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Assessing Fee Fairness: Characteristics of an Effective Plan Fee Structure

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Executive Summary

This paper develops a four-part framework for assessing the effectiveness of a plan administrative fee structure. Any efficient administrative fee structure must satisfy three standards:

- **Adequacy** – total fees collected must cover the cost of features and services provided to plan participants
- **Transparency** – participants, plan sponsors and regulators can easily find information about the fee structure and how the fees are used to cover the cost of plan features and services.
- **Administrative ease** – the fee structure is not too complicated or costly for either plan sponsors or plan vendors.

The fourth standard is fairness. A fair (equitable) administrative fee structure must satisfy both:

- **Horizontal equity** – participants with similar levels of assets pay similar levels of fees.
- **Vertical equity** – participants with higher level of assets pay at least the same proportion in fees as those with lower asset balances.

Using administrative data from a large plan, we demonstrate that an administrative fee structure charging a flat pro rata can satisfy all four standards. This fee structure will be transparent, can easily satisfy adequacy, and is simple to administer. The pro rata fee will be fair because similar participants pay the same level of fees and higher asset participants pay the same proportion of fees as low asset participants. By contrast, we show that a pure per capita administrative services fee can satisfy the three efficiency standards but will fail the fairness standard. Indeed, our plan analysis shows that a flat per capita fee is highly regressive, with the lowest asset participants paying equivalent pro rata fees that may be *thousands* of times larger than the highest asset participants.

Hybrid fee structures that use a combination of per-capita fees and pro rata fees, or capitate total fees paid by any individual, can reduce the unfairness of a pure per capita fee but will also weaken the efficiency standards because it is more complex to understand and administer.

We recommend that plan sponsors adopt these four standards when assessing the effectiveness of administrative services fee structures. These four conditions will help plan sponsors satisfy their fiduciary responsibilities by ensuring administrative fees are reasonable and fairly distributed among participants. We find that this is particularly true for employers who are subject to plan ERISA non-discrimination rules because the regressive per capita fees may discriminate in favor of highly compensated and key employees.

Introduction

Retirement plan costs are paid by fees that can vary depending on a number of factors, including the scale of the plan, the number of services offered, and the degree to which plan features are unbundled. Because all costs are ultimately borne by plan participants, it is important that plan sponsors adopt a structure that achieves a balance between the efficiency and fairness of allocating plan fees. Achieving this balance can be difficult for plan sponsors, especially given the recent trend of unbundling services and providing participants with an open architecture investment menu.

Plan sponsors need a well-defined set of metrics for evaluating whether plan fees are reasonable and fairly distributed. The answer to these questions depends on the types of services provided in the plan. In general, plan services can be divided into three types: (1) administrative services, (2) investment services and (3) individual services. The latter two services depend on individual participant utilization, and the fees charged are typically borne directly by those participants who allocate funds to a specific investment option or use an individual service. By contrast, administrative services are shared by all participants. From this perspective, many administrative services are similar to a "public good" – the services are available to everyone, regardless of who pays for them, and one person's consumption of services does not reduce any other participant's potential use of the services. Thereby, plan sponsors should carefully consider the fairness of how administrative service costs are distributed among participants.

In this paper, we develop a set of four conditions for gauging the effectiveness of fee structures: adequacy, administrative ease, transparency, and fairness. Any efficient fee structure must satisfy adequacy, administrative ease and transparency. Any equitable fee structure must satisfy two fairness criteria – horizontal and vertical equity. Horizontal equity requires similar participants pay similar levels of fees. Vertical equity requires wealthier participants to pay at least the same proportion in fees as less wealthy participants.

We examine how the two types of plan fees – per capita and pro rata fees – perform with respect to satisfying the four conditions for different types of service fees. Per capita fees are simple flat per person fees. Pro rata fees are typically charged as a percentage of assets. If well-designed, both fee structures can satisfy the efficiency conditions. Pro rata fee structures also can satisfy both horizontal and vertical equity criteria. By contrast, per capita fees do not satisfy both fairness criteria – this type of fee is highly regressive, because low-asset participants pay a significantly higher proportion of fees compared to wealthier participants.

As noted earlier, plan administrative services are akin to government provided public goods. Perhaps the best public sector analog is paying for the administrative services of the Social Security system. These services are necessary for the system to function and the cost of these services must be paid for regardless of whether any particular citizen uses them in any year. The government could pay for these services by charging a simple per capita "poll tax" which is charged equally across the roughly 320 million people currently alive in the Social Security data base. While this tax structure would be simple and transparent, you would be hard pressed to find anyone who would argue that it is also fair.

Administrative service fees can pose a particular challenge for satisfying efficiency and fairness criteria. Using data from a real plan, we analyze how the two fee structures perform with respect to the four conditions. We find that switching from a pro rata to per capita administrative fee is highly regressive, with the average participant in the lowest wealth decile paying comparative fees that are over 70 times higher than the wealthiest participants, with the least wealthy participant paying a fee that can be thousands of times higher than the fee paid by the wealthiest participant.

We recommend that plan sponsors adopt the four conditions as metrics for assessing the effectiveness of administrative services fee structures. These four standards will help plan sponsors satisfy their fiduciary responsibilities by ensuring administrative fees are reasonable and fairly distributed among participants. We find that this is particularly true for employers who are subject to plan ERISA nondiscrimination rules because the regressive per-person fees may discriminate in favor of highly compensated and key employees.

A Plan Economics Primer – Plan Services and the Allocation of Costs

Before examining the characteristics and implementation of an effective fee structure, it is important to understand the various plan services covered by plan fees. Many variations in fee and service arrangements exist, but it is useful for plan sponsors to consider the reasonable and fairness of fee structures within a three-part service structure:

1. Administrative services: Includes recordkeeping, accounting, legal and trustee services, basic customer service, phones, website, participant communications.
2. Individual services: Specific transactions requested by some participants, such as loan origination, nonqualified distributions, and rollovers, along with specialized guidance and advice programs offered to all participants (e.g., retirement savings advice and distribution guidance.)
3. Investment services: Covers all aspects of managing the investment funds used by participants.

The cost of these services is covered by plan fees.[1] Over the past decade there has been significant regulatory improvement in the rules regarding disclosure and reasonableness of plan fees. Improvements in disclosure requirements have enhanced transparency of plan costs. Reasonableness ensures that plan fees are justified by the level and quality of services provided. Taken together, these changes were designed to make it easier for participants and plan sponsors to understand what fees they pay and have greater confidence that these fees are not excessive.

However, plan design frameworks have also undergone a significant transformation over the past two decades. With a traditional plan design, all plan components are "bundled" with a single plan service provider. In recent years, regulatory and fiduciary concerns have resulted in many plan sponsors adopting an unbundled framework that divides the three services across different providers. Plan sponsors may further divide services within the investment component through the adoption of open architecture investment menus that may include dozens of fund managers.[2]

While alternative models may perform well with respect to sharing fiduciary risks, these designs can present challenges for ensuring that plan fees are reasonable and fairly distributed. This can occur when the fees charged for various plan services are spread between different service providers and if the cost of administrative services (particularly recordkeeping services) is not fully covered by that fee. The overall implication may be that the allocation of costs is neither efficient for the sponsor nor equitable for participants. One approach for gauging the effectiveness of administrative plan fees is to use an "all-in" fee approach. This approach provides a metric for understanding the full cost of administrative services, how various fees are allocated for these services, and whether the fees for administrative services are fairly distributed across all participants.

Characteristics of an Effective Fee Structure for Retirement Plans

An effective fee structure should meet four basic conditions: adequacy, administrative ease, transparency and fairness. Any efficient fee structure should satisfy the first three conditions. An equitable fee structure must satisfy one or more fairness criteria. In what follows, we will show that it can be difficult to satisfy fairness criteria while also meeting the efficiency conditions. However, plan sponsors can adopt fee structures that achieve the proper balance between efficiency and equity.

Adequacy means that total fees collected must cover the cost of features and services offered to plan participants. A fee structure meets the test of adequacy if it provides enough revenue to meet the participant demand for features and services, if revenue growth each year is enough to fund the growth in plan costs, and if there is enough economic activity from usage of various plan features and services to keep fees reasonably low.

Administrative ease means that the fee structure is not too complicated or costly for either plan sponsors or plan vendors. Rules are fairly simple and known by both parties.

1. In addition, fees may cover some indirect costs, such as the development of the information technology infrastructure that supports the three services.
2. For example, Clark and Richardson (2010) analyze public K-12 educator plans that include a single provider, a small multi-vendor plan, and two plans with over 70 fund providers. They find that investment fees are significantly higher in plans with dozens of fund providers.

Forms are not too complicated. Plan sponsors can tell if fees are remitted correctly. Regulators can conduct audits in a fair and efficient manner. Above all, the cost of collecting fees should be very small in relation to the amount collected.

Transparency means that participants, plan sponsors and regulators can easily find information about the fee structure and how the fees are used to cover the cost of plan features and services. With a transparent fee structure, it is easy to understand who is paying fees, how much they are paying, and what features and services the fees cover. A transparent fee structure also provides information on who (in broad terms) bears the greater incidence of fees and who is a net beneficiary of the fee structure.

Fairness, or equity, means that everybody should pay a fair share of the fees required to maintain a plan. While there are numerous ways to quantify fairness, there are two important concepts for plan fee equity: horizontal equity and vertical equity. Understanding these concepts is critical to accessing whether plan fees are distributed fairly.

Horizontal equity means that participants in a similar financial condition should pay similar amounts in fees. This goal can be defined across a number of dimensions: assets, salary, tenure or perhaps some combination of these measures. From a plan fee perspective, using assets as the preferred dimension for assessing horizontal equity is simple and transparent. Under this metric, participants with similar levels of assets should pay similar amounts in fees.

Vertical equity means that participants who are better off should pay at least the same proportion of fees as those who are less well off. Vertical equity requires establishing an appropriate dimension for what is meant by "well off." Asset levels provide a simple and transparent measure and, using this metric, vertical equity requires wealthier participants (from a plan asset perspective) to pay at least the same proportion of fees as those with lower levels of assets.

A vertical equity criterion leads to classifying fees as regressive, proportional, or progressive.

- *Regressive fees:* A fee structure is regressive if participants with low assets pay a larger proportion of their assets in fees than those with higher levels of assets. For example, a simple flat per capita fee is regressive because participants with low level of assets pay a much higher proportion in fees than those with high levels of assets. Consider two participants, one with $10,000 and the other with $100,000 in retirement plan assets. A simple $100 per capita fee is regressive because it imposes a 1% fee on the lower asset participant and a 0.1% fee on the higher asset participant.
- *Proportional fees:* A fee structure is proportional if all participants pay the same share of fees from their assets. Continuing the previous example, consider a simple 1% fee on each participant's assets. The simple percentage fee is proportional because both participants pay the same share of fees from assets.
- *Progressive fees:* A fee structure is progressive if wealthier participants pay a greater share of fees from their assets. The rationale behind a progressive fee structure is that wealthier participants can afford and should be expected to pay for a larger share of plan costs than participants with low levels of assets. It can be difficult to attain a progressive fee structure in practice but stylized examples do exist. Consider a simple progressive fee structure with a flat 1% fee but where the first $5,000 in assets is exempt from fees. Continuing the example above, the low asset participant pays a 0.5% fee and the one with more assets pays a 0.95% fee.

While no fee system is perfect, it is important for plan sponsors to seek horizontal equity because similar plan participants should be treated equally. It is just as important for plan sponsors to seek vertical equity so that plan participation does not become an unfair burden on less wealthy participants. These low asset participants also tend to be younger, have shorter tenure with the employer, and earn less income. Thereby, regressive fee structures may result in the plan discriminating in favor of highly compensated or key employees. Plans that violate vertical equity in this way may increase the risk that the plan will lose tax-qualified status.

Measuring Fee Effectiveness: Per Capita Versus Pro Rata Fees

In general, there are two types of plan fees: *per capita* fees and *pro rata* fees. If designed properly, both types of fees can meet the efficiency criteria of adequacy, administrative ease and transparency. The ability of a plan sponsor to meet fee fairness criteria depends on how these respective fees are applied and administered.

Per capita fees are fixed dollar amounts charged to participants. In DC plans, per capita fees may typically be charged for special individual services such a initiating a plan loan or establishing a QDRO. When applied to these special individual services, the per capita fees satisfy a horizontal equity criterion because it treats similar participants equally. Those wanting a plan loan pay the fee and those not taking loans pay no fee. A per capita fee does not satisfy a vertical equity criterion because low asset participants pay a much higher proportion in fees than wealthier participants demanding the same service.

If a per capita structure is used to cover the cost of administrative services then the fee structure may not satisfy either horizontal or vertical equity. A simple “all-in” per capita administrative fee satisfies horizontal equity by treating similar participants equally. It fails the vertical equity criteria because the per capita fee is highly regressive and provides a subsidy for wealthier participants. If the per capita fee does not fully capture the “all-in” cost of administrative services, as can be true for unbundled plans where recordkeeping services include tracking investment and individual services, then the fee structure can also fail horizontal equity. Whether it satisfies horizontal equity depends on whether providers of investment and individual services compensate plan participants through revenue sharing.[3] In the absence of revenue sharing, the per capita administrative fee must rise to cover the recordkeeping cost of other services, thereby shifting the cost of these investment and individual services onto participants who do not utilize them. This violates horizontal equity because similar participants are no longer treated equally.

Per capita fees can satisfy the three efficiency conditions. If applied judiciously to special services, per capita fees can be adequate, transparent and fairly easy to administer. If applied as an administrative services fee, then per capita fees are transparent and easy to administer but may not be adequate if participant headcount is uncertain. In summary, a per capita fee can be efficient and may satisfy horizontal equity but will fail vertical equity because this type of fee is highly regressive.

Pro rata fees are typically expressed as a percentage of assets.[4] In DC plans, pro rata fees may be charged as a percent of plan assets (for administrative services) or as a percent of the different mutual fund assets held by a participant (for investment services). When considered as an “all-in” administrative services fee, a pro rata structure satisfies horizontal equity because participants with the same level of fees pay the same amount in fees. Likewise, pro rata administrative fees satisfy vertical equity criterion because wealthier participants pay at least the same proportion of fees as lower asset participants.

A pro rata fee can be progressive if the fee structure includes a uniform exemption. For example, excluding the first $10,000 in assets from the pro rata fee results in a progressive distribution of fees – in effect tilting the burden of fees slightly towards wealthier participants who have a greater ability to contribute to plan costs. This will help primarily younger, shorter tenure, and lower-income workers accumulate retirement wealth more quickly. And, over time, these individuals will turn into higher-asset individuals and have greater ability to contribute to plan costs.

Pro rata fees can satisfy efficiency conditions but may have a harder time achieving this objective compared to per capita fees. Achieving adequacy, which is easy to gauge with a flat per person fee, becomes more uncertain given volatility of asset prices. Ease of administration can be complicated by shifting of assets (e.g., loans and other distributions). Transparency, however, is readily achieved if the pro rata fee structure is kept simple and well communicated. But pro rata fee transparency is generally harder to achieve compared to per capita fees because financial literacy research indicates that many people have a harder time understanding percentages.[5] In summary, a well-designed pro rata fee structure can satisfy efficiency conditions and provides for a fair distribution of fee burdens by achieving both horizontal and vertical equity.

Chart 1: Administrative Fee Effectiveness

	Adequacy	Transparency	Administrative Ease	Horizontal Equity	Vertical Equity
Per capita fee	Very Likely	Very Likely	Very Likely	Yes	No
Pro rata fee	Likely	Likely	Likely	Yes	Yes

3. Revenue sharing occurs between the recordkeeper and nonproprietary fund providers. It is designed to ensure that all participants pay a fair share of recordkeeping fees.
4. Or as basis points, where 100 basis points equals 1%.
5. Chen and Rao (2007)

Assessing Fee Fairness: A Real World Example

We next consider how different fee structures perform with respect to the fairness conditions using real plan data. For this analysis we analyze a large plan that has over $500 million in assets and over 4,700 participants in 2015. The average plan balance is approximately $107,000 and plan costs are estimated to be $0.4 million. Adequacy requires an all-in administrative services per capita fee of at least $85 or pro rata fee of at least 8 basis points (0.08%). For the remainder of this analysis, we use these threshold values to ensure that all fee structures raise the same amount of total administrative services fees.

We begin by noting that the median balance of $32,000 is substantially below the average balance of $107,000. Of the total participants in the plan, approximately 1,100 (24%) have asset balances above the average. The minimum balance was $100 and the maximum balance was $3.7 million. Even with these basic statistics, it is clear that a per capita administrative services fee would be highly regressive and significantly shift cost burdens onto participants with less ability to pay.

To assess the fairness criteria, consider a ranking of all participants by asset balances. Table 1 provides a comparison of per capita and pro rata fees for participants at the 10th, 25th, 50th, 75th and 90th percentile ranking. To facilitate comparison, we express the pro rata fee in terms of actual dollar cost and the per capita fee as the percentage cost.

Table 1: Comparing Fairness of Pro Rata and Per Capita Fee Structures

Percentile Rank	Asset balance	Pro rata fee = 8 bps: cost in $'s	Per capita fee =$85: cost in basis points
10th	$3,554	$3	239
25th	$9,840	$8	86
50th	$31,820	$25	27
75th	$98,698	$79	9
90th	$259,551	$208	3

Source: Author calculations

Both fee structures satisfy the horizontal equity criterion. Similar participants (in terms of asset balances) pay similar amounts of fees. The pro rata fee also satisfies vertical equity – wealthier participants pay at least the same proportion of fees as those with lower asset balances. By contrast, the per capita fee does not satisfy vertical equity and is highly regressive. Note the participant at the 10th percentile is paying the equivalent of a pro rata fee that is about 73 times larger than the participant at the 90th percentile! And the situation worsens as we move to the end-points of the distribution, with the lowest percentile ranked participant subject to an equivalent pro rata fee that is 36,000 times larger than the highest-ranked participant.

Would a hybrid fee structure utilizing both types of fee improve outcomes? The answer depends on the hybrid structure adopted. If the plan uses a hybrid structure consisting of a broad-based pro rata fee structure coupled with per capita fees for special services, then the hybrid system is both efficient and fair. If the hybrid structure is an administrative services fee comprised of per capita and pro rata components, then the fee structure will still be regressive albeit less so than a pure per person fee.

Table 2 shows the results of adopting a fee structure that generates $0.4 million in fees using a combination of a per capita fee of $40 and pro rata fee of 4.2 basis points. The hybrid system will be less efficient because it is harder to administer and less transparent than the simple pro rata fee structure. And it is still highly regressive – the 10th percentile participants pays an equivalent pro rata fee that is about 20 times greater than the equivalent pro rata fee paid by the 90th percentile participant. So while the hybrid structure improves the distribution of fees relative to the per capita structure, it is significantly less fair than the pro rata fee structure.

Table 2: Comparing Fairness of a Hybrid Fee Structure

$40 per capita fee and pro rata fee of 4.2 basis points

Percentile Rank	Account balance	Cost in $	Cost in bps
10th	$3,554	$41	117
25th	$9,840	$44	45
50th	$31,820	$53	17
75th	$98,698	$81	8
90th	$259,551	$149	6

Source: Author calculations

Other Considerations

The analysis to this point made a number of simplifying assumptions that need to be addressed.

1. In concept, an administrative service pro rata fee structure is efficient and fair. Many plan sponsors, however, embed part of the pro rata fees through their investment menu. Unless the administrative services cost component is spread uniformly across all investment options, then there is a chance of eroding the horizontal and vertical equity attributes of the pro rata fee structure. This risk is particularly true for unbundled plan using an open architecture menu.

2. The impact of open architecture on equity criteria is compounded by the use of QDIA investment options that do not include a revenue sharing arrangement with the plan administrator. In effect, the participants holding the QDIA investment contribute nothing to the plan's administrative services costs. The result is that pro rata fee structure no longer satisfies either horizontal or vertical equity. Similar participants may pay different levels of plan fees simply by holding different investments. Likewise, wealthier participants can pay lower relative proportion in fees just by holding the QDIA investment. *For example, in the plan analyzed above, over 33% of the employees are currently contributing nothing for plan administration by using funds that are not subject to revenue sharing.* Clearly, this also has a significant impact on the efficiency of the fee structure – impacting both the adequacy and transparency conditions. This is a real issue but cannot be solved with transitioning to a per capita fee structure.

3. Plan sponsors must also carefully monitor the distribution of excess revenue credits. If credits are distributed to participants who do not contribute to plan administration, then the fairness criteria are not satisfied and the fee structure could be regressive.

4. Transitioning from a pro rata to per capita fee structure creates the additional equity issue of intergenerational fairness – the wealthiest participants tend to be older and have higher income and longer tenure. These participants have accumulated retirement assets within plans using proportionally fair fee structures – paying lower levels of fees when they were young and low wealth. To borrow the language of the flat fee advocates – early in their careers, these participants were "subsidized" by older and wealthier participants. Now in the twilight of their careers, they would receive a genuine subsidy from younger workers by transitioning to a highly regressive per capita fee structure. In effect, this cohort of participants (who also comprise many of the key decision makers of the plan) will receive a windfall from both older and younger cohorts of participants – violating an intergenerational equity condition that burdens should be shared equally across age cohorts. Appendix A provides an example of how fees are distributed over a working life.

5. Per capita fee structures can result in a competitive "race to the bottom" because of the incentive for wealthier participants to roll over assets into plans with the regressive fee structure. This strategy, which is rational for high wealth participants, will place additional administrative cost burdens on younger, lower-income, and less wealthy workers. If administrative service providers set out to attract older and wealthier participants, then the regressive fee structure will either (a) dominate the plan market or (b) prove unsustainable if less wealthy workers opt out of the plan due to high administrative services fees.

Conclusions

This paper develops a four-part framework for assessing the effectiveness of a plan fee structure. An efficient fee structure must satisfy adequacy, transparency, and administrative ease metrics. A fair fee structure must satisfy both horizontal and vertical equity criteria. We demonstrate that a pure per capita administrative services fee can satisfy efficiency but fail equity criteria. By contrast, a pure pro rata administrative services fee satisfies both efficiency and fairness metrics. A hybrid system that uses per-capita fees for special individual services and pro rata fees to allocate the cost of other plan services can also satisfy the four conditions for an effective fee structure.

We recommend that plan sponsors adopt the four conditions as metrics for assessing the effectiveness of administrative services fee structures. These four standards will help plan sponsors satisfy their fiduciary responsibilities by ensuring administrative fees are reasonable and fairly distributed among participants. We find that this is particularly true for employers who are subject to plan ERISA nondiscrimination rules because the regressive per person fees may discriminate in favor of highly compensated and key employees.

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Appendix 1: Lifetime Effects of Fee Structures

When discussing differences between per head and asset-based fees, an understanding of the lifetime effects on a participant is instructive. We begin by noting a simple formula for comparing the two types of fees:

$$(1)\quad rA = cP = \textit{Total Administrative Fees}$$

where r is the pro rata fee, c is the per capita fee, A is total plan assets, and P is the number of plan participants. Formula (1) shows that, in each year, it is possible to calculate a pro rata and per capita fee that raise the same amount of plan revenue. Rearranging (1) gives:

$$(2)\quad A/P = c/r$$

Formula (2) shows that if plan assets increase relative to the number of participants then, over time, the per capita fee must rise relative to the pro rata fee in order for the two types of fees to continue raising the same amount of plan revenue. Given the historical growth rates of asset values and labor force participation, our analysis of lifetime effects assumes the scenario where assets grow relative to the number of participants.

Assume plan assets grow at 5% per year, the number of plan participants remains constant, and inflation is 3% per year. We consider the case where total administrative costs grow at the rate of inflation (costs are constant in real terms). This means that the per capita fee also increases at the rate of inflation while the pro rata fee falls because assets are growing faster than the number of participants and the rate of inflation.

We assume the first-year baseline case of an employee who pays either 8 basis points or $85 per year in administrative fees. Figure 1A shows that, over a 30 year period, the nominal per capita fee rises from $85 to about $200 per person while the pro rata fee falls from 8 basis points to about 4.7 basis points. We provide lifetime results under two scenarios – a young, beginning-of-career entrant and an older, middle-career hire. For simplicity we assume mid-year contributions and yearend expense charges.

Figure 1A

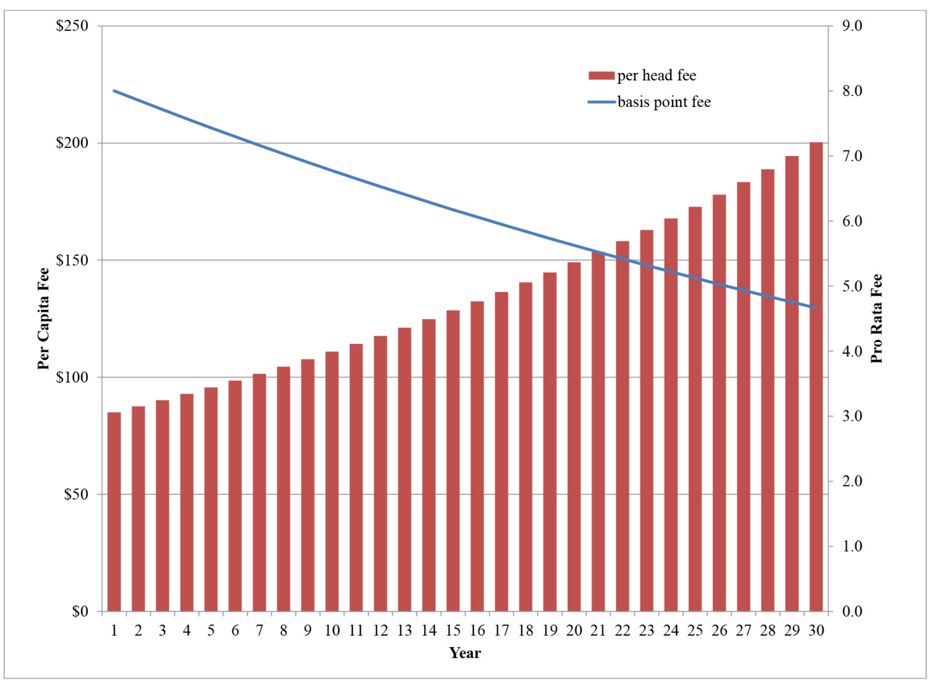


Table 1A: Younger New Entrant Case

Year	Contribution	Basis Point Fees	Basis Point EOY Assets	Per Head Fees	Per Head EOY Assets
1	$5,000	$4.1	$5,146	$85.0	$5,065
2	$5,200	$8.5	$10,802	$87.6	$10,637
3	$5,408	$13.1	$17,007	$90.2	$16,756
4	$5,624	$18.0	$23,803	$92.9	$23,461
5	$5,849	$23.2	$31,233	$95.7	$30,798
6	$6,083	$28.7	$39,344	$98.5	$38,813
7	$6,327	$34.5	$48,186	$101.5	$47,557
8	$6,580	$40.7	$57,813	$104.5	$57,083
9	$6,843	$47.2	$68,283	$107.7	$67,448
10	$7,117	$54.0	$79,656	$110.9	$78,714
11	$7,401	$61.2	$91,998	$114.2	$90,946
12	$7,697	$68.9	$105,377	$117.7	$104,213
13	$8,005	$76.9	$119,868	$121.2	$118,590
14	$8,325	$85.3	$135,550	$124.8	$134,156
15	$8,658	$94.2	$152,507	$128.6	$150,995
20	$10,534	$146.2	$259,773	$149.0	$257,654
25	$12,817	$212.9	$415,194	$172.8	$412,476
30	$15,593	$297.7	$637,611	$200.3	$634,378

Assumptions:

Enter age:	35	Retirement Age:	65
Starting salary:	$50,000	Salary Growth:	4%
Contribution Rate:	10%	Earnings rate:	6%

Early in the career, the participant pays a significantly lower level ($4.12 versus $85) and percentage (8 bps versus 165 bps) of fees using a pro rata fee structure. This allows the participant's retirement assets to grow more rapidly compared to the per capita structure. In this example, it is not until the 21st year that the participant pays more in pro rata fees than the amount paid in per capita fees. The sequencing of the fee structures over the career has two effects. First, Table 1A shows that the participant is always better off, in terms of asset accumulation, with the pro rata fee structure. This occurs because the participant never makes up the early career excess fees due to the lifetime compounding effect. That is, the participant pays for the excessive fees over his entire career. Second, the present value of lifetime fees is substantially lower with the pro rata structure. The present value of pro rata lifetime fees is $1,941, while the present value of per capita lifetime fees is $2,550.

This example highlights another major challenge of a plan moving from a pro rata fee to a per head fee. While it is clear that those with higher accumulations are better served on an annual basis, these very participants were once low accumulators themselves, and were "subsidized" by those with higher accumulations. This violates principles of intergenerational equity.

Table A2: Higher-Paid Older Entrant Case

Year	Contribution	Basis Point Fees	Basis Point EOY Assets	Per Head Fees	Per Head EOY Assets
1	$15,000	$12.4	$15,438	$85.0	$15,365
2	$15,600	$25.5	$32,406	$87.6	$32,267
3	$16,224	$39.4	$51,022	$90.2	$50,824
4	$16,873	$54.1	$71,408	$92.9	$71,160
5	$17,548	$69.7	$93,698	$95.7	$93,408
6	$18,250	$86.2	$118,031	$98.5	$117,711
7	$18,980	$103.6	$144,558	$101.5	$144,221
8	$19,739	$122.1	$173,440	$104.5	$173,101
9	$20,529	$141.5	$204,850	$107.7	$204,524
10	$21,350	$162.1	$238,969	$110.9	$238,675
11	$22,204	$183.7	$275,993	$114.2	$275,751
12	$23,092	$206.6	$316,131	$117.7	$315,963
13	$24,015	$230.6	$359,604	$121.2	$359,535
14	$24,976	$256.0	$406,649	$124.8	$406,708
15	$25,975	$282.7	$457,520	$128.6	$457,736

Assumptions:

Enter age:	50	Retirement Age:	65
Starting salary:	$150,000	Salary Growth:	4%
Contribution Rate:	10%	Earnings rate:	6%

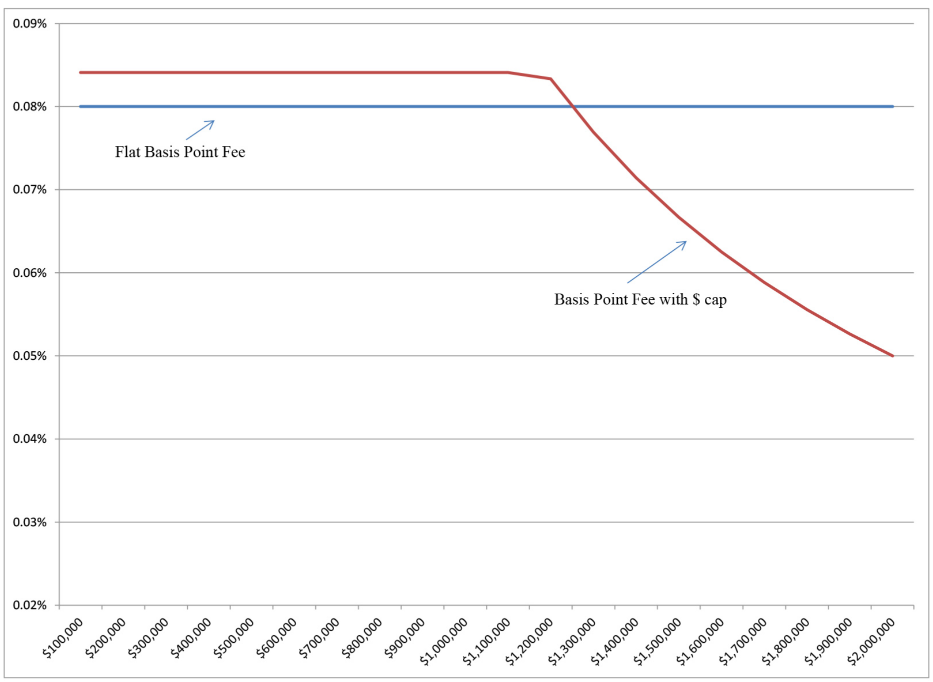
This example highlights that the annual rate of increase for a participant's base accumulation can affect the lifetime results. While it only took seven years for participant to pay less in per capita fees, the cumulative effect on end-of-career assets was small because of the effect of compounding of net returns. That is, the boost to net asset returns early in the career get compounded throughout the participant's career, resulting in larger accumulations compared to the per capita fee. And notably, even the higher paid employees will have a number of years when they may be "subsidized" by higher, end-of-career participants.

Appendix 2: Participant Capitated Pro Rata Fee Structures

A capitated pro rata fee structure is an alternative strategy to per capita, pro rata, or hybrid fee structures. While not as fair as a pure pro rata structure, a capitated structure is fairer than a per capita structure and can be fairer than a hybrid structure. Under a participant capitated fee structure, the plan charges a flat percent of asset fee but caps the maximum amount of fees any participant pays. Consider our previous pro rata fee example but now add a provision that fees are capped at a maximum of $1,000 per person.

Figure 2A shows that a pure pro rata structure requires a fee of 8 basis points. If the plan sponsor capitates the amount of fees paid by any participant at $1,000, the base fee must increase to 8.41 basis points. Because the amount of fees are capitated, the effective fee rate paid by those with assets above $1.2 million falls, with the highest accumulators paying an effective pro rata fee of about 5 basis points. While less equitable than the pure pro rata structure, the capitated structure is significantly more fair than the alternative $85 per capita fee structure.

Figure 2A: Impact of a Capitated Pro Rata Fee Structure



Appendix 3: Fairness as “Ability to Pay”

One way to illustrate the “fairness” of the distribution of plan administrative costs is to consider the “ability to pay” tax criteria. The US tax code is complex but does embody a simple premise: those with greater ability to pay should bear a larger burden of taxes. The progressivity of the ability to pay criteria is measured by looking at whether average tax rates rise as income rises. For example, a simple flat marginal tax rate with an exemption is progressive because the average amount of tax rises as income rises. Suppose the marginal rate is 10% and the exemption from income is $5,000. Consider two workers, one making $25,000 and the other earning $50,000. The former has an average tax rate of 8% and the latter a rate of 9%, making the system mildly progressive.

The US tax system is strongly progressive because it includes a progressive marginal income tax rate schedule. This means that average tax rates increase more rapidly compared to a flat marginal rate, increasing the burden on high earners relative to low earners. Continuing the previous example, assume a marginal rate schedule of 10% on the first $20,000 of taxable income and a rate of 20% on income above that amount. The low earner still has an average tax rate of 8% but the higher earner’s average tax rate is now 14%, making the tax system more progressive.

Many people believe the US tax code is overly complex, inefficient, or that the tax burden is too high on higher earning households. But no one advocates that low-income workers should pay proportionately more in income tax than high-paid workers. Figure 3A shows that, with regard to pension plan costs, this is exactly what per-head fee levelization does; charging with those at the low levels of assets significantly higher fee rates than the higher accumulators.

Figure 3A