I Can See Clearly Now: The Impact of Disclosure Requirements on 401(k) Fees

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Research Question

- Do fee disclosures affect the level and structure of compensation of financial intermediaries?

- Of particular interest in this context are indirect compensation arrangements:
  - Consumers pay for advisory services indirectly through contingent commissions or rebates that are paid to intermediaries by financial service providers
  - Indirect compensation arrangements can lead to conflicts of interests
  - Indirect compensation can be used as a form of price discrimination by financial intermediaries

Price Discrimination & Indirect Fees

- Theoretical work
  - Price complexity: Carlin (2009)
  - Information shrouding and product add-ons: Gabaix & Laibson (2006)
  - Indirect fees paid to financial advisors: Inderst & Ottaviani (2012 a&b)

- Indirect compensation and price discrimination can persist if a portion of consumers behaves myopically or naively
  - Fee information is not disclosed or is "shrouded"
  - Behavioral biases

More transparent disclosures should lead to less price discrimination

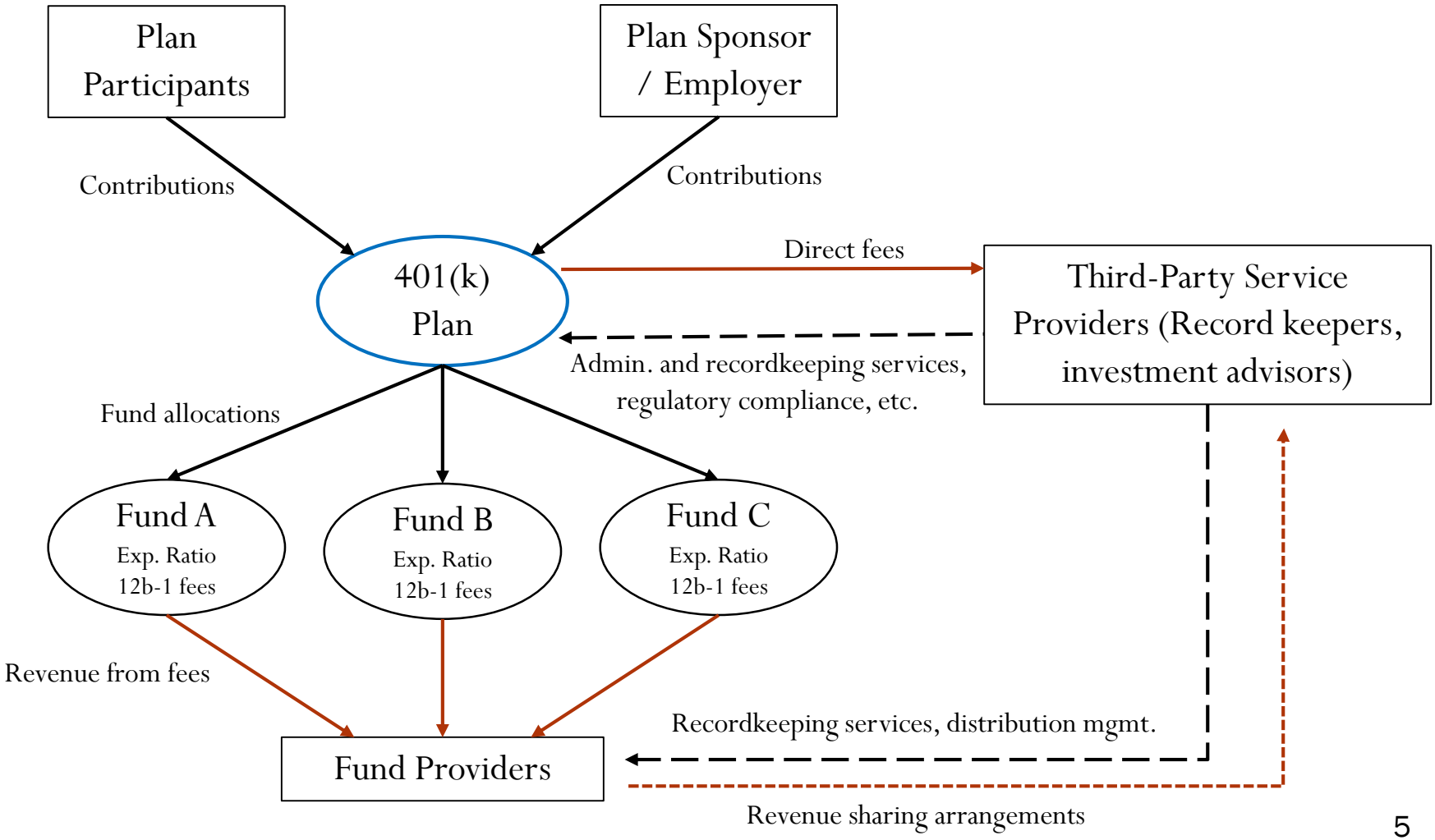
Empirical Strategy

- We examine the effect of mandated disclosure requirements, imposed by the Department of Labor (DOL) in 2012, on the compensation paid to 401(k) plan service providers†
  - Rules specifically intended to increase the transparency of indirect compensation arrangements

- 401(k) plans provide an attractive setting for this:
  - Service providers to 401(k) plans can be compensated through direct or indirect compensation
  - Indirect compensation, in the form of revenue sharing arrangements, are very common
  - Prior to 2012 there were existing disclosure rules for both direct and indirect compensation, but they were not deemed to be particularly effective
  - Crucially, we have compensation data before ***and*** after the 2012 disclosure requirements came into effect
  - We propose to use plan size as a proxy for plan sponsor sophistication

† DOL rules 408(b)(2) and 404(a)(5)

Background on 401(k) Plans



Hypotheses

H1: If the proportion of plan sponsors that are sophisticated is increasing in plan size, then prior to 2012, large plans will pay a lower portion of compensation in the form of indirect fees than smaller plans.

H2: If the new disclosures increase the transparency and prominence of indirect fees for naïve sponsors, then there will be a shift away from indirect towards direct compensation after 2012 and the shift will be greater for smaller plans than for larger plans.

H3: If indirect fees facilitate price discrimination, then after 2012 the average decline in total compensation paid will be greater for small plans than for large plans.

H4: If more transparent disclosure of indirect fees leads to a substitution of direct for indirect fees, then plan sponsors' demand for mutual fund retirement share classes with lower 12b-1 fees will increase after 2012.

Data Sources

- To test H1-H3 we rely on annual Form 5500 filings by 401(k) plans with the DOL from 2010 through 2014
  - Includes service provider compensation (direct & indirect) on Schedule C
  - Includes financial information on Schedule H
- To test H4 we use the CRSP Mutual Fund database
  - Allows us to look at monthly mutual fund share class initiations and flows
  - Allows a longer sample period to conduct placebo tests
- To test H4 we also use data on plan investment options for a hand-collected sample of 400 plans from 2010 through 2014
  - Allows us to test how plan sponsors change the menu of investment options offered

401(k) Summary Statistics

	Full Sample			Size Q1			Size Q2			Size Q3			Size Q4		
	Pre	Post		Pre	Post		Pre	Post		Pre	Post		Pre	Post	
Plan Characteristics															
Avg. Assets (in $mn)	49.73	67.31	***	1.63	2.61	***	4.60	6.86	***	10.66	15.47	***	175.79	243.17	***
Mutual Funds (in %)	60.73	64.78	***	55.08	58.73	***	59.78	64.41	***	64.27	68.87	***	63.35	66.96	***
Compensation Paid															
Direct Comp. to Assets (in %)	0.22	0.22		0.36	0.34	***	0.25	0.24	***	0.17	0.18	**	0.11	0.12	***
Indirect Comp. to Assets (in %)	0.09	0.06	***	0.13	0.09	***	0.11	0.07	***	0.09	0.05	***	0.04	0.02	***
Total Comp. to Assets (in %)	0.31	0.28	***	0.49	0.43	***	0.36	0.31	***	0.26	0.23	***	0.15	0.14	***
Ind. to Total Comp. (in %) (1)	17.38	15.04	***	20.32	15.96	***	18.99	16.25	***	18.54	17.26	***	12.36	10.86	***
No. Plan Years	70553	73763		16748	18119		17546	18473		18006	18658		18253	18513	
No. Plans	39519	39519		9880	9880		9880	9880		9880	9880		9879	9879	

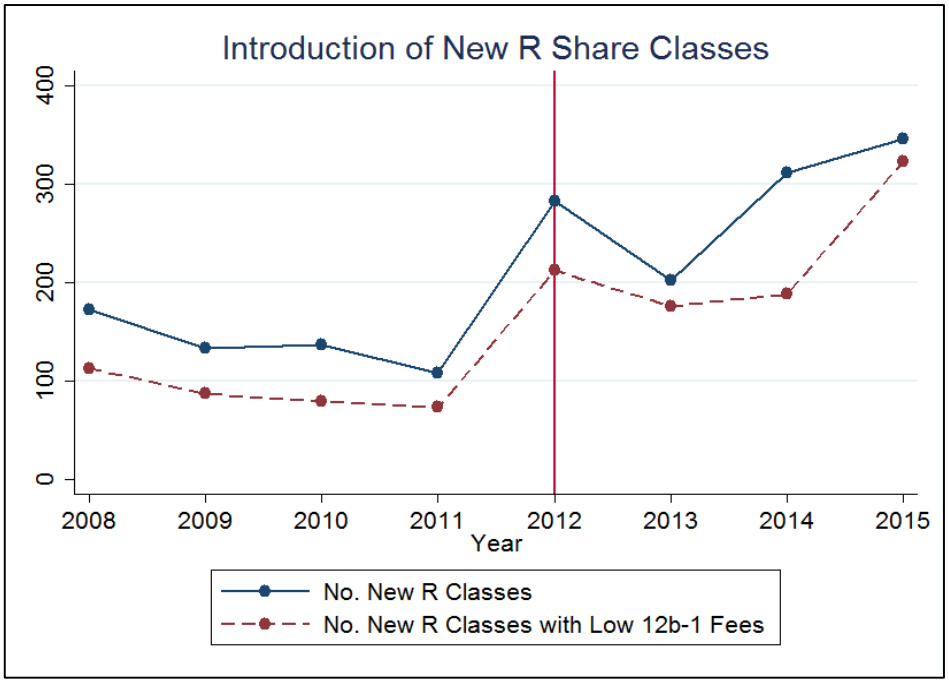
The sample is split into pre-2012 size quartiles. Each column reports the mean values of the corresponding variables. *, **, *** denote that the difference between the pre and post period is significantly different from zero at the 1%, 5%, and 10% level, respectively .

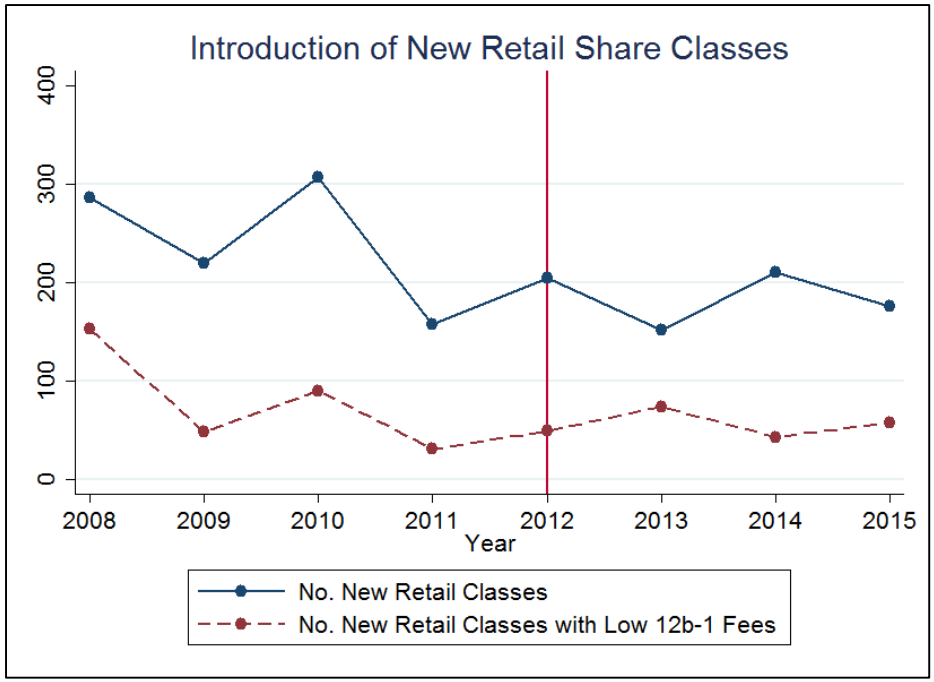
Changes in Compensation

	(1) Full Sample	(2) Full Sample	(3) Size Q1	(4) Size Q2	(5) Size Q3	(6) Size Q4
Panel A: OLS model where dependent variable is indirect compensation to total assets (in %)						
Post 2012	-0.033***	-0.026***	-0.050***	-0.043***	-0.029***	-0.016***
	(15.96)	(12.00)	(9.99)	(9.53)	(6.31)	(6.74)
Post 2012 x Small Plan		-0.019***				
		(6.92)				
Plan Controls and FEs	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: OLS model where dependent variable is direct compensation to total assets (in %)						
Post 2012	0.011***	0.017***	-0.000	0.011**	0.015***	0.012***
	(4.77)	(7.62)	(0.01)	(2.38)	(4.24)	(4.79)
Post 2012 x Small Plan		-0.016***				
		(6.07)				
Plan Controls and FEs	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: OLS model where dependent variable is total compensation to total assets (in %)						
Post 2012	-0.022***	-0.008***	-0.051***	-0.031***	-0.013**	-0.003
	(7.19)	(2.61)	(6.56)	(4.82)	(2.37)	(1.01)
Post 2012 x Small Plan		-0.035***				
		(9.63)				
Plan Controls and FEs	Yes	Yes	Yes	Yes	Yes	Yes

Absolute values of *t*-statistics in parentheses; Standard errors clustered by plan. *, **, *** denote significance at 10%, 5%, 1%, respectively.

Demand for Mutual Funds





Mutual Fund Flows

OLS models of monthly mutual fund flows (in %) – Sample period 2010-2014 (excl. 2012)

	(1)	(2)	(3)	(4)
	High 12b-1 Fee		Continuous 12b-1 Fee	
Post	-0.164**	-0.543***	-0.236***	-0.725***
	(2.11)	(5.82)	(3.31)	(10.09)
Fee	-0.349***	-0.290**	-1.386***	-1.178***
	(4.25)	(2.50)	(14.20)	(13.43)
R Class	1.329***	2.287***	0.867***	1.913***
	(7.94)	(11.31)	(5.68)	(11.54)
Post x Fee	0.305***	-0.019	0.607***	0.328***
	(3.06)	(0.18)	(4.90)	(3.07)
Post x R Class	-0.116	0.000	-0.135	0.027
	(0.56)	(0.00)	(0.71)	(0.13)
Fee x R Class	0.148	0.174	1.169***	0.790**
	(0.74)	(0.78)	(3.37)	(2.26)
Post x Fee x R Class	-1.235***	-1.113***	-2.204***	-2.191***
	(4.97)	(4.02)	(5.16)	(4.55)
Lag Return	0.106***	0.078***	0.106***	0.077***
	(24.78)	(18.80)	(24.65)	(18.69)
Obj. Code FEs	Yes	No	Yes	No
Fund FEs	No	Yes	No	Yes
Adj. R^2	0.01	0.06	0.01	0.06
N	763618	517189	763618	517189

Absolute values of *t*-statistics in parentheses; Standard errors clustered by fund share class. *, **, *** denote significance at 10%, 5%, 1%, respectively.

Changes in Plan Investment Options

OLS models where the dependent variable is the 12b-1 fee (in %) of the mutual fund. The sample is a panel dataset of the annual mutual fund holdings for 400 random plans between 2011 and 2014.

	(1) Full Sample	(2) Full Sample	(3) Size Q1	(4) Size Q2	(5) Size Q3	(6) Size Q4
New Fund	-0.035***	-0.061***	-0.008	-0.008	-0.052***	-0.069***
	(4.13)	(4.99)	(0.55)	(0.51)	(4.18)	(3.93)
New Fund x Post	-0.021*	0.008	-0.055**	-0.048**	-0.022	0.040
	(1.71)	(0.45)	(2.19)	(2.55)	(1.06)	(1.55)
New Fund x Small Plan x Post		-0.062**				
		(2.57)				
Small Plan x Post		0.013*				
		(1.84)				
New Fund x Small Plan		0.054***				
		(3.27)				
Small Plan		-0.010				
		(0.66)				
Post	-0.027***	-0.031***	-0.020***	-0.033***	-0.029***	-0.029**
	(5.60)	(4.50)	(2.67)	(3.91)	(4.07)	(2.40)
Plan Controls	Yes	Yes	Yes	Yes	Yes	Yes
Size Quartile FEs	Yes	No	No	No	No	No
Obj. Code FEs	Yes	Yes	Yes	Yes	Yes	Yes
N	33522	33522	7500	8193	9132	8697
Adj. R^2	0.18	0.18	0.17	0.20	0.20	0.13

Absolute values of *t*-statistics in parentheses. *, **, *** denote significance at 10%, 5%, 1%, respectively.

Conclusion

- Using a "quasi-natural experiment" we examine the effect of fee disclosure requirements on the compensation structure of service providers to 401(k) retirement plans

- Overall our findings suggest that increased fee disclosures reduced price complexity and lowered costs for less sophisticated plans:
  - Increased disclosures are associated with a substitution of indirect compensation for direct compensation and a reduction in total compensation, especially among smaller plans
  - Mutual fund providers responded to the disclosure requirements by offering share classes with lower 12-1 fees
  - Sponsors of smaller plans responded to the changes in fee disclosures by adding mutual funds with lower fees on to plan menus