Correspondent Banking and Financial Inclusion in Mexico

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Disclaimer

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What is a banking correspondent?

- **Background:** In December 2008 a federal law that allows financial intermediaries in Mexico to operate through banking correspondents was passed.
- Banking correspondents allow financial intermediaries to provide basic banking and payment services through third party non-financial commercial establishments whose core business involves managing cash (e.g., convenience stores, supermarkets, pharmacies, etc.)
- The full range of services that correspondents can offer include deposits to bank accounts, loan payments, utilities payment, cash withdrawal, opening accounts, check collection, etc.

This Paper

- **Aim:** To assess whether the bank correspondent business model has enhanced financial inclusion in Mexico.
- **Focus:** Savings at municipality level in terms of bank accounts, as well as in terms of account balances in pesos.
- **Identification Strategy:** Depending on the date of agreement, establishments that were only convenience stores a few days ago, are suddenly able to provide banking services.
- **Results:** Show that there has been an important effect in terms of the *number accounts*. We also identify that there is a spillover/switching effect.

Identification Strategy

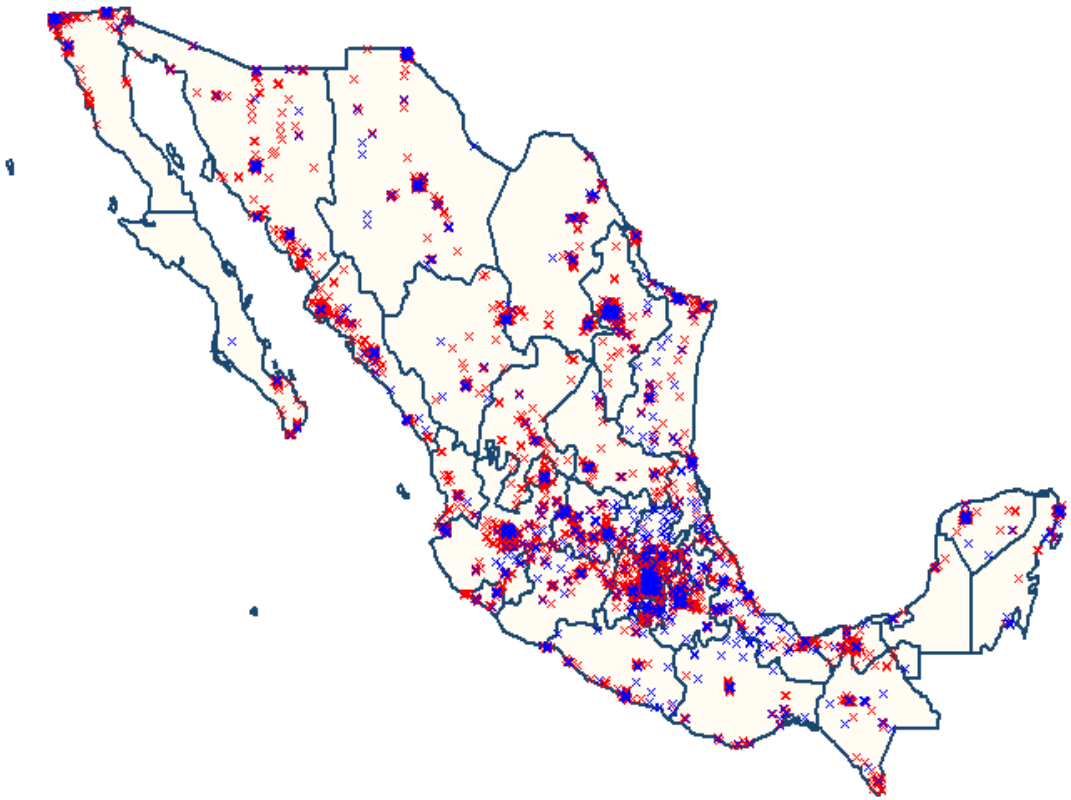
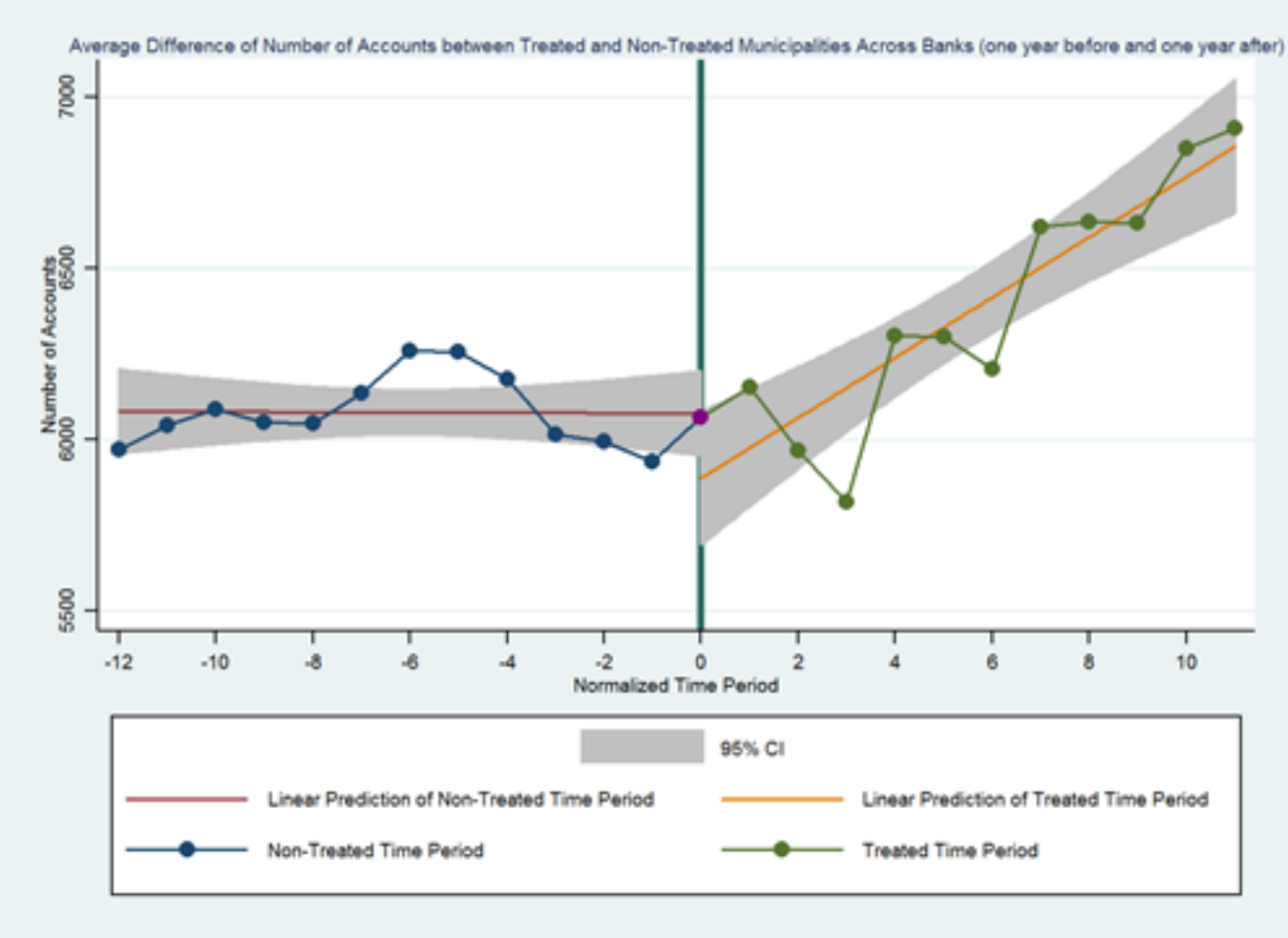


Figure: **Example:** Santander (x) signs a Correspondent Deal with Oxxo (x) (convenience store chain)

Differences Between Treated and Non-Treated



Motivation

Mexico still lags behind of financial development and inclusion.

- Addressing these problems a crucial task for boosting economic activity and reducing poverty.
- Households excluded from formal financial markets tend to fulfill their need of financial services through informal mechanisms.
- Transactional costs can limit access disproportionally to small or young businesses and lower income households.

Banking correspondents could have an impact on reducing transactional costs associated with the use of financial services.

Growth of Banking Correspondents in Mexico

Figure: Access Points to Financial Services. Number of Access Points per 10,000 Individuals, at the end of the period.

Focus on savings

- Bank accounts are normally a gateway to other type of formal financial products.
- Saving is a fundamental tool to smooth expenditure across time.
- According to the National Survey on Financial Inclusion (ENIF 2015)
  - 56% of adults in Mexico do not have a bank account.
  - But 65% of the national adult population has saved cash in their home, and a little more than 30% have saved through a popular informal method called "tanda".
- The activity that is more widely used and offered through banking correspondents are deposit transactions.

Literature Review

- Burgess and Pande (2005) find that the expansion of banking services into rural areas significantly reduced poverty.
- Bruhn and Love (2014) and Ruiz (2013) study the sudden expansion of Banco Azteca and its impact on different economic outcomes. Grupo Elektra– one of the largest retailers in Mexico– suddenly opened a Banco Azteca branch in every one of their stores.
- Peña and Vázquez (2012) show that banking correspondents do not have a significant effect on their chosen measures of financial inclusion.

Data

We use a dataset that merges:

- Bank-municipality level information:
  - **Savings** (*number of accounts*/ *volume in pesos*) by bank-municipality pair.
- Locational data on financial intermediaries.
  - We use information from the National Statistic Directory of Economic Units (DENUE) for identifying locational information on all the active commercial establishments in Mexican territory.
  - Using the commercial or legal name of the establishments, we identify the biggest banking correspondent chains in Mexico.

Model

$$
\begin{aligned}
ln(s_{b,m,t}+1) \quad = \quad & \gamma_b + \theta_m + \tau_t + \delta(NumCorresp_{b,m,t}) \\
& + \beta_1(BankBr_{b,m,t}) \\
& + \beta_2(NumCorresp_{b,m,t} * BankBr_{b,m,t}) \\
& + \beta_3 X_{m,t} + \varepsilon_{b,m,t}
\end{aligned}
$$

- $NumCorresp_{b,m,t}$ is the number of active correspondence relationships for bank b in municipality m. This variable can increase only if two conditions are met:
  - Bank b signs a new correspondent deal.
  - The aforementioned correspondent has presence in municipality m *before* signing the deal.

Bank-Municipality Results

	ln(Number of Accounts+1)		ln(Balances+1)	
	(1)	(2)	(3)	(4)
A. Characteristics of Bank-Municipality Pair				
Number of Active Correspondent Deals in b, m	0.319***	0.333***	0.292***	0.306***
	(0.0712)	(0.0728)	(0.0956)	(0.0973)
Presence of Branch Offices b	5.685***	5.833***	7.884***	7.942***
	(0.155)	(0.158)	(0.207)	(0.210)
Number of Active Correspondent Deals in b, m*	-0.267***	-0.232***	-0.248**	-0.226**
Presence of Branch Offices b	(0.0728)	(0.0738)	(0.0992)	(0.1000)
B. Additional Controls Related to Infrastructure				
Number of Commercial Chains in m	0.421***	0.376***	0.536***	0.501***
	(0.0404)	(0.0429)	(0.0551)	(0.0573)
Number of Commercial Chains in m*	-0.139***	-0.144***	-0.237***	-0.236***
Presence of Bank Branches of b	(0.0329)	(0.0328)	(0.0489)	(0.0488)
R-Squared	0.940	0.947	0.946	0.951
Number of Observations	416,068			

NOTE: The coefficients of Time, Bank, Municipality and Bank Time Trend Fixed Effects are not shown in this table. *** (**) [*] indicate significance at 1% (5%) [10%]. The model does not have a constant. Even regressions contain Time, Municipality, Bank, Bank Time Trend Fixed Effects, Time*Presence of Branch Offices of the bank and Bank*Presence of Branch Offices of the bank. Odd regressions contain all but Bank Time Trend Fixed Effects.

Marginal Effects - Basic Model

Number of Accounts	**Bank-Municipalities pairs with correspondent chains**
Pairs *With* Bank Branches	0.101
Pairs *Without* Bank Branches	0.333

Volume of Savings	**Bank-Municipalities pairs with correspondent chains**
Pairs *With* Bank Branches	0.080
Pairs *Without* Bank Branches	0.306

Spillover

	ln(Number of Accounts+1) (1)	*ln(Balances+1)* 2)
A. Characteristics of Bank-Municipality Pair		
Total Active Correspondent Deals in m - Active Correspondent Deals working for b	-0.268***	-0.240***
	(0.0649)	(0.0868)
Presence of Bank Branches of b	**5.781*** **	**7.915*** **
	(0.161)	(0.213)
*(Total Active Correspondent Deals in m - Active Correspondent Deals working for b)*Presence of Bank Branches b*	**0.160** **	**0.155***
	(0.0650)	(0.0881)
B. Additional Controls		
Number of Commercial Chains at the municipality	**0.555*** **	**0.663*** **
	(0.0460)	(0.0598)
*Number of Commercial Chains at the municipality*Presence of Bank Branches b*	**-0.256*** **	**-0.345*** **
	(0.0413)	(0.0560)
R-Squared	0.947	0.951
Number of Observations	**416,068**	

NOTE: The coefficients of Time, Bank, Municipality and Bank Time Trend Fixed Effects are not shown in this table. *** (**) [*] indicate significance at 1% (5%) [10%]. The model does not have a constant. Both regressions contain Time, Municipality, Bank, & Bank Time Trend Fixed Effects, with a complementary interaction of the variable of Presence of Branch Offices of the bank.

Marginal Effects - Spillover

Number of Accounts	Bank-Municipalities pairs with correspondent chains
Pairs *With* Bank Branches Presence	-0.108
Pairs *Without* Branch Offices	-0.268

Volume of Savings	Bank-Municipalities pairs with correspondent chains
Pairs *With* Branch Offices Presence	-0.085
Pairs *Without* Branch Offices	-0.24

Conclusions

- We estimate the effect on the volume of savings and the number of active accounts on a given bank/municipality after it contracts a new banking correspondent relationship through a fixed effects model. **We provide evidence that banking correspondents increase deposits for those bank/municipalities for which it has activated.**
- We do not find any evidence that there is a differentiated effect for rural municipalities.
- **This impact seems to be consequence of a large spillover effect.** Evidence shows that there has been an increase in the overall number of accounts, but evidence is unclear when measuring account balances.
- Finally, these findings contrast with those of Peña and Vazquez (2012), who do not find any effect of banking correspondents on their savings and credit measures.

Further Research

- Every deal is different from each other, as the services authorized for one correspondent may not be the same for another one. We might need to add this source of heterogeneity to our analysis.
- We have new information on how many transactions have been made at each correspondent (types of transactions, number of transactions, number of clients, etc.).
- Explore if there are any efficiency gains for the banks involved in these deals. For example, a reduction in the number of employees or bank branches at the municipality.

Annex

By Type of Municipality

	ln(Number of Accounts+1) (1)	*ln(Balances+1)* (2)
A. Characteristics of the Bank-Municipality Pair		
Number of Active Correspondent Deals in *b, m*	**0.206****	**0.179***
	(0.0821)	(0.108)
Presence of Bank Branches *b*	**5.845*****	**7.812*****
	(0.178)	(0.238)
Number of Active Correspondent Deals in *b, m****Presence of Bank Branches*** *b*	**-0.171****	**-0.171**
	(0.0821)	(0.109)
RURAL*Number of Active Correspondent Deals in* *b, m*	**0.0393**	**-0.0260**
	(0.128)	(0.174)
RURAL*Presence of Bank Branches of the bank*	**-0.192**	**-0.354**
	(0.226)	(0.305)
RURAL*Number of Active Correspondent Deals in* *b, m****Presence of Bank Branches*** *b*	**-1.088*****	**-1.403*****
	(0.339)	(0.474)
R-Squared	0.917	0.952
Number of Observations	**416,068**	

NOTE: The coefficients of Time, Bank, Municipality and Bank Time Trend Fixed Effects are not shown in this table. *** (**) [*] indicate significance at 1% (5%) [10%]. The model does not have a constant. Both regressions contain Time, Municipality, Bank & Bank Time Trend Fixed Effects, with a complementary interaction of the variable Rural.

Marginal Effects by Type of Municipality

Number of Accounts	Rural	Urban
Pairs *Without* Bank Branches Presence	0.206	0.206

Volume of Savings	Rural	Urban
Pairs *Without* Bank Branches Presence	0.179	0.179

Municipal-Level Results

	ln[(Number of Accounts / Number Banks in m)] (1)	*ln[(Balances / Number of Banks in m)]* (2)
A. Characteristics of the Municipality		
Active Correspondent Deals in m	**0.206***	**0.170**
	(0.109)	(0.126)
Presence of Bank Branches of any b	**2.233*****	**2.532*****
	(0.0639)	(0.0836)
*Active Correspondent Deals in m*Presence of Bank Branches for any b*	**-0.193***	**-0.136**
	(0.110)	(0.127)
B. Additional Controls		
Number of Commercial Chains at the municipality	**0.738*****	**0.906*****
	(0.0753)	(0.0940)
*Number of Commercial Chains at the municipality*Presence of Bank Branches*	**-0.633*****	**-0.856*****
	(0.0773)	(0.0966)
R-Squared	0.958	0.961
Number of Observations	**209,792**	

NOTE: The coefficients of Time, Bank, Municipality and Bank Time Trend Fixed Effects are not shown in this table. *** (**) [*] indicate significance at 1% (5%) [10%]. The model does not have a constant. Both regressions contain Time, Municipality, Bank, & Bank Time Trend Fixed Effects. Also, both regressions have extra controls such as a dummy of the proportion of banks reporting zero accounts from the total of banks reporting number of accounts at the municipality *m* and the respective interactions with all the characteristics of the municipality.

Marginal Effects at Municipality Level

Number of Accounts	Municipalities with Correspondents
Municipalities *With* Bank Branches Presence	0.013
Municipalities *Without* Bank Branches Presence	0.206

Volume of Savings	Municipalities with Correspondents
Municipalities *With* Bank Branches Presence	0
Municipalities *Without* Bank Branches Offices	0