修　士　論　文

FINANCIAL INCLUSION AND INVESTMENT: FINANCIAL CAPABILITIES OF LOW-INCOME HOUSEHOLDS

金融包摂における投資商品 - 低所得世帯の投資スキル

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主査________________________________

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1. ABSTRACT

Inequality in the world is increasing in an alarming way. People with capital and high income are becoming richer while the rest's share of wealth is declining. A reason is that the rate of return of capital (which contributes to the wealth of capital owners) has been historically higher than the rate of GDP growth and the interest rate of common savings accounts. Millions of people in the world, however, do not even have financial savings and so, inflation makes their money lose its value faster.

Financial inclusion, as a policy to broaden access to formal financial products and services so they can be used to enhance low-income households' financial strategies and livelihoods, is helping to fight inequality. Conventional financial inclusion is composed of savings, payments and credit; and sometimes insurance. However, the category of investment, where the largest inequalities are and where the biggest barriers lie for low-income households, is often ignored, which means that it is not monitored either.

Literature indicates that financial capabilities of low-income people are lower than the rest. Therefore, promotion of investment – which by definition is risky – has been avoided within financial inclusion for this segment of the population, who are also economically vulnerable. Thus, it is important to check their financial capabilities in terms of knowledge, behaviour and attitudes, in relation to investment. To do this, the city of Tuluá, in Colombia, is chosen as location for a survey. The target population is CCT recipients of the programme Más Familias en Acción and their partners.

Results show, as expected, low financial capabilities for investment in CCT-receiving population, with higher differences among individuals depending on their sex, schooling, bank account ownership, and income source (formal or informal) as well as frequency and regularity of income. In contrast with literature, this population was highly banked (98% had a bank account) and was used to saving through a pensions fund. A surprising result was that 18% of people had saved through time deposits in the previous year (just one person had knowledge of stocks).

Income source plays a very important role in financial capabilities, which draws to the observation that, more than education, life experience builds financial capabilities. High financial capabilities were found in a group of people that owned a business either formally or informally (registered or unregistered), mainly women with primary and secondary schooling only. This group was labelled as the entrepreneurs. Their knowledge of financial products is particularly good as well as the diversity of their savings portfolio. They use cooperatives more than the rest.

These findings are important to support the idea of introducing investment into financial inclusion policy. This would incentivise formal financial institutions and others to design products that lower the barriers low-income people encounter to invest in financial products. It would also encourage financial regulators to monitor investment products in terms of financial inclusion and identify those barriers. Time deposits, though not an investment product as such by this research's definition, could be promoted as a way to gain a higher return for low-income people.

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4. ABBREVIATIONS

BRC	Colombian Central Bank (Banco de la República de Colombia)
BdO	Banca de las Oportunidades
CCT	Conditional Cash Transfer
COP	Colombian Peso
FA	Familias en Acción
Fasecolda	Colombia Federation of Insurance Companies
Fintech	Financial Technology
INFE	International Network for Financial Education
JPY	Japanese Yen
MAA	Mujeres Ahorradoras en Acción
MFA	Más Familias en Acción
P2P	Peer-to-Peer
SFC	Colombian Financial Superintendence (Superintendencia Financiera de Colombia)
USD	United States Dollar

5. INTRODUCTION

5.1. Opening Remarks

Financial markets already influence people's lives to a great extent. Many people already have their savings in financial markets through their pension funds, whether in a moderate fund or riskier one. However, they have no say in how their money is invested. Also, the swings of financial markets affect everyone and pose systemic risk, which sometimes becomes a financial and economic crisis, like the one a great part of the world is still going through today. These swings are affected by the laws of supply and demand of different products, but also by speculation in financial markets. All these swings reflect decisions that are taken by a few but affect all, especially low-income households.

Financial inclusion seeks to redress this situation to some extent. Through financial inclusion, access to financial products and services can be broadened for people who were underserved by the formal financial system. This action not only increases demand for these products and services, but also their supply in more suitable conditions in respect to their possibilities. Financial inclusion contributes to development in this sense; it increases people's financial capabilities through exposure to financial education and use of products that will help them plan and achieve their goals.

However, financial inclusion is normally concerned with basic products like savings accounts or mobile banking; not with investment products that are closer to financial markets (stocks, bonds, funds, etc.). Although this is logical from the point of view that underserved populations cannot be introduced to such a complex and risky system when they have such high difficulties in fulfilling their basic needs, there is a case in including the investment side of finance gradually, so people can have more options. This would increase the power and agency of millions of people in this area, especially when it is considered that already many of them, through their pension funds, are participating in financial markets without a voice.

Given these considerations, this thesis will discuss the importance of adding a category of investment to financial inclusion. This is important from the point of view of equality, so that no matter a person's capital they can have an option to invest in financial products. It is also relevant from a perspective of practicality, as many low-income people need more options to save that will allow them to accumulate capital. Also, this research will check low-income populations' capabilities for making financial investments, by proposing a case study in Colombia, in the city of Tuluá, in the Pacific region. The research question will be: "What are the financial capabilities of poor households *vis a vis* investment in financial instruments?"

5.2. Background

Inequality in the world is increasing. Through data from US, UK and other OECD countries, Atkinson and Piketty, among others have shown how inequality has increased constantly since the 1980s. The share of income of the top 1% of the population is larger than ever in recorded history (Atkinson 2015, Mongiovi 2015). Credit Suisse, in its "Global Wealth Databook" for 2015, found that 0,7% of adults owned 45,2% of all global wealth (Credit Suisse 2015). In a similar manner, Oxfam, in its advocacy paper, "An Economy for the 1%" expressed that "in 2015, just

62 individuals had the same wealth as 3.6 billion people – the bottom half of humanity" (Oxfam 2016: 2).

In *Capital in the 21st Century,* Piketty showed that the top decile of the population in terms of capital owns in excess of 50 percent of all wealth, at the same time as the bottom half, owns "nothing at all, or almost nothing (always less than 10 percent and generally less than 5 percent of total wealth, or one-tenth as much as the wealthiest 10 percent)" (2014: 244) for all the time series available (some since the 19th Century). He also found that as wealth increases, real estate becomes less important in the composition of capital. In the top centile, "financial and business assets clearly predominate over real estate. In particular, shares of stock or partnerships constitute nearly the totality of the largest fortunes" (P. 260).

In similar terms, Froud *et al'*s research showed that "in the UK and USA, shareholding is the monopoly of the fortunate 40% in the top two quintiles (Q4 and Q5) of households by income (…) and accounts for 90% of all long term savings and investment in the US and 80% in the UK" (2001: 283). According to Morgan and Takahashi (2002), the US and the UK follow a tradition of encouraging the flow of capital to institutional investors, which has incentivised households to participate in financial markets. This is the opposite of Germany and Japan, which have transferred savings from low-yielding bank accounts to the productive sector through bank credit.

In "Inequality", Atkinson (2015) explains that after the Second World War inequality decreased in developed economies (his study and Piketty's takes data mainly from USA and Europe), with the advancement of the welfare state and progressive taxation; even the rise of women in the labour force, especially in the USA, was a factor for reducing income inequality among households. During this time, the top 1%'s share of capital income (income in the form of returns from capital), also decreased, as more people could purchase real estate (more people could be owners than before) and have access to finance (through real estate mortgages and pension schemes especially). These people are what Piketty calls the "patrimonial middle class" (Piketty 2014).

After the 70's, entering the 80's though, inequality resurged, with higher differences in income, reduction of the welfare state, etc. This is a period also in which the *financialisation* of the economy increased (Atkinson 2015), with ever greater influence and profits of financial agents, a reduction in the responsibility of the State for provision for old age care, and an increase in the participation of the household to fill this gap (Lapavitsas 2009). As an example, in the case of pension funds and how their financing has changed, "the shift to defined contribution schemes (…), leaves the risk of underperformance with the individual whose pension depends entirely on what's in the individual fund" (Froud et al 2001: 285).

Financialisation denotes the increasing influence of finance on businesses and households (Ertuk *et al* 2007). According to Lapavitsas (2009), workers' salaries are being financialised from the point of view of their assets (i.e., more and more people are participating in pension schemes that divert these funds to the financial system) and their liabilities (i.e., through credit for housing). This has allowed the financial system to extract profits from households by servicing them through different active and passive products, which have become necessary to conduct daily life and imply an ever-growing dependence on finance. Lapavitsas calls this "financial expropriation" and other authors show this is one of the main reasons for increasing inequality (Ertuk *et al* 2007, Froud *et al* 2001).

"The final decades of the twentieth century have seen the emergence of an era of finance that is the greatest since the 1890s and 1900s (…) By 'era of finance' is meant a period of history in which finance prospers with such apparent brilliance that it takes over from the industrial entrepreneurs the leading role in capitalist development" (Toporowski 2000:1). In this sense, financial products and services have become necessary for the standard of life more than half of humanity enjoys today, and the lifestyle that most governments are promoting for their own citizens (even through financial inclusion). The policy of financialisation, if such a concept can be allowed, is a policy rooted in a paradigm that has allowed for the greatest increases in education, nutrition and longevity in human history. The cost of that paradigm, though, has been rising inequality.

However, like in every aspect of humanity, there is white and there is black, and there is also grey and an infinite palette of colour. In this sense, finance has had many effects in humanity. Economists in general coincide that financial development encourages economic growth (Rajan and Zingales 2003), even though causality and direction are not so clear from empirical evidence (Mohan 2008). Moreover, researchers have found that the extent to which a society is democratic, has a positive effect in the speed of financial development (Girma and Shortland 2008: 571). As such, they argue that the nature of democratic societies, with more evenly distributed power and capital, incentivises more actors to enter financial markets and participate in various roles (as investors, products and services suppliers, distributors, and etc.).

In the "era of finance" though, society seems to be going in the opposite direction. The 2008 global financial crisis has shown that a very high level of financial sophistication can also lead to economic downfall (Sahay *et al* 2015). Furthermore, in the current state of affairs, it seems that financial advancement is happening as democracy is being weakened by increasing inequality. Perhaps it is a question of finding balance between financial advancement and democracy; but in today's imbalance, inequality is making present day liberal society ever more unsustainable; unsustainable in the sense that inequality is undemocratic, which is at opposite ends with the aspirations that have been built in unison by the peoples of the World after the Second World War. Sustainability will be understood in these terms throughout this document.

Therefore, the problem of inequality must be solved; and given that *new solutions for old problems* are necessary, a way forward is not to choose from the dichotomy of left and right, but from combinations and alternative proposals. Market socialism, for example, proposes how "markets can be used to achieve socialist ends" (Estrin and Legrand 1989: 1), such as "preventing exploitation of the weak by the powerful, greater equality of income, wealth, status, and power, and the satisfaction of basic needs" (Estrin and Legrand 1989: 2). According to this current of thought, both socialism and capitalism need a market, as this is the most efficient way to coordinate economic decision-making in a decentralised manner. Thus, market and socialist thinking can coexist.

More answers can be found in the discourse of redistribution of wealth. Piketty and Atkinson, through a vast data analysis from mainly developed economies, have found that the rate of return of capital (so called *Piketty's r*, which stands for "the average annual rate of return on capital, including profits, dividends, interest, rents, and other income from capital" (Piketty 2014: 25)), has been increasing faster than total output, or the rate of growth of GDP. This has increased the wealth unsymmetrically of those with capital and put the world in a mounting path of inequality.

Policy-makers today, in response to the global financial crisis, advocate for higher incomes for workers so that aggregate demand can keep rising. According to Atkinson, though, “today, we cannot expect household incomes to rise as fast as total output” (2015: 147), because part of the output must pay for common goods and adaptation to global issues like climate change and the ageing population. Furthermore, Ertuk *et al* state that since the 1970s, the stability of income has become less important for life-cycle decisions, while capital has gained eminence, with the influence of financialisation. This has introduced new criteria to life-cycle decisions: “not simply how much to save and at what age, but in which saving products or portfolio to invest and at what period” (2007: 561).

According to Piketty, it is the investment "in real estate and financial instruments that account for the bulk of private wealth, and this raises the average rate of return" (Piketty 2014: 209). Furthermore, he showed that through time, inequality has been greater in capital than income distribution. He identified the rate of return on capital to be, since the beginning of humanity, between 4 to 5% a year before taxes (2014: 351); faster than global GDP growth (around 1% before World War I and on average 3.5 to 4% in the second half of the 20^{th} Century), real interest rate and the returns from savings accounts. Therefore, a means through which inequality can be reduced is higher participation of ordinary savers in higher-yielding financial instruments.

Following Atkinson, a way to distribute the growth of output is by rebalancing the financial system so that savers can have higher returns on their savings. However, savings accounts generally pay an interest that does not surpass the rate of inflation (Atkinson 2015); this means that the value of ordinary people's savings is lowering every day. For a sustainable society and economy, it is necessary for savers to conserve real purchase power and also to increase their savings in real terms, in order to take on their lifecycle decisions.

The ideas of reducing inequality through the distribution of disproportionate financial gain, as well as conserving real purchase power, are central to sustainability, as they are related to inequality of opportunity and inequality of outcome. The former emerges from the circumstances of a person's birth and upbringing; and the latter arises from the "unequal prizes" that life brings to some and not to others (Atkinson 2015). Both should be addressed in the present, not only for correcting societal issues of current times, but also to prevent one generation's inequality of outcome from becoming the next generation's inequality of opportunity. These ideas are echoed by Le Grand and Estrin who think that all people should “enter markets on the same footing” (Estrin and Le Grand 1989: 7).

The present research is guided by a wish to contribute to the reduction of inequality in all its forms, especially when it arises from an unequal access to capital and financial gains. Why should some gain a higher return from their capital than others? As Atkinson asks also, how could the return for small savers be raised to match the return on capital? This research will not answer these questions, but they represent its overarching principles. The present research is interested in how financial inclusion can contribute to reducing inequality in financial returns. For this reason, after describing financial inclusion, the author will continue to express the research problem and question.

5.3. Financial Inclusion

Financial inclusion is an instrument of social and economic policy that societies around the world are using to reduce poverty and social inequality. “For governments, financial inclusion lays the foundation for stability and inclusive economic growth. For the global community, financial inclusion helps accelerate economic progress, reduce extreme poverty, and build shared prosperity” (World Bank, 2015). Financial inclusion has become so important in poverty alleviation policy that it is being measured in the Sustainable Development Goals (SDGs) of the UN General Assembly (EIU 2015), the most important global development effort in place.

In a few words, financial inclusion can be defined as a process by which access to quality financial products and services is broadened for all households, so that they can be used to enhance their financial strategies and wellbeing (Morgan and Pontines 2014, AFI 2010). This access and use is important, because financial products and services can help to smooth consumption (reduced vulnerability and increased resilience to income variability and shocks); invest in the future (asset-building and insurance), access capital and credit to take on business opportunities, and etc. (Collins *et al*. 2009). In these manners, financial inclusion increases households' resilience.

Financial inclusion also strengthens people’s financial capabilities, which are central to this research and defined as a set of knowledge, skills and attitudes that enhance financial decision-making (Reddy *et al* 2013). In literature, financial capabilities are studied from many perspectives like how money is managed, how spending and saving are planned, how banking products are chosen, how long-term saving is done, etc. Likewise, financial inclusion programmes are designed from the point of view of the financial capabilities that are deemed most important for the target population.

The authors of the Global Findex Database, a compendium of indicators designed to measure financial inclusion around the world, signal that "financial inclusion and access to finance are different issues. Financial inclusion is focused on use, but lack of use does not always mean lack of access" (Demirguc-Kunt *et al* 2015: 3). Use implies that people have enough capabilities to demand products and services; make them serve their needs; and then cancel them when they are no longer necessary. From a demand point of view, use requires financial education, as many people do not know financial products and distrust banks. In such a situation, people could be better off accessing informal finance.

Use also implies that adequate financial products and services are available for the broader population, not only for day-to-day needs, but for long-term planning. According to Collins, "the financial capacity of the poor is constrained not just by low incomes but also by the characteristics of the instruments available to them today" (2009: 97). Products must be "appropriate, low cost, fair and safe" (Mohan 2008: 100), as well as *timely* (Morgan and Pontines 2014); they must also be supplied by institutions from the formal financial system – which are supervised and regulated by authorities – in order to assure quality and ubiquity.

In this sense, financial inclusion tackles barriers from the supply side (banks, credit cooperatives and other formal actors) like: "prohibitive costs (…), regulations requiring onerous paperwork, travel distance, legal hurdles, or other market failures" (Demirguc-Kunt et al, 2015: 3). It also gives options to informal finance, which tends to be closer and easy to access for low-income people (who many times have immediate financing needs due to irregular income), but operates with higher risks (especially in savings, because of fraud, mishandling and robbery) and costs (especially in credit because of loan-sharks). According to Salazar *et al* (2011), private lenders in Colombia provide credit at an annual interest rate of 213%, frequently, will daily payments.

From a demand point of view, financial inclusion also tackles barriers that are often imposed by lack of financial education: poor knowledge and information about financial products and services, prevailing attitudes towards the formal financial system and consumer behaviour. Like education in general, financial education broadens the vision of people, so that they acquire knowledge about available products and services, and can learn how to manage them. This empowers them to choose from more options than they had before, when only informal finance was feasible for them.

The aim of financial inclusion is to bring people to the formal financial system, where they can have access to products and services for savings and payments (Demirguc-Kunt et al 2015, Morgan and Pontines 2014, Jain et al 2014), and subsequently, to credit and insurance (Hanning and Jansen 2010). This is logical from the point of view that those products are the simplest in the market (they imply fewer risks for financial agents and authorities, and hence require less paperwork), and can be easily adopted by customers for day to day needs. From this point, clients can build their financial history, which in turn opens the door to more sophisticated instruments like insurance.

6. PROBLEM AND RESEARCH QUESTION

People who are financially included, with sufficient income and capital, can then have access to a larger array of products and services, including insurance and investment, from a wider spectrum of financial agents. These can help them protect their assets and make them grow through more profitable, though riskier transactions; as well as build a financial safety net, through more varied and sophisticated financial products (Atkinson and Messy 2012). Such individuals can passively (for example, through their pension funds), or actively (by buying and selling stocks), invest and have returns that are higher than savings products.

With the advent of the internet and social media, opportunities are increasing for individuals and households to invest. In some countries it is already possible to lend money to others through peer-to-peer (P2P) business lending, P2P consumer lending, and equity-based crowdfunding (Nesta 2014, World Bank 2013), to name a few. These financing mechanisms are quietly diverting business from banks and traditional institutions to internet, where "anyone", in theory, could participate. Apart from increasing the chance of more humans to partake in the "sharing economy", internet diminishes costs in a significant manner, which allows the entrance of smaller capitals.

Yet still, only a small proportion of the population can have an opportunity to access relevant returns on capital, because the means to invest are reserved to those with a higher disposable income (Froud et al. 2002, Ertuk et al 2007) and capital (Piketty 2014). If financial inclusion has to do with bringing down barriers for all individuals, then a lot more can be done in the realm of investment. In a world where finance has such a transcendental effect on the real economy, only a few, those with capital, are having access to those gains and influence (Estrin and Le Grand

1989). In such a world, financial inclusion could bring down barriers that are impeding more people from participating in finance.

Seen from the optic of financialisation, financial inclusion implies bringing new resources to the formal financial system (as was done with the transfer of pensions to financial markets in many countries), with advantages to clients, but also with costs in the form of transaction fees, interest on credit, etc. These costs represent earnings that banks and other institutions did not have before, because those clients were using informal finance. Overall, could it be said – in terms of money transfer – that financial inclusion implies outflow but no inflow of money?

In a conversation with Mr. Akio Hosono, Senior Researcher at JICA Research Institute, he underlined that there is a difference between financial inclusion and *inclusive finance*. The latter can be taken as a way of doing finance that achieves inclusion and equitable economic development. Therefore, while financial inclusion means to include people in finance, inclusive finance is how finance can assist society in its policy of inclusion. Are stakeholders of financial inclusion, like policymakers and formal financial entities, achieving inclusive finance? This research will focus on financial inclusion as a major policy of international policy; however, it is oriented from a perspective of inclusive finance.

As is being proposed, a way forward could be to add a dimension of investment to financial inclusion. For the time being, as can be seen in most definitions and measurements, the issue of investment or the question of returns of capital are not being addressed. In fact, most definitions, as well as indices (EIU 2015, World Bank 2015, SFC 2014, Ipsos 2015) subdivide financial inclusion into: savings, payments (transactions), credit and insurance. Investment is sometimes paired up with long-term savings (Jain, Zubenko and Carotenuto 2014, Atkinson *et al* 2014), but not analysed separately or explicitly, and other times not considered at all. Most times, not even time deposits are taken into account, whilst they are a relatively straightforward product and easily available for long-term savings.

Governments or others who promote financial inclusion cannot ensure financial returns, as riskier instruments hold uncertain profitability. In this regard, a basic rule of finance cannot be taken with naiveté: *with higher return comes higher risk*. Furthermore, given the vulnerabilities of individuals who are financially excluded or just starting their experience in the financial system, the sophistication of investment instruments holds a great social risk in itself. Therefore, the contemplation of investment and long-term savings in financial inclusion must be done with great care.

According to Lapavitsas (2009) trying to include all in investment finance, especially low-income households, looks like an effort to *democratise* finance. However, he criticises that this has put common citizens at risk of losing everything due to the global financial crisis. Moreover, Ertuk *et al* (2007), sets out three "basic preconditions for democratized finance", which they conclude are not being met. First, society today cannot guarantee citizens that they will have a stable income in order to make long-term plans. Second, average financial literacy is not high enough to make sound financial decisions. Third, financial products for savings and investment cannot be predictable and so, are not safe for long-term savings strategies.

From another point of view, behavioural research shows that people are not rational and that more often than not they do not make utilitarian decisions, especially financial ones. Similarly, lifecycle theory shows that people at different ages have different behaviours, with young people and old people being “net dissavers”, and those in the middle being “net savers” and accumulators of assets (Mitchell and Utkus 2004). According to Ertuk *et al* (2007), all these nuances imply that the design of sophisticated financial products needs to be rethought so that they reflect risk-preferences and other variables that affect consumer behaviour. All in all, however, this redesign needs to be accompanied by financial education programmes that upgrade the mathematical abilities of consumers.

In spite of these difficulties, a few efforts have been already made in order to advance in inclusion of poor households in the field of financial investment. Most, if not all, though, are related to long-term savings for retirement and old age. In *Portfolios of the Poor* (Collins *et al* 2009), for example, they mention that Grameen Bank in Bangladesh was successful in designing pension-like savings products. Studies show that people save more when there is a plan, with fixed dates that they can force themselves to meet (Ashraf, Karlan and Yin 2006). These types of findings are important in the design of adequate financial products for this segment of the population; and they show that people could have the necessary capabilities to access long-term financial products and stay committed to them.

Furthermore, since financial inclusion is part of the SDGs, more will be done from now on. The private sector is rallying behind the UN in this sense. For example, UBS, a world renowned Swiss bank sponsored a competition to create banking products that can solve certain issues connected with the SDGs. The winning solution (just in June 2016) addressed the problem of low savings with a product called SPAVEST: “a low-cost, automated retirement savings method for low to middle-income individuals allowing them to gradually build their savings by capitalizing on financial technology solutions, which addresses the low-income savings challenge" (UBS 2016).

In order to check against the segment of the population that is financially excluded or only beginning its access to the formal financial system, the present research will study the financial capabilities that these individuals have for investment and long-term savings. The findings can be an input for mainstreaming these issues in financial inclusion policy, as well as social policy in general, for the promotion of equality and poverty alleviation. The question that this research will answer is, thus:

What are the financial capabilities of poor households vis a vis investment in financial instruments?

Literature in general shows that most households have low financial capabilities that do not allow them to access and use financial investment products, more so in poor households. In the present study, it is expected that respondents' knowledge of these products and important financial principles will be weak. Also, it is expected that very few people have any experience with financial products that imply any long-term commitments. Moreover, data should show that their condition of poverty is accompanied by low levels of formal education, income security and savings, which make it less likely for them to invest in financial products.

Given this research question, the methodology to answer it will be explained.

7. METHODOLOGY

The research question and hypothesis will be approached through a mixture of primary and secondary data. The latter will include documents published by recognised institutions such as the World Bank, OECD and IMF; as well as studies from the case study country, Colombia, with national, regional and local focus. Experts and researchers in the field of financial inclusion, finance and development, equality and social policy, will be primordially reviewed. Primary data will be obtained from the case study, through a survey with CCT-receiving households that will be explained further ahead.

7.1. Definition of Investment

First, it is important to define how financial investment will be approached in this research, given its research question. According to Investopedia, "in finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or appreciate and be sold at a higher price" (Investopedia, "What is an Investment"). Examples of these are financial products like stocks, collective portfolios and corporate bonds.

Some authors pair up investment with long-term savings to differentiate it from short-term savings in traditional bank accounts (under 6 months according to Jain, Zubenko and Carotenuto 2014, or "precautionary" and "rainy day fund" savings, according to Atkinson *et al* 2014). Storing cash to accumulate and gain interest, however small, could be taken as an investment behaviour, because there would be an expectation for gain in the future. However, assets in the form of cash cannot be sold to others for profit. Also, since a greater sophistication in financial behaviour is targeted in this study, savings and current accounts will not be considered an investment product, but reference will be made to them.

Also, an important issue in investment is cash flow; and people who are ready to invest must be able to stand being illiquid until the product is mature or can be sold. For this reason, this research will take into account the acquisition of any financial product that obliges the holder to wait for the instrument's maturity in order to hold cash once more, such as time deposits. It is expected that these will have a higher interest rate than savings accounts and will therefore offer a better return to customers. These would not be considered investment as such, but they will be taken into account as a more sophisticated financial product, and as evidence of people's ability to hold financial instruments until maturity.

7.2. Financial Products

Given the definition of investment that will be used in this research, the financial products that will be studied are listed below. These products are commonplace in financial investment, especially in Colombia, which is the case study and will be explained further ahead.

1. *Stocks:* Company shares bought and sold through the equity market. Investors can earn dividends through this investment, gain (or loose) from selling their stock, and increase (or decrease) their wealth depending on the value of their stocks. This investment product is perhaps the riskiest in the market but it also produces the highest returns. Stocks can be managed through a broker, who buys and sells on an investor's behalf (under their orders), or directly by the investor through the internet.

2. *Bonds:* Debt issued by companies that can be bought and sold through financial intermediaries. Contrary to stocks, bonds are part of the fixed-income market. Bonds pay interest to bearers in the form of coupons, and can be bought and sold like stock.

3. *Collective portfolios:* Funds made up of stocks and bonds that keep investments diversified. Investors put their resources in these funds, which are managed by financial intermediaries (without the need of orders by the investors).

4. *Pensions:* Pensions cannot be bought and sold as an asset, but financial intermediaries invest people's retirement money in financial markets in order to increase their clients' funds for the future. In this respect, pensions are the only way in which many citizens can have some access to higher-return financial products. Also, many times pensions are obligatory for those who have formal jobs. It is also possible to aggrandise retirement funds through voluntary pensions, which add on to obligatory ones and which show a clear intention to increase wealth in the future. Therefore, for the case study it will be important to differentiate between pensions that are obligatory and those that are voluntary, as the latter show an intention to take pensions as investment.

5. *Currencies:* Financial markets are composed of the equity, fixed-income and foreign exchange (forex) markets. Investment in currencies is highly speculative and risky. Nevertheless, given that access to the forex market is not easy, currencies will be taken not as a financial product for investment, but as an asset that can be bought and sold outside of the formal financial system.

6. *Time deposits:* These are also known as fixed-term deposits and they are a savings product that pays a higher interest rate than savings accounts, but the holders cannot withdraw their money until the end of the term agreed with the bank, unless they pay a penalty. As explained earlier, the acquisition of these products will not be considered an investment, but they are indicative of an intention and an ability to put money aside in financial products; as well as a sign for more than expected financial capabilities.

7. *Savings accounts:* They are the opening gate to financial products and services in the process of financial inclusion. Their access and use will be studied but they will not be taken as an investment product.

8. *Cooperative accounts:* Savings in cooperatives will also be studied as they are central to money management for this segment of the population. Cooperatives provide savings products and easy credit depending on a client's savings; hence they offer clients an incentive to engross their savings balance. These savings cannot be withdrawn, unless clients cancel their membership. For this reason, they will be analysed in the same light as time deposits.

7.3. Case Study

As was mentioned before, part of this research will include the obtainment of primary data from low-income households in the Colombia, as case study. In the past few years, this country has dramatically increased the access of poor households to the formal financial system (Reddy *et al*

2013). In 2014 alone, just over one million adults acquired a financial product for the first time through the formal financial system (SFC 2015). The Economist Intelligence Unit (EIU), through the *Global Microscope 2015* measures the overall environment in more than 50 developing countries for financial inclusion. This index puts Colombia in the second place worldwide for achievement in this area, which is seen as crucial for development.

7.3.1. Inequality in Colombia

Before discussing financial inclusion in Colombia in earnest, it is necessary to understand inequality in the country. Colombia is believed to be one of the most unequal countries in the world in terms of wealth and income, which are highly concentrated. Gini coefficient has been historically high; and tax data informs that, in 2010, the top 1% of the population had a 20.45% share of income and an average income of COP 246,226,000 (Colombian Peso) or JPY 9,119,481 (Japanese Yen)[1] (Alvaredo and Londoño 2013), while the minimum wage was COP 689.454 or JPY 25,535 and the average savings account balance was COP 138,158 or JPY 5,117 (SFC 2015).

The two figures below were taken from Alvaredo and Londoño's study (2013) about inequality of wealth and income in Colombia (these researchers share Piketty's and Atkinson's hypothesis and ideas), and show the top 1%'s share of income for a number of years since 1993, in comparison with several countries. Figure 1 illustrates the share of income of the top 1% compared to the United States, both including capital gains and excluding them. This analysis not only shows the high concentration of income in Colombia, but also how strong the influence of

[1] Throughout this document, an exchange rate of COP 27 for JPY 1 will be used, the average in 2016.

capital gains is in income, in the United States. Figure 2 expands this vision to other countries: Argentina, Japan, Spain and Sweden.

Figure 1: Top 1%'s Share of Income in Colombia and the United States 1993-2010[2]

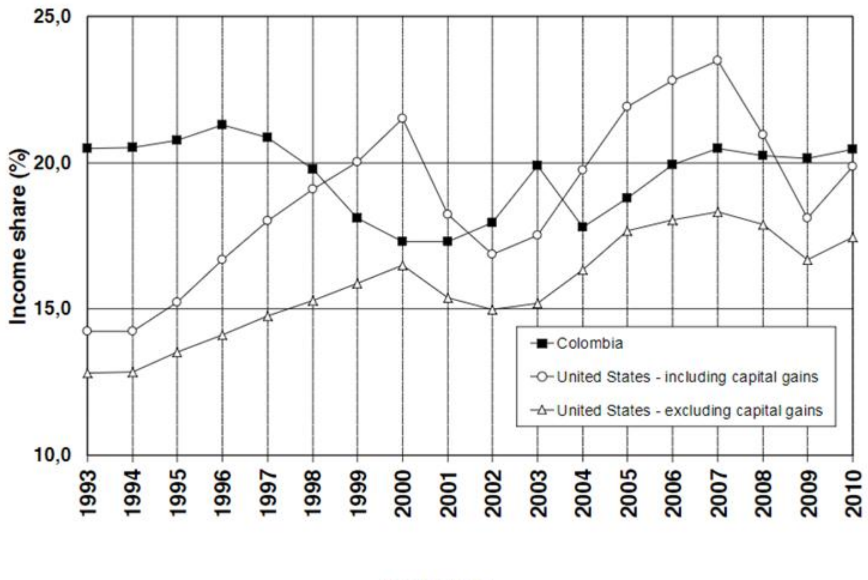


FIGURE 8
Top 1% income share in Colombia and the United States, 1993-2010

Sources: The World Top Incomes Database and authors' estimates.
Notes: Series for Colombia include capital gains partially.

2 Figure taken from Alvaredo and Londoño (2013), page 14.

Figure 2: Top 1%'s Share of Income in Colombia and Other Countries 1993-2011[3]

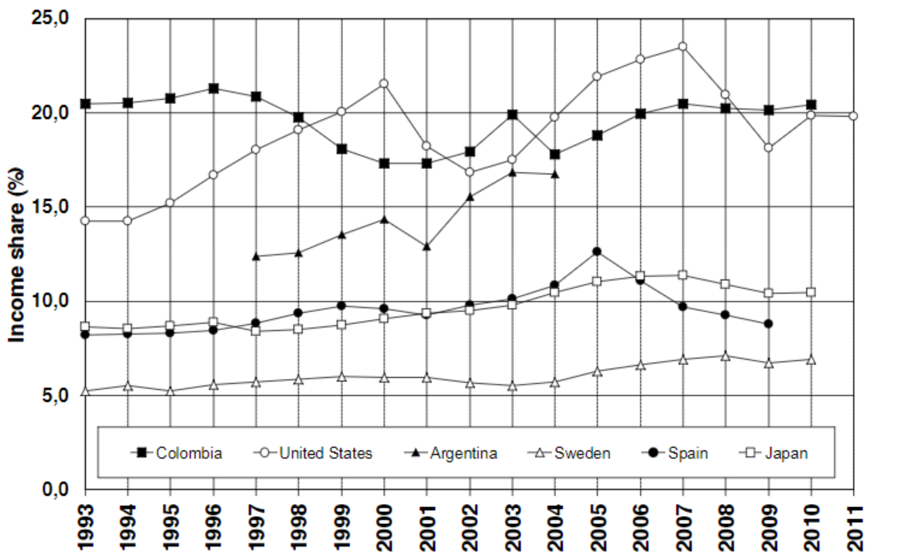


FIGURE 7
Top 1% income shares in Colombia, Argentina, Japan, Spain, Sweden and US, 1993-2011

Notes: Estimates for Japan, Spain, Sweden and US include capital gains.
Sources: The World Top Incomes Database and authors' estimates.

Like in other countries, in Colombia, the top centile's wealth depends more on capital than on employment or real estate. "The average income of the top 0.1% of the income distribution was about 85 times larger than the average income of the entire population in 1993. The difference fell to less than 60 times in the early 2000s, but has risen again to 75–80 times in recent years" (Alvaredo and Londoño 2013:10). Years of economic growth, especially faster-paced in the 2000s has done little to reduce this inequality. On the contrary, it seems that as the economy has grown, so has inequality and capital has become more concentrated (Alvaredo and Londoño 2013).

A reason that is thought to be behind this underperformance is the relatively low development of the financial system, which does not efficiently allocate resources to echelons of society that need

[3] Figure taken from Alvaredo and Londoño (2013), page 13.

it. This drives them to the informal financial system where their costs are higher and guarantees are lower. "The banking system's depth is still relatively low and more importantly, although Colombian firms and households are still highly dependent of bank credit, a large fraction of small businesses and low income households do not have formal access to this source of financing". This shows the need for financial inclusion policies in this country, which will be explained later.

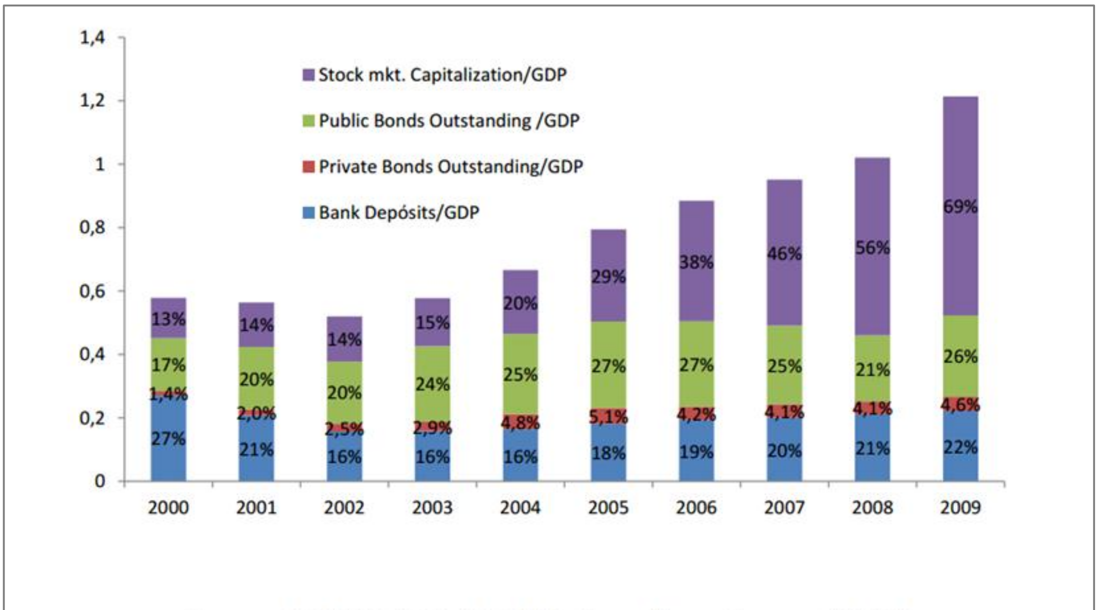
Since the 1980s, much like the start of financialisation in the world, the depth of the financial system (in terms of availability of credit and capitalization of the stock market) has increased, albeit with periods of contraction and expansion. These movements have been promoted by hikes in the entrance of foreign capital in different periods, and historically, have been interrupted by political and financial crises (Caballero *et al* 2006)[4]. Capital markets have developed importantly (especially the bonds market) but still, they are available to a small number of firms, with high costs not only for issuers but also for investors (Salazar *et al* 2011). Furthermore, the stock market is among the most concentrated in Latin America: the ten largest listed firms represent about 75% of market capitalization (Salazar *et al* 2011).

Figure 3 below, taken from Salazar *et al* (2011: 10), shows the composition of the Colombian financial system in terms of savings. Stock market capitalization has more than quintupled as a percentage of GDP, from 13% in 2000 to 69% in 2009. Private bonds have also increased by three times, but they are still a small fraction of GDP. At the same time, bank deposits have stayed below 30% of GDP and even decreased when the country suffered from recession after the

[4] The literature consulted for this section does not delve into how the armed conflict in Colombia, as well as decades of drug-trafficking and money-laundering have affected the development of the financial system.

Southeast Asia financial crises. This shows the unequal development of sophisticated finance compared to traditional finance, in which middle and low-income Colombians have their deposits.

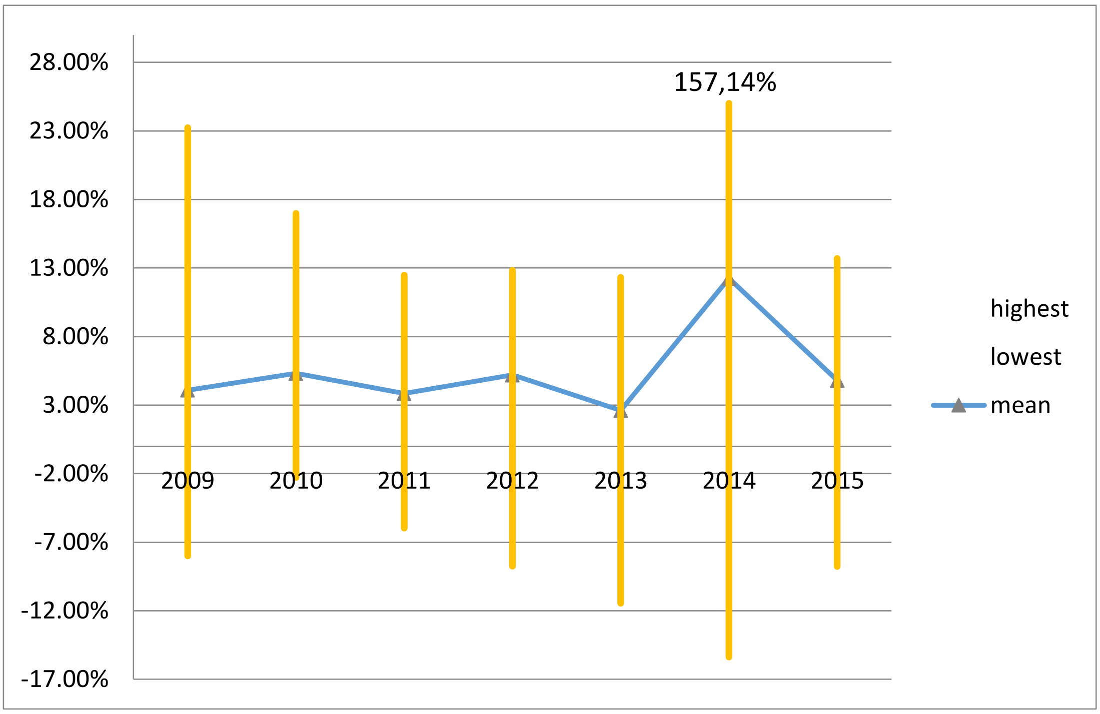
Figure 3: Financial System Savings by Type of Instrument in Colombia (2000-2009)



Source: BIS, WB-WDI, WB-FSD, Superfinanciera and DANE

Taking a closer look at the interest gains available for bigger capital, Figure 4 shows the return of collective portfolios and investment funds in Colombia. This graph shows that, on average, these funds have a relatively modest gain, around 4% and 5% for most years. However, due to the higher risk of investment options, some of these funds have very big gains or very big falls. The vertical bars in the graph reveal the highest *average* gains and the lowest *average* falls for each year, for all funds (real estate, diversified, foreign exchange, etc.).

Figure 4: Return of Investment Portfolios in Colombia[5]



Similarly, Figure 5 illustrates the interest rate of time deposits in Colombia for four different maturity periods: 30, 90, 180 and 360 days. The higher interest rate for time deposits with a longer maturity shows the importance of liquidity to investment, as people with more capital or higher and regular income can freeze their financial assets in these instruments for a longer time and expect a higher return. This is not easy for low-income and vulnerable households, which need to smooth consumption through savings and credit and thus, are frequently unable to save in the long-term (Collins *et al* 2009). In 2015, 23.5% of time deposits had up to COP 3.2 million (JPY 120,000), which shows how even this basic instrument of savings is reserved for higher capitals.

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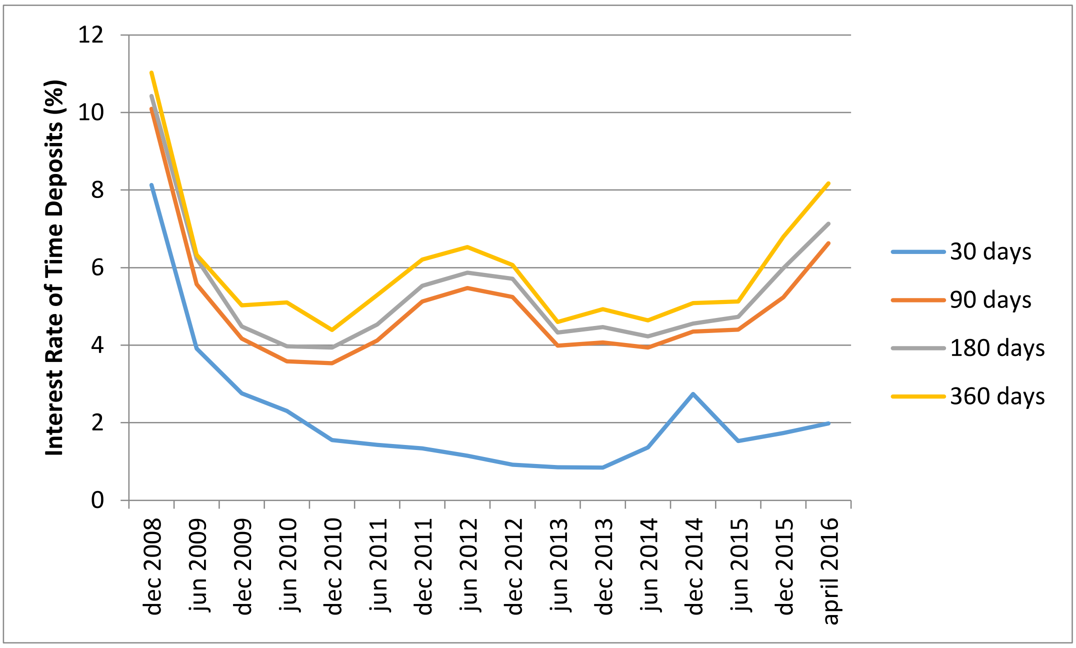
[5] Source: SFC. To make this graph only the portfolios and private investment funds that had data throughout the year were taken into account. The mean shows the average return of all eligible investment vehicles for each year. The highest return shown is an average of the highest returns for each type of investment, according to the categories of the SFC for their reports (general, foreign exchange, real estate, etc.) for each year. The lowest return shown follows the same procedure. Available at: https://www.superfinanciera.gov.co/jsp/loader.jsf?lServicio=Publicaciones&lTipo=publicaciones&lFuncion=loadContenidoPublicacion&id=10085897 (revised on March 28th 2016)

Figure 5: Interest Rate of Time Deposits for Four Periods, 2008-2016[6]

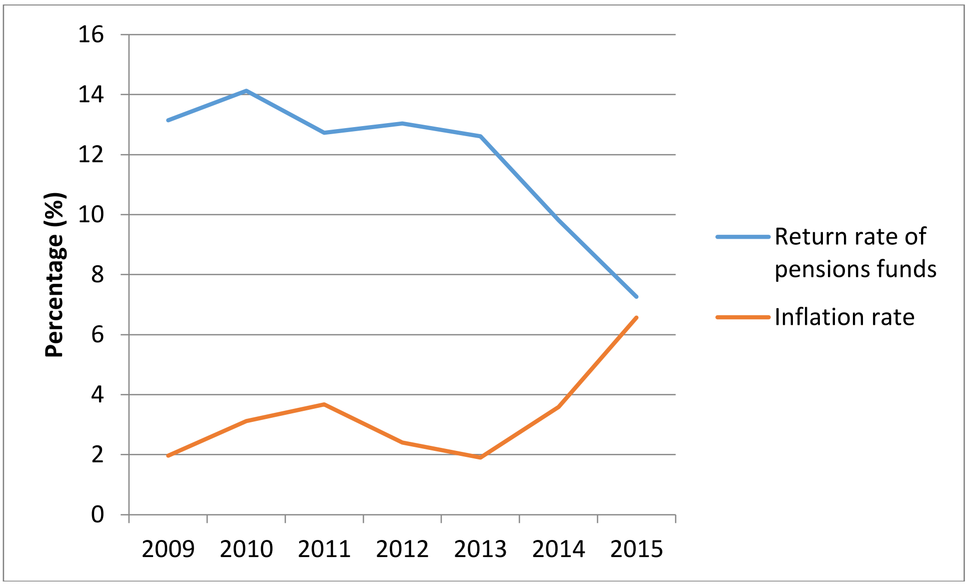


As has been discussed before, the only instrument many people have today to access financial markets is their pension fund. However, at least in Colombia, due to the global economic slowdown, return of pensions has greatly declined. Figure 6 shows this situation, and compares it with the inflation rate. This graph helps to grasp the problem many citizens have to preserve the value of their money. In all evidence, inflation feeds on the savings of people, not only those they hold in bank accounts, but also the ones held in pension funds. This trend is worrying especially

[6] Source: SFC. The data is the mean interest rate offered by formal entities that are authorised by the SFC to take deposits from the public in the form of time deposits, for the months of June and December, from 2008 to 2015, and April for 2016.
https://www.superfinanciera.gov.co/jsp/loader.jsf?lServicio=Publicaciones&lTipo=publicaciones&lFuncion=loadContenidoPublicacion&id=60954

when it is considered that the return rate of pensions is a calculation that combines the past five years and not only the present[7].

Figure 6: Pensions Rate of Return and Inflation[8]



7.3.2. Financial Inclusion History

Since 2006, financial inclusion has been formally incorporated in government policy (Ipsos 2015, Reddy *et al* 2013). In the beginning, an institution called *Banca de las Oportunidades* (BdO) was created to advance in the promotion of access to formal finance by all Colombians, not only

[7] For example, the return rate of 2015 is an average of 2015, 2014, 2013, 2012 and 2011. The number of years that must be used for calculations changes depending on the type of fund: low risk (36 months), medium risk (48 months) or high risk (60 months). Source: Decree 2949 of 2010.

[8] Source: Colombian Central Bank (BRC) and SFC.
Data about inflation rate: http://www.banrep.gov.co/es/
Data about returns of pensions (the data is an average of the return rate for the last 5 years; it is not an annualized rate. Colombian law stipulates the information about pensions be disclosed in this way to avoid panic):
https://www.superfinanciera.gov.co/jsp/loader.jsf?lServicio=Publicaciones&lTipo=publicaciones&lFunci on=loadContenidoPublicacion&id=9122

through incentivising supply (introducing non-bank correspondents, expanding ATM networks, drafting policy for simplified savings accounts), but also by fomenting demand through financial education. This effort was joined to the CCT programme *Más Familias en Acción* (MFA) in order for money to be deposited directly in beneficiaries' savings accounts. Today, more than 85% of MFA payments are made through this arrangement.

It is important to mention at this point that the CCT-programme whose participants will be asked to respond this survey is MFA by the Department of Social Prosperity of Colombia, accountable for nationwide social programmes directly under the Presidency of the Republic. MFA gives a stipend to poor households with children, so that they will have better nutrition and attend school. MFA normally gives the money to mothers by depositing it in bank accounts under their name. This programme reaches more than 3 million households in Colombia and is the third largest CCT-programme in Latin America after Brazil's and Mexico's. A characterisation of the programme's beneficiaries will be given further ahead.

In 2007, in order for these efforts to be galvanised, the programme *Mujeres Ahorradoras en Acción* (MAA) was started with CCT beneficiaries belonging to the programme *Familias en Acción* (FA), which preceded MFA. This instrument of social policy incentivised savings in the formal financial system through matching grants for the money people saved during nine months. Moreover, it was important in Colombia to demonstrate that poor households could save regularly and leave their savings untouched in a bank account, given the right incentives. In this case, the incentives were a return of more than 50% as a matching grant – thus artificial and unmatchable in the market – and a compulsory inability to withdraw any money.

Both *Banca de las Oportunidades* and MAA have continued until today; and have evolved with the ever-changing financial sector and more recent advances in financial technology (*fintech*). Following the example of *M-Pesa*, several Colombian commercial banks have developed mobile money platforms, some of which have even started to compete with the State-owned bank, *Banco Agrario*, for the disbursement of CCTs. This has brought private actors into a traditionally public activity and spurred a more creative and cost-effective supply of banking services, which can be appropriated by poor households. In 2014, this was followed by appropriate legislation to catch up and regulate these services: The Financial Inclusion Law.

7.3.3. Financial Inclusion and Capabilities in Colombia

In Colombia, a relatively low proportion of the population (compared to other Latin American countries), has at least one active financial product (being used for savings or credit): 61,8%, according to the SFC (2015), in monitored institutions: banks, cooperatives and MFIs. This data does not include informal finance, like loan sharks, savings groups or saving in a piggy-bank at home. According to Ipsos' *Financial Inclusion Demand* study (2015), 31% of Colombians save through informal means and 53% report not saving at all. Also, SFC (2015) estimates that in 2014, around 5.8 million Colombian adults had access to financial products outside of the formal financial system.

As for access to savings products, the WB's Little Handbook on Financial Inclusion indicates that 39% of adults have a bank account. This is low for Latin American standards, as in this region as a whole 51.4% of adults have a bank account (WB 2015). By gender, Global Findex data shows a great disparity in Colombia: while 43.5% of men have an account, 33.6% of women do. The difference between the sexes in Latin America is on average 5.5%; and in developed countries it is not perceptible. Also, income level shows a big division in the country, with 48.6% of those with higher income and 23.4% of those with lower income having a bank account. This difference of 25.2 percentage points is the highest in the region, where the average difference is 17 percentage points.

From the point of view of use, Global Findex data reveals that less than a third of those with a bank account have used it for savings in the past 12 months (12.3% of total adult population). This proportion is close to the regional average; however, from the prism of gender, again, a bigger difference can be observed, with 8.4% of Colombian women saving in their bank account, versus a regional average of 11.3%. In terms of income, Colombia is closer to the Latin American average, with 5.7% and 16.7% of those with lower and higher income saving in their bank accounts (versus 6,9% and 17,9%, respectively). According to SFC (2015) inactive bank accounts (those that have had no transactions in more than three months) have been growing as a percentage of all accounts (46% in 2010 and 54% in 2014).

Once again, from the point of view of income, SFC (2015) found that 93,9% of bank accounts have a balance of less than COP 3.2 million (about JPY 120,000). Nonetheless, these bank accounts represent only 4.8% of all money deposited in credit institutions (banks mainly) through this passive product, and, as was mentioned before, the average balance was COP 138,158 or JPY 5,117. A study by Fundación Capital and Fundación E-valuar of different financial education programmes in Colombia that were oriented towards CCT and low-income-remittance recipients is also revealing. Randomly selected participants reported an average monthly income of COP

120,000 (JPY 4,444) in the case of CCT recipients and COP 239,000 (JPY 8,851) for remittances recipients (Fundación E-valuar 2013).

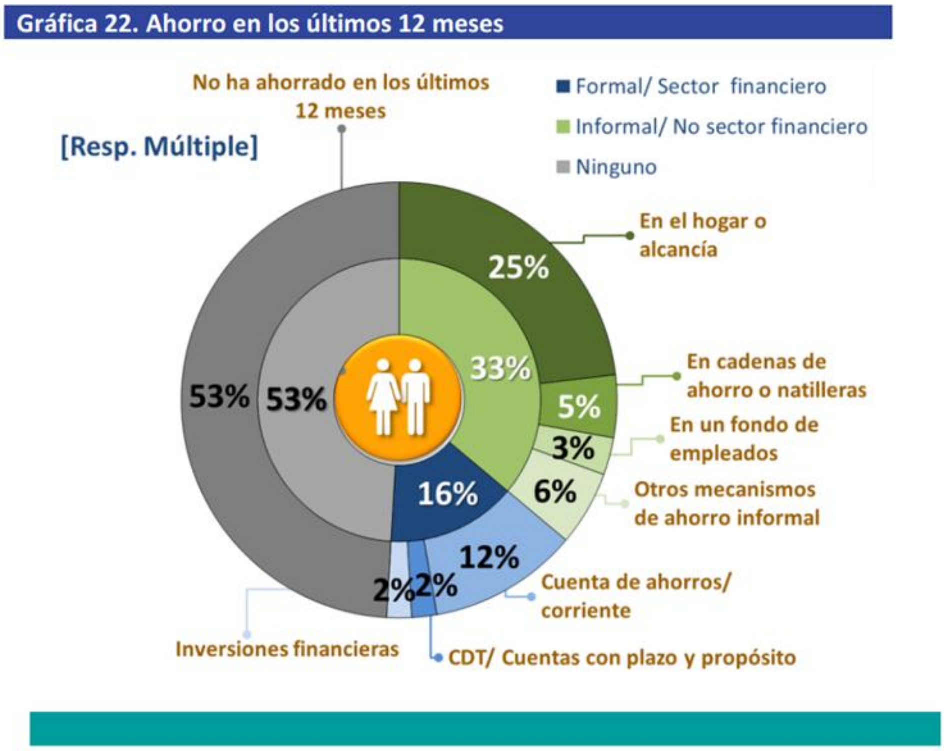
According to Reddy *et al* (2013), who made the first representative financial capabilities study at the national level in Colombia (1,526 adults were surveyed in various regions of the country), in this country there is a disconnection between the intended financial behaviour of people and their actual actions. For example, "although 94 percent of Colombians reported budgeting, just 23 percent knew exactly how much they spent in the last week. While 88 percent of Colombians reported concern over future major expenses such as retirement, only 41 percent reported plans to cover their old age expenses fully and just 1 in 5 could fund a major unplanned expense" (Reddy *et al* 2013: 11).

In the field of democratisation of the stock market, in 2007, the national oil-producing company, Ecopetrol, released an IPO (Initial Public Offering) of 10% of its equity, which was marketed especially amongst middle-income-earning Colombians. People had to buy the share packets through authorised brokers, but the channel was simplified so that non-bank intermediaries like big supermarkets could be the connection between investors and brokers. When the IPO finished, close to 500,000 citizens had bought shares, around 1% of the country's population. This IPO paved the way for others, not as successful and not designed with the purpose of selling to all social strata, to follow suit and open the ownership of their shares among ordinary Colombians.

Overall, Colombia has had an important history of financial inclusion efforts, which include advancement in the area of investment. However, this type of finance is not being yet monitored from the point of view of financial inclusion. Reports about financial inclusion in Colombia, as the ones written by SFC, BdO, WB or EIU only take into account institutions whose commercial activities are limited to savings and credit such as commercial and public banks, cooperatives and MFIs (supervised by the SFC or the Superintendence of the Solidary Economy, or unsupervised). Some reports that are produced in Colombia (not international ones) inquire into insurance (SFC 2015, Ipsos 2015, Fasecolda 2008).

Most documents, however, offer no information on more sophisticated savings products (sometimes time deposits are taken into account and shown individually), or they are mentioned but not analysed independently. Figure 7 below shows a few results from Ipsos' financial products demand study in Colombia (2015), commissioned by the SFC and BdO. Here it can be seen that 53% of respondents had not saved in any way in the preceding 12 months (*no ha ahorrado en los ultimos meses*); and only 16% (dark blue segment) had done so through the formal financial system, while 33% (light green segment) had done so through informal means.

Figure 7: Savings in the Last 12 Months[9]



This is one of the few documents that discriminates between time deposits and purpose-linked accounts (in Spanish, *CDT/Cuentas con plazo y propósito*), as well as financial investments (in Spanish, *inversions financieras*), from other financial savings products (i.e. savings and current accounts; in Spanish, *cuenta de ahorros/corriente*). This research shows that 2% of respondents had saved through time deposits and the same proportion had done so through financial investments (Similarly, Reddy et al (2013) found that 2% of Colombians save through investments). Compared to other countries, this is a small number (a reason is the shallowness of Colombian capital markets). However, in this demand study these findings are not analysed, especially in terms of the characteristics of the consumers that acquire these products.

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[9] Source: Ipsos 2015.

7.3.4. Target Population

Tuluá is a city in southwestern Colombia, in the department of Valle del Cauca. It is the 28th biggest metropolitan area in the country in terms of population size at almost 200,000 people (according to the local government's webpage) [10]. Tuluá's economy relies on agriculture, commerce, services and animal raising, especially cattle. Like many Colombian cities, Tuluá was also hit by armed conflict, but the pacification of the country since early 2000s has greatly improved living conditions.

According to Ipsos (2015), 74% of Colombian population could be considered low-income (belonging to stratum 1 and 2), but this does not mean they are living in poverty or extreme poverty. This classification comes from the Colombian socioeconomic strata system, which assigns a stratum from 1 to 6 to all households depending on where they live (stratum 1 normally has a higher prevalence of poverty, while stratum 6 has a higher prevalence of high-income earners). In the Pacific region of Colombia, where Tuluá is, an indication of this vulnerability is that 68% of respondents admitted to having had difficulties to cover all their expenses. Reddy *et al* (2013) found a similar proportion with three quarters of those people being females. According

[10] http://www.tulua.gov.co/sitio.shtml?apc=m1y1--&x=1508730&als[ESTADO__]=m1y1-- (accessed on July 12th 2016).

to Fasecolda (2008), the income of those in stratum 1 is usually below the minimum wage (COP 689.454 or JPY 25,535).

As was explained in the previous section, the survey will be oriented to people who are closely related to the MFA programme (either as participants or living with a participant). To belong to MFA, households have to be in a vulnerable socio-economic condition, as defined by the Colombian social protection system (focalisation mechanisms). In order to focalise, the government uses the following tools: SISBEN III (multidimensional poverty score), *Red Unidos* (extreme poverty programme), registry of victims of the armed conflict, registry of displaced people, and registry of indigenous population (Tassara 2015).

SISBEN III is the most important mechanism for focalization, so it will be explained further to better understand the target population. It has five dimensions and 74 questions which provide a score between 0 and 100 (Tassara 2015): health and nutrition, education and knowledge, housing and public services, individual vulnerability (variables are, for example, number of people in the household, availability of durable assets, major bread-winner, etc.), and contextual vulnerability (variables are linked to the municipality where they live, for example, mortality rate and homicide rate, coverage of the education system, municipal health services, etc.).

People with a low score in SISBEN III can be part of MFA and receive a CCT, only if their children are under 18 when they enter. The maximum score depends on the type of geographical area the household lives in: for the 14 biggest metropolitan areas, people must be below 30.56 points (Tassara 2015). In the case of Tuluá, households have to be below 32.2 points to be able to benefit from MFA. Being under this score does not necessarily mean poverty in terms of income (in 2014, a person with an income of COP 233.530 (JPY 8,649) was considered poor (Tassara 2015)). However, the study by Fundación Capital and Fundación E-valuar (2013) about financial education programmes (which included Tuluá) shows a great income poverty problem, as randomly selected MAA users reported an average monthly income of COP 120,000 (JPY 4,444) (Fundación E-valuar 2013).

To continue the depiction of the target population, Fundacion Capital's (2014) internal evaluation of the LISTA financial education programme in Tuluá, will be utilised. This study shows that 43% of respondents self-reported saving at least once every month; and 32% did not save at all. These numbers show higher financial capabilities than those observed in the previous section for the whole country. The reason for this could be the availability of financial education and inclusion programmes for CCT recipients (MFA users). Before taking the LISTA financial education course, 12.1% of them said they were trying to save for old-age, but once the programme was completed, this proportion increased to 41.8%. Also, 14.1% indicated that they were saving their money in their bank account (similar to WB 2015) and 77.6% said they were saving at home (piggy bank).

7.4. Survey Structure

The survey has been constructed following OECD methodology to measure financial literacy (Atkinson and Messy 2012), as it was used to evaluate the OECD – International Network for Financial Education (INFE)'s pilot study, as well as a study commissioned by SFC (Reddy *et al* 2013). Using the same methodology allows for comparison with national and regional statistics in Colombia, as well as other countries. This methodology divides financial literacy into knowledge, financial behaviour and attitudes. This categorisation is also used by experts in financial inclusion like Fundación Capital and the Department of Social Prosperity of Colombia, in the design of their financial education programmes. The survey can be found in Annex 1, along with a detailed explanation of how and why each question was asked.

In this section there will be a short explanation of its components. Following the methodologies explained previously, the survey was divided into four main sections:

Table 1: Sections of the Survey

Sections	**Brief Description**
Demographic information	10 questions to find basic information about the respondents including sex, age, schooling, financial education, type of employment, frequency and regularity of income, bank account ownership and decision-making ability.
Financial Capabilities – Knowledge	7 questions to determine the knowledge respondents have about finance, including inflation, interest rate, risk, return, diversification and several financial products (savings accounts, cooperatives, time deposits, stocks, collective portfolios, bonds, pensions, currencies).
Financial Capabilities – Behaviour	5 questions to determine current and past financial behaviour, including the use of financial products and non-financial products (like saving in a piggy

	bank or saving by buying assets) and engaging in investment in financial products (including time-deposits and more sophisticated products).
Financial Capabilities – Attitudes	3 questions to find the attitudes they have towards risk and time, as well as why they have not invested in financial products before.

Apart from following existing models for measuring financial capabilities, it is important to mention that the survey was reviewed in different stages by peers and target population. Initially, the questions in the survey were socialised with faculty, as well as Masters and PhD students in the Department of International Studies at the University of Tokyo. In second place, the survey was translated into Spanish (the language spoken by respondents), so that the enumerators (two women who once belonged to MFA), could revise it. This was necessary in order to check that the language was appropriate and not too technical[11]. It can be found for reference in Annex No. 2. The survey was also reviewed by experts in the field of financial literacy, as well an economist and a financial consultant from Colombia.

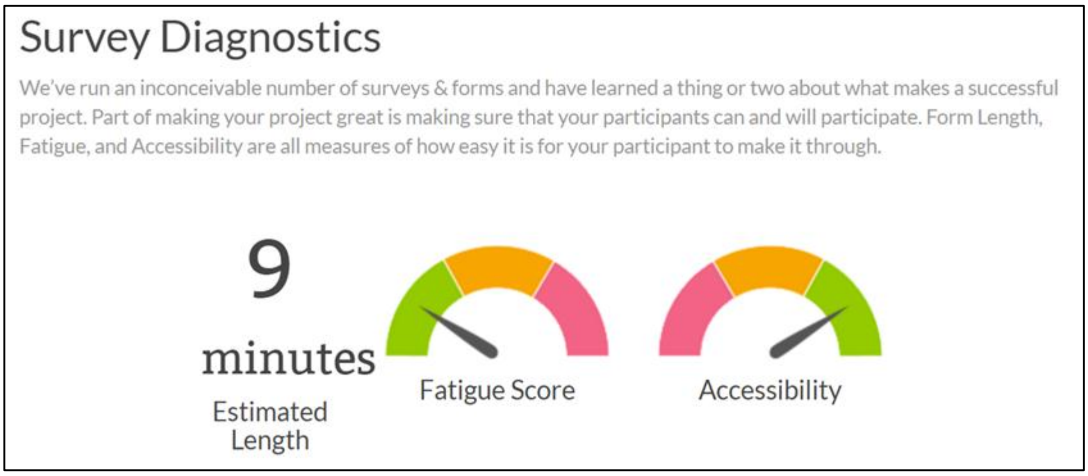
7.5. Data Collection

The survey was transformed from paper to online form through the internet service "Survey Gizmo", which offers an offline option in order to fill the surveys when connection to internet is

[11] Because of this and the use of a few colloquialisms, the version in Spanish is lighter than the version in English. Nevertheless, they are deemed equal.

not available. This website gave the following appreciation about the survey's ease and estimated time.

Figure 8: Characteristics of the Survey



Enumerators will do the surveys in their laptop, offline, and then upload them to the server when they have internet connection. Enumerators will select respondents from the lists of people who participated in LISTA project, in 2014, as well as from the lists of female community leaders that participate in the MFA programme. These leaders are in charge of 20 to 30 beneficiaries of the MFA programme and, thus, act as an important connection to the target population. Furthermore, leaders are trusted in their community, so respondents will be less suspicious if the survey has their backing. These elements are important for people to respond the survey with freedom.

7.6. Data Analysis

Data analysis and discussion will be done in the same order as the survey:

1. Demographic information

2. Financial Capabilities – Knowledge
3. Financial Capabilities – Behaviour
4. Financial Capabilities – Attitudes

For analysis, part of the financial capabilities data will be transformed into scores, as it has been done in the OECD (Atkinson and Messy 2012) and World Bank (Reddy *et al* 2013) studies. These scores can be used to identify higher and lower capabilities in respondents and then cross that information with other scores or demographic information that may give further insights into the issue at hand. Below is an explanation of all the scores created and their composition.

Table 2: Scores

1	**Section:** Financial Capabilities – Knowledge **Score:** *Knowledge of Financial Products* **Intention:** This score is meant to reveal respondents' overall knowledge of the financial products mentioned in question 14 of the survey. **Composition:** Sum of eight answers to Question No. 14 about knowledge of specific financial products. Each answer is 1 (no knowledge), 2 (medium understanding) or 3 (full understanding). If these numbers are added, the minimum score is 8 and the maximum score is 24.
2	**Section:** Financial Capabilities – Knowledge **Score:** *Risk*

	Intention: This score is meant to show if people could answer all questions about risk or not. **Composition:** All respondents who answered the four questions about risk (Questions No. 12, 13, 15 and 16) correctly obtain 1 point; those who did not obtain zero points.
3	**Section:** Financial Capabilities – Knowledge **Score:** *Financial Knowledge* **Intention:** This score is meant to show overall understanding of all the questions about knowledge. **Composition:** Sum of one point for each correct answer to Questions No. 10, 11, 12, 13, 15 and 16; and 1 or 2 extra points depending on their score for *Knowledge of Financial Products* (if 12 or lower, 1 point; if more than 12, 2 points). The maximum score is 8 points.
4	**Section:** Financial Capabilities – Behaviour **Score:** *Saving in Financial Investment Products (Fininvest score)* **Intention:** This score will show what experience respondents have in investing in financial products in the past 12 months. **Composition:** This score and the following one are similar calculations that take into account different financial products to reveal capabilities in: investment products (*Fininvest* score) and savings in financial products (*Finsave* score). Depending on their sophistication, each product will get 2 or 3 points and these will be added up to reveal the score: savings account (2 points), cooperatives (2 points), time deposits (3 points), stocks, collective portfolios and bonds (3 points), obligatory pension (2), voluntary pension (2),

	and foreign exchange (2). In the case of the *Fininvest score*, it adds: time deposits, stocks, collective portfolios and bonds, voluntary pension and currencies. The maximum score is 10 points.
5	**Section:** Financial Capabilities – Behaviour **Score:** *Saving in Financial Products (Finsave score)* **Intention:** This score will show what experience respondents have in saving in financial products in the past 12 months (including investment products). **Composition:** Using the same points per product as the previous score, this score is the sum of: savings account, cooperatives, time deposits, stocks, collective portfolios and bonds, obligatory pension and voluntary pension. Currencies are not added because the purchase and sale is done outside of the formal financial system. The maximum score is 14 points.
6	**Section:** Financial Capabilities – Behaviour **Score:** *Saving in General (Save score)* **Intention:** This score will reveal the portfolio of savings tools people have, from financial to non-financial products and mechanisms. **Composition:** The savings options are grouped into five categories: Common Savings Products (savings account and/or cooperative), Piggy Bank or Savings Group (savings group and/or saving in a piggy bank at home), Investment Financial Products (stocks, collective portfolios and/or time deposits), Pension (obligatory and/or voluntary pension) and Other Assets (own business, real estate or land, assets (including goods and debt owed to them) or currencies). Saving through one or more options in each category yields 1 point. The maximum score is 5 points (1 point per category).

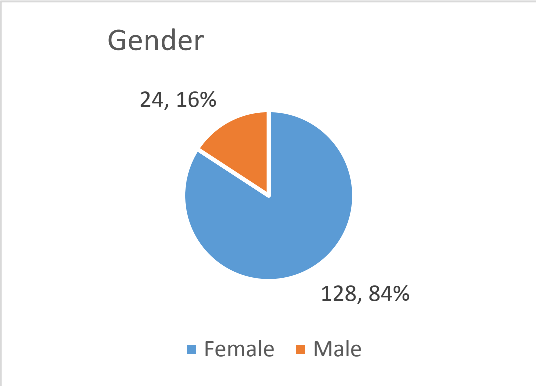
8. DISCUSSION

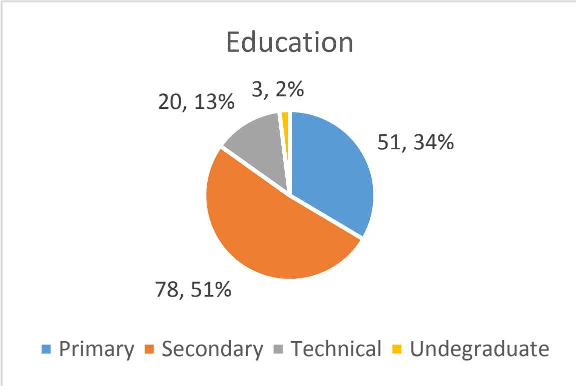
In total, 170 responses were obtained, but 152 had complete data. Therefore, the results were analysed with 152 complete surveys. Before checking the results about financial capabilities, it is important to understand demographic characteristics of the respondents, as outlined in the survey. After that, the results of the sections about financial knowledge, behaviour and attitude will be revealed and crossed with demographic data, as well as results from other studies. This will enrich the analysis and yield interesting conclusions and policy recommendations, in order to approach the idea that is being proposed: that financial inclusion take in investment and more strongly promote capital accumulation by low-income citizens; and ultimately, to contribute to equality.

8.1. Demographic Information

As for demographic data respondents were mostly women, as can be seen below in Figure 9; and their educational attainment is rather similar to men's, with a slight advantage for the latter (this is in line with Colombia as a whole). The biggest differences are found in primary school completion and undergraduate studies. While 34% of women and 29% of men completed primary education only; 1.6% of women (2 respondents) and 4% of men (1 respondent) underwent university studies. The majority of respondents finished their secondary education (50.7% of women and 54% of men), but few went onto technical or tertiary education.

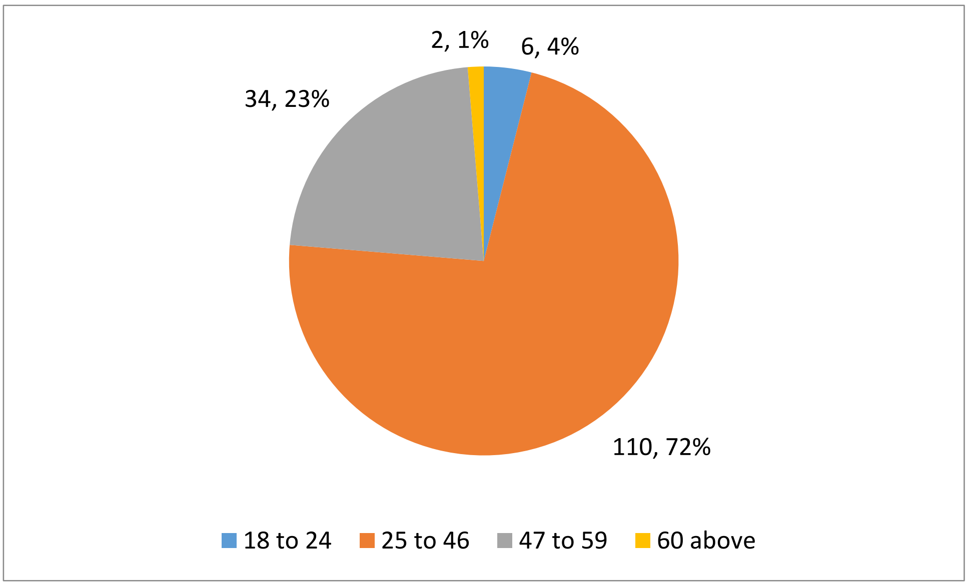
Figure 9: Gender and Education Attainment of Respondents





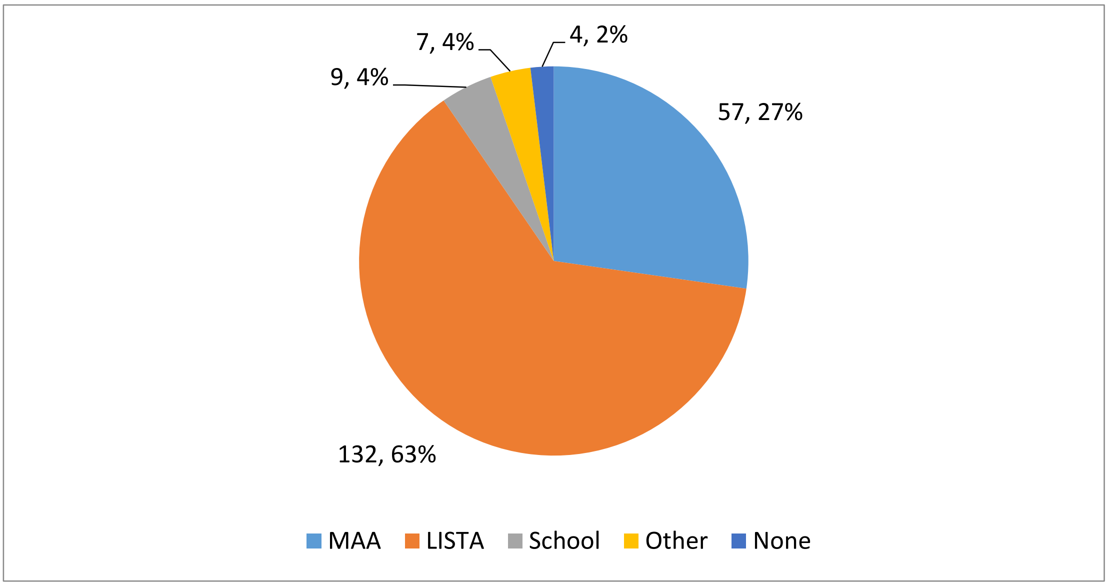
Reddy *et al* categorised respondents in four age groups: 18 to 24, 25 to 46, 47 to 59 and 60 or above, years old. According to this, the people who took the present survey can be organised in the way shown in Figure 10 below. Most people are in the 25 to 46 years' group, which is expected because target population is mostly people who receive CCTs, hence, women and men with children at schooling age.

Figure 10: Age Categories of Respondents



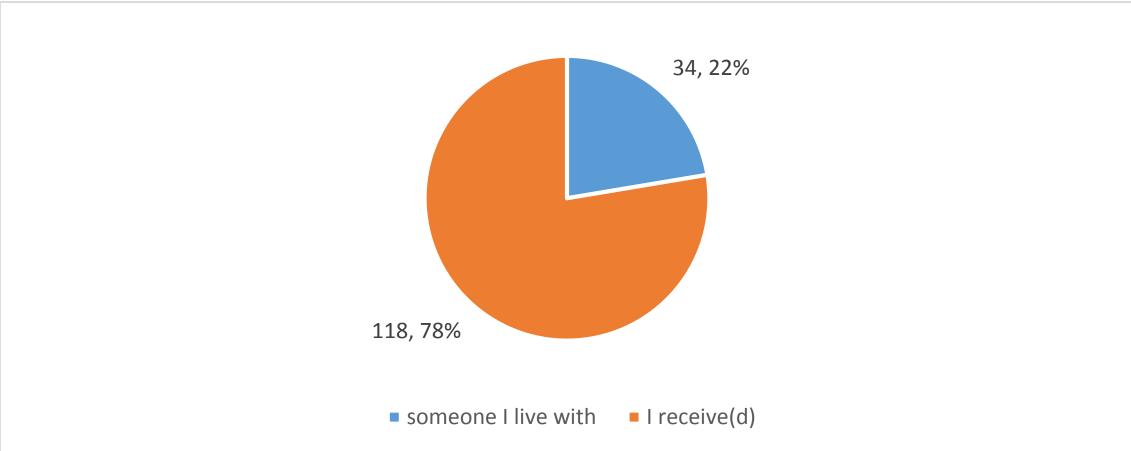
Respondents were also asked whether they had any experience in financial education programmes (Figure 11), as it was expected that this would imply higher financial capabilities in the Tuluá area, and therefore a higher chance of observing diversity in the use of formal financial instruments. Indeed, 132 respondents participated in LISTA, 52 of who also participated in MAA, primary or secondary school, or others; 46 people or 30% participated in both LISTA and MAA. Respondents in the category “Other” attended workshops at local chambers of commerce and city halls (which act as hubs for different trainings), as well as trainings by other public offices and universities. Almost all men had one financial education experience (23); only one man had two; while 97% of women had participated at least in one financial education programme (40% of women had two experiences or more).

Figure 11: Financial Education Experience



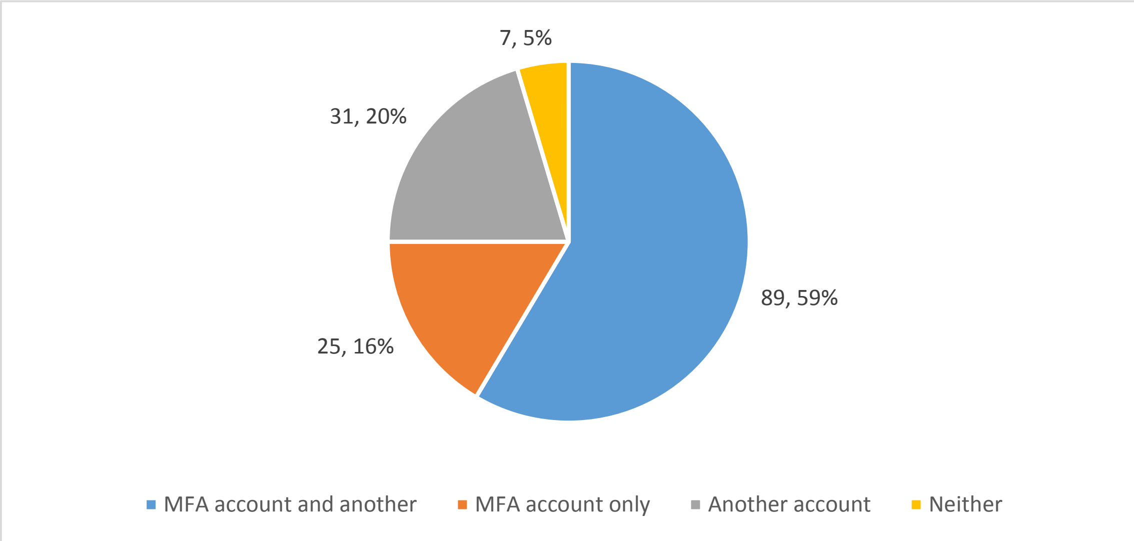
Next, in order to determine whether respondents were the target population, it was necessary to determine their involvement with the MFA programme (i.e. whether they received the MFA payment (CCT)). Figure 12 shows that 78% of respondents currently receive or used to receive the stipend themselves, while 22% live with someone who does or did. Interestingly, a third of male respondents reported having received the MFA payment, which means that they, and not their partners, were MFA participants. In some cases, these males were single-parents; and in others, they were appointed as custodians for their children and thus, receive the stipend. Given this results, it can be concluded that all respondents constitute the target population.

Figure 12: Who Receives the MFA Payment?



Within the target population it was also relevant to determine familiarity with a savings account by asking respondents if they had a bank account and what kind it was. Figure 13 shows whether respondents have only an MFA account (where they receive the CCT), another, both or neither. Given that all respondents are related to the MFA programme, this target population is highly banked – 98% – according to the data; although it is likely that the accounts are irregularly used or utilised only for withdrawing money, like in the case of MFA accounts.

Figure 13: Type of Bank Account Owned by Respondents

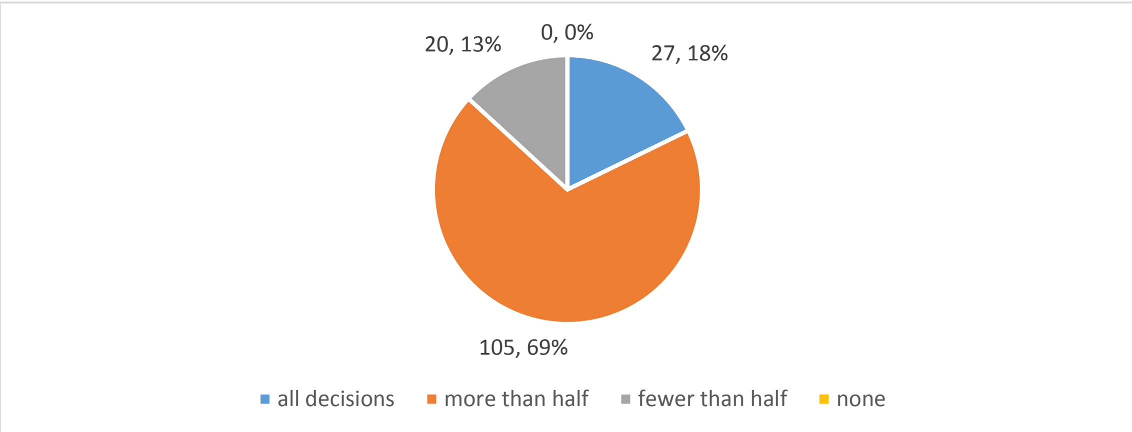


Taking into account sex, account ownership seems not to depict gender imbalances. As expected due to the target population, most people who only have an MFA account are female; as are most people who own at least two bank accounts (MFA account and another). On the contrary, since most males are not CCT-recipients themselves, they are over-represented in the category owning only another type of account (not MFA account). However, within those who do not have any kind of bank account (7 observations, 5%) all are female, most with only primary schooling.

Among those without a bank account, two people did not have any financial education experience and five participated in MAA only. Conversely, people who took MAA and LISTA financial education trainings, tend to own an MFA account and another (41 observations out of 46), in a higher proportion compared to those who only took MAA or LISTA only. As for age, youth (under-25-year-olds) are over-represented in the category that does not own a bank account. This data is different from Reddy *et al* (2013), as they found that 72% of surveyed Colombians did not have a savings product, especially in the CCT-receiving segment of the population.

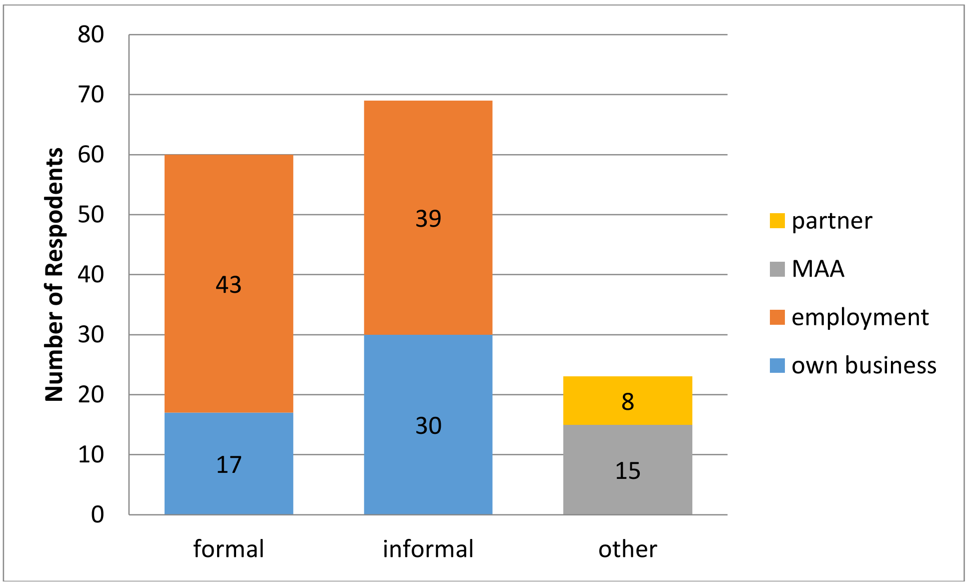
Data also shows that respondents estimate their decision-making capacity to be relatively high (Figure 14), as 87% of them believe they make more than half or all household financial decisions. Relative to gender, 95% of males reported making half or more financial decisions, whereas 85% of females reported to do so. Among those who make fewer than half of decisions there was only one male. This data is similar to the study done by Fasecolda (Colombia Federation of Insurance Companies) in 2008 to assess the demand of microinsurance in Colombian low-income households (strata 1, 2 and 3). This study found that 82.2% of respondents made all decisions alone and/or with their partner (Fasecolda 2008). Interestingly, Reddy *et al* (2013) found similar data for the whole country, but males reported making fewer decisions than their female partners.

Figure 14: Decision-Making Capacity of Respondents



Continuing to other demographic information, Figure 15 and 16 show characteristics of respondents' income: firstly, the source they come from, and secondly, their frequency and regularity (whether the amount received is always the same or similar). Figure 15 shows that almost half of respondents are in the informal sector, which means that they are employed without a contract or they own a business that is not registered in the local Chamber of Commerce[12]. A few respondents, 15% of them, reported that they depended on their partner or MFA stipend as their main source of income; all of whom were female. More than half of males (58%) answered that they were employed with a contract, which is more than double the rate of women in that formal situation (23%).

Figure 15: Source of income

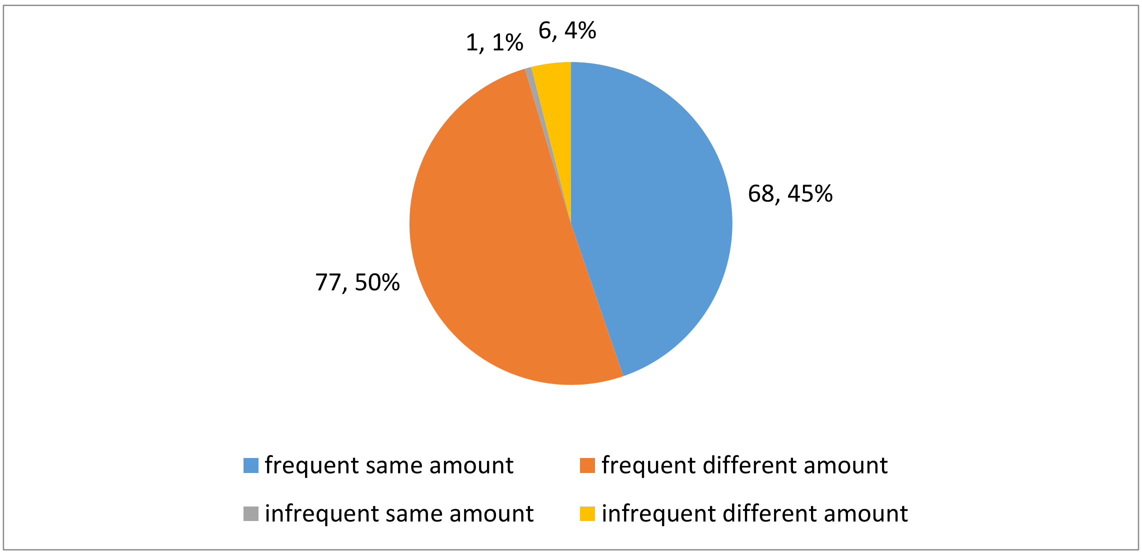


On the other hand, Figure 16 depicts the regularity of respondents' income, as measured by how frequently it is received and how variable the magnitude is (i.e. whether the size of income changes every time it is received). Most people report receiving a frequent income (defined as monthly or more repeatedly); and 50% state that the income is regular in the sense that the amount is the same, whereas 45% say it is different every time. This coincides with the 2014 study on

12 In Colombia to make a business formal it is necessary to register it in the local Chamber of Commerce.

demand for financial inclusion by the SFC and the central bank, which shows that in the Pacific region of Colombia (where Tuluá is), 56% of adults have stable and periodic income (Ipsos 2015).

Figure 16: Regularity of Income



A joint analysis of these two items, as depicted in Table 3 below, reveals that high frequency and regularity of income (same amount) is mostly to be expected from formal employment and government programmes like MFA. Also, high frequency and irregularity of income (different amount) is associated with formal and informal entrepreneurship (own business), as well as informal employment. On the other hand, infrequency in income, independent of regularity, is only associated with a partner as a source. The respondents in this situation tend to make fewer than half of household decisions, thus it shows a high degree of vulnerability.

Table 3: Source, Frequency and Regularity of Income

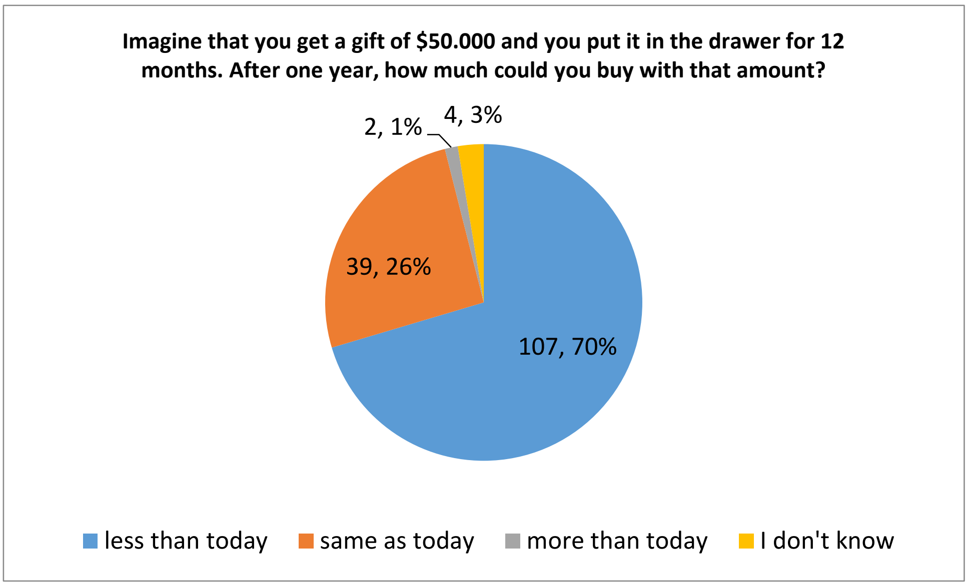
Income source | Frequency and Regularity	Frequent same amount	Frequent different amount	Infrequent same amount	Infrequent different amount
MAA	15	0	0	0
Partner	1	0	1	6
Own formal business	0	17	0	0
Own informal business	0	30	0	0
Formal employment	36	7	0	0
Informal employment	16	23	0	0

8.2. Financial Capabilities – Knowledge

8.2.1. Basic Concepts

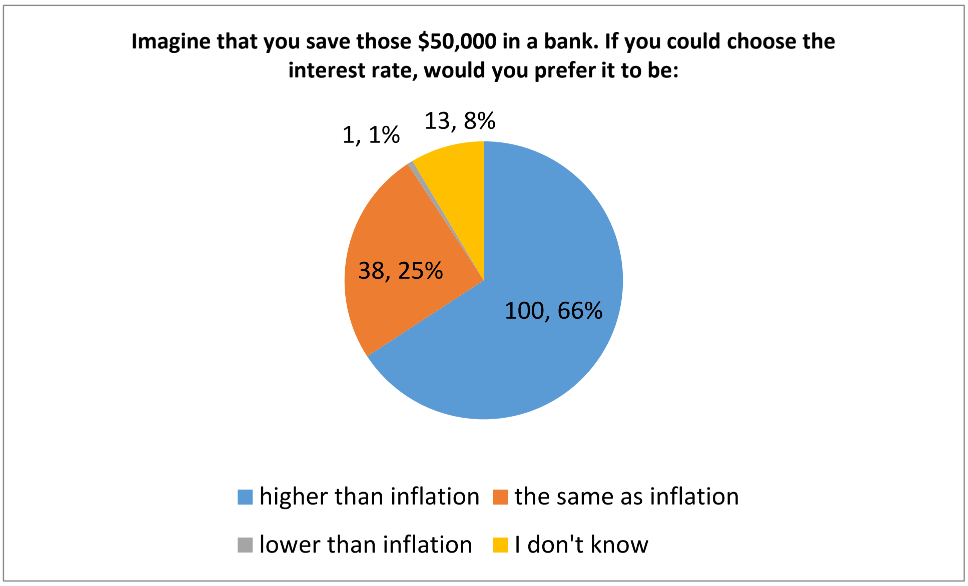
Now that the population has been described with the data gathered, the study of their financial capabilities can commence. Demographic variables will be compared with knowledge, behaviour and attitude questions, in order to understand their financial capabilities better. The analysis will start with financial knowledge. First of all, to perceive their understanding of value of money in time, the following questions was asked: “Imagine that you get a gift of $50.000 and you put it in the drawer for 12 months. After one year, how much could you buy with that amount?”. Figure 17 shows that most respondents, 70% of them, could understand that in the future, their money loses its value and so, they can buy fewer things than today (Reddy *et al* (2013) found that 69% of respondents understood this fact). Sex had an effect in this question, as 79% of men responded correctly, while 68.7% of women did so. In contrast, education did not have a significant effect as people from all schooling categories had similar results.

Figure 17: Value of Money in Time



Similarly, Figure 18 evidences that a comparable proportion of respondents know that, if they could choose, the interest rate of their bank accounts should be higher than the inflation rate, as this would allow their savings to keep their value. The understanding of this question also implies that these respondents understood the term, inflation. However, at the same time, respondents who answered “I don’t know” rose from 3% in the first question to 8% in the second. Also, this question reduced the effect of sex in positive response rate, compared to the inflation question, as 70.8% of men had a correct answer, while 64.8% of women did. In contrast, education enlarged differences between respondents, as 41% of people who completed primary had a correct answer versus 73% of those who finished secondary school.

Figure 18: Understanding of Interest Rate



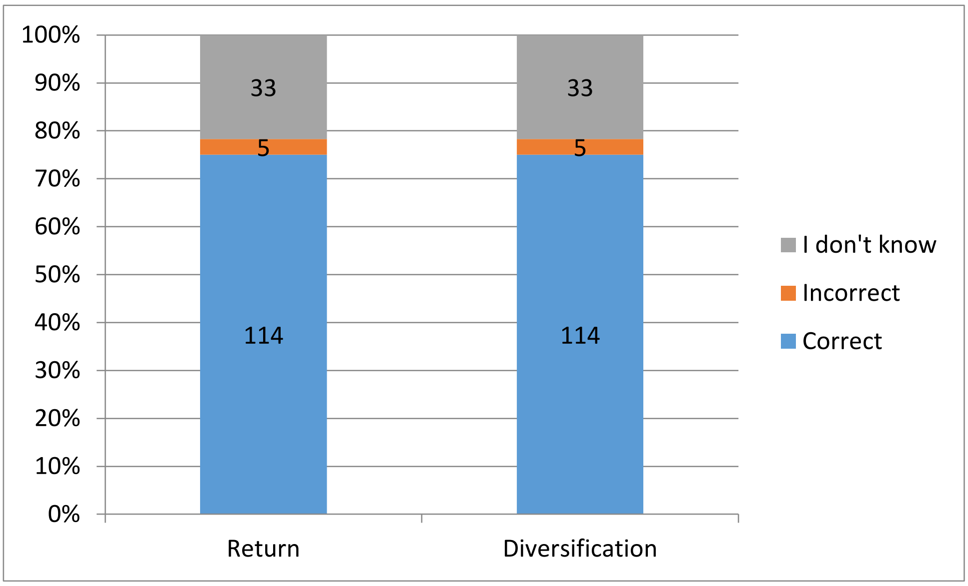
Given that many respondents had participated in financial education programmes (LISTA, MAA, etc.) the results of the two questions were contrasted with these experiences. The following table shows how many people were correct, incorrect or did not know the answer, and how many financial education programmes they participated in. These numbers show that the more financial education people have, the better they fair in these questions; though this cannot be a conclusive remark as there is no control group. It is important to note that the increase in “I don’t know” in such core topics of financial literacy and the growing effect of schooling in the question about interest rate could indicate a flaw of these programmes. These financial education contents should be strengthened to act as an equalising agent for the less privileged.

Table 4: Answers to Value of Money and Interest Rate Questions According to Financial Education

Questions and Answers Financial Education Programmes	None	One	Two	Three	Total
Value of Money					
Correct	2	64	38	3	107
Incorrect	2	29	8	2	41
I don't know	0	3	1	0	4
Total	4	96	47	5	152
Interest Rate					
Correct	2	62	31	5	100
Incorrect	1	25	13	0	39
I don't know	1	9	3	0	13
Total	4	96	47	5	152

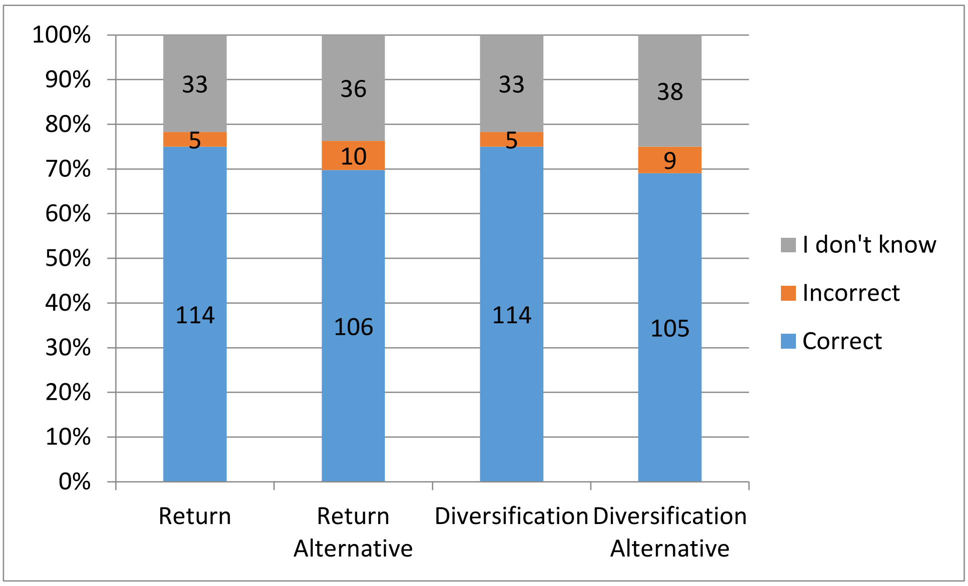
Figure 19 shows understanding of risk. Respondents were asked to say if two statements about risk were true or false. The first statement was: “An investment with a high return is likely to be high risk”, touching on the subject of expected return and the rule of thumb “higher return, higher risk”. Meanwhile, the second phrase delved on the theme of risk and diversification: “It is usually possible to reduce the risk of losing money by investing in a variety of options”. This sentence comes from the rule of thumb “better not to have all the eggs in the same basket”. The answer to both questions was: True.

Figure 19: Understanding of Risk



More than 70% or 114 respondents answered both questions correctly; only two people had one right and the other wrong, which is why both bars are the same. In order to verify that the question was answered with full knowledge of the topic (given its importance in the field of investment), people were asked once again to assess the validity of two statements: “The bigger the profit, the easier the business; it's less risky” – for return – and “To reduce risk, putting all the eggs in one basket is usually safer than in many” – for diversification. Both statements were false. The results are shown in Figure 20 below, next to the results for the original questions.

Figure 20: Original and Alternative Questions about Risk



The graph shows that both original and alternative questions had a similar response rate, which would indicate that people understand the risks involved in high returns and in not diversifying investments, which are core concepts of finance. This information can also be analysed through the score that was created for risk, as explained in the Data Analysis section of the Methodology. According to this score, 65% or 99 respondents were correct in all four risk questions.

When comparing this information to Atkinson and Messy (2012), where the questions were taken from, similar scores are found. Among 14 countries around the world that took their survey, in all but one, at least 60% of respondents correctly answered the risk and return question (compared to 75% in this research). In Peru, the closest surveyed country to Colombia, both geographically and culturally, 69% of respondents had the right answer. As for the risk and diversification question, in all but two countries, between 43% and 63% had a correct answer (compared to 75%

again, in this research); Peru's was 51%. Even if these results are similar to Atkinson and Messy's, it must be reiterated that the diversification question in the present study was simplified.

Through the prism of gender, the *Risk* score shows a slight difference with 75% of men and 63% of women answering all questions correctly. In contrast, education determines to a greater extent the perception of risk: only 41% of respondents with primary education correctly answered all questions, compared to 72% for those with secondary schooling, 95% with technical studies, and 100% (3 observations) for university level. Also, age shows a mixed picture with 50% of respondents in the 18 to 24 and 60 or above brackets responding correctly, versus 66% and 65% in the 25 to 46 and 47 to 59 categories, respectively. However, again, the respondents in the first and fourth category are too few.

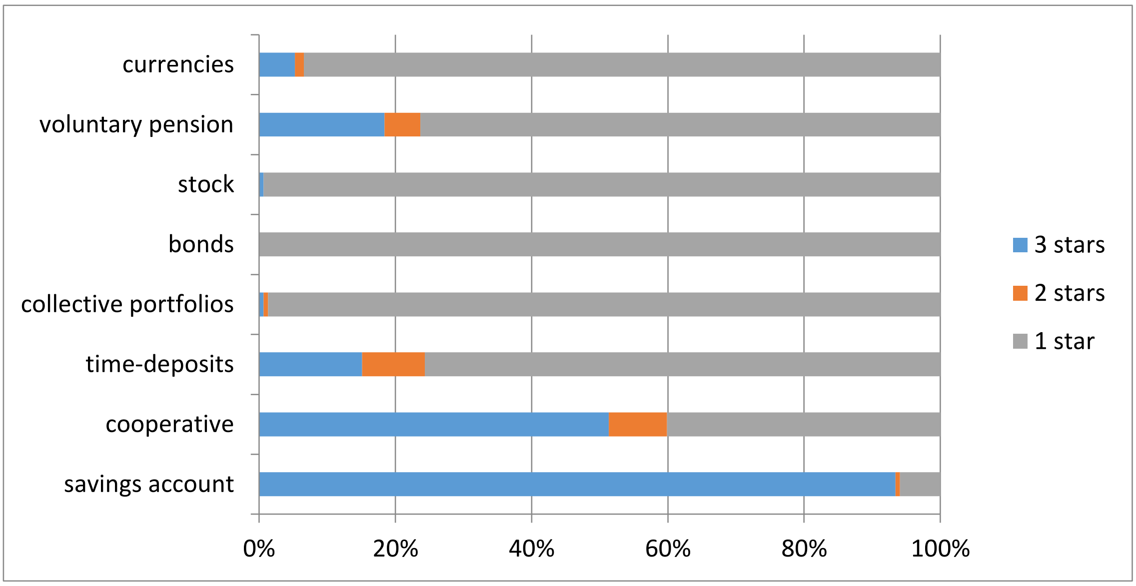
Financial education also presents a mixed and ambiguous result with the highest scores in both extremes: those with no financial education (75% responding correctly to all risk questions) and those with experience in three programmes (100% responding correctly). These groups only represent 9 observations or 6% of respondents. Among those with one experience and two experiences in financial education (143 observations), 65% and 62%, respectively, give correct answers to all risk questions. When compared to Atkinson and Messy (2012), these results are similar or higher, but the target population is different. If compared to Peru's data only, it is also higher, which could indicate that financial education is having a positive impact in risk awareness.

LISTA and MAA do provide training about risk from the point of view of insurance, but not from the point of view of investment or investment products. In spite of this, compared to the Atkinson and Messy (2012) results, financial education seems to have a positive impact in perception of risk, at least on risk in terms of return and diversification.

8.2.2. Knowledge of Financial Products

After covering the key concepts of value of money in time, interest rate, risk, return and diversification, it was necessary to determine respondents' knowledge of financial products. Figure 21 shows that, as expected, knowledge about more sophisticated financial products like stocks, bonds and collective portfolios is almost non-existent (only one person had knowledge of stocks and collective portfolios). On the contrary, more than 90% of respondents felt very comfortable (3 stars) with savings accounts, and around half of them felt the same about the savings mechanisms of cooperatives. Knowledge about time deposits was higher than expected, 15% of respondents felt well acquainted with them and many of them reported using them with frequency.

Figure 21: Knowledge of Financial Products

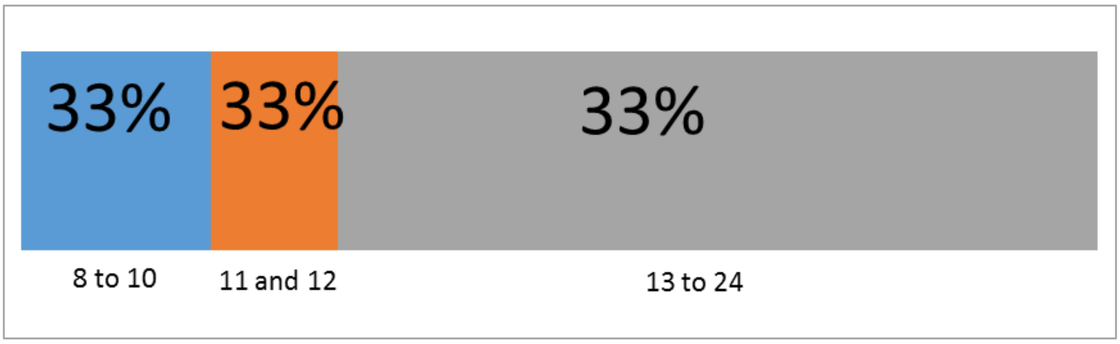


As for voluntary pensions, enumerators expressed that respondents who were well aware of them were, in actuality, were thinking of another product when answering, a new pension-like instrument that the Colombian government is introducing to achieve higher savings for old age amongst the poor, *Beneficios Económicos Periódicos* (BEPS). This mechanism was not the one intended to be treated as an investment in this research; however, given the heavy marketing that the Colombian government has been doing, respondents assumed it was the same. From now on, data tagged as "voluntary pensions" is referring to BEPS.

The *Knowledge of Financial Products* score, as explained in the Data Analysis of the Methodology section (where respondents had a minimum score of 8 and a maximum score of 24 points), shows that respondents had a mean score of 11.9 points, which is at 49.5% of the maximum score, with the top mark being 22 points and 95% of votes at 15 or less. Figure 22 shows that already 33% of respondents achieved between 8 and 10 points, while another 33%

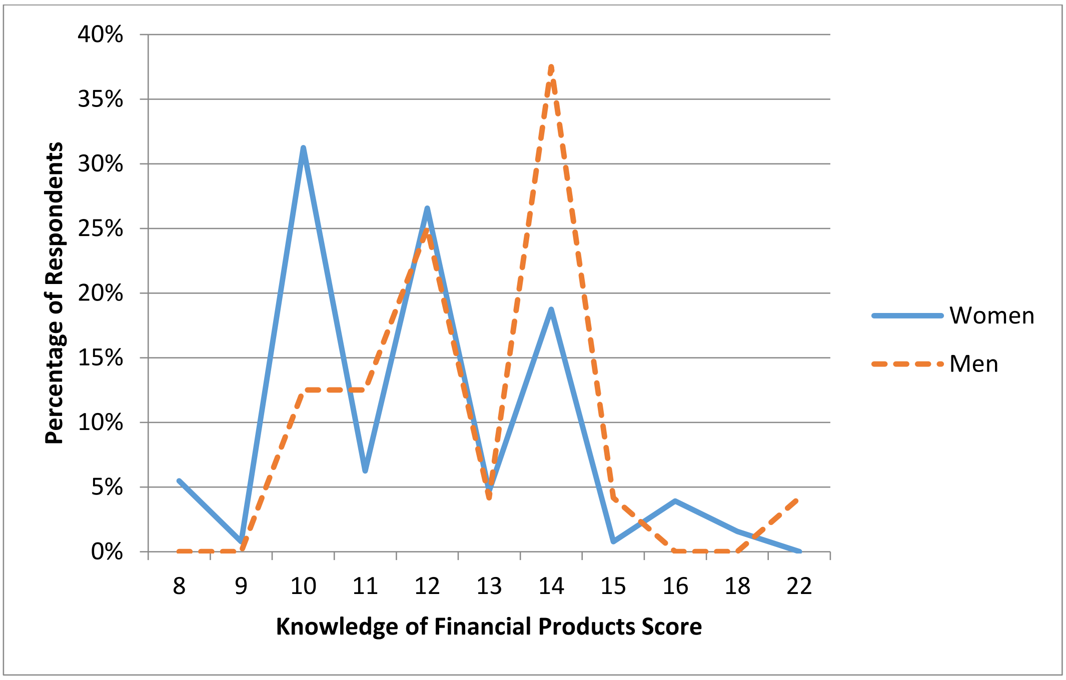
achieved 11 or 12 points. A reason for this as shown in Figure 21 is that most people have no knowledge about sophisticated financial products (stocks, bonds, etc.) and thus, lose many points when scores are added.

Figure 22: Proportion of Respondents by Thirds in Score Marks



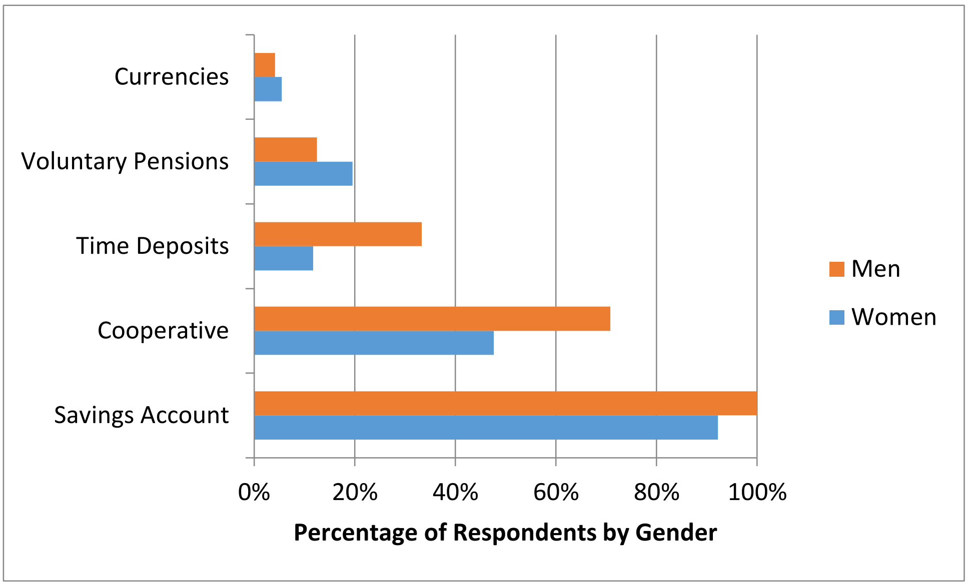
Gender-wise, significant differences were found in the *Knowledge of Financial Products* score, as more men scored higher marks than women, as shown in Figure 23. The mean score of men was 13, while that of women was 11.8 points. Furthermore, there were 75% and 56% of men and women at 12 or more points, respectively. This gender gap can be seen even if women have had more financial education experiences than men (40% of women had had at least two experiences versus only one man in the sample).

Figure 23: Proportion of Women and Men in Relation with the Knowledge of Financial Products Score



If this data is analysed by product, more differences can be noted concerning gender. Figure 24 shows the proportion of men and women who self-reported the highest answer (3 out of 3) for their knowledge of each financial product (information on bonds, collective portfolios and stocks was omitted because only one person, a male, reported good knowledge). Men dominate most categories, except for currencies and voluntary pensions. In the case of the latter, respondents associated the term "voluntary pensions" to the new government programme "BEPS". Since belonging to the MFA programme (mainly targeted to women) gives women an advantage in accessing this kind of information, they had a higher mark than men. As for the former, one woman reported having had a business for foreign exchange; and others mentioned having received remittances.

Figure 24: Knowledge by Products and Gender

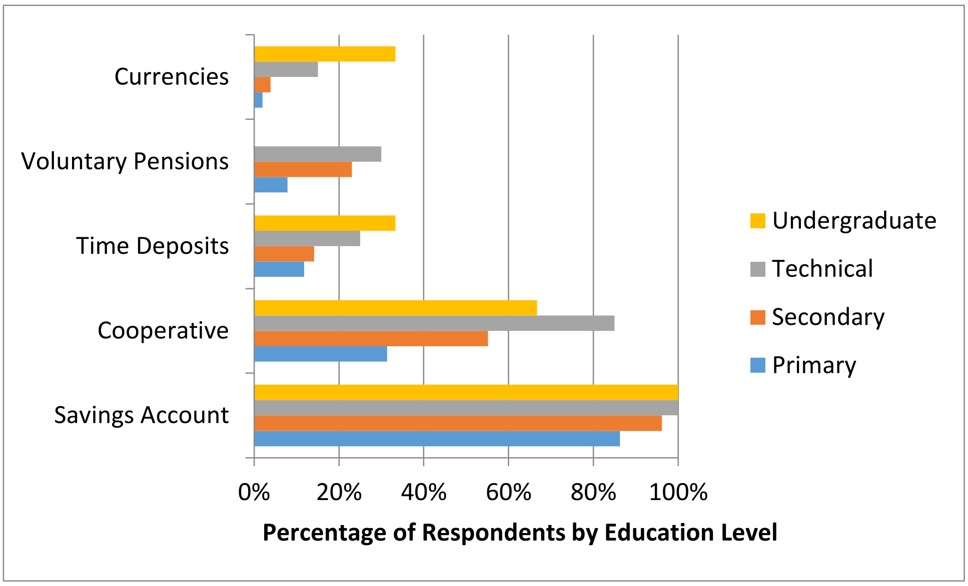


Gender differences can also be associated with power and decision-making in the household. Therefore, if the data on the *Knowledge of Financial Products* score is crossed with the answer to the question about decision-making, slight differences can be found in the mean scores. Respondents who reported making all decisions had an average score of 12.3 points, while those who reported making more than half or less than half of household decisions marked 12.1 and 10.7 points, respectively. Since the latter score corresponds to women mostly (only one out of 20 respondents was a man), this data can draw to the conclusion that low empowerment in the household is matched with low knowledge on financial products and therefore on their capacity to take advantage of them.

Relative to age, the *Knowledge of Financial Products* score shows more variation than the *Risk* score, seen before. Those in the 18 to 24 years' bracket (6 respondents) had a mean score of 11.3 points, comparable to those between 47 and 59 years, with 11.6 points (34 respondents). The highest scores were for the 25 to 46 (110 respondents) and 60 or above (2 respondents) years brackets with 12 and 13 points, respectively. Given the differences in the number of available responses by age category it is difficult to make a conclusion.

In the field of education, data shows that as education rises, so does the *Knowledge of Financial Products* score. Those who completed primary and secondary school scored an average of 10.9 and 12 points, respectively; they represent 85% of all respondents. People who went on to technical or university studies scored on average 13.8 and 13.3 points, respectively. If this information is analysed by product, though, a greater nuance in results can be found, as shown in Figure 25. This graph reveals the percentage of respondents that self-reported full understanding of each financial product, depending on their educational attainment. Almost in every case, higher education implies a better understanding of financial products, as also proven by the *Knowledge of Financial Products* score. Knowledge of savings accounts is common in all levels of education, but this uniformity diffuses as products become more complex.

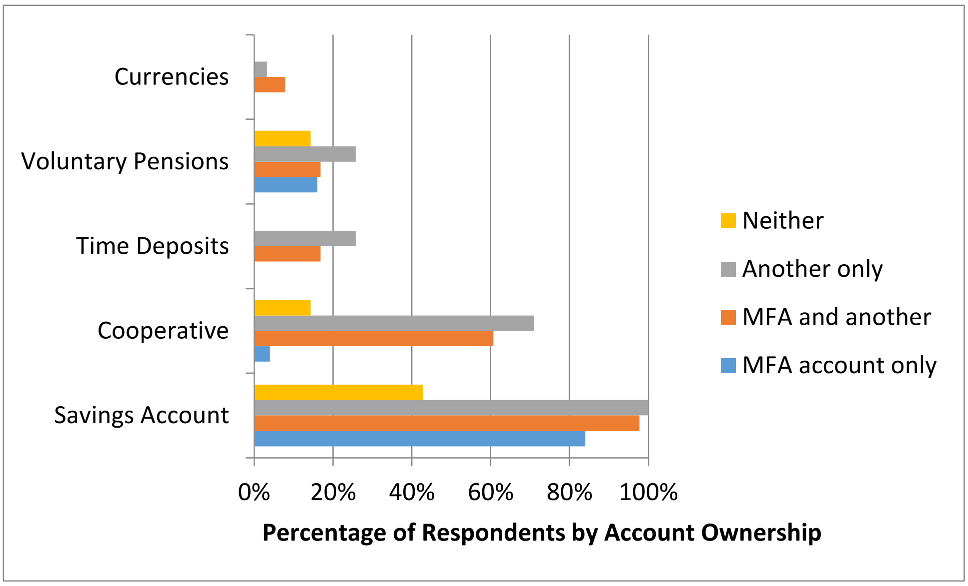
Figure 25: Percentage of Respondents by Financial Product and Education Level



Regarding bank account ownership, differences can be found as well in the knowledge of financial products. Respondents that only have an MFA account or no account at all scored the lowest points, with a mean score of 10.7 and 10 points, respectively (mostly women); neither group had more than 12 points. In contrast, people who have two accounts (MFA account and another) marked 12.2 points, whilst those with another account (mostly men) obtained the highest points, 13. The highest mark in the former group was 18, whereas that for the latter was 22 points.

Figure 26 below shows the percentage of respondents who reported full understanding of each financial product, according to the type of bank account they own. Like in the preceding analysis of the *Knowledge of Financial Products* score versus bank account ownership, this graph reveals lower knowledge in the groups that only have an MFA bank account or do not own an account. These two groups, which are mostly made up of women, report feeble knowledge in currencies as well as time deposits; hence they are not shown in the graph.

Figure 26: Percentage of Respondents by Financial Product and Type of Bank Account Owned

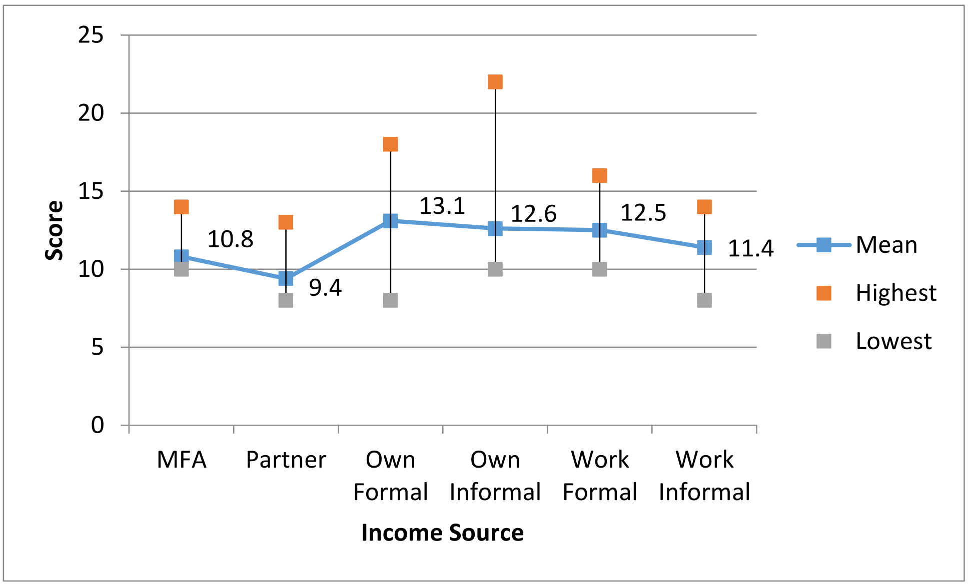


People who only have an MFA account are an interesting demographic, as they seem to choose to only have an account to manage their CCT-transfers and not find out more about formal savings and financial products. If crossed with financial education and normal schooling data to control for their exposure to information and knowledge about finance in general, all of them had at least one type of training; but they mostly had up to secondary education, which implies lower capabilities as shown in Figure 26, above. Depending on their partners for income is also a characteristic that affects at least a third of this demographic.

Returning to the analysis of the *Knowledge of Financial Products* score, when crossed with income source it reveals the following average marks. Figure 27 shows the mean score for each type of income source, as well as the top and bottom scores. The best average score was 13.1

points for those whose main income source is their own formal business. However, the best results in general were obtained in the group of those who own their own informal business, with a minimum score of 10 and a top score of 22.

Figure 27: Mean, Highest and Lowest Score According to Income Source



On the one hand, in regards to education, the group of those who own a *formal* business is mainly composed of people who only finished primary (no one with undergraduate education), which is at odds with previous analyses showing lower scores for those who only finished primary school. On the other hand, those with an *informal* business mostly finished secondary school and none of them hold an undergraduate degree. In actuality, those with undergraduate or technical degrees seem less entrepreneurial and work for others formally or informally. In contrast, people depending on their partner for income, all women, are the most vulnerable, with a very low score at 9.4 points.

From the point of view of frequency and regularity of income, people with frequent (at least once a month) and *irregular* (not always the same sum) incomes score the highest marks among respondents with a mean of 12.4 points, followed by those with frequent and regular income (11.8 points). The former group mainly corresponds with people who own their own formal or informal business, while the latter has a high proportion of people with formal employment. Respondents with infrequent income score the lowest points, with an average of 8 and 9.5 points for those with regular and irregular income, respectively (only 7 respondents had infrequent income).

Together with the previous analysis according to income source, it is interesting that the best scores are in those who own their own informal or formal business and have frequent though irregular income. These respondents mostly have primary and secondary school education; with women being overrepresented relative to men. This is unexpected from previous analysis in this document that shows that those with better schooling have better results. This data could be pointing to the capabilities of an entrepreneurial group within the target population, which excels over the rest.

This data could also be pointing to a group of people who gain knowledge of financial products, due to their entrepreneurial spirit and their desire to take advantage of the tools provided by the financial system. In fact, when analysing by financial product, those with frequent and *irregular* income know relatively more about cooperatives than those with frequent and *regular* income. This could be related to the fact that cooperative membership gives access to easy credit, which would be important for those with varying income and financing needs. The former group is also overrepresented in knowledge of currencies; but together with the latter they are similar in knowledge of time deposits and voluntary pensions. However, in respect to time deposits, when both groups are compared to those who have formal employment, the latter doubles them.

8.2.3. Financial Knowledge Score

This score adds all the aspects asked in the survey concerning financial knowledge: value of money in time, inflation, interest rate, risk, return, diversification and knowledge of financial products. The *Knowledge of Financial Products* score adds to this score, but the *Risk* score does not in order to take into account respondents who might have answered one, two or three risk questions correctly (the reader might remember that the *Risk* score gives a mark of 1 if the respondent answers all questions correctly, or 0, if they do not). Another issue to consider, as the reader will notice, is that the *Financial Knowledge* score has many respondents in the top half of the available marks. This is because the standards were lowered, given that the *Knowledge of Financial Products* score's average mark was close to 12 points. For this reason, those at 12 or below were given 1 point for the *Financial Knowledge* score and those above 12 were given 2 points. The standards were also lowered as 99% of respondents had no information about stocks, bonds and collective portfolios, which gave them a low *Knowledge of Financial Products* score.

Having these considerations in mind, the *Financial Knowledge* score will be analysed. The mean mark was 5.6 points out of 8, with 45% of respondents with 7 and 8 points. This latter group could be considered relatively financially knowledgeable, to the extent of the data available here, as their score reflects that they understand value of money, interest rate, four questions on risk, and had some knowledge of financial products. However, there is a lot of variability in this group. For example, approximately 25% of those in this group obtained two points for the *Knowledge of*

Financial Products and had one of the other questions wrong. Others (35% of people in that group) had only one point in the financial products score but were correct on the other questions. The rest had 8 points and therefore full marks (40%).

From the point of view of gender, the *Financial Knowledge* score shows that 43% of women and 54% of men had 7 or 8 points. Compared to the *Knowledge of Financial Products* score, where 75% of men and 56% of women scored more than average (12 or more points), this score holds the disparities seen before between the sexes. Taking into account age, similar observations as before are gathered: 46% of those in the 25 to 46 bracket are in the high-scoring group (7 and 8 points) and 21% of them had full marks; while 44% of those in the 47 to 59 category were in the high-scoring group and 12.5% all 8 points. This is consistent with the previous analysis. As for the others two categories, responses are too few to analyse.

Education also shows a mixed picture as in previous analyses. Those who only finished primary school account for most of bottom scores, but 25% of them are in the high-scoring group and they are the same as the ones identified before who could comprise an entrepreneurial category in the studied population. This data will be checked further ahead with the analysis of financial behaviour. In contrast, respondents with technical and university education were mostly in the high-scoring group; none of them scored less than 5 points. Similarly, financial education experience also seems to benefit the *Financial Knowledge* score, with more respondents in the top scores (and fewer in the bottom scores) as experience in financial education increases. For example, 43% and 46% of those with one or two financial education experiences, respectively, were in the high-scoring group.

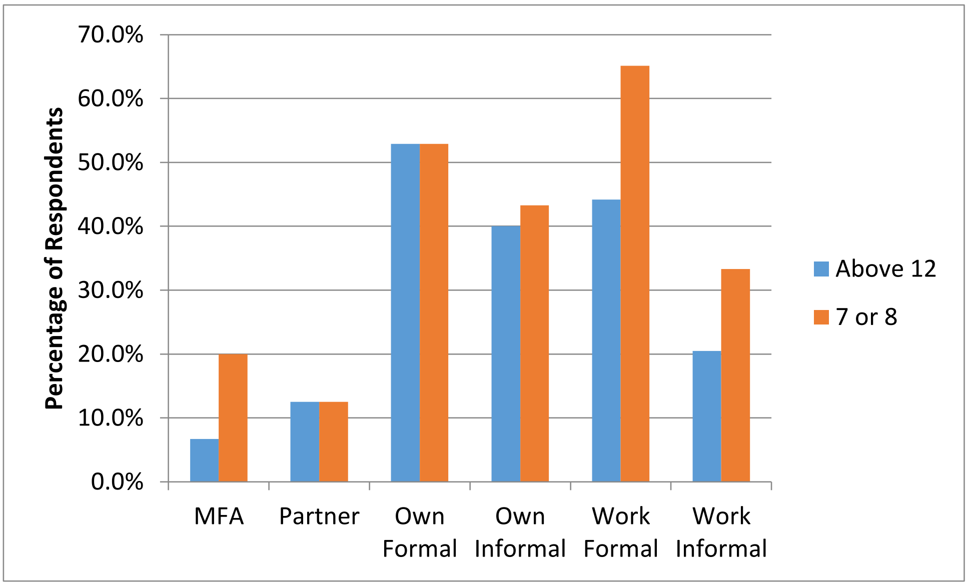
In the case of those with three experiences, 80% of them were in the high-scoring group, but they are too few to give an assertive conclusion. Most of them had technical education level also, which seems to be connected to higher financial capabilities, as shown in previous analyses. On the other hand, half of people who had no financial education experience had 7 or 8 points, and they had completed either primary or secondary school. This category also had too few respondents in order to be conclusive. Both these observations seem to be at odds; in simplified terms: more or fewer financial education gives higher financial knowledge? What are the combinations of financial education and formal education that yield the best scores? With more data this could be an interesting question for policymakers, practitioners and researchers of financial inclusion.

As for other demographic factors analysed previously, the results in the *Financial Knowledge* score are consistent. Those who only have an MFA bank account or no bank account score the worse, while those with “another” bank account are the top scorers, followed by people with a combination of MFA and another bank account (the proportion of those with 8 points is similar, 25% for the former and 21% for the latter). In the field of decision-making, those who make all decisions, mostly men, have the best scores, followed by those who make more than half of decisions (69% of all respondents). However, proportionately there are more people with 8 points in the latter group than in the former. This is probably the effect of the entrepreneurial group recognised earlier, that is lifting the score for women and those who only finished primary school.

In respect to income source and the *Financial Knowledge* score, a small variation can be observed when compared to the results of the *Knowledge of Financial Products* score. Figure 28 below shows a comparison of the high performers in both scores (those above 12 points in the

Knowledge of Financial Products score and those with 7 or 8 points in the *Financial Knowledge* score), in terms of what percentage of respondents were high-performers according to their income source. Previously, when only knowledge of financial products was being analysed, the best results were found in the people who owned their formal business; however, when the general indicator for financial knowledge is measured, out-performing shifts to those with formal employment. This group has more who had education beyond secondary school, as opposed to the other groups, which only completed primary or secondary school. This could indicate that, for entrepreneurs who have not had a long education, what matters is knowledge of financial products they can use for their business purposes.

Figure 28: Comparison of High Performers in the Financial Knowledge Score and the Knowledge of Financial Products Scores According to Income Source



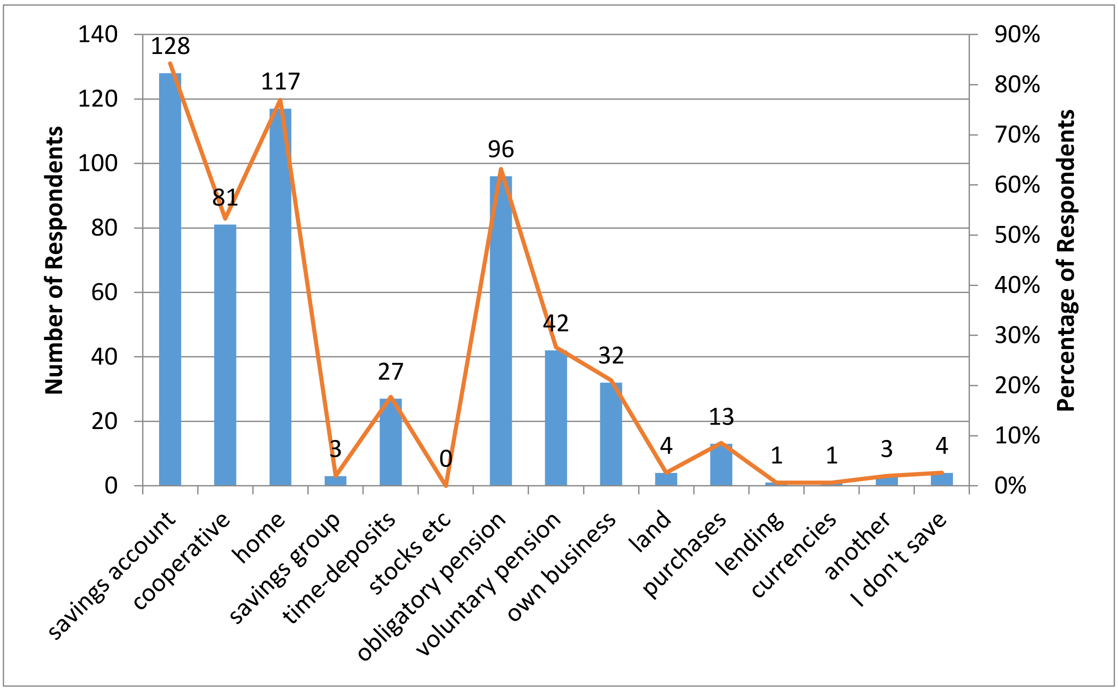
Similarly, in terms of income frequency and regularity, again, those with frequent income have the highest scores, with a mean score of 6 points for people who have a regular income (same amount every time) and 5.4 for people with an irregular one. The high performers in these cases make up 51.5% of respondents in the former category and 40.3% in the latter. Once more, this puts in evidence the difference between those with higher and lower education, because those with higher education tend to have formal employment and thus, frequent and steady income. In contrast, those with *irregular* income have their own formal or informal business and they tend to attain only primary or secondary schooling. This is consistent with the previous observations about those with formal employment having a higher *Financial Knowledge* score.

8.3. Financial Capabilities – Behaviour

8.3.1. General Information

Figure 29 explains how people have saved in the last 12 months. Respondents could choose more than one method so the bars show the number of respondents who chose each method, and the line reveals the same information in terms of percentage. As expected from the knowledge questions, a high proportion of respondents have saved in savings accounts and cooperatives in the last year (savings account was the most known financial product). A high proportion of people also saved at home (in a piggy bank); and a high number of people reported nurturing their obligatory pension fund (63%). A few respondents, 18%, said they also had kept their money aside in time deposits (compared to 15% who self-reported complete knowledge of them) and nobody mentioned any investment in financial products.

Figure 29: Method of Saving in the Last 12 Months



These findings contrast significantly with the World Bank's 2015 "Little Data Book on Financial Inclusion", which are endorsed by the SFC (2015). For example, that study shows that only 12.3% of Colombians saved at a financial institution; and 43.9% saved any money at all. In the case of this research's data, these two figures go as high as 84% for those who have kept money in a savings account. These figures are also high relative to the rest of the globe, as on average 56% of adults said that they had left any money aside in the last 12 months (Demirguc-Kunt *et al* 2015). Unpublished data from the LISTA financial education programme shows that 43% of respondents[13] in Tuluá saved at least once every month; and 32% did not save at all (Fundacion Capital 2014). Moreover, according to Reddy *et al* (2013), only 25% of Colombians save in their bank account

[13] In this study, most respondents were not MFA users.

There could be a number of reasons for these differences. First, since most of respondents participate or participated in MFA, most of them use their bank accounts in some way (most for just withdrawing the CCT and others for saving) and feel more comfortable with saving in the formal financial system. A difference in terminology or methodology is discarded as in both cases people were asked if they had saved or set aside any money for any purpose and at any time, in the preceding 12 months. In second place, since most respondents participated in financial education programmes, they understand that saving is a common and necessary financial behaviour, especially from the point of view of people who have an infrequent and irregular income and thus, need to smooth consumption. Participation in financial education programmes could also influence in the sense that they could feel contrived to answer positively to these questions. These reasons, though, are speculations that would require further research.

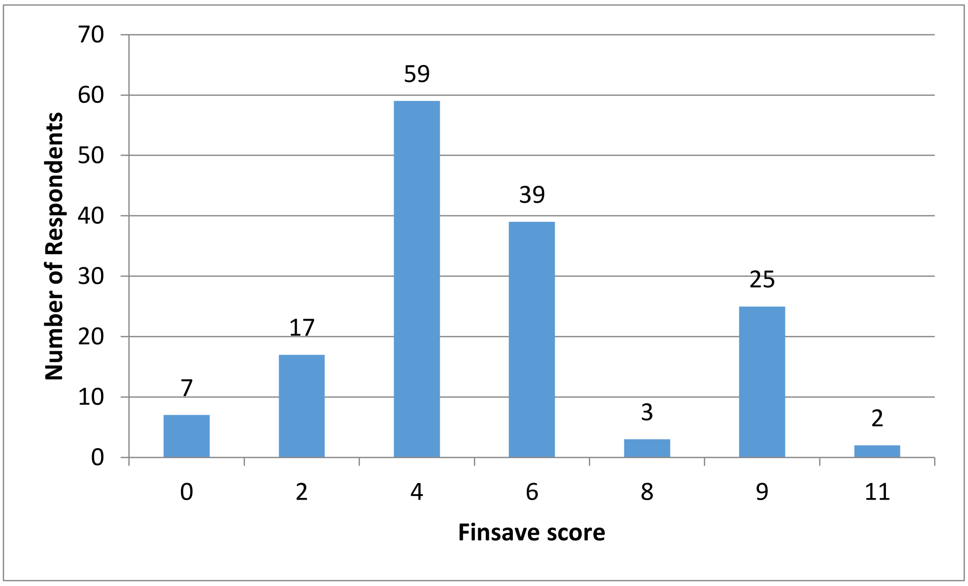
8.3.2. Financial Behaviour Scores

In terms of the scores that were used to measure the savings behaviour data, initially three scores were designed (*Finsave*, *Fininvest* and *Save*), as explained in the Methodology and Data Analysis section. However, since most respondents had no knowledge of sophisticated financial investment products and nobody had any experience with them, the *Fininvest* score was discarded, as it dealt mostly with those products. The other two scores will help to understand how people are saving in the financial system and how they are saving in other ways like savings groups and at home in a piggy bank; as well as purchasing assets like animals, jewels, real estate, etc.

First, the *Finsave* score measures how people save using financial products (bank accounts, cooperatives, time deposits, stocks, bonds, collective portfolios, obligatory pensions and voluntary pensions). This score did not consider *currencies* as a financial product for saving, as the trading is not done through the formal financial system; nevertheless, they are taken as an asset and thus considered in the *Save* score. In the *Finsave* score, two points were given for each way of saving; except for time deposits and sophisticated financial products, which were given three points. The maximum score was 14 points (including sophisticated financial products).

Results show that 55% of respondents had four points or less out of 14, which means that they saved through two means or fewer; 4.6% or 7 respondents scored zero or no savings at all in the financial system. The mean score was 5.1 points, so more than half of respondents did not reach the average score. The top mark was 11 points, with two respondents in that category, which means they used all the listed options except for sophisticated financial products. Results are displayed in Figure 30 below.

Figure 30: Finsave Score



As for the *Save* score, it forms five categories from all the savings options and gives the same score to each (1 point), which therefore recognises all forms of saving as equally important (the top score is 5 points). The categories and their components are:

1. *Common Savings Products*: having a savings account and/or cooperative account yields 1 point.
2. *Piggy Bank or Savings Group*: having a savings group and/or saving in a piggy bank at home yields 1 point.
3. *Investment Financial Products*: having stocks, collective portfolios and/or time deposits yields 1 point.
4. *Pensions*: having an obligatory and/or voluntary pension yields 1 point.
5. *Other Assets*: saving either through their business, real estate or land, assets (including goods and debt owed to them) or currencies yields 1 point.

Results of the *Save* score reveal that the mean mark was 3 points, which means that on average, people save in three different categories. Furthermore, four people did not save in any way and nine saved in all five categories. Figure 31 below shows how many respondents reported they had saved in each category and Figure 32, immediately after, shows the combinations of savings that people expressed, depending on each category. For example, reading both graphs at the same time explains that 136 or 89.5% of respondents saved in common financial products (Figure 31). Also, among those who chose common financial products, 105 of them also saved in a piggy bank or savings group; and 124 saved through either obligatory or voluntary pensions (Figure 32). These overlapping figures show the combinations of savings methods people are using.

Figure 31: Respondents in Each Category of the Save Score

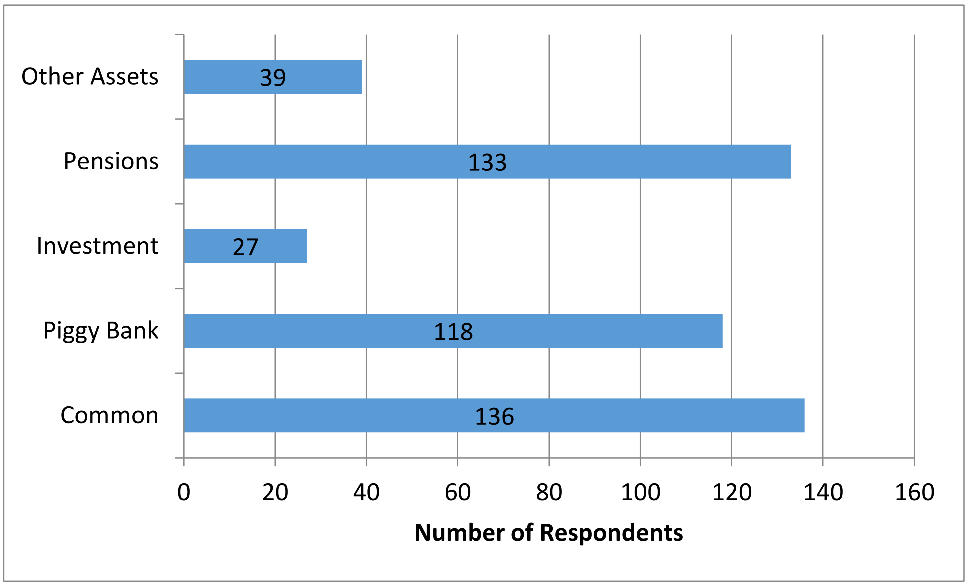
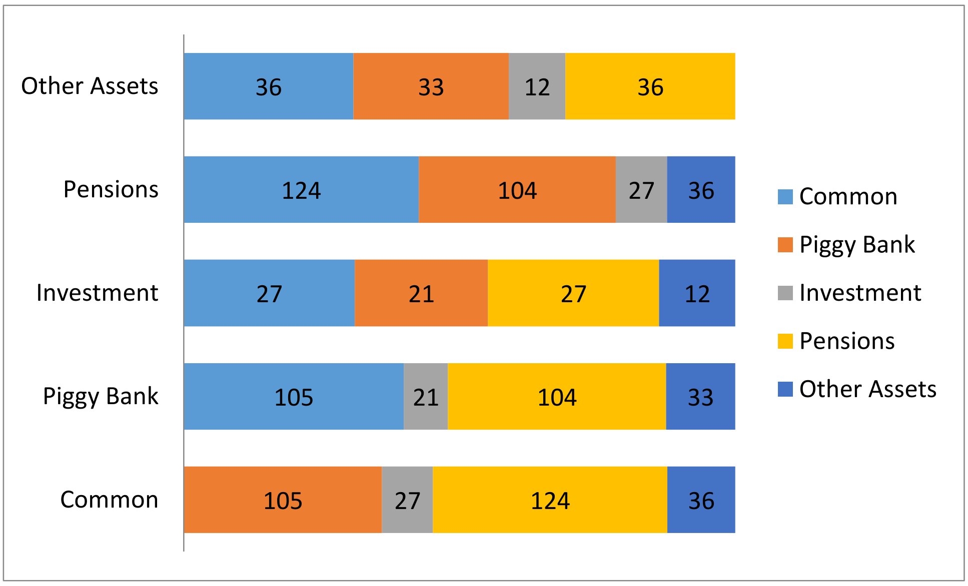


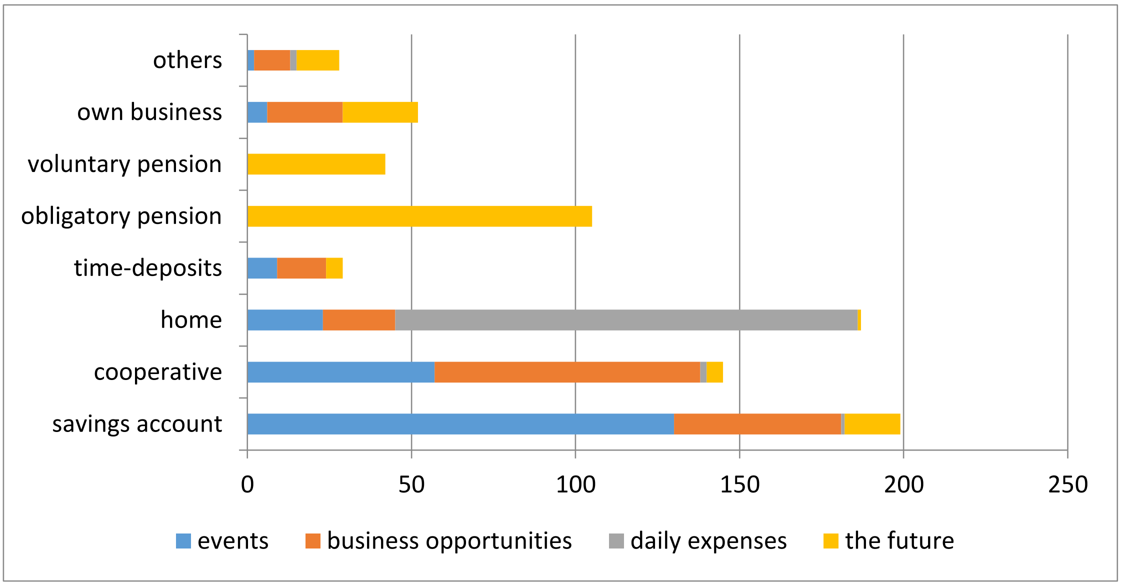
Figure 32: Overlap of Savings Options



This overlap of different savings methods is confirmed with the following question in the survey about how respondents save for events, business opportunities, expenses in general and the future.

Figure 33 shows that savings accounts are the most popular means to save, especially for events; whereas home and the piggy bank are the best for saving for daily expenses. For business opportunities, cooperatives seem to be the best alternative. In all probability, this is due to the fact that cooperatives allow members to take loans with great ease and therefore access those opportunities; and coincides with the entrepreneurial group that was recognised earlier. As for the future, people understand quite clearly that pensions are the best mechanism.

Figure 33: Savings for Different Motives



If this information is compared to the World Bank's Global Findex data (World Bank 2015) there is also a big contrast, as this research's data shows that a larger proportion of people are saving for old age (over 60% versus 13%) and business (53% versus 13.1%). This data also differs from Ipsos' Financial Inclusion Demand Study (2015), which shows that the Pacific region of Colombia, where Tuluá is, has one of the lowest rates of affiliation to pensions funds (only 20% of the population). Furthermore, in the whole country, low-income strata have the lowest affiliation rates: 17% for stratum 1 and 27% for stratum 2. The main metropolitan areas of Colombia (Tuluá is not included) had a pensions affiliation rate of 45.5% (Tassara 2015).

The difference may come from the availability of a pension plan to save for old age versus the actual act of saving in a pension fund during that year. Colombian law requires people under formal contract to deposit money in their pension fund; but if the contract ends, they are not required to keep saving there, and naturally, they cannot withdraw the money either. Many respondents who saved in this way could be in this situation: having resources in a pension fund but not increasing it actively. This would need to be confirmed with further research.

Research in poor communities across the world gives further insights. For some years, studies in several countries about the issue of poverty have demonstrated that most households, "even those living on less than one dollar a day per person, rarely consume every penny of income as soon as it is earned. They seek, instead to 'manage' their money by saving when they can and borrowing when they need to." (Collins *et al* 2009). In a way, it is these findings that have expressed the need for financial inclusion policies to promote enhanced financial products that can serve those needs, and to educate demand so access and use are safe.

In the same way as Atkinson (2015), Piketty (2014), Ertuk *et al* (2007) and others have shown the existence of inequality in the form of returns on capital, studies like "Portfolios of the Poor" show that poor households do not have significant financial wealth, except for those who have retirement savings in pension funds. In their study, these households tended to be wealthier and frequently had formal employment. For other people, according to Collins *et al,* "making provision for old age just isn't done directly by means of financial tools (…) Still, many conversations with diary households suggest that the desire for security in old age is often behind their financial transactions" (2009: 104).

Nevertheless, even if financial instruments in themselves are not a relevant store of wealth for the poor, they help to manage money in order to find alternate ways of storing wealth. According to the *Portfolios of the Poor*, surveyed households formed lump sums[14] through a combination of financial transactions involving savings, loans and insurance. Most of these transactions were outside of the formal financial system; and they involved family and acquaintances, local money lenders, NGOs, savings groups, cooperatives, etc. The following table shows how households combined financial instruments to form lump sums (Collins *et al* 2009: 102).

Table 5: Source of Lump Sums

Type of instrument	Bangladesh (94 sums)	India (139 sums)	South Africa (65 sums)
Savings	17%	26%	75%
Loan	83%	73%	15%
Insurance	0%	1%	9%

These lump sums were formed for life cycle events and other reasons, including old age; and they show how different financial tools are used for different activities, in the same way as the present research's data shows. It is relevant to note that in two of three countries, India and Bangladesh (higher incidence of poverty) a majority of lump sums were formed through loans, instead of

[14] In "Portfolios of the poor", lump sums are any sum greater than one month of income that is obtained primarily from one source: savings, loans or insurance. These lump sums can be used for emergencies ("all sudden-onset occurrences that threatened life, health or property"), life cycle ("household consumption, as well as expenditure on births, marriages and deaths"), or business opportunities.

savings. This reflects the difficulty poor households have to save, which, again, comes not only from insufficient income, but also from inadequacy of savings instruments.

In South Africa, closer to Colombia in terms of development compared to India and Bangladesh, as much as 75% of lump sums were made with savings. This number is closer to the ones observed in this research for incidence of savings. In this respect, Fundacion Capital's evaluation of the LISTA financial education programme (2014) found that to face emergencies (making lump sums for them), people used a combination of strategies including credit, working more, savings, selling assets and using insurance. According to this analysis, 49.4% of respondents in Tuluá used loans, 50.6% utilised their savings and 4.7% had insurance[15].

In fact, evidence shows "that poor households have room in their budgets for savings and understand the need to save. Their use of savings clubs shows how they welcome the chance to save regularly over time" (Collins *et al* 2009, P. 179). Savings in savings clubs and cooperatives show that there is will *and power* to keep money aside for the long-term. Savings clubs typically allow members to withdraw their money after a one-year cycle; therefore, capital builds for one year and gets interests from loans. In a similar manner, cooperatives hold savings, which are deposited in regular intervals, and only allow withdrawals when members leave. Belonging to these groups also expedites access to credit, which is convenient and explains their prevalence over banks.

In terms of money management, having access to savings and credit instruments is pivotal. As has been discussed, poor households in developed and developing countries prefer to take loans

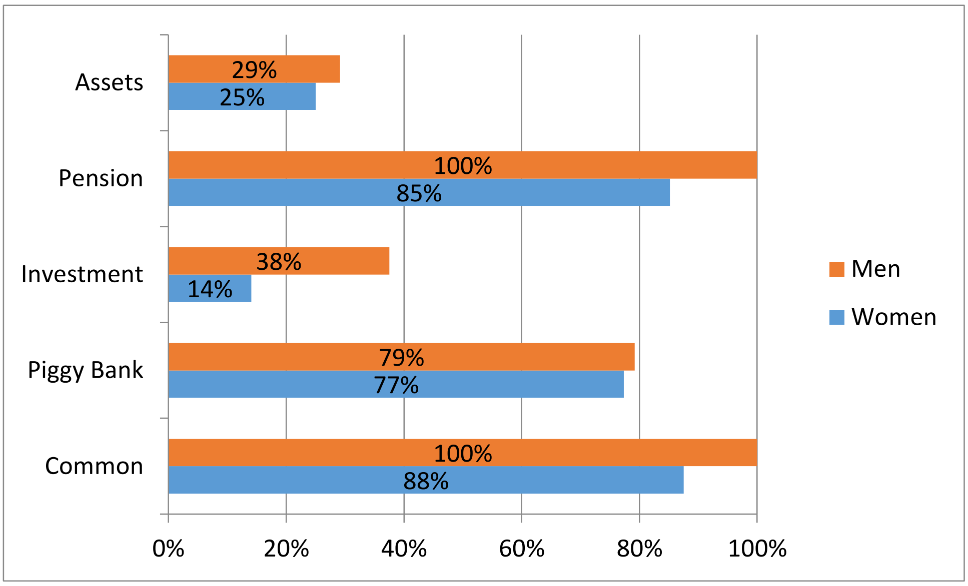
[15] The percentages do not add 100% because respondents could choose more than one option.

in order to form lump sums, even if they have enough savings (Collins *et al* 2009). This is because money can be obtained faster through credit than through savings; and because borrowers can discipline themselves to pay it faster. For some people, if they used the money they had saved, it would take longer for them to recuperate it. Instead, they prefer to take a loan and not diminish their savings. This search for discipline is consistent with savings clubs and cooperatives, where people are socially (and sometimes legally) compelled to save. This is also consistent with the present research.

8.3.3. Scores and Demographic Data

From the point of view of the *Finsave* score and sex, data remains consistent with previous analysis and portrays women as relatively less financially capable compared to men: while 57.8% of women are below the mean score of 5.1 points (with 7 women scoring 0 points), only 37.5% of men are. Similarly, while 16% of females had a score of 9 or 11, 37.5% of men did. However, the top scorers were two women with 11 points. In terms of the *Save* score, the mean for women was 2.9 points and that for men was 3.5 points, with women very close to the overall average score (3) and men above by half a point. Women fare better in this score than in the *Finsave* score. Figure 34 shows how women and men save in the five categories of the *Save* score; although women are consistently less represented than men, in some categories, the proportions are closer to each other, like in the case of assets and the piggy bank or savings group.

Figure 34: Save Score Categories for Men and Women



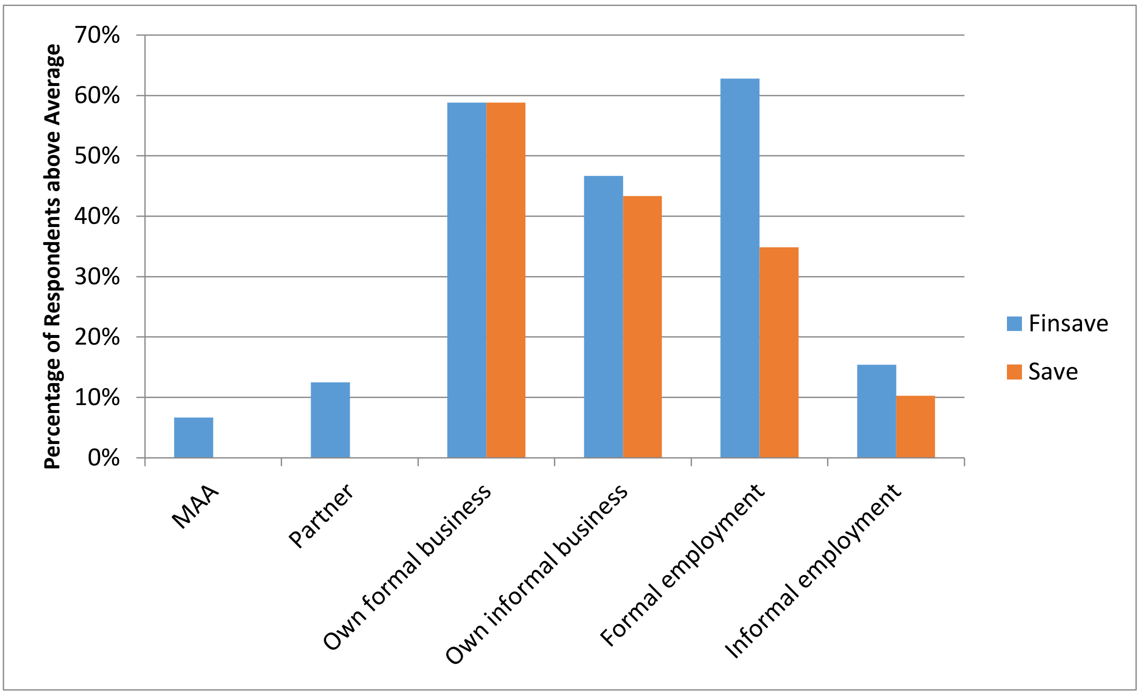
As for other demographic variables, age shows a similar pattern as before, with respondents in the 25 to 46 and 47 to 59 year brackets being over represented in the sample and having similar scores. From the point of view of categories and financial products that these respondents use for saving, no major differences could be found. Decision-making is also consistent with previous analysis, with those making all or more than half of decisions having higher marks than the rest. The only difference that could be seen in this variable is that those who make more than half of decisions and those who make all decisions are very close to each other in the *Save* and *Finsave* scores, especially in the *Save* score (30% and 33% respectively, have an above average *Save* score). In all probability, this improvement has to do with the overrepresentation of women in the group that makes more than half of decisions.

In regards to education, the *Save* and *Finsave* scores show a similar picture as previously shown in this document, with scores improving as people are more educated. However, the top two scorers in the *Finsave* score (11 points each) reported only completing secondary school. Likewise, in the *Save* score, the top mark (5 points) was mostly attained by people who had finished secondary and primary school, as well. Financial education does not seem to have a significant effect either in these scores. When analysing the categories of the *Save* score one by one, people with more financial education tend to use more common financial products (savings account and cooperative), as well as more pension products (a higher proportion of those with two or more financial education experiences have an obligatory pension (75%) relative to those with only one or no experiences (57%).

As for bank account type, as seen before in the knowledge scores, respondents with two accounts (MFA and another) or only another account fare better than the rest. By category, those who only have an MFA account save more in a piggy bank or savings group and access mostly voluntary pensions (BEPS voluntary pension-like government programme) instead of obligatory pensions, which often imply contractual employment. Those who have two accounts or only another account tend to save more in the formal financial system, both in common savings instruments, as well as obligatory pensions and time deposits.

Finally, in terms of income source and frequency/regularity, *Save* and *Finsave* scores show some differences with previous analysis. Those who have contractual employment comparatively fare better in the *Finsave* score and less so in the *Save* score, followed by those who own an informal business. However, when checking the data in terms of the people that had an above average score (above 5.1 for the *Finsave* score and 3 for the *Save* score), the perception changes. Figure 35 below shows this information according to the income source of respondents. Those who own a formal business fare better in this analysis, as a higher proportion of them are above average in each score. These respondents relatively access cooperatives more than the rest and also save more through assets. In other financial products, including time deposits, these three categories are similar.

Figure 35: Respondents above Average Score



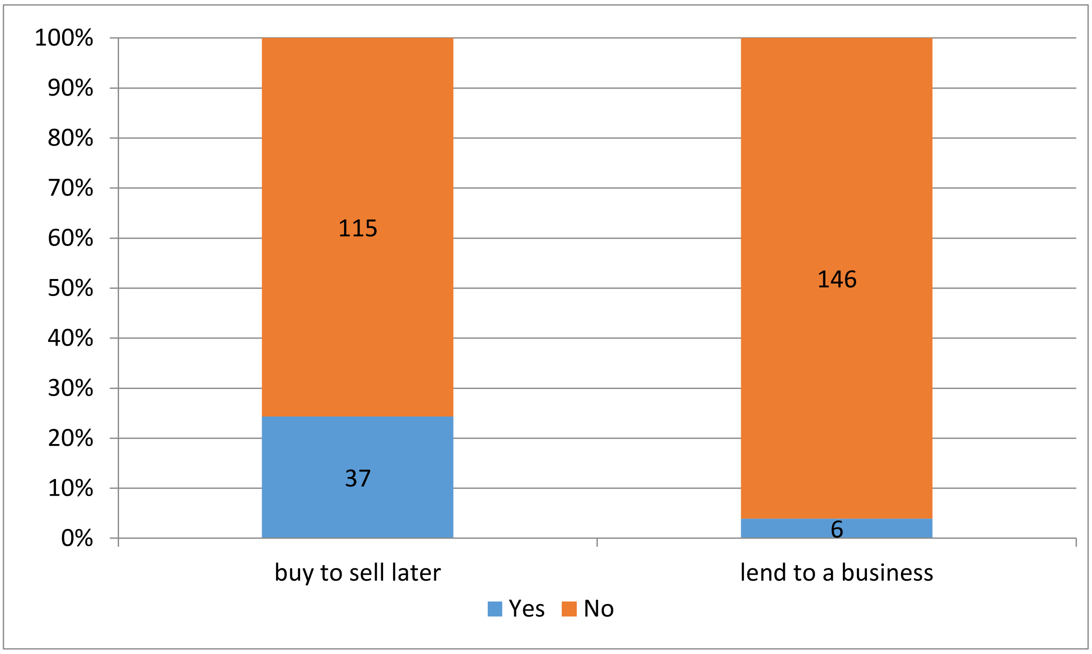
Frequency and regularity of income play an equal role as before, with those with more frequent income faring better than those without it. Nevertheless, those with frequent and *irregular* income fare better in the *Save* score where financial and non-financial savings are equated, compared to those with frequent but *regular* income. While in the *Finsave* score, the percentage of those above average is 47% in both groups, in the *Save* score, the percentage above the mean in the former group is 36.3%, compared to 20.6% in the latter. This difference could corroborate the previous finding that, depending on their regularity of income and income source, some respondents require a wider use of financial and non-financial instruments or means to save.

8.3.4. Other Results in Behaviour

Continuing in the order of the survey, the question that followed pertaining to financial behaviour intended to know if respondents had ever invested in financial products before (even before 12 months). This perspective did not add much information for analysis. Four new people reported having saved in time deposits in the past and nobody invested in sophisticated financial products. Also, the new option of “pyramids” (Ponzi schemes) that was added to the option list did not yield further insights, even though the pyramids crisis in Colombia, in 2008, hit the southern region of Colombia.

Then, as for the questions about buying assets to sell them later at a higher price or lending money to a friend’s business for a profit – which are included in the definition of investment – Figure 36 shows respondents’ experience in these informal financial activities. This question was deemed important to show any experience that could be similar to the behaviour of investors when buying and selling stocks and bonds. Respondents did not show a strong inclination to engage in these activities. Literature shows that low-income households frequently engage in lending from relatives or friends (Collins *et al* 2009), but normally it is without a profit and it is not for business. Furthermore, conversations with the survey’s enumerators also predicted a high response rate for buying and selling for gain, but the response was low compared to expectations.

Figure 36: Experience in Buying for Selling, and Lending



However, when crossing this data with the *Save* and *Finsave* scores, there seems to be a positive but low correlation between higher scores and the activities of buying or lending; the correlation is higher though, for the activity of buying to sell later. When comparing to the *Financial Knowledge* score, the correlation is quite high for buying assets, and feeble for lending. People who have a high score and buy and sell, also own a business, which testifies to their entrepreneurial capabilities. They also understand risk better than the rest. While 65% of respondents had full marks on the *Risk* score (i.e. they were correct in all four risk questions), 78% of people who bought and sold assets did.

It is important to analyse knowledge and behaviour together. Reddy *et al* (2013) found a positive correlation between these two, and that together, they "are important mediators in determining rates of financial inclusion" (Page 15). Figure 37 is a scatter graph of the *Financial Knowledge* and *Save* scores, and they show a positive tendency of high scores being correlated, though not so strong as the data are quite spread (the correlation coefficient is 0.5253). A closer relationship can be found in Figure 38 which shows the correlation between *Knowledge of Financial Products* and *Finsave* scores (the correlation coefficient is 0.664).

Figure 37: Knowledge and Save Scores

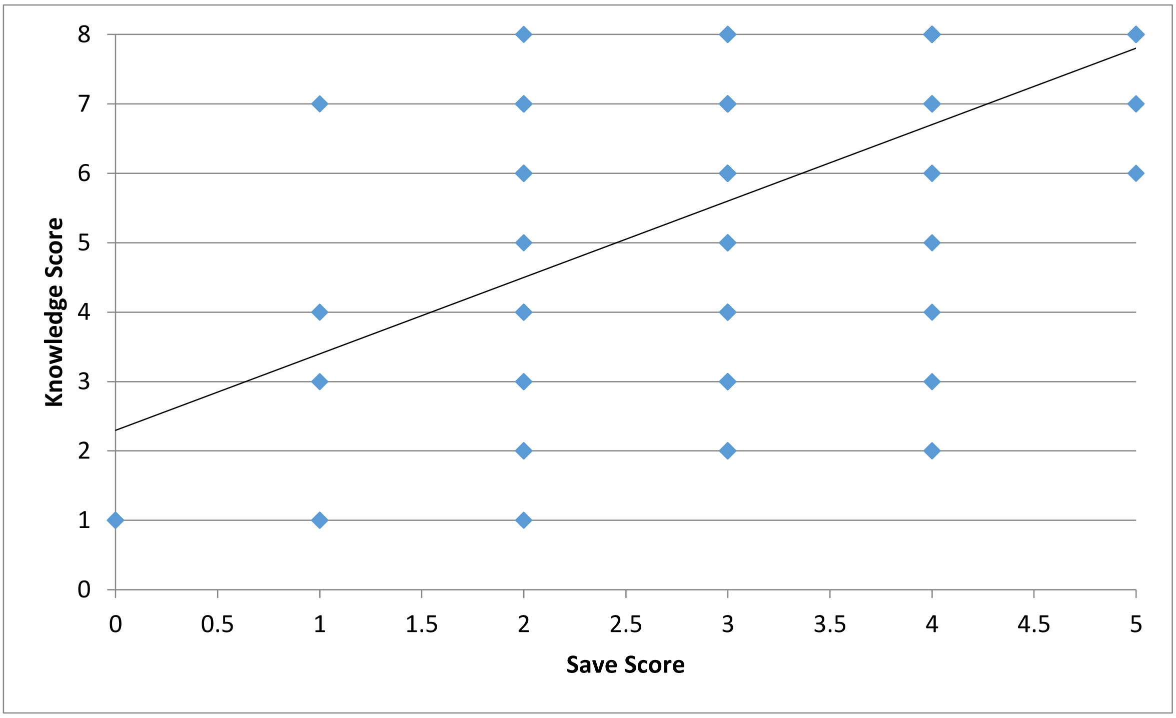
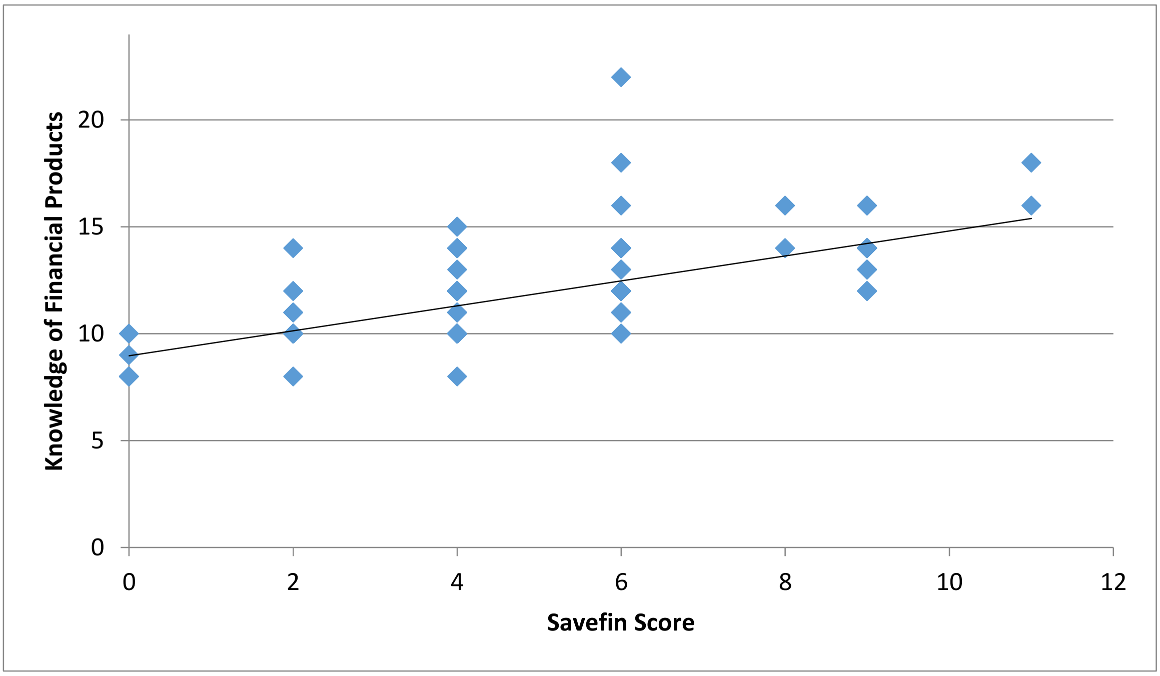


Figure 38: Knowledge of Financial Products and Savefin Score



8.4. Financial Capabilities – Attitudes

Table 6 shows respondent's opinion as to why they have not invested in financial products; time-deposit users' are not recorded in this table as they considered themselves that they had invested. As for the rest, the most recurrent answer is that they do not have any knowledge about them, followed by distrust in such instruments and an expectation that it requires too much capital. In contrast, people who had had a time-deposit expressed great satisfaction with the product; they explained it allowed them to plan, to get a small gain and to be disciplined. This is close to Collins *et al*´s (2009) recommendations about designing "pro-poor financial services"; these products must give people "structure", in terms of discipline and the chance to plan.

Table 6: Why Have Respondents Not Invested Before?

Opinion	**Respondents**	**Proportion**
Not interested	4	3%
No knowledge	47	31%
Too far from me	3	2%
No need	9	6%
Distrust	37	24%
Too many procedures	4	3%
Too expensive	2	1%
Not enough return	9	6%
Money can be lost	7	5%
Requires too much capital	28	18%

From the point of view of risk and time preference, the reader might remember two games in the last two questions of the survey. Both games gave six options to respondents for them to choose which they preferred within each game. The risk preference game reveals risk-taking and risk-averse personalities; and the time preference game exhibits impatient and patient personalities. The results show there are three kinds of people: those who stay in the same behaviour along the game; those who change from one to the other; and those who are erratic and go to and fro. Among the people who exhibit the second behaviour, there are some who go from behaviour A to B, and others who go the opposite way. This results in five different kinds of respondents in each game.

Starting with risk preference, Table 7 shows the results, according to the five different kinds of respondents explained before. A significant majority of people are risk averse (A), followed by almost a third of respondents who become risk-takers as options became riskier (D). It is thought that behaviours C, D and E imply a poor understanding of risk (or simply of the question), as it would not be rational for people to prefer an option of high risk and high income, when the same high income can be obtained from a low risk option. This will be analysed further.

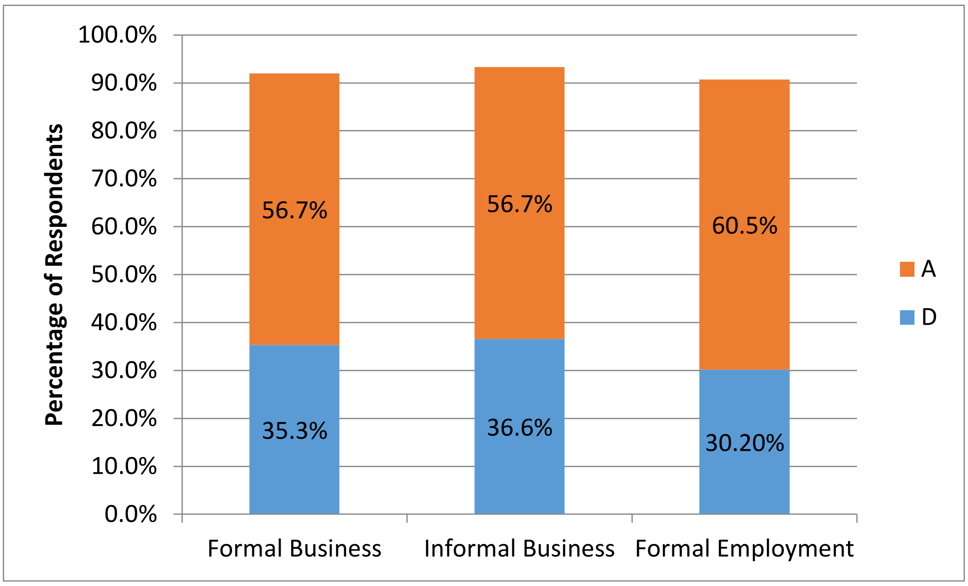
Table 7: Risk Preference Results

Type	Description	Number	Percentage
A – Risk Averse	Always takes safest option even when it has a minute gain.	92	60.5%
B – Turns Risk Averse	Starts being risk-taking and turns risk averse.	5	3.3%
C - Erratic	Starts in one option and moves to and fro.	3	2%
D – Turns Risk-Taking	Starts being risk averse and turns risk-taking.	48	31.6%
E – Risk-taking	Always takes riskiest option even when the safer option is high.	4	2.6%

In order to understand the high incidence of D respondents, this data was crossed with other variables. Surprisingly, these respondents had high marks in the *Risk* score and, comparatively, answered the risk and return question better than the rest. Also, the most educated people in the population were D or E, as well as a quarter and a third of the respondents who had completed primary and secondary studies, respectively. Furthermore, Atkinson and Messy (2012) showed that educated people have better mathematical skills. If this is the case, why are these skills not enough to understand this game?

When analysed by income source as shown in Figure 39, the proportion of respondents in the D group decreases in employed people (proportionately more educated), and is higher for those who have an informal business (proportionately more people who completed secondary school), followed by those with a formal business (proportionately more people who completed primary school). If seen from the point of view of scores though, the prevalence of D respondents seems to increase despite high *Financial Knowledge* and *Save* scores. The data analysis up to this point seems to indicate that income source is very important to account for financial capabilities, perhaps more so than expected variables like education or financial education. In this sense, how does/ what are the mechanisms through which – income source improves financial capabilities?

Figure 39: Risk Preference and Income Source



All in all, this data, as expected, shows the importance of risk for low-income segments of the population, as they are known to be highly risk averse. This points out to the need, as proposed by Collins *et al* (2009), to create financial products that can blend "discipline, security, flexibility and incentives" that are better suited to the poor's capacities (P. 98). Moreover, it is important to note that many of those who were risk averse in the risk preference game could not answer correctly the four questions about risk, which made their *Risk* score zero. Given their poor understanding of risk, from a consumer protection perspective it is positive that they are risk averse. However, it is important that consumer protection be more focused on those entrepreneurial personalities that want to take higher risks.

On the other hand, as for the time preference game, results are shown in Table 8 below. Almost half of respondents (49.3%) were assigned to the behaviour type E, patient people, because they were always willing to wait more time for a higher return (both 3-months and 6-months returns had equal certainty that they were going to be paid). Those who started being impatient and turned patient as returns were higher, type D, were 28.3%; followed by those who were always impatient (19.1%).

Table 8: Time Preference Results

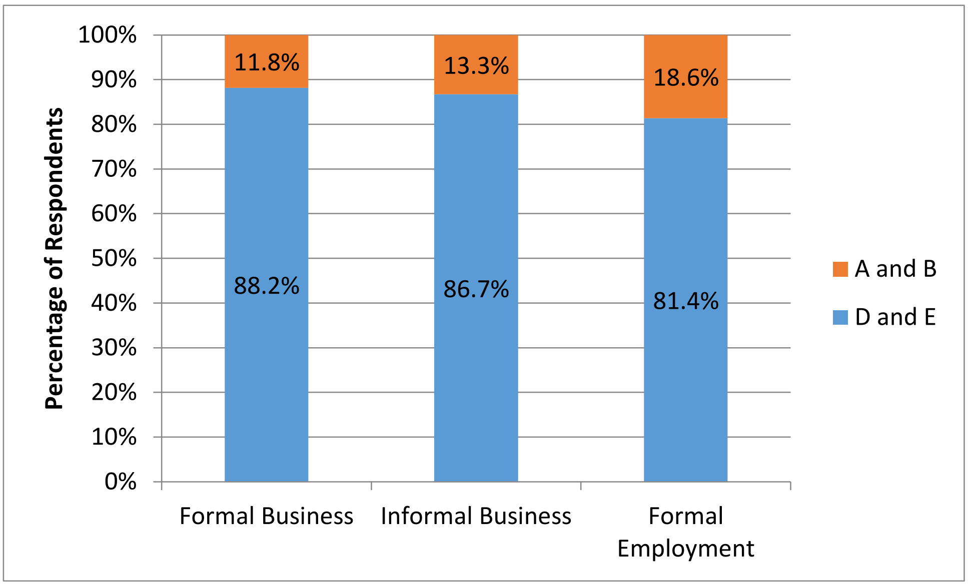
Type	Description	Number	Percentage
A – Impatient	Always takes 3-month option, even when 6-month option is double.	29	19.1%
B – Turns Impatient	Starts being patient (6-month option) and turns impatient.	0	0%
C – Erratic	Starts in one option and moves to and fro.	5	3.3%
D – Turns Patient	Starts being impatient (3-month) and turns patient.	43	28.3%
E – Patient	Always takes 6-month option, even when both are close.	75	49.3%

In contrast with the risk preference game, the time preference game shows more predictable results in terms of education, as more educated people are more patient. People with low educational attainment, due to their risk aversion, prefer to have returns sooner rather than later. In this sense, it is illustrative that nobody with behaviour A or B had experience with time deposits; only D and especially E type of people had. Similarly, more patient people had voluntary pensions (BEPS) and had experience in buying or lending to others for profit. When crossed with the scores of behaviour and knowledge, a more patient behaviour is correlated with higher scores.

Adding perspective from Reddy *et al* (2013), they studied Colombian people´s attitude towards the present and future by asking how much people agreed with the following statements: “I only focus on the short term”; “The future will take care of itself” and “I live more for the present day than tomorrow” (these questions were also asked by Atkinson and Messy (2012)). Over half of respondents agreed with these statements, which shows an impulsive and present-oriented attitude. Reddy *et al* also found that 46% of respondents had a planning horizon of less than a month, with half of them planning for less than a week. They found that people who were employed in the formal sector had a greater ability to plan, as well as people with higher income.

The present research could indicate something different. Figure 40 shows time preference depending on income source by grouping behaviours A and B on the one hand, and D and E on the other. This data indicates that people who own their formal business tend to be more patient or turn patient, compared to the other two income sources. Those more entrepreneurial personalities, though more prone to risk, are also more patient than the rest. On the other hand, this high proportion of D and E (all above 80%), when compared to the numbers in Table 14, exemplifies how vulnerable the people in other income sources are, as they contribute to lower the mean.

Figure 40: Time Preference and Income Source



8.5. Overall Findings

Low-income people have many financial capabilities from the point of view of knowledge, behaviour and attitudes, though these capabilities are not geared towards investment in financial products. Also, how capable people are, depends on factors like education, sex, income source, and others. However, even though these factors appear to be indicative of a person's financial capabilities; they are not determining. In this respect, it was interesting to witness from the data the emergence of a group of entrepreneurial women who have their own business, with high financial knowledge and proficient use of the financial system to their advantage. These women achieved this despite having completed only primary or secondary school, against all odds.

The analysis of demographic data revealed that respondents were representative of Colombia as a whole, in terms of education. Most respondents were women with only primary of secondary schooling. On the other hand, financial education experience was high among this population (contrasting with Colombia's population as a whole, which has low access to related programmes), because they are mainly users of the MFA programme, which offers access to such kind of trainings. Respondents were also highly banked (98%), with most people having their MFA account and another (people with no account were female). People who took LISTA and MAA trainings tended to have two bank accounts.

In line with other authors' findings, most people in this survey considered they made most financial decisions at home or they participated frequently in decision-making. Also similar to literature, this research depicted Colombia's high informality in employment and business, as most people are working in an informal way (especially employment without a contract). Also, 15% of respondents, all women, depended on the MFA stipend or their partner as their main source of income. From a gender perspective, it is important to note that more than half of males were employed with a contract, while only 23% of females were in this less vulnerable condition.

Most people reported having frequent income, with slightly more than half of them saying it was regular (same amount). While high frequency and regularity is associated with CCT recipients (MFA users) and contractual employment, high frequency and irregularity is linked to entrepreneurship and informal employment (which is the case of most respondents). Infrequency was only mentioned for income provided by a partner. Respondents in this category also tend to make fewer than half of financial decisions at home, and tend to have an MFA account only or no account; therefore, they constitute a vulnerable group.

After revealing a few demographic characteristics of respondents, the analysis of their capabilities was carried out. From the point of view of knowledge, it was necessary to understand their grasp of basic concepts of finance like inflation, interest rate, return and risk; and then to discover how well they know different financial products. This approach is not usual in literature, so there was not so much information to guide data analysis. It was expected that people would have a poor understanding of these topics and that just a few would have any knowledge about investment products and even time deposits.

Results were surprising in this sense. Most people understand inflation and interest rate, very much like in the rest of the country. Given that this segment of the population is lower-income, these good results could be an indication that financial education has had a positive effect in their knowledge. On the other hand, sex and education are influencing differently the knowledge of these topics. More men than women are answering the questions correctly and interestingly, education has no effect in the inflation question but it is quite determining in the interest rate question with 41% of people who attended primary school answering correctly versus 78% of those who completed secondary school.

Risk also had higher than expected results with 65% of people responding correctly to all for questions about risk, return and diversification, in line with international research. Once more, gender and education marked a difference in understanding of this core topic of finance, especially the latter, as the passing rate dropped to 41% for those who completed primary school, compared to 72% for secondary school and higher for the rest. Financial education seemed to have an effect in better scores as well but a control group is not big enough to draw conclusive remarks on this topic, similar to the case with the questions about inflation and interest rate.

As for knowledge of financial products themselves, it is poor (non-existent) for investment products (stocks, bonds, collective portfolios), but remarkably good for savings accounts, which is at odds with literature. Time deposits, which were considered in the definitions as a middle product between savings and investment (because they require patience in waiting for their maturity period and they have a higher yield), were relatively well known by a few respondents (15% of them self-reported good knowledge). Men knew more about financial products in general, despite women having more financial education. However, women knew more about specific products like currencies (because they receive remittances or they have had an informal foreign exchange business) and BEPS (voluntary pensions).

These results start to indicate that life experience contributes largely to financial capabilities. The next results contribute to this hypothesis. People who had only an MFA account or no account (mostly women) have less knowledge of financial products than those with two accounts or another account (this last group was mostly men). Respondents with only an MFA or no account seem to be vulnerable in a number of ways: a third of them depend on their partner for income and they have up to secondary education; they also tend to make fewer than half of financial decisions.

More elucidating though is the analysis of income source, as well as its frequency and regularity, in terms of knowledge of financial products. The best mean score was found in people who own a formal business (higher proportion of primary schooling), but the highest scores were achieved by those who own an informal business (mostly finished secondary school). These groups are composed of women mainly and they tend to receive frequent but irregular income; they also have more knowledge of cooperatives, as they can use them for savings and credit. These results were unexpected and they point out to an entrepreneurial group of women who are not very highly educated but have a good knowledge of financial products.

On the other hand, more educated people tended to be men and to work for others either formally or informally with a frequent income; and their mean knowledge of financial products was slightly lower than entrepreneurs. However, their knowledge of time deposits was double that of people who own a business; and their knowledge of pensions was also higher. Also, when checking the *Financial Knowledge* score to see overall knowledge of finance, people who were formally employed had better results compared with the other sources of income.

Moving on to the category of financial behaviour, data analysis confirmed that capabilities in knowledge were mirrored in behaviour, with interesting exceptions. Quite in contrast with other research, respondents reported a very high use of financial products and non-financial mechanisms to save, especially savings accounts, piggy banks (saving at home) and pensions. The *Finsave* score revealed that 55% of respondents save with up to two financial products, 40% with more than two, and 5% do not save with financial products. Furthermore, the *Save* score showed that when non-financial methods are included, the methods for savings (taken as categories) increase to three on average. This exemplifies a diversified portfolio for savings as shown in other research like Collins *et al*'s, in spite of their inability to accumulate capital.

Saving behaviour is stronger in men than women, but interestingly, two women are the top scorers of the *Finsave* score. People with higher decision-making power as well as higher knowledge of finance score higher in both behaviour scores. Respondents who had more financial education experience than others tend to use financial products, especially savings accounts, cooperatives and pensions. However, to draw conclusions on the effect of financial education on behaviour, more observations are required. Account type was also an interesting variable as people with an MFA account only, tended save in their piggy bank and BEPS (voluntary pension); whereas people with two bank accounts or just another saved in a savings account and obligatory pensions, and a fewer number in time deposits.

As for income source, it has a different effect on each of the behaviour scores, which is unexpected when coming from the analysis of the knowledge scores. This data shows that those with contractual employment have a higher *Finsave* score, followed by those who own an informal business; this is almost opposite to the data on knowledge of financial products. Nonetheless, in the *Save* score, people who own a formal business fare better than the rest. This is confirmed when only the top marks in each score are taken into account: having a formal business is related to better scores. Also, this entrepreneurial group accesses cooperatives more as a way of saving, which concurs with the knowledge data. Finally, this group also buys and sells assets for extra income more frequently and tend to understand risk better than the rest (which is evident from their wish to diversify their portfolio).

As for attitudes, which are the last category in financial capabilities, they reveal that people who have used time deposits in the past are quite satisfied with their experience and many of them have repeated it. On the other hand, those that have not, expressed that they have not invested before for lack of knowledge (31%), distrust (24%) and high capital requirements (18%). Respondents also showed that many of them were risk-averse (60.5%), which is consistent with literature about risk aversion in low-income households. At the same time, entrepreneurial people with formal and informal businesses tended to take more risks than the rest.

Respondents also displayed their proclivity to be patient or turn patient when offered incentives (77.6%), though reality could easily offer a different picture, since research in Colombia shows they tend to be impulsive and not able to plan more than a month ahead. Like in other aspects of financial capabilities, time preference was positively affected by higher education, but at the same time, people with their own business (mostly primary and secondary schooling) were more patient than contractual employees (relatively more educated). Overall, data on financial attitudes reveals that that the entrepreneurial group is more risk-taking than the rest and more patient as well.

9. CONCLUSIONS

Results from the survey and literature review reveal that financial capabilities are generally low in the target population, but in some cases, relatively higher financial capabilities were found. Females were found to be disadvantaged compared to men; and income source, frequency and regularity played a significant role in financial capabilities. Also, having a certain type of bank account and the degree of decision-making power in the household had influence in their financial skills. In contrast, variables that were expected to have a bigger impact on financial capabilities were, in actuality, more nuanced. Such variables were age and financial education; they seem to indicate some impact but more research is required.

Differences in financial capabilities between men and women were interesting to see especially when their educational attainment was very close. Results indicate that these differences come more from men and women's experiences as human beings according to their genders. The lowest scores were found in women who are disempowered: low decision-making capacity, partner-dependent, infrequent income and no bank account or only MFA account. Interestingly, though, high scores were found in women who were found to be entrepreneurial: high use of financial instruments and diversified portfolio (financial and non-financial), frequent and irregular income from their own business, with primary and secondary schooling.

Overall, a small group of people from this sample could invest in financial products. This group has already started with time deposits (as a middle ground between savings and investments), and they have relatively good knowledge of financial products and basic concepts of finance. They are a diverse group and comparatively less vulnerable economically: some pursued further studies after secondary school and have contractual employment, especially men; and others completed primary and secondary school and are highly entrepreneurial, especially women. However, more information about the magnitude of savings of this population would be needed to make for a more compelling case. Also, investment in financial products is much more complex than what has been shown here, so they would need special training.

The fact that financial inclusion, as understood by policymakers and practitioners, is limited to savings, credit and insurance, isolates investment and makes it unnecessary for people to better understand its core concepts, such as risk. This is detrimental to their financial capabilities. Also, excluding investment does not incentivise the financial sector to design financial instruments that could be a better fit for this low-income population. As has been proven, this segment does save, but not necessarily to create and accumulate capital. Partly, a reason for this is the unavailability of financial products that could ease the act of investing. The more capable groups of the population could benefit from this; and this would give signals to the market and policymakers to enhance their efforts in that direction and so reach less capable individuals.

Indeed, financial capabilities of low-income people must be strengthened. Most people's financial capabilities are not high enough to understand investment and act on it. Financial inclusion policies are helping, but among policymakers and practitioners, the topic of investment is not being pursued. In part, there is a concern that this segment of the population is still at an early stage of financial experience and thus, focus must be given to simple products and knowledge. Furthermore, they are not likely to acquire investment products, due to high barriers; and more accessible products for investment are not available in the formal financial system.

Also, in financial education trainings, there is only time and money to supply the most relevant information that people will be able to use. Furthermore, to use scarce resources in the promotion of simple products that can be readily appropriated, like mobile banking, is more efficient in terms of financial inclusion than to promote investment products (which by Colombian law cannot be promoted; investors have to look for them). In third place, with consumer protection in mind, it seems better to save securely in a bank account, with little or no gain, but almost no risk.

These arguments are reasonable, but at the same time, reality demonstrates that this segment of the population already needs education for financial investment. This research found that an unexpectedly high proportion of the target population has had experience in time deposits and obligatory pensions. Furthermore, the experience of Ecopetrol, the Colombian oil company, brought thousands of Colombians closer to share-ownership, for the first time. To the extent of available information, this was done without discussion on financial inclusion. Also, the experience of pyramids or Ponzi schemes in the country shows a great lack of knowledge about risk and return (or a good knowledge but opportunistic behaviour).

The fact that more sophisticated finance is not included in financial inclusion can be seen also in the lack of data about it, especially in international documents. In the case of Colombia, only two publications (Reddy *et al* 2013 and Ipsos 2015) mention time deposits and investments. However, neither of them data analysed this data, especially in terms of what segment of the population has acquired these instruments. Pensions are not included either, although an important proportion of them are invested in financial markets. In contrast, the present research shows that time deposits are not rare, as originally expected, and could therefore be monitored to grasp better the portfolios of today's savers.

Financial inclusion is about bringing down barriers for more people to take advantage of the formal financial system; and an important tool to do that is information. Time deposits and financial investment products should be monitored more closely to understand the barriers they impose and make them accessible and adequate for low-income households. In the financial system, investment should not be only for those with money; this is an unnecessary separation due to social class prejudice. Certainly, all products cannot be available for all due to different capital magnitudes, but investment as a category should be opened.

Through financial inclusion, the means to foment a more adequate environment for low-income people to invest and accumulate capital can be devised by policymakers and formal financial actors. Going back to the comments in the introduction about *inclusive finance*, bringing in investment could be a move in this direction. Finance needs to serve society better. This requires a new paradigm: one where finance is really a tool to achieve a more sustainable and equitable society; and not the other way around.

10. POLICY IMPLICATIONS AND FURTHER RESEARCH

0. Inclusion of a Category of Investment in Financial Inclusion.

As it was discussed, financial inclusion can start contemplating investment in its categories, along other areas of finance like savings, payments, credit and insurance. This could have a number of effects. First, time deposits and investment products would be monitored from the point of view of financial inclusion, which means that the barriers they impose to low-income people would be under scrutiny of society as a whole. This would incentivise the lowering of those barriers and the creation or adjustment of investment products by formal finance entities and others as may be determined. The beginning of the 21st Century has brought *fintech*, which has many advantages to broaden physical access to finance (access can be done from home or a mobile phone), lower costs and others.

Another effect could be to enhance financial inclusion programmes to take into account long-term savings, especially through time deposits. This research showed that a few respondents, many more than expected, had experience with time deposits. Their experience was positive in general: they appreciated that having a time deposit made them disciplined and that they could link it to a purpose like a child's education. They also liked that once it matured, they had an option to renew it for another period. In market conditions, time deposits can be acquired for different maturity periods and the capital required is relatively not high. Through financial inclusion policy, especially with the involvement of formal financial entities, this product could be enhanced for this segment of the population.

Consumer protection and regulation would need to be upgraded also, in order to safeguard financial stability. Low-income people were found to be highly risk averse, however, risk-taking personalities were found among those who had their own business. It is important that consumer protection be more focused on those entrepreneurial personalities that want to take higher risks, as well as on other personalities that may be deceived for lack of financial capabilities.

1. Investment Product Design.

The focus of this research was not to study supply of investment products, but its demand. Research has been done by authors cited in this document, like Collins *et al* (2009), as well as others like C.K. Prahalad in his famous text “The Fortune at the Bottom of the Pyramid”. Efforts were also shown from the private sector like UBS Bank in Switzerland and the contest it organised, in which the winner was a product for long-term savings for low-income people. *Fintech* can have an important role in creating and adjusting investment products for this segment of the population, as it is already doing through instruments like crowdfunding and P2P lending. Interestingly, all over the world, regulation is also catching up so they can be safer.

From literature on product design, and from conversations with Mr. Takao Takahashi, Investment Officer at the International Finance Corporation - IFC, it is important that product design answers to a few needs by low-income population in general: securing the principal amount; a reasonable period to lose liquidity while the product matures; low capital requirement; easy exit strategy, etc. It is also relevant to keep in mind that these needs are formulated from the perspective of people with higher financial capabilities, like the more educated respondents of this research or the entrepreneurial group that emerged.

2. More research on time deposits and pensions on this segment of the population.

As it was explained before, time deposits and investment products are not talked about in most research on financial inclusion; and if they are, the information is not analysed. The present research shows that a few people had access to time deposits, significantly more than expected. The reason why people choose time deposits should be studied more in depth to contribute further to long-term savings by low-income population. Also, which maturity periods they choose and the amounts they save would be a useful addition to this data. Banks hold this information; so financial regulators could ask for it. In the case of Colombia, the report on financial inclusion by SFC would be enhanced with this information, as well as a more in depth look into what are the socio-economic of people who acquire time deposits.

Similarly, pensions were very popular among respondents in this research, in stark contrast with literature and even country-wide data in Colombia. Whether Tuluá is unique in terms of pensions could not be determined with this research, so a deeper look needs to be taken. In conversations with the enumerators that performed the survey in Tuluá, they explained that many people save through the public pension fund *Colpensiones*, which subsidises more than half of their monthly payment. This incentive, unparalleled by the market, seems to increase the attractiveness of saving through pensions by low-income population. It would be relevant to study this more deeply in the whole country.

3. Enhancement of the present research.

This research found that income source played an important role in financial capabilities. However, the mechanisms through which it does are unclear, as well as other behavioural characteristics of respondents, especially those recognised as the entrepreneurial group. In second place, the supply side could be studied more in depth to understand better their perspective and what role they could play in providing financial products for this segment. The same with regulators, their vision is very important in finance, especially given the relatively lower financial capabilities of this segment of the population.

This research lacked a control group and a broader sample, in terms of other locations which could have been chosen to draw more conclusions at a national level. This would have been important to generalise the results about penetration of time deposits and pensions, and not only localise them in Tuluá. Also, variables like age and financial education, which in literature play a differentiating role in financial capabilities, could not be properly studied for lack of a control group and a broader base of people between 18 and 24 years old.

Furthermore, when doing the data analysis, it was realised that the information on financial behaviour and attitudes was not as robust as the information on knowledge. It was important to ask more questions about behaviours that mirror investment behaviours, such as buying a house or animals. Also, during the mid-term presentation of this research, on December 10th 2015, Ms. Aya Suzuki, Professor at The University of Tokyo, suggested to take an approach from the point of view of lottery as investment. At that moment, the way to address that idea was not found. However, while writing the conclusion, it was thought that a question like: "How often do you play the lottery and win", could have been asked; followed by a game where people realise that through investment they are also playing their money, but with higher probability compared to lottery, and lower chance of losing their principal.

4. Considerations on a changing world.

Another consideration for policy and research is about the current state of world affairs and the growth-obsessed paradigm the world is imbued in. With financial crisis lingering; slow growth in many countries, developed and developing; and even degrowth with ageing and shrinking populations, can capital increase sustainably? If it can, then there is a case for what has been discussed in this document, with equitable sharing of the growth of capital. However, if it cannot, how can human institutions adapt to such colossal shifts with an improvement in equality?

11. BIBLIOGRAPHY

Alliance for Financial Inclusion (AFI). (2010). *La Medición de la Inclusión Financiera para Entes Reguladores: Diseño e Implementación de Encuestas*, Documento sobre Políticas.

Alvaredo, Facundo and Londoño, Juliana. (2013). “High incomes and personal taxation in a developing economy: Colombia 1993-2010”, Commitment to Equity Working Paper, No. 12, March 2013.

Ariza, Miller; Reyes, Elsa y Velasco, Luisa. (2012). “Microbonos. Una alternativa de inversión para los estratos uno, dos y tres”, Criterio Libre, Año 10, No. 17, Julio – Diciembre, P. 73-88.

Ashraf, Nava; Karlan, Dean and Yin, Wesley. (2006). “Household decision making and savings impacts: further evidence from a commitment savings product in the Philippines”, Center Discussion Paper No. 939, Yale University, June.

Atkinson, Adele and Messy, Flore-Anne. (2012). “Measuring financial literacy: results of the OECD / International Network on Financial Education (INFE) pilot study”, OECD Working Papers on Finance, Insurance and Private Pensions, No. 15, OECD Publishing.

Atkinson, Adele; Messy, Flore-Anne; Rabinovich, Lila and Yoong, Joanne. (2014). “Research and literature on financial education for log-term savings and investments”, OECD Working Papers on Finance, Insurance and Private Pensions, No. 39, OECD Publishing.

Atkinson, Anthony. (2015*). Inequality: What Can Be Done?*, Cambridge: Harvard University Press

Caballero, Carlos; Urrutia, Miguel and Lizarazo, Diana Lorena. (2006). “Desarrollo financiero y desarrollo económico en Colombia”, Fedesarrollo, Bogotá - Colombia

Cárdenas, Mauricio; Patiño, Carlos Ignacio and Sandoval, Carlos Eduardo. (2006). “Contribución del sistema financiero al crecimiento y la estabilidad”, Fedesarrollo, Bogotá – Colombia.

Center for Financial Inclusion. (2015). “Aging and Financial Inclusion: An Opportunity”, HelpAge International and the Center for Financial Inclusion at Accion, February 2015.

Credit Suisse. (2015). *Global Wealth Databook*, Zurich: Credit Suisse Group AG.

Decree 2949 of 2010, Ministry of Finance and Credit of Colombia.

Demirguc-Kunt, Asli; Klapper, Leora; Singer, Dorothe and Van Oudheusden, Peter. (2015). “The Global Findex Database 2014: Measuring Financial Inclusion around the World”, Policy Research Working Paper, No. 7255, World Bank.

The Economist Intelligence Unit (EIU). (2015). Global Microscope 2015: *The Enabling Environment for Financial Inclusion*, Sponsored by MIF/IDB, CAF, Accion and the Metlife Foundation. EIU, New York.

Erturk, Ismail; Froud, Julie; Johal, Sukhdev; Leaver, Adam; Williams, Karel. (2007). “The democratization of finance? Promises, outcomes and conditions”, in Review of International Political Economy, Vol. 14, No. 4, P. 553-575.

Estrin, Saul and Le Grand, Julian. (1989). “Marlet Socialism”, in Julian Le Grand and Saul Estrin, *Market Socialism*, Clarendon Press – Oxford.

Fasecolda. (2008). Microseguros en Colombia, Fasecolda and Fundaseg.

Freedman, Stephen. (2015). “To integrate or to include: approaches to sustainable investing”, UBS Third Quarter Report 2015, UBS.

Froud, Julie; Haslam, Colin; Johal, Sukhdev; Williams, Karel. (2001). "Financialisation and the coupon pool", Gestão & Produção, Vol.8, No.3, P. 271-288

Fundación E-valuar. (2013). “Sistematización de proyectos de educación financiera e incentivos para las mujeres de bajos ingresos del área rural de Colombia”, Final Report, commissioned by Fundación Capital, May 2013.

Fundación Capital. (2013). “Resumen de Resultados y Aprendizajes del Proyecto Piloto Colombia LISTA”

Fundación Capital (2014). “Analysis of the LISTA App Data”, presentation in power point slides, *unpublished data*.

Girma, Sourafel and Shortland, Anja. (2008). "The political economy of financial development", Oxford Economic Papers 60, Oxford University Press, 567–596.

Hannig. A., and S. Jansen. (2010). “Financial inclusion and financial stability: current policy issues”, ADBI Working Paper 259, Asian Development Bank Paper.

Investopedia. “What is an investment”. Retrieved on April 12, 2016 from: http://www.investopedia.com/terms/i/investment.asp?utm_term=investment&utm_content=sem-unp&utm_medium=organic&utm_source=&utm_campaign=&ad=&an=&am=&o=40186&askid=&l=dir&qsrc=999&qo=investopediaSiteSearch

Ipsos Napoleon Franco. (2015). “Inclusión financiera en Colombia: Estudio de Demanda para Analizar la Inclusión Financiera en Colombia – Informe de Resultados”, Sponsored by Superintendencia Financiera de Colombia and Banca de las Oportunidades.

Jain, Amit; Zubenko, Olga and Carotenuto, George. (2014). “A progressive approach to financial inclusion”, Global Insights: Advancing Commerce, MasterCard Foundation, October.

Lapavitsas, Costas. (2009). "Financialised capitalism: crisis and financial expropriation", Historical Materialism, No. 17, P. 114–148.

Mishkin, Frederick S. (2007). *The Economics of Money, Banking and Financial Markets*, 8th edition, Pearson/Addison Wesley.

Mitchell, Olivia and Utkus, Stephen. (2003). “Lessons from Behavioral Finance for Retirement Plan Design”, Pension Research Council Working Paper, The Wharton School, University of Pennsylvania.

Mohan, Rakesh. (2008). “Economic growth, financial deepening, and financial inclusion”, in Dynamics of Indian Banking: Views and Vistas, edited by Manoranjan Sharma, 2008, Atlantic Publishers.

Mongiovi, Gary. (2015). "Piketty on Capitalism and Inequality: A Radical Economics Perspective", Review of Radical Political Economics, December, Vol. 47 No. 4.

Morgan, Glenn and Takahashi, Yuko. (2002). “Shareholder value in the Japanese context”, Competition & Change, Routledge, Vol. 6 (2), P. 169-191

Morgan, Peter and Pontines, Victor. (2014). “Financial stability and financial inclusion”, ADBI Working Paper Series, No. 488, Asian Development Bank Institute.

Nesta. (2014). *Understanding Alternative Finance*, London: Nesta and University of Cambridge.

Oxfam. (2016). “An economy for the 1%”, Oxfam Briefing Paper No. 210, January 18th, 2016.

Rajan, Raghuram and Zingales, Luigi. (2003). “The great reversals: the politics of financial development in the twentieth century”, Journal of Financial Economics, No. 69, 5–50.

Reddy, Rekha; Bruhn, Miriam; Tan, Congyan. 2013. “Financial capability in Colombia: results from a national survey on financial behaviors, attitudes, and knowledge”. Washington, DC: World Bank.

Sahay, Ratna; Cihak, Martin; N’Diaye, Papa and Barajas, Adolfo. (2015). “Rethinking financial deepening: stability and growth in emerging markets”, IMF Staff Discussion Note, International Monetary Fund, May 2015.

Salazar, Natalia; Becerra, Alejandro and Wills, Daniel. (2011). “Impact of capital markets reforms in Colombia´s economic development”, The World Bank – IFC, December 2011.

Superintendencia Financiera de Colombia (SFC). (2015). Reporte de Inclusion Financiera 2014.

Tassara, Carlo (ed). (2015). “Protección social y lucha contra la pobreza en Brasil, Colombia y Chile. ¿graduarse de los PTC o salir de la pobreza?”, Programa EuroSocial, Coleccion Estudios No. 17.

Toporowski, Jan. (2002). *The End of Finance: Capital Market Inflation, Financial Derivatives and Pension Fund Capitalism*, London: Routledge.

UBS. (June 2016). “UBS Grand Challenge: Banking for a Better Future”. Retrieved on July 5, 2016 from: https://www.ubs.com/microsites/grand-challenge/en/home.html?hootPostID=d48fd489d24592a32583043a34c3a804#challenge

World Bank. (1993). *The East Asian Miracle: Economic Growth and Public Policy*, World Bank Policy Research Results, Washington, DC: World Bank

World Bank. (2013). “Crowdfunding Potential for the Developing World”, infoDev, Finance and Private Sector Development Department, Washington DC: World Bank.

World Bank. (2015). *The Little Data Book on Financial Inclusion 2015*, Washington, DC: World Bank.

12. ANNEXES

Annex 1: Design of the Survey

Basic Demographic Characteristics

Questions	**Background / Purpose / Various Aspects**
5. What is your name?	To identify each individual. The national identity number, used commonly in governmental programme, was deemed unnecessary in this study, because it is not official and to not generate distrust and discomfort in respondents.
1. What is your gender? ___ Male ___ Female ___ Other	This question will be used to determine any differences between men and women, as the literature shows. Most respondents are expected to be women as they are the MFA programme's primary target population.
2. What is your age?	Enumerators have been asked to only interview people who are 15 years old and above. This makes the data comparable to that found for Colombia in the World Bank´s Global Financial Inclusion Database (World Bank 2015). It is expected that most respondents will be aged 25 to 40 years old. Enumerators have been advised to survey one person per household (mother or father), unless one child above 15 years old is present, in which case up to two people per household can be surveyed.
3. What is the highest level of education you have completed? ___ Primary school ___ Secondary school ___ Technical ___ Undergraduate ___ Postgraduate	Atkinson and Messy (2012) show that there is a positive relationship between the level of education and financial literacy. The level of education expected from most MFA respondents, though, is up to secondary school.

Participation in Government Programmes

Questions	Background / Purpose / Various Aspects
4. Have you participated in any of the following financial education programmes before? ___ Mujeres Ahorradoras en Acción ___ LISTA ___ In primary or secondary school ___ Others: __________ ___ None	One of the reasons for selecting the survey location is because the municipality of Tuluá has been targeted before with financial education programmes like "Mujeres Ahorradoras en Acción" (Women Savers in Action) and "LISTA" (financial education through digital instruments). This should imply higher financial capabilities in the area, and therefore a higher chance of observing diversity in the use of formal financial instruments.
5. Do you or someone you live with, receive/have received money from Más Familias en Acción (MFA) or Familias en Acción (FA)? ___ I receive(d) money from MFA ___ I live with someone who receives(d) it ___ No	It is necessary to ascertain that the respondents are the target population, i.e. low income households. This population is being defined through the focalising mechanisms defined by the Colombian government for CCTs. Therefore, the target population of the survey would be only CCT recipients or partners and children with whom they live.

Financial and Income Information

Questions	Background / Purpose / Various Aspects
6. Do you have a bank account/ mobile account? ___ MFA only ___ MFA and another ___ Another ___ No ___ I don't know	Since respondents will all have some connection to the MFA programme, it is expected that most of them will have a bank account or mobile account linked to that programme. Given that opening the MFA account is not a voluntary action, it is important to ask whether they have another one. Fundacion Capital found that most MFA beneficiaries do not use their programme accounts to save money, as they speculate that the

	government can expel them if they are able to save money. For this reason, it is important to ask for other accounts.
7. Do you make most decisions about how to manage money at home? ___ All ___ More than half ___ Fewer than half ___ None ___ I don't know	Decision-making capacity and financial power are important in order to know whether the opinions expressed by the respondents could have an actual impact in the household. It would be expected that most respondents make most financial decisions.
8. Which situation best describes how you get your income? ___ I work for someone under a legal contract (formal) ___ I work for someone but I don't have a contract (informal) ___ I have my own business and it's registered (formal) ___ I have my own business and it is not registered (informal) ___ Más Familias en Acción ___ My partner ___ Other source: ______________ ___ Does not answer	Ertuk et al (2007) finds that predictability of income is necessary for making investments and financial decisions in general. Predictability is given by elements like the existence of a contract between employers and employees, as well as by a certain regularity in the amount received and the frequency. Formal (contractual) employment for example implies that respondents have a regular and frequent income (same amount and once a month) and have a pensions fund. This could further mean that they have a more diversified financial portfolio. According to Ipsos' 2015 study on demand for financial inclusion by the Financial Superintendence of Colombia and the central bank, in the Pacific region of Colombia (where the case study is set), 56% of respondents have a stable and periodic income. Respondents were taken from all social strata, not just BOP as the present research.
9. From the following options, which best describes your income? ___ Frequent and the same amount ___ Frequent and different amount ___ Not frequent and similar amounts ___ Not frequent and the amount changes	

Questions on Financial Capabilities – Knowledge

Questions	Background / Purpose / Various Aspects
10. Imagine that you get a gift of \$50.000 and you put it in the drawer for 12 months. After one year, how much could you buy with that amount? ___ the same as today ___ more than today ___ less than today ___ I don't know	The topics of these questions are inflation and interest rate, which are central to understanding the value of money. The first question is about understanding the concept of "time-value of money" and inflation itself. The second question combines inflation and interest rate. The analysis is meant to show the extent to which people understand that when bank account interest rates are lower than inflation, their money is losing its value. Therefore, accessing higher return instruments would be necessary to preserve the value of money in time and increase it, if possible. In the INFE pilot evaluation study (Atkinson and Messy 2012), mathematical ability like division, as well as simple and compound interest, were also included. The "time-value of money" question was taken from this study; but it was an adaptation of the way the question was asked in Norway during the study, as it seemed easier to understand. The study in Colombia (Reddy *et al* 2013) uses some of these questions also, in various regions, including the one where the case study is. According to their study, 35% of Colombians could calculate principle and interest and 26% understood compound interest rate. The INFE pilot evaluation study (Atkinson and Messy 2012 and Reddy *et al* 2013) ask about interest rate in mathematical terms. Given the low educational level of the target population, this question is not deemed worthwhile. Therefore, to comprehend their understanding of the concept of
11. Imagine that you save those \$50,000 in a bank. If you could choose the interest rate, would you prefer it to be: ___ higher than inflation ___ the same as inflation ___ lower than inflation ___ I don't know	

<table>
<tr><td></td><td>interest rate in practical terms, the second question was devised. This question also uses the word “inflation” on purpose, in order to measure respondents’ grasp on the concept. Other studies prefer not to use abstract concepts like this one, but since it is connected to the previous question, it may be easily understandable.</td></tr>
<tr><td>12. An investment with a high return is likely to be high risk.
___ True
___ False
___ Don't know</td><td rowspan="2">The topics of these questions include diversification, risk and return. These concepts are central to the act of investing. These questions are the same as the INFE pilot evaluation study (Atkinson and Messy 2012) but Reddy, Bruhn and Tan (2013) did not use these questions for their study in Colombia.

The second question (about risk reduction) was also simplified. In the original study it was: "It is usually possible to reduce the risk of investing in the stock market by investing in a variety of stocks and shares". This seemed to complex.

These questions may be hard for this population, but it is still important to make them. Differences in answers are expected according to educational background. Two follow-up questions – in easier, more colloquial terms – will be made further on in this section in order to check that the concepts underlying the questions are understood.</td></tr>
<tr><td>13. It is usually possible to reduce the risk of losing money by investing in a variety of options.
___ True
___ False
___ Don't know</td></tr>
<tr><td>14. From 1 to 3, how would you rate your knowledge of the following products? (1 is no knowledge at all, 2 is some knowledge, 3 is you understand fully)
___ Bank account
___ Cooperative</td><td>From a financial education point of view, financial knowledge must include the understanding of financial products. This is not covered in Atkinson and Messy (2012) and Reddy, Bruhn and Tan (2013); so this questioned was devised to assess how familiar people are with ordinary financial savings products, as well as with more sophisticated</td></tr>
</table>

___ Time deposits ___ Collective portfolios ___ Corporate bonds ___ Stock ___ Voluntary pensions ___ USD, EUR or other currencies	investment instruments, such as the ones explained in the previous section.
15. What is your opinion of the following phrase? The bigger the profit, the easier the business; it's less risky. ___ True ___ False ___ Don't know	These questions are a follow-up on the true or false questions about risk, diversification and return. The intention is to check that they understand the concepts underlying those questions, even if they don't understand the technical language. This would indicate lack of knowledge of the terms and not lack of understanding of the concepts. The questions were checked with the surveyors and they were deemed easier to understand.
16. What is your opinion of the following phrase? To reduce risk, putting all the eggs in one basket is usually safer than in many. ___ True ___ False ___ Don't know	

Questions on Financial Capabilities – Behaviour

Questions	Background / Purpose / Various Aspects
17. In the past 12 months how have you saved money? ___ Deposit money in a bank account or mobile service ___ Deposit in the cooperative ___ Save at home and piggy banks ___ Save in a savings group and other ___ Deposit money in time deposits ___ Buy collective portfolios, corporate bonds, stock ___ Pensions and severance	Atkinson and Messy (2012) differentiate between active savings (actions that increase savings) and passive savings (in which savings gain interest and increase on their own). Therefore, they asked how people had saved actively over the previous 12 months. According to the Center for Financial Inclusion (2015), which made a study about financial inclusion and old age in Colombia, the strategies to cover old-age expenses are various, including

___ Voluntary pensions ___ Invest my money in my own business ___ Buy a house or land ___ Buy now to sell later ___ Buy USD, EUR or other currencies ___ Lend my money ___ Others: __________ ___ I don't	savings and other financial assets, pensions and non-financial assets. The category of savings must differentiate between financial investment products, and formal and informal savings (like home and savings groups). *Portfolios of the Poor* (Collins *et al* 2009) shows how people save for old age by buying assets like land, jewels and animals (storage of wealth). Also, important savings are done through savings groups and similar groupings. Hence, this way of actively saving money has been included. Voluntary pensions were added because they are an extra to the statutory pension schemes, and therefore imply a will to save (with a very patient return). "Lend my money" is also added, as many people lend their money to others, in order not to spend it. Reddy, Bruhn and Tan (2013), have some categories that can be compared to these findings, although their study includes debt related financial products as well.
18. How do you save for...? 1. important events, 2. business opportunities, 3. day to day expenses 4. the future (old age or long term goals, more than six months) ___ Bank account or mobile service ___ Cooperative ___ At home and piggy banks ___ Savings group and other types of groups ___ Time deposits ___ Collective portfolios, corporate bonds, stock	In the survey this question is meant to be asked four times, once per item (important events, business opportunities, and etc.), so that people show their preference on how to save for different activities or lifecycle issues. The options are the same as the previous question but they are not restricted to the past twelve months. In Portfolios of the Poor, many reasons to create lump sums were found to be connected with the lifecycle (marriage, funeral, education and etc.), business opportunities and others. They identified that these lump sums were created by using the whole portfolio: different kinds of loans, savings,

___ Pensions and severance ___ Voluntary pensions ___ Invest in my own business ___ Buy a house or land ___ Buy now to sell later ___ Lend my money ___ USD, EUR or other currencies ___ Others: ___________ ___ I don't	selling assets, even insurance (Collins *et al* 2009). This question takes parts of these findings to ask how money is saved for different purposes. Fundacion Capital's survey from the LISTA app-based financial education programme (unpublished data) also asks what people save for and how they do it. This includes the same items and others like education. This is shared by Demirguc-Kunt *et al* (2015).
19. Have you ever invested your money in any of the following? ___ Time deposits ___ Collective portfolios ___ Corporate bonds ___ Stock ___ Voluntary pensions ___ USD, EUR or other currencies ___ Pyramids ___ None	As it was explained in the section that describes the financial products that would be considered, time deposits will not be included in the definition of investment, but they will be taken into account as a more sophisticated savings product compared to ordinary savings accounts. However, for the sake of ease in asking the question, time deposits are being paired with financial investment products. Pyramids (Ponzi schemes) are also added to this list, because a few years ago the case study country, Colombia, suffered greatly from them. Although illegal, from the point of view of an investor, pyramids mimic the act of buying bonds and waiting for maturity; they can even involve the payment of coupons. Because of legality issues and social shame, it is expected that this option will be underreported.
20. Apart from your regular business, have you ever bought anything to sell for a higher price later? ___ Yes. What was it? _________ ___ No	Investment can be done individually or collectively through a financial agent; and it can have the purpose of owning part of a business, buying to sell later, or lending money to a business, private or public (or even the State). These questions are intended to find if respondents have behaviours that

21. Have you ever lent any money for someone's business, in return for a profit? ___ Yes ___ No	resemble those of investors, in the sense of using their savings to buy something that they can then sell for a profit (like an investor when they buy and sell stock), buying parts of a business for dividends, or lending money to companies (like buying corporate bonds).

Questions on Financial Capabilities – Attitudes

Questions	Background / Purpose / Various Aspects
22. Why haven't you invested in time deposits, stocks and other financial instruments? ___ Not interested ___ No knowledge ___ Too far from me ___ No need ___ Distrust ___ Too many procedures ___ Too expensive ___ Not enough return ___ Money can be lost ___ Requires too much capital ___ Other: _______________	Demirguc-Kunt *et al* (2015) reported barriers to bank account ownership. These barriers were adjusted and expanded for this study. Given that it is not expected that many people will respond positively to having had experience in investment (including time deposits), the question was phrased in the negative sense. Once again, for simplification, time deposits are grouped with financial investment products.
23. GAME. From the following options choose if you would invest $90 in Project A or B. In Project A you win for sure the said amount, but in Project B you have equal chance of winning $110 or losing $90. For each option, mark with a circle if you would invest in A or B. <table><tr><td></td><td>Project A</td><td colspan="2">Project B</td></tr><tr><td>Investment of $90</td><td>WIN</td><td>WIN 50%</td><td>LOSE 50%</td></tr></table>	This game is to find risk preference. Supposing an investment of $90, respondents have to choose between Project A, which yields a changing gain with no loss of capital, and Project B, which always has an equal chance of winning or losing the initial investment. The scale of gains for Project A was initially different; Option 1 started at $10. While checking with the enumerators, very

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<tr><td>Option 1</td><td>$ 1</td><td>$ 110</td><td>$ 90</td></tr>
<tr><td>Option 2</td><td>$ 10</td><td>$ 110</td><td>$ 90</td></tr>
<tr><td>Option 3</td><td>$ 30</td><td>$ 110</td><td>$ 90</td></tr>
<tr><td>Option 4</td><td>$ 50</td><td>$ 110</td><td>$ 90</td></tr>
<tr><td>Option 5</td><td>$ 80</td><td>$ 110</td><td>$ 90</td></tr>
<tr><td>Option 6</td><td>$ 110</td><td>$ 110</td><td>$ 90</td></tr>
</table>
</td>
<td>quickly and assertively they chose Project A for Option 1. Thus, the gain for Option 1 was dropped to $1 to check if such a low sum was still more desirable than Project B.</td>
</tr>
<tr>
<td>
24. GAME.
From the following options choose if you would invest in Project A or B. Project A pays you back in 3 months and Project B, in 6 months. Mark with a circle which you would invest in.
<table>
<tr><td></td><td>Project A</td><td>Project B</td></tr>
<tr><td>Option 1</td><td>$ 100</td><td>$ 110</td></tr>
<tr><td>Option 2</td><td>$ 100</td><td>$ 120</td></tr>
<tr><td>Option 3</td><td>$ 100</td><td>$ 140</td></tr>
<tr><td>Option 4</td><td>$ 100</td><td>$ 160</td></tr>
<tr><td>Option 5</td><td>$ 100</td><td>$ 180</td></tr>
<tr><td>Option 6</td><td>$ 100</td><td>$ 200</td></tr>
</table>
</td>
<td>This game is to find time preference. Project A yields the same amount in three months and Project B yields a changing amount after six months. For each option, respondents should pick from Project A or B.</td>
</tr>
</table>

Annex 2: Survey in Spanish

ENCUESTA

CAPACIDADES FINANCIERAS PARA INVERSION EN PRODUCTOS Y SERVICIOS FINANCIEROS

Nombre: ____

1. ¿Cuál es tu género?

   ___ Masculino ___ Femenino ___ Otro

2. ¿Cuál es tu edad?

   _________ años.

3. ¿Cuál es el nivel de educación más alto que completaste?

   ___ Primaria ___ Bachillerato ___ Técnico

   ___ Pregrado ___ Postgrado

4. ¿Participaste en alguno de los siguientes programas de educación financiera?

   ___ Mujeres Ahorradoras en Acción ___ LISTA

   ___ En primaria o bachillerato ___ Otros: ____________________

   ___ Ninguno

5. ¿Recibes o vives con alguien que recibe/recibía dinero de Más Familias en Acción (MFA) o Familias en Acción (FA)?

   ___ Recibo/recibía dinero de MFA ___ Vivo con alguien que recibe/recibía

   ___ No recibo ni recibía

6. ¿Tienes una cuenta de ahorros / cuenta de banca móvil?

   ___ Solo MFA ___ MFA y otra ___ Otra en banco o cooperativa ___ No tengo ___ No sé

7. ¿Tomas la mayoría de decisiones sobre el manejo de la plata en casa?

   ___ Todas ___ Más de la mitad ___ Menos de la mitad

   ___ Ninguna ___ No sé

8. ¿De las siguientes situaciones, cuál describe mejor cómo obtienes tus ingresos?

___ Trabajo para alguien con contrato legal (formal)

___ Trabajo para alguien sin contrato (informal)

___ Tengo mi propio negocio inscrito en Cámara de Comercio (formal)

___ Tengo mi propio negocio, no inscrito en Cámara de Comercio (informal)

___ Más Familias en Acción

___ Mi pareja

___ Otro: ________________

___ No sabe/ No responde

9. ¿Cómo son tus ingresos? Escoge la opción que mejor se ajuste a ti.

___ Frecuentes y el mismo monto

___ Frecuentes y monto diferente

___ Poco frecuentes y monto parecido

___ Poco frecuentes y el monto cambia

10. Imagina que te regalan $50.000 y los guardas en el cajón por 12 meses. En un año, ¿cuánto podrás comprar con ese dinero?

___ lo mismo que hoy ___ más que hoy

___ menos que hoy ___ No sé

11. Imagina que ahorras los mismos $50.000 en el banco. Si pudieras escoger la tasa de interés, preferirías que sea:

___ mayor que la inflación ___ igual a la inflación

___ menor que la inflación ___ No sé

12. Una inversión con una ganancia alta probablemente tiene un riesgo alto.

___ Verdadero ___ Falso

___ No sé

13. Usualmente, para bajar el riesgo de perder dinero, se invierte en una variedad de opciones.

___ Verdadero ___ Falso

___ No sé

14. ¿De 1 a 3 cómo es tu conocimiento de los siguientes productos (1 es no sabes nada, 2 es saber algo, 3 es entiendes bien)?

___ Cuenta de ahorros ___ Cooperativa
___ CDT ___ Cartera colectiva
___ Bonos corporativos ___ Acciónes
___ Pensiones voluntarias ___ Dólares, euros u otras monedas

15. Entre más ganancia, más fácil un negocio y menos riesgoso.
___ Verdadero ___ Falso
___ No sé

16. Normalmente puedo reducir el riesgo si pongo todos los huevos en la misma canasta.
___ Verdadero ___ Falso
___ No sé

17. ¿En los últimos 12 meses cómo has ahorrado dinero? Ordena las opciones, desde la más usada (#1) a la menos.
___ Consignar en una cuenta de ahorros o cuenta móvil
___ Consignar en la cooperativa
___ En la casa y alcancía
___ En un grupo de ahorro u otro grupo
___ Abrir CDT
___ Comprar carteras colectivas, invertir en bonos o acciones
___ Pensiones obligatorias y cesantías
___ Pensiones voluntarias
___ Invierto en mi propio negocio
___ Compro una casa o tierra
___ Compro ahora para vender luego
___ Presto mi dinero
___ Comprar dólares, euros u otras monedas
___ Otros: ______________________
___ No ahorro

18. ¿Cómo ahorras para...?
1. eventos importantes 2. oportunidades de negocio
3. gastos del día a día 4. el futuro (la vejez o metas de más de seis meses)
Pon el número que corresponda en el medio que MAS usas.

___ Cuenta de ahorros o cuenta móvil
___ Cooperativa
___ En la casa y alcancía
___ Grupo de ahorro u otro grupo
___ CDT
___ Carteras colectivas, bonos corporativos o acciónes
___ Pensiones obligatorias y cesantías
___ Pensiones voluntarias
___ Invierto en mi propio negocio
___ Compro una casa o tierra
___ Compro ahora para vender luego
___ Presto mi dinero
___ Dólares, euros u otras monedas
___ Otros: _________
___ No ahorro

19. ¿Has invertido tu plata en...?

___ CDT	___ Cartera colectiva
___ Bonos corporativos	___ Acciones
___ Pensiones voluntarias	___ Dólares, euros u otras monedas
___ Pirámides	___ Ninguna

20. ¿Aparte de tu negocio, alguna vez has comprado algo para venderlo luego a mayor precio?
___ Sí. ¿Qué era? ________________________________
___ No

21. ¿Algunas vez les has prestado dinero a alguien para su negocio, a cambio de una ganancia
___ Sí ___ No

22. Por qué no has invertido en CDT, acciónes y otros productos financieros?

___ No me interesa	___ No tengo conocimiento
___ Me queda muy lejos	___ No lo necesito
___ Desconfío	___ Demasiados procedimientos
___ Muy caro	___ No se gana mucho
___ Se puede perder plata	___ Requiere apartar un monto alto

___ Otro, ¿cuál? _____________

23. De las siguientes opciones escoge si invertirías $90 en el Proyecto A o B. En el Proyecto A ganas fijo el monto que dice y en el Proyecto B, tienes igual suerte de ganar $110 o perder $90. Para cada opcion escoge si prefieres el Proyecto A o B. Señala con un círculo en cuáles invertirías.

	Proyecto A	Proyecto B	
Inversión de $90	GANA	GANA 50%	PIERDE 50%
Opción 1	$ 1	$ 110	$ 90
Opción 2	$ 10	$ 110	$ 90
Opción 3	$ 30	$ 110	$ 90
Opción 4	$ 60	$ 110	$ 90
Opción 5	$ 80	$ 110	$ 90
Opción 6	$ 110	$ 110	$ 90

24. JUEGO. De las siguientes opciones escoge si invertirías en Proyecto A o B. El Proyecto A te paga en 3 meses y el Proyecto B, en 6 meses. Haz un círculo sobre la opción que te interesa más.

	Proyecto A	Proyecto B	
Opción 1	$ 100	$ 110	
Opción 2	$ 100	$ 120	
Opción 3	$ 100	$ 140	
Opción 4	$ 100	$ 160	
Opción 5	$ 100	$ 180	
Opción 6	$ 100	$ 200	

Annex 3: Lists of Surveyed People

ENCUESTADORA: BERTHA MARIN BOLIVAR

	NOMBRE COMPLETO	FIRMA
1	MARINA PAREDES	[illegible]
2	ALBA PATIÑO	alba Patiño
3	RAFAEL MARIÑO	RAFAEL Mariño
4	IDALIA BUSTAMANTE	idalia Bustamante
5	AMELIA GONZALEZ	Amalia Gomez
6	ROSA MARIA HENAO	[illegible] Henao
7	FLORALBA ORTIZ	[illegible]
8	ANGELA MOSQUERA	[illegible]
9	EUCARIS BALANTA	Eucaris Balanta
10	DORIS ALVAREZ	Doris Alvarez
11	IDALIA BUSTAMANTE	idalia Bustamante
12	PATRICIA HURTADO	PatRICIA Hurtado
13	FABIO LOBON	Fabio Lobon
14	MARGARITA HINESTROZA	[illegible]
15	NANCY BORJA	Nancy Borja
16	MELISSA HERREDIA	Heredia Melisa
17	SANDRA PUERTA	SANDRA PUERTAS
18	LEYLA VANEGAS	Leyla Vanegas
19	DELIS GONZALEZ	Delis Gonzalez
20	OFIR MUÑOZ	Ofir Muñoz
21	CRISTINA BEDOYA	CRISTINA Bedoya
22	IRENE RENGIFO	[illegible]
23	BEATRIZ EUGENIA VILLA	Beatriz Eugenia Villa
24	MARIA FERNANDA GARCIA	[illegible]
25	MARIA LORENA GUTIERREZ	[illegible]
26	KARINA QUIÑONES	Karina Quiñones
27	ADRIANA MORENO LUGO	A. M. L
28	DANI LUZ ACEVEDO	Dani luz Acevedo
29	ORFA GALEANO	ORFA G.
30	ILBELLA PERDOMO	[illegible]
31	SANDRA HERRERA	[illegible]
32	MARTHA CECILIA PARRA	[illegible]
33	BELSY YULIANA ROJAS	Belsy Yuliana Rojas
34	SANDRA MILENA CARDONA	Sandra Milena Cardona
35	SOBERANA DAVID	[illegible]
36	LUZ DARY MOSQUERA	[illegible]
37	LINA MARIA VILLAREAL	[illegible]
38	ESTEFANIA PEÑARANDA	Estefania Peñaranda
39	SANDRA P VICTORIA	[illegible]
40	DIEGO FERNANDO VICTORIA	[illegible]
41	ROSALBA CAÑAS	[illegible]
42	MARIA LUZDARY VICTORIA	[illegible]
43	JENIFER A CARDENAS	Jenifer Cardenas
44	ZULY YAZMIN RODRIGUEZ	ZULY YAZMIN Rodriguez
45	JOSE WILSON CORREA	[illegible]
46	LUZ ELENA VELEZ	Luz Elena Velez
47	SANDRA VELEZ	Sandra Velez

48 JAIME VILLEGAS	JAIME V.
49 AURORA HERNANDEZ	[illegible]
50 MARTHA MORALES	MarTHa Morales
51 EMILSEN MORENO	Emilsen Moreno
52 SANDRA YESENIA CASTRO	Sandra Yesenia C
53 JUAN CARLOS MIRANDA	Alejandra Grisales.
54 ALEXANDRA GRISALEZ	[illegible]
55 YULIET MARIN	YULIET Marin
56 YULIET ZAPATA MEDINA	Yulieth Zapata Medina
57 LUISA MARIA BEDOYA	[illegible]
58 MARIA FERNANDA MONTES	Maria Fernanda Montes
59 MIGUEL ANGEL RESTREPO	[illegible]
60 WILSON RICAARDO GUERRERO	[illegible]
61 LINA MARIA ZAPATA	Lina Maria Zapata
62 LUCERO ZAPATA	Lucero Zapata
63 VALERIA CARDENAS	VALERIA CARDENAS
64 ELISABET LARGO	[illegible]
65 YAQUELINE ESCOBAR	[illegible]
66 BLANCA ELIANA BONILLA	Blanca Eliana Bonilla
67 YAMILET CARDENAS	YAMILeT Cardena
68 LAURA VALENTIA OJAS	LAURa Valentina R.
69 ANGUIE MELISA GALVIS RAMIREZ	anguie melissa galvisR.
70 DOBIER CANO GARCIA	Dobier Cano Garcia
71 DIANA MILENA NUMERAA LOPEZ	Diana milena Numeraa Lopez
72 MARIA CAMILA REIFRED	Maria Reifred
73 MAIRA LOZANO	MAIRA LOZANO
74 PEDRO MARTINEZ	Pedro Martinez
75 LUZ ALEIDA GOMEZ	[illegible]
76 PATRICIA ALZATE	[illegible]
77 ALFONZO PLAZA	[illegible]
78 INES CARDOSO	ines cardoso
79 CLAUDIA BOTERO	Claudia Botero

Encuestadora: Blanca Julia Villalobos

	NOMBRE	FIRMA
1	MARIA FERNANDA DUQUE	
2	JUDY ALEXANDRA PEÑA	
3	ELOISA GONZALEZ	
4	PABLO ANDRE ACOSTA	
5	MARIA BRAUSSIN	
6	MABY TORRES	
7	SARA EMMA GARCIA	
8	GABRIEL GARCIA	
9	MARIA YULIET ORTIZ	
10	ANABEIBA JIMENEZ	
11	ELIZABETH GARZON	
12	LUZ AMPARO MEJIA	
13	MINNY JHOANA MEJIA	
14	FLOR ESTELL QUINTERO	
15	SANDRA MILENA ORTIZ	
16	LUZ MARIAN SUAZA	
17	MRIA EUGENIA GALLEGO	
18	CALUDIA LORENA MONTAÑO	
19	ANA DELA MARIN	
20	ADRIANA GRANADA	
21	DIANA MILENA GARZON	
22	LUCERO DUQUE	
23	DANIEL AUGÜSTO GONZALEZ	
24	DANNA SOFI VILLADA	
25	MARLENE HURTADO	
26	CLARA INES GARCIA	
27	GUSTAVO SALAZAR	
28	FRANCY CHASOY	
29	YESSENIA RAMIRES	
30	MARLEN PEREA SOLIS	
31	DEYANIRA MONTAÑO	
32	ARGENIS GONZALEZ	
33	LUZ ENITH CARRILLO	
34	MIRELLY JIMENEZ	
35	MARIA EMMA ORTIZ	
36	MARIA CLAUDIA SAAVEDRA	
37	LUISA FERRNANDA RODRIGUEZ	
38	DORANY PALACIO	
39	ANGIE ELIANA HENAO	
40	MARTA ISABEL GARCIA	
41	LUZ YURLENY BERRIO	
42	LILIANA ZAPATA	
43	LILIANA ESCOBAR	
44	JENNY ROJAS	
45	JAVIER ANTONIO VILLADA	

46	VALENTINA OSPINA	VALENTINA OSPINA
47	LUZ MARINA AREVALO	[illegible]
48	LINA VANESA TORRES	[illegible]
49	NOHELIA TORRES LARGO	[illegible]
50	LUIS GONZAGA	LUIS GONZAGA.
51	MARIA EUGENIA GONZALEZ	Maria E. gonzalez
52	MARLENY PATIÑO	marleny patiño
53	SANDRA PTRICIA PRADO	[illegible]
54	JOSE ABRAHAN GIRON	Jose Giron
55	ANGELICA JHOANA TORRES	[illegible]
56	JHONATAN MONTOYA	[illegible]
57	JEFREY SALAZAR	[illegible]
58	PAOLA ANDREA PERLAZA	[illegible]
59	CLAUDIA LILIANA ROJAS	[illegible]
60	RUTH DARY VILLALOBOS	Ruth Villalobos.
61	DIANA SIRLEY NARVAEZ	[illegible]
62	HECTOR FABIO MAZUERA	[illegible]
63	LUZ YANET RICAUTE	[illegible]
64	ORLANDA JANET ESPINOSA	[illegible]
65	GRLADYS DE JESUS ESPINOSA	Gladys Espinosa
66	NEYLA ALEJANDRA MOLINA	[illegible]
67	MARTA LUCIA BONILLA	[illegible]
68	GERMAN DUVAN ALADINO	[illegible]
69	WILLIAN LOPEZ VIVIANA ANDREA VILLADA	[illegible]
70	DIEGO MARIO VALLEJO	diego mario vallejo
71	VIVIANA ANDREA VILLAD	[illegible]
72	SENOVIA MARIN	Senovia Marin
73	LUZ ENITH VICTORIA	[illegible]
74	YAMILETH MONSALVE	[illegible]
75	NANCY LORENA LOPEZ	[illegible]
76	MARIA OLEYDA FIGUEROA	[illegible]
77	LIN AMARCELA BURBANO	[illegible]
78	JACQUELINE SAAVEDRA	JACQUELINE SAAVEDRA.
79	RUBEN OSPINA	Ruben Ospina.