"The Age of Reason: Financial Decisions Over the Lifecycle"

Sumit Agarwal, John C. Driscoll, Xavier Gabaix, and David Laibson

Discussant: Stéphane Bonhomme, CEMFI

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Introduction

<u>The paper:</u>

- studies ten financial markets, and provides evidence that the middle-aged borrow at lower interest rates and pay fewer fees compared to the young and old.

- proposes an explanation for this U-shaped pattern, arguing that it is the combined effect of decreasing cognitive ability and increasing experience.

$\Rightarrow$ New stylized fact, *and* an interpretation.

Outline

1. *The young and the old*:
   Is the U shape a symmetric object?

2. *Experience versus ability*:
   Are the cognitive ability and experience explanations equally convincing?

3. *Exploring mistakes*:
   Can we take more advantage of the data to strengthen the direct empirical evidence the paper offers?

The young and the old (1)

The authors emphasize the U-shape relationship between rates/fees and age.

Indeed, U-shapes are everywhere in the paper...

... but the U's have rather different curvatures in the various markets studied.

This suggests that the young and the old cannot be treated symmetrically, a point that is strangely absent from the paper.

This asymmetry is very obvious in the case of *cohort effects*.
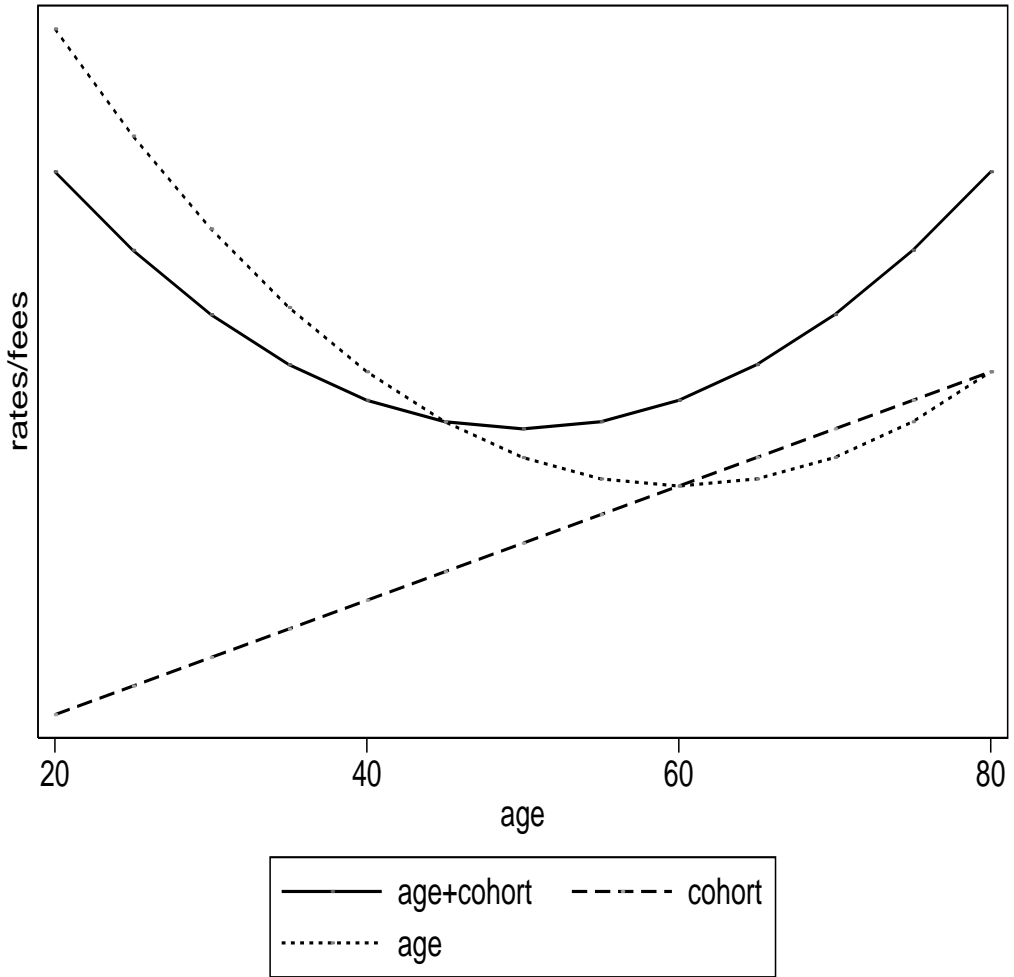
The young and the old (2)

Repeatedly, the authors mitigate their results by saying that they could be the consequence of cohort–as opposed to age–effects.

However, cohort effects are not likely to affect equally the two branches of the U.

Following the authors' logic, we could expect that younger cohorts have on average higher financial performance than the older ones, because of:

- Higher cognitive ability (the *Flynn effect*)
- Higher financial literacy.
  (later entry on the labor market could be a mitigating factor, though).

In this case, we would expect the following modification of the U shape...

Experience and ability (1)

Related to the emphasis on the U shape, the paper focuses on the two opposite effects of experience (increasing) and cognitive ability (decreasing) on financial performance.

- $Experience = \alpha_1(age - age_0) + \alpha_0$
- $Ability = -\beta_1 age + \beta_0.$

Yet, there is a more "parsimonious" explanation for the observed patterns:

- The experience effect is concave in age:

$$
\begin{aligned}
Experience = {} & -\alpha_2(age - age_0)^2 \\
& +\alpha_1(age - age_0) + \alpha_0
\end{aligned}
$$

- $Ability = constant.$

This explanation is not clearly dominated by the one in the paper.

Experience and ability (2)

Constant cognitive ability and decreasing returns to experience is the benchmark case in earnings models (Mincer equations).

With this explanation, financial performance has its "peak" at: $age = age_0 + constant$.

$\Rightarrow$ the two are not easily distinguished.

It could be possible (and very interesting) to gather data on age_0, that is the date when the individual starts to take financial decisions/or to use a specific financial product.

Experience could also be related to social interactions. Distinguishing individual and social learning of a financial product would be very nice.

Financial advice could also be studied.

Experience and ability (3)

In contrast, gathering data on the *evolution* of cognitive ability for a given individual and match this with data on financial decisions appears a formidable task.

For this we would need IQ tests at the date of the interview, or repeated IQ tests over the life cycle (panel, in order to deal with cohort effects).

The absence of such data is one key reason for the usual constant-ability assumption in earnings dynamics models.

Exploring mistakes (1)

Whatever its interpretation, the age-variation of financial performance is a very nice empirical finding.

Direct evidence on (bad) financial decisions is especially valuable.

Two examples in the paper:

- "Rate Changing Mistakes"
- "Eureka Moments"

A *Rate Changing Mistake* (RCM), as defined by the authors in the case of home credit loans and lines, is an illuminating example of bad decision.

I think it may be possible to further explore the data on loans and values.

Exploring mistakes (2)

Home value estimates:

	Loans	Lines
Borrower	196467	346065
Bank	186509	335797

Instead of looking only at RCM, one could look at the difference between the LTV declared by the borrower, and the one implied by the bank's valuation; that is: the LTV Mistake (LTVM).

RCM only use positive LTVM (ie: underestimation of home value). But on average, LTVM are negative.

Indeed, in the presence of uncertainty on the true value, rational borrowers should overestimate their home value. Looking at the distribution of LTVM by age groups could thus be informative on financial performance.

Exploring mistakes (3)

The *Eureka Moment* (EM) is another direct evidence on financial performance.

The dependent variable used by the authors is the fact of ever experiencing an EM.

It seems that the precise moment at which the EM comes in is informative. In particular, we might expect immediate EM (people immediately implementing the optimal strategy) to be rather different, as they in part reflect past experience with the product.

If as Figure 15 suggests the EM does not seem to be very much age dependent, then an explanation should be proposed.

Conclusion

RCM and EM are useful as they provide direct evidence on financial performance.

However, the determinants of financial performance are not easily distinguished:

- Experience can be individual or social, its effect could be linear as the authors suggest, but also concave.

- Any theory on the effect of varying cognitive ability on financial performance would need very special data in order to be empirically tested.

$\Rightarrow$ strong stimulus for further research!