Holding Promise, but Raising the Bar:

Moving Towards More Robust Evaluation of Programs Seeking to Improve Personal Financial Capability

J. Michael Collins[1]

[1]Center for Financial Security
University of Wisconsin-Madison

May 13, 2011

Outline

Prior Studies on Knowledge and Behavior

- People seem to make financial mistakes and misunderstand essential concepts
  - Low functional financial literacy is linked to numeracy problems and a lack of math coursework
    - 1/5 can correctly calculate compound interest (Lusardi and Mitchell 2007)
  - Investments – half fail to understand the risks of owning a single stock vs. a fund (FINRA 2009)
  - Mortgages – general lack of understanding of terms (Bucks and Pence 2008; Campbell 2006)
- Information in the context of decisions
  - Timing & mode of information delivery

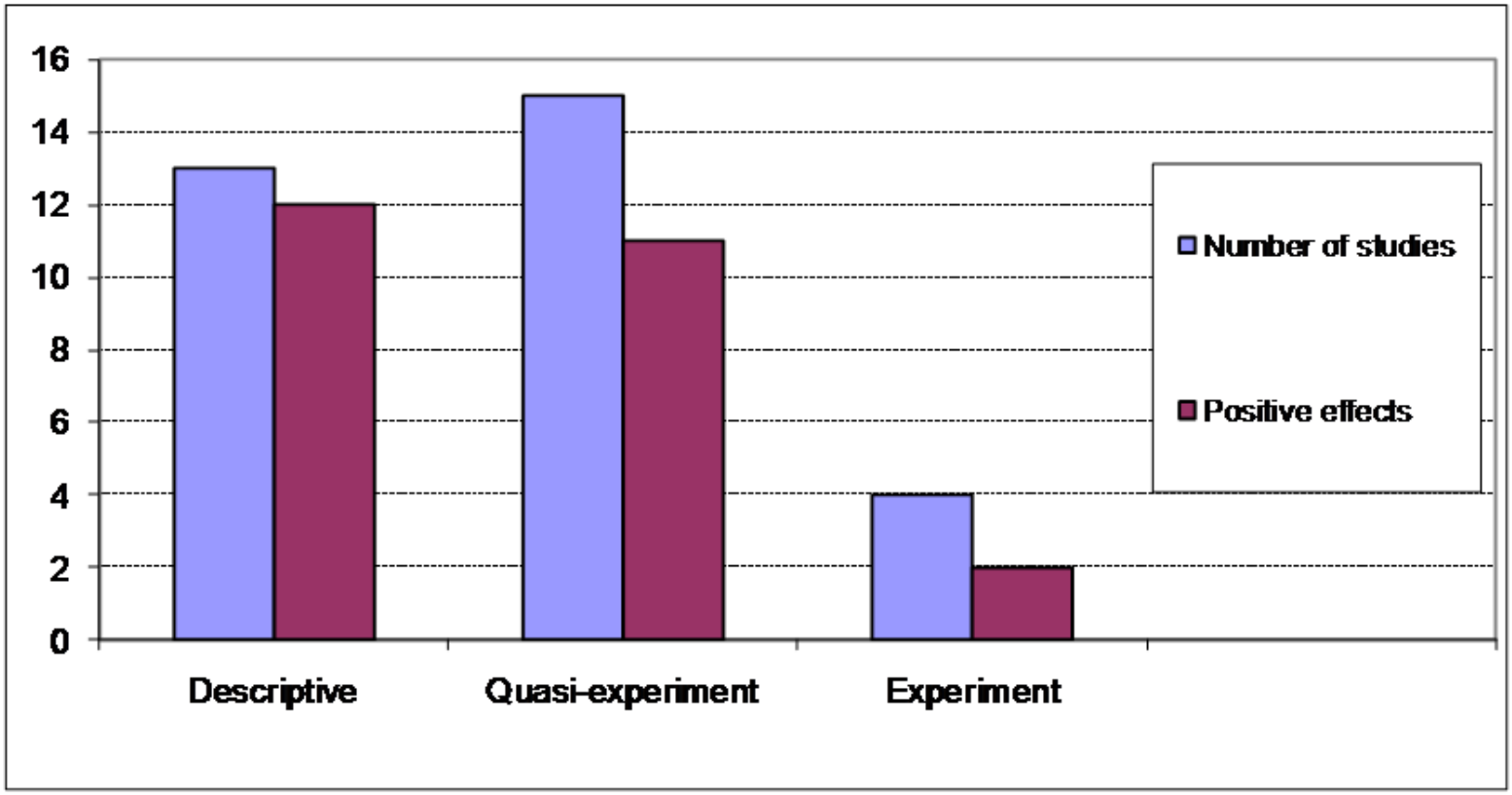
Research on (Adult) Financial Education is Nascent

- Generally Positive Results? (Collins and O'Rourke 2010)
- But a wide array of methodological weaknesses
  - Self-reported measures: Behavior vs. knowledge
  - Short follow-up periods
  - Wide variation in program delivery and a lack of standardization
    - Teachable moments; Tied to products; Mandates vs. voluntary
- Who shows up?
  - Meier and Sprenger's (2008) analysis indicates that the results of many studies are overestimates due to time preferences

Biases

- Selection bias is a major barrier to robust evaluation
  - Problem of unobserved factors
- Methods seem to matter. . . a lot
  - Effects of descriptive studies are quite large
  - Quasi-experiments document modest effects
  - Randomized experiments indicate small effects

Effects by Study Design



Outline

Employer-Based Financial Education

- Bernheim and Garrett (2003)
  - 22% increase in the median rate of saving when financial education is available at the workplace
- Bayer, Bernheim, and Scholz (2009)
  - 12% higher rate of participation in retirement plans by nonhighly compensated employees when their workplaces offer financial education seminars
- Anderson, Uttley, and Kerbel (2006)
  - 16% to 70% increases in financial task performance after individuals complete financial education in their workplace

Online Education for CU Employees

- Credit Unions in Wisconsin offered employees a 10-hour online course
  - Intention-to-treat – take-up was voluntary
  - Could complete the modules at work
- 3 data collection points: September, January, & May
  - Observe whether any effects fade over time
- Randomized wait-list control design by credit union
  - Can compare "Fall Cohort" CUs to "Spring Cohort" CUs

Online Education Content

- 10 hours/9 modules
  - Getting Started on Investing
  - Basics of Personal Finance
  - Basics of Investing
  - Basics of Investment Strategies
  - Investment Risks
  - Basics of Retirement Planning
  - Investing in Mutual Funds
  - Working with Financial Advisers
  - Saving for College

About the CU Employees

- 323 in the control group / 729 in the treatment group – nearly 50 CUs
- Collected data on individual characteristics and Credit Union assets and membership levels
  - A few statistically significant differences at baseline between the two groups
    - Not large in magnitude, but still statistically significant
  - Statistical models control for the baseline differences
- Site-level randomization
- Take-up: 80% - 90% at most sites = Aberration?
  - Appleton Schools project much lower take-up (12%-15%)

Voluntary Employee Education Findings

- Self-Reported Behavior (after 4 months)
  - Contribute to an IRA: 7.7% increase
  - Maintain a written budget: 6.1% increase
  - Maintain a written financial plan: 5.2% increase
  - Have 3 months worth of expenses set aside in a rainy day fund: 4.6% increase
  - Save for long term goals: non-significant change
- Self-Reported Financial Knowledge
  - Interest and loans: 4% increase (<1/5th SD)
  - Credit scores: 3% increase
  - Stocks and bonds: 21% increase
  - Investing for retirement: 11% increase

Financial Education for Women in Subsidized Housing

- The Nonprofit Community Development Corporation of Long Island, New York (CDCLI)
  - Federal Housing Choice Voucher (Section 8)
    - Rental assistance to low-income families to private landlords
    - Maintains a database of clients' income, assets, and other characteristics over time
- Family Self-Sufficiency (FSS) program allows families to earn income above standard limits without losing their housing vouchers
  - Required to complete a five session financial education course within five years of joining the program
- 181 FSS clients needed to complete financial education by the end of 2007
  - 144 consented to participate in the study

Research Design

- Randomly assigned to either the treatment or control group
  - 73 clients in the treatment group / 71 clients in the control group
- Observed assignment, completion, and compliance
  - Consent was random; Attrition was not
  - Needed to weight attrition imbalance: {Single, Rent, Tenant Portion, Child Support}
- Client Demographics
  - Household size: 3.9
  - Single parent: 69%
  - Total rent: $1,600
    - Tenant rent payment: $403
  - Income: $10,000

Mandated Education Findings

- Self-assessed knowledge increased (especially interest rates, credit, and budgeting)
- Self-reported behaviors are relatively crude and noisy measures of actual financial behavior
- The strongest evidence of behavior change was the increase in savings account balances ($430)
  - No evidence of increased debt
- Modest improvements (+11%) in credit scores (from below to above 680)
- Overall, mandated workshops are related to positive behavior changes
  - Despite negative economic and social pressures, or self-control failures

Outline

Who Shows Up to Voluntary Programs?

- Meier and Sprenger's (2008) experiment at one tax site suggests the most 'patient' individuals attend workshops
- Voluntary services attract motivated and future-oriented individuals
  - They are likely to progress regardless of the intervention
- Remediation services (e.g. foreclosoure counseling) attract those most in crisis
  - May need help but are often the hardest to serve

Enough Time for Follow-up?

- Immediate: Not enough time to take action?
  - Not likely to see behavior change - but higher response rates
- Longer-term
  - More time to take action - but attrition
  - Who do you lose or keep in the sample?
- Difficult to balance appropriate time for observing effects with methodological issues
  - Optimal: Before, Shortly After, then Periodically (e.g. every quarter or year)

Compared to What?

- What is the counter-factual?
  - What would have happened in the program's absence?
  - To answer the question, "But for this program,....?"
- Selection effects seem to dominate
  - Biases
    1. Observable factors
    2. Unobservable factors
  - Both can be modeled (e.g. matching models / fixed effects), but are often confounded
  - Need more rigorous studies, not more descriptive comparisons

Outline

Developing a Standard Set of Validated Measures

- Self-Reported Behavior
  - Using direct/automatic deposit
  - Maintain a written budget or financial plan
  - Having 3 months expenses in a rainy day fund
  - Being able to articulate long-term financial goals
  - Number of late fees or collections calls in the last 6 weeks
- Self-Reported Financial Knowledge
  - Key terms and processes
  - Knowledge and skills
    - Objective vs. subjective measures
- Self-Reported Attitudes
  - Confidence
  - Worry
- Administrative data
  - Account balances and status

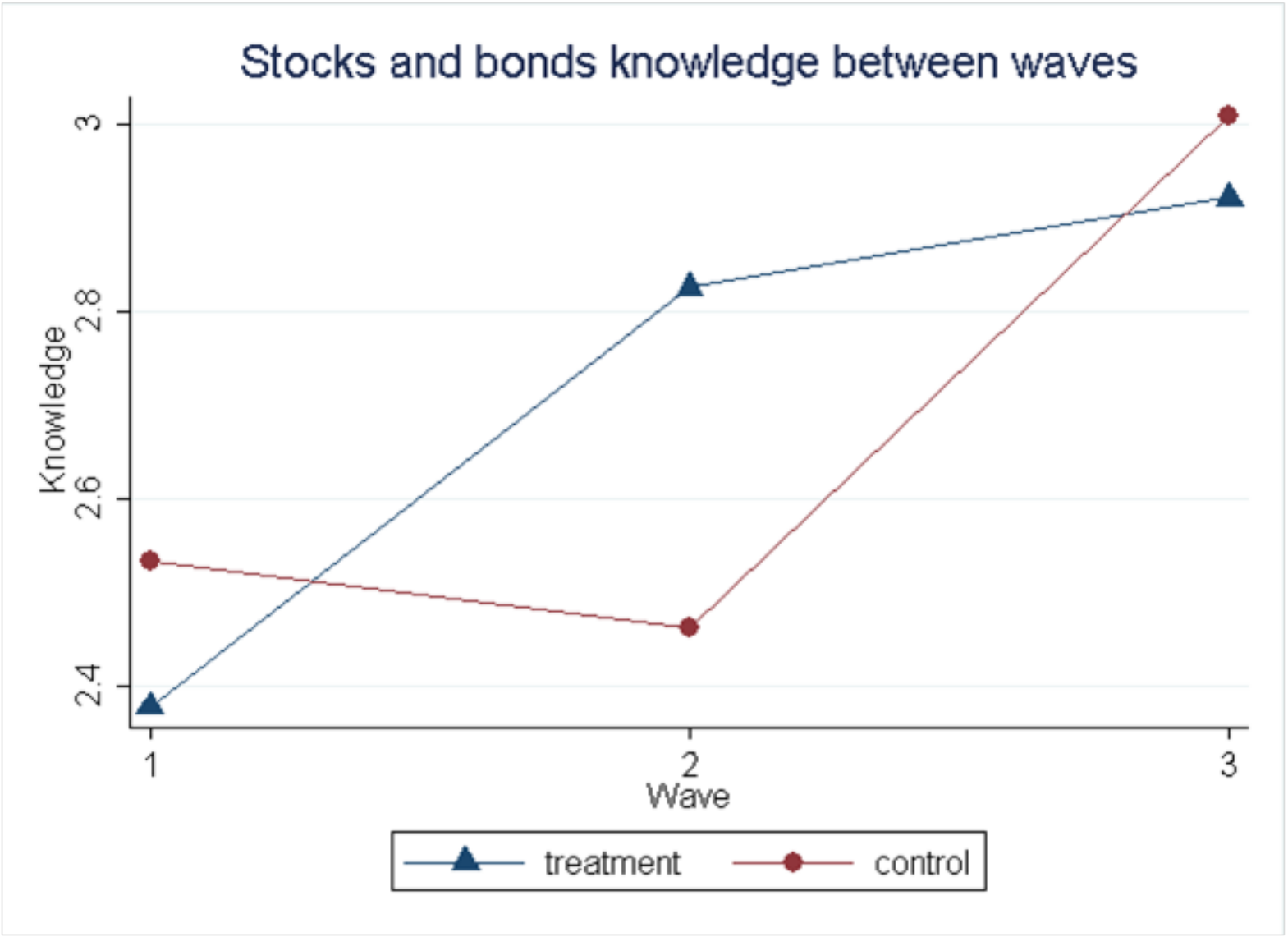
Measuring Attitudes

- Developing Goals
  - Having a SMART goal is a good signal of financial capability
  - Planning and self-control
- Managing a Budget or Spending Plan
  - Intentionality
- Confidence
  - Finding information, fixing errors, dealing with problems, making decisions
- Assessing Financial Service / Product Options
  - Asking questions; 'feeling' not right
- Future Time Horizon
  - longer-term vs. now

Creating a Counter-Factual

- Evidence-based practice is greatly needed
  - Randomized Contolled Trial (RCT) is the gold standard
  - Can use Instrumental Variable (IV), Propensity Score Matching, or Discontinuity
    - Each has pros and cons - may come close to a RCT (perhaps better?)
- Designing valid comparison groups - with some planning, many projects can provide more robust outcome measures
  - Wait lists - if clients are 'rationed' anyway, why not?
  - By agency / department / area - often administratively preferred to roll out in stages
  - Cohorts / waves - over time

Cohort Example



Using Technology?

- New online tools allow tracking of accounts - 'portals'
  - e.g. Mint.com and HelloWallet.com
- Smartphone Apps
- Online surveys
  - Email
  - Websites
  - Social networking
- So many avenues for bias at present
  - Who is online? Who takes part? Who opts out?

Study Designs

- Intake assessment (baseline)
  - Not really needed with random assignment
  - But high response rates; May be useful for estimating attrition or response bias later
- Content assessment - immediately after an intervention (high response rates)
  - Knowledge gains
    - But social desirability bias
    - Instructor 'cheating'
    - Intentions
- Behaviors
  - Self-report - can be useful when designed carefully
  - Administrative - ideal for accurate responses, but human subjects issues arise
    - e.g. credit reports

Summary

- Shifting to Financial Capability Model and Language
  - Knowledge is necessary but not sufficient
- What are "teachable moments?"
  - Over the life course – accumulation of opportunities to learn and alter behavior
- Behavior may require more support than information alone
  - Complements to education and products
  - Reminders (text, email, phone); Salience mechanisms (rewards)
  - Advice / coaching
- Integration
  - Innovations in modes, use of technology, & timing

Theory

- The effects of financial information transfer alone
  - Economics of information: Reduce search costs (Stigler, 1961)
- But...behavior change results from a combination of knowledge, attitudes, norms, and intentions
  - Fishbein and Ajzen's Theory of Reasoned Action (1975) / Ajzen's Theory of Planned Behavior (1991) / Prochaska et al.'s (1992) five-stage Transtheoretical Model
  - Financial education may increase knowledge but fail to facilitate behavior change due to these other factors
- Behavioral finance and psychology document even more confounds
  - e.g. self-control and peer effects (e.g. Duflo and Saez, 2003)

Stages of Change: The Transtheoretical Model

Role of Education/Information

Financial Capacity Building

Information Models

- Disclosures
- Print/Web
- Interactive Web
- Workshops
- One:One
- Reminders

Advice Models

- Technical expert (credentialed)
- Transactional guide (may have sales focus)
- Counseling (acute problem solving)
- Coaching

Mechanism Models

- Defaults
- Automatic Deposit
- Product constraints

Evaluation is Fundamental

- Politically
  - Taxpayer return on investment
  - Private sector rationale for support
  - Foundation to validate support
- Policy design - current environment is more difficult than ever
- Allocation of resources within programs
- Quality improvement
- Engaging researchers...need to build their capacity too

Useful Links

NEFE Evaluation Toolkit and Manual

- http://www2.nefe.org/eval/intro.html

University of Wisconsin Extension - Evaluation Resources

- http://www.uwex.edu/ces/pdande/evaluation/index.html

Financial Coaching

- http://fyi.uwex.edu/financialcoaching/

Center for Financial Security

J. Michael Collins
Faculty Director
Center for Financial Security
University of Wisconsin-Madison Madison
(608) 616-0369
jmcollins@wisc.edu
cfs.wisc.edu

Follow us on  and  UWMadisonCFS