Two Funds for Life
Pre & Post-Retirement
-- Chris Pedersen

The Merriman
Financial Education
Foundation
Two Funds for Life Pre & Post Retirement

- One fund for life -- Target Date Funds
- How a second fund can help young investors
- What about FIRE?
- What about retirees?
- Ways to test your plan
- Loose ends and next steps
Target Date Funds
>$1.7 Trillion

• >77% of investors hold TDFs in retirement accounts
• >50% of Vanguard participants have 100% in TDF
• ~37% of TDF market in Vanguard funds

Sources:
“How America Saves 2019” from Vanguard
“2019 Target-Date Fund Landscape” from Morningstar
Human Capital & Target Date Funds (TDFs)

Human Capital vs. Age

Industry Average TDF Glidepath

Sources: Morningstar 2015 Target-Date Fund Landscape & 2013 Target-Date Series Research Paper
How well do they work?
How well do they work for young portfolios?
Early Drawdowns Are Reduced by Contributions

Monthly Contribution Investment

Lump Sum Fixed Investment

All small cap value portfolio balance backtested with and without annual contributions at www.portfoliovisualizer.com
Putting bonds in a young portfolio is like ...
How could we improve?

Invest a bit in a higher risk-reward asset class such as small-cap value (SCV)

<table>
<thead>
<tr>
<th>Rebalancing</th>
<th>Vanguard-like Target Date Fund (Baseline TDF)</th>
<th>90% TDF plus 10% US SCV</th>
<th>80% TDF plus 20% US SCV</th>
<th>70% TDF plus 30% US SCV</th>
</tr>
</thead>
<tbody>
<tr>
<td>End Balance Range ($10k/yr + inflation for 40 years)</td>
<td>Monthly</td>
<td>None – for second fund could be in different account</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$12.8 M</td>
<td>$7.93 M</td>
<td>$3.49 M</td>
<td>$18.21 M</td>
<td>$10.31 M</td>
</tr>
<tr>
<td>Inflation-Adjusted End Balances</td>
<td>$2.36 M</td>
<td>$1.61 M</td>
<td>$0.72 M</td>
<td>$3.19 M</td>
</tr>
<tr>
<td>Worst Drawdown</td>
<td>46%</td>
<td>48%</td>
<td>49%</td>
<td>51%</td>
</tr>
<tr>
<td>Age 65 Worst DD</td>
<td>26%</td>
<td>37%</td>
<td>45%</td>
<td>50%</td>
</tr>
<tr>
<td>Drawdown Risk versus Age</td>
<td>![Graphs showing drawdown risk versus age for different scenarios]</td>
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<td>Rebalancing</td>
<td>Vanguard-like Target Date Fund (Baseline TDF)</td>
<td>1.5 X Age = % in TDF Rest in US LCV</td>
<td>1.5% X Age = % in TDF Rest in US SC</td>
<td>1.5% X Age = % in TDF Rest US LCV/SCV</td>
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<td>------------------------</td>
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<tr>
<td>($10k/yr + inflation for 40 years)</td>
<td>$12.8 M</td>
<td>$16.24 M</td>
<td>$15.38 M</td>
<td>$17.50 M</td>
</tr>
<tr>
<td></td>
<td>$7.93 M</td>
<td>$9.80 M</td>
<td>$9.55 M</td>
<td>$10.63 M</td>
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<td>$3.49 M</td>
<td>$4.26 M</td>
<td>$4.01 M</td>
<td>$4.56 M</td>
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<td>Age 65 Worst DD</td>
<td>26%</td>
<td>29%</td>
<td>27%</td>
<td>28%</td>
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</table>

**Drawdown Risk versus Age**

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**Could we do even better?**

Scale higher risk-reward asset class with age so TDF is ~100% at age 65
What’s the catch?
What about FIRE? **Financial Independence Retire Early**

Years to Retirement X 1.5 = % for the 2nd fund

Example:

You’re 30 retiring @ age 50
You have 20 yrs left
20 X 1.5 = 30
Put 30% in 2nd fund
Put 70% in TDF
What if I’m already retired?!

It depends
Savings, Income, Expenses, Withdrawals

> 4% / Year – Under Saved
~4% / Year – Just Right
< 4% / Year – Over Saved

Raise or Lower Expenses & You Change Withdrawal Rate

Withdrawals

Expenses

They interact
Two Fund for Life Options in Retirement

- If withdrawal rate is > 4%/year, see a financial planner
- If withdrawal rate is ~ 4%/year, 100% TDF is likely fine -- consider adding a 2\textsuperscript{nd} equity fund over time
- If withdrawal rate is <4%/year, you could spend more, or put “extra” in 2\textsuperscript{nd} equity fund for legacy
Why ramp 2\textsuperscript{nd} fund down, then up?
What can we expect?

“Test as you fly, fly as you test”

-- NASA
Testing Retirement Scenarios with Portfolio Visualizer

- It’s free
- “Financial Goals” tool can model TDF allocations in retirement
  - Select Multistage Planning Type
  - Enter 7 Years to Retirement even though scenario is in retirement
  - Enter starting portfolio allocation to match TDF allocation at start
  - Enter ending portfolio allocation to match final TDF allocation
  - Enter withdrawal model in Financial Goals section
  - Click “Run Simulation”
100% TDF w/ *fixed* withdrawals in retirement

Portfolio Visualizer (4% fixed example at https://bit.ly/2mr1Wqg)

$0.8 M to $4.3 M

$0 to $2.7 M

$0 to $1.1 M

3% Fixed Withdrawal Rate

4% Fixed Withdrawal Rate

5% Fixed Withdrawal Rate

Only 34% make it all the way to 35 years

Assumes $1M minus first withdrawal as starting balance at retirement, 35 years in retirement, and Vanguard-like TDF asset allocation glidepath. Fixed withdrawal dollar amount calculated as percent of balance at start of retirement and is then kept fixed except for increases to match inflation.
100% TDF w/ variable withdrawals in retirement

Portfolio Visualizer (4% variable example at https://bit.ly/2mpTkQK)

Assumes $1M minus first withdrawal as starting balance at retirement, 35 years in retirement, and Vanguard-like TDF asset allocation glidepath. **Variable withdrawal dollar amount calculated as percent of balance at start of each year in retirement, so dollar amount withdrawn varies year-to-year based on investment returns and independent of inflation.**
TDF + Value Fund Options for Over-Savers

Portfolio Visualizer (75% TDF | 25% SCV example at https://bit.ly/2mlcRBD)

$30k (3%) Fixed Withdrawal Rate

- **100% TDF**: $0.8 M to $4.3 M
- **75% TDF | 25% LCV**: $0.9 M to $8.4 M
- **75% TDF | 25% SCV**: $1.7 M to $12.3 M

Assumes $1M minus first withdrawal as starting balance at retirement, 35 years in retirement, and Vanguard-like TDF asset allocation glidepath. Fixed withdrawal dollar amount calculated as percent of balance at start of retirement and is then kept fixed except for increases to match inflation.
TDF + Small-Cap-Value for "Just Enough" Savers
Portfolio Visualizer (4% fixed 80|20 example at https://bit.ly/2m8eKBR)

Assumes $1M minus first withdrawal as starting balance at retirement, 35 years in retirement, and Vanguard-like TDF asset allocation glidepath. Fixed withdrawal dollar amount calculated as percent of balance at start of retirement and is then kept fixed except for increases to match inflation.
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which specific second fund should I use?</td>
<td>Recommendations for mutual funds and Best in Class ETFs at <a href="http://www.paulmerriman.com">www.paulmerriman.com</a></td>
</tr>
<tr>
<td>Could I use just a few more funds to get more diversification?</td>
<td>Sure! E.g. US SCV + Intl. SCV + EM</td>
</tr>
<tr>
<td>Can I use Portfolio Visualizer to model target date funds in contribution years?</td>
<td>Not yet.</td>
</tr>
<tr>
<td>What’s the biggest risk with this strategy?</td>
<td>Portfolio suicide – losing hope and selling when the market is down.</td>
</tr>
<tr>
<td>What if I don’t care about complexity and want the “Ultimate” TDF?</td>
<td>Read about the Merriman Aggressive TDF Glide Path &amp; Calculator</td>
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</tbody>
</table>
## Call to Action

<table>
<thead>
<tr>
<th>Recognize</th>
<th>The resilience of young portfolios!</th>
</tr>
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<tbody>
<tr>
<td>Consider</td>
<td>Two Funds for Life Strategy in your working years</td>
</tr>
<tr>
<td>Calculate</td>
<td>Withdrawal rate &amp; consider two funds in retirement</td>
</tr>
<tr>
<td>Test</td>
<td>Your plan, set expectations, then stick with it!</td>
</tr>
</tbody>
</table>
Helpful links

www.portfoliovisualizer.com

www.paulmerriman.com

www.2fundsforlife.com

https://paulmerriman.com/the-ultimate-target-date-fund-portfolio/


https://www.aqr.com/Insights/Podcasts/The-Curious-Investor/Season-Two/Calculated-Risks (fly as you test, test as you fly ...)