Financial Literacy Trajectories
Paul Gerrans
paul.gerrans@uwa.edu.au

Two roads diverged in a wood, and I—
I took the one less traveled by,
And that has made all the difference.
Robert Frost
Financial Literacy Trajectories

Agenda

• Expected/average FL trajectories
  • Australian evidence from new population data

• Success in impacting FL trajectories
  • Recent (Australian) evidence of undergraduate students

• Periods of vulnerability to FL trajectory change
  • Are some financial decisions more vulnerable?
  • Micro & Macro example of decline in FL trajectory impact
  • Issues in engaging individuals to support them
We acquire, & lose, financial literacy over life-course
Influential “choice” (Lusardi, Michaud, Mitchell 2017)
Financial Literacy Trajectories

Average Gender effects emerge early ... and persist ... after controlling for a range of factors

Not significant Cf. PISA 2015 results
Gender trajectories vary by education level
e.g., women with a degree have a higher financial literacy level than males with year 11 qualification
5 Questions: Big 3 + OECD, 2011

- **Predicted Inflation Correct**
  - Gender differences large
  - Some differ markedly by age
  - Trajectories vary by financial literacy concept

- **Predicted Risk Correct**
  - Gender differences change over age
  - Some differ markedly by age

- **Predicted Numeracy Correct**
  - Gender differences large
  - Gender differences not always clear
Message?

• Expect variation:
  • Don’t expect uniform outcomes when we start differently & have different trajectories

• Aligns with recent (more optimistic) meta-analyses
  • “intervention impacts are highly heterogeneous”
    • Income
    • Gender composition
    • Specific concept (e.g. debt behaviour)
Medium term evidence of interventions:
Do outcomes from a broad, principles based, university level intervention persist?

Units typically don’t directly seek/advocate behaviour change
Semester course: undergraduate, principles unit, 2013
Objective Financial Literacy: Pre, Post, 3years

0.37 Significant Effect Sizes 0.25

Basic result driven by female students
Completion of Unit Boosts Confidence/Self-Efficacy
(Subjective FL assessments)

Day-to-Day Financial Decision Making

Significant Effect Sizes persist after 3-years

Investing Knowledge

Results more robust
female students

Retirement Savings Knowledge

Satisfaction Managing Personal Finances

Significant Effect Sizes persist after 3-years
High baseline scores remain, some effects dissipate
NB. Traits important e.g. Future Time Perspective (amenable to intervention)

Common, shared effect: Students become more discerning!
In cross-section
... rise, peak, decline

Is this generational or age related decline?
Good News and Bad News

Performance

Good News: Ability to use learned knowledge & experience increases over time

Crystallised Intelligence

Bad News: Ability to solve novel problems declines with age

Overall

Fluid Intelligence

Age

Cognitive Function Tests by Age

**Fluid**

Symbol-digit modalities score: 25-75 year olds

Controls: Socio-Economic Status, Education, Maths Ability, Planning Horizon, Employment, Location

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<tr>
<th>Score for 90 secs: 0 min 110 max</th>
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<td>Male, Degree</td>
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<td>Female, Degree</td>
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<tr>
<td>Male, Year 11 and below</td>
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“Your task is to fill each empty box with the number that matches the symbol using the key at the top of the page”

**Crystallised**

Word pronunciation score (short NART): 25-75 year olds

Controls: Socio-Economic Status, Education, Maths Ability, Planning Horizon, Employment, Location

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“I want you to read slowly down the list of words on this card, reading each word out loud. After each word please wait until I say ‘next’ before reading out the next word.”

Source: Household, Income and Labour Dynamics in Australia Survey
Is FL trajectory of the “Large Drop” & “Large Improvement” Groups Different?

Source: Household, Income and Labour Dynamics in Australia Survey
Does this matter for financial literacy & financial decision making?

Perception vs Reality

“How do your mathematical skills compare to the average or typical Australian adult?”

Those With Actual Decline Don’t Rate Their Maths Skills Lower

But They Perform Worse Objectively

Probability Numeracy Correct

Probability Money Illusion Correct

Data: The Household, Income and Labour Dynamics in Australia Survey, OLS Estimates

Data: The Household, Income and Labour Dynamics in Australia Survey, OLS Estimates
Does this matter?
Evidence: Retirement & workforce re-entry (Australia)

• Trajectory downward when key retirement decisions made

• A large number (~180,000) re-enter workforce having retired
  • Women account for 60%
  • Most common reason
    • Women: “Financial Need” (47%), “Bored/Need Something to Do” (26%)
    • Men: “Bored/Need Something to Do” (48%) “Financial Need” (34%)

• Many reasons, but both signify (at least) poor retirement planning including financial planning
  • Costly individually and macro-economically

How to respond? Arresting Trajectory

• Differentiate decline due to: obsolescence, cognitive ability
  1. E.g. “I haven’t previously worked out what happens when I both withdraw from my retirement savings as well as earn income from it” rather than
  2. E.g. “I am more often acting impulsively with withdrawals from my retirement savings, without thinking through the consequences”*

1. Benefits from employer provided, workplace interventions
2. Benefits from (requires) willingness to monitor
   • Independently (e.g. surveys HABC), Clinically (e.g. MMSE, Cantab)

• Both need more research better mapping cognitive functioning to specific vulnerable financial behaviours

* Adapted from an item in the Self-Report Version of the Healthy Aging Brain Care (HABC) Monitor scale
Survey: Financial Literacy, Cognitive functioning Sources of Advice Attitudes, Preference to Monitoring Cognitive Performance

“Would you like to complete a cognitive skills test on an iPad or a computer?”
(similar to clinical tests of memory, processing speed)

544 respondents
519 Yes please
25 No thanks
188 did not complete
331 completed

“Would you like to complete the cognitive skills test again?

194 completed
137 did not complete

Prefer to monitor
- At home 77%
- Local doctor 17%
70% willing to pay

40% willing to pay
The challenge is to engage those not inclined to monitor:

This group has lower levels of financial literacy
The challenge is to engage those not inclined to monitor:

This group also report more signs of cognitive decline

Comparing Those Who Prefer Not to Monitor vs Completed 2 Tests
Health-Aging Brain Care (HABC) Monitor - Total

Comparing Those Not Completing vs Completed 2 Tests
Health-Aging Brain Care (HABC) Monitor - Total

e.g. “Over the past 2 weeks, how often did you have problems with: Remembering appointment”
Summing up

- Financial literacy trajectories
  - Emerge early
  - Heterogeneous across individuals and financial literacy domain
- Recent meta-analysis more optimistic
  - Interventions can change trajectory
  - Which persist into medium term (e.g. undergraduates)
- Trajectory through 50s and 60s trend down
  - Vulnerable due to depreciation/obsolescence, decline (& possibly cohorts)
  - (Re)investment in human capital also needed later in life
- Need better evidence on what type of decisions are vulnerable