Beyond the Student: Spillover Effects of School-Based Financial Education

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Why Look at Spillover Effects?

- **Knowledge is Powerful but Hard to Distribute:**
  - Reaching adults directly is difficult: high opportunity costs and low take-up rates for traditional programs.
- **The School as a Conduit:**
  - Financial education isn't just a lesson for the kid; it's a node of information for the entire household.
- **Redefining Efficiency:**
  - If students share knowledge, the **cost-effectiveness** of school-based programs improves dramatically.
  - Provides a "backdoor" to reach the "hard-to-reach" (Low-SES, informal workers).

The Two Channels of Spillover in My Work

1. The Instructor Channel

Teachers aren't just delivery mechanisms. They are adults who absorb and apply the human capital they teach.

2. The Parental Channel

Intergenerational transmission: Knowledge flows "upward" from children to parents, particularly in vulnerable households.

Teachers as Direct and Indirect Beneficiaries

- **Double Treatment:**
  1. **Direct:** 20-hour intensive training sessions.
  2. **Indirect:** The process of *teaching* the material (repetition and simplification).

- **Sample:** 453 teachers across 300 public schools in Peru.
- **Key Question:** Does teaching a subject make you more knowledgeable and change your own behavior?

Significant Human Capital Gains for Teachers

Metric	Students	Teachers
Financial Literacy Gain	+0.16 SD	**+0.32 SD**

Key Insight

- Teachers learned **twice as much** as their students.
- Effectiveness is driven by the quality of training and the "learning by teaching" mechanism.

Behavioral Shifts: Saving Behavior

	Pr(Saving)	Savings Balance (USD)
Treatment Effect	**+8.7 p.p.****	**+$516.7***
(Standard Error)	(0.035)	(268.4)

- Massive improvement in both extensive and intensive margins of saving.
- No significant impact on credit outcomes (likely due to credit constraints or prioritization of savings).

Intergenerational Spillovers: From Kids to Parents

- **The Hypothesis:** Teenagers share financial concepts (budgeting, rights, interest rates) at the dinner table.
- **Data Strategy:**
  - Linked $\backsim$ 11,000 parents/guardians to EQUIFAX credit bureau records.
  - Measured outcomes 3+ years after the intervention (2019 data).

Do they actually talk about money?

	Talks to Parents			Helps Parents		
	All	Low SES	High SES	All	Low SES	High SES
	(1)	(2)	(3)	(4)	(5)	(6)
Treatment	0.012*	0.013	0.007	0.001	0.005	-0.005
	(0.007)	(0.009)	(0.009)	(0.007)	(0.009)	(0.011)
Number of Observations	13199	6255	6736	13138	6235	6691
Number of schools	296	294	295	296	294	295
Mean in Control	0.756	0.796	0.728	0.719	0.775	0.672

- Low SES students participate more in household finances
- Treatment has a very limited impact on students' participation in hh finances

Average Spillover Effects: A Nudged Direction

	Pr(Debt)	Pr(Arrears)		Credit Score	Current Debt	Debt Arrears	
		Loans	Other			Loans	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Treatment	-0.007	-0.005	-0.011	1.362	0.157**	-0.123	0.020
	(0.009)	(0.004)	(0.009)	(1.248)	(0.079)	(0.085)	(0.056)
Number of Observations	11090	11090	11090	5189	3880	3880	3876
Number of schools	296	296	296	295	295	295	295
Mean in Control	0.356	0.055	0.352	62.602	3.034	0.447	2.270

- Average effects are somewhat noisy and "muted."
- **However,** this masks critical heterogeneity where the program is actually working.

The "Disadvantaged Household" Dividend

	Pr(Debt)	Pr(Arrears)		Credit	Current	Debt Arrears	
		Loans	Other	Score	Debt	Loans	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Low SES							
Treatment	-0.012	-0.013**†	-0.019	3.357*	0.346**†	-0.210	-0.149
	(0.012)	(0.005)	(0.012)	(1.983)	(0.142)	(0.134)	(0.095)
Panel B. High SES							
Treatment	-0.006	-0.002	-0.013	0.474	0.097	-0.122	0.011
	(0.012)	(0.006)	(0.013)	(1.570)	(0.116)	(0.124)	(0.070)

- Knowledge gaps largest in poorer households. Student provides information parents didn't have access to.
- Increase in debt is "healthy", suggesting better access to formal tools.

Heterogeneity by Gender: The "Daughter Effect"

	Pr(Debt)	Pr(Arrears)		Credit	Current	Debt Arrears	
		Loans	Other	Score	Debt	Loans	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Female Student							
Treatment	0.014	-0.010*	-0.002	4.157**†	0.173	-0.258*	0.022
	(0.011)	(0.006)	(0.011)	(1.657)	(0.121)	(0.132)	(0.086)
Panel B. Male Student							
Treatment	-0.033***††	0.001	-0.019	-1.810	0.081	0.090	0.082
	(0.012)	(0.005)	(0.012)	(1.775)	(0.120)	(0.118)	(0.090)

- Maturity: Teenage girls are often perceived as more mature.
- Communication: Better reception of advice within household dynamics.

Rethinking Cost-Effectiveness

- Program cost in Peru: **$4.8 per student**.
- **Traditional Calculation:** Only looks at student test scores.
- **The Calculation in the Peruvian case:**
  - + Teacher savings behavior.
  - + Parental default reduction.
  - + Reduced delinquency for the family.
- **Conclusion:** School-based FinEd is one of the most efficient ways to reach the bottom of the pyramid.

Policy Implications: How to Design for Spillovers?

- **Explicit Involvement:** My work measures "natural" spillovers. We could design interventions aimed at fostering spillovers.
- **Empower Daughters:** Targeted messaging for girls to serve as financial "ambassadors" at home.
- **Teacher-Centricity:** View teacher training as an investment in adult literacy, not just a pedagogical necessity.
- **Data:** Data collection of adults (or other youth outside the experiment) could be challenging:
  - Consent
  - Data collection

Concluding Thoughts

- School-based financial education has a **multiplier effect**.
- It effectively reaches "hard-to-reach" adults who face high opportunity costs.
  - Opportunity to build in mechanisms to foster spillovers
- **Final Takeaway:** To fix adult financial literacy, we should start in the high school classroom.

Thank you

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