# **Online Appendix:**

# Tied to the Land? Intergenerational Mobility and Agrarian Reform in Colombia

# Contents

Appen	$\operatorname{dix} \mathbf{A}$	Data Construction	3
A.1	Agrari	an Reform Data	3
A.2	Linkag	ge of Applicants and Children	8
A.3	Admin	istrative Data Linkage Algorithm	8
A.4	Conter	nporary Administrative Data	10
	A.4.1	Sources and Description	10
	A.4.2	Principal Component Analysis (PCA)	12
Appen	dix B	Robustness Checks	14
B.1	Tables		14
	B.1.1	RD Robustness Checks	14
	B.1.2	2SLS Estimations	16
	B.1.3	OLS Estimations	17
	B.1.4	Additional Checks for Geographic Mobility	18
	B.1.5	Additional Checks for Investment in Education	19
	B.1.6	Cost-Benefit Analysis	19
B.2	Figure	s	20
	B.2.1	Histograms of Distance to Predicted Score Threshold	20

## Appendix A Data Construction

### A.1 Agrarian Reform Data

This section explains in detail the sources and construction of agrarian reform data. As discussed in section 3.1, this study uses micro-level historical information constructed from the archives of the extinguished Colombian Institute for Agrarian Reform (or INCORA), which are currently managed by the National Land Agency (ANT) at Bogotá, Colombia. Specifically, I draw upon three archival series: expropiation files from the *Sharecroppers and Tenants Program*, land titles records issued by INCORA - which include state-owned lands (or *baldios*), parcels and other types of transactions - and notarial records from the National Registry of Civil Status (RNEC) in 1966-1972. The archives are protected under Colombian privacy laws that prohibit the publication and use of personal information (Laws 1581 of 2012, 1712 of 2014, 79 of 1993, and Decree 1743 of 2016). Consequently, the data is accessed through confidentiality agreements.

Each expropiation file included the following information: legal documents (INCORA and judicial decisions, notarial records, etc.), technical studies made by INCORA officials (*informe de visita*) and, if the expropiation took place, applicant surveys (*formulario de aplicación*). Each land title contains the name, ID number, date, location and area titled. As explained in section 2, only 10% of expropiations files were successfull. However, of these, I only found that 218 effectively included systematic. I use all data sources to collect information about applicants: full name, ID number (or *cédula de ciudadania*), address, household members, occupation, working experience, wages, assets, housing, types of crops grown and whether it allocated a parcel or not. The scores assigned by INCORA were reported in numerous files also. Research assistants helped to tabulate this information and construct a database.

Based on INCORA Directive 23 of 1966, I reconstructed the scores employed in the empirical strategy. The evaluation for each applicant was made along 4 key topics: family age characteristics, agricultural experience, assets and housing investments according to the scoring system described in Table 1. Summing across all attributes, I calculated a predicted INCORA score for each applicant family. Next, for each expropiation file e I defined its score threshold  $s_e$  as the minimum score needed to be allocated land based on the number of parcels (AFUs) available. To make applicants comparable, I rescaled each threshold to zero by defining the distance between an applicant's score  $s_i$  and its respective score cutoff  $s_e$  as  $dists_e = s_i - s_e$ . Following this set up, applicants with scores above (or on) zero would be eligible to become recipients, while those below would not. I used this variable to implement th RD design in the empirical strategy in section 4.

In the following tables and figures, I list the variables coded from expropiation files and show photographs of them. Figures A.1 shows a photograph from an expropiation file, indicating the *Sharecroppers and Tenants Program* series, location and date. Figure A.2 shows another photograph from the INCORA visit report (*informe de visita*). Finally, Figure A.3 shows photograph from an INCORA survey (*formulario de aplicación*). Names and ID numbers have been erased to comply with privacy laws.

Variable	Description	Type	Source
Agricultural Experience	Years	Integers	INCORA
Log(Wages)	Colombian pesos in 1968-1970	Continuous	INCORA
Has House	1=has house, 0=otherwise	Dummy	INCORA
Plot Area	Hectares	Continuous	INCORA
Grows Cash Crops	1=grows cash crops, $0=$ otherwise	Dummy	INCORA
Grows Staple Crops	1=grows staple crops, 0=otherwise	Dummy	INCORA

Table A.1: Agrarian Reform Data



Figure A.1: Expropiation File

#### INFORME DE VISITA

EXPEDIENTE No.

DEPARTAMENTO:

MUNICIPIO:

CASERIO:

NOMBRE DE LA FINCA:

NOMBRE DEL PROPIETARIO:

DISTRITO:

VISITADOR:

FECHA:

)

CORDOBA

PUEBLO NUEVO

Noviembre 8 de 1.968.

-DILIGENCIA

En la fecha veinte y cinco de Octubre de mil novecientos sesenta y ocho dando cumplimiento al auto de fecha veinte y tresz de Octubre de mil novecientos sesenta y ocho, el suscrito funcionario del INSTITUTO COLOUERIANO DE LA REFORMA AGRARIA-INCORA, se trasladó al predio denominado """,ubicado en el caserio"" ju risdicción del Eunicipio de Pueblo Nuevo Departamento de Córdoba a objeto de adelantar en unión del señor" in cali dad de ADMINISTRADOR, la diligencia de visita ordenada conforme a lo dispuesto por el numeral 30. del Artículo 22 del Decreto 719 de 1.968.Una vez en el terreno se procedió a recorrerlo en su total<u>i</u> dad encontrandolo en las condiciones que a continuación se consi<u>E</u> nan.

El acta correspondiente de la visita se adjunta al expediente re<u>s</u> pectivo, debidamente firmada.

6

(F)		6	Bet	2 - C	ur de Recepción	wenn	2) Ficha	3) Punta	:07
FORMULARIO D	E INSCRIPCIO	N :	9 169	estador	Ç,		5) Municipio o Corre	Bunced	0
ancora.			6) Vere	Pod	nies		7) Fince(s) o Dedio	Gaucon	-
	8 - J	EFE	DE	LAF	AMILIA		0~0~	1	-
) Nondre			b) C.C.	6 T. I.	- / -	· · · · · · · · · · · · · · · · · · ·	c) Lugar y fecha de 5	lacimiento.	
Vinculado a la(s) finc <i>d</i> o	Trabajador /	Agropeci	ario de	la Zona	del Proyecto		() Propietario Minifundi	sta de la Zona del P	royecto D
0	10) RELACION CON EL 1EF1	11) EDAD	12) SAE	ELEER	13)		14) OCUPACION	PRINCIPAL	15)CAPACI
SOLICITANTE Y PERSONAS A SU CARGO	Y ESTADO CIVIL	(Alios)	S.	NO	ANGE DE ES	CUELA	ACTUAL	HABITUAL	JAR LA TRA
	Casado	75	Si'	3	PF	70	aquicueta	>	R.
	Casa da (Esp	)54		7	PO: i	20	Facios Dou	urticos	
	Resada Hisa	28	ینچ	Ŕ	PM :	-Z	oficio deu	estia	
	Soctuo HOD	21	54	15	PP=1	-0	1		
0	Soltero Hild	18	50	15	í	_			
	Cooleria Hus	20	C	in		_			
anger country	Sector a Hillo	11	C	in					-
nucus - Interest	Dac. Hipe	10	20	10					
			-						
16) Q:		OBS	ERV	AC10	NES		0 0		
El Paños		U		pa	cew	æ	la fin	ica La	<u> </u>
gallega.			0						

Figure A.3: Applicant Survey

na del Contrato P	inta o Hatienda - Propietario	Area	Manicipio	Vareda	Clase de Caltivo
V	~	Sau	Bunna	0- Oroche	all m
X	1 mile	Puit			
PARCERD		1 1			
VIRAS PURMAS - Sim	lares al arrendamiento o apar	ceria			
mpo de Vincula.					
			1.1.1.1.1.1	-	
IORNALERO					
			Municipio		Vereda
			descent of the second		
OBSERVAC	IONES				27) Tiempo de Vincula -
					ción
					a) A la Finca 4000
			and the second se		
					b) A la Zona del Proyecto
					b) A la Zona del Proyecta
					b) A la Zona del Proyecto
8)		PATR	140110		b) A la Zona del Proyecta
8) CTIVO	n la Vinca o Hacinyda	PATR	140110		b) A la Zona del Proyecta
8) CTIVO <sub>4</sub> - Fuera d	e la Pinca o Hacimula CLASE	PATR	1 M O N I O	VALOR	b) A la Zona del Proyecta TOTAL
5) CTIVO # - Fuera d BIENES	e 1a Finca o Heciesda CLASE	PATR	NUMERO	VALOR	b) A la Zona del Proyecta TOTAL
8) CTIVO <sub>4</sub> - Fuera d BEENES Innebles	e 1a Finca o Haciesda CLASE	PATR	I M O N I O NUMERO	VALOR	b) A la Zona del Proyecto TOTAL
8) CTIVO <sub>3</sub> - Fuera d BEENES smuebles hæbles o Enseres	e 1a Finca o Heciesda CLASE	PATR	I M O N I O NUMERO	VALOR	b) A la Zona del Proyecto TOTAL
8) CTIVO <sub>8</sub> - Fuera d BIENES Inuchies Inchies o Enseres	e la Pinca o Hacinada CLASE	PATR	NUMERO	VALOR	b) A la Zona del Proyecto TOTAL
8) CCTIVO a - Fuera d BEENES Inuebles heebles o Enseres emovientes	e la Finca o Hecienda CLASE	PATR	NUMERO	VALOR	b) A la Zone del Proyecto
8) CCTIVO 4 - Fuera d BIENES Insurbles habbles o Enseres emovientes tors	e la Pisca o Hacinada CLASE	PATR	I M O N I O NUMERO	VALOR	b) A la Zona del Proyecto
8) ICTIVO BIENES Insuebles habbles o Enseres emporientes types	e la Finca o Haciesda CLASE	PATR	IM O N I O	VALOR	b) A la Zons del Proyecto TOT AL
8) CTIVO g. Fuera d BIENES Inuchies harbies o Enseres empoientes tees tees	e la Finca o Recincás CLASE	PATR	NUMERO	VALOR	b) A la Zona del Proyecto
8) ICTIVO 4 - Fuera d BIENES INATÓRIS INATÓRIS INATÓRIS Inatória Inatória Inatória Inatória	e la Finta o Harinda CLASE	PATR	NUMERO	VALOR	b) A la Zons del Proyecto
8) CTIVO g Juera d BIENES Anarátics habács o Enseres movientes tves Isquinaria apital	e la Fisca o Herioda CLAIE	PATR	NUMERO	VALOR	b) A la Zona del Proyecto
8) ISCTIVO 4 - Puera d BIERES anuelles hubbes o Enseres emovientes tves Isquinaris Isquinaris Isquinaris	e la Floca o Herinola CLASE Malpon nº Jacoba	PATE udle Sec	NOMERO NOMERO	VALOR - 	A la Zons del Proyecta     TOTAL
8) ICTIVO a - Fuera d ILIZNES Anautica habies o Enseres emovientes ves isquinaria iaquinaria iaquina	e la Fleca o Herinedo CLASE MARORA I JARIDO	PATR webe Dec	NUMERO RUMERO Q Lullo Sub-Total	VALOR	A la Zona del Proyecto     TOTAL
8) ICTIVO 4 - Puera d BIENES anuskies konstenes konstenes types lagital Japas	e la Face o Harineda CLASE Mefro N.I. /Arcida	PATR eucle Ster sants	IM O E 10 NUMERO	VALOR	<ul> <li>a) A Is Zons del Proyects</li> <li>TOT AL</li> <li>TOT AL</li> <li>, 11. 600 -</li> </ul>
8) ICTIVO g. Puera d INFRES norbies o Enseres movientes isquinaria lapital Japos DASIVO	e la Flaca e Harineda CLAIE Mafaca a flaceda Mafaca a flaceda Negres da la Flace da	PATR ende She lands	NUMERO NUMERO Q Luud Seb - Total	VALOR	1) A la Zona del Proyecto
8) SICTIVO *- Puere d SIERVES ansusties ansusties ansusties texplication texplication texplication PASIVO b) PASIVO b)	e la Fleca o Heriorda CLASE Magne R.1 Mecha Negres de la Fine o Her REEDOR	PATE eucle See ieeda destru	NUMERO NUMERO Sub-Total Bab-Total	VALOR 10.000 - 10.000 - VALOR VALOR	<ul> <li>a) A la Zona del Proyecto</li> <li>TOTAL</li> <li>TOTAL</li> <li>114 600 -</li> </ul>
8) ICTIVO g puers d materies materies investes o Enseres investes i	e la Fine o Heriteda CLASE Milgae R.I Mecila Najoren de la Fine o Her REEDOR	PATR whe Sho into Destro	NUMERO NUMERO LUUS Bub - Total	VALOR 10.000 = 10000 VALOR 1200	1) A la Zona del Proyecta TOTAL
8) ICTIVO 9. Puero d BIENES narothes harbiss o Enseres teres	e la Flaca o Herineda CLASE MAGRAN ARCOLO MESTERA de la Flace o Ilse REFECR	PATE whe Sea DESTE	NUMERO NUMERO Luis Sub-Total	VALOR 10.000 = 10000 VALOR 1200	1) A la Zona del Proyecto TOTAL , 11. 600 -

## A.2 Linkage of Applicants and Children

In this section, I provide evidence that the subsample of children is balanced across recipient and non-recipients families. If this was not the case, then intergenerational effects of providing land could be biased. Table A.2 documents correlations between the probability of finding the children of applicants in notarial records, the treatment variable (*Recipient*) and other relevant pre-treatment applicant characteristics. As can be seen, in general, these variables are not correlated with each other. Importantly, though, applicants who lived closer to urban centers were more likely to register their children at notaries. Overall, these results validate the use of the subsample of children in the empirical exercises in section 4.

	RI	)
	Coefficient	Standard
		Error
	(1)	(2)
Recipient	-0.0239	(0.0365)
Score	-0.000565	(0.00121)
Age	-0.00689	(0.0183)
Years of Schooling	0.0245	(0.0185)
Years of Agricultural Experience	-0.000449	(0.00119)
Log(Wages)	-0.00669	(0.00915)
Has House	-0.0487	(0.0590)
Plot Area	-0.00282	(0.00184)
Cash Crops	-0.00261	(0.00278)
Staple Crops	-0.00197	(0.0478)
Distance to Urban Center (in km)	-0.00337***	(0.00118)

Table A.2: Correlations of Subsample of Children

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Each cell in Column (1) in this table reports the coefficient from a RD regression following Calonico et al (2017) of a pretreatment applicant characteristic in 1968-1970 on the likelihood of finding a child in notarial records, with standard errors in parentheses in Column (2).

## A.3 Administrative Data Linkage Algorithm

The linkage of agrarian reform data with comtemporary outcome information follows a simple phonetic algorithm involving the names and ID numbers of applicants and children. In Colombia, as in most spanish speaking countries, a person has two legal last names: the first last name is inherited from the father and the second last name is inherited from the mother. A person can have more than one first name, with two first names being a popular combination. Moreover, names and last names can often be mispelled, which is why an error term in the linkage process is introduced. Government agencies indicated to match first on ID number and then on a combination of the 4 name variables. Therefore, the algorithm is designed to match ID numbers and full names (two first names and two last names) based on phonetic coincidence along 16 criteria in descending order of importance.

- 1. 100% phonetic coincidence. Matches ID number, two first names and two last names.
- 2. 100% phonetic coincidence. Matches ID number, concatenate all first names and last names.
- 3. 100% phonetic coincidence. Matches ID number, concatenate all last names and first names.
- 4. 100% phonetic coincidence. Matches ID number, first names and first last name in agrarian reform data with at least one last name in outcome data.
- 5. 100% phonetic coincidence. Matches ID number, first names and second last name in agrarian reform data with at least one last name in outcome data.
- 6. 95% phonetic coincidence. Matches ID number, two first names and two last names.
- 7. 95% phonetic coincidence. Matches ID number, one first name and two last names (in absense of middle name in agrarian reform data).
- 8. 95% phonetic coincidence. Matches ID number, one first name and two last names (in absense of middle name in outcome data).
- 9. 90% phonetic coincidence. Matches ID number, two first names (second first name at 90%) and first last name.
- 10. 90% phonetic coincidence. Matches ID number, two first names at 90% and two last names.
- 11. 90% phonetic coincidence. Matches ID number, two first names and two last names at 90%.
- 12. 90% phonetic coincidence. Matches ID number, one of two first names at 90% and one of two last names at 90%.
- 13. 90% phonetic coincidence. Matches ID number, first names in outcome data match last names in agrarian reform data and vice-versa.

- 14. 90% phonetic coincidence. Matches ID number, first first name in agrarian reform data with one of the two first names in outcome data and two last names.
- 15. 90% phonetic coincidence. Matches ID number, second first name in agrarian reform data with one of the two first names in outcome data and two last names.
- 16. 90% phonetic coincidence. Matches ID number, second first name in agrarian reform data with one of the two first names in outcome data and two last names.

## A.4 Contemporary Administrative Data

### A.4.1 Sources and Description

As in the case of agrarian records, personal information in administrative data is also protected by privacy laws. Therefore, the outcome data that is legally safeguarded is accessed through confidentiality agreements with: National Planning Department, Ministry of Health and Social Protection, National Registry of Civil Status and Universidad de los Andes. All agreements guarantee the data is employed for academic research but prohibit personal information sharing, disclosure, or usage, in partial or full. A minority of the outcome data (RUES, etc.) used is publicly available at different government websites and web scapred. Next, I describe in detail the outcome data sources and construction of the various administrative data used in the paper.

## Table A.3: Outcome Data

Variable	Description	Type	Date	Source
Wealth Index	1-10 score	Continuous	2006	SISBEN
Household Index	1-10 score	Continuous	2006	SISBEN
Assets Index	1-10 score	Continuous	2006	SISBEN
Electricity	1=has electricity, 0=otherwise	Dummy	2006	SISBEN
Sewage	1=has sewage, 0=otherwise	Dummy	2006	SISBEN
Aqueduct	1=has aqueduct, 0=otherwise	Dummy	2006	SISBEN
Running Water	1=has running water, 0=otherwise	Dummy	2006	SISBEN
Gas	1=has gas, 0=otherwise	Dummy	2006	SISBEN
Alive	1=alive in 2010, 0=otherwise	Dummy	2010	RUAF-Estadísticas Vitales
Registers for Poverty Subsidies	1=found in SISBEN, 0=otherwise	Dummy	2010	RUAF
Above Minimum Wages	1=wage>minimum wage, 0=otherwise	Dummy	2010	PILA
Works	1=works, 0=otherwise	Dummy	2010	RUAF
Works in Formal Sector	1=is in contributory regime, 0=otherwise	Dummy	2010	RUAF & PILA
Contributes to Social Security	1=contributions>0, 0=otherwise	Dummy	2010	PILA
Has Bank Account	1=has bank account, 0=otherwise	Dummy	2010	SuperFinanciera
Has Credit Card	1=has credit card, 0=otherwise	Dummy	2010	SuperFinanciera
Has Loan	1=has loan, 0=otherwise	Dummy	2010	SuperFinanciera
Agriculture	1=works in sectors CIIU Rev 4: A, 0=otherwise	Dummy	2010	RUAF-Afiliaciones Salud & PILA
Manufacturing	1=works in sectors CIIU Rev 4: C, 0=otherwise	Dummy	2010	RUAF-Afiliaciones Salud & PILA
Services	1=works in sectors code CIIU Rev 4: H-S, , 0=otherwise	Dummy	2010	RUAF-Afiliaciones Salud & PILA
Entrepreneurship	1=has mercantile register, 0=otherwise	Dummy	2005-2018	RUES
Migration	1=if migrated, 0=otherwise	Dummy	2010	RUAF
Urban Migration	1=if migrated to city>300 thousand inhab., 0=otherwise	Dummy	2010	RUAF
Rural Migration	1=if migrated to places<25 thousand inhab., 0=otherwise	Dummy	2010	RUAF
Years of Schooling	Years	Integers	2006	SISBEN
Primary School	1=finished primary school, 0=otherwise	Dummy	2006	SISBEN
High School	1=finished high school, 0=otherwise	Dummy	2006	SISBEN
Technical Education	1=finished technical education, 0=otherwise	Dummy	2006	SISBEN
College	1=finished college, 0=otherwise	Dummy	2006	SISBEN
Attending School	1=finished attending school, 0=otherwise	Dummy	2006	SISBEN
Child Labor	1=is child works, 0=otherwise	Dummy	2006	SISBEN
Violent Death	1=death is homicide-massacre, 0=otherwise	Dummy	Death year	RUAF-Estadísticas Vitales
Displaced	1=appears in RUPTA, 0=otherwise	Dummy	1980-2010	RUPTA
Criminal Record	1=has criminal record at Procuraduria, 0=otherwise	Dummy	1980-2018	Procuraduria

#### A.4.2 Principal Component Analysis (PCA)

To calculate wealth, housing and asset indices with the SISBEN data, I use standard principal component analysis. This statistical procedure uses an orthogonal transformation to convert a set of observations of possibly correlated variables into a new system such that the greatest variance by some projection of the data comes to lie on the first coordinate (called the first principal component), the second greatest variance on the second coordinate, and so on (see Jolliffe, 2002). Consider a data matrix, X, with column-wise zero empirical mean (the sample mean of each column has been shifted to zero), where each of the n rows represents a different repetition of the experiment, and each of the p columns gives a particular kind of feature (say, the results from a particular sensor). Mathematically, the transformation is defined by a set of p-dimensional vectors of weights  $w_k = (w_1, ..., w_p)_{(k)}$  that map each row vector  $X_i$  of X to a new vector of principal component scores  $t_i = (t_1, ..., t_{(l)})_{(i)}$  given by:

$$t_{k(i)} = x_i w_k \tag{1}$$

In such a way that the individual variables t of t considered over the data set successively inherit the maximum possible variance from x, with each loading vector w constrained to be a unit vector. In order to maximize variance, the first loading vector  $w_1$  satisfies:

$$w_1 = argmax \frac{w^T X^T X w}{w^T w} \tag{2}$$

The quantity to be maximised can be recognised as a Rayleigh quotient. A standard result for a positive semidefinite matrix such as XTX is that the quotient's maximum possible value is the largest eigenvalue of the matrix, which occurs when w is the corresponding eigenvector. With  $w_1$  found, the first principal component of a data vector  $x_i$  can then be given as a score  $t_{1(i)} = x_i w_1$  in the transformed co-ordinates. Table A.4 presents the variables used to calculate the wealth index using principal component analysis.

Variable	Description	Туре
Housing type	1=house or apartment, 2=room, 3=other	Integers
Risk	1=high, 2=regular, 3=low	Integers
Walls	1=block, brick, stone, polished wood	Integers
	2=clay, 3=wattle and daub	
	4=prefabricated material	
	5=coarse wood, plank	
	6=bamboo, cane, mat, other vegetable	
	7=zinc, cloth, cannon, cans, waste, plastics	
	0=without walls	
Floor	1=carpet or rug, marble, marque, polished wood	Integers
	2=tile, vinyl, tablet or brick	
	3=cement, gravel	
	4=rough or shabby wood plank	
	5=dust, sand	
Rooms	Number of rooms	Continuous
Kitchen	1=has kitchen, 0=otherwise	Dummy
Bathrooms	Number of bathrooms	Continuous
Toilet	1=toilet connected to aqueduct	Integers
	2=toilet connected to septic tank	
	3=toilet not connected	
	4=latrine	
	0=no toilet	
Shower	1=has shower, 0=otherwise	Dummy
Trash	1=has trash disposal, 0=otherwise	Integers
Fridge	1=has fridge, 0=otherwise	Dummy
Washing machine	1=has washing machine, 0=otherwise	Dummy
TV	1=has TV, 0=otherwise	Dummy
Cable TV	1=has cable TV, 0=otherwise	Dummy
Telephone	1=has telephone, 0=otherwise	Dummy
Oven	1=has oven, 0=otherwise	Dummy
Heater	1=has heater, 0=otherwise	Dummy
Computer	1=has computer, 0=otherwise	Dummy
Car	1=has car, 0=otherwise	Dummy
Electricity	1=has electricity, 0=otherwise	Dummy
Aqueduct	1=has aqueduct, 0=otherwise	Dummy
Sewage	1=has sewage, 0=otherwise	Dummy
Running water	1=has running water, 0=otherwise	Dummy
Gas	1=has car, 0=otherwise	Dummy

Table A.4:	Wealth	Index	Composition
------------	--------	-------	-------------

## Appendix B Robustness Checks

## B.1 Tables

## B.1.1 RD Robustness Checks

	Linear	Linear	Linear	Linear				
	Half optimal	Twice optimal	Triangular	Epanechnikov	Quadratic	Cubic	Placebo 1	Placebo 2
	bandwith	bandwith	bandwith	bandwith				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Tab	le 4: Modern Ed	conomy			
Wealth Index	$0.199^{*}$	0.248**	0.185	0.187	0.140	0.171**	-0.231	0.412
	(0.120)	(0.113)	0.137	0.138	(0.182)	(0.0867)	(0.940)	(0.306)
Housing Index	$0.261^{**}$	$0.197^{**}$	$0.302^{**}$	$0.307^{*}$	$0.337^{**}$	$0.321^{*}$	0.0479	-0.370
	(0.129)	(0.100)	(0.147)	(0.158)	(0.155)	(0.172)	(0.159)	(0.320)
Registered for Poverty Subsidies	-0.0223	$-0.174^{***}$	$-0.158^{**}$	-0.202***	-0.0504	0.0101	0.0678	0.179
	(0.120)	(0.0635)	(0.0667)	(0.0611)	(0.0905)	(0.121)	(0.159)	(0.246)
Above Minimum Wages	0.0207	$0.0441^{**}$	0.0302	0.0361	0.0163	0.0147	-0.0801	0.0350
	(0.0304)	(0.0213)	(0.0239)	(0.0240)	(0.0286)	(0.0291)	(0.0681)	(0.0265)
Works in Formal Sector	-0.146	0.113	0.143	0.171	0.00934	-0.0581	-0.855	0.136
	(0.242)	(0.112)	(0.131)	(0.136)	(0.168)	(0.191)	(0.788)	(0.147)
Agriculture	-0.0208	-0.107	$-0.140^{*}$	-0.131*	-0.138	-0.151	0.239	-0.110
	(0.127)	(0.0656)	(0.0786)	(0.0740)	(0.0929)	(0.111)	(0.286)	(0.0965)
Manufacturing	-0.00345	0.0111	0.00988	0.0139	0.0107	0	0.0108	-0.00627
	(0.0259)	(0.0134)	(0.0120)	(0.0198)	(0.0133)	(0)	(0.0138)	(0.0261)
Services	-0.106	0.0903	$0.139^{*}$	$0.137^{*}$	0.159	0.153	-0.200	0.107
	(0.158)	(0.0705)	(0.0802)	(0.0759)	(0.0983)	(0.110)	(0.259)	(0.0960)
			Table	e 8: Geographic	Mobility			
Migration	0.0350	0.120*	0.160**	0.157**	0.182*	0.182	-0.170	0.127
	(0.130)	(0.0665)	(0.0794)	(0.0747)	(0.0976)	(0.113)	(0.286)	(0.0965)
Urban Migration	$0.117^{*}$	$0.135^{***}$	$0.111^{*}$	$0.116^{*}$	0.0940	0.0841	0.000164	0.109
	(0.0630)	(0.0436)	(0.0627)	(0.0609)	(0.0783)	(0.0957)	(0.147)	(0.0726)
Rural Migration	-0.0635	-0.0908*	$-0.0934^{*}$	-0.0985*	-0.0515	-0.0304	-0.0632	-0.0660
	(0.0991)	(0.0506)	(0.0543)	(0.0529)	(0.0747)	(0.0898)	(0.120)	(0.0698)

## Table A.5: Applicants

Notes: This table documents different robustness checks for outcome in Table 3. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Each cell reports the coefficient from a type of RD regression, shown columns, of an outcome on *Recipient*, an indicator variable equal to 1 if an applicant was eligible to be allocated land during the agrarian reform 1968-1970, shown in rows. The unit of observation is the applicant. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Regressions also include a local linear polynomial estimated separately on each side of the threshold. Bandwidths are chosen using the MSE optimal procedure suggested by Calonico et al. (2017). Source: INCORA, SISBEN, RUAF. For a description of each dependent variable see Online Appendix A Table A.3.

	Linear	Linear	Linear	Linear				
	Half optimal	Twice optimal	Triangular	Epanechnikov	Quadratic	Cubic	Placebo 1	Placebo 2
	bandwith	bandwith	bandwith	bandwith				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Tal	ole 5: Modern Ed	conomy			
Wealth Index	0.421***	0.238**	0.327***	0.332***	0.254	0.273	0.0741	0.206
	(0.104)	(0.106)	(0.117)	(0.0864)	(0.258)	(0.445)	(0.933)	(0.633)
Housing Index	0.410***	$0.374^{***}$	0.408***	0.390***	0.357	0.527	0.284	0.160
	(0.133)	(0.102)	(0.0943)	(0.0953)	(0.291)	(0.566)	(0.625)	(0.682)
Registered for Poverty Subsidies	-0.0574	$-0.198^{**}$	-0.205*	-0.228*	-0.113	-0.0178	0.412	-0.211
	(0.192)	(0.0976)	(0.115)	(0.118)	(0.151)	(0.178)	(0.306)	(0.305)
Above Minimum Wages	0.213	$0.157^{**}$	$0.186^{**}$	0.189**	0.226	0.180	0.121	0.128
	(0.139)	(0.0761)	(0.0776)	(0.0781)	(0.158)	(0.216)	(0.0921)	(0.106)
Works in Formal Sector	0.0975	$0.160^{**}$	$0.157^{***}$	$0.175^{***}$	0.0890	-0.00570	-0.111	0.105
	(0.0820)	(0.0589)	(0.0575)	(0.0785)	(0.0968)	(0.0575)	(0.284)	(0.0788)
Agriculture	-0.0358	-0.0225	0.00218	-0.00617	-0.0178	-0.0705	0.0386	-0.0255
	(0.176)	(0.0824)	(0.0995)	(0.100)	(0.116)	(0.148)	(0.374)	(0.106)
Manufacturing	$0.137^{*}$	0.0601	$0.0945^{**}$	0.1000**	$0.0967^{*}$	0.0737	0.0625	-0.0198
	(0.0738)	(0.0469)	(0.0466)	(0.0476)	(0.0588)	(0.0648)	(0.0446)	(0.116)
Services	-0.145	-0.0762	-0.157	-0.145	-0.124	-0.0810	-0.356	-0.141
	(0.139)	(0.0856)	(0.115)	(0.115)	(0.139)	(0.169)	(0.382)	(0.139)
			Tabl	e 8: Geographic	Mobility			
Migration	0	0.0575	0.287***	0.293***	$0.277^{***}$	0.282**	0.102	0.0193
	(0)	(0.0504)	(0.119)	(0.111)	(0.102)	(0.121)	(0.151)	(0.362)
Urban Migration	0	0.289***	0.282***	$0.284^{***}$	$0.249^{***}$	0.122	-0.0957	-0.405
	(0)	(0.103)	(0.0673)	(0.0649)	(0.0621)	(0.175)	(0.290)	(0.148)
Rural Migration	0.147	0.0921	0.130	0.129	0.198	0.243	0.0297	0.172
			Table 9	9: Investment in	Education			
	(0.183)	(0.0892)	(0.107)	(0.105)	(0.142)	(0.171)	(0.295)	(0.122)
Years of Schooling	$1.426^{*}$	$1.218^{*}$	$1.890^{**}$	$1.866^{**}$	0.432	0.759	0.322	0.296
	(0.843)	(0.637)	(0.940)	(0.936)	(0.725)	(0.703)	(0.246)	(0.325)
Primary School	0.234***	0.168	0.191***	0.170***	0.146	0.163	0.0699	0.0663

## Table A.6: Children of Applicants

Notes: This table documents different robustness checks for outcome in Table 4. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Each cell reports the coefficient from a type of RD regression, shown columns, of an outcome on *Recipient*, an indicator variable equal to 1 if an applicant was eligible to be allocated land during the agrarian reform 1968-1970, shown in rows. The unit of observation is the children of applicants. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Regressions also include a local linear polynomial estimated separately on each side of the threshold. Bandwidths are chosen using the MSE optimal procedure suggested by Calonico et al. (2017). Source: INCORA, RUAF. For a description of each dependent variable see Online Appendix A Table A.3.

#### B.1.2 2SLS Estimations

	In	2006	In 2010				
-	Wealth Index	Housing Index	Register for Poverty Subsidies	Above Minimum Wage	Formal Sector	Agriculture	
	(1)	(2)	(2)	(4)	(5)	(6)	
Recipient	0.285*	0.426**	-0.134	0.0638	0.176	-0.223	
	(0.163)	(0.209)	(0.155)	(0.0496)	(0.407)	(0.154)	
Observations	283	296	324	402	324	254	
Bandwidth	4.8	4.1	3.1	4.1	3.4	3.0	
Mean Dep. Var.	0	0	0.72	0.02	0.03	0.64	

Table A.7: Applicants

Notes: This table documents the long-run effects of providing land in 1968-1970 on selected outcome variables using 2SLS regressions. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors clustered at applicant family level are in brackets. *Recipient* is an indicator variable equal to 1 if an applicant was allocated land during the agrarian reform 1968-1970. The unit of observation is the applicant. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Source: INCORA, SISBEN. For a description of each dependent variable see Online Appendix A Table A.3.

	In :	2006	In 2010				
	Wealth Index	Housing Index	Register for Poverty Subsidies	Above Minimum Wage	Formal Sector	Agriculture	
	(1)	(2)	(2)	(4)	(5)	(6)	
Recipient	0.470**	0.548**	-0.327	-0.343*	0.352**	0.0355	
	(0.236)	(0.268)	(0.198)	(0.186)	(0.166)	(0.134)	
Observations	238	256	291	291	291	273	
Bandwidth	4.5	3.8	3.4	3.3	3.5	3.1	
Mean Dep. Var.	0	0	0.58	0.17	0.39	0.35	

 Table A.8: Children of Applicants

Notes: This table documents the intergenerational effects of providing land in 1968-1970 on selected outcome variables using 2SLS regressions. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors clustered at applicant family level are in brackets. *Recipient* is an indicator variable equal to 1 if a child had an applicant father that was allocated land during the agrarian reform 1968-1970. The unit of observation is the children of applicants. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Source: INCORA, SISBEN. For a description of each dependent variable see Online Appendix A Table A.3.

#### **B.1.3 OLS Estimations**

	In 2006		In 2010			
_	Wealth Index	Housing Index	Register for Poverty Subsidies	Above Minimum Wage	Formal Sector	Agriculture
	(1)	(2)	(2)	(4)	(5)	(6)
Recipient	0.14	0.217*	-0.0307	0.00302	0.0454	-0.0221
	(0.113)	(0.114)	(0.0540)	(0.0133)	(0.0450)	(0.0523)
$R^2$	0.32	0.16	0.30	0.35	0.27	0.32
Observations	728	728	975	975	975	975
Mean Dep. Var.	0	0	0.74	0.03	0.23	0.50

#### Table A.9: Applicants

Notes: This table documents the long-run effects of having received land in 1968-1970 on selected outcome variables using OLS regressions. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors clustered at applicant family level are in brackets. *Recipient* is an indicator variable equal to 1 if an applicant was eligible to be allocated land during the agrarian reform 1968-1970. The unit of observation is the applicant. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Source: INCORA, SISBEN. For a description of each dependent variable see Online Appendix A Table A.3.

	In 2006		In 2010			
-	Wealth Index	Housing Index	Register for Poverty Subsidies	Above Minimum Wage	Formal Sector	Agriculture
	(1)	(2)	(2)	(4)	(5)	(6)
Recipient	0.198***	0.259**	-0.187	0.132	0.145	-0.134
	(0.0725)	(0.107)	(0.425)	(0.333)	(0.197)	(0.0887)
$R^2$	0.48	0.45	0.58	0.60	0.61	0.71
Observations	638	638	991	991	991	991
Mean Dep. Var.	0	0	0.60	0.17	0.43	0.32

#### Table A.10: Children of Applicants

Notes: This table documents the intergenerational effects of providing land in 1968-1970 on selected outcome variables using OLS regressions. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors clustered at applicant family level are in brackets. *Recipient* is an indicator variable equal to 1 if a child had an applicant father eligible to be allocated land during the agrarian reform 1968-1970. The unit of observation is the applicant in Panel A and the children in Panel B. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Source: INCORA, SISBEN. For a description of each dependent variable see Online Appendix A Table A.3.

#### B.1.4 Additional Checks for Geographic Mobility

	In 2006		In 2010			
	Wealth Index	Housing Index	Register for Poverty Subsidies	Above Minimum Wage	Formal Sector	Agriculture
	(1)	(2)	(2)	(4)	(5)	(6)
Recipient	0.0739	0.222	-0.0745	0.0374	0.0655	-0.0817
	(0.102)	(0.123)	(0.0945)	(0.0307)	(0.0792)	(0.106)
Observations	314	286	316	316	316	316
Bandwidth	5.2	4.5	4.4	4.5	4.5	4.3
Mean Dep. Var.	0	0	0.80	0.03	0.15	0.63

#### Table A.11: Excluding Urban Migrants - Applicants

Notes: This table documents the long-run effects of providing land in 1968-1970 on selected outcome variables excluding from the sample urban migrants and using the baseline RD design. \*\*\* p < 0.01, \*\* p < 0.05, \* p < 0.1. Robust standard errors clustered at applicant family level are in brackets. *Recipient* is an indicator variable equal to 1 if an applicant was eligible to be allocated land during the agrarian reform 1968-1970. The unit of observation is the applicant. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Regressions also include a local linear polynomial estimated separately on each side of the threshold. Bandwidths are chosen using the MSE optimal procedure suggested by Calonico et al. (2017). Source: INCORA, RUAF. For a description of each dependent variable see Online Appendix A Table A.3.

	In 2006		In 2010			
	Wealth Index	Housing Index	Register for Poverty Subsidies	Above Minimum Wage	Formal Sector	Agriculture
	(1)	(2)	(2)	(4)	(5)	(6)
Recipient	-0.0513	0.357	-0.130	0.135	-0.00125	-0.246
	(0.215)	(0.291)	(0.185)	(0.123)	(0.183)	(0.210)
Observations	302	244	358	358	358	358
Bandwidth	5.4	4.3	4.3	3.9	4.7	3.5
Mean Dep. Var.	0	0	0.65	0.17	0.28	0.45

Table A.12: Excluding Urban Migrants - Children of Applicants

Notes: This table documents the intergenerational effects of providing land in 1968-1970 on selected outcome variables excluding from the sample urban migrants and using the baseline RD design. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors clustered at applicant family level are in brackets. *Recipient* is an indicator variable equal to 1 if a child had an applicant father eligible to be allocated land during the agrarian reform 1968-1970. The unit of observation is the children of applicants. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Regressions also include a local linear polynomial estimated separately on each side of the threshold. Bandwidths are chosen using the MSE optimal procedure suggested by Calonico et al. (2017). Source: INCORA, RUAF. For a description of each dependent variable see Online Appendix A Table A.3.

### B.1.5 Additional Checks for Investment in Education

	Years of	Primary	High	Vocational	Colloro
	schooling	school	school	education	Conege
	(1)	(2)	(3)	(4)	(5)
Recipient	0.759	0.0994	-0.169	-0.0591	-0.0353
	(0.703)	(0.0887)	(0.106)	(0.0896)	(0.0592)
Observations	298	367	367	367	367
Bandwidth	4.4	5.3	5.3	5.3	5.3
Mean Dep. Var.	5.1	0.52	0.28	0.05	0.03

#### Table A.13: All Children

Notes: This table documents the effects of providing land in 1968-1970 on investment in the education of children among all adult children using the baseline RD design. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1. Robust standard errors clustered at applicant family level are in brackets. *Recipient* is an indicator variable equal to 1 if a child had an applicant father eligible to be allocated land during the agrarian reform 1968-1970. The unit of observation the children of applicant. All regressions include the following controls: age, sex, marital status, expropiation file fixed-effects. Regressions also include a local linear polynomial estimated separately on each side of the threshold. Bandwidths are chosen using the MSE optimal procedure suggested by Calonico et al. (2017). The outcome data for columns (1)-(5) is SISBEN. For a description of each dependent variable see Online Appendix A Table A.3.

#### **B.1.6** Cost-Benefit Analysis

%	Rate of
Benefited	Return
(2)	(3)
40%	-79.5%
60%	-69.3%
80%	-59.0%
40%	-69.5%
60%	-54.0%
80%	-38.5%
	% Benefited (2) 40% 60% 80% 40% 60% 80%

Table A.14: Cost-Benefit Analysis

Notes: This table presents different scenarios for the cost-benefit analysis. Column (1) shows different returns to education assumptions, column (2) the percentage of the children of recipients benefiting from these returns and column (3) the fiscal investment rate of return per recipient family. Source: INCORA.

## **B.2** Figures



## B.2.1 Histograms of Distance to Predicted Score Threshold

Notes: This figure plots histograms documenting the number of observations in each cumulative predicted INCORA score bins for applicants and children. Source: INCORA.