

Challenges of Investor Education



What Influences Investor Decisions and Behaviors?

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How Can We Help Investors Save and Invest for Their Futures?

- In a world where financial products grow increasingly complex
- Volatility keeps increasing
- Crises are multiplying
- Trust is eroding
- Government safety nets are being cut

Some Basic Objectives of Investor Education

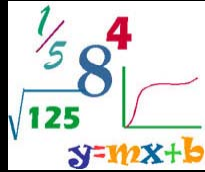
- Encourage Saving – anticipate future needs
- Learn the types of savings vehicles
 - Advantages and disadvantages *to investor* (*strategic* rather than *tactical* asset allocation)
- Learn how investments can grow through compound returns
- Learn the association between risk and return – both promises and perils “If it appears too good to be true, it probably is!”
- Learn the “free lunch” of diversification
- Learn market efficiency & difficulty of generating alpha
- Understand one’s behavioral biases
 - Avoid victimization

Challenges of Investor Education

- Adults lack literacy and are hard to reach
- School-based learning isn’t “sticky”
- Investor’s are skeptical about a “fair game”
- Extreme levels of risk aversion exist among LMI
 - Exacerbated by market volatility
- There are costs and problems of delegating funds management
- Investor behavior is often irrational (including our own)

Research Shows Financial Literacy and Self-Beneficial Financial Behavior to be Strongly Related to:

Numeracy



Level of education



Motivation



and self-control



How many of these can we really control or influence?

Adults are hard to reach:

- In adult ed or in the workplace
- Many who *lack* education didn't *like* education
- Those who show up, are often *fine tuners*



The optimal place to educate adults is at the point of sale.



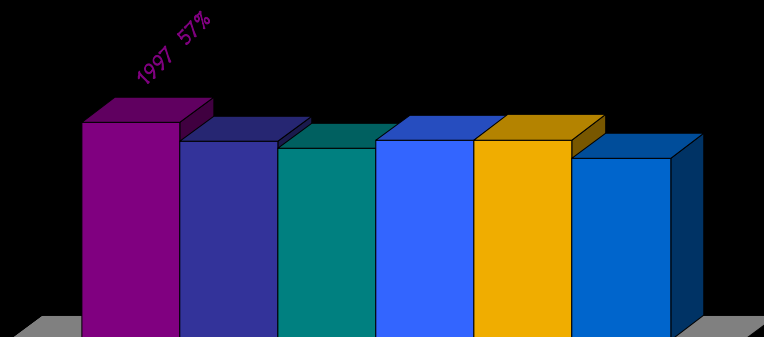
- Material is relevant and timely
- Motivation to learn is high
- Decay function is steep

But this presents logistical (& legal) problems

Few Adults Stick it Out

- 3,049 highly-motivated educators signed up for well-designed investment program. 3 times as many women signed up
- Only 5% completed the program
- Scores of completers increased by 4.9% (indicating a lot of fine-tuners). 9% increase for those not in a retirement plan
- The drawback to self-paced, individual, no-stakes education is that relatively few of those who enroll complete more than a few modules

Secondary School Education Has Shown Little Success




Financial Literacy of U.S. Students in the Final Year of Secondary School

Financial Literacy Scores No Better for Those Who Took a Semester-Long High School Course in Money Management

	2000	2002	2004	2006	2008
ALL Students	51.9	50.2	52.3	52.4	48.3
Students Who Took Course	51.4	48.2	53.5	51.6	47.5

Source: Jump\$tart, 2000-2008



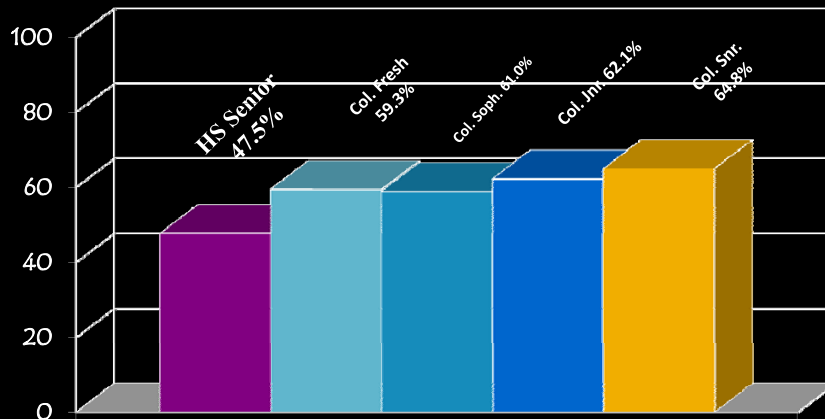
Material is not sticky

■ Why should it be?

- One-off
- Not reinforced
- Not relevant to imminent decisions
- Not unlike *trigonometry*
- Personal Finance courses don't work any better in college

The most financially literate students study science and engineering

Financial Literacy Definitely Increases with Years of Higher Education



Indicating that it is probably a function of intelligence, motivation and acquired research/problem-solving skills

But not (yet) financial education!

Stock Market Games Consistently Produce Best Results

	2000	2002	2004	2006	2008
ALL	51.9	50.2	52.3	52.4	48.3
Entire M Mgt.	51.4	48.2	53.5	51.6	47.5
Portion M Mgt	52.9	49.8	52.7	53.4	48.9
Entire Econ	51.0	49.8	53.0	53.2	48.8
Portion Econ	52.1	51.1	53.2	53.0	49.4
Stock Game	55.1	52.4	55.8	55.0	51.0

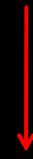
Younger Students Learn More

Supporting OECD Recommendations

to incorporate at all levels



(North Dakota Students)	<u>Pre-Test</u>	<u>Mean Scores Post-Test</u>	<u>Percent Change</u>
All Students	72.0%	81.8%	13.6%
Grade 5	70.3%	86.1%	22.5%
Grade 6	70.8%	82.7%	16.8%
Grade 7	68.2%	77.5%	13.6%
Grade 8	73.6%	82.8%	12.5%
Grade 9	76.3%	83.6%	9.6%



Changes in Attitudes

Non-Cognitive Effects May be Stickiest

If you had a friend who saved most of his/her money and spent almost none, would you think he/she is ... ?

	<u>Pre-Test</u>	<u>Post-Test</u>	<u>Significance</u>
Smart	75.8	81.0	.000
Careful	51.4	61.4	.000
Cool	12.7	20.4	.000
Boring	6.2	7.0	.252
Fun	10.6	14.5	.000
Nerdy	5.6	5.2	.500
Silly	5.2	4.7	.453
Careless	2.1	1.3	.086

Access + Targeted Education



Mission of
Child & Youth
Finance
International

65% Mel Jol Teachers began
class ledgers
Those who saved stayed
longer in school

- Promise in combining accessible and affordable child accounts with education applied to growth and potential of their own assets
- Currently limited by law and perceived unprofitability in some places

Glimmers of Hope in Investment Education

- Adult pre-implementation (at POS) education captures motivation and avoids steep decay function
 - Discouraged by Securities Regulators (conflict of interest?)
- Power of non-cognitive & pre-cognitive
 - Delayed impact on behavior with no evidence of intermediate cognition (HS classes, Head Start, Mincer, Heckman)
- Start earlier

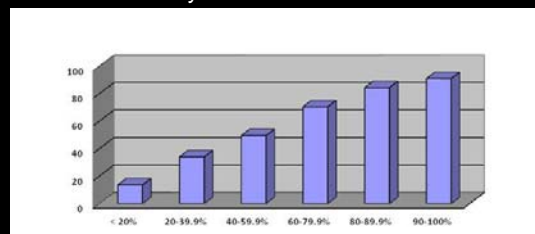
Skepticism Highest in Emerging/Transitional Economies

•2008 World Bank/Kunovskaya Study of Russian Consumers

- In market-oriented economy, consumers no longer protected by government against making bad financial decisions
- Many are unprepared to assume the increased responsibility they have been given to insure their own futures because of a lack of financial literacy
- Fraudulent bankruptcies and pyramid schemes led to the emergence of distrust toward all financial intermediaries in post-communist Russia.
- People may not see a point in obtaining knowledge about consumer rights, if they do not believe in government institutions as their advocates

Extreme Risk Aversion of Low & Moderate Income Consumers

Percent of Families Owning Stock Directly or Indirectly by Income Percentile



Over past 40 years, \$1 invested in S&P500 = \$53.47
\$1 *per year* invested in S&P500 = \$514.80
\$1 invested in T-bills = \$8.41
\$1 *per year* invested in T-bills = \$138.98

New Products Needed- Especially for LMI's

- 73% in US will not graduate from college. Difficulty making self-interested financial decisions
- Behavioral economics says auto-enroll with opt-out option, QDIAs
- Investment gap magnifies inequalities
 - Few workers will put retirement savings in stocks
 - Especially after downturn
- Target-dated funds a disaster
- Workers need principal guarantee plus upside potential
 - Offered to rich but at very high cost

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Costs and Problems of Delegating Funds Management

- Problem of trust – “Where
- are customer's yachts”
- Managed funds underperformance net of fees
- Cost of management in low return environment
- Problems of target date funds
 - No downward limit



Behavioral Finance

Investor Irrationality



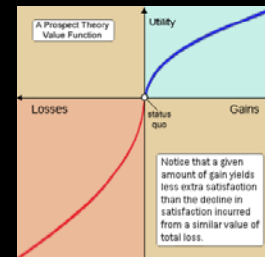
- Falls into 2 areas:
- 1 - Investors do not always process information correctly
- 2 - Investors often make inconsistent or systematically suboptimal decisions

Information Processing Critique

- **Forecasting errors** – people give too much weight to recent experience
- **Overconfidence** – People tend to overestimate their investing abilities
- **Conservatism** – Investors are too slow in updating their beliefs to new evidence
- **Sample size neglect and representativeness** – People infer patterns based on small sample sizes

Behavioral Biases

- **Framing** – Decisions are made based on how choices are posed. Lottery – “can’t win if don’t play” versus “.5 expected return.”
- **Mental accounting** – “You haven’t lost money until you sell” rather than “is this still a good value?”
- **Regret avoidance** – people blame themselves more for losses in unconventional investments (small stocks) and avoid them
- **Prospect theory** - We have an irrational tendency to be less willing to gamble with profits than with losses. This means selling quickly when we earn profits but not selling if we are running losses"



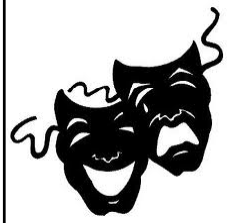
A Summary of the Challenges

- Consumers are prone to financial mistakes
- Financial education appears to work only for motivated
 - Exceptions may be very young children, long-term effects of non-cognitive ed.
- “Plain Vanilla” products give fair choice but are excluded by Dodd-Frank
- Opt-in plans don’t work for those with greatest need
- Opt-out plans need well-designed defaults
- Financial engineering can design automated, low-cost plans to best meet consumer needs
 - Even if consumers can’t articulate them

Are there approaches that work?



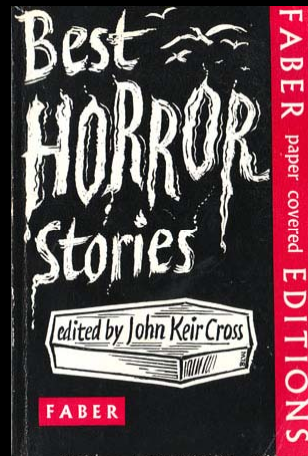
Games?



Theater?



TV?



Horror Stories

The Efficacy of Games

- Fun
- Interactive
- Real-life
- Relevant
- Reinforced



Incredible success of Stock Market Game

- Players significantly more financially literate
- In every area (not just investments)
- In all 5 national surveys
- Consistently outperformed in 16 of 31 questions

The Promise of Non-Cognitive Learning

Shown to have a delayed impact on behavior
with no evidence of intermediate cognition

- Head Start
- Work of Mincer and Heckman
- Jumpstart college survey
- Strong emotional associations appear to stick

Conclusions

1. Financial education is not easy
2. Especially difficult to reach those in greatest need
3. School-based courses are not sticky
4. Workplace or adult ed programs attract fine-tuners
5. Pre-implementation programs are best, but are difficult to implement & often illegal
6. Non-traditional learning shows greater promise
 - a) Games
 - b) Emotional associations
 - c) Early access
 - d) Theater
 - e) Possibly TV
7. Investor education alone cannot solve investor mistakes. It must be combined with protection, disclosure, nudges, mandates and defaults

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