Cost and return performance of 401(k) plans

DC/401(k) benchmarking database reveals some surprises

BY SANDY HALIM

Last year, Cost Effectiveness Measurement Inc. (CEM) created a defined-contribution/401(k) return and cost performance benchmarking database composed primarily of large plans. Some surprising findings included the following:

- 1997 return performance was generally poor. On average, participants in the database underperformed benchmarks by -0.7 percent.
- Total operating costs (management plus governance and administration costs) were on average 0.33 percent of plan assets, or $212 per member.
- Four factors explained over 55 percent of differences in total operating costs: total plan assets, percentage of assets invested in foreign stock, percentage of "hidden-/low-cost" assets, and proportion managed passively (i.e., indexed).
- Contrary to expectations, neither number of members nor whether plans used bundled or unbundled arrangements was a predictor of total costs. Both of these factors, however, were useful in predicting governance and administration costs.
- Paying more did not improve performance.

The CEM/401(k) database

Sixty defined-contribution/401(k) plans participated in CEM's inaugural 1997 DC/

401(k) database. Participating plans' assets aggregated to $149 billion, representing 2.3 million members. The median sponsor had 25,000 members and $1.4 billion in plan assets, representing an average asset per member of $63,000.

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Data collected included individual investment option returns, benchmarks and management expenses. We also collected information regarding plan features (such as match features, loans, deferral and participation rates, etc.) and governance and administration costs (oversight, recordkeeping, communication, custodial, audit and other).

Poor aggregate return performance

Our first finding was that participants did not perform well. The 1997 average gross value added relative to passive benchmarks was negative, -0.7 percent. This was even before deduction of fees and expenses. The calculation is shown in Exhibit I.

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Aggregate cost performance

Total operating costs equals the sum of management fees and governance and administrative costs. On average, total 401(k) operating costs were 0.33 percent of total assets (0.22 percent management fees and 0.11 percent governance and administration costs). These costs were much lower than we expected. However, there are three reasons the costs were so low:

Exhibit I	
1997 Return Performance	**Average of 60 plan sponsors**
Weighted average total return[1]	23.0%
less	
Weighted average benchmark return[2]	23.7%
equals	
Gross average value added[3]	-0.7%

Where:
1. Weighted average total return was calculated by multiplying the gross return of each investment option by the year-end proportion in each option. It is a proxy for the actual weighted average return of plan participants.
2. Weighted average benchmark return was calculated by multiplying the benchmark return for each investment option by the year-end proportion in each option. We neutralized company stock holdings by using its actual return as the benchmark return.
3. Gross average value added is a summary measure of the contribution to your plan from active management.

1. The participating plan sponsors were primarily very large (median $1.4 billion, average $2.5 billion).
2. There was likely a self-selection bias toward lower-cost plans. Though we promise confidentiality of individual results, plan sponsors who believed they were high-cost may have been reluctant to have their 401(k)'s performance documented.
3. A large percentage of 401(k) assets are invested in "low-/hidden-cost" assets. Specifically, company stock averaged 30 percent of holdings, and most vendors charge very little for managing it. GICs averaged 14 percent of holdings and the management costs are generally netted from the returns, making them too difficult to obtain.

Total costs: a function of four characteristics

Before you compare your costs to the previously cited averages, you should know which factors affect total operating costs. The formula in Exhibit II summarizes the relationship.

The factors are:

■ **Size**
Not surprisingly, the larger your plan size (in aggregate assets), the lower the total costs in basis points. So large plans have a cost advantage over small plans. The log10 factor means that for every tenfold increase in size, costs decrease by 0.2 percent. For example, a $100 million plan's costs will be lower by 0.2 percent than a $10 million plan, all else being equal, purely because of size economies.

Exhibit II

Total operating costs =
$$1.1\%$$
$$-0.2\% \times \log10 \text{ of plan size}$$
$$-0.3\% \times \% \text{ of hidden-/low-cost assets}$$
$$+1.1\% \times \% \text{ of foreign assets}$$
$$-0.3\% \times \% \text{ passive assets}$$

$$R^2 = 55\%$$

■ **Asset mix**
Your participants' overall asset mix affects total costs. In particular, plans with higher foreign holdings will have higher costs. This makes sense, since management fees on foreign mandates are generally higher than on domestic mandates. Also the more hidden-/low-cost assets you have, the lower your total costs as a percentage of assets. Included in our definition of hidden-/low-cost assets are company stock, GICs, brokerage accounts and mutual fund windows. Most vendors charge very little for managing company stock, whereas GICs, brokerage accounts and mutual fund windows are examples of hidden costs, which are difficult to obtain.

■ **Passive**
The more your participants choose passive/indexed investment options, the lower your costs. The most common 401(k) passive investment option is an S&P 500 index.

Altogether, the above factors explained 55 percent of differences in total costs:
The following were factors that we thought would also affect total costs, but did not:

■ **Number of investment options offered**
We thought that the more complicated plans might have higher costs. However, we could not find a statistically significant relationship to support this variable.

■ **Specific providers**
Given that some popular 401(k) vendors have a reputation for being "low-cost" providers, we tested to see whether this was true statistically. We did not find a meaningful relationship. Many of the large-plan sponsors have negotiated fees that are lower than the stated retail mutual fund fees.

■ **Bundled versus unbundled arrangements**
Whether plans have a bundled or unbundled arrangement did not affect their total cost.

■ **Number of members**
At the total cost level, number of members did not appear to affect total costs.

The lack of relationship to number of members surprised us the most. We believe this result was primarily a function of two things:

1. Our database is skewed to larger plans. Therefore, the number of members did not have a statistically significant impact on total costs. As our database expands to include plans with smaller membership, we may find that plans with more members will have a cost per member advantage.

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2. Management fees are usually a much greater percentage of total costs than governance and administration costs (in our database, the average ratio is 2:1). Thus, plan size is a much more potent explanatory variable to total costs than membership.

Though all of the above-noted four factors did not affect total costs, bundled arrangements and plan membership affected governance and administration (G&A) costs.

Exhibit III

G&A cost per member = $274

-$43 if bundled arrangement

-$44 X log 10 of plan membership

$R^2 = 21\%$

The average G&A costs of the 60 plans in our database was 0.11 percent (median cost of 0.09 percent), or $50 per member (median cost of $68 per member).

The relationships can be summarized by the formula shown in Exhibit III.

The negative coefficient for bundled arrangements indicated that G&A costs were lower for plan sponsors with bundled arrangements. Recall that we found no relationship between bundled arrangements and total costs. This means that bundled arrangements were more successful at shifting G&A costs from plan sponsors (who generally foot the G&A bill) to participants (who generally paid management fees) than at reducing overall total operating costs.

The above relationship was not as statistically robust as our total cost formula. It explained 21 percent of differences in G&A costs per member. However, the t values of the two factors were all highly significant. They indicated at least a 97 percent confidence that the noted variable affected G&A costs. We also found a similar relationship between G&A cost as a percent of total assets where plan size is an explanatory variable.

Therefore, for large plans, G&A costs can be thought of as a function of either total assets or plan members.

Combining the gross average value-added performance of plan sponsors with their cost performance, we tested to see whether there was a relationship between paying more and getting more. In our analysis this translated into seeing whether higher-cost plans (i.e., plans where actual operating costs were higher than calculated by our total cost formula) had higher average gross value-added production. The answer was no—paying more did not get you more. Incidentally, this finding mirrors similar conclusions from our defined-benefit database, where we have eight years of data at our disposal.

Are 401(k) fees excessive?

Over the past year, the Department of Labor has been its conducting hearings to find out whether 401(k) participants are paying excessive fees.

We can answer this question, at least on behalf of the participating plan sponsors in our database. The answer is no. To give you one example of how we came to this conclusion, the median cost for plans in our DC/401(k) database with active large-cap portfolios of around $500 million was 0.58 percent. In comparison, the median cost of defined-benefit plans with similar holdings was 0.44 percent. However, the 0.58 percent includes about 0.09 percent in G&A costs. Therefore, in an apples-to-apples comparison, the difference is very small—only 0.05 percent—and certainly not excessive.

1997 was the first year of our database. It will be interesting to see whether in the future, with broader participation and multiyear data, we may be able to find other relationships that affect cost and return performances. ■