Discussion of

Who Benefits from Robo-advising? Evidence from Machine Learning

(Rossi and Utkus, 2019)

by Bart Zhou Yueshen, INSEAD

May 28, 2019

Overview

Robo-advising: Vanguard Personal Advisor Services, PAS

What PAS does

- about six months of rebalancing after signup
- bonds $\uparrow\uparrow$, equity $\uparrow$, cash $\downarrow\downarrow$
- almost all in mutual funds: index funds $\uparrow\uparrow$, international $\uparrow\uparrow$
- fees, expense ratios, turnover, and trading volume $\downarrow\downarrow$
- fewer assets (more concentrated holdings), but in indices
- improved abnormal Sharpe ratio

Cross-section (who benefits)

- nine most relevant explanatory variables
- some nonmonotone effects

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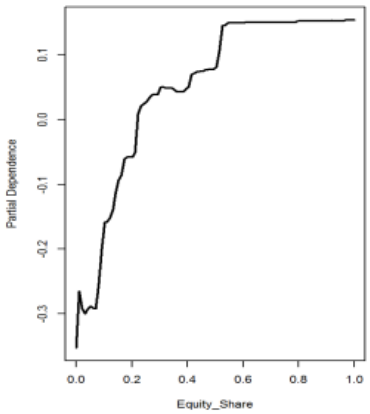

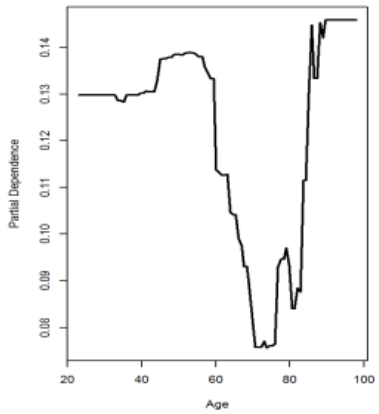

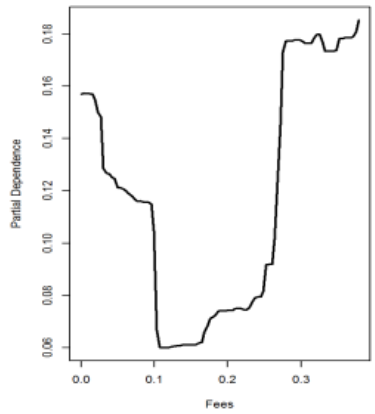

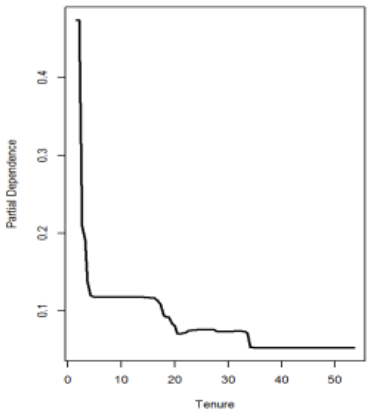

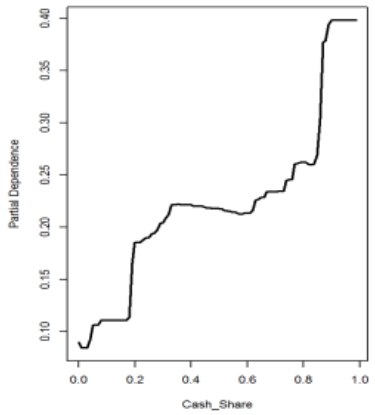

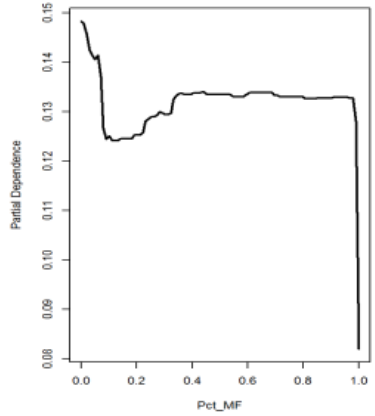

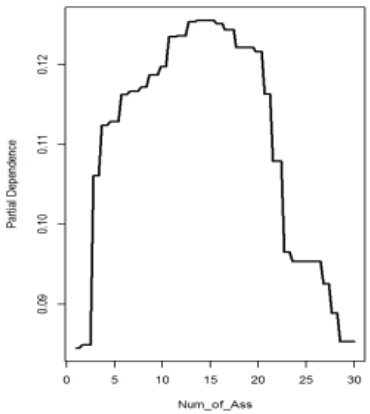

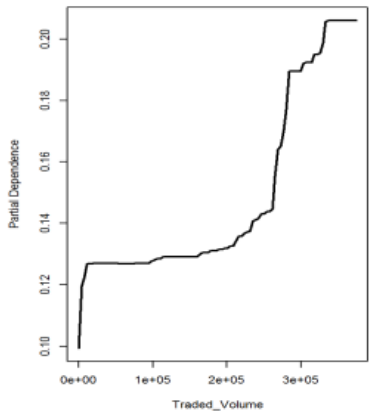

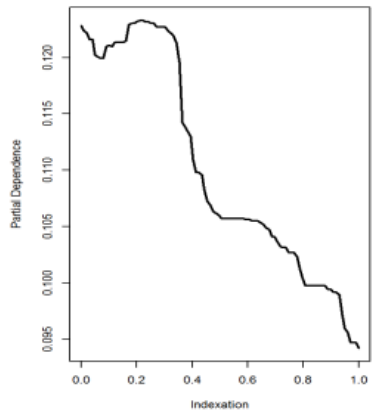

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Interesting paper!

- great data
- nice application of regression trees

But...

- results are largely descriptive
- not clear what the objectives are

Would be nice to have some "**tensions**"; e.g.,

- What PAS does: Good to know, but is there a benchmark?
- Who benefits: Implications for investors? For regulations? (How to improve? Who should stay away? ...)

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2. Things I'd like to know more about

- Selection into PAS
- It takes 5$\sim$6 months for PAS to build the target portfolio
  - Why?
  - How? (Priority for which asset class?)
  - Cross-section on this build-up time?
- Is PAS target portfolio depending on the investment history pre-PAS?
- Why investments in ETF dropped?

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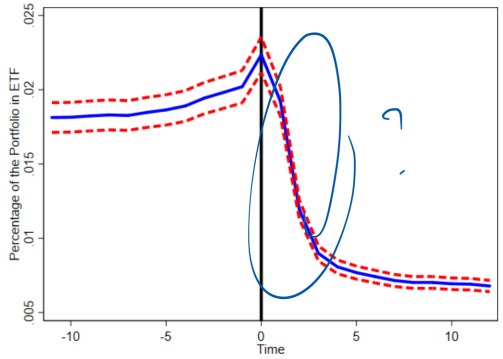

(e) Percentage in ETFs

3. Comparing performance

Timing clarification

- abnormal Sharpe ratios 6 months before and after PAS
- 3-month horizon

Benchmark

- current choice: vw NYSE/AMEX/NASDAQ CRSP portfolio
- international exposure? (10%→33%)
- (rationale: to compare with the no-PAS status quo?)

Before v.s. after? With v.s. without?

- current comparison: same investor, before and after
- issue: selection (e.g., I've been unlucky for months; try PAS?)
- ideal comparison (to me): twins, one signed up for PAS, one did not
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What BRT does (roughly)

- finding an "optimal" partition of sample
  ... then regression within each subsample
- variable selection
- *can* partition on a same X variable, hence nonmonotonicity

Advantages

- relatively mature/standard procedures and diagnostics
- possibility for researchers to be (more) agnostic
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What BRT does not address

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- omitted variable problem

(Wanted narrative: PAS benefits XXX most)

Suggestion (with salt?)

- LHS: $\Delta AbnSharpe_i$ of *all investors*
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