Lasting Lessons: The Long-Term Impacts of School-Based Financial Education

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The "Depreciation" Critique

- **Common Skepticism (Willis, 2011):**
  - Students learn financial concepts in high school.
  - But they don't use these concepts until years later.
  - By the time they reach adulthood, the knowledge has "depreciated."
- **The Policy Stakes:**
  - If knowledge is short-lived, the ROI of school-based programs is low.
  - **Counter-Thesis:** If we show long-term effects, school-based FinEd becomes a "no-brainer."

How FinEd Works: Content vs. Navigation

Fin Ed as a Empowering Tool

Learning is not just about memorizing formulas. It operates through two channels:

- **Channel 1 (Direct Learning):** Absorbing specific content (e.g., compound interest, risk-return).
- **Channel 2 (Information Finding):** Teaching students **how to find information** and where to look when a financial decision is actually needed.

This second channel ensures resilience even as specific classroom content fades.

Tracking 60,000 Students for 7 Years

- **Longitudinal Design:**
  - Leveraging the same Peruvian RCT (300 schools).
  - Tracking students from ages 15-17 until ages **22-24**.
- **Administrative Rigor:**
  - Linked records from: **Credit Bureau** (RCC), **Pension Registry**, and **Tax Authority** (SUNAT).
  - Overcomes social desirability bias and memory gaps of survey data.

Portfolio Recomposition

	Total (1)	MSE (2)	Revolving (3)	Non-Revolving (4)
Panel A: Probability of Holding Debt				
Treatment	0.008	0.006	-0.003	0.005
	(0.006)	(0.005)	(0.004)	(0.004)
Observations	57,435	57,435	57,435	57,435
Control Mean	0.381	0.196	0.090	0.198
Panel B: Debt Balance				
Treatment	0.076**	0.050	-0.122*	0.145***†
	(0.038)	(0.043)	(0.066)	(0.054)
Observations	57,435	57,435	57,435	57,435
Control Mean	1,312.7	502.4	127.2	489.3
Panel C: Median Interest Rate				
Treatment	-0.005	-0.010*	-0.001	0.006
	(0.004)	(0.005)	(0.006)	(0.004)
Observations	16,059	8,733	2,486	7,588
Control Mean	0.681	0.648	0.839	0.664

Portfolio Recomposition (Not Expansion)

- **Extensive Margin:** The treatment did *not* make people more likely to hold debt overall.
- **The Core Finding:** A fundamental shift in **how** people borrow.

Metric	Revolving Debt	Non-Revolving Credit
Long-Term Effect	-12.2% Reduction	**+14.5% Expansion**

Treated individuals strategically move away from high-interest revolving debt toward structured, non-revolving consumption credit.

Net Null Effect on Delinquency

	(1) Pr(Overdue)	(2) Overdue	(3) Pr(Written-Off)	(4) Written-Off
Treatment	-0.002	0.095	0.000	0.080
	(0.003)	(0.095)	(0.003)	(0.072)
Number of Observations	57,435	57,435	57,435	57,435
Number of Schools	300	300	300	300
Mean in Control	0.100	73.7	0.097	162.1

Improved Borrowing Conditions

- Financial literacy acts as an allocative efficiency tool:
  - Treated students achieve the same smoothing goals at **lower cost**.
  - Suggestive evidence of lower monthly financial costs for revolving debt (-14.4%).
- **Repayment Capacity:**
  - The expansion into structured debt did **not** increase delinquency.
  - Net null effect on overdue or written-off debt.

No Impact on Formality and Formal Income Flows

	(1) Formality	(2) Business	(3) PFA Contributor	(4) Income
Treatment	0.001	-0.001	0.001	0.007
	(0.006)	(0.002)	(0.006)	(0.022)
Number of Observations	57,443	57,443	57,443	57,443
Number of Schools	300	300	300	300
Mean in Control	0.296	0.043	0.263	307.4

Caveat: Peru has very high levels of informality (7 in 10 workers).

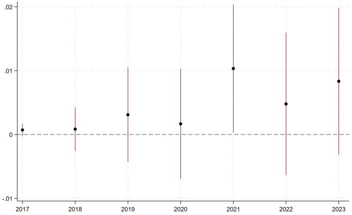
Inclusive Impacts (Mostly)

- **Equitable Across Sex and SES:** Long-term credit access and repayment gains are broadly inclusive.
- **Top Performer Advantage:**
  - Higher academic performers gained **more** in terms of credit access over time.
  - Suggests cognitive baseline influences the ability to absorb and apply FinEd concepts dynamically.

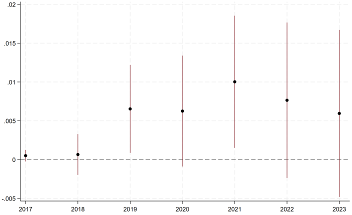
Long-Term Effects by Baseline GPA

	Total (1)	MSE (2)	Revolving (3)	Non-Revolving (4)
Panel A: Probability of Holding Debt				
Treatment	-0.005	0.000	-0.005	-0.004
	(0.009)	(0.008)	(0.005)	(0.006)
Top	-0.058***	-0.058***	0.016***	-0.027***
	(0.008)	(0.006)	(0.004)	(0.006)
Treatment × Top	0.030***††	0.016*	0.004	0.017**
	(0.011)	(0.008)	(0.005)	(0.008)
Panel B: Debt Balance				
Treatment	0.014	0.020	-0.083	0.003
	(0.053)	(0.057)	(0.104)	(0.079)
Top	-0.015	-0.218***	0.620***	0.038
	(0.056)	(0.042)	(0.167)	(0.105)
Treatment × Top	0.172**	0.132	-0.064	0.402**†
	(0.092)	(0.095)	(0.124)	(0.188)

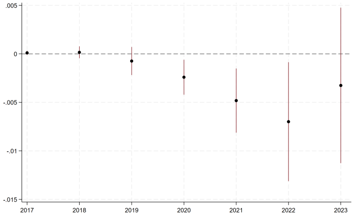
Probability of Holding Debt



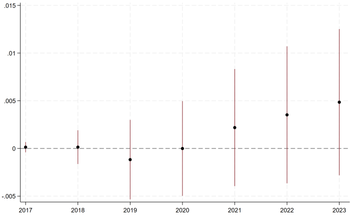
(a) Total



(b) MSE

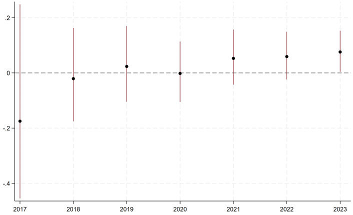


(c) Revolving

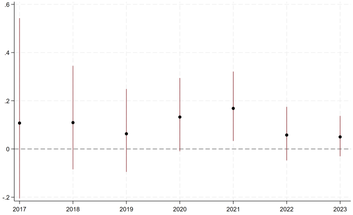


(d) Non-Revolving

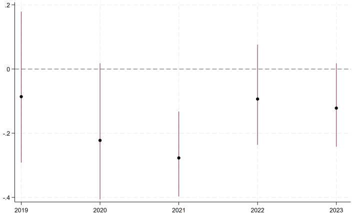
Debt Balances



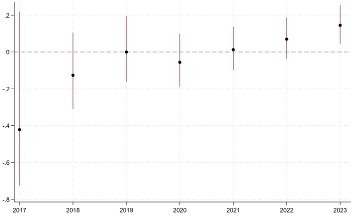
(a) Total



(b) MSE



(c) Revolving



(d) Non-Revolving

Resilience During Macroeconomic Shocks

- The 7-year window allows us to analyze behavior during **COVID-19**:
  - **Revolving Debt:** Treated individuals reduced credit card reliance significantly during the pandemic (2020-2021).
  - **MSE Loans:** A significant surge in productive credit usage in 2021.
- **Crisis Resilience:** Early FinEd equipped youth to navigate the informal economy collapse without falling into high-interest debt traps
- **Control Group Catch-Up:** The closing of the credit gap by 2023 reflects the control group slowly catching up as macroeconomic conditions normalized.

Final Cost-Effectiveness Calculations

- Program Upfront Cost: **$4.80 USD** per student.
- **Long-Term Savings:**
  - WAIR measures drop in interest rate burden: Based on average treated balance of S/ 1,412, annual interest saving of S/10 per borrower (∼$2.75 USD)
  - Upfront investment is fully recovered within **1.75 years** of active credit participation.
  - **NPV (10-year horizon):** $21.24 USD per participant.
  - **Benefit-Cost Ratio: 4.41**.
- **Takeaway:** This is a conservative lower bound, as it ignores informal sector welfare gains.

Conclusion: Making the Case and Further Research

- **Knowledge Lasts:** Early lessons fundamentally reshape adult portfolios 7 years later.
- **Resilience Built:** Literacy functions as an economic buffer during crises (COVID-19).
- **Policy No-Brainer:** Low implementation costs + massive long-term structural behavioral changes.

- **What is so special about Fin Ed?** What can we learn to improve learning outcomes in other courses?

Thank you

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