people could have access to appropriate financial services, which support their transition to adulthood, it would be helpful for them to start an effective working life and to become productive and economically active members of their communities and societies. What is generally perceived is that young individuals have no need to handle money since they are engaged exclusively in limited financial transactions. For this reason, formal financial institutions tend to look at this group of persons risky and unable to manage their money. Not even legal barriers help for those who are under 18 years old, which implies that they have to start saving informally. Informal saving, funds are often diverted for immediate consumption, becomes problematic since it is easily exposed at risk of theft.
- **Gender discrimination** – women are more likely to be financially excluded than men. Research shows that women reinvest up to 90 per cent of their income in their families, compared with 30 to 40 per cent by men[11]. In developing economies, 46 per cent of men report having an account at a formal financial institution, while only 37 per cent of women does[12]. Women's access to finance is inhibited by discriminatory policies and procedures deriving from an unequal distribution of power, resources and responsibilities in favor of men.
- **Lack of financial literacy** – financial segregation of the poor usually stems from a lack of understanding, leading to a further detachment from the idea of financial institutions.

[10] Barclays, 2013. Banking on Change: Breaking the Barriers to Financial Inclusion
[11] Borges P., 'Women Empowered: Inspiring Change in the Emerging World', New York, 2007
[12] Demirguc-Kunt A., Klapper L, Singer D., and Van Oudheusden P., April 2015. "The Global Findex Database 2014 Measuring Financial Inclusion around the World". World Bank Policy Research Working Paper 7255. Washington, the World Bank, Development Research Group, Finance and Private Sector Development Team.

Studies show that although banks had developed some products perfectly suitable for the needs of the poor, the latter did not have knowledge about them, so they would have been reluctant to use them[13]. Poor financial literacy, in fact, limits people's ability to be conscious of financial opportunities in order to take effective action to improve their financial well-being.

In assessing the barriers to financial inclusion, it is necessary to introduce the notion of information asymmetry, which deserves a careful explanation. In 1981, in fact, Stiglitz and Weiss wrote a seminal paper[14] in which they clarify why financial markets are different and why information problems can lead to credit rationing and financial exclusion even when the markets are in equilibrium. Credit markets are mainly influenced by principal agent problems: adverse selection (borrowers that are more exposed to risk, hence they have smaller probability to repay the loan, are more willing to seek out for external finance) and moral hazard (ex-post problem, which arises when the borrower may use funds in such a way that it is inconsistent with the lender's will). It is possible to identify this problem with group 4[15]. Without complete information, and because beyond a certain interest rate level the rate of return of a loan may decrease, financial institutions may deny loans to additional applicants even if these applicants could afford a loan at a higher interest rate[16].

However, credit rationing and financial exclusion are not properly the same concept: financial exclusion occurs whenever a potential borrower lacks required collateral and consistent information about its investment projects, and hence cannot get access to bank credit and equity finance. More precisely, financial exclusion can be considered a result of credit rationing, which is caused, in turn, by information asymmetry. Credit is rationed when banks deny loans to borrowers that are indistinguishable and they raise the interest rate at which the expected return to the bank is maximized.

1.3 Measurements

Once assessed how and why individuals in developing countries are excluded from financial markets, the challenge still remains to identify when this exclusion is voluntary or involuntary; therefore, it is important to properly measure financial inclusion. Very important is to make

[13] M2i Consulting, 'Market Research and Product Development for Linking VSLA Groups to Financial Institutions', 2011.

[14] Stiglitz, Joseph E., and Andrew Weiss. "Credit rationing in markets with imperfect information." *The American economic review* 71.3 (1981): 393-410.

[15] See Fig.2

[16] Amidzic G., Massara A., Mialou A., February 2014. "Assesssing Countries' Financial Inclusion Standing – A New Composite Index". IMF Working Paper. Statistics Department. Washington, International Monetary Fund. Adapted from Stieglitz and Weiss 1981.

measures based on objectivity and not on psychological factors that affect individuals. From a practical point of view, the concept of financial inclusion should be approached through its dimensions, which are mainly three[17]. The **outreach** dimension refers to the physical ability to easily reach point of service, where cash-in and cash-out transactions are performed. The **usage** dimension measures the use of financial services. The **quality** dimension measures the degree to which financial services encounter the needs of consumers. In each dimension it is possible to identify variables that could be appropriate for inclusion.

Table 1: Approaches to Financial Inclusion

DIMENSION	INDICATORS	PROXIES
Outreach	• Demographic penetration • Geographic penetration	• Number of ATMs and financial institutions branches
Usage	• Percentage of adults with at least one type of regulated deposit account • Percentage of adults with at least one type of regulated loan account	• Number of regulated deposit accounts per 1000 adults • Number of regulated loan accounts per 1000 adults • Number of household borrowers per 1000 adults • Number of households depositors per 1000 adults
Quality	• Financial literacy • Disclosure requirements • Dispute resolution • Cost of usage	

Moreover, there are some correlations that underline interesting relationships. For example, financial inclusion is associated with greater education, employment, and living in urban areas. Also, environment plays a key role in fighting inclusion: lower banking costs and less documentation required to open a bank account are key indicators of a favorable setting. Another

[17] Amidzic G., Massara A., Mialou A., February 2014. "Assesssing Countries' Financial Inclusion Standing – A New Composite Index". IMF Working Paper. Statistics Department. Washington, International Monetary Fund.

interesting evidence is that there is a strong correlation between financial inequality and economic inequality: countries with high-income inequality tend to be unequal in terms of financial inclusion.

However, talking about financial inclusion not only covers access to credit, but also basic payments and serving services, as well as insurance. Studies[18] show that improving inclusion of the poor by increasing access to basic, affordable savings and payment products leads to more productive investments, greater empowerment, and greater health effects, especially for women. An exclusive focus on credit can lead to undesirable consequences such as over indebtedness and inefficient allocation of limited resources. Furthermore, credit provision, without adequate measures to create livelihood opportunities and boost credit absorption among the undeserved will not yield desired results. Perhaps the most important financial services for the poor are vulnerability reducing instruments. Thus access to safe and remunerative methods of saving, remittances, insurance, and pensions needs to be considerably expanded.

1.4 The impact of financial inclusion

It is now widely accepted that the private sector is becoming the main economic agent that can generate sustainable growth, and that governments must act in order to create the right enabling environment for development. By simplifying transactions and making credit and other financial products accessible, the financial sector is a central building block for private sector development. It can also play a fundamental role in reducing risk and vulnerability, and increasing the ability of individuals and households to access simple services such as health and education, thus having a more direct impact on poverty reduction.

a) Impact on growth

Financial systems play a fundamental role in sustaining growth and development. Ross Levine in a seminal work on the relationship between finance and growth[19] reviews the conflicting views of economists regarding this issue and concludes that overall both theoretical and empirical evidence indicate the existence of a positive correlation between financial development and economic growth. His theoretical approach to finance and growth can be summarized by the following graph (Figure 3):

[18] Demirgüc.-Kunt, A., 2014. Web. 17 September 2014. "Financial Inclusion". Presidential address, International Atlantic eEconomic Society.

[19] R. Levine, "Financial Development and Economic Growth: Views and Agenda", Journal of Economic Literature, Vol. XXXV (June 1997), pp. 688-726

Figure 3: Relationship between finance and growth

The starting point is that financial systems are necessary to deal with the costs of acquiring information and making transactions. Without financial intermediaries, each investor should on its own collect and process many information not always complete and available to decide investment. This complexity may keep capital away from its most profitable use. Since there are several combinations of possible costs and transactions, several contracts, markets and institutions are required to address each type of frictions. The primary function of the financial system is the allocation of resources across space and time under uncertain conditions. This primary function can be further detailed to show how the financial system is key to mobilize saving, facilitate trading and risk management and monitor managers. These detailed functions affect economic growth through two main channels: capital accumulation and technological innovation. As far as the capital accumulation is concerned, the financial system matters since it affects the saving rate or the allocation of saving among different capital producing technologies even those riskier with higher expected returns. On technological innovation, the functions performed by the financial system affect steady-state growth by influencing the rate of technological innovation. In particular, by easing risk diversification, the financial system can provide incentives to accelerate technological change. In another paper[20] Levine highlights two main suggestions:

1. Countries with better functioning banks and markets grow faster, but the degree to which a country is bank-based or market-based does not matter much.
2. Better functioning financial systems ease the external financing constraints that impede firm and industrial expansion, suggesting that this is one mechanism through which financial development matters for growth.

A well-developed financial sector is absolutely necessary because without a sector to channel funds from, innovation would be nearly impossible and there would be little permanent economic growth. If this is true for finance in general, it is possible to apply the same reasoning to financial inclusion showing its relationship and interactions with growth.

Hence, financial inclusion is necessary for long-term economic growth, because it provides innovative financial products to encourage low-income earners to save more[21].

These results are confirmed by the International Monetary fund discussion note[22] on whether financial inclusion can meet multiple macroeconomic goals. For what regards growth, the main challenge has been the determination of the causation between financial inclusion and economic growth, because there has been the necessity to address issues such as civil conflict, lack of rule of law, or income and wealth inequality, which cause both low financial inclusion and low growth. Another fact is that there is the possibility of reverse causation: higher economic growth may allow for greater financial inclusion. Despite these controversial challenges, findings have, first of all, shown that financial sectors that provide greater access to finance appear to be more conducive to economic growth. Using a macroeconomic approach, the following regression has been applied:

$$Y_{2004-14} = \beta_{=} + \beta_1 FI_{2004,i} + \beta_2 X_{2004,i} + \beta_3 FIN_{2004,i} \tag{1}$$

where i denotes the country, X denotes control variables, FI financial inclusion, and FIN representing a financial development variable (either private credit-to-GDP, or broad financial development index, or index of financial institution depth). The results show that financial inclusion indicators have positive impact on 10-year growth. The fact that these three variables have been

[20] Levine R., September 2004. “Finance and Growth: Theory and Evidence”. Working Paper 10766. National Bureau of Economic Research. Cambridge, MA.

[21] Odeniran, Samson O., and Elias A. Udeaja. "Financial sector development and economic growth: empirical evidence from Nigeria." *Economic and Financial Review* 48.3 (2010): 91-124.

[22] Sahay R., Čihák M., N’Diaye P., Barajas A., Mitra S., Kyobe A., Nian Mooi Y., and Yousefi S.R., September 2015. “Financial Inclusion: Can It Meet Multiple Macroeconomic Goals?”. IMF Staff Discussion Note. Washington, International Monetary Fund.

included suggests that financial inclusion obtains growth benefits that are distinct from those achieved by the overall level of development of the financial sector. Those kind of financial inclusion indicators that carry such benefits are percentage of adults with an account at a formal financial institution or with credit card, and percentage of adults that have borrowed from a financial institution. the positive trends continue to hold for financial inclusion indicators related to the bottom quartile and women users.

Using a microeconomic approach, instead, there are two advantages:

1. The results describe a specific channel through which finance can affect growth
2. Time and dimension requirements are smaller.

The main assumption, moreover, is that finance affects growth primarily by diminishing financing constraints of externally dependent sectors, which are those unable to generate cash flows or finance investment projects.

$$y_{i,s,t} = \beta_0 + \beta_1 FI_{i,t0} \cdot EXT_s + \beta_2 X_{i,s,t0} \quad (2)$$

[23]

According to equation (2), the finding that β_1 is greater than zero shows that sectors dependent on external finance grow faster with greater financial inclusion. However, if we let FI and EXT interact with financial development a new regression[24] would be obtained.

$$y_{i,s,t} = \beta_0 + \beta_{11} FIN_{i,t0} \cdot EXT_s + \beta_{12} FIN_{i,t0} \cdot FI_{i,t0} \cdot EXT_s + \beta_2 X_{i,s,t0} \quad (3)$$

the main result is that $\beta_{11} > 0$ but $\beta_{12} = 0$ indicating that financial inclusion does not generate growth benefits above and beyond those generated by depth. Those indicators that resulted positively and significantly correlated with growth of externally dependent sectors were availability of ATMs, percentage of adults having an account at a formal financial institution, and percentage of users accounts to receive government transfers.

b) Impact on poverty reduction

In the same way that financial services increase income growth generally, expanding the supply of financial services, which can be accessed by the poor will increase income growth for the

[23] s = sector, EXT indicates the degree of external dependence of sector s and t indicates that the variable is measured at a given point in time.
[24] See equation (3)

poor, thus having a direct impact on poverty reduction[25]. An expansion of savings facilities would enable the poor to accumulate funds in a safe place over time and could help them to better manage expenditures over time. The flexibility of savings facilities also is crucial for the creation of reserves that will function as an insurance against unanticipated fluctuations of income and extraordinary monetary outgoings. Of course, as savings are accumulated, the financial community benefits due to the fact that first of all, there are opportunities to re-lend the collected funds, and secondly it enables the unprivileged to invest in productivity-enhanced new technologies, which can provide higher income in the future and could not be accessible with regular household income. The higher the access to credit, the lower the ownership of low-risk, low-return assets by poor households; consequently, there would be an expansion in investments in higher risk, but higher return assets (education, rickshaw). Where the financial sector development leads to lower costs, more secure and rapid transfers, and easier access to transferred funds, this would be significant benefit to poor recipients[26]. The problem with poor households in developing countries is that most of the times they do not have any access to formal financial services and they are forced to rely on a narrow set of informal financial services that are often expensive and riskier. As a consequence of these constraints, they are not able to fully participate in well-functioning markets, and so they cannot contribute to economic growth and increase their incomes.

1.4.1 How does Financial Inclusion impact growth and welfare?

Appropriate financial services can help improve individual and household welfare. Different types of financial products can benefit poor people in different ways. The benefits of financial inclusion are not only significant for individuals but for economies as well. Financial inclusion is linked to a country's economic and social development, and plays a role in reducing extreme poverty. Nowadays, the world's poor live in an environment that is called informal economy. Despite they have little money, save, make transactions, and borrow, they must rely on informal means of money, which include family and friends and cash-at-hand. The costs of these informal channels are extremely high, if riskiness and uncertainty are taken into account. Being included in a formal financial system helps people to safely manage day-by-day transactions, including sending and receiving money from and to their bank account. The importance of financial inclusion should be assessed from three different perspectives: the microeconomic level, the local economic activity level, and the macroeconomic level.

---

[25] Jalilian, Hossein, and Colin Kirkpatrick. "Financial development and poverty reduction in developing countries." *International Journal of Finance & Economics* 7.2 (2002): 97-108.
[26] Department for International Development, August 2014. "The Importance of Financial Sector Development for Growth and Poverty Reduction". Policy division working paper. Financial Sector Team. London.

Starting from the microeconomic level, financial services do have a positive impact on a variety of microeconomic indicators, such as self-employment, business activities, household consumption, and well-being[27]; however this impact varies among financial products available. When **microcredit** (the extension of very small loans to poor borrowers who lack collateral, steady employment, and a verifiable credit history) is taken into account, household welfare (increase in consumption or income in poor households) is the variable that most benefits from its effects. However studies[28] provided mixed evidence about the clarity of the linkage to broader welfare: in some cases (Hyderabad, India) there was no evidence on improvements for longer-term welfare indicators. In some other circumstances (Mongolia[29]) the expansion of microcredit found large impacts on food consumption, highlighting an increase in the amount of food consumed and in the quality of the food itself. As well as food, also income went up, implying better enhancements in borrowers' status in the community and a reduction of health issues. Generalizing, expanded credit, although not uniformly, acts both on psychological and social conditions of individuals. Well-being is reached through a fall in depression, trust in others and an increase in decision-making power. Moreover, the general level of consumption increases as the need for precautionary savings lowers. Moving forward, the most important role at the microeconomic level is played by **savings**. As a matter of fact, the impacts of savings are more consistently positive than those for credit. By saving small amounts, entire groups begin to save, and later on, as a consequence, they can access loans directly from their own capital. There is something of a savings-led revolution now taking place across the world, with more than seven million saving groups[30]. Savings are important because they allow households to smooth irregular income patterns as well as to meet basic consumption needs. According to some researchers, poor individuals tend to be more tempted to spending temptations if not able to have access to savings mechanism. The effects of savings are so strong that some people, once a proper saving culture has been established, go on starting new businesses, and more they would do if they received good business skills training and had higher access to capital. The question around this issue, however, is that whether poor peoples' savings could support economic growth. Studies in India[31] showed that there is a need to boost domestic savings to finance capital accumulation and further improve high income and growth. A lot of savings, in fact, represent the surplus of household sector, and should be used by financial institutions to meet investment

[27] Bauchet, Jonathan, et al. "Latest findings from randomized evaluations of microfinance." *Access to finance forum*. Vol. 2. Washington, DC: CGAP, 2011.
[28] Banerjee, Abhijit, et al. "The Miracle of Microfinance? Evidence from a Randomized Evaluation." http://*economics.mit.edu/files/5993* (2010 and 2013)
[29] Attanasio, Orazio, et al. "Group lending or individual lending? Evidence from a randomized field experiment in Mongolia." (2011).
[30] VSL associates, Hugh Allen, September 2012
[31] Singh T., 'Does domestic saving cause economic growth?', 2010

requirements and resource gaps among underprivileged groups. Barclays, for example, over the last three years, has developed an innovative partnership with CARE[32] and Plan[33] to extend financial services to poor segments of the society. It seems that this initiative is proving that it is possible for a formal financial institution to reach the poorest people[34]. Last but not least, there is **insurance**. Escaping poverty is very difficult for poor people when facing vulnerability to risk and lack of instruments to deal with external shocks, so insurance gives the opportunity to poor households to be assisted in mitigating risk and managing shocks. Despite it is very important and helpful, banks have still not developed a strategy that made them realize the full potential of micro insurance to work for the poor. Related to that and added to the fact that there are still very few insurance products, demand and uptake is strikingly low, even when insurance is offered for free. Another factor that is related to the macroeconomic level is mobile money and payments, but its importance and implications will be discussed in the following paragraph when talking about the promise of technology.

Shifting on the local economic activity level, financial access improves local economic activity. For example, in Mexico, research[35] showed that the opening of Banco Azteca[36] branches in more than a thousand Grupo Elektra retail stores had a significant impact on the region's economy, leading to a 7 per cent increase in overall income levels with respect to those regions in which no branches had been opened. Also households were better able to smooth consumption and accumulate durable goods, but, at the same time, the proportion of households' savings decreased because of a tendency to rely less on funds as a cushion against income fluctuations.

Moving finally to the macroeconomic level, comparisons must be made cross-country. The degree of financial intermediation is not only positively correlated with growth and employment, but it causally impacts growth[37]. To do so, banks should lower transaction cost and should better redistribute capital and risk among the economy. Strong institutional frameworks such as solid financial regulation are necessary to soundly support financial intermediation. At the same time, one should recall that the relationship between finance and growth is not always linear since at times of crisis the correlation may be not positive at both very low and high levels of financial

[32] CARE is a humanitarian organization providing disaster relief and fighting poverty around the world
[33] Plan is a child rights organization working with communities in many countries to alleviate child poverty so that children can realize their full potential.
[34] Barclays, 2013. Banking on Change: Breaking the Barriers to Financial Inclusion
[35] Bruhn M. and Love I. (2014), "The Real Impact of Improved Access to Finance: Evidence from Mexico". The Journal of Finance, 69: 1347–1376. doi:10.1111/jofi.12091
[36] Largest banks in Mexico in terms of coverage
[37] Levine R., September 2004. "Finance and Growth: Theory and Evidence". Working Paper 10766. National Bureau of Economic Research. Cambridge, MA.

intermediation[38]. In terms of income distribution, in early stages of financial development inequality increases, in order to sharply decline once approaching intermediate and advanced stages[39]. So the intuition is that a deeper financial intermediation will initially benefit just the higher income segments, reaching progressively the poorer. Hence, concluding, financial inclusion tries to reduce inequality by imposing softer constraints on poor people, implying plausible financial stability.

Together with direct economic benefits, it is possible to identify also indirect benefits. First of all, a well-functioning market, that reaches all citizens, allows more efficient and effective policy-making. Secondly, financial innovations that help lower transaction costs enable the development of new private-sector business models that enable other development priorities.

1.5 Policies against exclusion

There is a global concern in increasing financial inclusion and recognition of the need for complementary policies on financial education and financial consumer protection. *"Globally, the triad of financial inclusion, financial literacy, and consumer protection has been recognizing as intertwining threads in pursuit of financial stability. For any kind of stability, whether financial, economic, political or social, inclusive growth is an essential prerequisite. Inclusive growth, in turn, is largely driven by financial inclusion and an inclusive financial system"*[40].

More than 50 national-level policy-making and regulatory bodies had dedicated much attention to financial inclusion strategies for their countries, more in particular, by fall 2013, the World Bank group proposed the overall goal of universal access to basic financial transaction services as a fundamental breakthrough toward financial inclusion. They want to achieve a world where everyone has access and can use financial services he or she needs to catch opportunities and decrease vulnerability[41]. In order to do this, both public and private sector engagement is necessary.

Of course, the target of public interventions is not to promote inclusion for inclusion itself, nor to induce everyone to borrow, but it aims at addressing market and government failures. The problem is that in weaker economies, in fact, government involvements in credit markets tend to be unsuccessful and politicized. From the public sector point of view, governments can play an important role in creating legal and regulatory frameworks; for example, they could act in order to protect creditor rights. More precisely, competition is the main part of consumer protection, because not only increases consumer market power, but also makes it possible for institution to serve individuals more easily. As a consequence of a favorable competitive environment, private

[38] Cecchetti, Stephen G., and Enisse Kharroubi. "Reassessing the impact of finance on growth." (2012).
[39] Jahan, Sarwat, and Brad McDonald. "ABigger slice." *Finance & Development* 17 (2011).
[40] Dr K.C. Chakrabarty, Deputy Governor of the Reserve Bank of India and Vice-Chair of INFE, 2012
[41]World Bank 2013b

institutions would be more willing to develop technology and generate new products that are easily understandable by those who are less financially educated and that are cheap to use. In addition to competition, public institutions should support information environments and transparency. In short, they should guarantee a decrease in information asymmetry. One way to do this is to introduce reforms of collateral registries for movable assets. Modern Secured Transactions Laws and Collateral Registries have a dramatic influence on economic development. Collateral provides the basis for free-flowing credit markets, reducing the potential losses lenders incur from non-payment. While land and buildings are commonly accepted as collateral for loans, the use of transferable collateral (such as inventory, accounts receivables, crops and equipment) is restricted because many countries do not have operative laws and registries to administrate secured transactions[42]. Data[43] show that countries that have reformed their registries have significantly increased access to finance by ten per cent. Not only matter what is actually being done, but also how policies are enforced: not combining strategies together may lead to inefficiencies and to sequencing issue. Technology, if not supported by appropriate legal, economic, and social measures, may have a limited impact on credit inclusion.

Against this policy context, in three focus areas have been there have been the main advances in empirical findings and suggestions for the path that should be followed in the future. These are: the promise of technology, product design and business models, and financial literacy and business models.

1. **The promise of technology** – the main advantage of technological innovations is the fact that they lower transaction costs and avoid inconvenience of accessing financial services. Among all technologic improvements, those that facilitate the identification of costumers (financial security), and hence try to break down the principal-agent problem, yield the best results. **Biometric identification** (such as fingerprinting, iris scans, and so on), for example, improved the ability of the lender to deny a longer-term loan to less reliable clients based on past repayment performances. This helps the weakest borrowers to improve their loan performances, reducing in turn moral hazard and adverse selection. Furthermore, **mobile banking** has become widespread among the developing countries. Experience in sub-Saharan Africa showed that there is no need a high penetration of mobile phones among the population for development of mobile banking. More than ubiquity of mobile phones, the factor that, in fact, makes a difference is healthy competition among providers of financial services, which rewards better performers and increases the power that consumers can exert

[42] Definition provided by the International Finance Corporation
[43] World Bank, 2014c

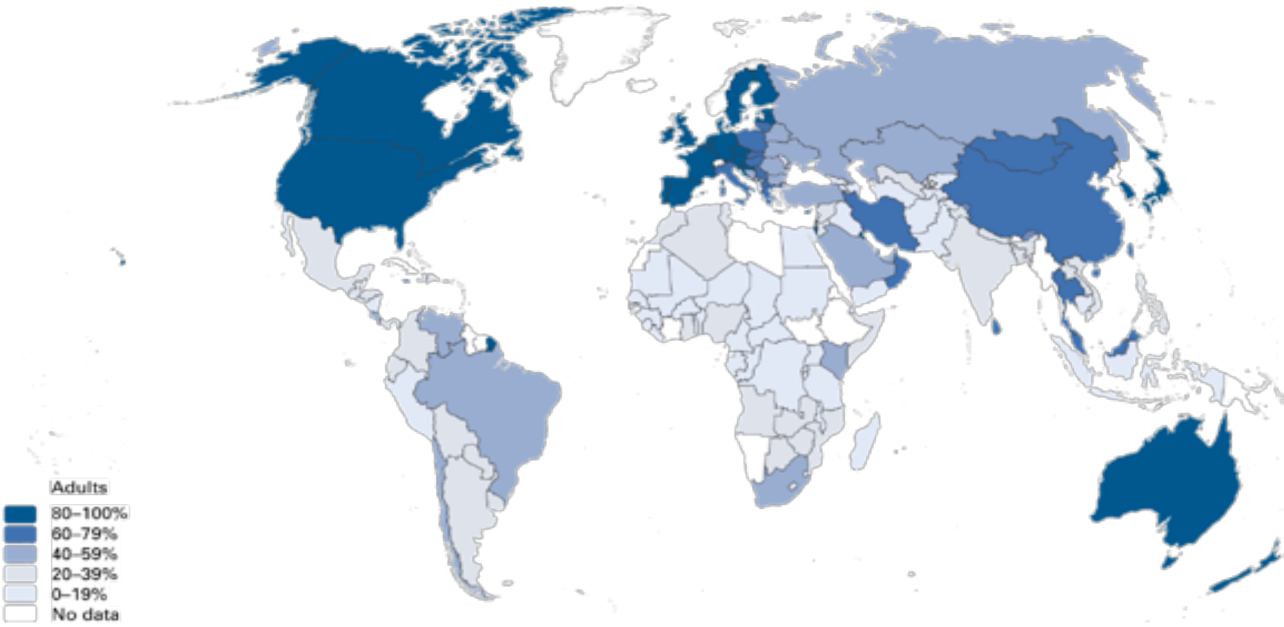
in their marketplace. Actually, by competing, banks push their strengths and capabilities to the limit where the can provide the best service compared with anybody else. Only in this way consumers can take advantage of it.

2. **Product design** – a broader use of financial services can also be promoted by innovative product design that can help to overcome security problems. An example of product design is **commitment to saving accounts**, where an individual deposits a certain amount and abandons access to the cash for a period of time or until a goal has been reached. They are important because they promote savings, especially in the agricultural sector, in which farmers can experience positive effects on crop sales and expenditure. Another example of product design is **index-based** insurance. In this case, payouts are linked to a measurable index such as the amount of rainfall over a given time or commodity prices at a given date. The benefits for lenders are enormous as well as for the agricultural sector, which becomes potentially more included.
3. **Financial literacy** – it is important to stress the difference between financial literacy and financial capability. Financial literacy does not guarantee that a person becomes financially independent and starts to make financially rational decisions. Evidence has showed that financial education, taught in classrooms, does not have much impact on financial inclusion. Of course, it takes more than notions and definitions to develop the capacity to benefit from financial services. On the other hand lies financial capability, despite the majority of people does not know what it is. Due to the fact that there is not a precise definition of it, it is possible to state anyway that it starts with developing the skills to be able to manage money independently and save for the future. This includes things such as keeping money safe, managing a bank account, understanding the differences between a debit card and a credit card, and basic budgeting. Hence the real challenge, which is extremely hard, is to promote financial capability through financial education. Then, the question that comes up is: what are the interventions that can make it possible to raise financial skills of individuals? A solution could be to heighten education by leveraging social network, more precisely to involve both parents and children into teaching programs through delivery channels such as, for example, entertainment education.

1.6 Key Facts and Achievements

After having analyzed all the features of a financial inclusive environment, it is now time to take a look at how, worldwide, individuals have performed so far over the past years. More in particular stylized facts and data will be shown to demonstrate the positive effects of financial inclusion globally. Data are taken for the World Bank's 'Global Findex', a massive database that keeps track of account ownership and use, savings, and payments around the world. It provides a set of indicators that measure how adults, aged 15 years and above, save, borrow, make payments and manage risk. It is a very accurate measurement since it takes into account 148 world's economies and it surveyed around 150,000 individuals with characteristics representative of 97 per cent of the adult world' population. Latest results are reported in the World Bank's 'Global Financial Development Report' published in 2014[44]. It is important to stress the fact financial inclusion varies widely across the world: data confirm outstanding disparities between developed and developing economies. For example, the share of those owning a bank account in developed economies is more than twice the corresponding share in developing economies. The following figure will graphically represent the percentages of adults with an account at a formal financial institution in each country in the world.

Figure 4: Adults with an account at a formal financial institution



Source 1: Global financial development report, World Bank, 2014

Even though low-income countries recorded a positive growth in the number of accounts, the growth rate was generally lower than the matching rate in developed countries, highlighting a big gap between the two country groups in terms of financial inclusion. However, overall, there has been a slow, but steady, expansion of the use of financial services over time. Each indicator will be now closely examined with data.

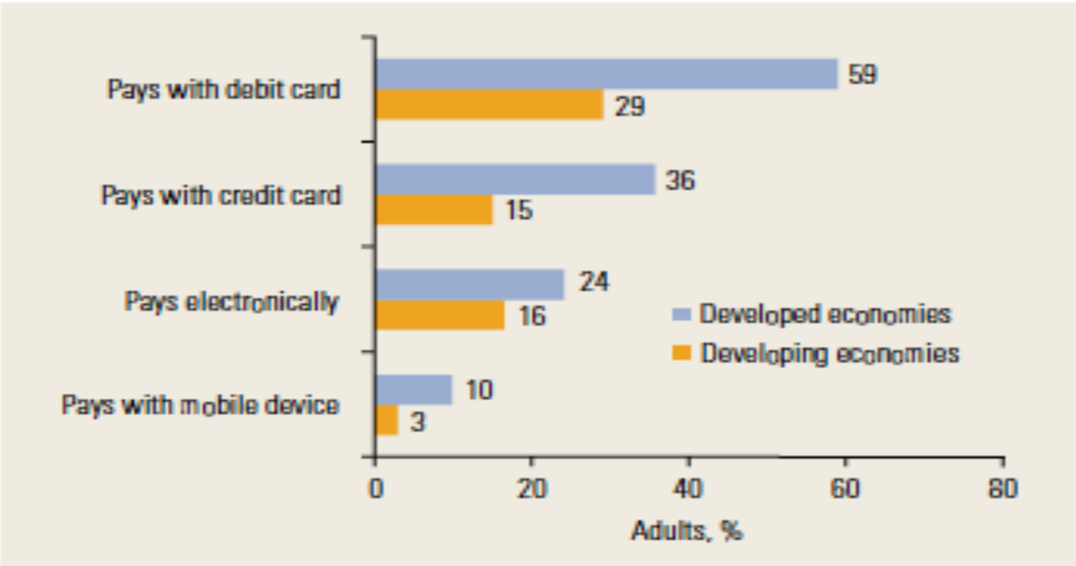
- **Ownership of accounts** – accounts are a fundamental measure of inclusion because most of the financial activity is tied to accounts. In developed economies, 89 per cent of adults interviewed report having a bank account, while globally only 50 per cent (the share is only

[44] All facts will be reported from there and adapted for the purpose of this thesis.

24 per cent in low income economies) of the population has one. Not only among countries, but also across individuals there is a difference in account penetration. This is related to the fact that there is gender discrimination in some countries as well as a strong disparity of income distribution. On average, in fact, women are 20 per cent less likely to hold an account than men.

- **Payments** – the main non-cash transactions are still made through debit and credit cards. Only a small fraction of individuals uses mobile payments. However non-cash methods are becoming more important.

Figure 5: Selected methods of payment



Source 2: Global financial development report, World Bank, 2014

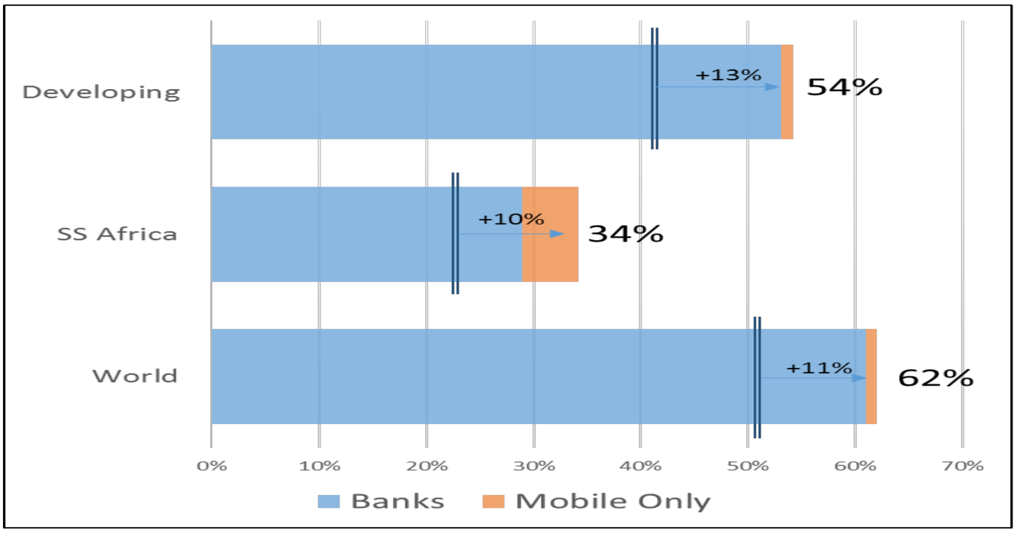
Evidence from the graph shows that, in developed economies, the usage of financial products is considerably higher. Moreover, the most common tool of payment is debit card both in developed and developing economies.

- **Savings** – 58 per cent of individuals belonging to high income economies, and 30 living in low-income, making a worldwide average of 30 per cent, have reported that they saved aside some money in the previous year. As well as account ownership, propensity to save differs across and within countries. The main way to save is through bank accounts; only 12 percent of bank account holders have used saving methods alternative to it. However, a large buffer of adults around the world who report they saved or put money aside did not use formal financial services or community-based methods.
- **Insurance** – insurance deals with the management of risks, both associated personal health and livelihoods. In developing economies, only 17 per cent of adults report they have paid for health insurance.

- **Credit** – most borrowing in emerging economies happens through informal sources such as family and friends. Globally, 9 per cent of adults testified having started a new loan with a formal financial institution in the last year. Though, in developing economies adults are three times more likely to borrow from informal channels rather than from formal financial institutions. The reasons for loans are mainly attached to a house purchase in developed economies, while in poor economies emergency and health issues appear to be the main purpose for a loan. Related to the expansion of credit is the usage of credit cards, which still lags in emerging economies where only 7 per cent of adults have one. Still there is propensity to borrow informally in low-income countries: 20 per cent of adults report that friends or family represented the only source of funding in the previous year.

Things being like this, it is possible to shift on the improvements made from 2011 (year in which the previous financial report has been published) to 2014. The global ambition toward financial inclusion is gaining power: sixty-two percent of the world's adult population has an account, up from 51 percent in 2011.

Figure 6: Account holders' percentage



Taking a look at the graph, columns are 2014 data broken into bank (blue) and mobile only (orange) account holders. Dark lines are 2011 levels. Mobile money is effectively working: it is expanding access to financial services, with special notice in sub-Saharan Africa. When asking if there is any progress among the poor, the answer is certainly yes: in emerging economies, account ownership rose unreasonably among adults living in the poorest 40 percent of households. 46 percent of these adults have an account – an increase of 17 percentage points compared to 2011. Meanwhile, account ownership among adults in the richest 60 percent of households increased by just 11 percentage points – to 60 percent. Finally, for what regards women, it is hard to assess if there is any upgrading. For sure more women have an account now than before: account penetration raised from 47 per cent in 2011 to 58 per cent in 2014. However, women are still undeserved: around 1.1 billion women have no access to the financial system, with India having the largest number of excluded females. Also gender gap is not narrowing, being stable from 2011 on 9 per cent in developing countries.

Overall people use their accounts, including holders in emerging economies (half of the holders, 26 per cent of the total, uses a bank account to make and receive payments). Consequently, the use of debit cards is becoming widespread, overtaking unreliable informal savings methods. But there is still a long way to go: more than half of adults, living in low-income countries, in the poorest 40 percent of households are still unbanked. Some of those who possess an account, instead, do not use it at all, making zero deposits and zero withdrawals. This group of people is defined as dormant account holders, and, even if banked, they still use cash to pay bills. In order to expand access to financial services and reduce the use of cash in the system, the World Economic Forum suggests[45]:

- Governments and businesses could reduce the number of unbanked adults by digitizing wages and transfers.
- Move cash payments into accounts.
- Bank the farmers.

[45] Source: https://www.weforum.org

Chapter 2 – Financial Inclusion in Latin America

Despite the robust and persevering inequalities Latin America has been experiencing slight improvements in terms of macroeconomic stability, GDP growth and emerging middle classes. The following analysis will focus on general features of financial inclusion in Latin America (including data and facts), continuing with a more specific insight in Mexico. First there will be an overview of the overall financial environment, proceeding with facts and progress achieved thanks to the policies undertaken in the past years. A case study on Banco Azteca (Mexico), one of the biggest microcredit financial institution in Latin America, will be analyzed within this context. On the basis of facts and findings some key issues will be addressed: has the financial inclusion been effective? How further can we go with financial inclusion?

2.1 The Latin American context: economic outlook and social inequalities

In the last ten years, Latin America has presented promising records in terms of economic growth; in particular, the whole region has shown remarkable flexibility in the recent economic crisis, performing well relatively to other developing economies[46]. Hence, they were able to reverse the immediate downturn fairly quickly. For the first time in a crisis context, financial systems in Latin America have held remarkably well and have not experienced negative effects in terms of quality of services. This was made possible by improving prudential regulation and supervision since the beginning of the crisis. The Government made important interventions in designing and implementing public policies aimed at strengthening the economic environment and supporting sustainable long-term development goals. Overall, it is possible to say that there is a positive economic outlook thanks to high growth rates, together with a more inclusive labor market and expanded protection networks; particularly those related to conditional cash transfers (CCTs). CCTs are programs in which governments transfer money only to those people that meet specific criteria, which include enrolling children into public schools, healthcare, vaccinations, and similar primary needs. They are unique in breaking the cycle of poverty through the development of human capital. The purpose of these programs is to address the inter-generational transmission of poverty and to foster social inclusion by targeting the poor, focusing on children, delivering transfers to women, and changing social accountability relationships between beneficiaries, service providers and governments[47].

In addition to this, on the macroeconomic side, there has been a decrease in the inflation rate in most of the countries, stabilizing the purchasing power of individuals. On the GDP side, since 2003

---

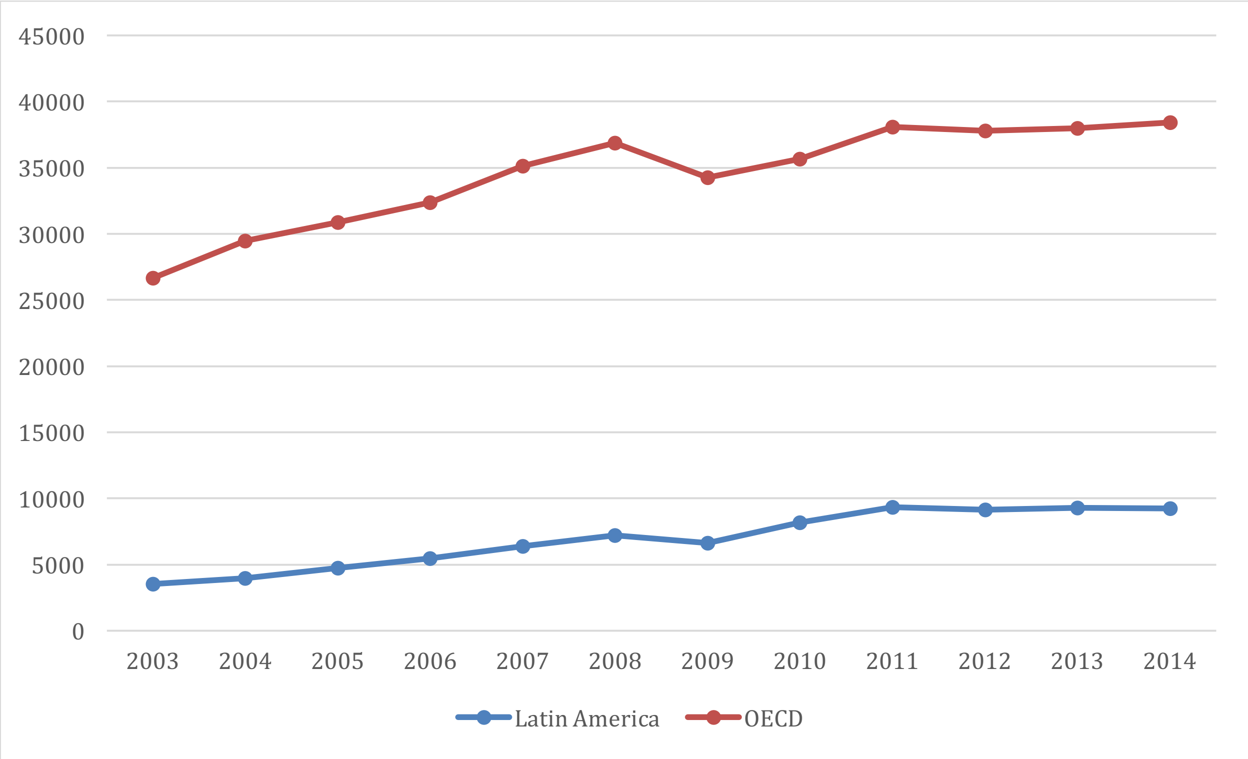
[46] OECD/Economic Commission for Latin America and the Caribbean.

[47] De la Brière, Bénédicte and Rawlings, Laura B. (2006). Examining Conditional Cash Transfer Programs: A Role for Increased Social Inclusion? Social Safety Net Primer Papers. The World Bank

there have been higher growth rates than the OECD countries both in expansionary and recessionary cycles.

Despite these positive trends, Latin America is still the most unequal region in the world[48]. GDP per capita, in fact, is still very low compared to the one of the OECD member countries[49] (above 30,000 US$), representing a little bit more than one quarter of that average (8,822 US$). It is even lower than the world's GDP per capita (9,928 US$)[50].

Figure 7: GDP per capita LAC (current US$)



Source 3: OECD and World Bank databases

Poverty in the region keeps very high, touching pikes of 31.4%, with 12.3% representing conditions of extreme poverty. This is reflected in the components of the Human Development Index (HDI), which is a way to measure development through a composite index combining indicators of life expectancy, educational attainment and income. It is a single statistic that takes into account both social and economic development[51]. About one third of the population is poor[52], and the main challenge is to achieve a reduction of the social inequalities together with economic growth and development, through a more equal distribution of income, implying the achievement of better

[48] United nations Development Programme
[49] See Figure 7
[50] Findex database, World Bank
[51] http://hdr.undp.org/en/statistics/hdi
[52] World Bank 2014

results in terms of the components of the HDI. Of course, in order for the poor to take advantage of new opportunities, it is necessary to develop policy tools in throughout the whole region.

When taking into account financial inclusion, evidence shows that the use of financial services and products is a particularly important priority[53]. Initiatives, such as the Mexican National Strategy for Financial Education, to increase levels of financial inclusion require access to products through affordable and accessible supply of products and strong demand for and appropriate use of those products. Having considered this, access to financial services, and to credit, is low in Latin America. A survey conducted on six hundred households by city[54] between 25 and 65 years of age, conducted by the CAF[55], evidenced that the fundamental reasons of the exclusion seem to lie in the institutional framework that does not promote competition or financial development. There is a diffused inefficiency, together with high margins for financial intermediaries that dissuade banks from serving geographically distributed populations or citizens with the lowest income levels. Hence, most of all, financial inclusion strategies aimed at solving these supply side inefficiencies that represent key barriers to access. However, data from the World Bank[56], which highlight positive trends in the promotion of financial inclusion, show that there is room for improvement if financial education is expanded all over the region.

According to the survey mentioned above, 51% of the interviewed had an account in any kind of financial institution (even not regulated), while only the 39% of adults has an account at a formal financial institution. If compared to the world's 50% (stated in Chapter 1), the outcome of the survey shows that financial inclusion is extremely low, also taking into account the fact that the survey captures access in urban areas, which is likely to be higher than average access (rural and remote areas). The most cited reason for not having a bank account, in line with the rest of the world, is the fact that individuals have not enough money to save. Then there is the evidence that most people are unemployed and do not get a regular wage, making them ineligible to have an account at a formal financial institution; some of them does not even satisfy the requirements that make them eligible for it. Moreover, there is a frequent distrust in financial institutions derived by corruption, which is widespread among the region, and lack of financial literacy. Lastly, very few people answered that they do not see any benefit from depositing money in a financial institution.

---

[53] Garcia, N., Grifoni, A., Lopez, J.C. and Mejía, D., (2013), "Financial Education in Latin America and the Caribbean: Rationale, Overview and Way Forward", *OECD Working Papers on Finance, Insurance and Private Pensions*, No.33, OECD Publishing.

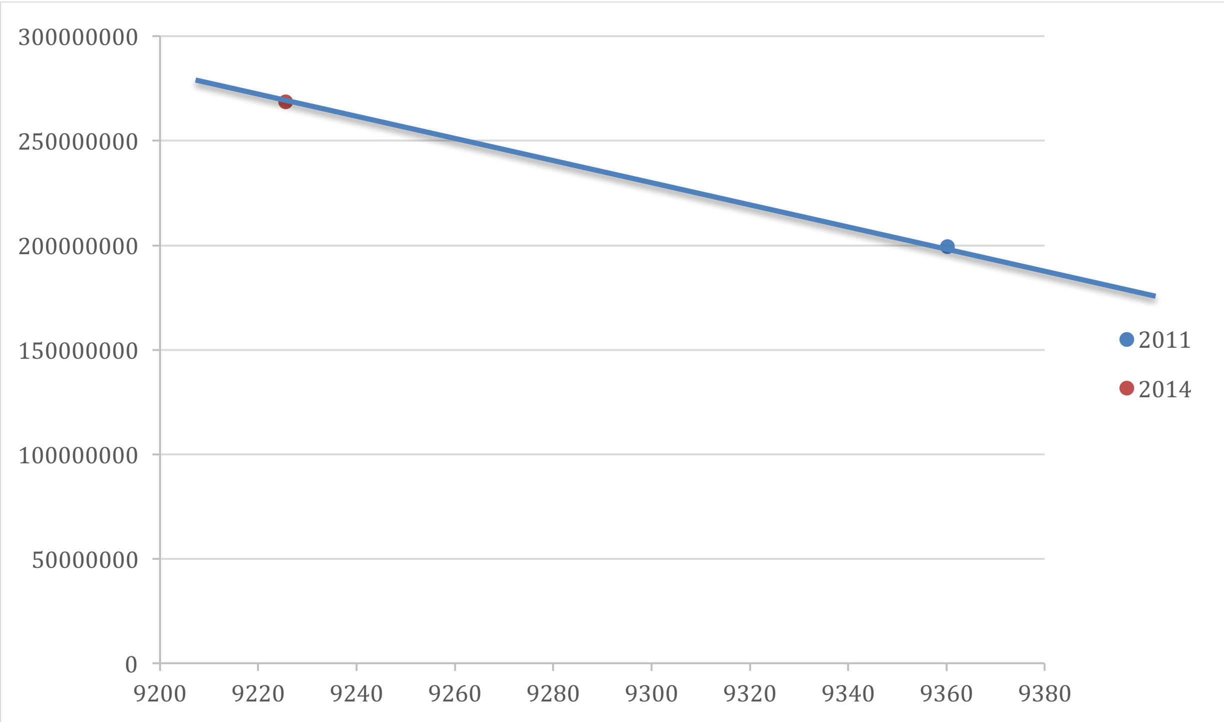
[54] Buenos Aires, Cordoba, La Paz, Santa Cruz, Rio de Janeiro, Sao Paulo, Bogotá, Medellin, Quito, Guayaquil, Lima, Arequipa, Panama City, Caracas, Maracaibo, Montevideo, Salto

[55] Development Bank of Latin America

[56] Global Financial Index Database

A striking result emerging from the analysis of available data by the World Bank dataset is that, contrarily at what one would expect, it is not always true that there is a straightforward positive correlation between GDP per capita and access to financial services.

Figure 8: GDP per capita vs. number of individuals having a bank account[57]



Source 4: Findex Database, World Bank

Higher GDP per capita, in fact, does not necessary mean a higher number of households owning a bank account: the graph displays that in 2011 GDP per capita in Latin America was higher than in 2014, however the number of households having an account at a formal financial institution was lower by 34.7% (from 268.589million to 199.296 million[58]). Of course, this is a result obtained at the macroeconomic level; if single countries[59] are taken into account, the correlation sometimes is positive. However, this suggests that beyond the relationship between average GDP per capita and access, there are also key factors that determine the level of access to and use of financial services, and in some cases offset the effect of GDP. This measurement takes into account just two points in time (2011 and 2014), so any assumption is taken based on this time period, on the assumption that the relative measure of financial inclusion across countries has not changed dramatically over time. Moreover, for what regards the indicator of number of households having a bank account, the only publicly available data were those provided by the world bank. For this reason, this is the only

[57] GDP per capita is indicated on the x-axis, while on the y-axis lies the number of people having a bank account

[58] Findex

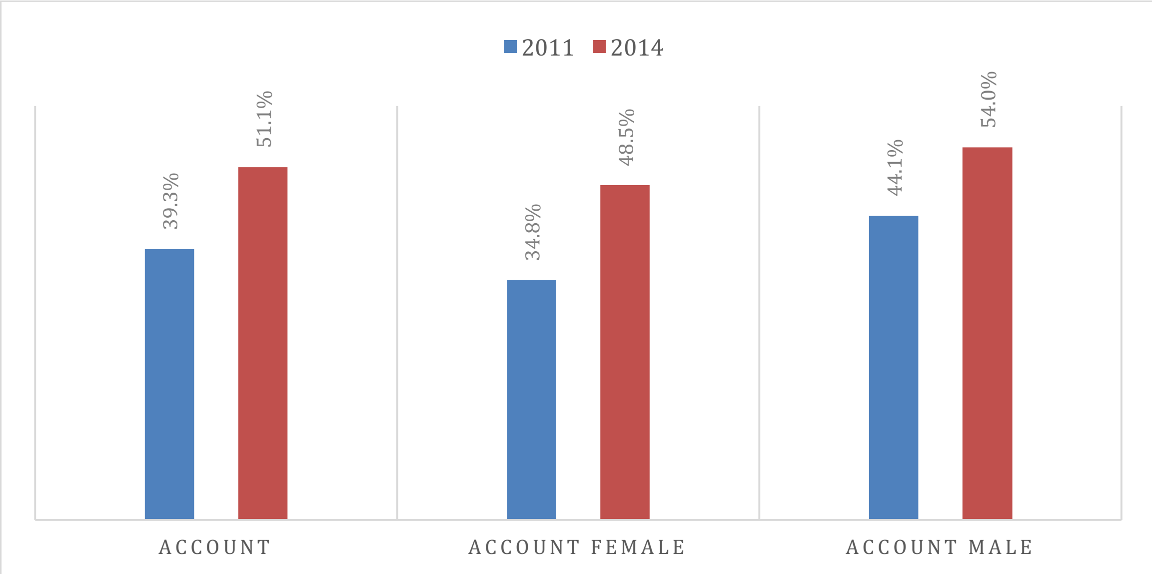
[59] e.g. Mexico

possible estimation about the relationship between GDP per capita and ownership of bank account that confirms the uncertain trend.

Going more in depth, looking at access by population subgroups and product category, it is possible to derive, from the Findex[60] database, that there are differences in financial access related to the level of income and other features such as gender, educational level and geographic location. These factors will be now analyzed one by one.

- **Gender** – Gender accounts for the differences in financial access in the region.

  Figura 9: Percentage of population having a bank account (LAC)



  Source 5: Findex Database, World Bank

  The graph above shows that there are significant gender disparities in financial inclusion: despite an increase in the percentage of the population having an account at a financial institution from 2011 to 2014[61], still the 48.597% females, older than 15, has access compared to the almost 54% of the males. It is important to stress, however, the positive trend that financial inclusion followed during this time lapse highlighting an overall increase, from 39.256% to 51.143%[62], in bank account owning. Still half of the population of the region remains unbanked, but the progresses made in the past show that there is still the possibility for further improvement.

- **Education** – also the educational level can be determinant for the disparities in financial inclusion because those people with tertiary education are twice more likely to have a bank

[60] Demirguc-Kunt A., Klapper L, Singer D., and Van Oudheusden P., April 2015. "The Global Findex Database 2014 Measuring Financial Inclusion around the World". World Bank Policy Research Working Paper 7255. Washington, the World Bank, Development Research Group, Finance and Private Sector Development Team

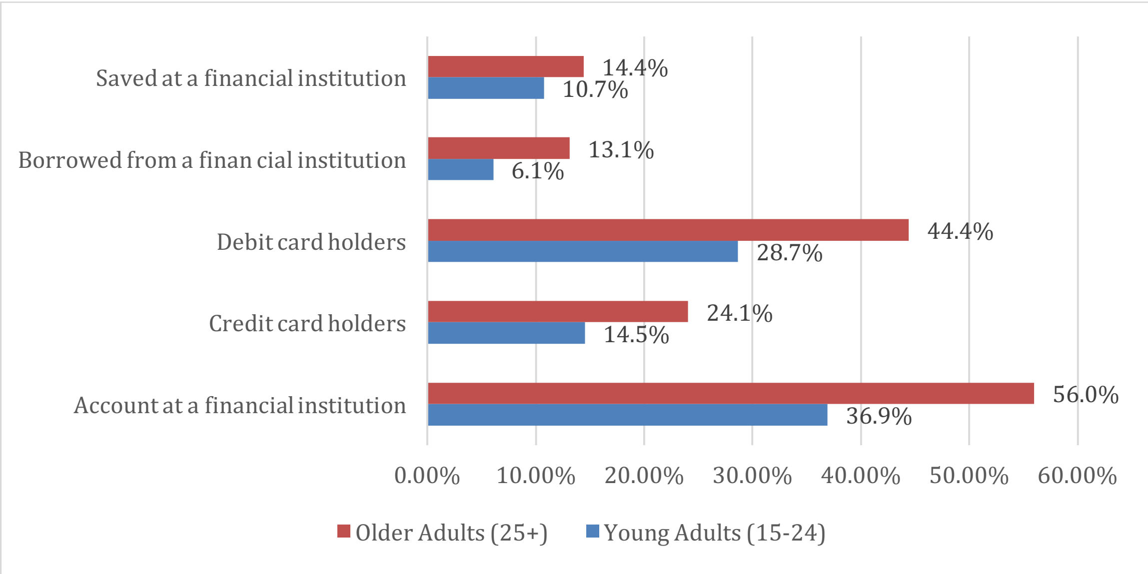
[61] The World Bank group made measurements about financial inclusion only in 2011 and 2014, so, from now on, data and considerations will be based on this period of time

[62] All data are taken from the Findex database, World Bank

account in comparison with those who have only primary education. In Latin America, however, the general level of literacy is pretty high, averaging a little less than 92% of the overall population.

- **Age** – the problem in Latin America is that the young, aging from 15 to 24 years old, are less likely to have access to finance as those comprised in the age range 25-64. The Findex survey confirms this fact: around 40% of people aged 18-29 uses payment products, while the older ones are estimated around 65%.

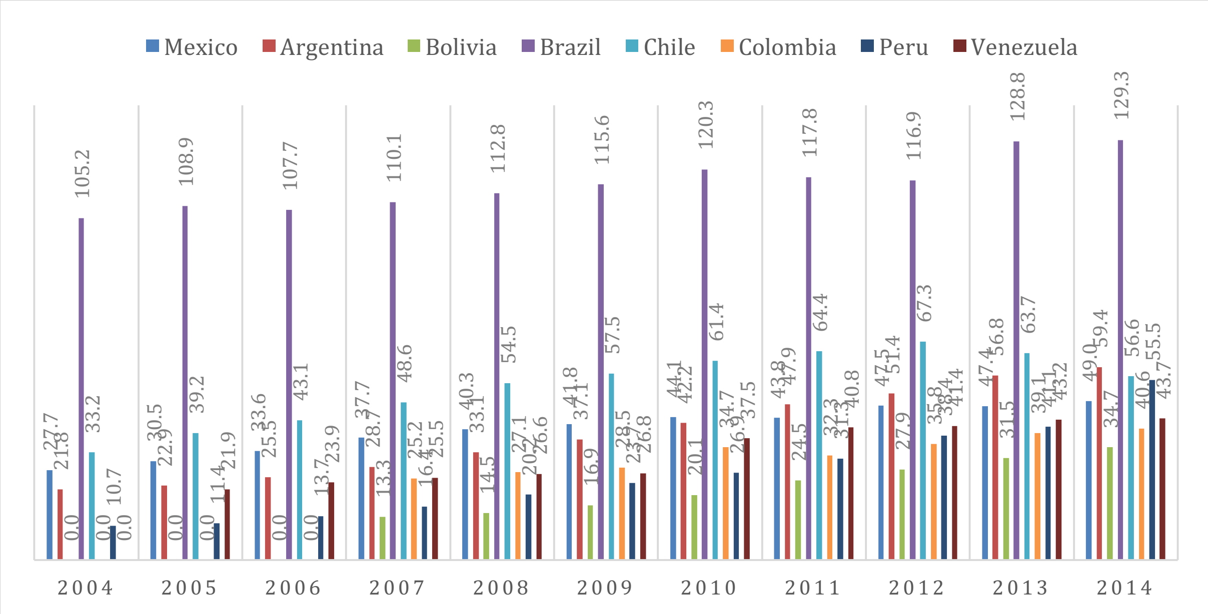
Figure 10: Users of financial products (young and older adults)



Source 6: Findex Database, World Bank

- **Geography** – being plenty of rural areas, even though urbanization is growing moderately fast, the distribution of population in the region implies that only 35% of those having an account lives in the countryside, compared with the world's average that amounts to 44%. However, if considering the biggest countries in Latin America, it is possible to observe that financial access has increased over time, more in particular the presence of ATM per 100,000 adults has grown significantly since 2004.

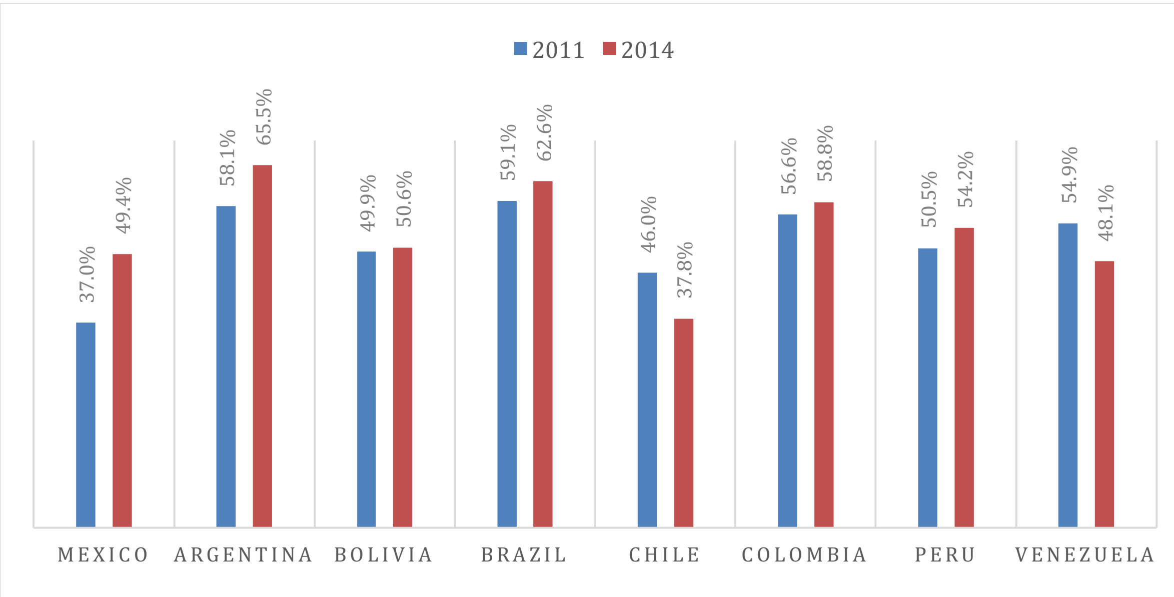
Figure 11: ATMs per 100,00 adults



Source 7: IMF FAS key indicators

As it is shown, Brazil is the country with the most ATMs density and it has had an increase in the number of ATMs of 22.87% (from 105.19 to 129.25). Who struggles the most is Bolivia, which displays the lowest density among all the sample nations. Overall, it emerges the general impression that financial has increased, but there are still substantial differences among countries that need to be made homogeneous. Hence, the analysis can shift to the impact that the increase in automatic teller machine had on withdrawals percentages.

Figure 12:Withdrawals in a typical month: 1 or 2 (%)



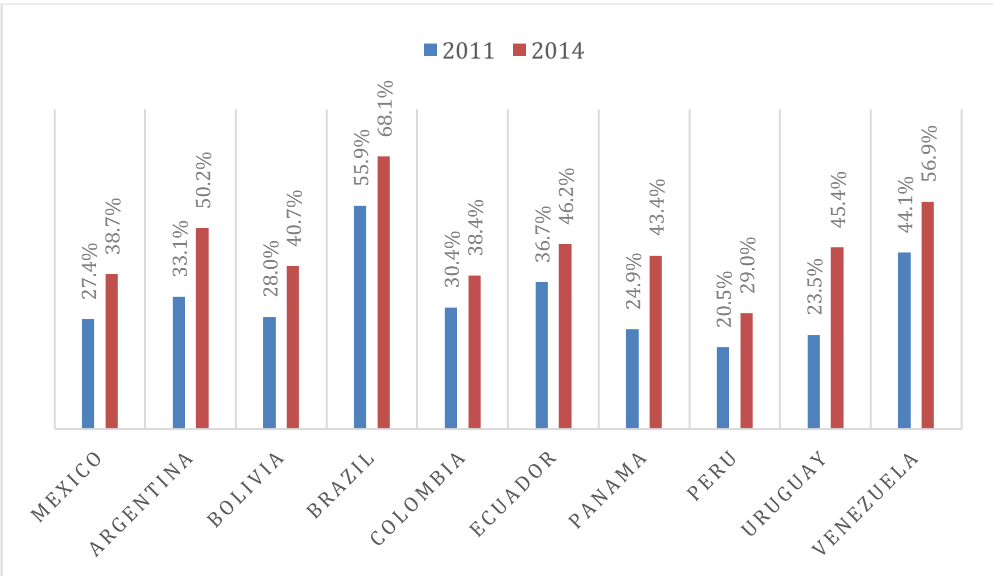
Source 8: IMF FAS key indicators

Besides Chile and Venezuela, other countries show increase in withdrawals in a month. Still it is noticeable that in mostly all of the countries it is confirmed the overall average that 50-

40% of the population still does not use financial products or does not know how to use them. Argentina and Brazil look like the nations with the greatest percentage of withdrawals.

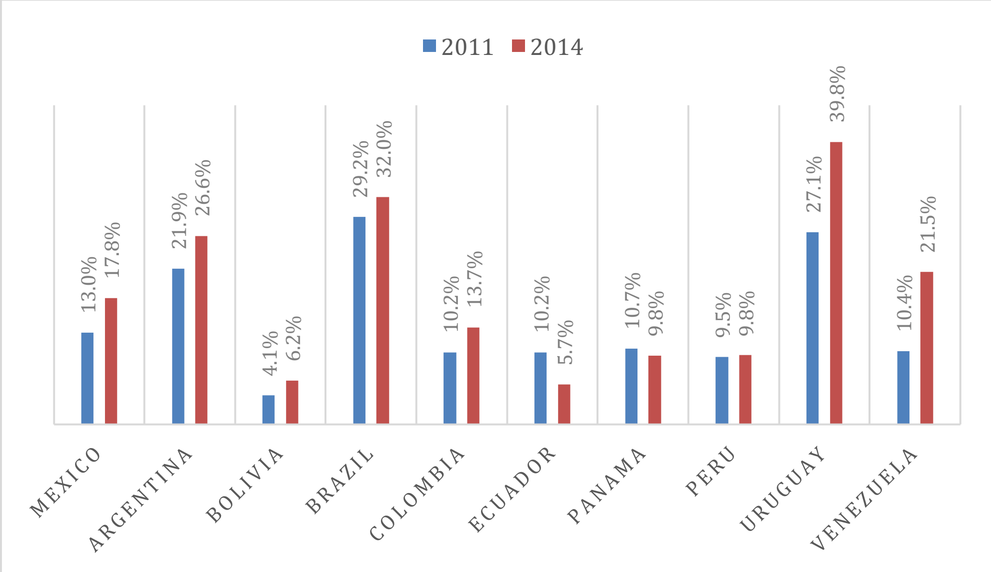
- **Income** – income is a very strong discriminant for financial inclusion. Those families with higher income, tend to have relationships with formal financial entities. Households having an account and belonging to the lowest income quintile account to 21%, against the 64% belonging to the highest quintile.
- **Product category** – benefits of households from financial services derive both on savings products and credit products. Regarding the first category, more than half of the population has some kind of savings, less than 40% of which holds the at a formal financial institution. more than three quarters of the households use alternative mechanisms such as cash, durable goods or informal savings schemes. Looking at the other side, credit products, the usage is very low; for those possessing a credit card, the most predominant finance source is the financial system. Informal financing is still very high: around 20% of those who have credit receives funding from family and friends, or from moneylenders.

Figure 13: Bank account holders in Latin America



Source 9: Findex Database, World Bank

Figure 14: Credit card holders



Source 10: Findex Database, World Bank

Taking a look at the countries[63], Brazil and Uruguay appear to be those with greater access to credit instruments, while Bolivia and Ecuador, which are also the smallest and the poorest, still lag far behind. Overall there has been an increase in the usage of credit from 2011 to 2014, except for Ecuador and Panama, which have seen a not so encouraging decrease. Shifting to savings, Bolivia, Colombia and Peru show the greatest gaps with respect to the other countries, not forgetting to highlight, however, an increase in access to bank account in all of them. Overall the average of the data reported in the graphs is consistent with the numbers above cited, reflecting the fact that less than half of the population has access to finance.

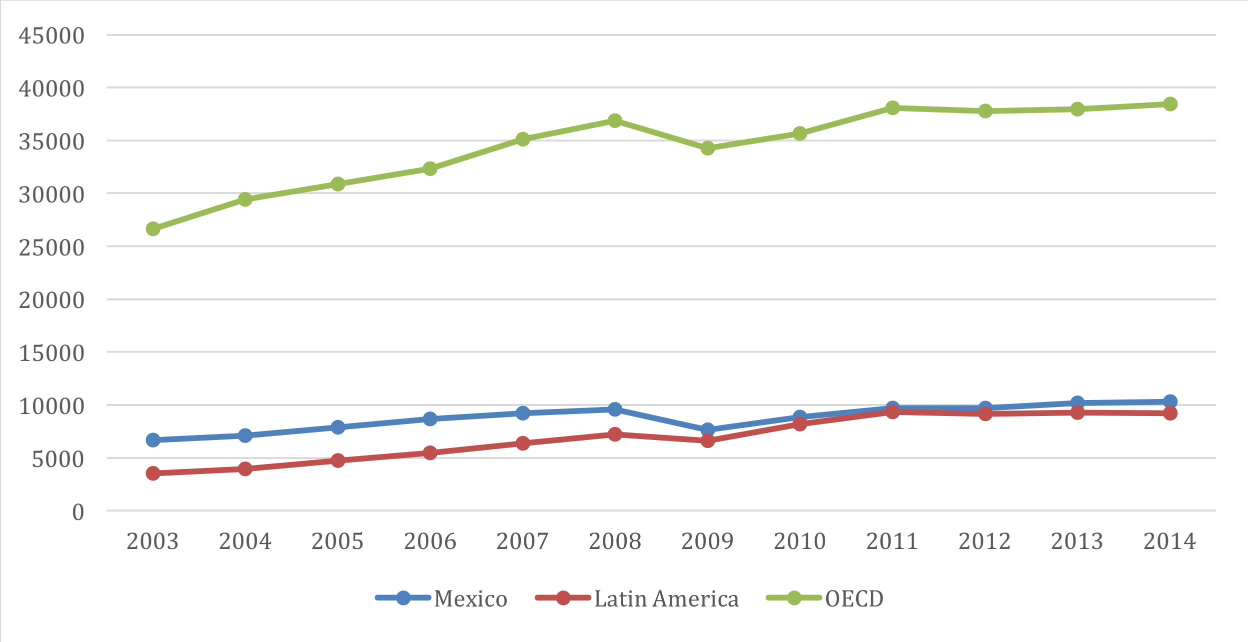
2.2 Financial inclusion in Mexico

Mexico accounts a population of around 119.53 million people, 79.2% of which is urbanized, and it is estimated to grow by 1.18% per year[64]. The Mexican economy continued to expand at a moderate annual rate of growth of 2.5 percent during 2015. Private consumption became the main driving force of economic activity on the back of stronger job creation, real wage growth, and credit expansion. In contrast, the expansion of investment activity has slowed down, including due to public spending adjustments[65].

In contrast with the average decreasing trend in Latin America, Mexico had an increase in GDP per capita between 2011 and 2014[66] with a corresponding increase in access to finance.

[63] See Fig. 11-12
[64] Data taken from https://www.cia.gov/library/publications/the-world-factbook/geos/mx.html
[65] http://www.worldbank.org/en/country/mexico/overview
[66] See fig. 13

Figure 15: GDP per capita LAC, Mexico, OECD



Source 11: OECD and World Bank Databases

Notable is also the fact that GDP per capita is slightly higher than the average in Latin America, showing signs of increasing the gap. Despite the optimistic trends, poverty is still pretty high, with the Gini coefficient being stable over the last decade between 48 and 51[67].

For what regards access and usage of credit[68], there are positive outcomes in the transition between the first and the last measurement, but still it is possible to underline the fact that there are countries, like Argentina, Brazil, Venezuela, and Uruguay, which are further ahead.

2.2.1 Financial Environment

Some of the reasons why Mexico still lags behind with respect to OECD countries and the biggest nations in Latin America need to be attributed to a complex and not well-functioning financial system, which presents deficiencies that are being slowly adjusted through interventions at the micro and macroeconomic level.

The Mexican banking scene is dominated by commercial sector, which includes traditional banks and specialized lending institutions that mainly focus on consumer loans without the possibility to receive deposits. Its five largest banks hold almost 80% of the assets belonging to the system. Mexico is underbanked with respect of other OECD economies[69] because large segments of the population do not use formal banking services, and consistent progress needs to be made in order to promote financial inclusion and to increase the use of banking services.

---

[67] World Financial Development Index, World Bank

[68] See fig. 11-12

[69] OECD, January 2015. "OECD Economic Surveys, Mexico". Overview. Paris.

Three main problems that arise when analyzing Mexico's banks are:

1. Very high fees and interest rates
2. Conservative credit policies
3. Indifferent service, which means unfriendly employees that would not help the client making him resilient to get close to financial services.

The banking system's greatest weakness is that small and medium-sized businesses have difficulties obtaining credit, having, as a consequence, repercussions on the employment rate. Reforms[70] are continuously trying to adjust these deficiencies.

Additional to commercial banks, Mexico has six state-owned development banks[71] that have always been risk averse and function as financiers for small and medium-sized businesses. After the new reform they have given more power in terms of risk and loan issuance.

Table 2[72]: State-owned Development Banks

Development Bank	Specialization
Nacional Financiera (Nafin)	Small and medium-sized businesses
Banco Nacional de Obras y Servicios Pùblicos (Banobras)	Public infrastructure, especially municipal projects
Banco Nacional de Comercio Exterior (Bancomext)	Foreign trade for exporters and importers
Sociedad Hipotecaria Federal (SHF)	Housing, including housing development
Banco Nacional de ahorro y Servicios Financieros (Bansefi)	Lower-income households and the unbanked
Banco Nacional del Ejercito, Fuerza Aérea y Armada (Banjercito)	The armed forces

Finally, the microfinance sector has considerably grown allowing access to finance to the low-income population, including the informal sector. However, it is difficult to isolate the microfinance sector to precisely assess its progress because institutions use various organizational forms such as NGOs, cooperatives, non-bank financial institutions, and commercial banks. It is important to stress the point that the possible growth of this sector is a potential contributor to full financial inclusion and represents a powerful tool for reaching the low-income population.

Apart from the financial sector, it is possible to find a wide array of players in the private sector, especially retailers, which can advance Mexico's headway towards full financial inclusion. The

[70] See paragraph 2.2.2
[71] See Table 2
[72] Table taken from the article by Edward C. Skelton: "Mexico's new banking measures aim to increase credit, transparency

importance of retailers is that they can facilitate creative and effective distribution of financial services. The use of these channels is crucial for lowering banking costs and providing convenient banking points for the financially excluded[73].

2.2.2 Policies and strategies

Since the early 2000s, Mexican authorities have been implementing wide-ranging structural reforms finalized at boosting long-run growth and economic development. The country has, first of all, provided incentives to regulate the banking system and made it easier for households to access credit. Through the stimulation of the financial sector, an improvement in the prospects of growth in the short run and economic development in the long run can be expected. Together with this, there are strategies aimed to exploit the opportunities offered by enhancing financial inclusion. The objective of the government in pursuing this strategy was to add one or two percentage points to growth in the medium- to long-run (it was estimated around 2020[74]).

Three sets of measures stand out in the financial reform:

- More effective property-rights protection for creditors
- More formal legal authority for the regulator to manage the resolution of banks
- Promotion of competition among financial intermediaries

It will follow below an overview of the procedures that have been implemented first at the governmental level to regulate the banking systems, secondly at the macroeconomic level to help individuals to deal more conveniently with financial institutions.

The most important measure undertaken by the government has been the *"Ley para regular las agrupaciones financieras[75]"*, which regulates financial authorities and establishes the terms according to which they can operate. This measure has the potential to help workers borrowing against their future income, improving social mobility and income distribution. Moreover, the Central Bank of Mexico[76], in order to overcome the inefficiencies[77] of Mexican banks, and hence reducing charges and commissions, has started to publish on its website the financial institution's fees and interest rates. Consequently, banks are required to reveal the true cost of financing through the annual percentage rate (CAT[78]), which is equal to the rate used in the US. This measure has been criticized by the Mexican Bankers Association, which claims that, being earnings proportional

[73] The case of Banco Azteca below will better explain the function of retailers and their impact on financial inclusion.

[74]Center for Financial Inclusion, September 2009. "Mexico's prospects for Full Financial Inclusion". A White Paper from the 2020 Financial Inclusion Project. Washington.

[75] Last update on January 10th, 2014

[76] Banco de México

[77] See paragraph 2.2.1

[78] Costo Anual Total

to risk, the banking industry profitability is not that high. The main purpose of regulatory acts is to increase competitiveness by preventing the sale of bundled financial products, such as the grant of auto loans to consumers together with the purchase of insurance or with the requirement of maintaining a deposit account. By guaranteeing a greater possibility to move savings among different institutions, the hope is that customers will be motivated to do so and most benefit from it. These financial improvements should be useful to improve consumer rights. The laws, in fact, will facilitate the action of Condusef[79] to increase transparency and punish abusive practices. Capital rules outlined in Basel III have been included into the law, in addition to the new clarification on how banks are declared insolvent, tightening the liquidation process for insolvent banks. Legally, there is a process that determines when a failing institution is considered systematically important to the entire system: banks will not be considered important until failure, and secondary legislation will be in charge of establishing special resolution facilities for such banking operators. Finally, legal rules allow both bridge lending in case of a credit crunch, temporary financing until more permanent arrangements are in place, and the recovery of cash pledged as a security on a credit without filing a law suit and receiving a judicial order. All these changes are expected to make banks more confident in granting credit implying the promotion of credit growth throughout the whole country.

On the microeconomic side there are several opportunities to make major advances toward the elimination of financial exclusion in Mexico. These strategies can be implemented to directly reach the poorest segments of the society, such as the informal sector and the rural residents, and focus on areas where financial inclusion is weaker[80]. Here some strategies that are suitable to the needs of the segment of population excluded from financial access.

- Close the location gap – building branches throughout the unserved towns located in rural areas would provide physical access, but sometimes it could be too costly. So, there is the necessity to find alternative channels of banking that provide less costly approaches to close the location gap. Developing branchless banking could be an approach to overcome this deficiency. Examples are in-store retail banks or commercial banks that partners with retailers that can serve as their agents. Since banking agent models can use a very wide range of retailers, their penetration into smaller communities is potentially stronger than the reach that the simple retail chain model can have. A more effective and plausible channel is mobile banking: the provision of mobile payment services could make payments more convenient and less expensive for those people whose transaction costs are the main reason

[79] A consumer watchdog government agency
[80] Center for Financial Inclusion, September 2009. "Mexico's prospects for Full Financial Inclusion". A White Paper from the 2020 Financial Inclusion Project. Washington.

why they do not use financial services. Moreover, there would not be the necessity for a physical building located all over the places.

- Expand the viability frontier to reach the excluded – many households can be profitably served with existing business models. Technologies and techniques exist for poor individuals, but they are not applied to their maximum extent. Things being like this, disadvantaged households may not be viable clients for providers, but thanks to innovations in business models, this trend could be inverted.
- Providing quality services – quality products are affordable and responsive to client needs, and they are delivered in such a manner that they are convenient and dignified, in order for the client to make the most out of the service.
- Increase affordability – quality of access can be improved if financial services are made more affordable, increasing consequently the number of people who can be profitably served. Given the high cost of credit and the low value of saving services for clients, the main priority should be cost saving.
- Increase convenience – time, bureaucracy and distance are main cause of inconvenience of financial services. Together with closing location gaps, which will help to solve the inconvenience of distant branches, solving the first two problems will require regulatory provisions and operational efficiency.
- Improve product fit – there is a real opportunity for providers to increase developed new products designed for the specific needs of clients. This allows to reach the undeserved people and create new revenue pools. These opportunities are more exploitable in areas such as health insurance, housing finance, and education finance.
- Promote dignity through consumer protection and financial literacy – clients need to be treated with transparency and respect, and they should be informed about the minimal details of the products they are dealing with. The Campaign for Client Protection in Microfinance, provides strong efforts to increase implementation of client protection principles. The following are the six principles[81] for client protection:
    1. Avoidance of over-indebtedness
    2. Transparent pricing
    3. Appropriate collection practices
    4. Ethical staff behavior
    5. Mechanisms for redress of grievances
    6. Privacy of client data

[81] www.clientprotectioncampaign.org

For the full financial inclusion to be realized, the major part of services must be provided by the private sector, because it alone has the capacity to operate sustainably and at the necessary scale.

An interesting case for proving the validity of these strategies is the case of the opening of Banco Azteca. It will follow a detailed analysis of the case.

2.2.3 The case of Banco Azteca

In March 2002, one of Mexico's biggest electronics and households goods' retailers, Grupo Elektra, received a banking license. During October 2002, Grupo Elektra launched Banco Azteca, introducing 815 branches in all preexisting Grupo Elektra supplies. From the beginning, Banco Azteca targeted low- and middle-income customers, historically underserved by the traditional banking industry. Upon its launch, Banco Azteca benefited from synergies with their retail operations, which furnished a broad source of data on their clients. With Elektra's 48 years of experience in selling goods on installment to lower-income consumers, Banco Azteca was informed on about 4 million debtors.

The bank also inherited a 3,000-strong army of motorcycle-riding credit agents, which carry [82] handheld computers loaded with Elektra's rich database, which includes customers' credit histories and names of neighbors who might help track down negligent debtors. Banco Azteca requires less documentation with respect to traditional commercial banks, often taking collateral and co-signers instead of valid documents. Banco Azteca does not require proof of income and has low collateral requirements. The basic process to acquire a loan requires the client to fill out a form, sign a contract, and provide official identification, a recent payroll statement of income tax form, and proof of property ownership (such as a tax form). However, if the individual does not have any proof of employment or land ownership, this does not disqualify him or her from loan approval. In this case, Banco Azteca requires an endorsing individual or collateral. Similar to microcredit institutions, Banco Azteca services small loans of less than USD$900 to be repaid in weekly installments. There are three repayment terms to choose from: 13 weeks (chosen by 1 percent of clients), 26 weeks (chosen by 8.29 percent of clients), or 39 weeks (chosen by 90.7 percent of clients) (Grupo Elektra 2003).[83]The loans carry an average annual interest rate of around 55 percent with an effective annualized percentage rate (which include fees) of 110 percent. The interest rate is high, but prior to Banco Azteca, many of the households serviced by Banco Azteca were restricted to borrowing from pawn shops and moneylenders, which charged interest rates upwards of 220 percent over the same period. Therefore, the new interest rates would represent a welfare gain over

[82] www.grupoelektra.com.mx

[83] Annual Report Group Elektra 2003

previously available rates[84]. Overall, Banco Azteca exhibits many attributes that characterize so called second generation microcredit organizations, which offer individual liability loans that can be used for both productive (as it is the case of traditional microcredit) and non-productive activities. Given Banco Azteca's location within retail stores, it is likely that a higher share of loans serviced by Banco Azteca is used for nonproductive, consumption activities than the typical microcredit organization.

Azteca began its operations by offering savings accounts aimed at low-income customers that could be opened with as little as $5. Within the first month, 157,000 accounts were opened, growing to 250,000 accounts by the end of December 2002. At its opening in October 2002, Banco Azteca also took accomplished the issuance of installment loans that were previously issued by Elektrafin, the financing unit of Grupo Elektra's retail stores. These loans, on average, amounted to about $250. Although these loans were tied to merchandize, they could be used for business resolutions. For instance, purchasing a new sewing machine or a refrigerator might allow a person to start or support a micro business. In 2003, Azteca began to offer $500 consumer loans not tied to merchandize, with an average term of one year. Toward the end of 2003, Azteca expanded into the mortgage and insurance business. The loan portfolio increased from approximately 2 billion Mexican pesos at the time of the bank's opening to 10 billion Mexican pesos in the last quarter of 2004. Though this portfolio size is small compared to the total commercial bank credit to the private sector, which was around 550 billion Mexican pesos in the last part of 2002, it is large compared to the credit disbursed by smaller institutions that cater to low-income households. The combined portfolio of the largest microcredit institutions in Mexico stood at only 0.5 billion Mexican pesos in the fourth quarter of 2004. In this same period, the total amount of outstanding loans from credit unions was 8.7 billion Mexican pesos.[85]

There are several important differences between Azteca and microcredit institutions. First, Azteca is able to receive deposits, which, consequently, reduces its cost of funds and enhances its growth opportunities, while Microcredit institutions are normally funded by donor funds or other capital. Second, Banco Azteca is regulated and supervised as any other commercial bank and hence it has to comply with reporting requirements and has participated in the deposit insurance program. In contrast, microcredit institutions are not regulated as banks, they cannot take deposits, and they are not necessarily to observe reporting requirements. As a consequence, accounting information reported by microcredit institutions is often deemed less reliable than that of regulated banks. Third, Azteca is uniquely positioned to take advantage of economies of scale because of the synergies with

---

[84] Bruhn M. and Love I. (2014), "The Real Impact of Improved Access to Finance: Evidence from Mexico". The Journal of Finance, 69: 1347–1376. doi:10.1111/jofi.12091

[85] Annual Reports Group Elektra 2003-2004

its parent company, Grupo Elektra. As a result, it has a significant advantage in information technology and collection mechanisms. These differences have allowed Azteca to reduce operating costs despite the small loan size[86].

Banco Azteca's Use of Innovative Information Systems (IS) for Financial Inclusion[87]

Azteca employed six IS applications which were contributory in expanding its customer base. A custom-built innovative application, an automated decision support system, was advanced by Azteca's in-house IT staff for use by the bank's field agents who visit low-income customers when eye is unable to furnish proof of income for their credit application. The automated system makes the decision for what regards the loan amount based on client data input by the agent on his handheld computer. The system's decision is transferred by the agent to the client, who can accept or refuse the offer. Mobile applications, also developed in-house, were another custom-built system for use by customers, whose functionality allows them to conduct a wide range of financial transactions. Aside from these two applications developed by Azteca's IT team, four different IS applications were acquired from international vendors: digital fingerprint readers, Intelligent Infrastructure Management Solution, smart cards, and IP Video Management System, a software solution for network video surveillance. Azteca's parental, Grupo Elektra, Latin America's largest electronic and home appliance chain, has been using IS applications since 40 years ago to provide credit for purchases by low income clients. Azteca was able to piggyback on Elektra's systems for monitoring customer payments and, hence, did not face any challenges for system implementation.

A brief Summary of the six IS applications implemented by Banco Azteca along with their highlights and business value is given below.

Table 3: IS applications implemented by Banco Azteca

	IS Application	Software development type	Business Value
1	Automated Decision Support System	Custom-built system by In-house IT staff	• Field agents who contact customers do not require any skills for assessing their credit risk since the system makes the decision about the loan amount from the data input by the field agents • Azteca is hence able to give loans to

[86] Mus, J., (2015), "The Impact of Microcredit on Household Welfare: The Case of Banco Azteca in Mexico," CEPP Discussion Paper Series, October 2015.

[87] Mohan L., and Potnis D., "Information Technology in Developing Countries". A Newsletter of the International Federation for Information Processing Working Group and Centre for Electronic Governance Indian Institute of Management, Ahmedabad

			millions of customers at low cost by employing 3000 agents who are given motorbikes for fieldwork • System was instrumental for the rapid expansion of Azteca's customer base and extending operations to Latin America
2	Mobile application for use by customers: Red Movil Azteca	Custom-built system by In-house IT staff	• Functionality of mobile application allows customer to use it as a mobile wallet • Azteca also gets information on the utilization of the loan amount given to the customer such as payments for telecom and utility companies, investments in their small businesses, and repayments of loans taken from other sources
3	Digital fingerprint readers	Acquired from DigitalPersona based in Redwood City, California	Biometric authentication of customers
4	MapIT G2 Intelligent Infrastructure Management Solution	Acquired from Siemon, an established company founded in 1903, based in Watertown, Connecticut	• Installation time reduced by 75% because of pre-fabricated, pre-terminated and tested cable assemblies • Ensures error-free transmission of millions of daily customer transactions through a real-time data tracking system • Space required for trucking cable assemblies is reduced which was important for Banco Azteca, since the assemblies had to be installed under

			the raised floor of its headquarters in Mexico City
5	EMV smart cards	Acquired from Gemalto based in Amsterdam, the Netherlands	• Customer has an ID card that can be used where necessary • Customer can use card like a credit card to make payments
6	Nextiva IP Video Management	Acquired from Verint Systems Inc. based in Melville, New York with over 10,000 business customers in 150 countries	• Only tool available with video analytics capability that provides information about video transactions to Azteca's executives for improving operational efficiency • Integrated with DigitalPersona's biometric access control system for security • Safeguards bank's data center operations Azteca was smart in using proven solutions from established international vendors for standard IS applications, which is more cost-effective than developing these applications in-house. The bank's IT staff was hence available for developing the two innovative custom-built systems that provided a competitive advantage to Azteca.

IS applications fall into two categories: one, Operational Systems, which are mission critical for controlling a business like the transaction processing system of a bank; and, two, Analytical Systems that bring a competitive advantage to a business like Azteca's automated decision support system. A major obstacle faced by Microcredit institutions for scaling to serve a large number of customers is the high cost of a high-touch delivery model, which is the same deterrent for banks to serve the poor.

Evidence from the experience of Banco Azteca

Bruhn and Love[88] made an important research on the impact of Banco Azteca on the development of informal business which allowed microenterprise to keep their business running instead of becoming wage earners or not employed. According to this research, the share of informal business owners increased by 7.6%, and overall employment increased by about 1.4% as a result of Azteca's opening. These developments in informal business ownership and employment helped support an increase in income of about 7% on average. In addition, the analysis showed that the impact was larger for individuals with below-median income levels, which represented the share of people targeted by Banco Azteca, and in municipalities where the presence of formal banking sector prior to Azteca's opening was lower. This result corroborates the thesis according to which the impact on real activity can be explained by the increased access to financial services. Finally, another important result is that the real GDP per capita growth rates have also increased following the opening of Banco Azteca. Also this results testifies in favor of the case for the positive impact of access to financial services on economic activity. What the paper is not able to disentangle is to what extent the new bank opening had a direct impact, as it could be the case considering its large scale of operations, or an indirect impact via increased competition in the local financial sector. Azteca was indeed very likely competing for borrowers with other microcredit institutions and credit unions. Thus, it is not pretty clear to what extent the impact on the economic outcomes observed is the result from the access to credit and savings provided by Azteca, or by other financial institutions. Nevertheless, the research is very clear to show that enhancing the access to low-income households has a significant impact in terms of increased levels of employees and incomes. This means that there is evidence for stating that access to finance can contribute significantly to poverty alleviation. This evidence helps to understand the channels through which increased access to finance for low-income individuals can support economic development, in particular, by supporting informal businesses to start and develop and by increasing employment.

The paper grounds on researches carried out in the US about deregulation in the banking sector. These researches focused on the impact of gradual relaxation of restrictions on the opening of branches within states and on entrance by out-of-state banks. This relaxation of restrictions resulted in increased presence of banks in different states, which is similar to what happened in Mexico with the appearance of Banco Azteca. Differently from the US experience, the case of the Banco Azteca is particular because the relaxation of constraints regards the targeting of low-income, previously

[88] Bruhn M. and Love I. (2014), "The Real Impact of Improved Access to Finance: Evidence from Mexico". The Journal of Finance, 69: 1347–1376. doi:10.1111/jofi.12091

unbanked individuals—and this feature makes it an important case for studying the real effects of bank expansion.

Another relevant research on the impact of Banco Azteca[89] looks at the pattern of consumption behavior of households and asset holdings among people which entered in contact with the new financial institution. With respect to previous researches, this new analysis shed more light on the impact of Banco Azteca since it focuses on consumption rather than on income. Consumption and asset holdings are a more reliable measure of the impact of credit on household welfare than changes in income because consumption expenditures show which part of the income remains disposable after making loan payments and paying off other bills. Moreover, looking at how asset holdings vary over time it is possible to understand how households manage and store wealth; this observation is not possible just looking at changes in employment and labor income. Overall, the evidence shows as the introduction of Banco Azteca increased borrowing from banks among households in the locations where Banco Azteca branches were present. The global level of borrowing increased both from Banco Azteca and non-bank sources, suggesting that borrowers have continued to rely on the financial support from other sources such as from friends, relatives, or moneylenders and that new borrowers are entering the credit market. An interesting result is that the expenditures on non-durable consumption, as measured by consumption of cereals, and on temptation or luxury goods, such as eating meals outside of the home actually decreased. In addition, there is evidence of less expenditures on assets, measured by electronics and furniture. This phenomenon is particular relevant in those locations where the number of new branches of Banco Azteca was higher. Likewise, there is evidence of a decrease of asset holdings, measured by furniture. These results can be explained by referring to the theories and the findings predicted by the so called buffer-stock economy models. According to these models, over the long term, consumption and wealth may decrease after the introduction of credit opportunities as households' decrease in asset holdings. The negative impacts of Banco Azteca on household consumption expenditures in Mexico can help to draw useful conclusions regarding all the possible consequences deriving from enhanced credit opportunities. In the end, more credit opportunities for the poorest does not automatically make them better off. It is very important to look at the combination of the credit opportunities provided. Actually, Banco Azteca offered individual liability loans and encouraged use of the loans for consumption purchases. These characteristic may have loosened the incentives for paying back loans and spurred over-borrowing among households, which may not have carefully considered the loan terms. Further, because Banco Azteca does not target loans for

[89] Mus, J., (2015)," The Impact of Microcredit on Household Welfare: The Case of Banco Azteca in Mexico," CEPP Discussion Paper Series, October 2015.

small business development, but rather for consumption, households are not using these loans for creating additional sources of income necessary to repay loans. Actually, there are no returns on items purchased through loans. Both of these conditions make consumption loans relatively costlier than small business loans. Finally, as it is shown in this research, making available new sources of credit may have changed the pattern of accumulation of wealth by those households in the municipalities where Banco Azteca opened. This can be explained by the fact that households can borrow from Banco Azteca to cope with a negative shock to income and hence it is not necessary any longer to store wealth in assets for this purpose. The findings of this research are largely consistent with findings from other researches about the impact of microcredit in other contexts. Previous papers have found that individual borrowings have less positive impacts on household welfare than group loans. These studies show that the features associated with group lending contracts may represent a strong incentive for more responsible borrowing that in the end implies more positive results in terms of welfare impacts for households. These results can be easily understood. Indeed, loans targeted for small business development or for investment in assets may have more positive impacts because they help to loose liquidity constraints in the short term, while also providing future revenue streams through business profits or returns on new assets purchased with the loan. On the other hand, loans that are targeted primarily for consumption or that are not targeted to productive activities may be negative for the households in the long run due to over-borrowing or borrowing with no guaranteed future income streams. In case of loans for consumption, households could be served by savings accounts.

Future prospects and priorities

In the last meeting of the global partnership for financial inclusion in Shanghai on March 3rd, 2016, participants discussed concerns such as global tendencies of financial inclusion, reaching “the last mile” of financial inclusion, private sector engagement and the role of government in financial inclusion[90]. According to the group, one of the greatest innovations that lately facilitated financial inclusion is digital finance and its promises to reach scale, reduce costs, and improve usage, if accompanied by adequate financial capability, are extraordinary. Since this practice needs a high degree of interaction between between the public sector and private sector entities, the G20, under China’s presidency, expects to shape and accelerate the use of digital mechanisms to increase access to financial services. They will study and explore models, practices and adequate SME finance[91] strategies across countries, which will form a strong pillar for the accomplishment of digital financial inclusion, in order to guide country-level actions to connect digital financial services and and delivery mechanisms for safely expanding access and usage of financial services for under-served market segments.

Progress should also be made for what regards data and indicators, which were one of the core of the 2014 action plan. Despite the publication of the World Bank group’ Global Findex Database and the surveys made by the IMF, there are still some challenges that needs to be faced:

1. Lack of core indicators for digital finance
2. There remains possibility to improve measurements of regulatory and program-level developments
3. Financial inclusion data infrastructures can be enhanced to completely capture new and existing models of financial inclusion and this requires improved coordination, transparency and data sharing.

The plan is to expand and complement these indicators with the addition of new indicators on digital finance, which could be constructed from both the supply and demand side.

Still poverty and inequality remain an unsolved issue for lo and middle income countries, especially in rural areas where technology is underdeveloped. The goal of 2016 is to facilitate the dialogue with this segment of population and concentrate lessons on effective approaches to reaching the “last mile”. Also, low-income interested developing countries will be encouraged to actively participate to the GPFI meetings and related events.

[90] Global Partnership for Financial Inclusion, China 2016 priority paper

[91] SME finance is the funding of small and medium-sized enterprises, and represents a major function of the general business finance market

Financial inclusion is also favored by adequate consumer protection through the reduction of information asymmetry and the increment of transparent and responsible product delivery to consumers. As these become more and more complex, the needs for a successful financial consumer protection and financial literacy have increased consequently. The group will make sure that good practices for financial customer security and financial literacy, for what regards digitally delivered financial products and services, will be promoted. Priority will be given to young, elder and rural population. Very important on the agenda will be, at the regulatory and supervisory level, to balance prudential supervision, which focuses on risk, capital, and liquidity, and market conduct supervision, which focuses on consumer protection and conduct of financial institutions.

Finally, there are expectations on diversifying financing channels through SME finance, which plays an important role in job creation, sustainable growth and prosperity. The recent global economic slowdown in emerging economies requires a new boost for growth, and SMEs play a fundamental role in enhancing global economy. financing directly from investors, alternatively to financing through financial intermediaries, can be a more efficient channel to lower costs. However, market based funding may trigger financial stability, financial integrity and consumer protection. Hence, the challenge will be how to make longer-term finance available to SMEs by using capital markets instruments, paying at the same time attention to regulatory and supervisory issues. SMEs owned by women and youth will be given priority and major support.

The promise that the GPFI made is that its four subgroups[92] will be supported by the joint work of the G20 countries and implementing partners on the main priorities towards the innovative and interconnected financial inclusion. The goal is to contribute to the international community's agreement to leave no one behind by 2030[93].

[92] Youth, Rural, Elder, and Female population
[93] UN Agenda 2030

Conclusions

The main consideration that comes out from this analysis is that financial inclusion is definitely beneficial for the growth and development of a country, but, being the research still at his early stage, it is difficult to draw reliable conclusions. The reason why there is disparity of outcomes about how financial inclusion can be advantageous, and to what extent can it be carried, is that international organizations such as the World Bank and International Monetary Fund, as well as OECD, still have different parameters and methods to measure use and access to finance. In addition, each organization makes measurements based on their own surveys implying that indicators and outcomes may differ from one another. The general impression, however, is that all the results are moving towards the same direction and that policy makers are trying to move steps forward in facilitating financial access facilitating the interaction between public institutions and local private entities in each country. Most certainly, since the global financial inclusion objective shoots for the medium run, the first concrete results could start to be observable starting from 2020, year for which policy objectives have been set. In the meanwhile, first estimates show positive effects on the global inclusion, registering a year-to-year increase in usage and access to financial products. The enhancing financial conditions have been favored by an increasing developing technology that makes financial products readily available to the unserved segments of population.

All the assumptions and estimations have mainly been taken according to data coming from the World Bank Group's Financial Inclusion Index Database (Findex). So far it is the most comprehensive and reliable survey conducted. However, it measures only two points in time (2011 and 2014), so it was only possible to interpret data as a ranking rather than as absolute levels, when taking into account the financial inclusion indicators. It follows that, because of the difficulties to run a regression due to the insufficiency of time series data, the paper has been following a descriptive analysis of information available. The findings, based on Latin America and Mexico, were that if, on the one hand, it is complicated to exactly prove a positive correlation between GDP per capita, as well as GDP, and access to finance, on the other hand, there are positive evidences stemming from some experiences: the case of Banco Azteca or the financial regulations undertaken in Mexico are excellent examples that highlight the possibility to boost growth and poverty reduction by promoting financial inclusion. Looking at the trends of GDP growth in Latin America, it is notable that it is in line with the rest of the world, even though it is still very low if compared to OECD countries. However, countries have made important progress in promoting financial inclusion over the past decade. Regulatory environments have been better modelled and strengthened, and access to financial institutions has considerably improved. When taking into consideration account holdings and savings at a financial institution, Latin America still continues to lag behind emerging markets countries. This is due to their weak domestic fundamentals such as education, rule of law, and the size of shadow economies. Mexico, instead, has performed better so far scoring better results than the average in Latin America, but it needs a further boost in order to reach the bigger countries in the continent.

The message that the paper wants to give is that if governments and international bodies continued to push financial inclusion forward in the international policy agenda, and other entities, especially regulatory authorities, worked in the same direction, income disparities in the world would considerably diminish. At the same time, patience is necessary because global financial inclusion is going to be a slow process, eventually successful. The best way to achieve big goals is to take small steps.

List of Figures

Bibliography

A Hundred Small Steps: Report of the Committee on Financial Sector Reforms, Planning Commission Government of India.

Amidzic G., Massara A., Mialou A., February 2014. “Assesssing Countries’ Financial Inclusion Standing – A New Composite Index”. IMF Working Paper. Statistics Department. Washington, International Monetary Fund.

Attanasio, Orazio, et al. "Group lending or individual lending? Evidence from a randomized field experiment in Mongolia." (2011).

Babajide A., Adegboye F., Omankhanlen A, 2015 “Financial Inclusion and Economic Growth in Nigeria”. International Journal of Economics and Financial Issues | Vol 5.

Banerjee, Abhijit V., et al. "The miracle of microfinance? Evidence from a randomized evaluation." (2013).

Banerjee, Abhijit, et al. "The Miracle of Microfinance? Evidence from a Randomized Evaluation.” http://*economics.mit.edu/files/5993* (2010).

Barclays, 2013. Banking on Change: Breaking the Barriers to Financial Inclusion

Bauchet, Jonathan, et al. "Latest findings from randomized evaluations of microfinance." *Access to finance forum*. Vol. 2. Washington, DC: CGAP, 2011.

Borges P., ‘Women Empowered: Inspiring Change in the Emerging World’, New York, 2007

Bruhn M. and Love I. (2014), “The Real Impact of Improved Access to Finance: Evidence from Mexico”. The Journal of Finance, 69: 1347–1376. doi:10.1111/jofi.12091

Cecchetti, Stephen G., and Enisse Kharroubi. "Reassessing the impact of finance on growth." (2012).

Center for Financial Inclusion, September 2009. “Mexico’s prospects for Full Financial Inclusion”.

A White Paper from the 2020 Financial Inclusion Project. Washington.

Cull R., Ehrbeck T., Holle N., April 2014. “Financial Inclusion and Development: Recent Impact Evidence”. Focus Note No. 92. Washington, Consultative Group to Assist the Poor.

Dabla-Norris E., Deng Y., Ivanova A., Karpowicz I., Unsal F., VanLeemput E., Wong j., September 2015. “Financial Inclusion: Zooming in on Latin America”. IMF Working Paper, WP/15/206. Western Hemisphere Department. Washington, International Monetary Fund.

De la Brière, Bénédicte and Rawlings, Laura B. (2006). Examining Conditional Cash Transfer Programs: A Role for Increased Social Inclusion? Social Safety Net Primer Papers. The World Bank

Demirguc-Kunt A., Klapper L, Singer D., and Van Oudheusden P., April 2015. “The Global Findex Database 2014 Measuring Financial Inclusion around the World”. World Bank Policy Research Working Paper 7255. Washington, the World Bank, Development Research Group, Finance and Private Sector Development Team.

Demirguc-Kunt A., Klapper L., April 2012. “Measuring Financial Inclusion”. Policy research working paper. Washington, the World Bank, Development Research Group, Finance and Private Sector Development Team.

Demirgüc.-Kunt, A., 2014. Web. 17 September 2014. “Financial Inclusion”. Presidential address, International Atlantic eEconomic Society.

Department for International Development, August 2014. “The Importance of Financial Sector Development fro Growth and Poverty Reduction”. Policy division working paper. Financial Sector Team. London.

DFID, ‘The Engine of Development: the private sector and prosperity of poor people’, 2011

Garcia, N., Grifoni, A., Lopez, J.C. and Mejía, D., (2013), “Financial Education in Latin America and the Caribbean: Rationale, Overview and Way Forward”, OECD Working Papers on Finance, Insurance and Private Pensions, No.33, OECD Publishing.

Gardeva A., Rhyne E., July 2011. "Opportunities and Obstacles to Financial Inclusion", Survey Report. Washington, Center for Financial Inclusion.

Global Partnership for Financial Inclusion, China 2016, Priority Paper

Grupo Elektra Relación con Inversionistas. From http://www.grupoelektra.com.mx/

Hannig, A., and S. Jansen. 2010. Financial Inclusion and Financial Stability: Current Policy Issues. ADBI Working Paper 259. Tokyo: Asian Development Bank Institute.
http://www.clientprotectioncampaign.org/

Human Development Reports. From http://hdr.undp.org/en/statistics/hdi

Jahan, Sarwat, and Brad McDonald. "ABigger slice." *Finance & Development* 17 (2011).

Jalilian, Hossein, and Colin Kirkpatrick. "Financial development and poverty reduction in developing countries." *International Journal of Finance & Economics* 7.2 (2002): 97-108.

Levine R., June 1997. "Financial Development and Economic Growth: Views and Agenda", Journal of Economic Literature, Vol. XXXV, pp. 688-726.

Levine R., September 2004. "Finance and Growth: Theory and Evidence". Working Paper 10766. National Bureau of Economic Research. Cambridge, MA.

M2i Consulting, 'Market Research and Product Development for Linking VSLA Groups to Financial Institutions', 2011.

Mexico Overview. From http://www.worldbank.org/en/country/mexico/overview

Mohan L., and Potnis D., "Information Technology in Developing Countries". A Newsletter of the International Federation for Information Processing Working Group and Centre for Electronic Governance Indian Institute of Management, Ahmedabad

Mus, J., (2015), "The Impact of Microcredit on Household Welfare: The Case of Banco Azteca in Mexico," CEPP Discussion Paper Series, October 2015.

Odeniran, Samson O., and Elias A. Udeaja. "Financial sector development and economic growth: empirical evidence from Nigeria." *Economic and Financial Review* 48.3 (2010): 91-124.

OECD, January 2015. “OECD Economic Surveys, Mexico”. Overview. Paris.

PWC Mexico. April 2015. “Retail Banking in Mexico, An Industry Outlook”. Web site: http://www.pwc.com/mx

Roa M. J., April 2015. “Financial Inclusion in Latin America and the Caribbean: Access, Usage and Quality”. Research Papers. Center for Latin American Monetary Studies.

Rosengard J., “Regulatory Constraints to Financial Inclusion”. Financial Sector Program, M-RCBG. Kennedy School of Government, Harvard University

Sahay R., Čihák M., N’Diaye P., Barajas A., Mitra S., Kyobe A., Nian Mooi Y., and Yousefi S.R., September 2015. “Financial Inclusion: Can It Meet Multiple Macroeconomic Goals?”. IMF Staff Discussion Note. Washington, International Monetary Fund.

Singh T., ‘Does domestic saving cause economic growth?’, 2010

Skelton E., Third Quarter. 2014 “Mexico’s New Banking Measures Aim to Increase Credit, Transparency”. Southwest Economy, Federal Reserve Bank of Dallas.

Stiglitz, Joseph E., and Andrew Weiss. "Credit rationing in markets with imperfect information." *The American economic review* 71.3 (1981): 393-410.

The Smart Campaign - Keeping Clients First in Microfinance. From

The World Factbook: Mexico. (2016). From https://www.cia.gov/library/publications/the-world-factbook/geos/mx.html

World Bank, 2014. Global Financial Development Report: Financial Inclusion. Washington.