

# **Remittances and The Problem of Control: A Field Experiment Among Migrants from El Salvador**

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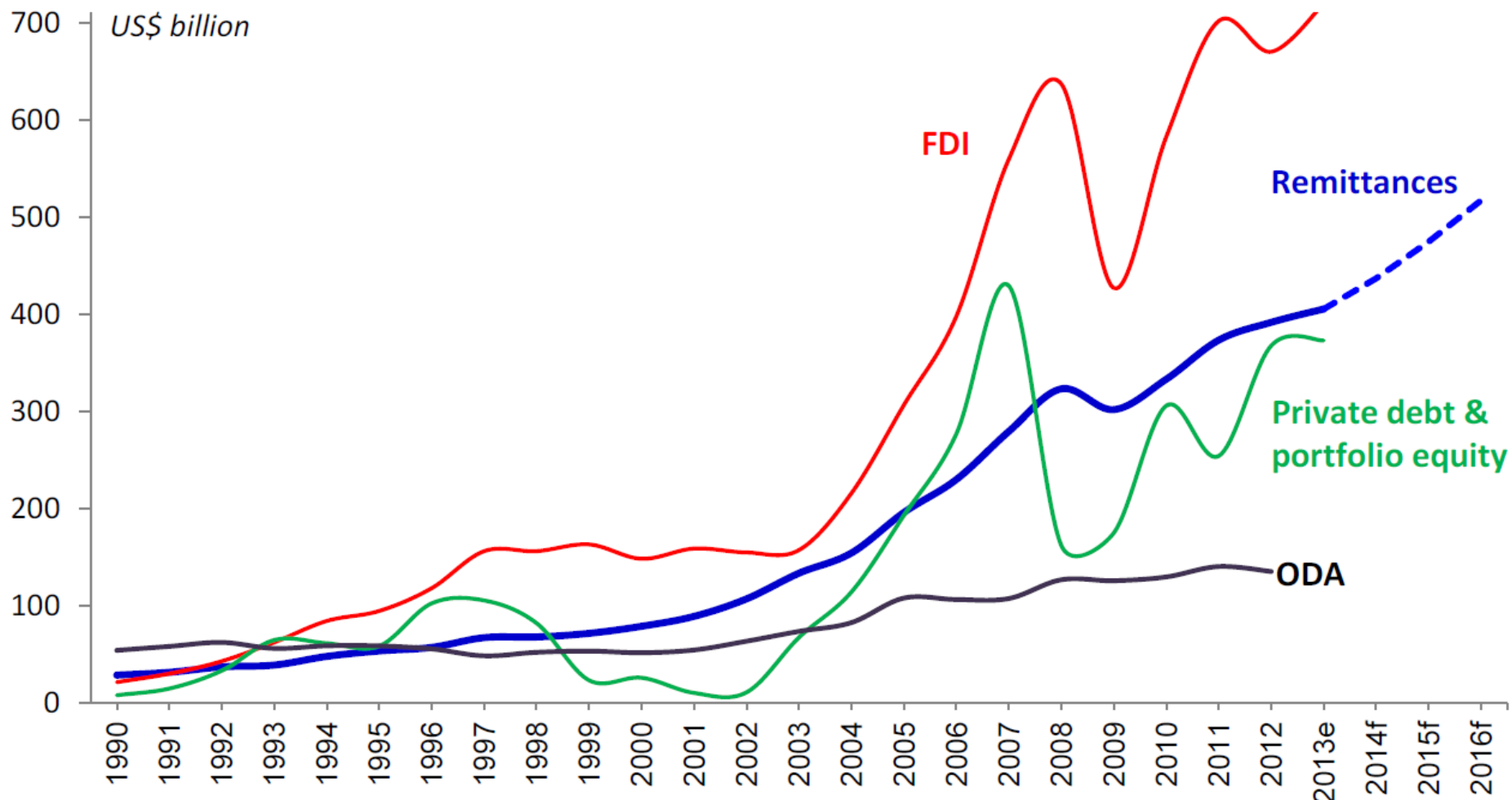
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# Remittances vs. other international financial flows



Source: World Development Indicators and World Bank Development Prospects Group. Data are in current US\$, in total across developing countries (low & middle income as classified by World Bank).

# Motivating ideas and questions

- Microeconomics of financial decision-making in transnational households is poorly understood
  - What determines migrant workers' saving, consumption, and remittance decisions?
  - How do recipients in the home country decide on uses to which remittances are put?
  - To what extent are migrants' remittance decisions affected by their *lack of control* over remittance uses?
  - How important is asymmetric information in determining resource allocation within transnational households?
- Insights can help suggest innovative financial and remittance instruments

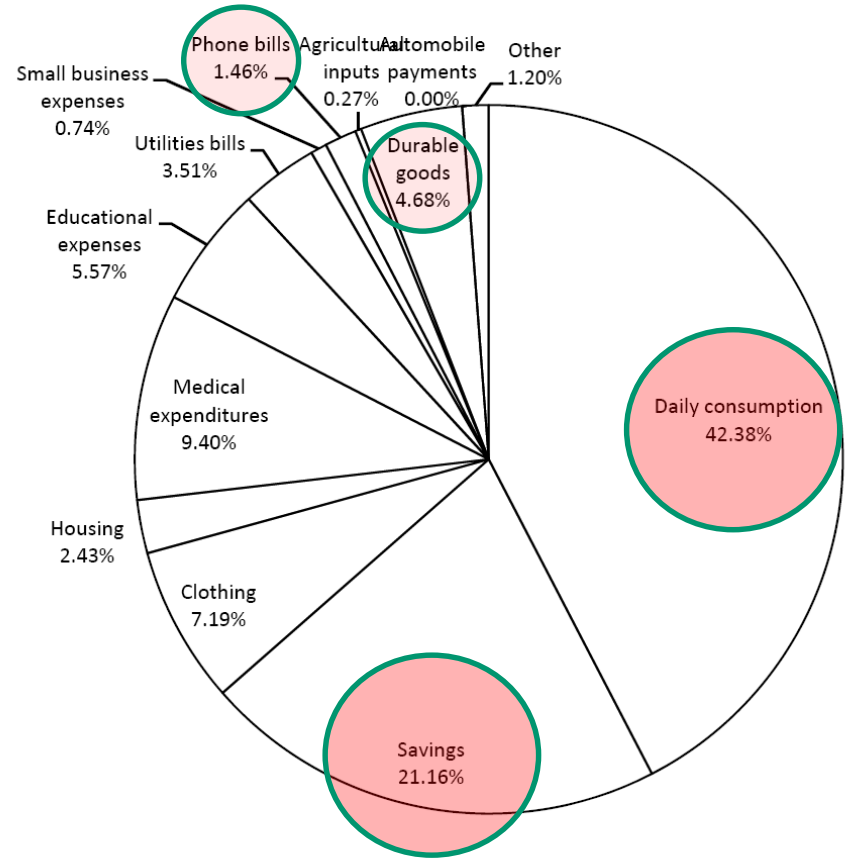
# The problem of migrant control

- Migrants currently have limited ability to monitor or control how remittances are used by recipients
- Migrants and recipients (may) have different preferences as to how remittances should be used
- If migrants are given more control over remittance uses...
  - A higher fraction of remittances may be channeled to uses that have long-term development impacts
  - Remittance flows may rise

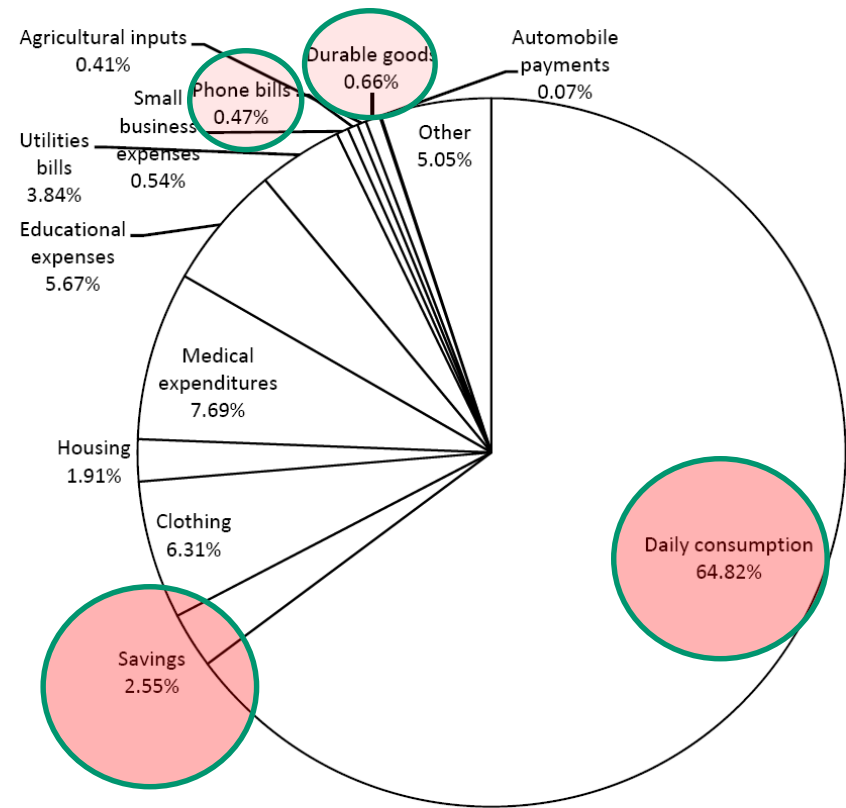
# Preferences for remittance uses & savings

- Goal: Reveal via survey answers whether migrants and households differ in their preferences over how remittances are used
- *Remittance raffle*
  - 10 families in El Salvador receive \$100 remittance
  - Migrants specify how they would like the money to be used by recipients
  - Household respondent specifies how they would like the money to be used when received
    - 13 categories of expenditures
    - “Cash” is not an option

# Migrant vs. recipient remittance allocation (US\$)



Migrant



Remittance recipient

# Remittances and savings

- This research focuses on the control that migrants have over how much of remittances are *saved*
- Migrants report stronger preferences that remittances be saved, compared to recipients
- Migrants have little ability to control or monitor household savings in El Salvador
  - Can only request that household save a portion of cash received

## **Specific question this paper addresses**

What is the effect of allowing migrants greater control over savings instruments in their home country?



# Experiment Overview

- We offered Salvadoran migrants in Washington, D.C. the ability to directly channel remittances into savings accounts in El Salvador
  - Migrants enrolled at Salvadoran consular locations
- We randomly varied the degree of migrant control over accounts offered
  - Offering different types of accounts to different migrants in the sample
  - Savings facilities developed for project in partnership with a Salvadoran bank, and previously were not widely available

# Experimental Treatments

## 0. Control group

- Migrants encouraged to remit into a household member's bank account, but no account-opening assistance provided

## 1. Account for remittance recipient in El Salvador

- Migrants encouraged to remit into an individual's bank account
- Account-opening assistance provided
- Migrant cannot check balance or withdraw

## 2. Joint account (for migrant and household)

- New product: "*Cuenta Unidos*"
- Migrants encouraged to remit into shared account
- Migrant and HH each have ATM cards; migrant can check balance

## 3. Individual migrant account

- New product: "*Ahorro Directo*"
- Migrants encouraged to remit into own account
- Only migrant has ATM card; not shared with household

# Marketing brochures

## Ahorro Directo



**Cuenta con tu nueva**



**Cheque Max Visa**

Tu dinero disponible en todo el mundo, las 24 horas del día, los 7 días de la semana.

Comprar con tu Tarjeta de débito Cheque Max Visa, es la forma más conveniente y segura de utilizar tu propio dinero

Disfruta el beneficio de comprar sin usar efectivo en establecimientos comerciales alrededor del mundo, porque tu tarjeta es tu dinero.

Si necesitas efectivo, puedes retirar tu dinero en la red de cajeros automáticos VISA Plus.

**VENTAJAS:**

- Es GRATIS.
- No pagas intereses por tus compras.
- Mayor seguridad al no llevar tu efectivo en el bolsillo.

**Ábrela desde Estados Unidos, sin tener que viajar a El Salvador**

Tu Cuenta Ahorro Directo:

- Es la forma más conveniente de llevar el control total de tu dinero.
- Serás el único titular de la cuenta, sin otros autorizados.

**VENTAJAS**

- Es GRATIS
- No llevas el dinero en efectivo, evitándote el riesgo de extravío.
- Podrás consultar los saldos y movimientos de tu cuenta, para mantener el control.

**BANCO AGRICOLA**  
CUENTA CON NOSOTROS

## Cuenta Unidos



**Cuenta con la mayor confianza para tus proyectos familiares en El Salvador**



**Cheque Max Visa**

Tu dinero disponible en todo el mundo, las 24 horas del día, los 7 días de la semana.

Comprar con tu Tarjeta de débito Cheque Max Visa, es la forma más conveniente y segura de utilizar tu propio dinero

Disfruta el beneficio de comprar sin usar efectivo en establecimientos comerciales alrededor del mundo, porque tu tarjeta es tu dinero.

Si necesitas efectivo, puedes retirar tu dinero en la red de cajeros automáticos VISA Plus.

**VENTAJAS:**

- Es GRATIS.
- No pagas intereses por tus compras.
- Mayor seguridad al no llevar tu efectivo en el bolsillo.

**Es la mejor manera de compartir el fruto de tu esfuerzo con tus seres queridos y controlar tus planes y proyectos en conjunto .**

**VENTAJAS**

- Es GRATIS
- Tu familiar en El Salvador abrirá la Cuenta Unidos para que envíes tu remesa.
- Ambos, tú y tu beneficiario de remesas, podrán consultar los Movimientos y Saldo de la Cuenta.
- Ambos, tú y tu beneficiario de remesas, tendrán acceso al uso y retiro de fondos a través de la Tarjeta Cheque Max.

**BANCO AGRICOLA**  
CUENTA CON NOSOTROS

# Nested treatments

Account Offered	Treatment Arm			
	Control	1	2	3
Account for remittance recipient		X	X	X
Joint account (Cuenta Unidos)			X	X
Individual migrant account (Ahorro Directo)				X

# Treatment protocols

- Migrants randomly assigned to one of 4 experimental conditions
  - Stratification by gender, US account status, years in US (3 categories), and relationship to recipient (4 categories)
    - Total of 48 stratification cells
- DC marketing team member visits each migrant in person to administer treatment
- Visits take place in location of migrant's choice
  - Typically: home, nearest Banagricola branch, workplace, restaurant

# Marketing visit in DC



# Equalizing transaction costs

- Account-opening costs
  - For all account types, account opening requires visit by remittance recipient to a Banco Agrícola branch in El Salvador
    - Treatment 3
- Remittance transfer cost
  - All accounts have equal cost of inbound remittance
  - Inbound remittance costs also equalized with cash remittance
  - Remittance prices randomized between \$4 and \$9
    - Separate paper examine price elasticity of remittances



# Partner bank branch, El Salvador





# The sample

- Migrants recruited in Washington, D.C. area at consulates
  - Must have remitted in last 12 months,
  - In U.S.  $\leq 15$  years
- Migrant asked to identify “primary remittance recipient” in El Salvador
  - We also follow these individuals over time
- Data collection:
  - Baseline survey data (for all migrants and 82% of ES HH)
  - Internal bank data (all migrants)
  - Follow-up survey (for a subset of migrants and ES HH)

# Migrants in Washington, D.C.



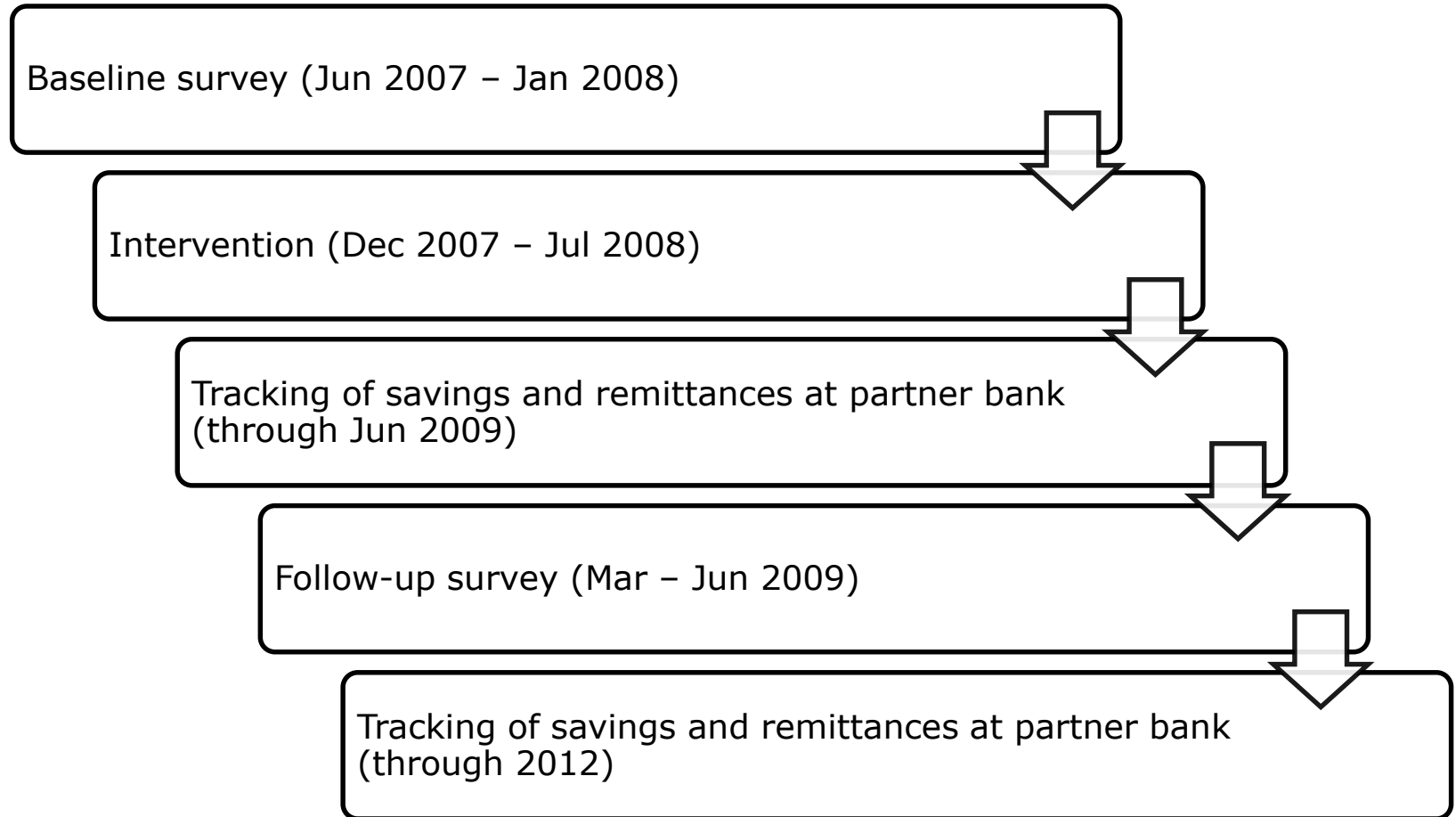
# Remittance recipient in El Salvador



# Data Used

- Impact evaluation uses data from:
  - Partner bank's internal databases (savings, remittances)
  - Migrant and household surveys we implemented
    - Allows us to see savings held *outside* of partner bank
    - Surveyed household in El Salvador is the DC migrant's "primary remittance recipient"

# Project timeline



# Baseline balance across treatments

**Table 2: Means of variables by treatment group**

	Treatment group				<u>T0 = T1 = T2 = T3</u>
	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	
<u>Baseline stratification variables</u>					
Migrant is female	0.26	0.31	0.31	0.28	0.547
Migrant has US bank account	0.58	0.59	0.64	0.61	0.555
Recipient is migrant's parent	0.55	0.55	0.54	0.56	0.948
Recipient is migrant's spouse	0.14	0.09	0.11	0.09	0.252
Recipient is migrant's child	0.05	0.04	0.02	0.03	0.465
Recipient is migrant's other relative	0.26	0.31	0.33	0.32	0.346
Migrant has been in US 0-5 years	0.52	0.49	0.48	0.51	0.806
Migrant has been in US 6-10 years	0.39	0.40	0.41	0.38	0.890
Migrant has been in US 11-15 years	0.10	0.10	0.11	0.11	0.922
<u>Baseline survey variables</u>					
Migrant's annual income (US\$)	30,669	36,587	29,108	28,109	0.418
Migrant's household's annual income (US\$)	36,355	42,264	42,376	37,319	0.828
Migrant's years of education	8.62	8.15	8.94	8.35	0.222
Migrant's annual remittances sent (US\$)	5,451	4,876	4,689	4,974	0.240
Migrant's total hh savings balance (US\$)	2,942	3,080	2,544	2,883	0.743
Demand for control	0.52	0.49	0.50	0.53	0.850
<u>Baseline variables from El Salvador household survey</u>					
Recipient's total hh savings balance (US\$)	249	543	274	459	0.297
Recipient's annual remittances received (US\$)	3,136	3,112	3,244	3,224	0.960

# Estimation Strategy

- For migrant  $i$  :

$$Y_i = \alpha + \beta Z_{1i} + \gamma Z_{2i} + \lambda Z_{3i} + \mathbf{X}_i' \phi + \varepsilon_i$$

- $Y_i$  = take-up, savings
  - $Z_{1i}$  = treatment 1 indicator
  - $Z_{2i}$  = treatment 2 indicator
  - $Z_{3i}$  = treatment 3 indicator
  - $\mathbf{X}_i$  = vector of baseline controls, fixed effects
- Focus on ITT
    - Effect of *offering* savings accounts



# Impact of treatments on account ownership at partner bank

	Cuenta Unidos accounts (in name of someone in El Salvador)*		Ahorro Directo accounts (in name of migrant only)		Other accounts in name of migrant or primary remittance recipient (PRR)	
	(a)		(b)		(c)	
Treatment 3 (joint account + migrant-only account)	0.221*** (0.034)	0.204*** (0.034)	0.234*** (0.033)	0.238*** (0.031)	0.020 (0.042)	0.014 (0.041)
Treatment 2 (joint account)	0.141*** (0.030)	0.125*** (0.031)	-0.025 (0.016)	-0.018 (0.017)	-0.003 (0.041)	0.006 (0.040)
Treatment 1 (PRR account only)	0.150*** (0.032)	0.135*** (0.032)	-0.013 (0.018)	-0.006 (0.018)	-0.027 (0.042)	-0.028 (0.040)
Constant	0.059*** (0.016)	0.557*** (0.191)	0.041*** (0.013)	0.250 (0.164)	0.265*** (0.030)	0.715*** (0.243)
Control variables		Y		Y		Y
Observations	898	898	898	898	898	898
R-squared	0.041	0.145	0.141	0.217	0.001	0.078
P-value of F-test: equality of ...						
Treatment 3 & 2 coeffs.	0.046	0.040	0.000	0.000	0.591	0.858
Treatment 3 & 1 coeffs.	0.088	0.081	0.000	0.000	0.274	0.316
Treatment 2 & 1 coeffs.	0.819	0.784	0.391	0.450	0.555	0.401

Robust standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%



# Impact of treatments on savings in accounts at partner bank

	Cuenta Unidos accounts (in name of someone in El Salvador)*		Ahorro Directo accounts (in name of migrant only)		Other accounts (in name of migrant or primary remittance recipient)		In total across all accounts	
	(a)		(b)		(c)		(d) = (a) + (b) + (c)	
<b>Panel A (quartic root)</b>								
Treatment 3 (joint account + migrant-only account)	0.387*** (0.108)	0.354*** (0.114)	0.281*** (0.089)	0.305*** (0.094)	0.282 (0.198)	0.206 (0.192)	0.705*** (0.215)	0.639*** (0.212)
Treatment 2 (joint account)	0.232** (0.101)	0.231** (0.109)	-0.079** (0.039)	-0.057 (0.047)	0.035 (0.177)	-0.006 (0.178)	0.110 (0.193)	0.102 (0.198)
Treatment 1 (PRR account only)	0.184** (0.092)	0.162* (0.088)	-0.012 (0.051)	-0.004 (0.051)	-0.084 (0.179)	-0.122 (0.180)	0.044 (0.193)	0.001 (0.195)
Constant	0.176*** (0.055)	0.920 (0.628)	0.079** (0.039)	0.004 (0.131)	0.887*** (0.124)	2.747** (1.183)	1.119*** (0.133)	2.818** (1.184)
Control variables		Y		Y		Y		Y
Observations	898	898	898	898	898	898	898	898
R-squared	0.013	0.087	0.037	0.117	0.004	0.064	0.016	0.082
P-value of F-test: equality of ...								
Treatment 3 & 2 coeffs.	0.214	0.334	0.000	0.000	0.220	0.305	0.008	0.017
Treatment 3 & 1 coeffs.	0.088	0.101	0.001	0.000	0.072	0.105	0.003	0.004
Treatment 2 & 1 coeffs.	0.671	0.555	0.048	0.091	0.514	0.531	0.741	0.624
Mean of dep. var. in comparison group		0.176		0.079		0.887		1.119

# Impact of treatments on savings in accounts at partner bank

	Cuenta Unidos accounts (in name of someone in El Salvador)*		Ahorro Directo accounts (in name of migrant only)		Other accounts (in name of migrant or primary remittance recipient)		In total across all accounts	
	(a)		(b)		(c)		(d) = (a) + (b) + (c)	
<b><u>Panel B (in dollars)</u></b>								
Treatment 3 (joint account + migrant-only account)	79.770 (68.482)	106.543 (83.989)	28.978* (15.166)	32.533* (17.131)	187.826* (106.129)	142.479 (101.002)	296.574** (126.380)	281.555** (132.572)
Treatment 2 (joint account)	70.062 (45.054)	94.661* (55.237)	-9.074 (6.920)	-6.996 (8.159)	86.995 (109.439)	25.354 (110.911)	147.983 (119.543)	113.018 (126.260)
Treatment 1 (PRR account only)	12.693 (13.961)	27.980 (21.121)	-5.605 (7.211)	-5.802 (8.338)	38.339 (101.573)	1.988 (102.704)	45.426 (102.511)	24.166 (105.030)
Constant	16.005* (8.469)	240.552 (163.721)	9.074 (6.920)	6.610 (15.665)	160.836*** (56.859)	382.230 (317.066)	185.914*** (57.586)	629.391* (366.516)
Control Variables	Y		Y		Y		Y	
Observations	898	898	898	898	898	898	898	898
R-squared	0.003	0.035	0.017	0.087	0.003	0.069	0.006	0.056
P-value of F-test: equality of ...								
Treatment 3 & 2 coeffs.	0.905	0.893	0.005	0.008	0.435	0.357	0.332	0.285
Treatment 3 & 1 coeffs.	0.329	0.280	0.012	0.015	0.223	0.243	0.074	0.069
Treatment 2 & 1 coeffs.	0.208	0.197	0.094	0.713	0.700	0.861	0.448	0.540
Mean of dep. var. in comparison group	16.005		9.074		160.836		185.914	

# Support for control interpretation

- Is Treatment 3's impact on savings because migrants exercise control?
  - Impact of Treatment 3 on recipient savings (relative to Treatment 2) is concentrated among migrants who, at baseline, have latent demand for control over remittance uses
- Baseline survey answers revealing demand for control:
  - Paid directly for things in home country (7.7%)
  - Sent funds home for others to administer (23.7%)
  - Interested in direct payments to improve control (20.7%)
  - Know people with conflict with recipients over remittance uses (14.6%)
  - Have had conflict with recipients over remittance uses (4.9%)
  - 51% say "yes" to at least one of the above 5 questions
    - We examine heterogeneity along this overall "demand for control" variable

# Heterogeneity in treatment effects by baseline demand for control

	Cuenta Unidos accounts (in name of someone in El Salvador)	Ahorro Directo accounts (in name of migrant only)	Other accounts (in name of migrant or primary remittance recipient)	In total across all accounts
	(a)	(b)	(c)	(d) = (a)+(b)+(c)
<b>Panel A (quartic root)</b>				
Treatment 3 * Demand for control	0.572*** (0.171)	0.113 (0.110)	0.331 (0.261)	0.768*** (0.293)
Treatment 3 * No demand for control	0.117 (0.135)	0.511*** (0.146)	0.070 (0.279)	0.497* (0.302)
Treatment 2 * Demand for control	0.478*** (0.161)	-0.119* (0.072)	0.047 (0.254)	0.283 (0.286)
Treatment 2 * No demand for control	-0.022 (0.134)	0.009 (0.044)	-0.054 (0.256)	-0.074 (0.275)
Treatment 1 * Demand for control	0.121 (0.110)	-0.114 (0.076)	-0.355 (0.231)	-0.340 (0.253)
Treatment 1 * No demand for control	0.186 (0.140)	0.114* (0.066)	0.099 (0.277)	0.326 (0.298)
Control Variables	Y	Y	Y	Y
Observations	898	898	898	898
R-Squared	0.098	0.126	0.068	0.090
P-value of F-test: equality of interactions with				
Treatment 3	0.031	0.025	0.490	0.516
Treatment 2	0.014	0.100	0.783	0.372
Treatment 1	0.722	0.024	0.209	0.091
Mean of dep. var. in comparison group				
Migrants with demand for control	0.086	0.129	0.923	1.113
Migrants with no demand for control	0.277	0.022	0.85	1.13

# Heterogeneity in treatment effects by baseline demand for control

	Cuenta Unidos accounts (in name of someone in El Salvador)	Ahorro Directo accounts (in name of migrant only)	Other accounts (in name of migrant or primary remittance recipient)	In total across all accounts
	(a)	(b)	(c)	(d) = (a)+(b)+(c)
<b>Panel B (in dollars)</b>				
Treatment 3 * Demand for control	189.768 (148.826)	-4.669 (14.858)	299.785** (130.469)	484.884** (199.087)
Treatment 3 * No demand for control	16.499 (27.879)	72.243** (29.198)	-27.013 (148.808)	61.729 (153.673)
Treatment 2 * Demand for control	162.918* (98.902)	-17.819 (12.954)	118.489 (111.959)	263.588* (155.977)
Treatment 2 * No demand for control	24.894 (35.275)	4.335 (6.938)	-67.874 (195.811)	-38.645 (198.076)
Treatment 1 * Demand for control	14.106 (22.881)	-18.008 (14.363)	-65.784 (96.316)	-69.687 (98.699)
Treatment 1 * No demand for control	36.222 (30.408)	7.967 (6.471)	59.510 (168.831)	103.699 (171.613)
Control Variables	Y	Y	Y	Y
Observations	898	898	898	898
R-Squared	0.039	0.101	0.074	0.062
P-value of F-test: equality of interactions with				
Treatment 3	0.212	0.013	0.089	0.077
Treatment 2	0.173	0.098	0.411	0.228
Treatment 1	0.541	0.086	0.494	0.352
Mean of dep. var. in comparison group				
Migrants with demand for control	13.637	16.907	94.118	124.662
Migrants with no demand for control	18.672	0.252	235.974	254.898

# Financial empowerment channel

- Patterns in the results are strongly suggestive that Treatment 3 operates, in part, via a financial empowerment channel
- Offer of individual migrant account (*Ahorro Directo*) in Treatment 3 was effectively an additional encouragement to control savings
  - Offer of *Ahorro Directo* extended the conversation about control
  - May have also made control strategies more concrete
- Offer of *Ahorro Directo* emphasized importance of migrants having exclusive control of their savings
  - In contrast to joint account (*Cuenta Unidos*) offer, which emphasized migrant ability to monitor the joint account
- Spillovers of the *Ahorro Directo* offer include:
  - Migrants more likely to exert control over *joint* accounts (*Cuenta Unidos*)
  - Migrants more likely to save more in *own* accounts *outside of partner bank* (e.g., accounts in U.S.)

# Impact of treatments on remittances (sent into bank accounts or as cash)

Dependent variable:

Monthly remittances sent by migrant

Remittance recipient:

Anyone in El Salvador

Anyone in El Salvador

Primary remittance recipient

Remittance channel:

Partner bank

Partner bank

All channels

Time Frame:

July 2008 to June 2009

July 2008 to June 2009

July 2008 until follow-up survey

Sample:

Full Sample

Migrants completing follow-up survey

Migrants completing follow-up survey

Data Source:

Partner bank database

Partner bank database

Follow-up survey

## Panel A: Main effect of treatments

Treatment 3 (joint account + migrant-only account)	10.659 (18.778)	18.132 (24.477)	35.940 (52.405)
Treatment 2 (joint account)	-20.180 (16.061)	-9.358 (19.391)	-2.078 (33.161)
Treatment 1 (PRR account only)	-24.121 (16.270)	-31.648 (20.926)	5.365 (37.339)
Control variables	Y	Y	Y
Observations	898	560	560
R-squared	0.149	0.199	0.092
P-value of F-test: equality of ...			
Treatment 3 & 2 coeffs.	0.081	0.236	0.391
Treatment 3 & 1 coeffs.	0.053	0.035	0.528
Treatment 2 & 1 coeffs.	0.781	0.261	0.810
Mean of dep. var. in comparison group	71.283	82.423	239.954

Robust standard errors in parentheses. \* significant at 10%; \*\* significant at 5%; \*\*\* significant at 1%

# Take-home messages

- By itself, channeling remittances into savings accounts does not promote savings accumulation
- But impact on savings accumulation in the origin household can be substantial when:
  - Migrants are given ability to monitor and control savings of remittance recipients
  - Financial education emphasizes importance of that control
- Migrant savings interventions can have important spillovers to other economic decisions
  - In particular, savings in the US
  - Also: migrant earnings
- Implications for future work
  - Should be fruitful to study development impacts of treatments that enhance migrant control over other remittance uses
    - E.g., schooling, health, microenterprise investment