Should the government be paying investment fees on $3 trillion of tax-deferred retirement assets?

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9/11/2019
MIT Golub Center for Finance and Policy

* External advisor to FeeX.com
• Motivation
  • Retirement wealth landscape
  • Front-loaded vs back-loaded taxation
  • Research questions

• Traditional vs. Roth taxation: Keeping supply side fixed
  • Classical benchmark: Indifference between Traditional and Roth
  • Incorporating investment management costs
  • Quantifying the effects

• Costs, Fees, and Scale
  • A monopolistic competition model: effects on entry, pricing, resources devoted to investment management, welfare

• Policy implications and conclusions
Total assets: $27.0t
• Defined Benefit: $8.6t
• DC* + IRA: $16.3t

• How do “retirement savings” differ from just plain savings?

[*] Including TSP
Data source: Investment Company Institute, The U.S. Retirement Market, 4th Quarter 2018
http://www.ici.org/research/stats/retirement
Tax-advantaged retirement savings around the world

- Canada: Registered Plans, TFSAs
- USA: DB plans, 401(k)s and similar, IRAs
- Italy: Previdenza integrativa
- Switzerland: Pillar 2 and Pillar 3a
- UK: ISAs and Pensions
- Poland: 2nd pillar, 3rd pillar (IKE, PPE)
- Australia: Superannuation Guarantee
- China: 年金方案 (DC), 社保基金 (DB)
- Etc.

- Trillions of dollars of assets under management!
## Tax treatment: front-loaded vs. back-loaded

<table>
<thead>
<tr>
<th>Account type</th>
<th>Tax status of...</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Money earned</td>
<td>Returns</td>
<td>Money paid out</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and saved</td>
<td>on savings</td>
<td>to retiree</td>
<td></td>
</tr>
<tr>
<td><strong>Standard taxable</strong></td>
<td><strong>T</strong></td>
<td><strong>T</strong></td>
<td><strong>E</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Back-loaded taxation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US “Traditional” IRAs and DC plans,</td>
<td><strong>E</strong></td>
<td><strong>E</strong></td>
<td><strong>T</strong></td>
<td></td>
</tr>
<tr>
<td>Canadian Registered Plans, UK pensions,</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>all DB plans</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Front-loaded taxation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US “Roth” IRAs and DC plans, Canadian</td>
<td><strong>T</strong></td>
<td><strong>E</strong></td>
<td><strong>E</strong></td>
<td></td>
</tr>
<tr>
<td>TFSAs, UK ISAs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**T**: Taxable  
**E**: Exempt
British debate (2015)

Consultation outcome
Strengthening the incentive to save: consultation on pensions tax relief
Published 8 July 2015
Last updated 16 March 2016 — see all updates

Pensions and tax
EET your TEE, George
Aug 5th 2015, 14:41 BY BUTTONWOOD

Buttonwood
No TEE, thank you
Governments should avoid arbitrary changes to the tax treatment of pensions
Print edition | Finance and economics >
Oct 10th 2015
Shift to Roth 401(k)s 'highly likely' part of tax reform: former Treasury official Mark Iwry

Donald J. Trump
@realDonaldTrump

There will be NO change to your 401(k). This has always been a great and popular middle class tax break that works, and it stays!
7:42 AM - Oct 23, 2017

12,683 replies 18,875 retweets 89,010 likes
Our research questions

• Which account type delivers an incentive to save for retirement at the lowest cost to the government, TEE (Roth) or EET (Traditional)?

• Can the choice of account type affect the size of the asset management industry?

• Is the asset management industry too large, and does back-loaded taxation make it even larger?
  • Size of finance industry: Philippon and Reshef (2012); Greenwood and Scharfstein (2013); Malkiel (2013); Philippon (2015); Bolton et al. (2016); Garleanu and Pedersen (2018).
• Without asset management fees (benchmark)
  • Individual indifferent between Roth and Traditional*
  • Government indifferent in present value

• Adding asset management fees
  • Individual still indifferent
  • Government prefers Roth (assets ↓, fees ↓, PV tax revenue ↑)

• Practical effects for U.S. government
  • Owns $3 trillion implicit account
  • Pays $19.5b/year implicit fees, a subsidy to asset managers

• In general equilibrium, implicit subsidy remains
  • Allow competitive fees, economies of scale (more assets ➔ higher costs)
  • Asset management industry too large in the model; subsidy makes it larger, reducing social welfare in the model

* Under some important simplifying assumptions!
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• Policy implications and conclusions
Simple two-period example

• Individual has $100 in pretax income to invest, must choose account (Roth vs Traditional)

• Assumptions
  • Ignore possible behavioral effects
  • Ignore contribution limits
  • Government bonds: only asset in the economy
    • 150% return (≈ 3.1% per year for 30 years)
    • Flat, constant tax rate 30%

• Case 1: no investment fees (benchmark neutrality)
Case 1: no investment fees  
(benchmark neutrality result)

**Roth**

- $100
- 30% Tax
- Government: $30, Individual: $70
- 150% Return
- $75, $175

**Traditional**

- $100
- Government: $100
- 150% Return
- $250
- 30% Tax
- $75, $175
Case 1: no investment fees
(benchmark neutrality result)

Traditional

$100

Government

Individual $100

150% Return

$t = 0$

$t = 30$

$30\%$ Tax

$\$75$

$\$175$

Traditional (As If)

$30\%$ $100$

Implicit Government Account

Individual Roth-Like Account

$t = 0$ $30$

$t = 30$ $75$

$t = 30$ $175$

150% Return

150% Return
Our contribution: adding fees

• Case 2: Assume fees of 20% (≈ 0.80% per year for 30 years).

• Partial equilibrium supply side assumptions
  • Fees are a fixed percent of AUM; Asset management industry is willing to supply investment management services at this fee
  • Industry has fixed number of firms
Case 2: with investment fees

Roth

$100

30% Tax

Government

Individual

Asset Mgr

$t = 0$

$30$

$70$

$150% Return$

$t = 30$

$175$

$140$

$35$

Traditional

$100$

Government

Individual

Asset Mgr

$t = 0$

$100$

$150% Return$

$t = 30$

$250$

$200$

$50$

$30% Tax$

$20% Fees$

$60$

$140$

$50$
Case 2: with investment fees

Traditional

<table>
<thead>
<tr>
<th>$100</th>
<th>Government</th>
<th>$100</th>
<th>Individual</th>
<th>Asset Mgr</th>
</tr>
</thead>
<tbody>
<tr>
<td>$250</td>
<td>150% Return</td>
<td>$200</td>
<td>30% Tax</td>
<td>$60</td>
</tr>
<tr>
<td>$140</td>
<td>20% Fees</td>
<td>$50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Traditional (As If)

<table>
<thead>
<tr>
<th>$100</th>
<th>Implicit Government Account</th>
<th>$30</th>
<th>Individual Roth-Like Account</th>
<th>$70</th>
</tr>
</thead>
<tbody>
<tr>
<td>$75</td>
<td>150% Return</td>
<td>$175</td>
<td>150% Return</td>
<td></td>
</tr>
<tr>
<td>$60</td>
<td>30% Tax</td>
<td>$140</td>
<td>20% Fees</td>
<td>$35 +</td>
</tr>
<tr>
<td>$140</td>
<td></td>
<td>$50</td>
<td></td>
<td>$50</td>
</tr>
</tbody>
</table>

$t = 0$

$t = 30$
“Wrong”
C.R., Canadian financial adviser, 2017/12/11

“Congratulations, you proved the commutative property of multiplication. ... you've taken a swipe at people like myself that have to save for retirement”
B.S., U.S. mutual fund family, 2017/10/23

We do not say: *specific* individuals *should* be indifferent between Roth and Traditional.
We do say: compared to Roth, Traditional provides the same type of subsidy at a higher per-dollar cost for the government.
Government is paying fees.

1. How much is it paying?
2. Is it receiving benefits from the fees?
### Overall approach to estimating costs and fees

<table>
<thead>
<tr>
<th></th>
<th>DC Plans (employer sponsored)</th>
<th>IRAs (individual accounts)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>All estimates in basis points, asset-weighted</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asset-level fees:</td>
<td>50</td>
<td>35 (ICI)</td>
</tr>
<tr>
<td>(Based on “all-in” estimates by Deloitte/Brightscope)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advisory fees:</td>
<td>41 (Our estimate)</td>
<td></td>
</tr>
<tr>
<td>Trading costs:</td>
<td>17</td>
<td>16</td>
</tr>
<tr>
<td>commissions, bid/ask, market impact:</td>
<td>(Our estimate based on published volume-weighted estimates)</td>
<td></td>
</tr>
<tr>
<td>Total costs and fees</td>
<td>67</td>
<td>92</td>
</tr>
<tr>
<td>Benefit (services, outperformance):</td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>
How big is the implicit subsidy to asset managers?
Annual flow on current U.S. account balances

• Back-of-the-envelope calibration
  • Total tax-deferred assets (DC + IRAs) \( S = $15.4 \text{ trillion} \)
  • Tax rates \( \tau_R = 20\%, \tau_C = 21\% \)
  • Fees \( f = 80 \text{ bps} \)

• Value of implicit govt. account = \( S \cdot \tau_R = $3.1 \text{ trillion} \)
  • About 2/3 or $2 \text{ trillion in stocks} \)

• Annual subsidy = \( S \cdot \tau_R \cdot f \cdot (1 - \tau_C) = $19.5 \text{ billion} \)

• Future subsidy depends on future growth in AUM
  (contributions relative to withdrawals)
By comparison

With $20.7b/year (FY 2018), NASA will take us to Mars by 2030.
Subsidy for selected other countries
(U.S. dollars)

<table>
<thead>
<tr>
<th>Country</th>
<th>Assets $b</th>
<th>% Deferred</th>
<th>Govt Acct Size $b</th>
<th>Fees</th>
<th>% GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>16,464</td>
<td>94%</td>
<td>20% 3,084</td>
<td>0.80%</td>
<td>21%</td>
</tr>
<tr>
<td>Canada</td>
<td>1,003</td>
<td>86%</td>
<td>15% 129</td>
<td>2.06%</td>
<td>15%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>950</td>
<td>32%</td>
<td>20% 60</td>
<td>1.45%</td>
<td>20%</td>
</tr>
<tr>
<td>Netherlands</td>
<td>108</td>
<td>100%</td>
<td>39% 41</td>
<td>1.41%</td>
<td>25%</td>
</tr>
<tr>
<td>Switzerland</td>
<td>945</td>
<td>100%</td>
<td>4.0% 38</td>
<td>1.29%</td>
<td>18%</td>
</tr>
<tr>
<td>Australia</td>
<td>1,797</td>
<td>55%</td>
<td>3.4% 34</td>
<td>1.10%</td>
<td>30%</td>
</tr>
<tr>
<td>Japan</td>
<td>112</td>
<td>100%</td>
<td>2.6% 3</td>
<td>1.47%</td>
<td>30%</td>
</tr>
<tr>
<td>Korea</td>
<td>76</td>
<td>100%</td>
<td>20% 15</td>
<td>1.00%</td>
<td>22%</td>
</tr>
</tbody>
</table>

Subsidy $b % GDP

United States 19.5 0.10%
Canada 2.3 0.15%
United Kingdom 0.7 0.03%
Netherlands 0.4 0.06%
Switzerland 0.4 0.06%
Australia 0.3 0.02%
Japan 0.0 0.00%
Korea 0.12 0.01%

Notes: “Assets” includes only fully-funded tax-deferred private pension savings, excluding DB plans. Fees are the asset-weighted average of money market, equity and fixed-income mutual fund fees based on overall (not retirement-only) asset allocation in that country. Sources of non-U.S. values: OECD (retirement assets), Morningstar and others (fees), national statistical offices (total assets in each type of account and income distribution), country tax authorities (tax schedules).
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Thought experiment

• In a world where all accounts are Roth... Upon a switch from Roth to Traditional, what happens?

• Assuming fees fixed as percent of AUM:
  ➔ AUM increase
  ➔ Government subsidy to asset managers

• Questions under general equilibrium:
  • Do asset managers pass some of the subsidy along to consumers?
  • Are additional resources devoted to asset management?

• Answers depend on nature of production costs and competition
Key issues: economies of scale, entry, and competition

• Economies of scale
  • Clear economies of scale on cost side (admin, compliance...)
  • Most evidence points to diseconomies of scale in performance
  • **Assume fixed costs only (max economies of scale)**

• Entry
  • Industry is very competitive. **Assume free entry.**

• Competition
  • Substantial evidence of retail investor inertia, captive demand, shrouded prices, information/search frictions
  • **Conservatively assume product differentiation as only source of price insensitivity** → marginal fund has cost, benefit
Our general equilibrium model

Individuals choose saving and consumption.

“Funds” need a fixed amount of labor to operate, set fees competitively.

Government meets binding budget constraint using EET or TEE taxation.

+ Salop (1979) circular city model of competition with differentiated products
+ Log utility and intertemporal choice
Results: comparison between Roth and Traditional

As in fixed-$f$ model: Traditional has...
• ...same Euler equation, *percent* fees
• ...higher AUM, *dollar* fees

Additional GE results: Traditional has...
• ...higher number of firms, employment in finance
• ...higher taxes $\implies$ lower consumption, due to binding government budget

Traditional reduces social welfare: Roth has too many firms, and Traditional more
The nature of costs and competition

<table>
<thead>
<tr>
<th>Nature of production costs</th>
<th>Nature of competition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Perfect competition</td>
</tr>
<tr>
<td>Per-dollar</td>
<td><strong>R</strong></td>
</tr>
<tr>
<td>Per-firm</td>
<td><strong>R</strong> or <strong>T</strong></td>
</tr>
<tr>
<td>Per-participant</td>
<td>✓</td>
</tr>
</tbody>
</table>

Legend

- **R** Greater resources devoted to asset management
- **T** Higher transfers to asset management industry
- ✓ No consequences
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Policy implications / options

• Should government encourage and/or mandate the use of Roth accounts?
  • Gradual
  • Cold turkey

• Should government, as a stakeholder, enact policies geared towards minimizing retail investment fees?
  • Added rationale for fiduciary standards on retirement assets?
• We highlight one important factor: fees. Other factors are worth considering:

• Progressive taxation
  • Firefighter vs. librarian
  • Insurance value
  • Automatic “match”

• Behavior (largely unexplored)
  • “Instant gratification” (Feinberg and Skinner, 1997)
  • Roth “cheats” people into saving more (Beshears et al, 2017)
  • “Stops people blowing their pension pot” (The Economist, 2015)

• Political Economy
  • Traditional “cheats” government into saving more
  • Last-resort way for government to get stock exposure, if desired
Conclusions

• Adding investment management fees to a standard model causes “classical” neutrality result to break down
  • Investors still indifferent
  • Government finds Traditional more expensive than Roth

• U.S. government is paying about $19.5b in implicit investment management fees every year
  → Subsidy to asset managers

• Traditional increases size of U.S. asset management industry

• We highlight an important welfare cost of Traditional relative to Roth. There may still be other reasons to favor Traditional.
Additional results

• What if government taxes asset managers at rate $\tau_C$?
  • It recovers at most a fraction $\tau_C$ of the subsidy.

• What if there are stocks or other risky assets?
  • If government is unconstrained in its holdings of stocks, result continues to hold;
  • If individuals are forward-looking in a Ricardian sense, result continues to hold;
  • If individuals are not forward-looking and government is constrained, government holdings of stock change.
    • Good: Lucas Zeldes (2009), Geanakoplos (2003), Abel (2001)
    • Bad: Auerbach (2004), Bohn (1990)