

Helping you achieve behavior gap zero.

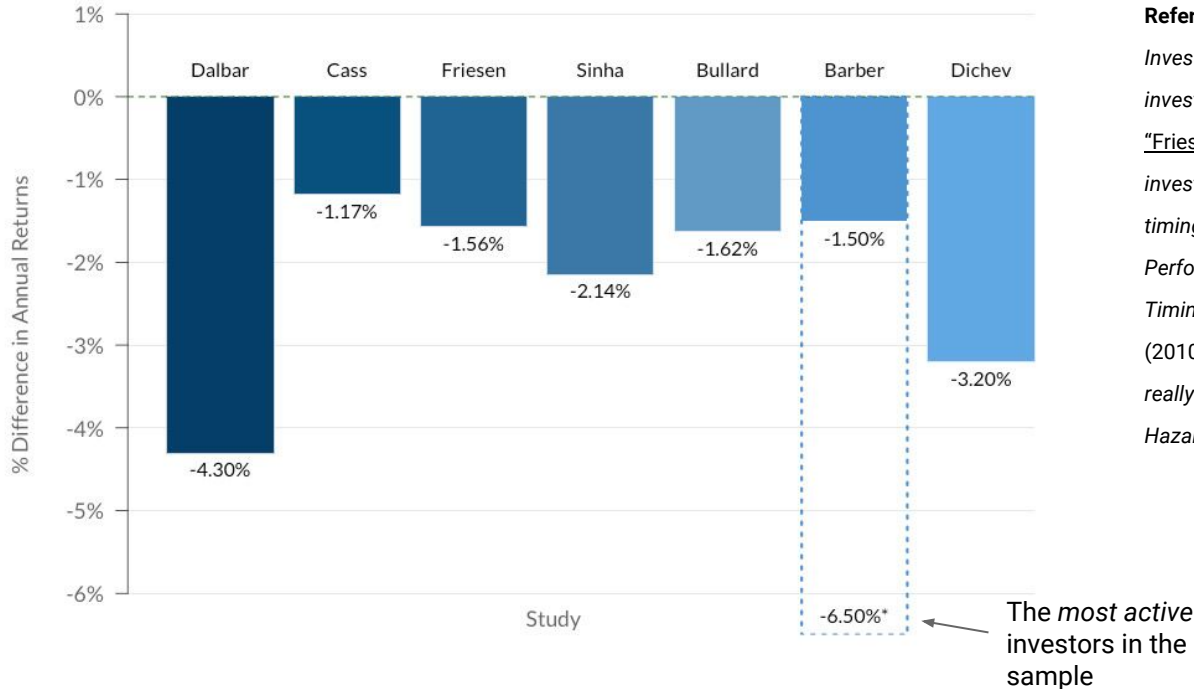
This presentation was created in collaboration with Betterment,
our custodial and technology partner.

What is behavior gap?

The difference between what you could have achieved in investment returns and what you actually do - as a result of bad market timing decisions.

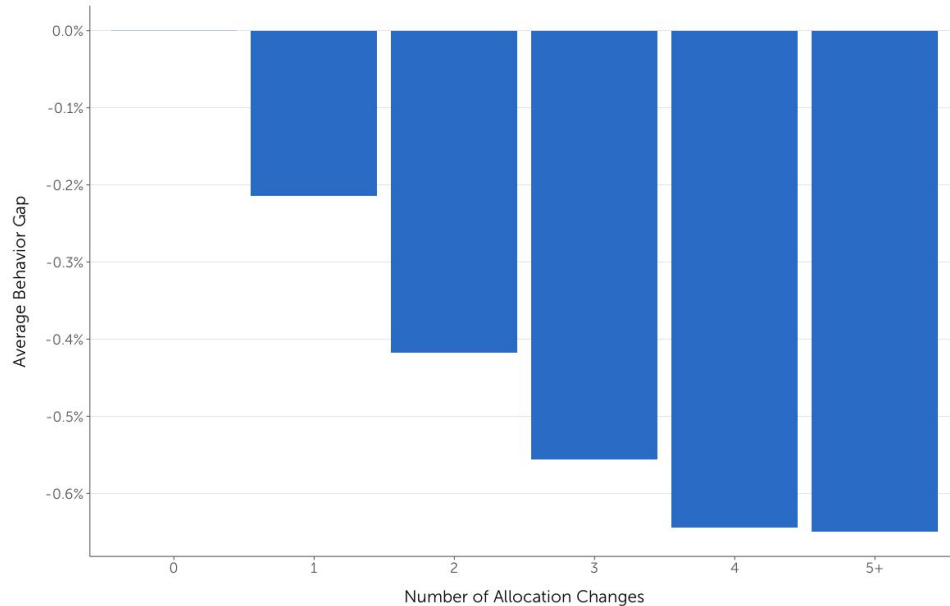
Bad behavior is costly

Estimates of the Behavior Gap



References: "Dalbar" – DALBAR (2012) *Quantitative Analysis of Investor Behavior*; "Clare" – Clare & Motson (2010) *Do UK retail investors buy at the top and sell at the bottom?*(working paper); "Friesen" – Friesen & Sapp (2007) *Mutual fund flows and investor returns: An empirical examination of fund investor timing ability*; "Sinha" – Sinha & Jog (2005) *Fund Flows and Performance*; "Bullard" – Bullard, Friesen & Sapp (2009) *Investor Timing and Fund Distribution Channels*; "Dichev" – Dichev & Yu (2010) *Higher risk, lower returns: What hedge fund investors really earn*; "Barber" – Barber & Odean (2000) *Trading Is Hazardous to Your Wealth*

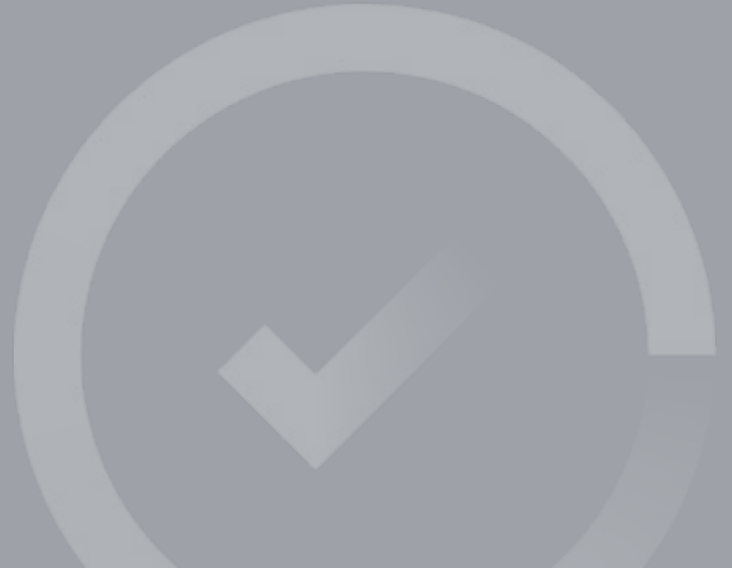
More allocation changes → lower investor returns



The number of allocation changes seems to be related to the size of an investor's behavior gap.

Source: Internal Betterment client data

**How we help lower your
behavior gap.**



We're here to talk.

When uncertainty or a drawdown strikes, we'll help you stay focused on your financial plan and ensure you are doing the right things to keep your goals on track.





We use goal based investing

Behavioral psychology tells us that we are [more motivated by real things](#) than abstract numbers. When you can attach a real outcome to the purpose of your saving, you're more likely to actually work toward that goal and stick to the plan.

We use technology to show you the estimated tax impact *before* a transaction

Estimated Tax Impact

\$2,131

For this transaction, [our algorithm](#) selected the lowest-tax shares, which gained **\$5,476**. This may result in up to **\$2,131** in estimated taxes.

∨ How we got this estimate

Net long-term gain

②

\$3,868

Long-term gain
\$3,935
Long-term loss \$67

Net short-term gain ②

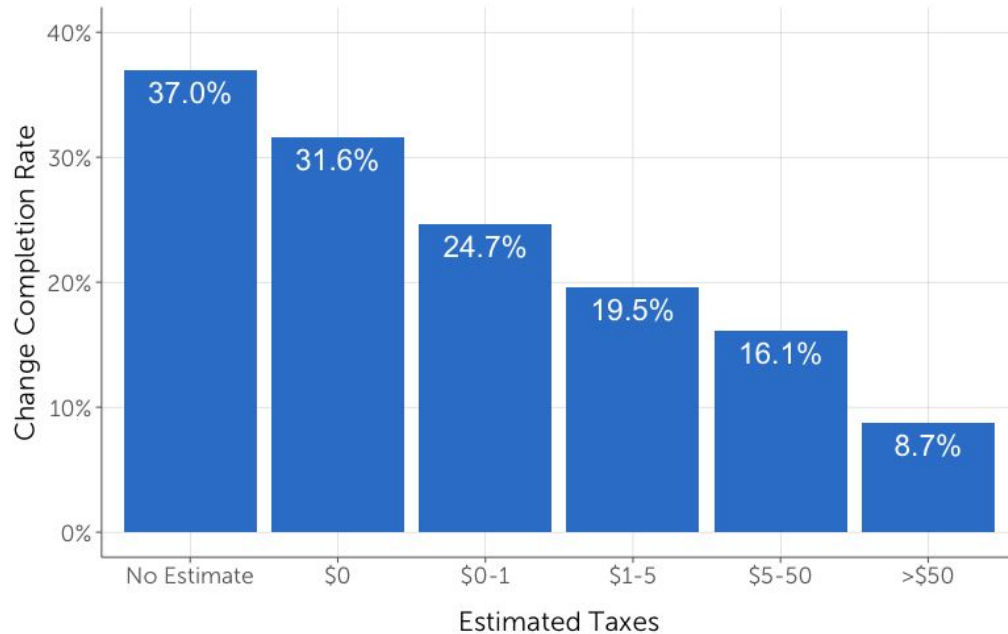
\$1,608

Short-term gain \$1,709
Short-term loss \$101

Before an action (allocation change, withdrawal), we show you the likely tax impact.

Together, we can decide if it's still worth it on an after-tax basis.

It works. Being informed about taxes reduces market-timing:



Source: Betterment client data and internal analysis

Disclosure

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