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As PEPs Come of Age, What Can Their Forebearers Tell us About how They Will Work?

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Introduction

On Dec. 20, 2019, President Trump signed legislation creating a new type of defined-contribution retirement plan, called Pooled Employer Plans, or PEPs. PEPs had been a long time coming; in fact, the original legislation was introduced in 2014. The signing kicked off a sprint for the retirement industry to get PEPs ready for employers by Jan. 1, 2021.

PEPs are a new variety of an existing, and arcane, structure for retirement plans: Multiple-Employer Plans, or MEPs. MEPs have been around for decades, but, as a government auditor put it: "Little is known about the characteristics of private sector multiple employer plans (MEP), especially information regarding the employers that participate in them."[1] That is a problem because MEPs share the lineage of PEPs. The challenges and successes of MEPs can help regulators and the industry determine how to develop nascent PEPs.

Why create PEPs? Millions of Americans lack access to a retirement plan, and millions who have plan coverage through a small employer end up contributing to a substandard plan. In floor speeches and bill markups, members of Congress tended to emphasize PEPs as a way to cover more workers, since small employers might find them easier to offer than traditional single-employer plans. We think PEPs are another important tool for improving our retirement systems' coverage and adequacy. However, we think that in the absence of a mandate, PEPs are unlikely to result in coverage for workers, as many small businesses are disinclined to offer retirement benefits no matter how easy they are to set up. Even if these plans do not expand coverage dramatically, they could improve the quality of plans for employees of small businesses that would already choose to offer coverage.

1 U.S. Government Accountability Office. Sept. 12, 2012. *Private Sector Pensions: Federal Agencies Should Collect Data and Coordinate Oversight of Multiple Employer Plans.* (Publication No. GAO-12-665). Retrieved from: https://www.gao.gov/products/GAO-12-665.

In this paper, we take a retrospective look at the MEP marketplace to address the following: 1) How do MEP fees compare with traditional single-employer plans and what size do PEPs need to grow to achieve competitive fees? 2) What lessons can regulators and the industry learn from the MEP marketplace to help PEPs become successful?

Key Takeaways

We find that:

1. **PEPs can reduce fees as they grow, but there will be challenges due to the complex structure of allowing multiple employers.**

a. Each percent increase in pooled assets reduces total plan fees by 0.312%, holding the number of participants and employers constant.
b. When a plan achieves around $10 million in assets, each percent increase in plan size reduces fees by 0.277%.
c. Each additional participant is associated with a small rise in per-participant costs, holding assets and the number of employers constant.
d. MEPs are slightly more expensive than comparable single-employer plans, but much less expensive than smaller single-employer plans.
e. Professional Employer Organization plans may be the closest analog to PEPs, and we find that they generally have similar all-in costs as other MEPs, although their administrative costs are higher and they have cheaper investment options.

2. **Regulators will need to be vigilant, because the existing MEP marketplace reveals a wide variety of fees, and if the PEP marketplace fragments it will not work effectively.**

a. Thirty-one percent of MEPs with under $10 million in assets charge more than 150 basis points across plan and investment fees.
b. Many MEPs that start small stay small—87% of MEPs that reached 100 participants stay below 1,000 over the next five years.
c. Worse, these small plans often struggle to offer competitive fees with a higher variance in their fees than larger plans.
d. Regulators should consider whether to allow PEPs between 100 and 1,000 participants to avoid filing a full annual, audited report (called the Form 5500) if the PEP marketplace resembles the MEP marketplace as it evolves.

PEPs and MEPs: Differences and Similarities

PEPs are similar to MEPs, but the differences in structure mean that PEPs should be available to a much larger number of plan sponsors. The recently passed legislation eliminates two barriers in creating PEPs that prevented employers from joining MEPs. First, it removes the common nexus requirement enabling unrelated employers to join together to offer a retirement plan, which was previously allowable for employers in a MEP in limited circumstances based on federal law and Department of Labor guidance and regulations.[2] Second, it prevents the entire MEP from losing its tax-favored status due to the actions of just one participating employer, also known as removing the *one bad apple* rule. (The Department of the Treasury had also produced a regulatory effort to address this concern, but the legislation now codifies this in statute.)

The new PEP legislation also creates a new entity: the pooled plan provider that will act as an administrator of the plan and serve as a fiduciary. The requirement that PEPs have a pooled plan provider is an important divergence from the existing MEP structure. It allows participating employers to shift more of the responsibility of running the plan to an outside administrator—meaning that the plan will be run by an outside entity that is not a participating employer but is still a fiduciary to the plan. The legislation also requires that the PEP have a trustee that is responsible for collecting contributions for the various employers in the PEP.

In other ways, PEPs build off the existing MEP framework, and these MEPs offer lessons on the extent to which pooled arrangements can deliver administrative savings or retirement plan improvements from allowing smaller employers to form a larger plan together. Like existing MEPs, the PEPs will file a single annual report with the Department of Labor, called the Form 5500. Like existing MEPs, actual deferral percentage nondiscrimination testing (which ensures that the plan's benefit does not disproportionately flow to highly compensated employees) will be performed on an employer-by-employer basis.

MEP Fees Decrease and Become More Predictable as Plans Grow

To analyze the influence of various plan features on the total plan cost, we considered several different regression models, discussed in greater detail in the Appendix. Using a linear regression analysis of the MEP universe, we find that plan assets, participants, and the number of participating employers are all statistically significant factors in predicting the total cost of a MEP. We find that the natural log of all the dependent and independent variables produces the model with the best fit and the most rational results. This model can be interpreted as the estimate of the percent increase of any independent variable (assets, participants, number of participating companies) on the percentage increase or decrease of the total fee.

2 "Definition of 'Employer' Under Section 3(5) of ERISA-Association Retirement Plans and Other Multiple-Employer Plans." 84 C.F.R. § 2510 (2019). Retrieved from https://www.federalregister.gov/documents/2019/07/31/2019-16074/definition-of-employer-under-section-35-of-erisa-association-retirement-plans-and-other.

Our analysis starts by combining the Form 5500 data and Morningstar's investment databases to determine the all-in asset-based cost for a participant in a plan.[3] This fee includes both plan administrative expenses and an estimate of the investment expenses. It is important to combine these two expense types to accurately analyze plan costs, as participants pay for administrative costs in different ways. Some retirement plans force participants to pay for administrative costs indirectly by selecting investments with sub-transfer agency fees or revenue-sharing arrangements to offset the direct plan administrative costs deducted from participant accounts. Looking at this total plan cost removes bias for and against different types of plan arrangements.

Large MEPs are cheaper for participants than small ones on average, which is consistent with other retirement plan structures. Across all MEPs, the median total plan fee is 102.8 basis points. As illustrated in Exhibit 1, the median small plan with under $10 million in assets is roughly 50% more expensive than the median large plan at 127.3 basis points compared with 83.9 basis points. Additionally, the median small MEP has a higher concentration of its fee in plan administrative expenses, reflecting how the cost of account maintenance scales significantly with the size of a MEP's asset pool.

Exhibit 1 Average Plan Administrative Expenses and Total Fees for Large and Small MEPs in Basis Points

	Plan Administrative Fees		Total Fees	
Average Net Assets of Plan	Median	Mean	Median	Mean
Under $10 million	76.6	79.3	127.3	135.8
Over $10 million	22.9	33.1	83.9	86.4

Source: Morningstar data and analysis.

When holding all else constant, we estimate that a 1% increase in plan assets reduces the total cost by 0.312%. To understand what that means, consider a MEP with just $5,000,000 in assets across 1,000 participants and 10 participating companies that charges 80 basis points on average to participants, spread across investment and administrative fees. Our model estimates that an identical plan with 1% more in assets of $5,050,000 would charge 79.75 basis points in fees. In practice, plan assets do not grow in isolation from participants and/or participating companies. It is therefore important to consider that a percent increase in either of these raises fees, albeit by smaller amounts—0.191% as plans add additional participants and 0.070% as plans add additional participating companies, holding all else constant. All of these coefficients are significant at a 0.001% level, as shown in Exhibit 2.

3 Investment information from the Schedule D and Schedule H are used to identify investments offered by the plan. Only plans for which we can identify at least 75% of plan assets to a specific share class are included.

Exhibit 2 Log-Log Regression Model for all MEPs

	Coefficients	T Stat
Intercept	8.41	29.224
Natural Log of Average Net Assets	-0.312*	-12.006
Natural Log of Participants With Accounts	0.191*	6.056
Natural Log of Number of Participating Companies	0.070*	3.524

* Significant at $p < 0.001$; N = 406; Adjusted R Square = 0.37

Larger MEPs realize smaller reductions as they add additional assets, however, the fees are more consistent across plans. After plans reach $10 million in assets, a 1% increase in assets predicts a reduction in fees by 0.277%, while the relationships to number of participants and participating employers change by less than 0.01, as shown in Exhibit 3. This rate of change for fees may be the better estimator for MEPs of all sizes, as it strips out the small plans that are often expensive and included in the previously discussed analysis.

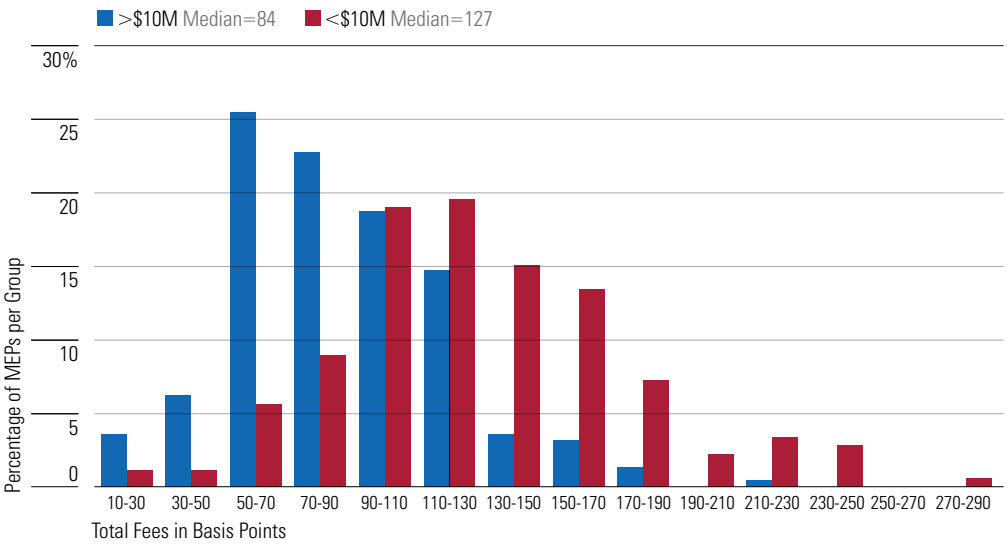
Exhibit 3 Log-Log Regression Model for MEPs With More Than $10 Million Assets

	Coefficients	T Stat
Intercept	7.732	12.523
Natural Log of Average Net Assets	-0.277*	-5.65
Natural Log of Participants With Accounts	0.199*	4.051
Natural Log of Number of Participating Companies	0.067**	2.713

* Significant at $p < 0.001$; ** Significant at $p < 0.01$; N = 224; Adjusted R Square = 0.19

Furthermore, the dispersion of costs is much narrower for plans with over $10 million in assets, meaning that participants in larger plans are less likely to be in a plan with high fees relative to other MEPs. The difference in variation between these populations is illustrated in the side-by-side histogram in Exhibit 4. Among the large plans, 68% have fees within 34 basis points of the mean, while 95% of plans have fees within 68 basis points of it. In sharp contrast, plans with less than $10 million in assets have almost 100% higher standard deviation, placing 68% of plans with total fees within 65 basis points of the mean and 95% of plans with fees within 129 basis points of it.

Exhibit 4 Side-by-Side Histogram of Total Fees for Large and Small MEPs in Basis Points



Source: Morningstar data and analysis.

A Fair Comparison With Single-Employer Plans Shows MEPs Can Be a Better Option

While other research has demonstrated that MEPs on average charge higher plan administrative fees than comparable single-employer plans,[4] we find minimal difference in total cost for large MEPs.[5] Specifically, we find that the median overall cost for MEPs with at least $10 million in assets is at most 5 basis points higher than the median cost for a single-employer plan in a similar range of assets. This analysis is based on bucketing plans into asset ranges (such as $1 million in assets, $1-5 million, $5-10 million, $10-25 million, and so on), which allows us to determine a benchmark of investment expenses, plan expenses, and overall cost for plans of that size. For example, we estimate the median single-employer plan with $100-250 million charges 58 basis points. For MEPs, we find the median plan of this size charges 63 basis points. The slightly higher fee, generally captured in a higher plan administrative fee, is understandable given the additional complexities in operating a multiple-employer plan compared with a single-employer plan. Considering the total cost, rather than the plan fee in isolation, removes the bias due to varying arrangements for direct plan administrative costs and demonstrates that large MEPs approach the cost efficiency of large

4 Shnitser, N. (May 1, 2020). "Are Two Employers Better than One? An Empirical Assessment of Multiple-Employer Retirement Plans." *Journal of Corporation Law*, 45(3), 775. Retrieved from https://ssrn.com/abstract=3594041.

5 Our approach to evaluating MEP costs differs from that in "Are Two Employers Better than One? An Empirical Assessment of Multiple-Employer Retirement Plans" in a couple of key ways. The primary difference is that our regression analyses focus on the total cost to participants, including both plan fees and investment expenses. While this reduces our sample size, it removes any bias related to how plans pay for administrative services. Further, when estimating the investment expenses, we utilize investment fee data for collective investment trusts, or CITs, in addition to that for mutual funds and exchange-traded funds. While some CIT fees are negotiated by the plan, many fall into standardized tiers similar to mutual fund share classes. Finally, our analyses utilize the number of participants with account balances rather than the number of total participants when assessing this independent variable. The total participant number includes employees who are eligible for the plan but have elected not to contribute to their account and to not have their employer make contributions.

single-employer plans, allowing for the additional work of having multiple employers. Exhibit 5 compares the median cost of single-employer plans and MEPs across three aggregated ranges.[6]

Exhibit 5 Comparison of Total Cost of Single-Employer and Multiple-Employer Plans

	Average Total Cost in Basis Points	
Plan Net Asset Range	Single-Employer Plan	Multiple-Employer Plan
<$10M	116	136
$10M-$250M	69	74
$250M+	44	49

Source: Morningstar data and analysis.

Furthermore, while it's convenient to compare similarly sized MEPs and single-employer plans, this does not capture the decision facing companies participating in a MEP. In theory, and generally in practice,[7] MEPs allow many small companies to pool retirement plan resources in order to gain efficiencies that alone they could not achieve. Consider a plan with $125 million assets and 80 participating companies— as a MEP the plan charges 78 basis points across plan and investment fees. This is above the median for plans in that range, but it is on the smaller end of the asset range and has many participating companies, increasing the complexity. If each of these companies were to sponsor its own single-employer plan, each would have, on average, roughly $1.5 million in assets. We estimate that the median single-employer plan with $1-5 million in assets charges 111 basis points, a 42% increase from the cost of the MEP. Directly comparing MEPs and single-employer plans shows that MEPs only approach the cost efficiency of single-employer plans, not quite reaching it—but considering the single-employer plan that each member of a MEP would have access to shows this is an unfair standard and that the MEP is often significantly better.

PEO-Sponsored Plans Shed Light on how Fees May Be Distributed Differently in PEPs than in MEPs

MEPs that are sponsored by professional employer organizations, or PEOs, charge statistically similar fees to other MEPs and are the best available comparison with how PEPs could operate. These PEOs already perform substantial employment functions for their clients, such as managing payroll and benefits. While the PEO is a plan sponsor in the MEP arrangement, its function is more similar to a

6 Median cost in Exhibit 5 is calculated by averaging the median cost of plans in three or four subsets of each asset range. For example, $10M-$250M comprises ranges $10M-$25M, $25M-$50M, $50M-$100M, $100M-$250M, where we have a median cost for plans in each of these and average the four medians to reach the numbers in the exhibit. This differs from median costs of MEPs discussed elsewhere in the paper, as those are the straight median of the set of plans utilized in the regression analysis for that population. The different methodology allows for a more direct comparison between single-employer and MEP costs utilizing our existing single-employer plan benchmarks.

7 There is a cohort of MEPs with very few participating companies, including many with only two. These were excluded from our analyses.

pooled plan provider, or PPP, than most companies sponsoring MEPs. In particular, we focused our analysis on certified PEOs. This certification is given by the IRS and therefore connects directly to the employer identification number utilized in the Form 5500.

Introducing a variable to identify whether the MEP is sponsored by a PEO or not allows us to run the same regression analysis as before and conclude that this indicator is not statistically significant in determining overall fees. As shown in Exhibit 6, this indicator is not a statistically significant variable and its introduction does not materially change the significance or coefficients of the other variables. We do find that MEPs sponsored by PEOs often charge higher administrative fees, however, this is offset by lower investment expenses. There are several plausible explanations as to why fees for these plans are distributed this way. For one, these plans more often have a high number of participating companies. Each additional participating company raises the overall cost slightly, holding the number of assets and participants constant. Further, as these plans generally have a large asset base, they are more likely to charge plan administrative fees directly rather than have them embedded in investment expenses. Ultimately, while the fees are distributed between plan cost and investment expenses differently than for other MEPs, PEO-sponsored MEPs show the same ability to scale as other MEPs.

Exhibit 6 Log-Log Regression Model for all MEPs With Certified Professional Employer Organization Variable

	Coefficients	T Stat
Intercept	8.407	28.871
Certified Professional Employer Organization	-0.008	-0.0737
Natural Log of Average Net Assets	-0.312*	-11.932
Natural Log of Participants With Accounts	0.191*	6.031
Natural Log of Number of Participating Companies	0.071**	3.292

* Significant at $p < 0.001$; ** Significant at $p < 0.01$; N = 406; Adjusted R Square = 0.37

The Large Population of Expensive, Small MEPs Shows how PEPs Could Fail

While MEP costs scale effectively with size, almost 50% of MEPs are under $10 million in assets. Further, almost three quarters of these small plans file a Form 5500-Short Form, meaning they have under 100 participants. This simplified filing offers reporting relief to small plans to reduce costs, but critically does not include information on the investments. All told, plans with under $10 million in assets that file the Short Form represent over a third of the total MEP market. Without the investment information, we have limited insight into the total cost of these plans. However, we can derive estimates from plans of the same asset base for which we have investment expense data. From those, we observe that 30.7% charge more than 150 basis points across both investment and plan fees. Since it is likely the plans for which we only have administrative fee data are even more expensive, it paints a bleak picture if the PEP market were to develop with the inclusion of the same proportion of plans of this size. One boon for PEPs in avoiding this future is that they are

not restricted by the common nexus requirement for participating companies. Some MEPs may be restricted in their ability to grow due to a limited number of employers that share the common nexus of the plan. There is a greater potential market for PEPs, given that any company could join, which would ideally lead to fewer small PEPs.

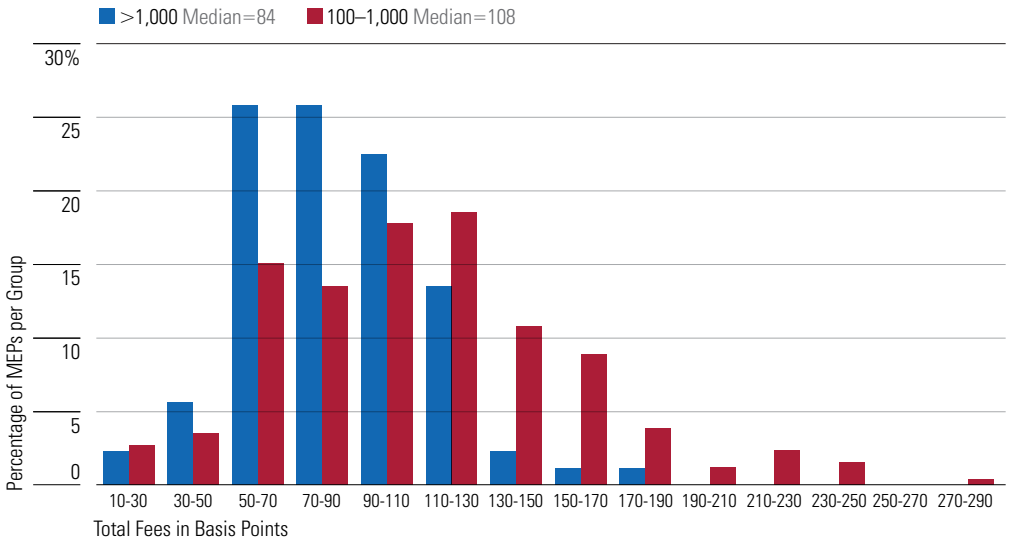
Granting Reporting Relief to PEPs That Do Not Scale Indefinitely Could Result in Large Data and Oversight Gaps

The SECURE Act also grants the Department of Labor the authority to prescribe simplified reporting requirements to PEPs that cover up to 1,000 participants, as long as no single employer has more than 100 participants; but doing so could leave many participants in substandard plans. The department currently exempts plans with up to 100 participants from the full annual filing. The legislative intent appears to be that by reducing the reporting burden on PEPs, companies will be encouraged to enter the PEP market and improve competition. However, extending this exemption in the same way it applies to single-employer plans would mean 1) that these plans would not be subject to an annual audit and, 2) the Department of Labor would have very little insight into the total cost and quality of these plans as they develop.

As this reporting relief would significantly hinder oversight of PEPs with under 1,000 participants, it's important to consider how long plans will take to pass this threshold. Although the cost of MEPs scales with size, many MEPs do not grow. If the PEP marketplace were to grow similarly to how the MEP universe has from 2014-18, the outlook is bleak. In that five-year window, more than a third of MEPs did not reach 100 participants, qualifying them for the Short Form and audit reprieve. Of those that surpassed 100 participants, only 12.3% grew to over 1,000. There is hope that the PEP marketplace will grow in a more systematic way than MEPs have. However, even considering if PEPs scale twice as quickly as MEPs, only a little more than 14% of PEPs would reach 1,000 participants and report the detailed information needed to fully assess their quality in the next five years.

As we saw with plans under $10 million, when MEPs stagnate between 100 and 1,000 participants, costs are high and have a high degree of variation compared with larger plans. The median total fee for a plan with over 1,000 participants is 84.4 basis points. Meanwhile, the median for a plan in the 100 to 1,000 range is more than 25% more at 108.1 basis points. Additionally, there is a higher standard deviation of fees over plans in this range, compared with plans with over 1,000 participants, as illustrated in Exhibit 7. For plans with over 1,000 participants there is clustering around the mean, with 68% lying within 30 basis points and 95% within 60. Among plans with 100 to 1,000 participants, there is greater spread, with 68% of plans having total fees within 55 basis points of the mean and 95 within 109 basis points of it. With fees changing quickly as plans move through this range and the wider dispersion of fees, not having the data to assess the total cost and quality of plans could be harmful for investors if many PEPs persist here.

Exhibit 7 Side-by-Side Histogram of Total Fees for MEPs With 100 to 1,000 Participants and Over 1,000 Participants



Source: Morningstar data and analysis.

Conclusion and Policy Recommendations

Overall, the data in this paper should be encouraging: PEPs have promise to improve small-employer retirement plans. However, given the wide variation we see in the existing MEP marketplace, we make three recommendations to improve the PEP marketplace and ensure that PEPs really do help level the playing field for smaller employers.

1. Given higher fees for small MEPs along with a wider variation in fees, the Department of Labor should consider curbing reporting and concurrent audit relief that is available for small PEPs if they do not sufficiently scale up within a few years of inception. This would make the relief a carrot for new PEPs, while curbing long-term problems with plans that never scale.
2. Given the high variability of costs and the complicated allotment between explicit administrative fees and higher investment management fees, the Department of Labor should use its authority to compel pooled plan providers to clearly and consistently disclose costs so that employer sponsors can more easily choose between PEPs and monitor a PEP they could join.
3. The Departments of Labor and Treasury should ensure that PEPs have sufficient mobility, so that it is easy for plan sponsors to move from one PEP to another (or to withdraw from a PEP and set up a single-employer plan) and so that PEPs can be merged. This will allow plan sponsors to react if a PEP scales up its basis without a commensurate and expected decline in the fees it charges, particularly to participants through investment management costs. Additionally, it would allow plans to be combined should the pooled plan provider wish to discontinue a PEP or if it is determined that is the best approach to creating scale.

Appendix – Regression Methodology

Our regression analyses utilize data reported on the Form 5500 for plan year 2016. This data is collected from the csv datasets DOL compiles as well as from parsing attachments to the filings that are available for download. More specifically, we parse the Schedule H, line 4i Schedule of Assets attachment for information on the investments offered in the plan and the Multiple-Employer Plan Participating Employer Information attachment for the number of participating employers and their relative contributions. We exclude plans for which the filing represents the first or final filing and consider only defined-contribution plans with at least three participating companies. Removing initial and final filings allows for the calculation of variables, such as average plan assets, to not be disproportionally diminished by the lack of assets, participants, and so on, at one end of the plan year. Excluding plans with only two participating companies allows the analyses to focus on the portion of the MEP universe that is most relevant when considering analogies to the potential PEP marketplace. There are a significant number of plans with only two participating companies (over 30% of the filings for which we were able to collect information on the number of participating employers) and including these plans would skew the data and limit the applicability of our findings to the future of PEPs.

In all analyses, our dependent variable represents the total cost of the plan. In order to calculate this total cost, we need to be able to identify the investments in the plan that are reported on the Schedule of Assets and in Schedule D, and there needs to be a valid plan administrative fee reported. Investments are reported by name in both of these cases with no requirement for any common identifiers such as ticker, ISIN, CUSIP, or SEC CIK. As a result, we cannot always ascertain the specific investment reported and determine its expense ratio. For our analyses, we chose to only include plans where we successfully identified investments representing at least 75% of the total plan assets. We then utilize the expense ratio of the investments and the portion of plan assets reported to be invested in each option to calculate an asset-weighted average expense ratio for the plan. The plan administrative fee is derived from the total dollar amount of administrative expenses and from the average net assets of the plan. The dollar amount of administrative expenses, beginning-of-year net assets and end-of-year net assets are all included in the csv datasets. In some cases, plans will report these fees as negative values since they represent an expense, so we consider the absolute value. Once the plan administrative fee is converted to an asset-based fee by dividing the dollar amount by the average of the beginning- and end-of-year plan assets, it can be combined with the asset-weighted average expense ratio of the investments for a total plan cost.

While the regression analyses discussed in this paper are all log-log models, we considered linear and log-linear functional forms as well for robustness. The linear model was generally not statistically significant. This was an expected result, as relevance would imply that changes in assets, participants, and number of participating companies have a constant corresponding effect on fees regardless of how big or small the plan is before this change. In most cases the log-linear analysis was as statistically significant as the log-log model; however, these analyses do not lend

as well to practical interpretations. For example, the log-linear analysis of plans over $10 million in assets, shown in Exhibit 8, has slightly more explanatory power than the log-log analysis. The interpretation of these results is that, holding all else constant, for each percent increase in plan assets, the total fee decreases by 23 basis points. This is a very large coefficient that does not make practical sense, as the model relies on an intercept for what a plan of zero assets, zero participants, and zero participating companies would charge. Since plans do not exist below reasonable thresholds of all of these variables, applying the coefficients of log-linear analyses is impractical. Additionally, the log-log functional form is relevant across all subpopulations considered, allowing us to more directly compare results.

Exhibit 8 Log-Linear Regression Model for MEPs With More Than $10 Million Assets

	Coefficients	T Stat
Intercept	376.78	8.285
Natural Log of Average Net Assets	-23.50*	-6.506
Natural Log of Participants With Accounts	16.38*	4.533
Natural Log of Number of Participating Companies	4.85**	2.677

* Significant at $p < 0.001$; ** Significant at $p < 0.01$; N = 224; Adjusted R Square = 0.23

In addition to considering other functional forms, we also conducted tests to determine the impact of multicollinearity and to assess a nonlinear relationship. To asses multicollinearity, we calculated the variance inflation factor, or VIF. Exhibit 9 shows the results for the log-log regression on all MEPs. We found a moderate VIF for both the natural log of average net assets and the natural log of participants with accounts. While this indicates some correlation between plan assets and participants, this is not unexpected, and the correlation is not severe enough to impact the overall model.

Exhibit 9 Variance Inflation Factor for Regression Analysis of all MEPs

Variable	VIF
Natural Log of Average Net Assets	4.432501684
Natural Log of Participants With Accounts	4.760292766
Natural Log of Number of Participating Companies	1.162115101

Source: Morningstar data and analysis.

Finally, we conducted nonlinear analyses on the set of all MEPs and found that they were not more statistically significant and did not have greater explanatory power than the log-log analysis. The summary statistics for these analyses are in Exhibits 10 and 11. The independent variables in both cases are squared while the dependent variables—total fee in basis points for Exhibit 10 and the natural log of the total fee for Exhibit 11—are not.

Exhibit 10 Squared Log-Linear Regression Model for all MEPs

	Coefficients	T Stat
Intercept	344.65	21.168
Squared Natural Log of Average Net Assets	-1.17*	-13.237
Squared Natural Log of Participants With Accounts	2.11*	7.45
Squared Natural Log of Number of Participating Companies	0.74	1.886

* Significant at $p < 0.001$; N = 406; Adjusted R Square = 0.38

Exhibit 11 Squared Log-Log Regression Model for all MEPs

	Coefficients	T Stat
Intercept	6.56	45.267
Squared Natural Log of Average Net Assets	-0.010*	-12.488
Squared Natural Log of Participants With Accounts	0.016*	6.655
Squared Natural Log of Number of Participating Companies	0.011**	3.2

* Significant at $p < 0.001$; ** Significant at $p < 0.01$; N = 406; Adjusted R Square = 0.37