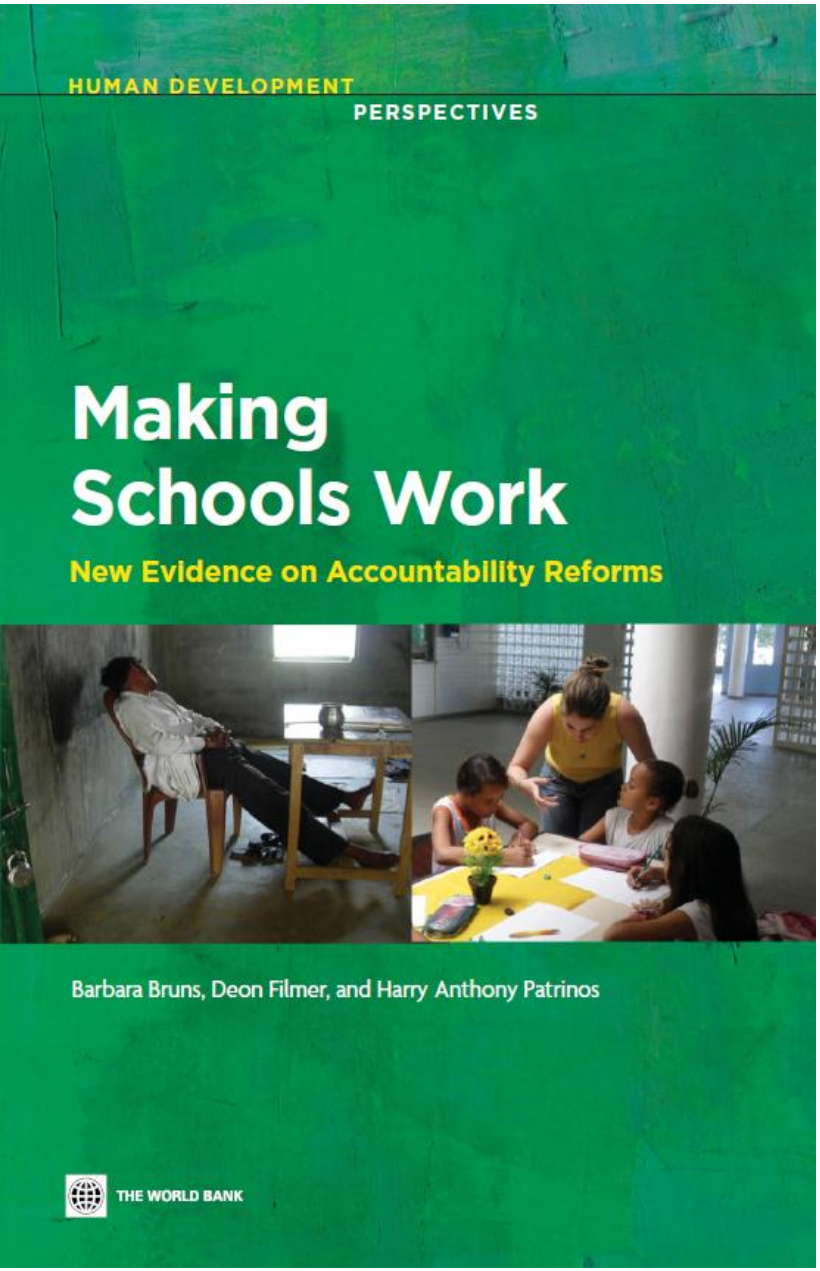

Parental Empowerment in Mexico

Randomized Experiment of the *Apoyo a la Gestion Escolar* (AGE) Program in Mexico

Paul Gertler
University of California - Berkeley

Harry Anthony Patrinos
World Bank

Eduardo Rodríguez-Oreggia
EGAP, Tecnologico de Monterrey

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Overview

- Global evidence
- Mexican education context
- School-based management in Mexico
- AGE impact evaluation design
- Results to date

School Autonomy: Global Experience

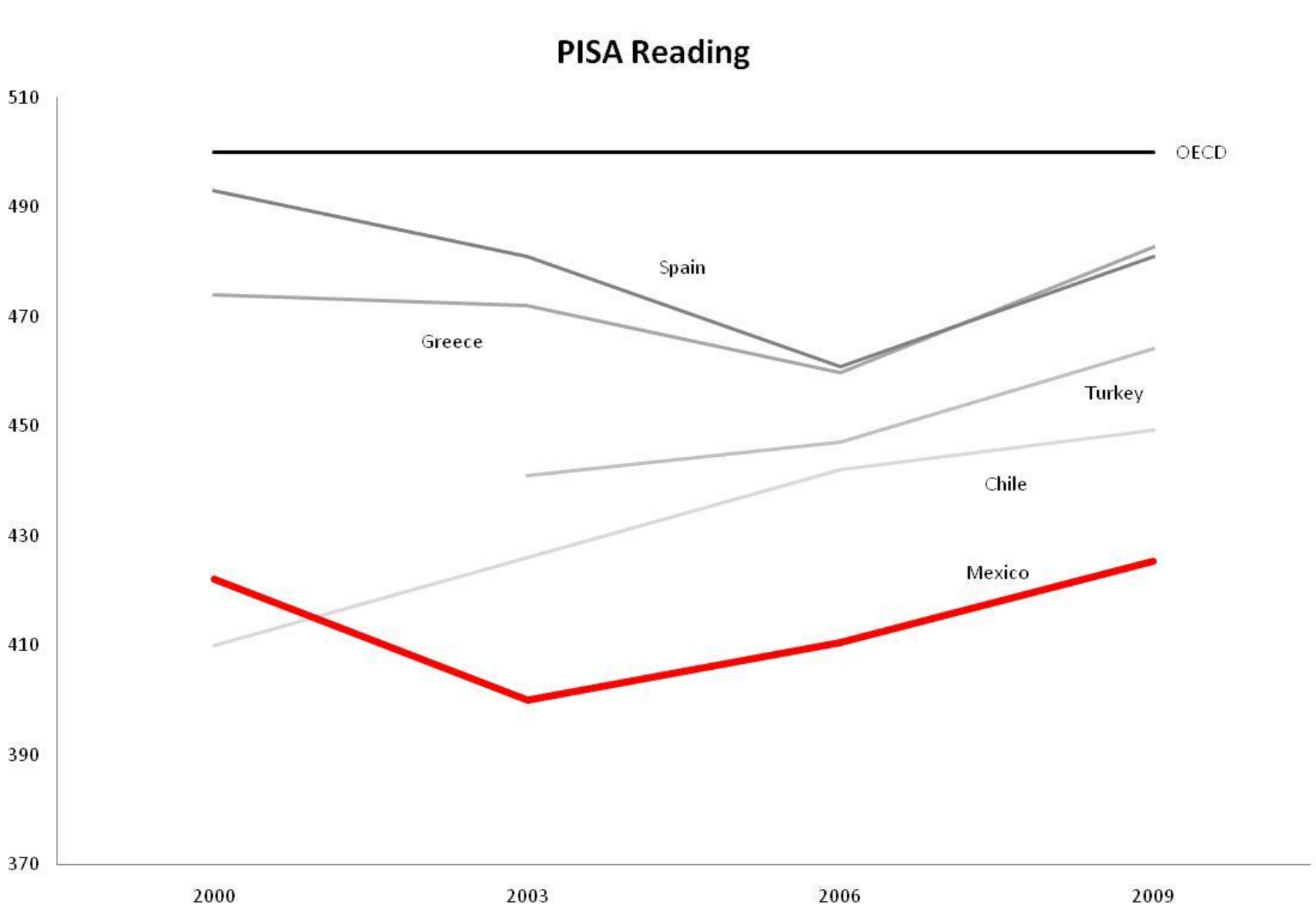
1. • ***Can*** improve school performance by empowering parents, giving communities voice, making participation more effective
2. • ***Inexpensive*** and cost-effective
3. • ***But*** models with low levels of autonomy and weak accountability not likely to produce large gains, especially in learning outcomes
4. • ***Design*** *matters*
5. • ***Need*** better information, higher levels of autonomy, strong accountability; most importantly, need to affect teacher hiring/firing

Evidence on School Autonomy

- Nepal (Chaudhury 2011): RCT; reduction in out of school children; equity
- Kenya (Duflo, Dupas and Kremer 2007): RCT; test scores improved
- Indonesia (Pradhan et al 2010); RCT; test scores improved

Mexican Education Context

- Federal system, 1992 decentralization
- Universal primary & gender equality
- **Challenges**:
  - Quantity & quality of upper secondary, higher
  - Quality – high for Latin America; low for OECD
  - Teacher quality
- **Approach**:
- Assessment & evaluation
- Community participation
- Compensatory education


PISA Reading
510
490
470
450
430
410
390
370
2000
2003
2006
2009
OECD
Spain
Greece
Turkey
Chile
Mexico

AGE (Support to School Management)

- Part of broader school reform: Compensatory education program
- Monetary support & training to parents:
  - Parents receive $500-$700/year
- Training on participatory skills

Experiment

- **Double-AGE Group** *AGE schools provided with double the resources*
- **AGE Group** *Schools participating in the government's compensatory program where the parent associations are provided training and a cash grant of about $600 a year to develop a school improvement plan*

- **Training Group** *Schools not participating in the program are provided the training that AGE schools usually receive, but no cash subsidy*
- **Comparison Group** *Not involved in program, no subsidy, no training*

NB: The two groups of schools are not comparable

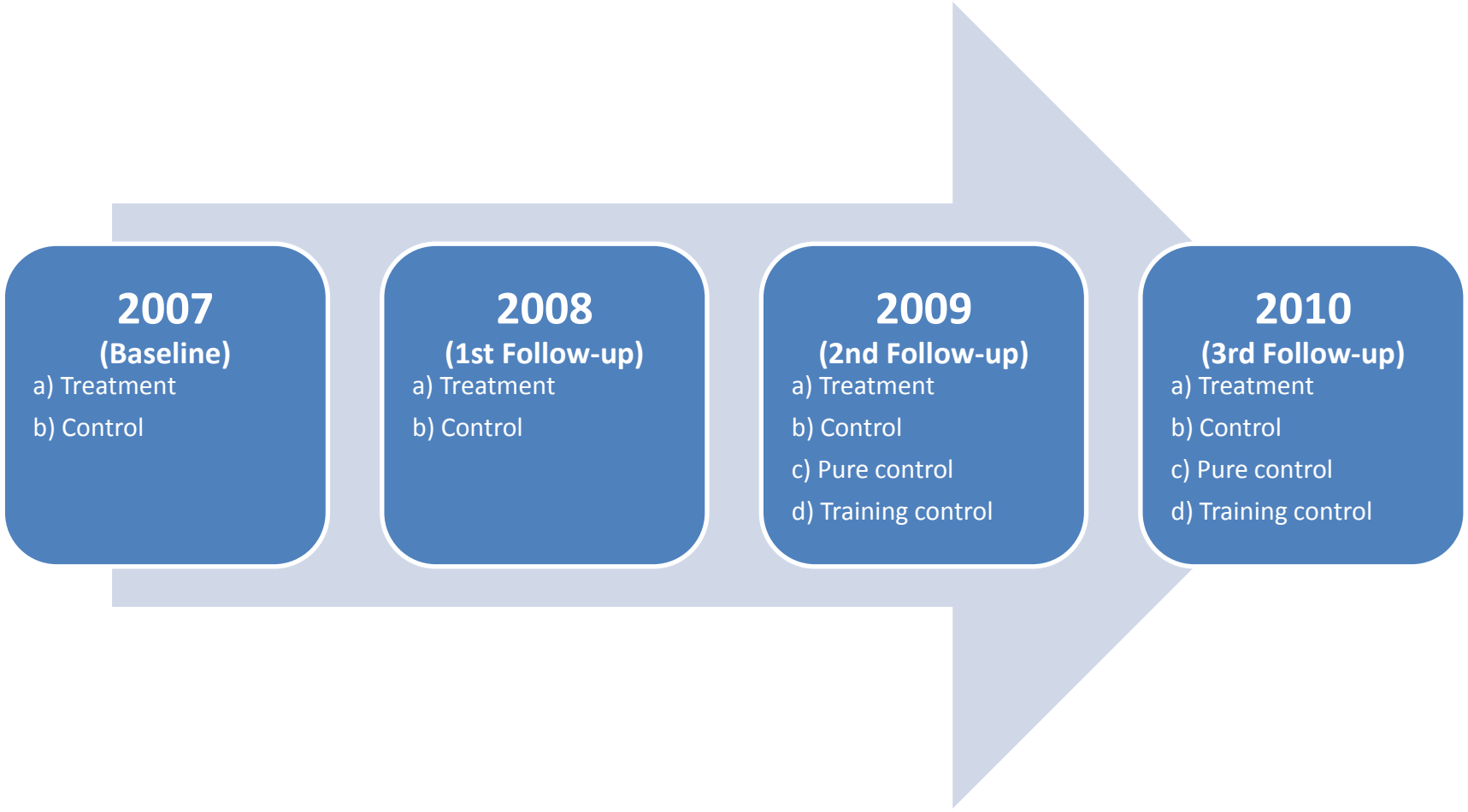
Treatment and Control Schools

	Indigenous		General		Total	
	Treatment	Control	Treatment	Control	Treatment	Control
Chiapas	38	28	22	23	60	51
Guerrero	12	10	23	35	35	45
Puebla	9	6	16	12	25	18
Yucatán	4	6	1	5	5	11
Total	63	50	62	75	125	125

Training Only and Pure Control Schools (all general)

	Training	Pure Control
Chiapas	42	66
Guerrero	18	8
Puebla	18	21
Yucatán	2	5
Total	80	100

Timeline


2007
(Baseline)
a) Treatment
b) Control
2008
(1st Follow-up)
a) Treatment
b) Control
2009
(2nd Follow-up)
a) Treatment
b) Control
c) Pure control
d) Training control
2010
(3rd Follow-up)
a) Treatment
b) Control
c) Pure control
d) Training control

Empirical Strategy

Our model:

$$y_{ij} = aT_j + X_{ij}b + e_{ij}$$

y_{ij} is the endline outcome (test score) of student *i* in school *j* (expressed in standard deviations of the distribution of scores in the AGE control schools; or pure control schools)

T_j is a dummy equal to 1 if school *j* was double-AGE

X_{ij} is a vector including a constant and child and school control variables

Balance

- Experiment is balanced on key characteristics
- Of 106 variables (same as for baseline) in 2007 and 2008, 95% are similar in treatment & control (at 5%)

Results

Parent Surveys

- Increase in participation among treatment schools
- Decrease in negative attitudes

Intermediate Outcomes

Intermediate Outcomes

Effect on intermediate outcomes of double-AGE vs AGE						
Dropout						
	1 year		2 years		3 years	
	No controls	With controls	No controls	With control	No controls	With controls
Overall	-1.49***	-1.60***	-0.63**	-0.58*	-0.68**	-0.64**
	(0.26)	(0.34)	(0.31)	(0.30)	(0.30)	(0.29)
1st	-0.11	-0.47	0.31	0.31	0.24	0.29
	(1.34)	(0.89)	(0.54)	(0.58)	(0.18)	(0.25)
2nd	0.17	-0.03	1.33**	1.19*	2.08***	1.85**
	(0.99)	(0.92)	(0.47)	(0.63)	(0.65)	(0.75)
3rd	-2.37***	-2.65*	-0.94*	-0.96*	-0.42	-0.28
	(0.88)	(1.48)	(0.53)	(0.51)	(0.55)	(0.67)
4th	-1.31	-1.16	0.14	0.36	-0.73	-0.60
	(1.51)	(1.34)	(0.93)	(0.87)	(1.30)	(1.39)
5th	-1.55	-1.65	-0.92	-0.95	-2.06	-2.14
	(1.13)	(1.23)	(2.17)	(2.16)	(1.70)	(1.64)
6th	-1.43	-1.57	-1.34*	-1.27*	-1.22	-1.13
	(1.07)	(1.39)	(0.72)	(0.68)	(0.76)	(0.76)
N	496	496	744	744	991	991

Notes: Standard errors clustered at the state level in parentheses.

Additional controls are: indigenous schools, years with AGE, teacher speaking, indigenous language, indigenous school, teachers and directors years of experience, sex of teacher, director and president of parents association.

All outcomes are 2007-10

Intermediate Outcomes

Effect on intermediate outcomes of double-AGE vs AGE						
Failure						
	1 year		2 years		3 years	
	No controls	With controls	No controls	With control	No controls	With controls
Overall	-0.66	-0.64*	0.16	0.17	0.08	0.05
	(0.46)	(0.37)	(0.46)	(0.46)	(0.48)	(0.42)
1st	-3.71**	-3.60*	-3.87***	-3.79***	-3.18**	-3.14***
	(1.85)	(1.87)	(0.73)	(0.72)	(0.45)	(0.38)
2nd	-0.17	-0.25	3.65*	3.39	3.10*	2.52
	(3.24)	(3.48)	(1.98)	(2.17)	(1.80)	(2.24)
3rd	3.15***	2.99***	3.01**	2.86**	2.17*	2.06*
	(1.00)	(1.11)	(1.22)	(1.25)	(1.20)	(1.12)
4th	-1.51	-1.46	0.17	0.26	-0.01	0.01
	(1.72)	(1.64)	(0.86)	(0.97)	(1.26)	(1.26)
5th	-1.34	-1.38	0.06	0.18	-0.38	-0.28
	(1.87)	(1.87)	(1.23)	(1.28)	(1.21)	(1.31)
6th	-0.23	-0.21	-0.10	-0.06	0.07	0.09
	(0.34)	(0.35)	(0.35)	(0.34)	(0.26)	(0.30)
N	496	496	744	744	991	991

Notes: Standard errors clustered at the state level in parentheses.
Additional controls are: indigenous schools, years with AGE, teacher speaking, indigenous language, indigenous school, teachers and directors years of experience, sex of teacher, director and president of parents association.
All outcomes are 2007-10

Effect of Double-AGE vs AGE

Effect on test scores of double-AGE vs AGE						
(School Level)						
Total score (Spanish + mathematics)						
	1 year		2 years		3 years	
	No controls	With controls	No controls	With control	No controls	With controls
Overall	0.29***	0.28***	0.24*	0.23*	0.21*	0.21*
	(0.10)	(0.10)	(0.13)	(0.14)	(0.12)	(0.13)
N	466	466	668	668	893	893

Notes: Standard errors clustered at the state level in parentheses.
Additional controls are: indigenous schools, years with AGE, teacher speaking, indigenous language, indigenous school, teachers and directors years of experience, sex of teacher, director and president of parents association.
All outcomes are 2007-10

Effect of Double-AGE vs AGE

Effect on test scores of double-AGE vs AGE (School Level)												
	Spanish						Mathematics					
	1 year		2 years		3 years		1 year		2 years		3 years	
	No controls	With controls	No controls	With control	No controls	With controls	No controls	With controls	No controls	With controls	No controls	With controls
Overall	0.28***	0.26***	0.23**	0.22*	0.22*	0.22*	0.25***	0.24***	0.21**	0.20*	0.20*	0.20*
	(0.09)	(0.09)	(0.12)	(0.12)	(0.13)	(0.13)	(0.08)	(0.09)	(0.10)	(0.11)	(0.12)	(0.12)
3rd	0.24*	0.23*	0.32***	0.32***	0.24***	0.25***	0.22	0.21	0.31**	0.32**	0.22**	0.23**
	(0.14)	(0.13)	(0.09)	(0.09)	(0.07)	(0.08)	(0.16)	(0.15)	(0.14)	(0.13)	(0.10)	(0.11)
4th	0.04	0.01	0.06	0.03	0.08	0.06	0.11	0.09	0.07	0.05	0.09	0.07
	(0.13)	(0.12)	(0.07)	(0.07)	(0.06)	(0.06)	(0.31)	(0.30)	(0.22)	(0.20)	(0.21)	(0.22)
5th	0.31	0.29	0.25	0.24	0.28	0.28	0.22	0.20	0.17	0.16	0.17	0.17
	(0.21)	(0.24)	(0.18)	(0.20)	(0.23)	(0.24)	(0.19)	(0.22)	(0.17)	(0.20)	(0.21)	(0.22)
6th	0.27	0.25	0.25	0.24	0.20	0.20	0.33***	0.32***	0.28***	0.28***	0.20***	0.19**
	(0.20)	(0.22)	(0.19)	(0.19)	(0.20)	(0.21)	(0.07)	(0.07)	(0.05)	(0.06)	(0.08)	(0.08)
N	466	466	668	668	893	893	466	466	668	668	893	893

Notes: Standard errors clustered at the state level in parentheses.

Additional controls are: indigenous schools, years with AGE, teacher speaking, indigenous language, indigenous school, teachers and directors years of experience, sex of teacher, director and president of parents association.

All outcomes are 2007-10

Effect of Training Only vs Pure Control

Effect on test scores of training only vs pure control				
(School Level)				
Total score (spanish + mathematics)				
	AGE's Training			
	No controls		With controls	
Overall	0.43	**	0.43	**
	´(0.19)		´(0.20)	
N	662		662	

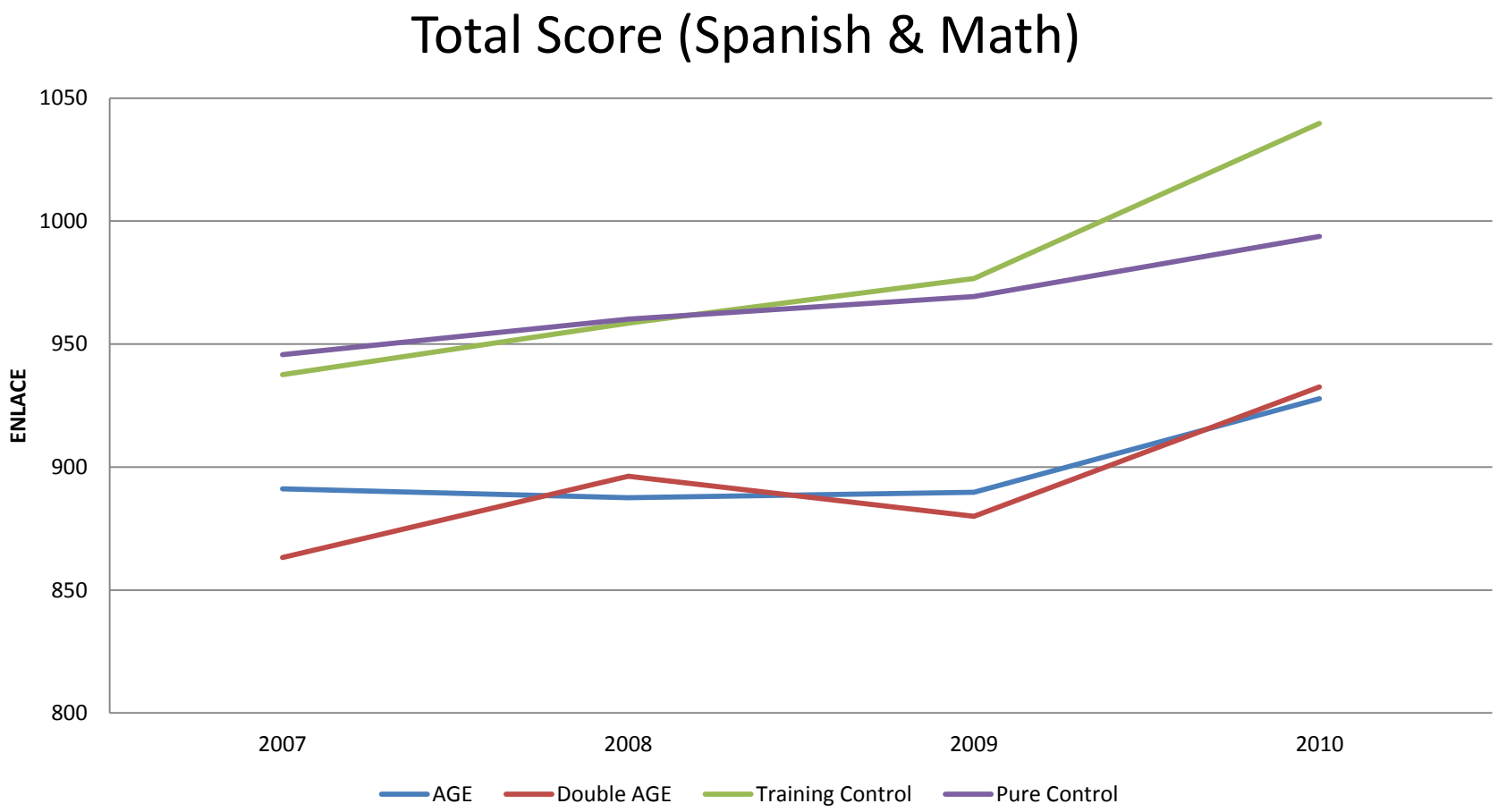
Notes: Standard errors clustered at the state level in parentheses.
Additional controls are: indigenous schools, years with AGE, teacher speaking, indigenous language, indigenous school, teachers and directors years of experience, sex of teacher, director and president of parents association.
All outcomes are 2007-10

Effect of Training Only vs Pure Control

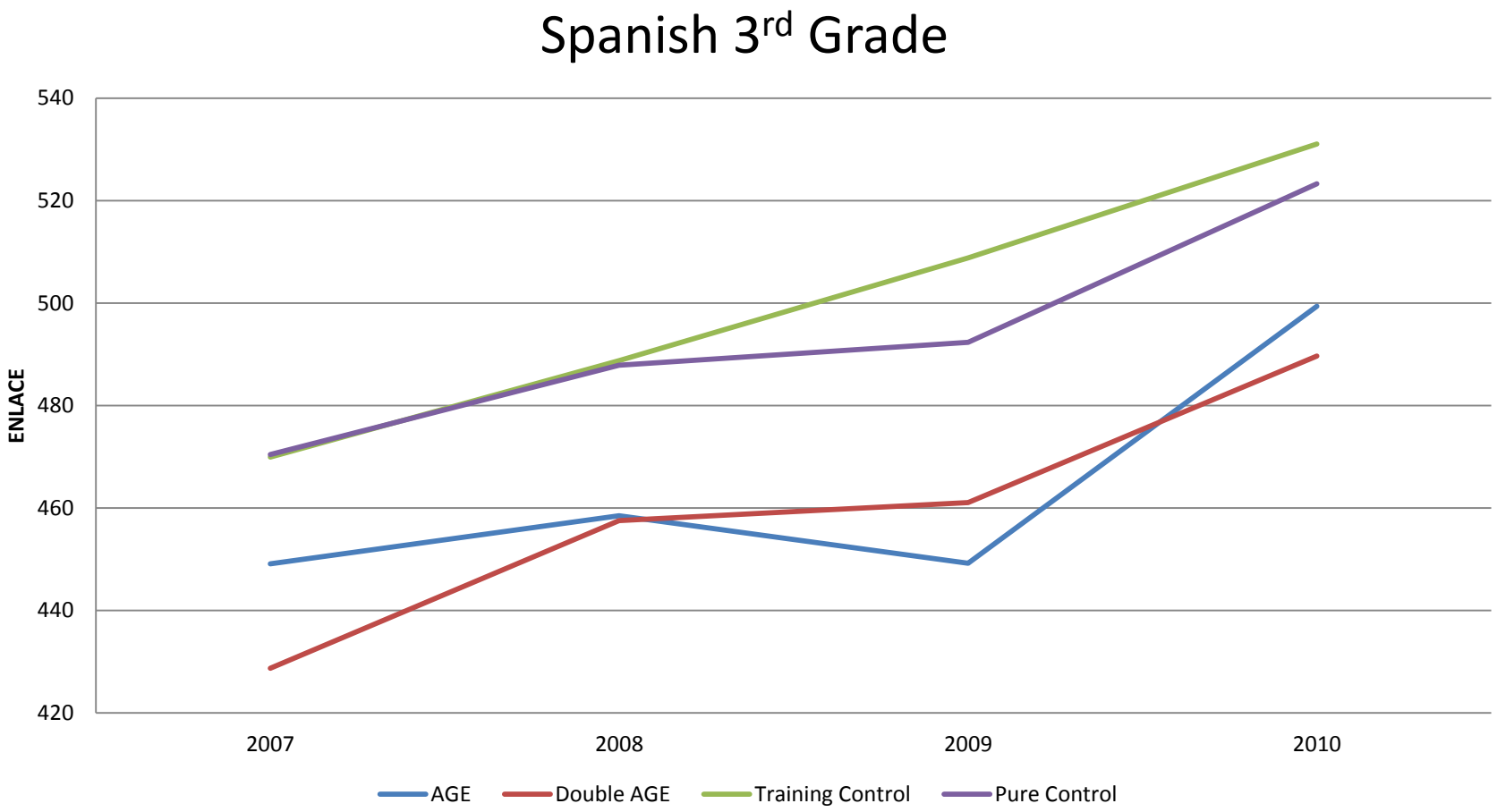
Progress of 3rd grade students only.				
(School Level)				
	AGE's Training			
	No controls		With controls	
Total score	0.33	***	0.29	***
	´(0.04)		´(0.04)	
Spanish	0.27	***	0.25	***
	´(0.03)		´(0.04)	
Mathematics	0.34	***	0.31	***
	´(0.05)		´(0.04)	
N	683		683	

Notes:
Standard errors clustered at the state level in parentheses.
Additional controls are: indigenous schools, years with AGE, teacher speaking, indigenous language, indigenous school, teachers and directors years of experience, sex of teacher, director and president of parents association.
All outcomes are 2007-10.
Total score = Spanish score + mathematics score.

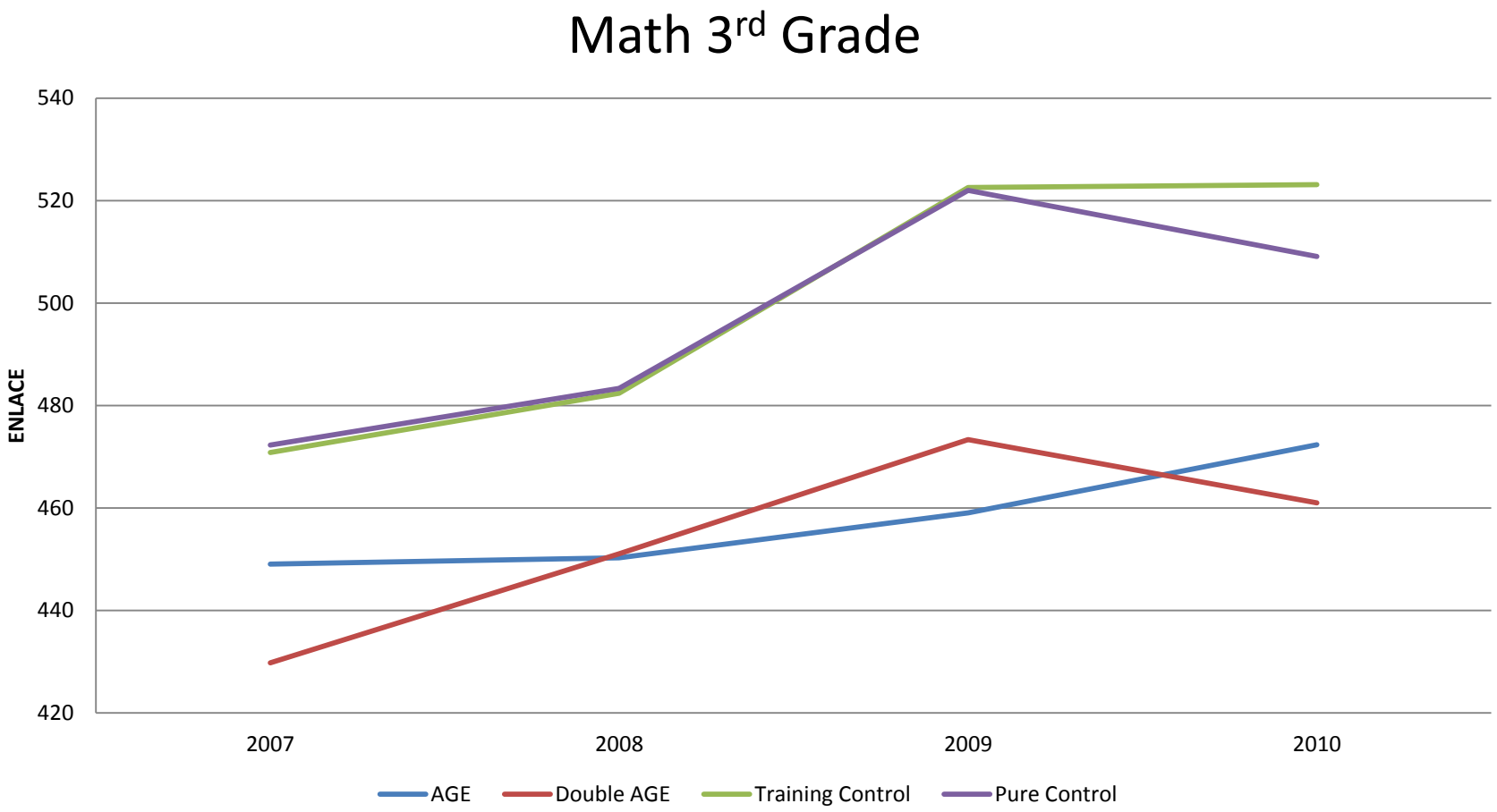
Graphs


Total Score (Spanish & Math)
ENLACE
1050
1000
950
900
850
800
2007
2008
2009
2010
AGE
Double AGE
Training Control
Pure Control

Graphs


Spanish 3rd Grade
ENLACE
540
520
500
480
460
440
420
2007
2008
2009
2010
AGE
Double AGE
Training Control
Pure Control

Graphs


Math 3rd Grade
ENLACE
540
520
500
480
460
440
420
2007
2008
2009
2010
AGE
Double AGE
Training Control
Pure Control

Confirms results of other experiments

- **CONAFE** *Compensatory Program has positive effects (Shapiro, Skoufias, Moreno)*
- **AGE retrospective** *Decreases repetition & failure (Gertler, Patrinos, Rubio-Codina)*
- **PEC** *Colima: improves learning outcomes, but only for 3rd grade (Gertler, Garcia, Patrinos, Rubio-Codina)*

Summary

- **Doubling cash grant** to parents improves learning for young children more than 0.20 SD
- **Subsidy generates commitment** and increased participation of parents
- **But training parents improves outcomes**, even after 1 year implementation, at levels comparable to impact of doubling AGE grant
- **Parental empowerment a useful tool** for generating interest in education in poor, rural, isolated communities