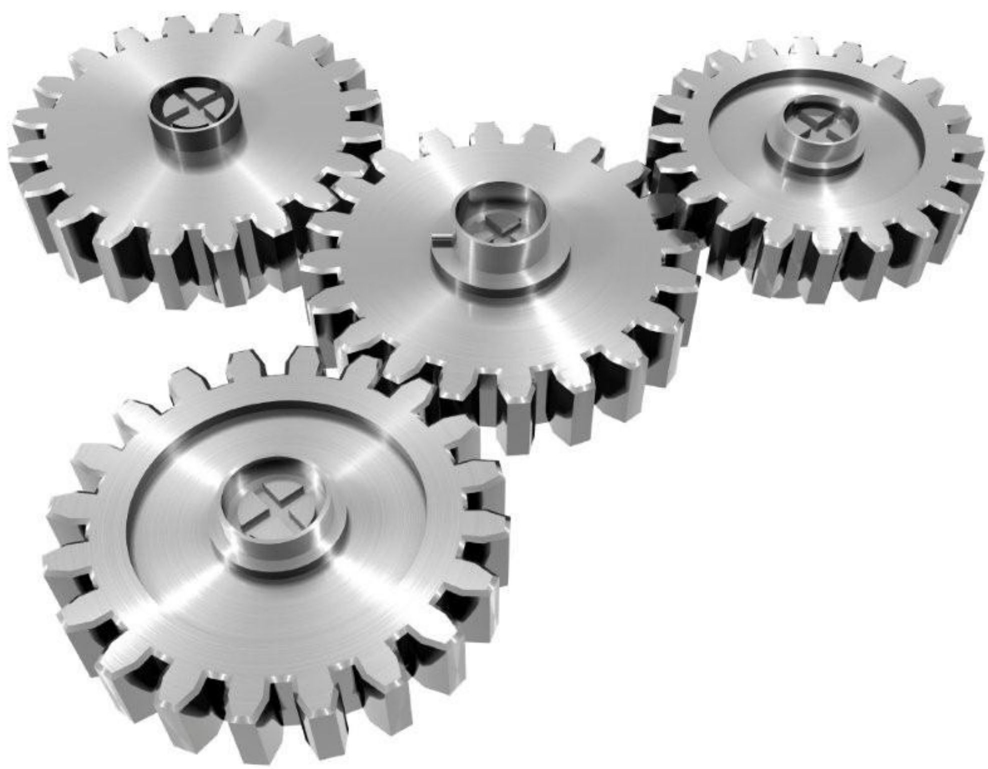
Appendix: Regression Analysis for the Deloitte/ICI Defined Contribution/401(k) Fee Study



Conducted by Deloitte for the
Investment Company Institute
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Table of Contents

Background	3
Approach	4
Report Disclosure	5
Data and Regression Analysis	6
• Regression Analysis	6
– Final Specification of the Regression Results	7

The full report is available at www.ici.org/pdf/rpt_09_dc_401k_fee_study.pdf

Background

As part of an ongoing comprehensive research program, the Investment Company Institute (ICI) engaged Deloitte to conduct a Survey of defined contribution plan sponsors and created a report (*Defined Contribution/401(k) Fee Study*) to shed light on how fee structures work within the defined contribution plan market. Specifically, the research addressed:

- The mechanics of plan fee structures;
- Components of plan fees; and
- Primary and secondary factors that impact fees ("fee drivers").

This appendix supplements the report findings by publishing the underlying regression analysis.

Approach

To accomplish the objectives of the Study, Deloitte and ICI supplemented their collective industry experience with a confidential, no-cost, web-based Survey conducted by Deloitte in late 2008. The purpose of the Survey was to collect market data to explore and understand how fees work within the defined contribution plan market.

In total,

- 130 plans participated in the Survey providing detailed information regarding plan characteristics, design, demographics, products, services and their associated fees.
- Over 1,000 data elements were gathered from each plan, covering plan design, investment options and plan, participant and investment fee information.
- Subsequent to the completion of the web-based Survey, Deloitte assessed the information for completeness and apparent accuracy.
- In addition, Deloitte conducted post-Survey conversations with the majority of plan sponsors to clarify responses.
- Six retirement service providers were also interviewed to gain an institutional perspective on the results. Comments and feedback received from these retirement service providers were considered and addressed throughout this report. However, a formal survey of retirement service providers was not conducted as part of the Survey.
- In some instances, results of the Survey were compared to other 401(k) industry studies to assess findings and interpret results.

Report Disclosure

While the Survey is not intended to be a statistical representation of the defined contribution / 401(k) marketplace, the demographics of the plans participating in the Survey appear to be similar to the broader defined contribution plan market (e.g., average account balance, number of investment options, average participant contribution rate, asset allocation, plan design). Although Deloitte and ICI believe the Survey results are representative, they cannot be projected to the entire population of U.S. 401(k) plans.[1]

The Survey results were prepared utilizing primary data obtained from sources deemed to be reliable, including individuals at the participating plan sponsor and retirement service provider organizations. It is important to note that some plan sponsors did not respond to every question. Deloitte and ICI make no representation or warranty regarding the accuracy of data provided.

In several instances, the report includes observations and interpretations of the Survey results based on the collective research and marketplace experience of both Deloitte and ICI.

The Survey report is designed to maintain plan respondent confidentiality. Participating plan sponsor and provider data will not be disclosed or used in any way outside of this Study.

The Survey does not evaluate quality or value of services provided – both of which can impact fees. Quality of service varies with respect to the range of planning and guidance tools available to the plan sponsor and participants; educational materials; employee meetings; and other components of customer service. Qualitative differences in services may affect fees but are not easily quantified and are not addressed in this report.

The Investment Company Institute (ICI) is the national association of U.S. investment companies. Please see www.ici.org for more information on ICI.

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The report was originally posted in April 2009, however, correction of two minor errors on pages 24 and 30 resulted in re-posting in June 2009.

[1] Department of Labor Form 5500 data for plan-year 2006 indicate that the micro plan segment (plans with less than $1 million in assets) represent 62% of all 401(k) plans, 4% of all 401(k) plan assets, and 10% of active 401(k) plan participants. The small plan segment (plans with $1 million to less than $10 million in assets) account for 30% of plans, 14% of assets, and 20% of active participants. Mid-sized plans (those with $10 million to less than $100 million in assets) are 4% of plans, 16% of assets, and 23% of active participants. Larger plans (those with $100 million or more in assets) were only 1% of plans, but included 66% of all 401(k) plan assets, and 46% of all active 401(k) participants. (Form 5500 data indicate 3% of plans covering 0.4% of active participants did not report assets.) See U. S. Department of Labor, Employee Benefits Security Administration, *Private Pension Plan Bulletin: Abstract of 2006 Form 5500 Annual Reports* (Dec. 2008), available at www.dol.gov/ebsa/PDF/2006pensionplanbulletin.PDF.

Data and Regression Analysis

First, Deloitte defined the 'all-in' fee which included all recordkeeping, administration and investment related fees for each plan. The 'all-in' fee did not include participant activity-related fees that only apply to particular participants engaged in the activity (e.g., loan fees). The 'all-in' fee was calculated for each plan in the survey by summing all recordkeeping, administration and investment fees to arrive at a total dollar amount. This amount was then divided by the total plan assets to arrive at the 'all-in' fee as a percentage of plan assets. Deloitte also divided each plan's total dollar fee amount by total participants in the plan to arrive at the 'all-in' fee as an annual plan-level dollar per participant amount.

Using the 'all-in' fee as the dependent variable, Deloitte ran cross-tabulations on each of the plan related, service provider related and plan design independent variables across the 130 plans in the Survey to identify macro level fee drivers. (See Exhibit A1 for the variables considered.) Each of the 130 plans was grouped in asset size segments and cross-tabulation analysis was conducted to identify secondary drivers or those factors that appear to be related with lower or higher fees in plans of similar size. To further identify potential drivers of fees, Deloitte calculated the correlation of all independent variables with the dependent variable, the 'all-in' fee. As part of this process, each of the identified fee drivers was assessed against conventional business practices in an effort to identify anomalies with the analysis results.

Variables Analyzed as Possible Fee Drivers

Variable name	Type of variable
Dependent variable	
'All-in' fee as a percentage of assets	Continuous
Plan related	
Plan asset size	Continuous or dummy
Number of plan participants	Continuous; LN(number)
Average participant account balance	Continuous; LN(average)
Plan sponsor industry	Dummy
Plan sponsor location (region)	Dummy
Number of locations	Continuous; integer
Number of payrolls	Continuous; integer
Participant contribution rate	Continuous; employees' actual previous year total contributions as a percentage of total earnings
Investment allocation (share in equities)	Continuous; percentage of plan assets invested in equities
Company stock	Dummy (whether offered or not)
Service provider related	
Years with current provider	Continuous; integer
Provider industry type	Dummy
Provider size	Dummy (tiers based on number of participants on provider platform)
Provider relationship (DB or H&W plan)	Dummy; if had either defined benefit or health & welfare plan with retirement service provider, then = 1 (if not, = 0)
Plan design related	
Employer contribution	Continuous; employer effective match (match rate X match level) as a percentage of earnings
Number of investment vehicles	Continuous; integer
Investment vehicles	Dummy
Proprietary/non-proprietary investments	Dummy
Auto-enrollment	Dummy; if auto-enrollment, then = 1 (if not, = 0)
Auto-increase	Dummy

Variable found significant and used in the final regression analysis (see Exhibit A2).

Exhibit A1

Regression analysis was used to validate drivers identified in the cross-tabulation analysis and to identify other variables that were significant but not already identified through the cross-tabulation step. The independent variables were transformed and charted against the 'all-in' fee as a percentage of assets along with computing the correlations with the dependent variable. Using stepwise regression, all independent variables were contemplated to estimate various models. Results of the regression analysis were used to validate and reinforce the independent variables previously identified as primary or secondary drivers of the 'all-in' fee.

Final Specification of the Regression Results

The goal of the final regression specification was to quantify the marginal impact of the variables determined to be significant fee drivers. To that end, one plan observation that was clearly an outlier (although included in all other analyses) was dropped from the final regression to prevent that one observation from exerting undue influence on the final regression results. As mentioned in the report, at first, plan size measured as dollar amount of assets in the plans was considered. However, further analysis found that a core specification that allowed average account balances and number of participants (both in logs) to affect fees as a percentage of assets differentially increased the regression's explanatory power (raising the R-squared).[2]

Finally, as reported in Figure A2, the secondary drivers were included with the following results:

- The participant contribution rate comes in marginally with a coefficient of negative 0.015. On average, the 'all-in' fee as a percentage of assets falls by 1.5 basis points when the participant contribution rate rises by one percentage point.
- The share of plan assets held in equity investments has a coefficient of 0.39 (and is significant at the 5% level). On average, the 'all-in' fee as a percentage of assets rises by 3.9 basis points when the equity share of plan assets rises by 10 percentage points.
- The defined benefit (DB) or health and welfare (H&W) plan dummy has a coefficient of negative 0.14; having a DB or H&W plan relationship lowers the 'all-in' fee by 14 basis points.
- The employer contribution rate comes in (marginally) with a coefficient of negative 0.012; increasing the employer contribution by 1 percentage point reduces the all-in fee by 1.2 basis points.
- The auto-enrollment dummy has a coefficient of negative 0.14; plans with that feature have an 'all-in' fee that is 14 basis points lower.

OLS Regression Analysis of Possible Drivers of Fees

Dependent variable = 'all-in' fee as a percentage of plan assets

Variable	Coefficient	Standard error		Mean
Constant/Intercept	4.482247	0.434365	**	
Plan related				
LN(number of plan participants)	-0.123344	0.013670	**	7.396501
LN(average participant account balance)	-0.249579	0.042779	**	10.667450
Participant contribution rate (percentage of salary)	-0.015130	0.012711	m	6.431465
Investment allocation (share in equities)	0.394254	0.191266	*	0.456730
Service provider related				
Provider relationship (DB or H&W plan)	-0.144841	0.082287	+	0.162791
Plan design related				
Employer contribution (percentage of salary)	-0.012166	0.009273	m	3.282171
Auto-enrollment	-0.142209	0.061408	*	0.449612
R-squared	0.6269			
Adjusted R-squared	0.6053			
Number of observations	129 plans			

Notes: m = marginally significant (between the 10% and 25% level); + significant at the 10% level; * significant at the 5% level; ** significant at the 1% level

Exhibit A2

[2] In the report. Exhibit 3 plots the impact of average account balance and number of plan participants on the 'all-in' fee for a variety of combinations of average account balance and number of plan participants.

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Deloitte refers to one or more of Deloitte Touche Tohmatsu, a Swiss Verein, and its network of member firms, each of which is a legally separate and independent entity. Please see www.deloitte.com/about for a detailed description of the legal structure of Deloitte Touche Tohmatsu and its member firms. Please see www.deloitte.com/us/about for a detailed description of the legal structure of Deloitte LLP and its subsidiaries.

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About the Investment Company Institute

The Investment Company Institute (ICI) is the national association of U.S. investment companies, including mutual funds, closed-end funds, exchange-traded funds (ETFs), and unit investment trusts (UITs). ICI seeks to encourage adherence to high ethical standards, promote public understanding, and otherwise advance the interests of funds, their shareholders, directors, and advisers. Members of ICI manage total assets of $10.18 trillion and serve over 93 million shareholders. For additional information about ICI and its research, please see www.ici.org.