Expansion of Formal Financial Services and Inter-Household Transfers: Side Effects of the Entrance of Azteca Bank in Mexico

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Abstract

The expansion of formal financial services is an ongoing phenomenon in low income countries. Nowadays, it is common that retail companies decide to open a commercial bank with branches within each of its multiple stores. The retail-store banks are characterized by its vast geographical expansion and because their products target low-income households. In this study, I take advantage of the unique characteristics in the opening strategy of the first retail-store bank in Mexico (Azteca Bank) and the comprehensive panel data in the "Mexican Family Life Survey" (MxFLS) to estimate the impact of formal financial services expansion on the shape and use of the local safety net. In order to overcome potential doubts on the common time trend assumption among municipalities in the treatment and control group, this project carefully implements a Matching Difference-in-Difference empirical strategy. The main results are in order: Expansion of formal financial services weakens the local safety net for households with low per capita expenditure (PCE). Concretely, as a consequence of Azteca Bank entrance, the probability of receiving/giving transfers has decreased by at least 22% for these households. Even more, I show that, as a consequence of the Azteca Bank entry, households in the low PCE group rely less on their local safety net to deal with idiosyncratic shocks.

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1 Introduction

The expansion of formal financial services is an ongoing phenomenon in low income countries. Nowadays, it is common that retail companies decide to open a commercial bank with branches within each of its multiple stores. On the extensive level, retail-store banks have reached geographical areas that were previously excluded. On the intensive level, retail-store banks have been creating new saving/credit products which are more appealing to low income/low educated households, a group that has been traditionally excluded from the banking sector in the low income countries. The goal of this study is to evaluate how the access to formal financial services reshapes the local safety network within a society. In more concrete terms, the goal of this paper is to answer the following questions: (i) How does the expansion of formal financial services affect the probability of participating in inter-household transfers? (ii) What can we learn about its impact on informal insurance?

In this paper, I exploit the unique characteristics in the opening strategy of Azteca Bank in Mexico as a source of exogenous variation in the expansion of formal financial services across municipalities. This bank opened 815 branches overnight at the moment of entering the Mexican banking system. Using this variation and the panel data collected in the Mexican Family Life Survey (MxFLS), I evaluate the impact of formal financial service access on private transfers across households. Therefore, the empirical purpose of this project is to estimate the impact of the opening of Azteca Bank branches on participation and flow of inter-household transfers.

Private transfers across extended family members and different households are largely widespread in developing countries. In some countries such as Vietnam, aggregate private transfers exceeds public transfers (Cox et al, 2006); in 1998, public transfers were equivalent to less than 4% of GDP while received private transfers were equivalent to 6% of the total household's income[1]. Even more, while 27% of the Vietnamese households received private inter-household transfers, just 21% of the households in the country received public social assistance. In Mexico, more than 40% of the households have received an inter-household transfer in 2002; and the average amount received is equivalent to 4% of the total household expenditure for that year[2]. In this context, a change in local safety net could affect the household ability to smooth their consumption, with more dramatic consequences if the household has a low level of welfare.

Many case studies indicate that private transfers patterns often appear similar to public transfers. In general, they flow to households at the lower end of the income distribution, to the elderly and very young household head, and to households headed by women (Cox et. al, 2006). In fact, there is an extensive literature that studies how the expansion of public transfers might supplant existing private transfers. In particular, Angelucci, Attanasio and Di Maro(2012) evaluates the impact of a famous cash transfer program

[1] In this year, 40% of the households receive a transfer and among the receiving households, received transfers were equivalent to 27% of their total income.

[2] This number increase to 6% if we restrict our sample to households that receive an inter-household transfer.

in Mexico, "Oportunidades", in the probability of receiving an inter-household transfer, as well as in the quantity received. This project finds that being a beneficiary of Oportunidades reduces the probability of receiving in-kind transfers.

Inter-households wealth flows are typically interpreted as informal contractual arrangements between parties who provide each other assistance in times of need (Coate and Ravallion 1993, Fafchamps 1992, among others). Nonetheless, they encompass more than mutual insurance (Comola and Fafchamps, 2010). Besides altruistic motives, most of the private transfers are the consequence of some exchange: resources are exchanged by some service, or resources today are exchanged by resources tomorrow (Cox 1987, Cox and Rank 1992). What is common to all private transfers is that they are based on trust and repeated interaction. Therefore, any intervention that alters the flow of inter-household transfers will reshape the local safety net. Despite its relevance, few studies have rigorously evaluated how the expansion of formal financial services has reshaped the local safety net.

During the last ten years, a burgeoning literature have studied the impact of access to formal finacial services on the welfare of low-income households (Bannerjee et al 2014; Prina 2013; Kaboski and Townsend 2011; Karlan and Zinman 2010; Karlan et al 2013, among others). While the literature is vast, the effect of access to formal financial services on welfare is not conclusive. For instance, Karlan et al (2013), in the context of Mexico, do not find an effect of an experimental expansion of the services by the microfinance institution (MFI) Compartamos on expenditure per capita. In contrast, in the context of a randomized control trial in urban poor villages in India, Bannerjee et al (2014) finds an increase in the expenditure per capita in durable goods and a reduction on the consumption of temptation goods. Nonetheless, the same study finds no effect of access to microfinance on reduction of poverty, education and health indicators.

The current paper is intended to evaluate the impact of access to formal financial services on the participation rate and flow of interhousehold transfers. This effect could be both positive and negative. On the one side, access to formal credit alters the relative price of participating in an inter-household transfer. If the formal credit is relatively cheaper, households will prefer to use formal credit to smooth consumption or to cope with negative shocks. Hence, it might offer a partial susbtitute for informal arrangements. Even more, in case of sophisticated hyperbolic discounters, access to formal saving accounts will incentivize households to accumulate a buffer stock which will reduce the demand of inter-household transfers. As a result, informal transactions may be crowded out. On the other hand, as a consequence of having access to credit and/or a potential increase on asset accumulation, households will have access to additional resources to transfer between each other. Hence, a greater access to formal financial services could enhance the informal safety net. Therefore, understanding the impact of access to formal financial services on the local safety net is an empirical quest.

Few empirical projects have evaluated the effect of financial development on private transfers among

households. Those studies can be categorized in two groups: access to microfinance saving products and non-restricted access to microfinance. In the first category we find Flory (2012) and Comola and Prina (2013). Flory (2012) uses a panel dataset collected during a rapid expansion of formal savings services in Central Malawi and shows that experimentally boosting the use of formal savings in rural areas sharply increases inter-household transfers during peak periods of hunger along the year. Additionally, Comola and Prina (2013) show that an augment in the individual access to savings accounts in Nepal increases in-kind and monetary exchanges by these households. Using a randomized control trial, the authors show that access to formal savings by treated households increases the probability of giving an inter-household transfer. From these two papers, we can conclude that boosting the use of formal saving accounts enhances the local safety net. On the non-restricted access to microfinance category, Banerjee et al. (2014) show that informal lending falls when access to micronance increases. Closely related to this research, Foster and Rosenzweig (2000) use distance from banks as a source of exogeneous variation to evaluate the impact of access to formal credit and savings on inter-household transfers in India and Pakistan. In this paper, the author shows that a greater access to formal financial service leads to fewer transfers. Finally, Field et al (2014) evaluate how the expansion of formal financial services reshape the network structure behind the inter-household transfers. In this research, the authors find that greater access to MFI services reduces informal borrowing and gift (in kind and money) exchange. Even more, it reduces generosity among the members of the same lenders/borrowers network[3]. The last three papers suggest that the access to formal financial services crowds out the local safety net.

All in all, there are some evidence that the expansion of formal financial services reshapes the local safety net. My study adds to this literature in two different dimensions. First, it is able to evaluate the impact on inter-household transfer participation for both: household directly affected by the expansion of banking services, and households with previous access to finanicial services. Even though the expansion of formal financial services lead by Azteca targeted low income/low educated households, using MxFLS I am able to study whether there is an effect on the inter-household transfer behavior of high per capita expenditure households. Second, using the comprenhensive data gathered in the MxFLS, I am able to evaluate whether there is a change in the manner how low per capita expenditure households deal with negative shocks.

This paper contributes to the understanding of the interaction between formal and informal institutions. This study explores to what extend the access to formal credit enhances (or weakens) the participation in inter-household transfer, which are the representation of the local informal safety net. The empirical analysis suggests that the finacial access expansion reduces the participation of low per capita expenditure households in the local safey net. Even more, households in this group relies less on their peers to deal with idiosyncratic negatice shocks.

[3]Generosity is measured using non-anonymous dictator games.

The remainder of the paper is organized as follows: Section 2 presents the unique characteristics of the opening of Azteca Bank in Mexico and summarizes previous projects that have studied the impact of this entrance on household financial choices, consumption and labor outcomes. In Section 3, I explain the data that I use in this project. In this section, I present the summary statistics for the municipalities and households included in the sample to be used in the main analysis. Section 4 presents the empirical strategy to be used and section 5 presents the results of this project. Finally, section 6 concludes.

2 Background: Azteca Opening Characteristics

In 2001, the Elektra Group, a Mexican retail group[4] with more than fifty years of experience providing in-store credit, saw the need for a financial services provider unit. In August of that year, this group applied for a license to open Azteca Bank. The license was approved by the Secretary of Finance and Public Credit of Mexico in March 2002, and Elektra opened Azteca Bank on October 30th, 2002. The opening event was extremely ambitious, one branch was opened in every store of the Group Elektra. Overnight, Azteca opened 815 branches in 263 municipalities, which represented 15% of the total number of bank branches in Mexico at that moment.

The entrance of Azteca bank was unique. This bank did not choose each municipality endogenously because it opens at the same moment in every Elektra store. As it will be further explained, the average characteristics of municipalities with an Elektra store in October 2002 are not equivalent to those of municipalities without an Elektra store. The previous entrance choices of the store plays a relevant role in the location of Azteca Bank at 2002. Following Ruiz (2011) and Muz (2013), I use the peculiar opening strategy as a source of exogenous variation in the access to formal financial services at municipality level. Nonetheless, unlike previous papers I use a Matching Difference-in-Difference strategy to overcome potential endoeneous concerns with respect to the location of Azteca Bank.

The Azteca Bank targeted mainly low income/low educated households. In fact, the slogan of the bank when it opened was: *"We change banking. Now, it's your time to change"*. From the beginning, Azteca imposed very low documentation requirements to get a loan, and even more, clients that did not fulfill the requirements could bring a co-signer. Interestingly, Azteca bank was the first formal financial institution to use motorcycle riding loan officers that reduced considerably the transaction costs of having a credit/saving account in a formal financial institution[5]. According to Muz (2013), even today a considerable proportion of Azteca bank's clients are informal workers who do not have a proof of income required by other commercial banks.

In its origins, Azteca bank worked in a similar way to a microfinance institution. In March 2003, Azteca

[4]This group is composed by stores that sell primarily electronic appliances and furniture.
[5]Loan officer are agent of the bank that visit the clients in their houses to collect loan payments or saving deposits.

started giving US $500 loans not tied to merchandise. Those loans were subject to an annual interest rate of 50%, while the other commercial banks offered greater amounts of loans with an annual interest rate between 20% and 40%. The product offered by this bank at the beginning was comparable to the loans offered by microfinance institutions: smaller loan amounts and higher annual interest rate (around 80%). Muz (2003) states that the average loan size by a microfinance institutions at that time in Mexico was around US $ 360.7. The difference between Azteca bank and the average commercial bank interest rate captures the fact that its products are targeting riskier clients.

It is relevant to highlight that the loan portfolio of Azteca grew very fast from 2 billion Mexican pesos in 2003-I to 10 billion in 2004-IV[6]. While personal loans represent 20% of Azteca loan portfolio in 2003, it represents 39% in 2005. Therefore, both merchandise and personal loans were growing in this period; however, the latter were growing faster. From this description, we must expect the Azteca Bank entry to have an impact on the financial and transfers choices of the low income households in Mexico.

Previous literature has analyzed the impact of the entrance of Azteca on the labor market, the demand for informal credit and household's consumption behavior. Bruhn and Love (2009) use the continuous panel employment survey in Mexico (ENE) to evaluate the impact of access to formal financial services expansion on employment and informal businesses. In this project, the authors found that the opening of Azteca Bank has increased the total employment in 1.4% and the number of informal businesses has increased in 7.6%[7] by the fourh quarter of 2004. In a later study, Ruiz (2011) uses the Mexican panel family life survey (MxFLS) to evaluate the impact of the entrance of Azteca bank on the demand of formal and informal credit. As expected, the author finds an increase in the usage of banking credit and a decrease in the usage of pawn broker's credit. Finally, Muz(2013) uses the same data as Ruiz (2011) to evaluate the impact of access to formal financial services in consumption behavior. After a detailed analysis of the household expenditure patterns, the author concludes that the entrance of Azteca bank has decreased the expenditure per capita in cereals (e.g.rice) and durable goods (mainly, furniture). Since Azteca bank has expanded the access of formal financial service mainly for low-income households, Ruiz (2010) and Muz (2013) find sharper and more significant effects for the households at the lower deciles of welfare (per capita expenditure) in 2002, right before the entrance of Azteca bank.

3 Data and Preliminary Analysis

The main source of data is the Mexican Family Life Survey (MxFLS) panel data at the household level covering years 2002 and 2005 and 136 municipalities across Mexico. The original sample size is 8441 households but it is subject to a 10% attrition at household level between the first and second round of the survey.

[6]The exchange in this period was 11 pesos per US$ dollar

[7]In this study, a business is considered informal when it has not been registered in the public administration.

Fortunately, for the purpose of the paper, the first wave of the MxFLS was collected between January and August 2002, at least two months before the opening of Azteca bank. Therefore, I have two observation points for each household on my sample. One before the entry of Azteca Bank and one three years after this event.

MxFLS includes a very comprehensive survey with modules that cover consumption, labor, education, health indicators and migration. In particular, there are two sections of the survey that will be relevant for this project. First, individual credit behavior: MxFLS provides information about which formal and informal sources of credit services have been used by each adult member of a household[8]. Unlike other household surveys, MxFLS allow us to construct an index of banking inclusion: knowledge of being able to get a credit from a bank. The latter is a dummy variable that takes value one if two conditions holds: A member of the household knows a place where he or she can get a credit, and if this place is a bank. While usage of credit depends substantially on transitory factors, this measure of banking inclusion is expected to be more stable. Second, participation in inter-household transfers: in the MxFLS, each adult member of the household is asked whether she has received/given a transfer from/to a person living on a different household. Transfers information gathered in the survey is multidimensional. On the one side, it differentiates general inter-household transfers from those that involves members of the same extended family[9]. On the other side, the survey includes three different categories of transfers: Money, in-kind and time transfers. Examples of the latter being helping another person taking care of her kids or cleaning her house[10].

Even though the multi-dimensionality of the inter-household transfers collected through the MxFLS, there are some drawbacks. An ideal measure of private transfers would likely include at least two more features. First, it would collect information on the characteristics of the counter-part of the inter-household transfer. That is, it would collect information on the giver if the surveyed household has received a transfer and it would collect information on the receiver if the surveyed household has given a transfer. Second, it would be important to collect information on relevant intra-households private transfers, and not just those living in different households. For instance, if an adult takes care of her elderly mother into her household, we are losing relevant information of a substantial in-kind transfer (Cox et al, 2006). Since the MxFLS data does not include relevant intra-household transfers information, the analysis at individual level will be incomplete. Therefore, the empirical evaluation of the effect of formal financial access on private transfer should be done at household level. The assumption behind this choice is that all member of the households pool at least part of the resources they get from each financial service (e.g.: a loan) and/or from each inter-household transfer.

In my project, I keep households that have lived in the same municipality in the period 2002-2005 and

[8] In the MxFLS , every household member with 15 years of age or more is considered an adult.

[9] It includes transfers parents-children, children-parents and among siblings. Each part of the transfer: receiver and giver must live in different households.

[10] Along the current version of this research project, I will use three categories of inter-household transfer: Money transfers, in-kind transfers, and all transfers. The latter will include any type of transfer: Money, in-kind and/or time. Unfortunately, I have not been able to get access to detailed time transfer data yet.

that have no missing information on the relevant variables of my study: credit/saving information, inter-household transfer, expenditure per-capita and household head characteristics. Since households could have split between the years 2002 and 2005, I merge every household in 2002 with the household in which its head was living in 2005. Moreover, I work with 132 municipalities[11]: 59 of them in which an Azteca bank was opened in 2002 (treatment group) and 73 of them in which Azteca did not open (control group)[12]. On my final sample of households, I keep 5974 households (76% of original sample in MxFLS): 57% in the treatment group and 43% in the control group.

Additionally, I use the Mexican Banking History Database constructed by the National Banking and Securities Commission of Mexico (CNBV) to distinguish the set of municipalities in which Azteca bank was opened in 2002. Even more, this database provides information about the presence of other commercial banks at municipality level in the years 2002 and 2005. In this research I use the "Dataset Mexico's Municipalities Savings and Intermediation", recently published on July 2014[13]. As it is recognized by the CNVB, this data corrects potential mistakes on financial issues registries at municipality level previously published by the same institution.

Finally, I also use data from the Population and Economic Censuses of Mexico for the years 1995, 2000 and 2005[14] to construct a set development indicators at municipality level: GDP per capita, density index, Gini index, literacy rate, a service index[15] an asset index[16] and headcount poverty rate.

3.1 Summary Statistics - Comparing the Azteca and Non Azteca Sample

In this subsection, I compare the set of municipalities and household characteristics between the Azteca and Non- Azteca samples. The Azteca sample refers to the set of households that live in a municipality in which Azteca Bank opened a branch in 2002. As previously explained, even though Elektra Group did not choose the location of the Azteca Bank's branches endogenously, it is expected to find differences in the average characteristics for the municipalities in the Azteca and Non-Azteca group (hereafter, also known as the treatment and control group respectively). The latter is due to the fact that, before 2002, Elektra could have chosen the stores' location based on certain municipality characteristics.

As it is shown on Table 1, the average characteristics of the municipalities in the treatment group are substantially different to those in the control group. As it is expected, Elektra stores were present in

[11] I exclude Mexico City because I do not have detail bank information at municipality level for this province.

[12] In my sample, there are two municipalities in which Azteca bank opened in 2004. I have included those two municipalities in the control group. Azteca bank have not left any municipality in my treatment group after it entered in October 2002

[13] http://www.cnbv.gob.mx/CNBV/Estudios-de-la-CNBV/Paginas/Bases-de-Datos-y-Reportes-de-Analisis.aspx

[14] Data Source: National Statistics Bureau of Mexico (INEGI, its acronym in Spanish).

[15] It is defined as the average of the proportion of households that have electricity, the proportion of households with access to pipe water and the proportion of household that have public sewage service at municipality level.

[16] It is defined as the average of the proportion of households that have TV, the proportion of households that have refrigerator, the proportion of household that have a washer machine and the proportion of households that have a computer at municipality level.

municipalities with greater Gross Domestic Product (GDP) per capita[17], density, alphabetization rates, less poverty and they are more likely to be located in urban areas. Furthermore, under the assumption that the use and demand of electrical appliances are highly correlated, we must expect a greater asset index in the Azteca municipalities. In fact, while the asset index is around 44% in the Non-Azteca group, it is 57% in the Azteca group. A key piece of information, which is also observed in Table 1, corresponds to the number of commercial banking branches per adult population[18] before the Azteca entry. While the latter baking access index is 0.12 in the treatment municipalities, it is only 0.03 among the control municipalities. As a consequence, the entrance of Azteca Bank was concentrated in places in which other traditional banks were previously offering services, at least to some sector of the population. Nonetheless, it is important to recall that Azteca Bank has always targeted low income and low educated households, which were previously excluded from the traditional banking system. The results of a variable specific mean t-test are shown in the last two columns in Table 1[19]. With this information, we can conclude that the treatment and control municipalities are different in all but one variable: the Gini Index. The differences between the treatment and control municipalities at the baseline will be taken into account in the Empirical Strategy Section.

Table 1: Municipality Characteristics in Treatment and Control Municipalities (N=132)

VARIABLES	Non_Azteca 02	Azteca 02	Mean Test	
			T-statistic	P-value
GDP_pc_2000	9831.8	14048	4.64	**0**
(GDP_pc_2000)^2	1.30x(10^8)	2.20x(10^8)	3.55	**0.001**
Density 2000	194.37	1204.4	2.79	**0.006**
Asset Index	43.962	56.616	5.82	**0**
Service Index	75.506	86.313	5.49	**0**
Poverty Rate 2000	33.878	20.08	-4.36	**0**
GINI Index 2000	0.46801	0.47534	0.72	0.474
Branches per population (>14)	0.03215	0.12851	8.38	**0**
Alphabetization Rate 2000	84.962	92.067	5.08	**0**
Rural Index	0.68493	0.27119	-5.15	**0**
N. of Municipalities	***73 (55%)***	***59 (45%)***		

(Joint nean test - LR chi2 Statistic = 87.50 / P-value = 0.000)

On Table 2, I compare relevant households characteristics between those that have lived in the Azteca and Non-Azteca municipalities in the baseline year 2002. In this table, I confirm that there is an unbalance between households in each group. In particular, more households in the control group live in rural communities and their household head has higher probability to be less educated[20]. Moreover, at the baseline a

[17] Measured in Mexican Pesos -$ - of year 1993.

[18] This variable is the most common baking access indicator used by the National Banking and Securities Commission of Mexico (CNBV) and is calculated as the number of banking branches divided by the number of individuals with 15 years or more in a specific municipality.

[19] Whenever the p-value is lower than 0.05, we reject the null hypothesis that the Azteca and Non-Azteca municipalities have the same mean at the 95% of confidence.

[20] A household head is considered low educated is her level level of education is at most elementary school.

greater proportion of households know that they can get credit from a bank in the treatment group. More importantly, a greater proportion of households have given a transfer in the Azteca group. Those differences are relevant for the interpretation of the results. Finally, it is relevant to notice that while 39% of the households in the control group had access to a commercial bank on September 2002, this indicator is 99% among the households in the treatment group. This difference takes into account later in the Empirical Strategy Section.

Table 2: Household Characteritics in Treated and Control Municipalities at baseline (2002)

	Non_Azteca 02' **(1)**	**Azteca 02'** **(2)**	**Difference** **(3)**
Proportion of Households …			
Credit	18.50	20.82	2.32
Credit from a Bank	0.63	0.82	0.19
Know they can get a credit from a bank	10.56	13.83	**3.26***
Give Transfer	50.56	62.39	**11.84*****
Receive Transfer	42.99	47.16	4.17
Hh head low educated	73.13	57.11	**-16.02*****
Rural	66.38	26.83	**-39.55*****
Hh have access to commercial bank	38.88	98.96	**60.08*****
Hh split 2002 - 2005	19.83	17.00	**-2.82***
Hh member migrated municipality 2002 -2005	6.78	6.01	-0.77
Hh member migrated to USA 2002 -2005	1.4	0.9	-0.49
N Hh	*2,968 (43%)*	*3,276 (57%)*	*Total = 5,974*
N Mun	*73 (55%)*	*59 (45%)*	*Total = 132*

3.2 Participation in inter-household transfers - Cross section Analysis in 2002

Before estimating the impact of the Azteca Bank opening on inter-household transfers, it is worthy to understand which variables are associated with a greater participation and bigger amounts of transfers in a non-causal fashion. In this section, I use an OLS regression to understand which variables covariates with the participation in inter-household transfers in year 2002. The set of dependent variables is organized in three categories: first category is the probability of receiving an inter-household transfer. Second category is the probability of giving an inter-household transfer. Third category is the dependence of household's expenditure on transfers: in order to get an idea of the relevance of the received/given money through private inter-household transfers, I follow Cox et al (2006) and I calculate the expenditure relative (ER) amount of received, given and net transfers. In order to create those variables, I divide the total amount of received, given and net transfers (received minus given) of each household over its estimated annual total expenditure[21]. The main results of those regressions are presented in Table 3.

[21] In the MxFLS survey, adult members of each household is asked about her participation in inter-household transfers in the last 12 months. Therefore, amount of money received/given in transfers correspond to a period of 12 months before the date of the survey. As a consequence, I use the data from the expenditure module to get an estimate of the annual household expenditure. I prorate monthly and quarterly expenditure to yearly expenditure.

Table 3: Cross Section Analysis of Inter-Household Transfers

	(1)	(2)	(3)	(4)	(5)
	Prob. of receiving a transfer	**Prob. of giving a transfer**	**Transfer amount / Expenditure**		
VARIABLES			Received	Given	Net
Know they can get a credit from a bank	-1.53	5.15**	-0.67	0.85**	-1.52***
	(3.12)	(2.21)	(0.48)	(0.35)	(0.55)
Middle PCE	4.03**	9.17***	-0.16	-0.03	-0.13
	(1.59)	(1.53)	(0.46)	(0.27)	(0.53)
High PCE	3.48**	16.24***	-1.00**	-0.08	-0.91*
	(1.65)	(1.77)	(0.41)	(0.31)	(0.47)
Educ. Hh Elementary Complete	0.10	3.26	-0.61	0.81**	-1.42**
	(2.15)	(2.01)	(0.59)	(0.31)	(0.67)
Educ. Hh Secondary Complete	1.54	4.47*	-0.41	1.20***	-1.62**
	(2.40)	(2.61)	(0.71)	(0.43)	(0.81)
Educ. Hh Superior	-2.28	7.99**	-0.56	3.42***	-3.98***
	(3.21)	(3.15)	(0.81)	(0.68)	(1.02)
Male Hh	-10.17***	2.94	-2.84***	0.49	-3.33***
	(2.17)	(2.08)	(0.69)	(0.46)	(0.80)
Married Hh	6.04**	9.38***	0.41	0.40	0.02
	(2.51)	(2.17)	(0.77)	(0.52)	(0.83)
Hh had a health shock in 2002	4.61***	-0.00	0.28	-0.07	0.35
	(1.64)	(1.47)	(0.42)	(0.28)	(0.47)
Hh had an economic shock in 2002	7.22***	6.44***	0.48	0.07	0.42
	(2.12)	(1.79)	(0.45)	(0.37)	(0.51)
Hh suffered a natural disaster in 2002	-3.94	-5.30	-0.72	-0.02	-0.71
	(5.34)	(5.50)	(0.77)	(0.85)	(1.13)
Number of Households	*5,974*	*5,974*	*5,872*	*5,872*	*5,872*
R-squared	*0.10*	*0.18*	*0.08*	*0.07*	*0.08*

Note: All the regressions have included the following additional controls: Whether the students have gotten a credit from a bank, whether the students have participated in a ROSCA, age of household head, number of adults in household, number of children in household, wether they lived in a rural locality and a constant. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Some interesting results show up in this table. For households with similar household head's characteristics in terms of education, age and marital status, similar household composition and that belong to the same tercile of per capita expenditure within their municipalities, a greater access to banking credit is associated with an increase in the probability of giving an inter-household transfer as well as with an increase in the ER amount of given transfers. Knowing that at least one member of the household is able to get a credit from a bank is associated with an increase of 5% in the probability of giving a transfer. Even more, it increases the amount of given transfers by 0.8% of the annual expenditure of the households and therefore, it has a negative impact on the net amount of transfer. On the other hand, results in Table 3 show that access to formal credit has a negative and not significant effect on the probability of receiving a transfer, as well as the ER received amount. As a whole, these results suggest that there is some complementarity between access

to formal credit and inter-household transfers. While households with more access to credit are more likely to behave as givers of transfers, this does not affect the probability of behaving as receivers. Nonetheless, the latter is not a causal analysis and its conclusion is revised in Section 5 of the paper.

In Table 3, I observe how the level of welfare is related to participation in inter-household transfers. In particular, being in the middle or high per capita expenditure (PCE) tercile within your municipality increases the probability of receiving an inter-household transfer in comparison to the low PCE tercile and, as expected it increases the probability of giving transfers. Even more, being in the high PCE tercile decreases the net received amount in transfer in a quantity equivalent to 1% of the household's expenditure. The latter is a sign that the transfers in Mexico flow from high to low welfare households which is a common pattern in developing countries (Cox et al 2006). Among other interesting results in Table 3 we can find the following. First, having a household head with superior education increases the probability of giving an inter-household transfer from/to family members. Nonetheless, those households give more than the amount they receive in comparison to the ones in which the household head has not finished elementary school. Second, households with a male household head have a lower probability of receiving an inter-household transfer in comparison with female headed households and also, receive relatively less transfers as a proportion of the expenditure of the household[22]. Third, being married increases the probability of both giving and receiving inter-household transfers.

Finally, since inter-household transfers are the tangible representation of the local safety nets, I expect a greater probability of receiving a transfer among the households that have received an idiosyncratic shock. In the cross-section regression, I have considered three different types of shocks: health shocks (whether a member of the household has died or gotten sick in the last 12 months), economic shocks (whether a member of the household have lost her job or business in the last 12 months) and natural disasters. While natural disasters are common shocks, health shocks are mainly idiosyncratic. On the other hand, the economic shock could be a consequence of a mix between idiosyncratic (e.g. bad decisions) and common components (e.g. economic cycle). As expected, being exposed to a natural disaster is not correlated with participation in inter-household transfers. In contrast, health and economic shocks increase the probability of receiving an inter-household transfer. Interestingly, economic shocks also increases the probability of giving an inter-household transfers. A potential explanation of the last result is that during bad economic times household support each other exchanging product, money and/or services.

[22]The fact that female headed households receive more transfers is a common phenomenon in developing countries. It is also the case in Jamaica, Nicaragua, Panama, Peru, Nepal and Vietnam (Cox et al 2006).

4 Empirical Strategy

The characteristics of the available data suggest that a difference-in-difference (DID) empirical approach is the appropriate one to estimate the impact of Azteca Bank entrance on inter-household transfers participation and other outcome variables of interest. I have two observations per household in our panel data. One of the observations was collected in 2002, before the treatment was implemented, and the other in 2005. As I have explained before, a household is considered as part of the treatment group whenever Azteca Bank opened a branch in its municipality of residence on October 2002. The DID empirical model can be described with the following equation:

$$Y_{j,m,t} = \alpha + \beta_1 t + \beta_2 Azteca_m * t + \Theta X_{j,m,t} + \Gamma C_{m,t} + \mu_m + \epsilon_{j,m,t} \quad (1)$$

where $Y_{j,m,t}$ is a specific endogenous choice of household j in municipality m at time t.

The most important dependent variable is an indicator dummy that takes value 1 if a household j, living in municipality m, has received and/or given an inter-household transfer at year t. In the set of independent variables, I include a time dummy (t) that takes value 1 in year 2005, municipality fixed effects (μ_m), and the interaction between the treatment variable ($Azteca_m$) and the time dummy (t). The treatment is specified at the municipality level, it takes value 1 if a household j lives in a municipality m in which Azteca Bank opened a branch in 2002. We do not need to include the treatment variable alone in equation 1 because the municipalities fixed effects control for unobserved mean difference between the treatment and control group. Finally, I control for households and municipalities characteristics that change over time ($X_{j,m,t}$ and $C_{m,t}$)[23]. In all the specifications along this project, the standard errors will be clustered at the municipality level.

In the DID methodology, the coefficient of interest is β_2 which captures the pre-post change in the probability of taking the choice $Y_{j,m,t}$ within households in the Azteca and Non-Azteca group. The two assumptions to use this methodology in a credible manner are: (i) Common time trends between the treatment and control group for the dependent variables of interest and (ii) No compositional change in the treatments and control group.

The common time trend assumption holds if and only if the outcome trend would have been identical in the treatment and control municipalities in the absence of Azteca Bank's entry. In order to support this assumption, I should contrast the dynamic of the main outcome variable before the institutional change. In other words, I should compare the trends of inter-households transfers participation in the treatment and con-

[23] $X_{j,m,t}$ includes dummy variables for the maximum educational level achieved by the household head (hh head), splines for age of the hh head, as well as her marital status; the number of adults and children in the household; the presence of health, economic and natural disasters shocks; a dummy variable that takes value one if the household residence is located in an rural locality; and interestingly, I also include a dummy variable that takes value 1 if a household surveyed in 2002 has split in multiple households in 2005. On the other hand, $C_{m,t}$ includes GDP per capita, density, literacy rate and the number of Non-Azteca commercial branches per km^2 at municipality level.

trol group before the year 2002. Unfortunately, this data is not available for the MxFLS sample[24]. Moreover, the differences in municipality characteristics between the Azteca and Non-Azteca sample, described in the previous section, suggests that is unlikely that the common time trend assumption holds in this framework. As a consequence we will follow a slightly different approach: Matching Difference in Difference (MDID).

I will adopt the MDID model described in Abadies(2005). The latter research develops a consistent and asymptotically efficient DID estimator in scenarios in which the observed characteristics suggest non-parallel dynamics. In order to estimate the MDID, Abadies(2005) proposed a two-step strategy. In the step 1, we must used the observed characteristics at the baseline to estimate the probability of being in the treatment group ($\hat{p}(Azteca_m = 1/X_j, C_m)$)[25]. On October 2002, Azteca Bank entered in all the municipalities that previously had an Elektra Group store. Since the entrance of the electronic appliances stores depends on municipality level characteristics, the probability that a household is treated will be the same for every household within the same municipality. In other words, $\hat{p}(Azteca_m = 1/X_j, C_m) = \hat{p}(Azteca_m = 1/C_m)$. In the step 2, we must estimate the following MDID estimator:

$$\hat{\beta}_{2,MDID} = \mathrm{E}_j\left(\frac{Y_{j,m}(t=2005) - Y_{j,m}(t=2002)}{\hat{p}(D_m = 1)} \times \frac{D_m - \hat{p}_m(D_m = 1/C_{m,2002})}{1 - \hat{p}_m(D_m = 1/C_{m,2002})}\right) \tag{2}$$

In order to estimate $\beta_{2,MDID}$ we must linearly regress by OLS a re-weighted version of equation 1. While all the households in the treatment group should keep a weight equal to one, all the household in the control group should have the following weight: $\omega_{j,m} = \frac{\hat{p}_m(D_m=1/C_{m,2002})}{1-\hat{p}_m(D_m=1/C_{m,2002})} \times \frac{1}{\hat{p}(D_m=1)}$. In order to apply the MDID approach, two assumptions are needed (Wooldridge and Imbens, 2009). First, the conditional distribution of the change in the outcome variables at municipality level given C_m must be independent of the assignment of the treatment. It is, $(\Delta Y_m \perp D_m)/C_m$ where $\Delta Y_m = \bar{Y}_m(t=2005) - \bar{Y}_m(t=2002)$. This assumption is called "Conditional Independence" and it is expected to hold when C_m contains most of the relevant information that explains the participation in the treatment group. Along the matching analysis, C_m is composed by a comprehensive set of development indicators: GDP per capita, demographic density, asset index, service index, headcount poverty rate, the GINI index, alphabetization rate, rural index, and the number of commercial baking branches per 1000 adults[26]. The second required assumption is "Overlapping Support" and it holds when the observables characteristics do not predict the participation exactly, which leaves some room for unobserved variables to influence the treatment status. The latter assumption is not controversial and it requires $0 < \hat{p}(D_m = 1/C_m) < 1$.

[24] A alternative could be to use other cross-sectional household survey information in Mexico. I have worked with the National Survey of Income and Expenditure in Mexico (ENIGH for its acronym in Spanish). Nonetheless, the set of municipalities included in its respective samples barely overlap. Even more, the transfers' questionnaires are substantially different. While the MxFLS includes a specific inter-household transfer module, in the ENIGH we must infer the transfers' behavior from the income and expenditure modules.

[25] From now onwards we will replaced the notation of $Azteca_m$ by D_m.

[26] The most important piece of missing information will be the presence of Elektra stores' competitors. I have already gotten the list of main competitors: Vianna, Famsa Coppel and Singer. Unfortunately, until now I have not been able to get data on the locations of these stores for the years 2000, 2001 and 2002.

Once again, under the assumption that just the baseline characteristics at municipality level influence the Elektra stores' entrance decision, the probability that a household participate in the treatment group will be the same for all the households within the same municipality. In order to estimate those probabilities, I estimate a Probit model in which the dependent variable is the presence of an Elektra store in 2002. In this regression, I include the 132 municipalities in the MxFLS sample. The results of the Probit regression are presented in Table 4. As it is expected, Elektra stores are located in municipalities with greater GDP per capita, greater demographic density, greater usage of electronic appliances (asset index), and interestingly, in places with more commercial banking branches per population. Of course, all these variables are highly correlated with each other. Finally, in municipalities with similar GDP per capita, density, alphabetization rate and number of banking branches per population, the probability of having an Elektra store in 2002 increases with a greater rate of poverty. In other words, Elektra stores are located in highly developed municipalities but not necessarily in the richest group of municipalities. The latter will guarantee to have some segment of common support.

Table 4: Probit Results - Municipality level determinants of having an Elektra Store at baseline

VARIABLES	Elektra Store 2002
GDP_pc_2000	0.000412**
(GDP_pc_2000)^2	-1.48e-08***
Density 2000	0.000472*
Asset Index 2000	0.109**
Service Index 2000	-0.0236
Poverty Rate 2000	0.0674**
GINI Index 2000	-7.046**
Branches per population (>14)	13.04***
Alphabetization Rate 2000	0.0140
Rural Index	-0.340
Constant	-6.847
Observations	*132*

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 3: Distribution of Propensity Score - Complete Sample (N=132)

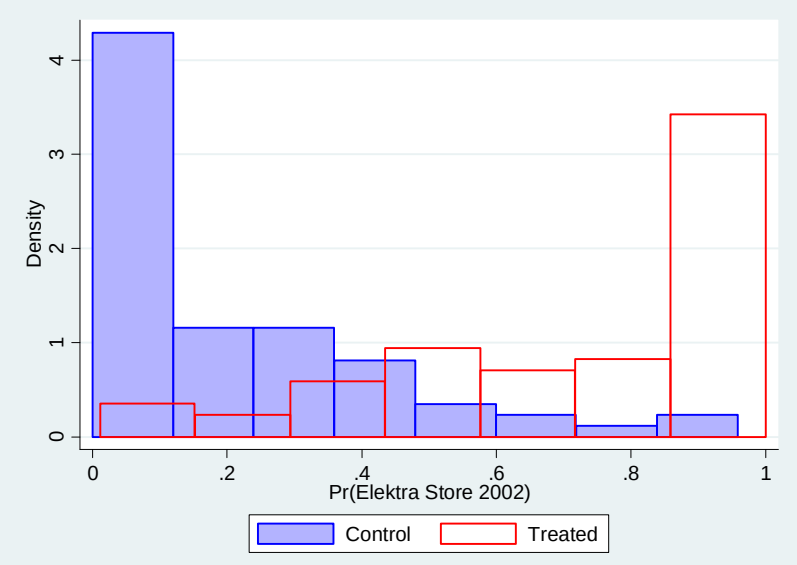
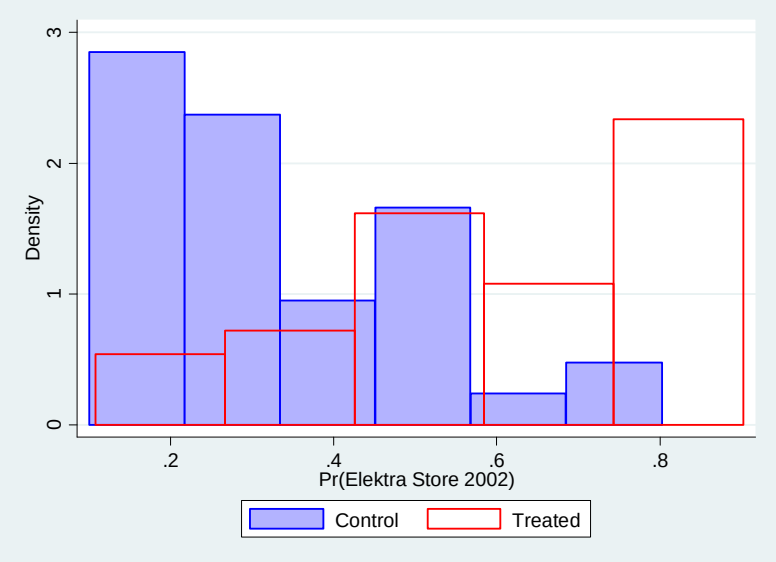


Figure 3 shows the distribution of the propensity score ($\hat{p}(D_m = 1/C_m)$) for the municipalities in the treatment and control group. Once again, given the information in this figure we confirm that the set of municipalities in the treatment and control group are dissimilar. As it has been pointed out by Hotz et al (2009), the lack of enough overlap in the distribution of propensity scores generates imprecise matching estimates. The intuition behind the latter statement is simple. The little overlap leads to a bigger variance in the weights and consequently, it also increases the variances of the estimates in the regression. In order to obtain more precise estimates, Hotz et al.(2009) suggest to trim the sample and keep those observation that holds the following condition: $\hat{\alpha} < \hat{p}(D_m = 1/C_m) < 1 - \hat{\alpha}$. Under the additional assumption that $Var(\Delta Y_m/C_m, D_m = 1) = Var(\Delta Y_m/C_m, D_m = 0)$, the previous research derive an expression for $\hat{\alpha}$ than only depends on baseline municipality characteristics (C_m). Hotz et al (2009) states that the optimal cut-off is the smalles α that solves the following expression:

$$\frac{1}{\alpha(1-\alpha)} \leq 2\frac{\Sigma_{i=1}^{N}[1_{\{\hat{p}(C_m)(1-\hat{p}(C_m))\geq\alpha(1-\alpha)\}}/\hat{p}(C_m)(1-\hat{p}(C_m))]}{\Sigma_{i=1}^{N}1_{\{\hat{p}(C_m)(1-\hat{p}(C_m))\geq\alpha(1-\alpha)\}}} \tag{3}$$

The estimated value of $\hat{\alpha}$ in this project is 0.0926 and once I apply this optimal cut-off, we keep 71 out 132 municipalities. Figure 4 presents the distribution of the propensity scores in each group for the remaining municipalities. The area of common support has increased.

Figure 4: Distribution of Propensity Score - Trimmed Sample (N=71)



In the remaining of the paper, I use the matched sample. The latter sample will have two characteristics. First, it includes a set of 71 municipalities (36 in the control and 35 in the treatment group). In terms of households, I keep 3129 (out of 5974) households. From those households, 57% are in the treatment group. Second, all future analysis will consider the sample of municipalities or households with its respective weights. Once we restrict our attention to the matched sample, the municipality development indicators are balanced between the treatment and control group. As we can observe in Table 5, all the average municipality characteristics are statistically equivalent between the treatment and control group. Additionally, table A2 (Appendix A) show that the GDP per capita, demographic density, alphabetization rate and service index have followed a statistically indistinguishable trend between the years 1995 and 2000.

Table 5: Test of common support at municipality level - After Matching Procedure

VARIABLES	Non_Azteca 02	Azteca 02	Mean Test	
			T-statistic	P-value
GDP_pc_2000	11820	12749	0.75	0.453
(GDP_pc_2000)^2	1.70x(10^8)	1.90x(10^8)	0.5	0.62
Density 2000	363.26	289.02	-0.4	0.688
Asset Index	51.612	53.759	1.03	0.309
Service Index	83.241	83.616	0.17	0.866
Poverty Rate 2000	25.072	24.037	-0.28	0.78
GINI Index 2000	0.48594	0.4719	-0.93	0.356
Branches per population (>14)	0.09979	0.09551	-0.27	0.787
Alphabetization Rate 2000	89.316	90.362	0.72	0.474
Rural Index	0.44006	0.37143	-0.58	0.565
N. of Municipalities	***36 (51%)***	***35 (49%)***		

(Joint nean test - LR chi2 Statistic = 87.50 / P-value = 0.000)

Moreover, as it is shown in Table 6, almost all the average household characteristics in the matching sample are balanced. Unfortunately, the proportion of households that have used a credit from a bank in 2002 is greater in the treatment group. A very small proportion of households declared to use banking credit in the MxFLS. Out of the 8441 households in the MxFLS, around 50 households declared to use a banking credit in 2002 (0.6%). This number increase to 90 (1%) in 2005. Since these are small shares of the total population, I do not expect them to bias the results presented in the next sections. Nonetheless, given the unbalance in this variable, I am not be able to interpret the impact of Azteca Bank entry on banking credit use as a causal effect. Finally, even though there is also an unbalance in the access to Non-Azteca commercial banks, this will not be a concern to interpret the result because I control for this variable in all regressions. More concretely, I control for the number of Non-Azteca commercial banking branches per km^2 in the municipality at time $t = \{2002, 2005\}$[27].

Table 6: Household Characteritics in Treated and Control Municipalities at baseline - After Matching Procedure

	Non_Azteca 02' (1)	**Azteca 02' (2)**	**Difference (3)**
Proportion of Households …			
Credit	23.74	21.46	-2.28
Credit from a Bank	0.40	1.07	**0.67***
Know they can get a credit from a bank	11.22	12.47	1.25
Give Transfer	59.04	63.20	4.17
Receive Transfer	49.83	49.10	-0.73
Hh head low educated	63.74	61.74	-2.00
Rural	42.56	38.65	-3.91
Hh have access to commercial bank	82.43	98.09	**15.66****
Hh split 2002 - 2005	17.85	17.58	-0.26
Hh member migrated municipality 2002 -2005	6.27	6.18	-0.09
Hh member migrated to USA 2002 -2005	1.5	0.8	0.68
N Hh	*1,349 (43%)*	*1,780 (57%)*	*Total = 3,129*
N Mun	*36 (51%)*	*35 (49%)*	*Total = 71*

Recall that I adopt the MDID approach in order to construct a better counter-factual for our treated households. Given the baseline information, it was unlikely that the common trend assumption holds. Using the MDID methodology, I obtain a re-weighted balance sample. However, this is not the only assumption to implement a Difference in Difference methodology safely. It is also important to show that the entrance of Azteca Bank has not caused differentiated compositional change in the treatment and control group. As it is shown in Table 6, the entry of Azteca Bank has had no effect on the probability that a household split into multiple households in 2005, in the probability that a household member migrated to a different

[27] Azteca target a specific and previously excluded segment of the population. Azteca Bank offered appealing services to low income/low educated households. As it has been shown by Schwabe and Marin (2014), the retail banking industry does not have a significant competition effect on the tradition commercial banking firms.

municipality in the period 2002-2005 or on the probability that a household member migrated to the U.S. in the same period [28]. Moreover, in Table A2 (Appendix A), the Azteca Bank entry has not altered attrition in the matching sample. Therefore, we can conclude that the second assumption is not a concern to the implementation of the MDID approach.

Overall, the MDID approach seems to be the appropriate for this project. Nonetheless, there are two potential concerns that are important to discuss. First, as it has been explained before, I follow Hotz et al (2009) to trim the sample in order to avoid imprecise estimates. This research uses a variance minimization criterion to develop a simple procedure that is able to estimate an optimal "average treatment effect" (ATE). Nonetheless, any DID procedure estimates the "average treatment on the treated" (ATT). At the best of my knowledge, there is no any econometric paper that shows how to trim the sample in order to get an optimal ATT. Second, given that I trim the sample of interest, the results of this study lack external validity. In compensation, it guarantees to have internal validity and it helps to understand the impact of formal financial access expansion on the participation in inter-household transfers.

4.1 Heterogeneous Effects

As mentioned before, Azteca bank has targeted mainly low income population since its entrance in 2002. In this line, Ruiz (2010) has found that the effects on substitution from informal to formal (bank) credit has been more important for households in the low per capita expenditure (PCE) deciles in 2002. In order to evaluate potential heterogeneous effects, I use the following empirical model:

$$\begin{aligned} Y_{j,m,t} =& \alpha + \sum_{i=2}^{3} \lambda_i Terc_i + \sum_{i=2}^{3} \kappa_i Terc_i * Azteca_m + \sum_{i=2}^{3} \gamma_i Terc_i * t + \beta * t + \sum_{i=1}^{3} \delta_i Terc_i * Azteca_m * t \\ &+ \Theta X_{j,m,t} + \Psi C_{m,t} + \mu_m + \epsilon_{j,m,t} \end{aligned} \tag{4}$$

This in the same model as in equation 1, but I include the interaction between each tercile of PCE in 2002 with the time dummy, the interaction of each tercile with the treatment variable and finally, the triple interaction between each tercile of PCE, the time dummy and the Azteca treatment variable. Consequently, I exclude the double interaction between the time and treatment dummies to avoid perfect multicollinearity concerns. This model guarantees to obtain the heterogeneous effect for each tercile, that is captured by each δ_i. It is important to indicate that I calculate the terciles of income within municipalities and therefore, the fact that a household belongs to a specific PCE tercile is a relative measure. The intuition behind this decision is that Azteca bank targeted low income households within each municipality, independently on the

[28] To construct the migratory history of the household members I have used the information gathered in MxFLS round 2 and MxFLS round 3. The latter one follow individuals to the new place of residence, independently of its location.

absolute level of welfare[29]. This model is estimated using the matching sample, which considers the estimated weights.

4.2 Impact on the probability of receiving a transfers after being affected by a negative shock

Previous evidence in the literature has shown that inter-household transfers do inhibit large fluctuations in consumption in the face of unexpected changes in income (Foster and Rosenzweig, 1996; Flory, 2012; among others). Recall from Section 4 that the presence of idiosyncratic negative shocks is positive correlated with the probability of receiving an inter-household transfer. In this context, it is relevant to understand the impact of banking services expansion on the probability of receiving a transfer given that the household has received a negative shock. I estimate the latter effect using the following triple difference equation:

$$Y_{j,m,t} = \alpha + \beta_1 tr * t * Sh + \beta_2 tr * t + \beta_3 tr * Sh + \beta_4 t * Sh + \beta_5 tr + \beta_6 t + \beta_7 Sh + \epsilon_{j,m,t} \quad (5)$$

Where $Y_{j,m,t}$ is a dummy variable that takes value1 if at least one member of the household j that lives in municipality m has received an inter-household transfer at time t. After some simple calculation the MDID estimator of interest will be equal to $\beta 1 + \beta 2$:

$$\begin{aligned}
&\{P[Y/tr = 1, t = 1, sh = 1] - P[Y/tr = 1, t = 0, sh = 1]\} \\
&- \{P[Y/tr = 0, t = 1, sh = 1] - P[Y/tr = 0, t = 0, sh = 1]\} \\
&= \beta_1 + \beta_2
\end{aligned}$$

5 Results

In this section, I present the results obtained from the MDID strategy. Any table presented in this table can be compared with its counterpart DID estimates presented in Appendix B.

5.1 Effect on financial choices and financial inclusion

I start by analyzing how the entrance of Azteca bank has impacted the financial environment and choices of the Mexican households. In Table 7, I show the impact on the use of formal and informal financial products as welll as on the knowledge of being able to get a credit from a bank. While credit use could depend on transitory needs, the knowledge of being able to get a credit from a bank is a more stable measure. An expansion in the access to banking services (in particular, banking credit) will lead to an expansion

[29] For instance, we will compare the relatively low PCE households within Oaxaca with those relative low PCE households within Monterrey.

in banking inclusion if the credit demand side becomes conscious that there are more opportunities to get banking credit[30]. As it is shown in Table 7, the entrance of Azteca Bank has a positive and significant impact on banking inclusion. In fact, the probability that a household knows that it is able to get a credit from a bank increase in 5 percentage points. Since the probability of being able to get a credit from a Bank was 11.8% at baseline, Azteca Bank entry has increased banking inclusion by 46%.

Table 7: Azteca Effect on the probability of getting a specific financial service - MDID results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Credit	Credit from Pawn-Brokers	Credit from family and friends	Credit from Bank	Know they can get Credit from Bank	Credit Amount	ROSCA
Azt02*t	-1.61	1.33	-1.06	-0.06	**5.43***	1,324.40	-3.27
	(3.66)	(1.82)	(2.33)	(0.74)	**(3.20)**	(987.86)	(2.79)
t	-3.17	-1.16	-2.73	1.46*	1.66	1,005.39	-9.66***
	(2.83)	(1.05)	(2.22)	(0.77)	(3.19)	(788.40)	(2.41)
N Hh	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*
Mean 2002	*22.6*	*2.2*	*11.9*	*0.7*	*11.8*	*2517.1*	*24.2*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

In Table 7, it is shown that Azteca Bank has no a significant impact on the use of any category of credit. In particular, there is no impact on getting a credit from a bank. While just 0.7% of the total sample used a credit from a bank in 2002, this proportion has tripled in 2005 for both groups of households: the ones that live in Azteca and Non-Azteca municipalities. Despite the relatively big increase in the use of credit, I do not find evidence that the Azteca Bank entry has promoted more banking credit use. With respect to this result two important comments are in order. First, retail banking credit in Mexico is usually characterized by small amounts and high interest rate. As it was indicated in Section 2, retail banking is closer to microfinance credit than traditional commercial credit. Therefore, even though we do not find a differential effect on banking credit, the type of credit that has increased between 2002 and 2005 in both set of municipalities can have different characteristics. Second, as I show in Section 2, the use of credit of a bank was not balanced in the baseline and therefore it is likely that the common trend assumption does not hold for this variable. As a consequence, the reported estimate could be bias and it should not be taken as the causal effect of the entrance of Azteca Bank on banking credit use. On the other hand, there is no impact on the use of informal financial services. In particular, there is no impact of the entrance of Azteca bank on the probability of

[30]Therefore, I will use the knowledge variable as a proxy of banking inclusion.

getting a credit from family and friends or pawn-broker nor in the probability of participating in a ROSCA.

In order to better understand the results it is important to mention that just one municipality (out of 35) in the treated municipalities was unbanked before the entrance of Azteca Bank[31]. Therefore, the expansion of baking access promoted by Azteca Bank has been concentrated on the intensive margin. Azteca bank targeted low income and low educated households, traditionally excluded from the commercial banking system. Given this scenario, it is necessary to evaluate the impact of its entrance for households with different level of current welfare in 2002. As I explain in Section 4, I also estimate the impact for households in different terciles of per capita expenditure in 2002. The heterogeneous analysis for the impact of the entrance of Azteca bank on banking inclusion and use of financial services is shown in Table 8.

Table 8: Azteca Effect on the probability of getting a specific financial service - MDID results - Tercile Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Credit	Credit from Pawn-Brokers	Credit from family and friends	Credit from Bank	Know they can get Credit from Bank	Credit Amount	ROSCA
Low PCE*Azt02*t	-2.17	2.28	-2.44	0.11	**9.03***	**3,789.76***	-3.03
	(4.00)	(2.53)	(3.70)	(1.30)	**(5.11)**	**(2,033.93)**	(4.50)
Mid. PCE*Azt02*t	-2.46	-0.41	-4.15	0.84	2.61	1,654.93	**-7.46****
	(4.29)	(1.10)	(2.54)	(0.89)	(3.61)	(1,445.71)	**(3.36)**
High PCE*Azt02*t	-0.33	2.04	3.58	-1.18	4.40	-1,599.69	0.85
	(5.32)	(2.84)	(4.06)	(1.28)	(4.02)	(1,806.76)	(5.86)
N Hh	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*
Mean 2002							
Low Income	*19.6*	*2.5*	*10.6*	*0.4*	*10*	*2140*	*18.5*
Middle Income	*21.3*	*1.5*	*11.1*	*0.9*	*11.8*	*1754.5*	*23.8*
High Income	*27.1*	*2.5*	*14.2*	*0.9*	*13.8*	*3696.9*	*27.4*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

As we can see in this table, the expansion of banking services has a positive and significant impact on banking inclusion just for the low per capita expenditue (PCE) group. Even more, the Azteca Bank entry has a positive and significant effect on the credit amount used by low PCE households. The estimated coefficient is equivalent to US $ 380 and it is huge with respect to its baseline mean[32]. In Table 8, I confirm that the entrance of Azteca bank has expanded the access to formal credit mostly in the intensive margin. In addition, it is important to keep in mind that the entrance of Azteca bank could have had an indirect

[31] In fact, in the whole Mexico, this is the only case in which a retail bank (Azteca in this case) was the bank in the municipality.

[32] This effect can be caused by the indirect competition effects of Azteca Bank entry on the characteristic of products offered by informal sources. It is relevant to keep in mind that the most common product offered by Azteca Bank since January 2003 were $500 loans.

competition effect. This entrance could have incentivized pawn-broker and money-lenders to offer different credit products, potentially characterized by larger amounts.

Before proceeding with the impact of the entrance of Azteca bank in inter-household transfers, it is important to recall that Muz (2013) does not find a consistent and significant effect on per capita expenditure. In Appendix D, I show the MDID results for the impact of Azteca Bank in consumption patterns. In a nutshell, the entrance of Azteca bank has no effect on the PCE in non-durables nor durables goods. Nonetheless, from the heterogeneous analysis we can observe a moderate decrease in the PCE in food for the set of high PCE households in 2002. Along the rest of the paper, I keep in mind that the expansion of formal financial services, through the entrance of Azteca Bank, seems not to have an income effect.

The main conclusions of Section 5.1 are as follows: (i) Azte Bank entry has expanded not just baking (physical) access but most importantly banking inclusion. Households in treated municipalities, and especially those in the low PCE group, are conscious that they are able to get a banking credit. (ii) In the case of low PCE households, the entrance of Azteca has boosted the used amount of credit. The latter could be driven by the indirect competition effect of Azteca entrance on alternative sources of credit. The effect on credit amount for low PCE households can substitute/complement inter-household transfers.

5.2 Effect on Transfers Participation

In this section, I present the impact of Azteca bank entrance on participation in inter-household transfers. I consider two sets of dependent variables: (i) The probability of receiving a transfer, that includes variables that indicate whether or not a household has received an inter-household transfer in money, in-kind or any transfer either from a family or non-family member. (ii) The probability of giving a transfer, that includes a similar set of indicator variables that take value one if a household has given a transfer of a specific category. While tables 9 and 10 show the results for the impact on the whole sample, tables 11 and 12 show the heterogeneous impact by level of current welfare.

Table 9: Azteca Effect on the probability of receiving a trasfer - MDID results

VARIABLES	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
Azt02*t	-4.24	-1.60	**-3.59****	-4.24	-1.84	**-2.46*****	-5.88	-5.16	**-3.60*****
	(3.67)	(3.20)	**(1.57)**	(3.07)	(3.48)	**(0.77)**	(4.75)	(4.87)	**(1.34)**
t	-9.15**	-10.51***	0.98	2.55	-0.15	1.05	-10.12*	-10.46*	1.70
	(3.77)	(3.38)	(1.78)	(3.70)	(3.99)	(0.92)	(5.59)	(5.70)	(1.83)
N Hh	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*
Mean 2002	*35.49*	*33.21*	*5.2*	*18.83*	*21.62*	*3.18*	*49.47*	*47.2*	*7.19*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

In Table 9, we observe that the expansion of formal financial services has reduced the probability of receiving all the categories of inter-household transfers. However, this effect is relevant and statistically significant just for the probability of receiving any categories of transfers from other households. For instance, the probability of receiving any kind of transfer from other non-family households has decreased in 3.6 percentage points, which is equivalent to 50% of the average mean at baseline. Since typically, the relations with non-family members are weaker than the relations with family members, these results suggest that the weaker relationships in the local safety nets are the first to be affected by the expansion of the banking services.

Table 10: Azteca Effect on the probability of giving a trasfer - MDID results

VARIABLES	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
Azt02*t	**-5.77***	0.10	**-6.24***	**-6.89****	**-7.69****	-2.99	**-11.12*****	**-8.17****	-9.16
	(3.45)	(3.77)	**(3.29)**	**(2.72)**	**(3.83)**	(3.43)	**(4.19)**	**(3.85)**	(5.64)
t	-14.19***	-14.84***	-3.34	-4.83*	-2.07	-6.11**	-12.05***	-12.00***	-8.12*
	(3.72)	(3.87)	(3.11)	(2.62)	(3.28)	(2.61)	(4.11)	(3.84)	(4.62)
N Hh	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*
Mean 2002	*46.11*	*41.55*	*14.95*	*29.14*	*25.95*	*14.57*	*61.12*	*55.59*	*26.43*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table 10 shows the impact of the entrance of Azteca Bank on the probability of giving a transfer. There are two interesting results to notice in this table: (i) The probability of giving a monetary transfers has decreased. Nonetheless, the latter result seems to be driven by a decrease in the probability of giving a monetary transfers to non-family households. Once again, it suggests that the weaker connections in the local safety nets are the most impacted by the expansion of formal financial services. (ii) The probability of

giving an in-kind transfer has decreased and this change is more relevant among family members in different households. I argue that we must expect a greater substitution effect on in-kind transfers than in monetary transfers. First, because unlike monetary transfers, in-kind transfers are commonly exchanged within each municipality. Second, the expansion of credit banking can increase the monetary resources in the economy. Therefore, while households can get credit and re-lend pat of the resources they get, the same is not true with in-kind transfers.

Moving to the heterogeneous analysis by level of PCE, Table 11 shows that the reduction in the probability of receiving an inter-household transfer is concentrated in low PCE group. Even more, it is relevant to notice that the negative changes are substantial when we compare the estimates with the baseline probabilities of receiving an inter-household transfer. In fact, while probability of receiving any inter-household transfer has decreased in 16.4 percentage point which represent a reduction of 35%. In other words, one of every three low PCE households receiving an inter household transfer in 2002 has stopped receiving any transfer by 2005. It is important to keep in mind that behind those results there could be two different forces: On the one hand, low PCE household could have stopped asking for transfers. This could reflect a potential subtitution effect between credit use and inter-household transfers. On the other hand, households in the middle and high PCE group could have reshaped their own safety network and they could have stopped giving transfers to the households in the low PCE.

Table 11: Azteca Effect on the probability of receiving a trasfer - MDID results - Tercile Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	Money	Money_Fam	Money_Oth	InKind	InK_Fam	Ink_Oth	All	All_Fam	All_Oth
Low PCE*Azt02*t	**-8.92***	-5.93	**-4.73****	**-8.89****	-6.00	**-5.59*****	**-16.36****	**-14.68***	**-7.29*****
	(4.84)	(4.91)	**(1.98)**	**(3.89)**	(4.39)	**(1.56)**	**(7.39)**	**(7.41)**	**(1.58)**
Mid. PCE*Azt02*t	-2.93	-0.39	-2.36	-0.77	-2.01	**-1.75***	2.36	1.80	-0.13
	(6.26)	(5.49)	(1.97)	(5.56)	(5.47)	**(0.93)**	(4.78)	(5.05)	(1.96)
High PCE*Azt02*t	-0.73	1.69	-3.70*	-2.87	2.68	0.17	-3.31	-2.26	-3.20
	(5.26)	(5.43)	(2.10)	(3.85)	(4.08)	(1.42)	(5.77)	(5.97)	(2.52)
N Hh	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*
Mean 2002									
Low Income	*34.11*	*30.55*	*5.48*	*18.76*	*20.17*	*3.95*	*46.8*	*42.68*	*7.24*
Middle Income	*35.47*	*33.77*	*4.65*	*18.5*	*21.11*	*1.94*	*51.72*	*50.24*	*6.38*
High Income	*36.96*	*35.43*	*5.48*	*19.25*	*23.67*	*3.64*	*49.96*	*48.83*	*7.96*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table 12: Azteca Effect on the probability of giving a trasfer - MDID results - Tercile Analysis

VARIABLES	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
Low PCE*Azt02*t	**-7.17***	-0.66	**-7.22*****	**-8.62****	-6.55	-5.71	**-11.44****	-6.55	**-10.13****
	(3.78)	(5.18)	**(2.17)**	**(3.98)**	(4.85)	(3.46)	**(4.76)**	(4.20)	**(4.95)**
Mid. PCE*Azt02*t	**-12.44****	**-8.18***	-2.12	1.34	-4.57	4.89	**-14.75****	**-13.43****	-1.77
	(5.73)	**(4.63)**	(5.78)	(5.35)	(5.30)	(5.11)	**(5.84)**	**(5.37)**	(7.95)
High PCE*Azt02*t	2.56	9.40	**-9.32****	**-13.59****	**-12.36***	**-8.08****	-7.24	-4.70	**-15.67****
	(5.93)	(6.59)	**(4.39)**	**(5.26)**	**(7.10)**	**(3.31)**	(5.66)	(5.32)	**(6.26)**
N Hh	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*
Mean 2002									
Low Income	*36.32*	*32.24*	*10.66*	*24.08*	*21.05*	*11.39*	*52.26*	*46.59*	*20.78*
Middle Income	*47.91*	*43.16*	*17.07*	*30.98*	*28.09*	*15.49*	*63.55*	*57.91*	*28.95*
High Income	*54.58*	*49.71*	*17.3*	*32.59*	*28.92*	*16.97*	*67.96*	*62.69*	*29.78*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

As it is shown in Table 12, the probability of giving an inter-household transfer has decreased as a consequence on the Azteca Bank entry and more importantly, this effect is not concentrated in low PCE group. There two important conclusions to take away from this table. First, low income PCE households are not just receiving less transfers but they are also giving less transfers. In fact, using a seemingly unrelated estimation strategy, the hypothesis that the change in the probability of receiving is equal to the change in the probability of giving an inter-household transfer is not rejected for any category of transfers (results are shown in Table A10 - Appendix C). Therefore, I conclude that low PCE households are participating less in inter-household transfers, presumably because there are alternative (potentially cheaper) ways to smooth their consumption and dealing with the risk in their lifes. Second, while the middle and high PCE households are not receiving less transfers, they are giving less. Therefore, even though the low PCE group is the more affected, all safety nets at muncipality level are reshaping as a consequence of the entrance of Azteca Bank.

As a complement to the participation in inter-household transfers, it is important to estimate the impact in the quantities of received/given transfers. In this regard, I also evaluate the impact of Azteca Bank entry on the local safety net dependence. As I explained in Section 3, following Cox et al (2006), my proxy for dependence is an expenditure relative (ER) amount of received/given transfers[33]. The results of those regressions are presented in Appendix E. In a nutshell, there is no strong evidence that the expansion of formal financial services has changed the ER amount of transfers. As a consequence of the Azteca Bank entry the net ER amount of received transfers has decreased for the households in the low PCE group. Nonetheless, this result must be interpreted cautiously. From the 36 estimates presented in Appendix E.1, just two of them are significant at 10%.

[33]This measure has been calculated by dividing the total annual amount of given/received transfer over the estimated annual expenditure of the households.

Results in section 5.2 can be summed up in two points. First, inter-household exchange of resources has been altered with the expansion of banking access and banking inclusion. Second, low PCE are participating less in inter-household transfers. They are not just receiving less from other households but they are also giving less.

5.3 Impact on the probability of receiving a transfer after being affected by a negative shock

Since inter-household transfers are the representation of the local safety net, it is relevant to analyze how the expansion of banking services has reshaped the participation in inter-household transfers for the set of households that have being impacted by a negative shock. In this section, I use equation 5 to estimate this effect for the households in the low PCE group. I have concentrated my analysis in low PCE group for two reasons. First, because the decrease in the probability of receiving an inter-household transfer has almost exclusively affected the households in the low PCE group. Second, from a policy view perspective, because the low PCE households have a lower access to formal insurance. Therefore, any change in the coverage provided by the local safety net could have welfare effects.

Since it is not informative to pool idiosyncratic and common shock together, I will consider three kind of shocks: Health shock, economic shock and natural disaster[34]. From the correlations shown in Table 3 (Section 3.2), we know that households affected by a health shock have a greater probability of receiving an inter-household transfer. Since the health shock is typically idiosyncratic, we can expect that the local safety net is relevant to deal with this type of shock. On the other hand, being affected by natural disaster does not increase the probability of receiving or giving an inter-household transfer. This type of shock is in the other extreme. It is a common shock at local geographic level. Consequently, within municipalities, it is reasonable to find that it does not affect participation in inter-household transfers. Finally, economic shocks are mixed, they have idiosyncratic and common components. Interestingly, as we discussed in Section 3, being exposed to an economic shock increases the probability of a giving and receiving an inter-household transfer.

[34] Those shocks were defined in Section 3.

Table 13: Azteca Effect on the prob. of receiving a trasfer given a specific shock - MDID results - Low PCE Tercile

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Money	Money_Fam	Money_Oth	InKind	InK_Fam	Ink_Oth	All	All_Fam	All_Oth
Health Shocks									
(β1) + (β2)	-17.13	-7.88	-13.83	**-24.96*** **	-10.29	**-18.08***	**-37.29*** **	**-23.53*** **	**-23.59** **
	(12.40)	(8.85)	(9.76)	**(7.22)**	(8.35)	**(9.11)**	**(12.13)**	**(7.25)**	**(10.34)**
Economic Shocks									
(β1) + (β2)	-9.69	-12.73	0.33	-0.92	-8.13	2.56	-19.19	-20.55	-6.53
	(12.61)	(11.98)	(4.77)	(15.65)	(13.88)	(5.31)	(14.98)	(15.33)	(4.78)
Natural Disasters									
(β1) + (β2)	23.77	30.74	-4.67	43.62	23.01	6.08	15.57	18.92	-0.66
	(31.76)	(32.74)	(5.24)	(43.46)	(45.00)	(21.44)	(28.93)	(30.05)	(21.12)
N Hh	*1,066*	*1,066*	*1,066*	*1,066*	*1,066*	*1,066*	*1,066*	*1,066*	*1,066*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

The results of equation 5 are presented in Table 13. As we can see, while the probability of receiving a transfer has decreased for those households that have received a health shock, this is not the case for households affected by natural disasters or economic shocks. Those results suggest that households receiving idiosyncratic shocks are relying less in their local safety net to deal with this risk. Nonetheless, it does not necessarily mean that the low PCE households are less covered from unexpected negative changes in consumption. Recall that the Azteca Bank entry has also increased the average amount of credit used by the low PCE group. Therefore, low PCE households could have substituted their local safety nets by credit.

6 Conclusion

The unique entrance strategy of Azteca bank in Mexico represents a remarkable opportunity to understand the effects of formal financial services expansion on the welfare of Mexican families. In particular, I use the MxFLS data to evaluate the impact of this expansion on the flow and incidence of private transfers among different households. Inter-household transfers are the representation of the local safety net which is built on trust and repeated interaction. A change in the incidence of inter-household transfers can have long-lasting effects on the social relationships and the efficacy of poor households to deal with idiosyncratic negative unexpected events in the future.

In October 2002, Azteca Bank openend one branch in every store that belong to the Group Elektra. Even though, the bank did not choose in which municipalities to enter, the stores of the Group Elektra has been located endogeneously. As a consequence, it is not accurate to assume that the main outcome variables would have followed the same dynamics in the Azteca and Non-Azteca set of municipalities. In order to

overcome this concern, this study implements a Matching Difference-in-Difference strategy. It is important to keep in mind that the results of this paper guarantee internal validity. In other words, they contribute to understand what is the effect of the expansion of banking services on inter-household transfers participation.

The empirical analysis performed in this project shows that the expansion of banking access has increased formal financial services inclusion. Households in treated municipalities, especially those in the low PCE group, are conscious that there exits more banking credit opportunities within their respective municipality. In particular the probability that a low PCE household know it is able to get a credit from bank has duplicated as a consequence of the Azteca Bank entry.

The expansion of financial inclusion has reshaped the local safety net. The entrance of Azteca Bank has decreased the participation in inter-household transfer of households in the low PCE group. More concretely, the probability of receiving an inter-household has decreased by 16.4 percentage points while the probability of giving and inter household transfer has decreased by 11.44 percentage points. As a consequence of the expansion in the formal financial access, low PCE households rely less on their local safety nets to deal with negative idiosyncratic shocks.

In a future version of this paper, I will study in detail how the expansion of formal financial services affects the transfer of services (time transfers). People can help or informally work for another household in exchange of goods or money. It would be interesting to connect these transfers with the labor force participation and wages .

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Appendices

A Matching Difference and Difference - Supportive Evidence

A.1 Pre-Trend Differences in Municipality Characteristics - Matching Sample

Table A1: Pre-trend differences - Trimmed and Weighted Municipality Sample

	Control		Treated		Δ 1995	Δ 2000	ΔΔ
	1995	2000	1995	2000	(3) - (1)	(4) - (2)	(6) - (5)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Literacy Rate	88.07	89.32	90.28	90.36	2.21	1.05	-1.17
Density	333.97	363.26	259.33	289.02	-74.64	-74.23	0.41
Service Index	81.87	85.74	83.23	85.93	1.35	0.19	-1.16
GDP per capita	9748	11820	10732	12749	983	929	-54
N Mun.	***36***		***35***			***71***	

A.2 Azteca Entrance and Missing Data

Column 2 of Table A2 considers the municipalities in the Matching Sample. That is, it considers 71 municipalities with its respective weights. As we can see, there is 76% probability of being part of the final panel household sample used in the empirical analysis in this project. While 10% of the attrition comes with the survey design[35], the other 14% is consequence of the cleaning data process. Fortunately, once we considered the Matching Sample, the entrance of Azteca Bank has no impact on the probability of being missing in the final sample.

Table A2: Azteca Effect on the probability of being NOT missing in the final sample

	(1) All Municipalities	(2) MDID Municipalities
Azteca Mun. 02	**-0.06*** **	-0.01
	(0.02)	(0.04)
Constant	0.76***	0.76***
	(0.02)	(0.03)
N Hh.	8,206	4,168
N Mun.	132	71

Note: Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

[35] The surveyors were not able to find 10% of the sample in 2005

B Difference in Difference Results - Complete Sample

B.1 Effect on financial choices and financial inclusion

Table A3: Azteca Effect on the prob. of getting a specific financial service - DID results

VARIABLES	(1) Credit	(2) Credit from Pawn-Brokers	(3) Credit from family and friends	(4) Credit from Bank	(5) Know they can get Credit from Bank	(6) Credit Amount	(7) ROSCA
Azt02*t	0.60	-0.26	0.05	**0.99****	**7.89****	503.75	**-4.50****
	(2.11)	(0.41)	(1.24)	**(0.46)**	**(3.23)**	(716.67)	**(2.05)**
t	-5.09**	-0.10	-4.52***	0.12	3.90	-678.65	-8.76***
	(1.98)	(0.23)	(1.20)	(0.44)	(2.38)	(610.93)	(1.89)
N Hh	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*
Mean 2002	*19.8*	*1.3*	*11.4*	*0.7*	*12.4*	*2328.6*	*23.2*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table A4: Azteca Effect on the prob. of getting a specific financial service - DID results - Tercile Analysis

VARIABLES	(1) Credit	(2) Credit from Pawn-Brokers	(3) Credit from family and friends	(4) Credit from Bank	(5) Know they can get Credit from Bank	(6) Credit Amount	(7) ROSCA
Low PCE*Azt02*t	0.17	-0.06	-0.49	**0.94***	**7.20***	688.88	-2.82
	(2.80)	(0.59)	(1.96)	**(0.50)**	**(3.88)**	(844.43)	(2.78)
Mid. PCE*Azt02*t	2.21	-0.63	1.91	1.03	**7.43****	645.09	**-6.05****
	(2.51)	(0.63)	(1.90)	(0.63)	**(3.74)**	(834.00)	**(2.72)**
High PCE*Azt02*t	-0.57	-0.08	-1.26	1.00	**9.07****	166.06	**-4.64***
	(2.83)	(0.58)	(1.78)	(0.82)	**(3.52)**	(1,372.57)	**(2.70)**
N Hh	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*
Mean 2002							
Low Income	*17.3*	*1.1*	*10.8*	*0.3*	*9.3*	*211.1*	*18.5*
Middle Income	*20.5*	*1.5*	*11.5*	*0.8*	*12.3*	*216.4*	*23.8*
High Income	*21.6*	*1.1*	*12*	*1.1*	*15.6*	*479*	*27.4*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

B.2 Effect on Inter-household transfers participation

Table A5: Azteca Effect on the prob. of receiving a trasfer - DID results

VARIABLES	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
Azt02*t	-3.21	-2.75	**-1.71****	**-5.56*****	**-5.94****	**-1.19****	-4.02	-3.90	**-1.74***
	(2.66)	(2.62)	**(0.75)**	**(2.09)**	**(2.76)**	**(0.55)**	(3.39)	(3.29)	**(1.02)**
t	-10.02***	-9.83***	-1.47*	-1.77	-3.12	-0.50	-11.76***	-11.91***	-0.55
	(2.46)	(2.28)	(0.78)	(2.25)	(2.73)	(0.48)	(3.30)	(3.22)	(1.02)
N Hh	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*
Mean 2002	*32.66*	*30.43*	*4.89*	*0.17*	*20.41*	*2.86*	*45.28*	*43.46*	*6.55*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table A6: Azteca Effect on the prob. of giving a trasfer - DID results

VARIABLES	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
Azt02*t	-3.73	-3.04	-2.37	**-4.97****	-3.97	**-3.71****	**-5.76***	-4.82	**-5.11***
	(3.00)	(3.01)	(1.85)	**(2.43)**	(2.73)	**(1.79)**	**(3.33)**	(3.20)	**(2.90)**
t	-9.19***	-8.80***	-3.00*	-4.34*	-3.41	-5.34***	-10.78***	-9.97***	-7.13***
	(2.65)	(2.49)	(1.57)	(2.33)	(2.58)	(1.57)	(2.99)	(2.79)	(2.54)
N Hh	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*
Mean 2002	*42.18*	*37.41*	*12.37*	*26.7*	*24.37*	*12.4*	*57.05*	*51.32*	*23.3*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table A7: Azteca Effect on the prob. of receiving a trasfer - DID results - Tercile Analysis

VARIABLES	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
Low PCE*Azt02*t	**-9.21*** **	**-8.32** **	**-2.77** **	**-8.93*** **	**-7.29** **	**-2.71*** **	**-12.08*** **	**-11.05*** **	**-3.95*** **
	(3.42)	**(3.26)**	**(1.16)**	**(2.55)**	**(3.05)**	**(0.93)**	**(3.91)**	**(3.81)**	**(1.50)**
Mid. PCE*Azt02*t	0.08	0.39	-0.62	-4.03	**-7.02** **	-0.47	1.23	1.06	-0.23
	(3.34)	(3.33)	(0.97)	(2.52)	**(3.03)**	(0.83)	(4.05)	(3.99)	(1.41)
High PCE*Azt02*t	-0.30	-0.12	-1.71	-3.59	-3.42	-0.34	-0.91	-1.44	-0.96
	(3.47)	(3.50)	(1.19)	(2.98)	(3.83)	(0.87)	(4.02)	(3.98)	(1.67)
N Hh	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*
Mean 2002									
Low Income	*30.31*	*27.7*	*4.81*	*17.24*	*20.14*	*3.19*	*42.73*	*40.37*	*6.19*
Middle Income	*34.02*	*32.16*	*4.28*	*16.05*	*19.63*	*1.91*	*47.21*	*45.8*	*5.69*
High Income	*33.73*	*31.52*	*5.59*	*18.4*	*21.48*	*3.49*	*45.98*	*44.29*	*7.79*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table A8: Azteca Effect on the prob. of giving a trasfer - DID results - Tercile Analysis

VARIABLES	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
Low PCE*Azt02*t	**-5.41***	-4.14	**-3.34***	**-5.00***	-2.07	**-3.94***	**-8.26** **	-5.10	**-6.69** **
	(3.12)	(3.24)	**(1.91)**	**(2.94)**	(3.14)	**(2.08)**	**(3.73)**	(3.52)	**(3.08)**
Mid. PCE*Azt02*t	-4.09	-3.34	-0.61	-2.95	-4.90	-1.89	-4.99	-4.70	-1.74
	(4.12)	(4.14)	(2.56)	(3.05)	(3.66)	(2.17)	(4.56)	(4.65)	(3.37)
High PCE*Azt02*t	-1.55	-1.52	-3.13	**-6.98** **	-5.00	**-5.30** **	-3.88	-4.59	-6.84*
	(3.73)	(3.54)	(2.56)	**(3.26)**	(3.66)	**(2.55)**	(4.02)	(3.61)	(3.88)
N Hh	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*	*5,974*
Mean 2002									
Low Income	*34.19*	*30.31*	*8.74*	*22.69*	*19.75*	*9.77*	*49.07*	*44.11*	*17.73*
Middle Income	*42.68*	*37.75*	*12.68*	*27.58*	*26.22*	*12.23*	*58.13*	*52.24*	*23.6*
High Income	*50.03*	*44.49*	*15.84*	*30.09*	*27.32*	*15.33*	*64.28*	*57.92*	*28.81*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

C Seemingly Unrelated Estimation Tests

Table A9: T-tests in Seemingly Unrelated Estimations - Null Hypothesis: The impact of Azteca on the prob. of receiving and giving a transfer is the same

	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
P-Value	0.68	0.69	0.46	0.43	0.24	0.88	0.17	0.56	0.32
N Hh	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*

Table A10: T-tests in Seemingly Unrelated Estimations - Null Hypothesis: The impact of Azteca on the prob. of receiving and giving a transfer is the same - Tercile Analysis

P-value	(1) Money	(2) Money_Fam	(3) Money_Oth	(4) InKind	(5) InK_Fam	(6) Ink_Oth	(7) All	(8) All_Fam	(9) All_Oth
Low PCE	0.71	0.32	0.31	0.96	0.93	0.98	0.47	0.30	0.56
Mid. PCE	**0.06**	**0.08**	0.97	0.76	0.73	0.16	**0.00**	**0.00**	0.84
High PCE	0.63	0.27	0.18	**0.01**	**0.05**	**0.01**	0.49	0.74	**0.03**
N Hh	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*	*3,129*

D The Impact of Azteca Bank on Consumption

Table A11: Azteca Effect on the fourth root of per capita expenditure (PCE) - MDID Results

VARIABLES	(1) PCE	(2) PCE food	(3) PCE Non-Durables	(4) PCE Durables
Azt02*t	-0.22	-0.09	-0.17	-0.27
	(0.21)	(0.07)	(0.20)	(0.19)
t	0.32	0.17***	0.43**	-0.29*
	(0.21)	(0.07)	(0.18)	(0.16)
N Hh	*3,129*	*3,129*	*3,129*	*3,129*
Mean 2002	*10.43*	*3.41*	*9.56*	*2.51*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table A12: Azteca Effect on the fourth root of per capita expenditure (PCE) - MDID Results - Tercile Analysis

VARIABLES	(1) PCE	(2) PCE food	(3) PCE Non-Durables	(4) PCE Durables
Low PCE*Azt02*t	-0.02	-0.02	-0.07	-0.14
	(0.25)	(0.10)	(0.24)	(0.22)
Mid. PCE*Azt02*t	-0.04	0.03	0.01	-0.02
	(0.18)	(0.07)	(0.19)	(0.27)
High PCE*Azt02*t	-0.54	**-0.28****	-0.40	-0.64
	(0.46)	**(0.11)**	(0.39)	(0.42)
N Hh	*3,129*	*3,129*	*3,129*	*3,129*
Mean 2002				
Low Income	*8.37*	*2.78*	*7.80*	*1.23*
Middle Income	*10.13*	*3.36*	*9.39*	*2.30*
High Income	*12.92*	*4.12*	*11.60*	*4.06*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

E The Impact of Azteca Bank on Quantities of Transfers

E.1 All households in Matching Sample - 71 Municipalities

Table A13: Azteca Effect on the amount of transfer relative to expenditure - MDID results

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	Received	Received in Money	Received in Kind	Given	Given in Money	Given in Kind	Net	Net in Money	Net in Kind
Azt02*t	-0.15	0.37	-0.51	0.55	0.72	-0.32	-0.71	-0.35	-0.19
	(1.01)	(0.79)	(0.38)	(1.07)	(0.85)	(0.20)	(1.38)	(1.15)	(0.36)
t	0.42	-0.19	0.56	-1.55*	-1.27*	0.16	1.96	1.08	0.40
	(1.20)	(0.95)	(0.43)	(0.92)	(0.71)	(0.19)	(1.44)	(1.12)	(0.35)
N Hh	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*
Mean 2002	*4.4*	*3.5*	*0.9*	*4.5*	*3.4*	*0.9*	*-0.1*	*0.1*	*0.0*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table A14: Azteca Effect on the amount of transfer relative to expenditure - MDID results - Tercile Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	Received	Received in Money	Received in Kind	Given	Given in Money	Given in Kind	Net	Net in Money	Net in Kind
Low PCE*Azt02*t	-2.16	-1.87	-0.28	1.29	0.94	0.07	**-3.44***	-2.81	-0.35
	(1.72)	(1.62)	(0.34)	(1.01)	(0.92)	(0.30)	**(1.81)**	(1.77)	(0.41)
Mid. PCE*Azt02*t	1.14	1.83	-0.72	-0.48	-0.33	-0.43	1.62	2.15	-0.29
	(1.32)	(1.50)	(0.86)	(1.85)	(1.56)	(0.34)	(2.41)	(2.64)	(1.02)
High PCE*Azt02*t	0.59	1.23	-0.56	0.79	**1.52***	-0.63	-0.20	-0.29	0.07
	(1.42)	(1.21)	(0.63)	(1.01)	**(0.83)**	(0.50)	(1.95)	(1.67)	(0.86)
N Hh	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*	*3,069*
Mean 2002									
Low PCE	*3.79*	*2.82*	*0.94*	*4.05*	*2.89*	*0.92*	*-0.26*	*-0.06*	*0.02*
Middle PCE	*5.28*	*4.41*	*0.85*	*4.79*	*3.50*	*0.92*	*0.49*	*0.91*	*-0.07*
High PCE	*4.07*	*3.20*	*0.81*	*4.74*	*3.79*	*0.89*	*-0.67*	*-0.59*	*-0.09*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

E.2 Households that have participated in an inter-household transfer in Matching Sample - 71 Municipalities

Table A15: Azteca Effect on the amount of transfer relative to expenditure - MDID results

VARIABLES	(1) Received	(2) Received in Money	(3) Received in Kind	(4) Given	(5) Given in Money	(6) Given in Kind	(7) Net	(8) Net in Money	(9) Net in Kind
Azt02*t	1.08	1.70	-0.59	1.45	1.61	-0.31	-0.37	0.09	-0.28
	(1.50)	(1.23)	(0.54)	(1.49)	(1.17)	(0.29)	(2.04)	(1.71)	(0.55)
t	2.48	1.20	1.21*	-1.09	-1.08	0.58*	3.56*	2.27	0.63
	(1.76)	(1.52)	(0.63)	(1.30)	(1.08)	(0.30)	(2.05)	(1.63)	(0.53)
Observations	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*
Mean 2002	*6.1*	*4.8*	*1.2*	*6.3*	*4.7*	*1.3*	*-0.2*	*0.1*	*-0.1*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.

Table A16: Azteca Effect on the amount of transfer relative to expenditure - MDID results - Tercile Analysis

VARIABLES	(1) Received	(2) Received in Money	(3) Received in Kind	(4) Given	(5) Given in Money	(6) Given in Kind	(7) Net	(8) Net in Money	(9) Net in Kind
Low PCE*Azt02*t	-1.27	-1.42	0.19	**3.19****	**2.39***	0.47	**-4.47***	-3.81	-0.28
	(2.27)	(2.21)	(0.63)	**(1.46)**	**(1.43)**	(0.51)	**(2.61)**	(2.57)	(0.72)
Mid. PCE*Azt02*t	3.17	**4.11***	-1.04	-0.10	-0.01	-0.34	3.26	4.13	-0.70
	(1.91)	**(2.19)**	(1.38)	(2.92)	(2.49)	(0.48)	(3.68)	(4.12)	(1.62)
High PCE*Azt02*t	0.94	1.98	-0.90	1.33	**2.46****	-1.04	-0.38	-0.48	0.14
	(2.18)	(1.76)	(1.08)	(1.39)	**(1.22)**	(0.75)	(2.99)	(2.47)	(1.46)
Observations	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*	*3,774*
Mean 2002									
Low PCE	*5.84*	*4.36*	*1.45*	*6.25*	*4.45*	*1.42*	*-0.41*	*-0.10*	*0.03*
Middle PCE	*7.14*	*5.97*	*1.16*	*6.48*	*4.74*	*1.25*	*0.66*	*1.23*	*-0.09*
High PCE	*5.25*	*4.12*	*1.04*	*6.11*	*4.88*	*1.15*	*-0.86*	*-0.76*	*-0.11*

Note: All the regressions have included the set of controls specified in the Empirical Strategy section. Standards errors have been clustered at municipality level. Significance simbols are standard: *** p<0.01, ** p<0.05, * p<0.1.