

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

Mattia Landoni, Southern Methodist University
Stephen P. Zeldes*, Columbia University

Saturday, November 17, 2018
CEAR-RSI Household Finance Workshop
Montreal

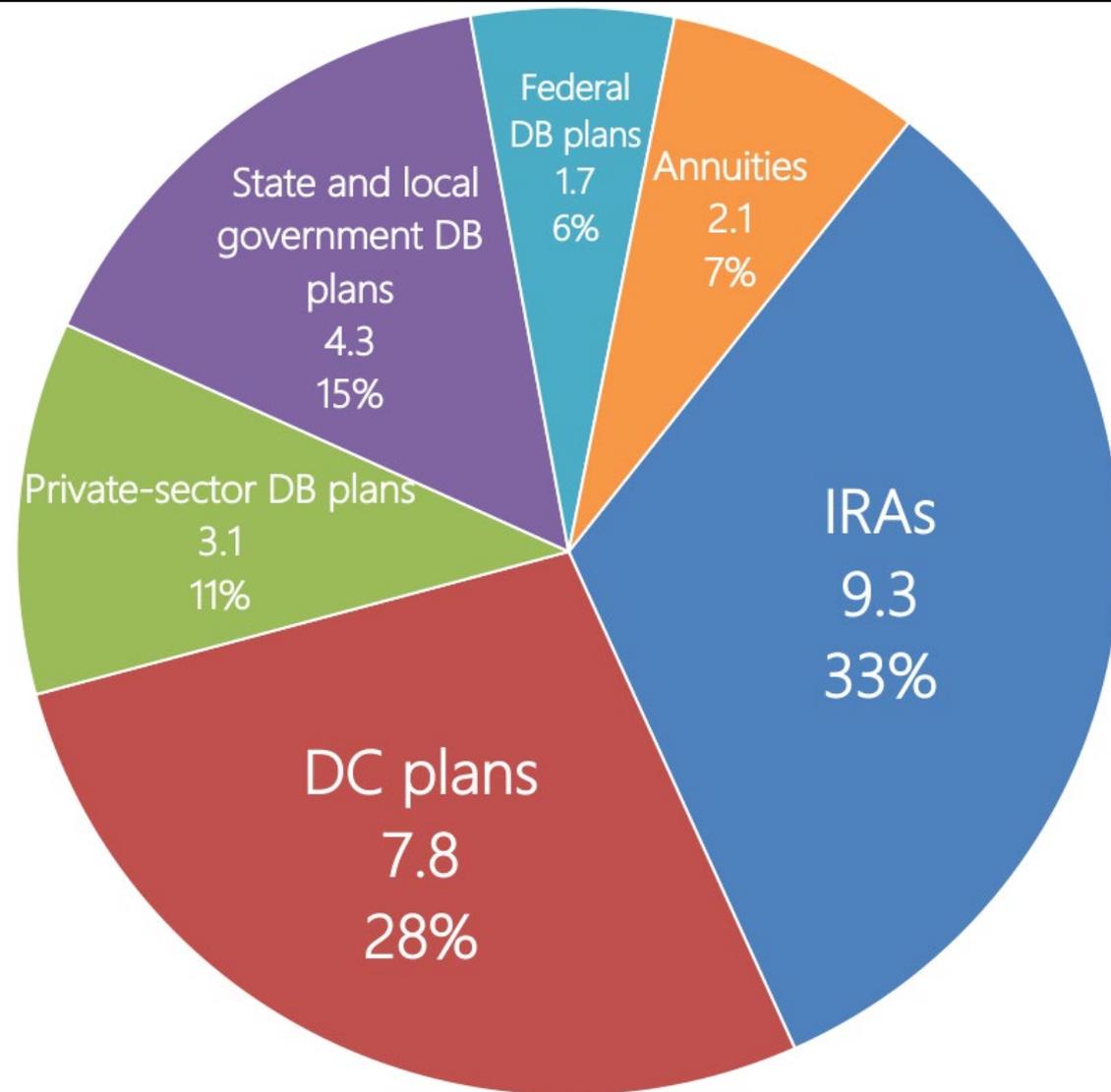
Outline

- ➔ • 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

U.S. Retirement Assets (Trillions of US\$, 2017 Q4)

Total assets: \$28.3t

- Defined Benefit: \$9.1t
- DC* + IRA: \$17.0t
- How do “retirement savings” differ from just plain savings?



[*] Including TSP

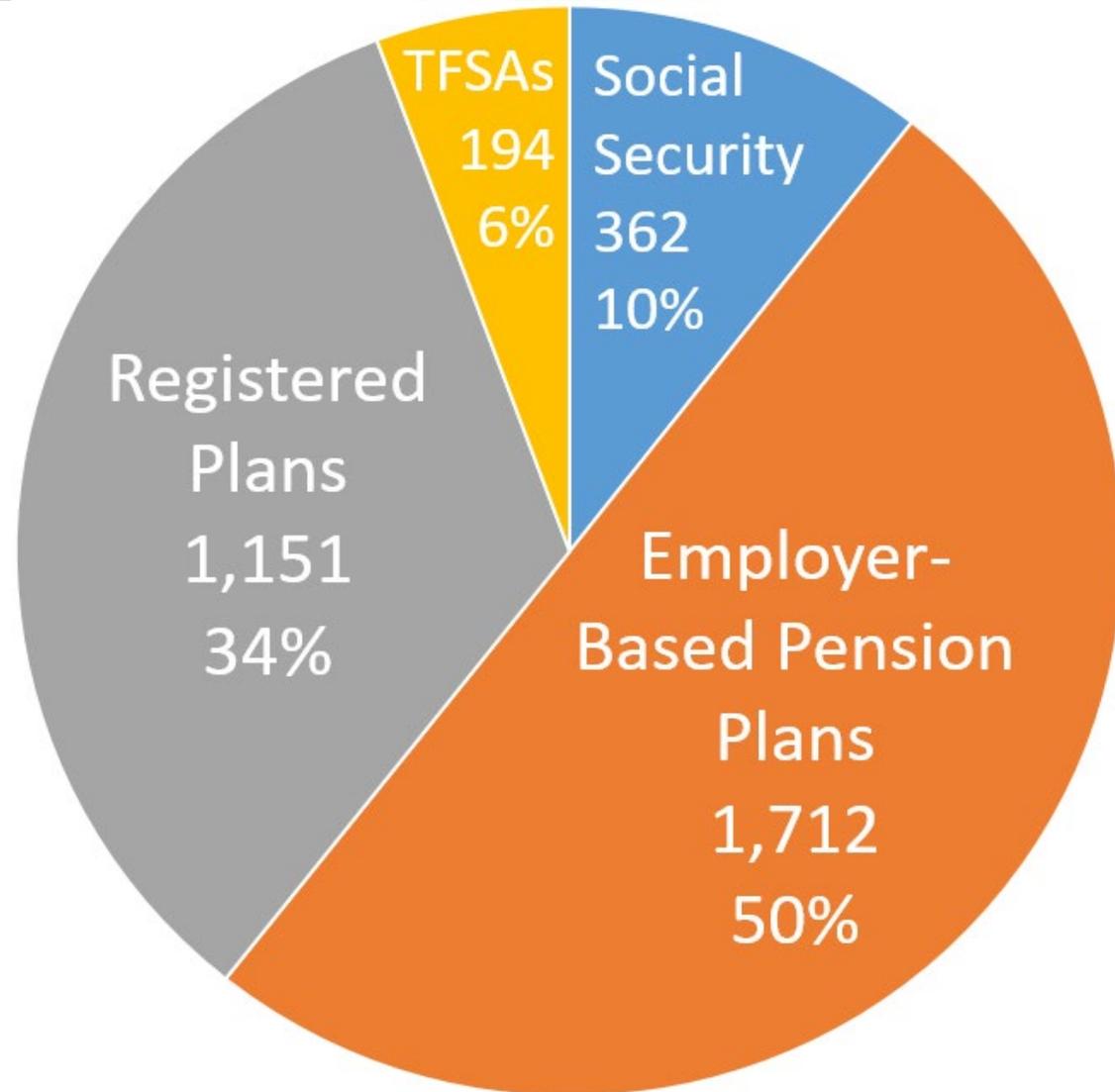
Data source: Investment Company Institute, *The U.S. Retirement Market*, 2nd Quarter 2018

<http://www.ici.org/research/stats/retirement>

Canada Tax-Favored Assets (Billions of CAD\$, 2016 Q4)

Total assets: \$3.42t

- Defined Benefit*: \$1.7t
- Defined contribution: \$1.3t



[*] Funded only
Data source: Statistics Canada

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

Account type	Tax status of...		
	Money earned and saved	Returns on savings	Money paid out to retiree
Standard taxable	T	T	E
Back-loaded taxation Canadian Registered Plans, US "Traditional" IRAs and DC plans, UK pensions, all DB plans	E	E	T
Front-loaded taxation Canadian TFSAs, US "Roth" IRAs and DC plans, UK ISAs	T	E	E

T: Taxable

E: Exempt



Consultation outcome

Strengthening the incentive to save: consultation on pensions tax relief

Published 8 July 2015

Last updated 16 March 2016 — [see all updates](#)

The
Economist

Pensions and tax

EET your TEE, George

Aug 5th 2015, 14:41 BY BUTTONWOOD

Buttonwood

No TEE, thank you

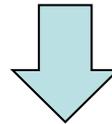
Governments should avoid arbitrary changes to the tax treatment of pensions

■ [Print edition](#) | [Finance and economics](#) >

Oct 10th 2015

InvestmentNews

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  18,875  89,010 

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).

Preview of findings

- 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 \$16b/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 likely too large; subsidy makes larger
 - Regardless, subsidy reduces social welfare in the model

* Under some important simplifying assumptions!

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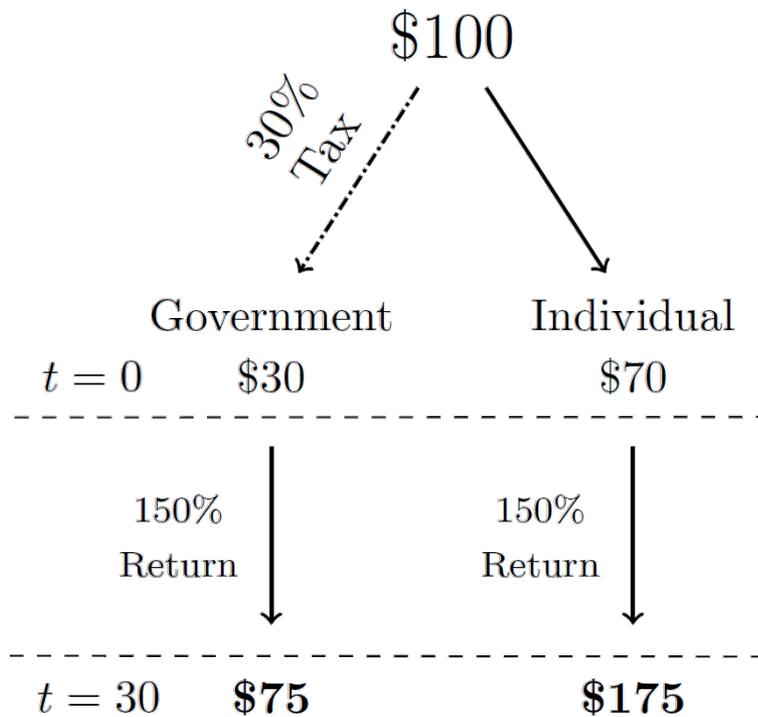
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Simple two-period example

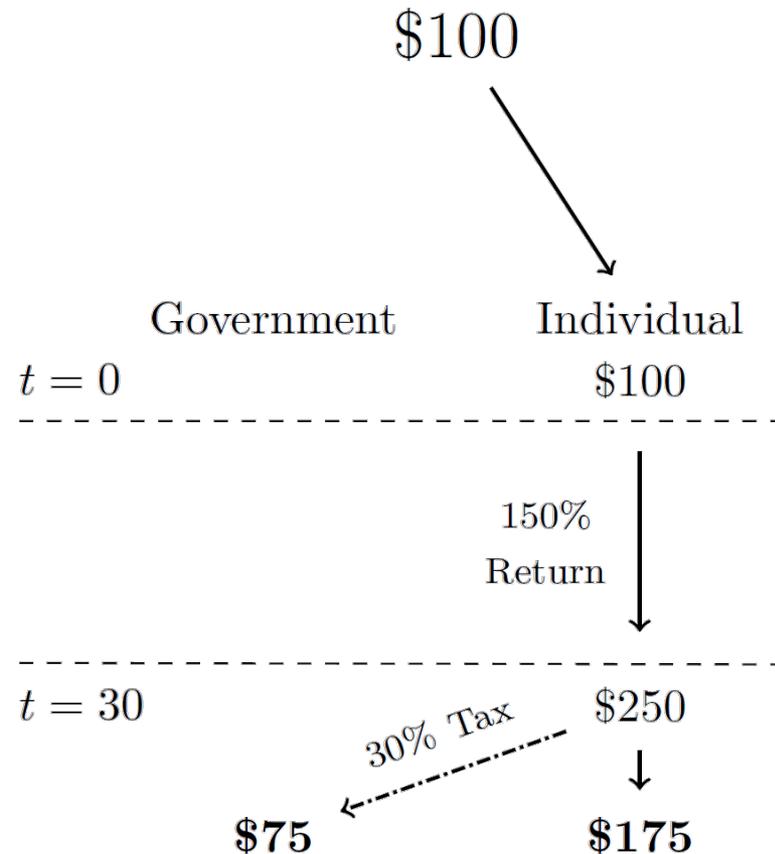
- Individual has **\$100** in pretax income to invest, must choose account (Roth vs Traditional)
- Assumptions
 - Ignore possible behavioral effects
 - Ignore contribution limits
 - Government bonds: only asset in the economy
 - **150%** return ($\approx 3.1\%$ per year for 30 years)
 - Flat, constant tax rate **30%**
- Case 1: no investment fees (benchmark neutrality)

Case 1: no investment fees (benchmark neutrality result)

Roth

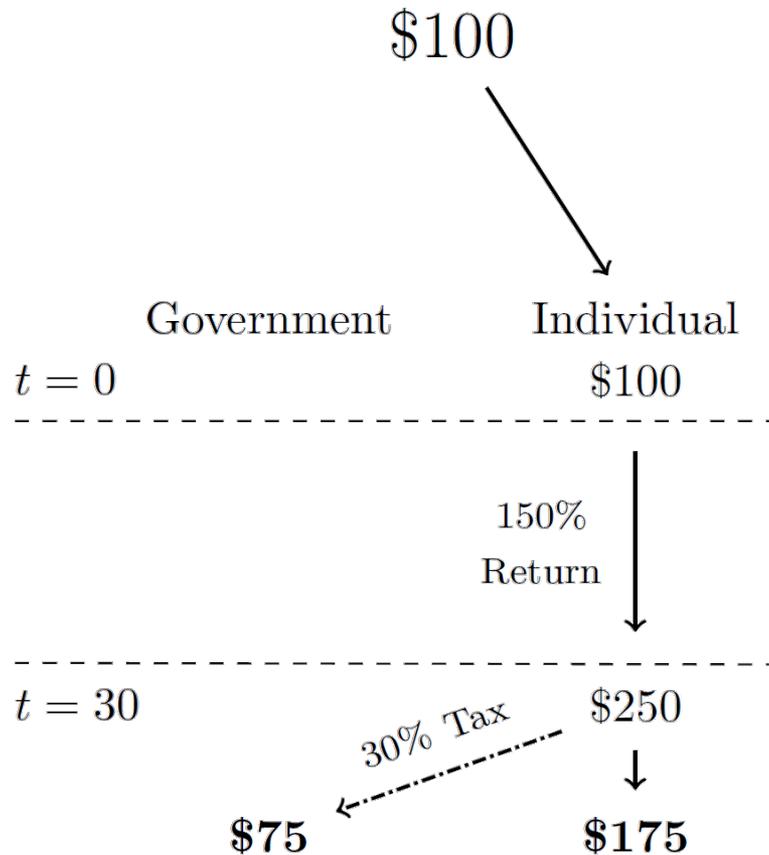


Traditional

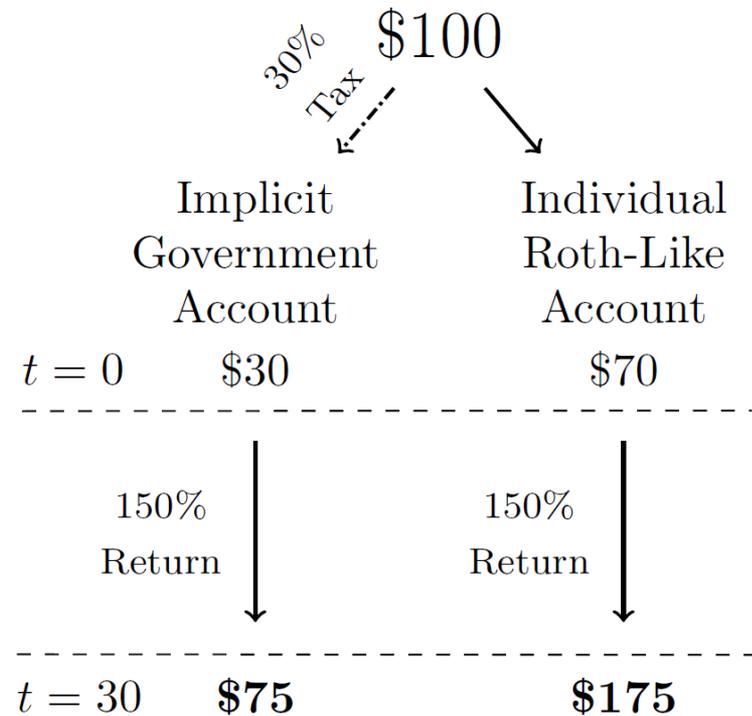


Case 1: no investment fees (benchmark neutrality result)

Traditional



Traditional (As If)

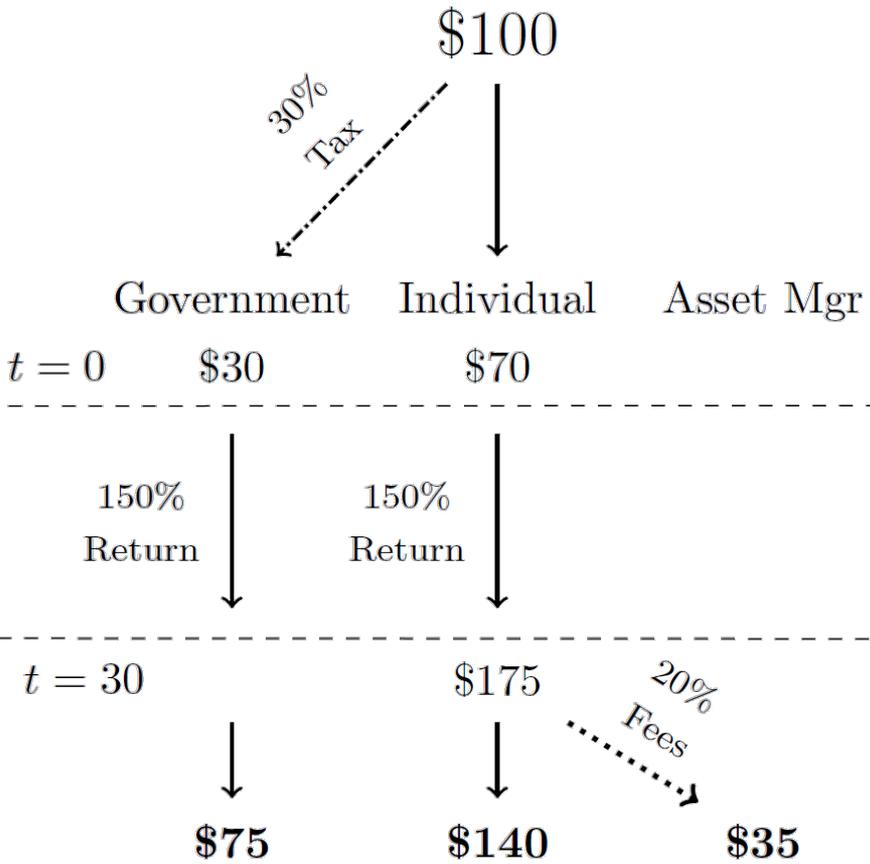


Our contribution: adding fees

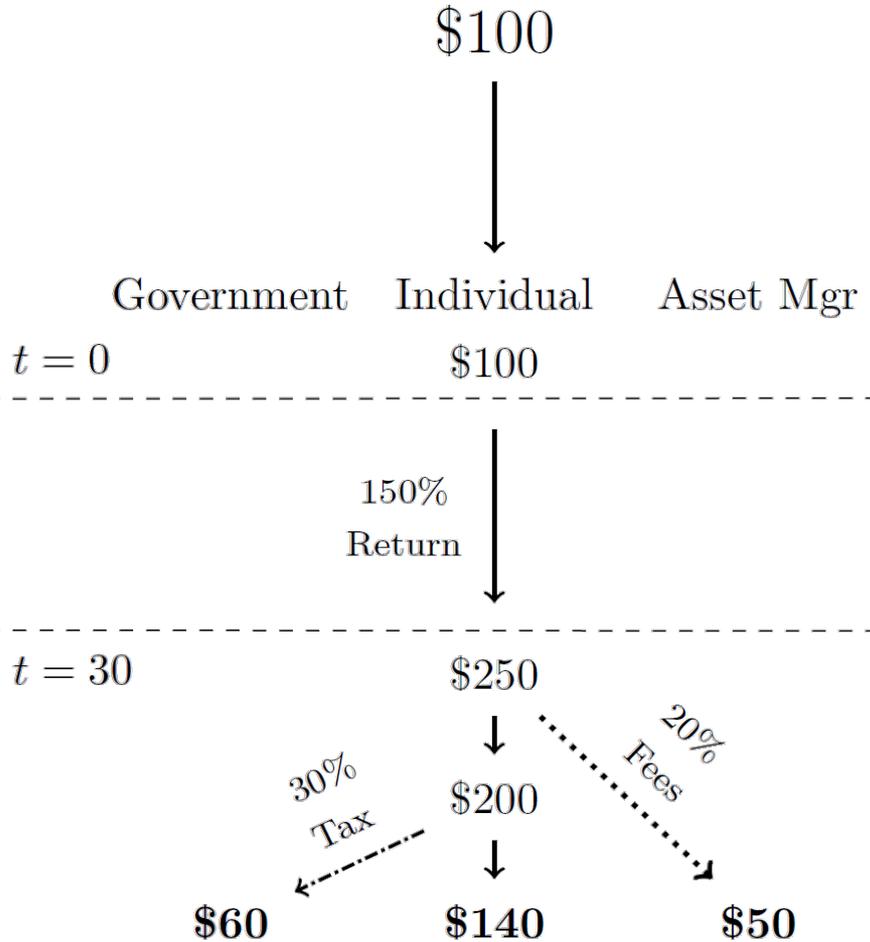
- Case 2: Assume fees of 20% ($\approx 0.66\%$ per year for 30 years).
- Partial equilibrium supply side assumptions
 - Fees are a fixed percent of AUM; Asset management industry is willing to supply investment management services at this fee
 - Industry has fixed number of firms

Simple example case 2: with investment fees

Roth

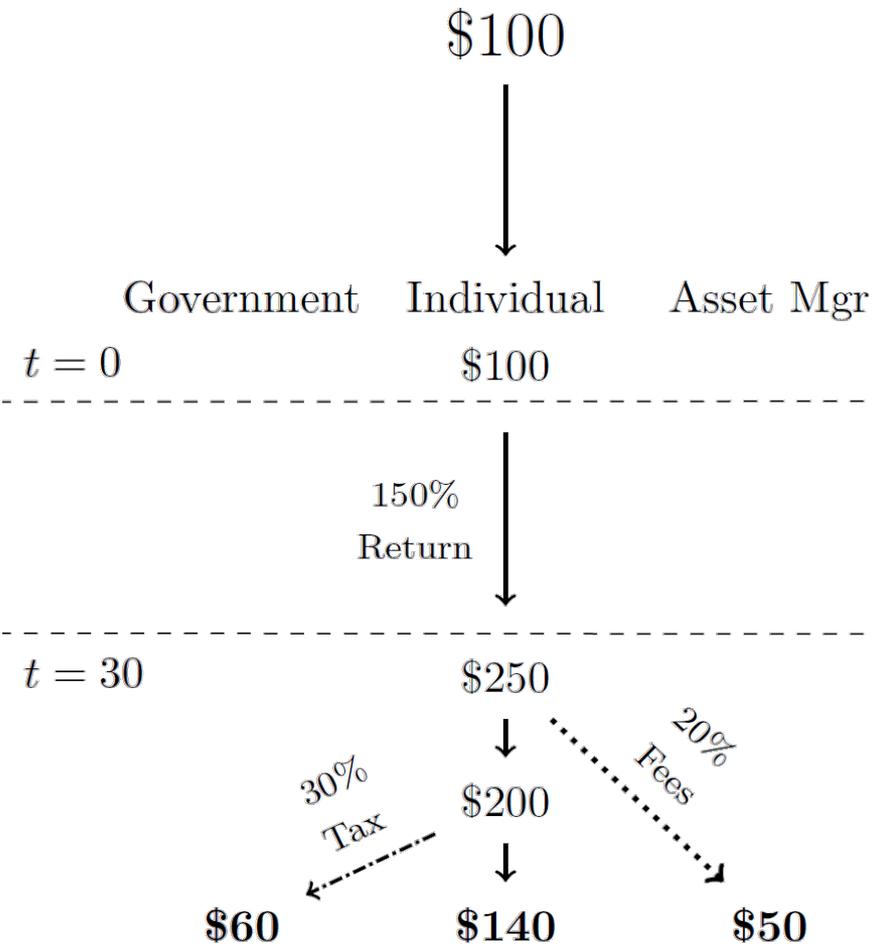


Traditional

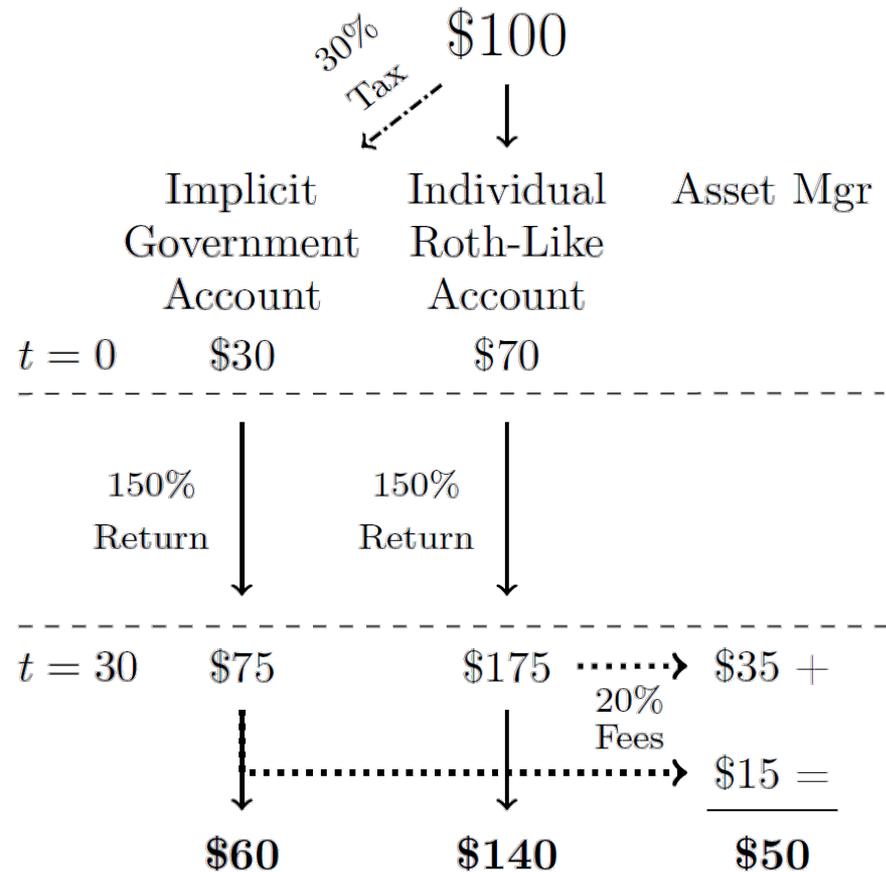


Case 2: with investment fees

Traditional



Traditional (As If)



Important disclaimer

“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.

Fees paid by 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

	DC Plans (employer sponsored)	IRA (individual accounts)
Asset-weighted average fees:	50 bps	At least 50 bps
Trading costs: commissions, bid/ask, market impact:	+ 17 bps	+ 16 bps
Total costs and fees:	67 bps	66 bps
Benefit (outperformance, portfolio management):	0 bps	
Net total:	66 bps	

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) $S = \$15.4$ trillion
 - Tax rates $\tau_R = 20\%, \tau_C = 21\%$
 - Fees $f = 66$ bps
- Value of implicit govt. account = $S \cdot \tau_R =$ **\$3.1 trillion**
 - About 2/3 or **\$2 trillion in stocks**
- Annual subsidy = $S \cdot \tau_R \cdot f \cdot (1 - \tau_R) =$ **\$16.1 billion**
- Future subsidy depends on future growth in AUM
(contributions relative to withdrawals)

By comparison



With \$17.7b/year,
NASA will take us
to Mars by 2030.

Subsidy for selected other countries (U.S. dollars)

Country	Assets		Govt Acct Size				Subsidy	
	\$b	% Deferred	τ_R	\$b	Fees	τ_C	\$b	% GDP
 United States	16,464	94%	20%	3,084	0.66%	21%	16.1	0.09%
 Canada	1,003	95%	15%	129	2.06%	15%	2.3	0.15%
 United Kingdom	950	32%	20%	60	1.45%	20%	0.7	0.03%
 Netherlands	108	100%	39%	41	1.41%	25%	0.4	0.06%
 Switzerland	945	100%	4.0%	38	1.29%	18%	0.4	0.06%
 Australia	1,797	55%	3.4%	34	1.10%	30%	0.3	0.02%
 Japan	112	100%	2.6%	3	1.47%	30%	0.0	0.00%
 Korea	76	100%	20%	15	1.00%	22%	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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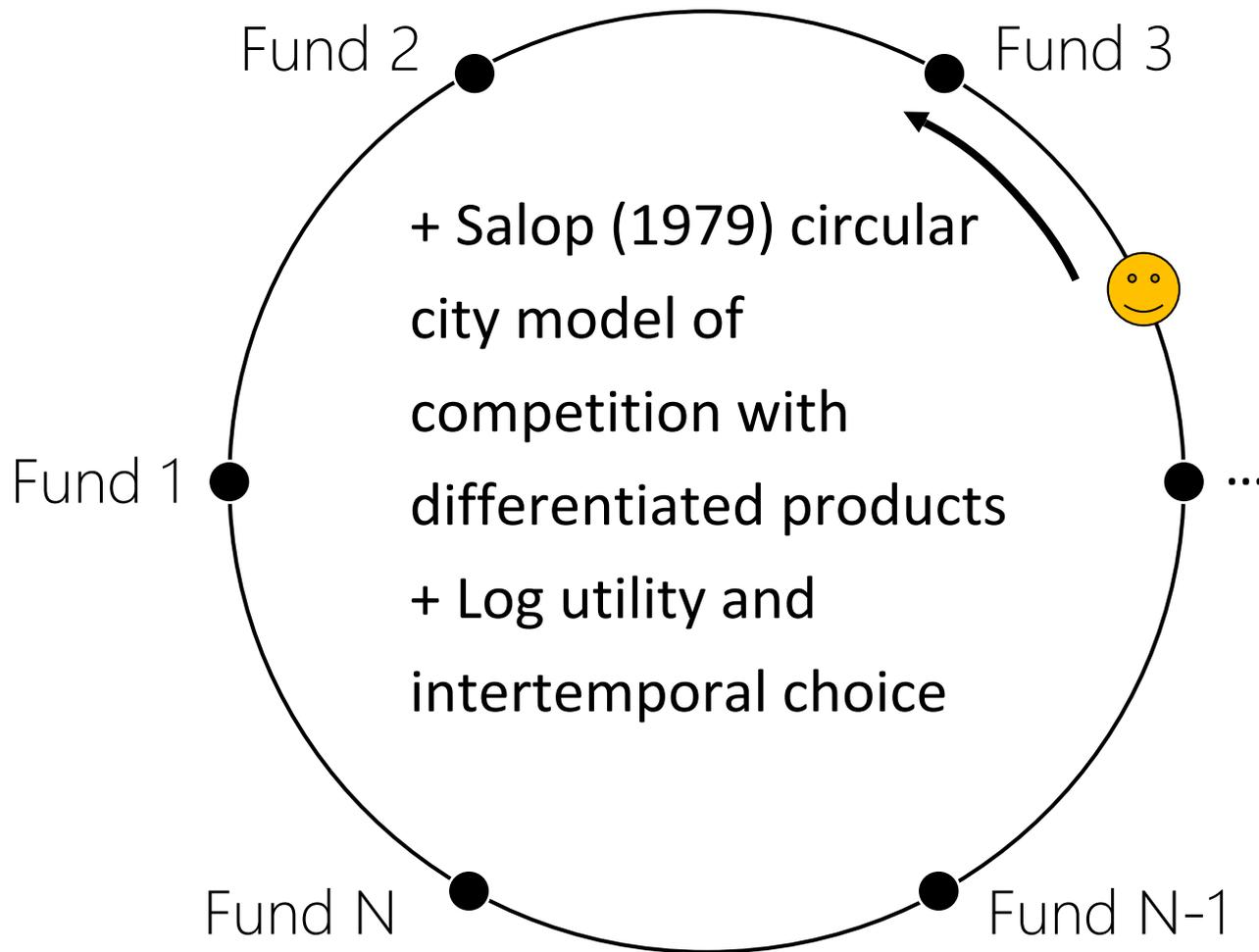
General equilibrium questions

- Thought experiment: upon a switch from Roth to Traditional...
- 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** → every fund adds to social welfare.

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.

Results: comparison between Roth and Traditional

As in fixed-supply model:

- Same current consumption, same percent fees
- Traditional has higher AUM, higher dollar fees

Additional GE results:

- Traditional has higher number of firms, employment in finance
- Traditional has lower retirement consumption due to binding government budget

Traditional reduces social welfare:

- **Either** Roth has too many firms, and Traditional more
- **Or** Traditional increases number of firms at expense of retirement consumption, which is already too low

The nature of costs and competition

Nature of production costs	Nature of competition		
	Perfect competition	Imperfect competition, free entry	Imperfect competition, no entry
Per-dollar	R	R	R, T
Per-firm	R or T	R (our model)	T
Per-participant	✓	T or ✓	T

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?
- Should government switch to an EEE system?
 - The presenting author takes full responsibility for this proposal

Roth vs Traditional: Other considerations

- We highlight one important factor: fees. Other factors are worth considering:
- Progressive taxation
 - Firefighter vs. librarian
 - Insurance value
- 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 \$16.1b in implicit investment management fees every year
 - Subsidy to asset managers
- Use of Traditional system 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.

END

Additional results

- What if government taxes asset managers at rate τ_C ?
 - It recovers at most a fraction τ_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)