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WHO'S WATCHING THE DOOR? HOW CONTROLLING PROVIDER ACCESS CAN IMPROVE K-12 TEACHER RETIREMENT OUTCOMES

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ABSTRACT

This paper examines how controlling vendor access to public K-12 supplemental 403(b) plans improves teacher retirement outcomes by controlling the number of providers, products, investment options, and the level of fees that teachers pay on their retirement saving accounts. We sort retirement plan systems into two administrative levels (state or local school district) and two degrees of management and oversight (open access or controlled access). Open access management typically allows “any willing provider” access to plan participants. Controlled access management limits the number of providers in the plan, typically through a competitive bidding process. Examining data in four state-level systems, we find that states using the open access model generally have a 403(b) plan with a large number of providers and investment options, and a broad range of relatively high fees. States using the controlled access model have a relatively small number of providers and investment products, and relatively low overall fees. We find participants in open access states face significantly higher asset-based fees and significantly higher variability in fees relative to teachers controlled access states. Teachers in open access states have a higher likelihood of paying loads (either front-end or back-end) and being subject to surrender charges. We perform simulations that show that over a full-working career, a teacher in a controlled access state can accumulate between \$60,000 and \$100,000 more in real (constant 2010 dollars) retirement wealth. On an annuity basis, this equals about \$4,000 in annual real retirement income, accounting for an additional 7 percent income replacement rate of the final year’s salary. Assuming a standard 4 percent systematic withdrawal rule, a teacher in a controlled access state retiring at age 65 will generate about \$65,000 more in real retirement income and have about \$80,000 more in real retirement assets remaining at age 85.



INTRODUCTION

Most K–12 public school teachers are covered by a generous package of non-salary benefits, including health insurance, disability insurance, retirement pension plans, and retiree health insurance. In addition, most are also covered by the Social Security and Medicare system. For decades, the structure of retirement benefits has ensured that individuals who devote their working career to public education were able to move into retirement with sufficient resources for a secure, comfortable retirement. Recently, a number of long-term system stresses and short-term financial crises have combined to place increased risk and uncertainty on the future retirement security of public school teachers. This confluence of events has forced many school systems to re-evaluate the generosity and objectives of their retirement benefits package, and typically includes an evaluation of the role and viability of the traditional primary Defined Benefit (DB) and supplemental Defined Contribution (DC) retirement plan structure.

In this paper, we examine how different administrative, management and oversight structures for supplemental DC retirement plans affect K–12 public school teacher retirement outcomes. We begin by sorting public school retirement systems into two administrative levels (state or local) and two models of management and oversight (open access or controlled access). Open access systems allow “any willing provider” to offer products and services to participants. By contrast, controlled access systems restrict the number of providers, products and services, typically through a competitive bidding process. Analyzing management models in four states, we find that the controlled access states provide a substantially more effective 403(b) plan for teachers relative to the open access states. We show that, on average, fees and the variability of fees are significantly lower in states that control provider access and investment fees through competitive bidding. In addition, the fee structures in open access states typically include loads (either front-end or back-end) and surrender charges that can discourage participants from seeking out lower-cost providers. These types of fees are generally prohibited in controlled access states. We perform simulations to illustrate that, over a full working career, a teacher participating in a low-fee plan in a controlled access state can potentially accumulate \$25,000 to \$60,000 more in real (constant 2010 dollars) retirement wealth relative to a teacher in a high-fee plan in an open access state. When viewed in conjunction with back-end loads or surrender charges, the teacher in a low-fee plan can generate up to an additional \$4,000 yearly real retirement annuity income, providing an additional 7 percent income replacement rate of the teacher’s final year’s salary. Assuming a standard 4 percent systematic withdrawal rule, our simulations suggest a teacher in a controlled access state will generate about \$65,000 more in real (constant 2010 dollars) retirement income and have about \$80,000 more in real retirement assets remaining at age 85. While a number of economic factors may result in these large fee disparities, we conclude that controlled access provides a better model for maximizing the likelihood that teachers achieve their retirement goals.

THE GROWING IMPORTANCE OF SUPPLEMENTAL 403(B) PLANS FOR PUBLIC K-12 TEACHERS

Virtually all K-12 public school teachers are covered by a mandatory pension plan that provides relatively generous benefits to career teachers.¹ Most public teachers are covered by DB pension plans, although recently some school systems have established combination or hybrid plans for new teachers.² In addition, most are also covered by Social Security and many will be covered by employer-provided retiree health plans.³ For most long-tenured teachers, the combination of these plans provides retirement income at or near net final earnings. Teachers not covered by Social Security will need to have supplemental retirement savings to achieve the desired levels of retirement income. Many other teachers do not remain in the K-12 school system for the 30 or more years needed to accrue adequate levels of pension income and may not qualify for the retiree health plans. In order to achieve the desired level of retirement income these shorter career teachers should participate in supplemental retirement savings programs.

- 1 Clark and Craig (2011 forthcoming) provide an analysis of replacement rates for career teachers in all states from state retirement plans for public school teachers.
- 2 A combination, or hybrid, plan has features of both a DB and a DC plan. Michigan and Washington are examples of states that recently transitioned to a hybrid teacher retirement plan.
- 3 States in which teachers are not covered by Social Security include: Alaska, California, Colorado, Connecticut, Illinois, Kentucky, Louisiana, Maine, Massachusetts, Missouri, Nevada, Ohio, and Texas. For teachers in these states, efficient management of supplemental pension plans is of even greater importance.

Given current economic conditions and the fiscal status of many states and localities, public pension systems have recently come under considerable pressure and scrutiny.⁴ Many governmental units have already begun modifying their retirement plans to reduce the generosity of future pension and health benefits.⁵ At the federal level, budget and demographic pressures make it increasingly likely that Social Security benefits will also be lower in the future. Thus, looking ahead, public school systems need to carefully evaluate and modify their retirement saving plans to ensure that the plan is effective in helping teachers accumulate sufficient assets for a comfortable and secure retirement.

Virtually all public school teachers also have access to an employer-sponsored DC retirement saving plan that supplements their primary DB plans.⁶ These DC plans allow teachers to make pre-tax contributions to the plan through payroll deductions, provide for tax deferral of any investment earnings and tax any retirement distributions.⁷ However, unlike most private sector DC plans most public school employers do not provide employer automatic or matching contributions and other features such as automatic enrollment and automatic increases in contributions are rarely used.

Given the ongoing economic challenges and the resultant budget pressures faced by public school systems, it is increasingly important that teachers have access to well-managed employer-sponsored DC plans that are efficiently structured and capable of generating adequate and secure retirement income. In addition, recent regulatory changes specific to 403(b) plans require plan sponsors to take a larger role in plan fiduciary oversight and provides a natural opportunity for many public school systems to re-evaluate their DC plan design. A complete analysis of the effectiveness of a plan's design should cover at a minimum the rules for plan participation, contributions, distributions, and investment options. In addition, the analysis should evaluate the cost of the plan and the efficacy of the control structure for managing the companies that provide plan financial services.

THE 403(B) MARKET FOR PUBLIC K-12 SCHOOL SYSTEMS

The Revenue Act of 1942 included provisions that allowed tax-exempt employers to fund tax-sheltered annuities (TSA) for employees as a way to compete with employers in other sectors for labor services. Over the intervening years, a number of legislative changes have been enacted that have transformed the public school 403(b) market, beginning with the formal establishment of IRC section 403(b) in 1958.⁸ However, a number of 403(b) provisions enacted since 1958 do not apply to the public K-12 sector. Importantly, 403(b) plans covering public K-12 employees are exempt from the requirements of the Employee Retirement Income Security Act (ERISA) of 1974. As a result of this exception, 403(b) plan sponsors are generally exempt from non-discrimination rules covering participation and contributions, and until recently were exempt from plan documentation requirements.⁹

Many public school systems began offering supplemental 403(b) plans in the 1960s and 1970s. Given the general exemption from ERISA requirements and Department of Labor regulations, primary regulatory oversight of these plans has been maintained by the IRS (for tax qualification) and state governments (for insurance regulation). Recent research by the Spectrum Group indicates that about 97 percent of schools with at least 250 students offer a 403(b) plan but only about 30 percent of eligible employees participate in the plan.¹⁰ Even with these low participation rates, the public K-12 segment ranks first in both the number of plans and number of participants, with approximately \$183 billion in 403(b) plan assets in 2010.¹¹

4 See, for example, Novy-Marx and Rauh (2009) or Brown and Wilcox (2009) for a discussion of issues related to public pension funding.

5 Chapter 10 of Clark, Craig, and Sabelhaus (2011 forthcoming) describe the numerous changes in public retirement plans that have been made over the last decade as state and local governments have attempted to slow the increase in the cost of retirement plans.

6 Typically these tax-qualified plans are commonly known by the relevant Internal Revenue Code section and include 403(b) plans, 457(b) plans and 401(a) plans.

7 A growing number of plans also allow for a "Roth" structure whereby all contributions are made on an after-tax basis but investment earnings and any retirement distributions are tax-free.

8 For a full discussion of these changes see Coyne, et. al. (2006).

9 Recent changes to the 403(b) regulations have increased the documentation and reporting requirements for many employers. See Richardson and Gallagher (2009) for an overview of these changes.

10 Spectrem Group (2010)

11 Spectrem Group (2010)

A consequence of this regulatory environment is the substantial variability in 403(b) management, oversight, and plan design, both across and within states. Some teachers are covered by district managed plans and others by state managed plans. There are single vendor plans, small multi-vendor plans (e.g., five vendors), and large multi-vendor plans (e.g., 50 or more vendors). Some systems use a competitive bidding process for vendor access while others allow “any willing provider.” This highly fragmented market structure creates system-wide inefficiencies and makes it very likely that otherwise similar teachers can experience substantially different retirement outcomes. Given the current pressures on other components of public teacher retirement benefits, it is important for school systems to increase participation in and contributions to these plans. A critical component of increasing 403(b) utilization is to ensure teachers have access to easily understandable, high-quality and low-cost plans.

THE STRUCTURE OF EMPLOYER PLAN CONTROL IN THE PUBLIC SCHOOL 403(B) MARKET

Administrators of public school system retirement plans, whether at the state or local level, have considerable latitude in determining the design, management and oversight of a supplemental 403(b) plan. Employers, perhaps in conjunction with a collective bargaining unit, must decide which financial service providers (vendors) will have access to participants covered by a plan. The employer also approves the specific plans that are offered as part of the retirement saving programs. This latitude has resulted in substantial variability in plan design and costs, both within and across states. However, recent changes in IRS 403(b) regulations have created incentives for plan sponsors to re-evaluate all aspects of plan design and control, and may ultimately result in greater uniformity of plan control.¹²

STATE VERSUS LOCAL CONTROL OF SUPPLEMENTAL RETIREMENT PLANS

In some states, the process of approving 403(b) plan providers and regulating their actions is done at the state level. State level regulation can result in all teachers throughout the state having access to the same investment options and facing the same fee structures. Alternatively, some states allow for local autonomy in the management and oversight of a supplemental 403(b) plan. Local control can allow individual school districts to tailor the supplemental plans to meet the needs of their teachers. Either level of governmental management can allow for open access to all certified plan providers or can control access by using a competitive selection process to restrict the number of providers.

With local management, the selection of providers, products, and plan design is the sole responsibility of the local school districts, with no oversight or control at the state level. As a result, the number of providers and associated products will vary across school districts and by plan. Four important issues need consideration with systems of local control. First, teacher retirement outcomes may vary substantially across a state, with outcomes depending on the effectiveness of each district’s 403(b) plan. Districts using a competitive bidding process for fees and services in provider selection increase the likelihood of favorable participant outcomes, relative to districts allowing “any willing provider” to have access to teachers. Second, providers may base fees on total assets under management for a district. Thereby, teachers in smaller school districts may pay higher fees and have lower net investment returns relative to teachers in larger districts with otherwise identical plans. Third, the issue of asset scale may be compounded if a school district allows access for “any willing provider.” Otherwise similar teachers within a district may experience very dissimilar retirement outcomes based on each participant’s choice of provider. Fourth, a teacher’s 403(b) assets may not be fully portable within a state. The likelihood of loss of portability is higher if providers are allowed to charge loads or surrender fees as a condition of plan participation.

Management at the state level can mitigate some of the issues with local control. For example, states that control access to the 403(b) market can leverage a larger potential asset base and may have market power that creates incentives for providers to lower asset-based fees and prohibit loads and surrender charges. There are also likely scale efficiencies in the cost of monitoring providers at the state level relative to each school district undertaking this burden. And by standardizing products, services and fees, there is an increased likelihood that teachers within a state will experience similar retirement outcomes.

¹² Richardson and Gallagher (2009) provide an overview and survey evidence of how the 403(b) regulations are impacting plan sponsors.

CONTROLLED VERSUS OPEN ACCESS MANAGEMENT

Regardless of whether the plan is administered at the state or local level, a more important factor for teacher retirement outcomes is the degree of control the plan sponsor maintains over the plan. We define two models of plan control. In an open access model, the plan sponsor allows access to “any willing provider” with individual teachers bearing a substantial information processing burden when deciding which provider provides the best mixture of products, services and fees. Alternatively, a plan sponsor may utilize a controlled access model, using a competitive bidding process to limit access to the market. In a controlled access setting, the plan sponsor negotiates with providers over the mixture of products, services, and fees.

With an open access method of administration, the state or local school district functions as a basic clearinghouse for providers who desire to offer products and services to teachers. Providers register with the governmental authority and submit individual investment products for certified inclusion in the plan. A provider must typically disclose all fees that will be charged to plan participants. It is common for this information to be included in an online investment information bank for access by the governmental authority and plan participants. With open access, states and districts do not actively negotiate product offerings or fees, nor do they typically monitor the products and associated fees. Rather, the open access model offers a large range of certified providers for participant access. As a result, this model places the information processing burden of comparing a wide range of providers, products, and investment options directly on the participants.

There are a number of issues with the open access model. First, the open access model places considerable financial search burdens on participants by requiring them to find the provider that offers the lowest fees for a given level of services. This burden is amplified if providers can charge loads, surrender charges, or other fees for their products. Second, an argument for the open access model is that a large number of providers and products results in a “competitive” market. However, a competitive market also requires that all participants have the same information and level of financial sophistication. If teachers lack sufficient information on the full range of products offered or have low financial literacy, then participants are at increased risk of choosing high-cost, low-service plans. Third, the likelihood of high fees due to small scale may be magnified as the number of registered providers rise, increasing costs for all participants. These costs may be hard to avoid if participants are subject to fees, such as loads or surrender charges that reduce the liquidity of their account. Fourth, the open access model is very costly to monitor for malfeasance due to the large number of providers and products. As a result, most open access districts require providers to self-monitor.

In contrast, with the controlled access model a governmental authority (either state or local school district) limits access to the 403(b) market through a competitive bidding process. Interested providers submit proposals to service school systems based on criteria established by the governmental authority. The criteria typically cover the types of products and services that can be or are required to be offered, plan administrative duties, and the types and level of fees for the plan. In order to achieve sufficient scale for minimizing fees, generally only a small number of providers are permitted. In addition, limiting the number of providers allows the plan sponsor better oversight and monitoring of the providers’ services and products. By negotiating fee structures within a tight band, the government entity increases the likelihood that similar participants will achieve similar retirement outcomes. If the management is done at the state level, participant assets are likely to be more portable across districts due to the provider structure of the plan and because the bid process typically prohibits selected providers from charging loads or surrender charges.

IMPLICATIONS OF MANAGEMENT MODELS

Figure 1 shows that there are four possible management and oversight models for supplemental retirement plans. These different models for approving providers and products can result in substantially different teacher retirement outcomes. Thus, a series of key questions need to be addressed if we are to evaluate the alternative forms of regulation for their impact on the retirement security and wealth accumulation of school teachers. First, does open access and relatively free entry into the 403(b) market allow the inclusion of providers who charge excess fees for their products? Second, are there economies of scale in offering retirement savings plans so that fees for the same product by the same vendor are lower

in areas where there are fewer vendors? Third, how much responsibility should individual teachers bear in evaluating alternative providers and investment products? Fourth, does centralized management and oversight of providers and products enhance plan efficiency and the ability of teachers to accumulate retirement wealth? To provide answers to these important questions, we compare the fee structure for providers and products a small sample of states that use alternative models of plan oversight and control.

FIGURE 1: MODELS OF 403(B) PLAN MANAGEMENT AND ACCESS

MANAGEMENT	ACCESS	
	OPEN	CONTROLLED
Local Level	<ul style="list-style-type: none"> • Many Providers • Large number of investment options • High variability of teacher outcomes due to local plan differences • High variability of teacher outcomes due to high variability in number of providers, investment options, and fees • Substantial management burdens on teachers • High monitoring costs • Low economies of scale 	<ul style="list-style-type: none"> • Few Providers • Small number of investment options • High variability of teacher outcomes due to local plan differences • Low variability of outcomes due to low variability in number of providers, investment options, and fees • Low management burdens on teachers • Low monitoring costs • Possible economies of scale
State Level	<ul style="list-style-type: none"> • Many Providers • Large number of investment options • Low variability of teacher outcomes due to single state plan • High variability of outcomes due to high variability in number of providers, investment options and fees • Substantial management burdens on teachers • High monitoring costs • Low economies of scale 	<ul style="list-style-type: none"> • Few Providers • Small number of investment options • Low variability of teacher outcomes due to single state plan • Low variability of outcomes due to low variability in number of providers, investment options, and fees • Low management burdens on teachers • Low monitoring costs • Substantial economies of scale

ANALYSIS OF STATE LEVEL MANAGEMENT OF SUPPLEMENTAL 403(B) PLANS

Management and oversight of public K-12 school 403(b) plans follows several models and can result in significantly different teacher retirement outcomes both within and across states. To examine the implications of the method of governmental management of supplemental retirement plans, we analyze the experience of four states to illustrate how the approval and oversight process for providers affects the product and fee structure that teachers face.¹³ In the following discussion, we define a provider as a financial services company that provides products and services within a specific market. We define an investment product as a fixed annuity, variable annuity, or custodial account. Investment options are defined as sub-products that participants may invest in under any product. For example, a variable annuity or custodial account typically has a range of mutual funds that participants may invest in. Fees are any charges teachers pay for buying, holding, and selling investments in the plan.

¹³ This paper focuses on state level management process due to difficulty in acquiring data on the management of 403(b) plan by local school districts.

THE IMPACT OF OPEN VERSUS CONTROLLED ACCESS ON PLAN COMPLEXITY

Table 1 provides counts of the number of providers, products, and distinct investment options in the four states in our sample. For purposes of this table, we define a distinct investment option as any sub-product that is offered by at least one provider. If multiple providers offer the same investment option, we only count that option once in Table 1. California and Texas are open access states in which “any willing provider” may seek certification to offer products to the supplemental retirement plans. Beyond a basic certification and registration process, these states do not provide oversight to the providers. For example, Section 25100-25115 of the California Education Code requires the California State Teachers Retirement System (CALSTRS) Board to establish a provider registration process for 403(b) plans. In Texas, Senate Bill 273, enacted in 2001, established guidelines for certifying providers who could participate in the 403(b) plans for school teachers. The Texas Retirement System (TRS) was given authority to establish additional criteria for approved vendors. In both states, local school districts must allow teachers to have the opportunity to use payroll deduction for contributions to any approved registered product fund offered by an approved provider. In California, teachers wishing to participate in a supplemental 403(b) plan must choose among 72 providers offering 275 retirement products and almost 3,200 distinct investment options. Teachers in Texas face a similar complex choice, with 54 providers, 172 products, and almost 3,400 distinct investment options.

Iowa and Arizona are examples of the controlled access states that limit the number of 403(b) providers through a competitive bidding process. Both states recently transitioned to the controlled access model, with Iowa opting for a “multi-vendor” controlled access model and Arizona utilizing a “single-vendor” controlled access model. Both states required potential plan providers to meet specific requirements for products and services that will be offered and fees that will be charged. At the end of the bidding process, Iowa selected 5 providers with participants choosing from a menu of 10 products and 135 distinct investment options.¹⁴ Arizona selected a single provider offering 3 products and 22 distinct investment options.

TABLE 1: K-12 MARKET STRUCTURE BY STATE, 2009

	CA	TX	IA	AZ
Providers	72	54	5	1
Products	275	172	10	3
Investment Options	3,165	3,367	135	22

source: author calculations of California, Texas, Iowa, and Arizona data

Note: Investment options are distinct for each state

Table 1 provides initial evidence of the major differences associated with the open and controlled models. The open access states of California and Texas have 72 and 54 providers, respectively, whereas the controlled access states of Iowa and Arizona have 5 and 1 providers, respectively. The average provider in California offers 3.8 products and 3.2 products in Texas. By comparison, the average provider in Iowa or Arizona offers 2 or 3 products, respectively. More importantly, the open access states offer thousands more distinct investment products relative to the controlled access states. Both open access states in this study offer over 3,100 distinct investment options, with multiple providers offering the same investment product either through a variable annuity or custodial account. Since each provider offers a wide range of investment options, the number of distinct investment choices open access state teachers must evaluate is more than 23 times greater than in Iowa and 143 times greater than in Arizona.

¹⁴ Iowa added a 6th provider in 2010.

Research in behavioral finance suggests this large scale for plan choice architecture is problematic because most participants do not possess the financial skill or sufficient information to make an effective choice nor do they wish to devote sufficient time to understand the range of choices.¹⁵ Table 2 provides counts of providers by product for each state and highlights the high information barrier a teacher must cross in order to make effective choices in open access states. In Table 2, we now count distinct investment options for each type of product.¹⁶ A teacher in California who desires to participate in a 403(b) plan and purchase a deferred annuity contract can choose between 32 providers offering a fixed annuity and 35 providers offering a variable annuity. When choosing among the 133 different variable annuity products in California, a teacher must also select from almost 1,300 investment options. If a teacher is interested in purchasing mutual funds through a custodial account, the participant must choose among 33 providers and more than 2,000 distinct mutual funds offerings. The complexity of a teacher’s participation process is compounded by the fact that many providers offer the same investment options, some within a variable annuity and others within a custodial account.

TABLE 2: PROVIDERS AND PRODUCTS, BY STATE, 2009

	FIXED ANNUITIES		VARIABLE ANNUITIES			CUSTODIAL ACCOUNTS		
	PROVIDERS	PRODUCTS	PROVIDERS	PRODUCTS	INVESTMENT OPTIONS	PROVIDERS	PRODUCTS	INVESTMENT OPTIONS
CA	32	91	35	133	1,291	33	51	2,055
TX	15	45	26	64	1,193	27	92	2,273
IA	5	5	3	3	94	2	2	62
AZ	1	1	1	1	2	1	1	20

source: author calculations of California, Texas, Iowa, and Arizona data
 Note: The number of Investment options are distinct counts for each product

By contrast, Iowa and Arizona simplify a teacher’s participation process by utilizing a controlled access model. In Iowa, each provider offers one fixed annuity product. Three providers offer one variable annuity product each, and two providers offer a total of 62 mutual funds through custodial accounts. Table 2 shows that Arizona has the simplest choice architecture, with teachers choosing between from a menu with one fixed annuity, one variable annuity, and a menu of 20 mutual funds within a single custodial account. Based on our limited sample, it appears that teachers in controlled access states face substantially lower information burdens in choosing a low-cost, high-quality provider. For some, the lower information cost comes at the cost of a more limited choice of providers and investment options. For example, in a state with a single provider, an unhappy investor does not have the option of switching to an alternative provider.

A second advantage of controlled access is more efficient oversight of the plan. By having a smaller number of providers, products, and investment options in the plan, states utilizing a controlled access model also have an easier job maintaining oversight of the operations of the providers and the management of the funds. States with open access end up with many more providers and are unlikely to be able to effectively monitor the investment options and associated fee structures. These states are often limited to requiring the providers to make their fee structure available to teachers, typically online. Some open access states attempt to manage potential cost issues by placing limitations on the allowable fees. For example, Texas has regulations on the types of fees and the maximum rate allowed for each type of fee. However, Texas does not directly monitor the fees charged to participant but requires that providers self-enforce the limitations.

¹⁵ See for example, Iyengar (2008) for a discussion of how choice proliferation in plan design negatively affects participant outcomes.
¹⁶ Note that the number of investment options is not necessarily equal in Tables 1 and 2. Table 1 counts distinct investment options regardless of type of product, whereas Table 2 counts total investment options by product. Providers may offer the same investment option in both a variable annuity and a custodial account.

THE IMPACT OF OPEN VERSUS CONTROLLED ACCESS ON PLAN FEES

Depending on the state of employment, a participating teacher may be subject to four types of fees – asset-based fees, front-end loads, back-end loads, and surrender charges. We define asset-based fees as any fee charged as a percentage of participants’ assets in a specific product or investment option. A front-end load is a sales charge or commission paid when a teacher first purchases an investment. Similarly, a back-end load is incurred when a teacher sells an investment. Both of these fees can be incurred with an annuity product or custodial account mutual fund. We define surrender charge as a fee for terminating an annuity contract early. Loads and surrender charges reduce a participant’s investment liquidity by making it costly to transfer retirement assets into lower-cost alternatives.

Table 3 provides information on the types of fees charged, mean and median fees, and the variance of fees for the total investment options offered across the four states in our sample.¹⁷ A first observation is that neither of the controlled access states allows providers to include loads or surrender charges in the fee schedule. The prohibition on these types of fees makes it easier for participants to make effective choices on the best mix of products and investments, thereby increasing the likelihood of accumulating sufficient retirement assets. Another advantage of controlled access is that each provider will tend to have a larger share of total retirement assets under management within a school system. The scale of assets under management is important because the providers can spread fixed administrative costs over a larger asset base, thus offering the potential for lower fees per participant. By contrast, providers in open access states expect a smaller market share and will likely have less confidence about the sustainability of market share. Other things equal, these providers may need to charge higher fees to cover fixed administrative expenses and are more likely to require loads or surrender charges in order to stabilize assets under management in a highly fragmented market.

TABLE 3: INVESTMENT OPTION FEES BY TYPE, 2009

STATE	FEE	MEAN	MEDIAN	MINIMUM	MAXIMUM	STANDARD DEVIATION	NUMBER
CA	AS	2.11	2.06	0.00	12.29	1.22	5,103
	FE	1.05	0.00	0.00	15.00	2.63	
	BE	0.14	0.00	0.00	5.00	0.56	
	SU	3.39	1.00	0.00	18.00	3.74	
TX	AS	1.71	1.75	0.00	6.10	0.70	9,056
	FE	1.38	0.00	0.00	5.75	2.33	
	BE	0.64	0.00	0.00	5.00	1.46	
	SU	1.36	0.00	0.00	10.00	2.84	
IA	AS	0.87	0.85	0.00	1.70	0.36	168
	FE	0.00	0.00	0.00	0.00	0.00	
	BE	0.00	0.00	0.00	0.00	0.00	
	SU	0.00	0.00	0.00	0.00	0.00	
AZ	AS	0.80	0.88	0.22	1.54	0.40	22
	FE	0.00	0.00	0.00	0.00	0.00	
	BE	0.00	0.00	0.00	0.00	0.00	
	SU	0.00	0.00	0.00	0.00	0.00	

source: author calculations of CALSTRS, TRS, Iowa RIC, and TIAA-CREF data
 key: AS=Asset-based Fee, FE=Front-end Load, BE=Back-end Load, SU=Surrender Charge
 note: Does not include Fixed Annuity products

¹⁷ Tables 1 and 2 count products and distinct investment options within a plan. Tables 3 and 4 count all possible combinations of investment options because different providers may charge different fees for the same underlying investment.

A second observation is that fees tend to be significantly higher and more complex in open access states. For example, mean and median fees charged for total investment options are significantly higher in the open access states.¹⁸ The mean asset-based fee is 211 basis points in California and 171 basis points in Texas. This compares to fees of 87 and 80 basis points in Iowa and Arizona, respectively. The variability of fees is also significantly higher in the open access states. For

California, about two-thirds of the asset-based fees are between 89 and 333 basis points. By comparison, in Texas two-thirds of the asset-based fees range between 101 and 241 basis points. By contrast, the two-thirds of asset-based fees in Iowa are between 50 and 123 basis points and in Arizona between 40 and 119 basis points. In addition, teachers in open access states are subject to a set of fees – front-end loads, back-end loads, and surrender charges – that increase the effective cost to own a product and make it costly to switch to a more cost-effective provider. Table 4 provides detail on the types of fees charged by product for each state in our sample, with the calculated statistics conditional on a product or investment option having a positive (non-zero) fee. In California we find about 80 percent of fixed annuity products and 97 percent of variable annuities are subject to a surrender charge. In Texas, about 80 percent of fixed annuity products and 78 percent of variable annuity products are subject to a surrender charge. Investment loads are also common in the open access states, with about 25 percent of investment options in California and about 45 percent of investment options in Texas subject to either a front-end or back-end load. In contrast, teachers in Iowa and Arizona are not subject to any of these fees.

The large number of providers and products can result in monitoring problems. For example, Texas imposes a cap of 2.75 percent for asset-based fees. Providers may submit fees in excess on this limit but Texas requires the weighted mean of asset-based fees for any product not exceed 2.75 percent. Providers are responsible for making sure the fee cap is not exceeded.¹⁹ Table 3 shows the maximum possible asset-based fee is over 6 percent. Our analysis indicates a number of providers in Texas offer products that potentially exceed the cap but we cannot determine if the providers expend the necessary resources to ensure that participants are not paying excessive asset-based fees.

¹⁸ Appendix 1 provides test statistics for significance of the means and variances in Table 3.

¹⁹ Teacher Retirement System of Texas (2009)

TABLE 4: CONDITIONAL FEES BY PRODUCT AND TYPE, 2009

PRODUCT	STATE	FEE	MEAN	MEDIAN	MINIMUM	MAXIMUM	STANDARD DEVIATION	NUMBER WITH FEES	TOTAL NUMBER
FIXED ANNUITIES	CA	AS	0.90	1.00	0.60	1.10	0.26	3	91
		FE	.	.	.	.	.	0
		BE	.	.	.	.	.	0
		SU	10.66	9.00	4.00	35.00	5.57	72	
	TX	AS	0.05	0.05	0.05	0.05	0.00	1	45
		FE	.	.	.	.	.	0
		BE	5.00	5.00	5.00	5.00	0.00	2	
		SU	8.66	9.00	5.00	10.00	1.50	36	
	IA	AS	0.10	0.10	0.10	0.10	0.00	2	5
		FE	.	.	.	.	.	0
		BE	.	.	.	.	.	0
		SU	.	.	.	.	.	0
AZ	AS	0.00	0.00	0.00	0.00	0.00	0	1	
	FE	.	.	.	.	.	0	
	BE	.	.	.	.	.	0	
	SU	.	.	.	.	.	0	
VARIABLE ANNUITIES	CA	AS	2.53	2.32	0.35	8.65	1.07	2,225	2,292
		FE	5.00	5.00	5.00	5.00	0.00	2	
		BE	0.34	0.35	0.10	2.00	0.25	109	
		SU	7.18	7.00	5.00	18.00	2.06	2,219	
	TX	AS	2.14	2.20	0.47	4.83	0.44	2,196	2,241
		FE	.	.	.	.	.	0
		BE	5.00	5.00	5.00	5.00	0.00	122	
		SU	7.05	7.00	5.00	10.00	1.39	1,749	
	IA	AS	0.87	0.83	0.16	1.70	0.36	100	103
		FE	.	.	.	.	.	0
		BE	.	.	.	.	.	0
		SU	.	.	.	.	.	0
AZ	AS	0.74	0.74	0.44	1.03	0.42	2	2	
	FE	.	.	.	.	.	0	
	BE	.	.	.	.	.	0	
	SU	.	.	.	.	.	0	
CUSTODIAL ACCOUNTS	CA	AS	1.85	1.66	0.10	12.29	1.21	2,785	2,811
		FE	6.48	5.75	0.05	15.00	2.69	828	
		BE	1.91	2.00	0.25	5.00	1.07	354	
		SU	3.40	5.00	0.50	5.00	1.96	395	
	TX	AS	1.59	1.54	0.10	6.10	0.69	6,791	6,815
		FE	5.13	5.75	0.73	5.75	0.98	2,444	
		BE	2.31	1.00	0.33	5.00	1.89	2,238	
		SU	.	.	.	.	.	0
	IA	AS	0.93	0.89	0.23	1.64	0.29	63	65
		FE	.	.	.	.	.	0
		BE	.	.	.	.	.	0
		SU	.	.	.	.	.	0
AZ	AS	0.80	0.88	0.22	1.54	0.41	20	20	
	FE	.	.	.	.	.	0	
	BE	.	.	.	.	.	0	
	SU	.	.	.	.	.	0	

source: author calculations of California, Texas, Iowa and Arizona data
 key: AS=Asset-based Fee, FE=Front-end Load, BE=Back-end Load, SU=Surrender Charge

An important aspect of controlled access is that improved oversight of products menus significantly reduces excessive provider fees and increases the efficiency and equity of teacher retirement outcomes. Figure 2 shows the distribution of asset based fees for the four states in our sample. A primary difference between the open access and controlled access states is that teachers in open access are exposed to providers who offer products with extremely high fees. By contrast, product fees at the lower end of the fee distribution are comparable in all four states. While it is possible for teachers in an open access state to select low-cost plans, this is a guaranteed outcome in a controlled access state. Also, there is a much higher likelihood that teachers will experience similar retirement outcomes because the range of fees is smaller in controlled access states.

Another issue with open and controlled access is whether there are differences in the cost-to-own similar products across states. Differences in fees charged for similar products can be attributable to several sources. Providers offering the same investment options may vary their fee structure depending on the certification process, assets under management, the number of providers, or the perceived level of monitoring. First, a competitive bidding process could provide an incentive for providers to lower their fees in an effort to win the contract and be the single (or one of a few) vendors. Second, vendors with a larger share of the state or local market may gain from economies of scale. If actual costs to the vendor are lower in the controlled access states, then the plan provider can pass some of these cost savings along to the teachers in the form of lower fees. Third, providers may charge excess fees if the market is highly fragmented and teachers have poor information about more cost-effective alternatives. If either of the first two hypotheses is correct, then we should see lower fees for the same product in the controlled access states and higher fees in the open access states. If the third hypothesis is correct, then we may observe certain providers charging significantly higher fees but others charging similar fees across states.

Figure 3 shows the distribution of asset-based fees for 118 common investment options across three multi-vendor states: the two open access states of California and Texas and the controlled access state of Iowa. Using Iowa as our control state, the fee distribution for common investment options ranges from 0 to 170 basis points, with a mean asset-based fee of 90 basis points. The commonly offered investment option fees in Texas and California are significantly higher. The majority of the common investment options have fees in excess of 250 basis points, with a mean asset-based fee of 210 basis points in California and 182 basis points in Texas. In addition, many of the common investment options offered in California and Texas include loads or surrender charges while none of the investment options in Iowa have these fees. In California, about 7 percent of the common investment options have a load and 39 percent have a surrender charge. The comparable incidence of these fees in Texas is lower, with about 5 percent of the common investment options subject to loads and 25 percent having surrender charges. The magnitude of the loads and surrender charges add considerable cost to the investment in the open access states relative to Iowa. For common investment options with a positive load or surrender charge, the mean back-end load is 163 basis points in California and 233 basis points in Texas, and the mean surrender charge in California is 419 basis points and 877 basis points in Texas. Thereby, the cost of open access to participants is not only higher asset-based fees but also a higher total “cost-to-own” along with a significant likelihood of loss of liquidity and flexibility to move retirement assets to more competitively priced providers.

THE IMPACT OF HIGH FEES ON TEACHER RETIREMENT SECURITY

Fees are a necessary component of any retirement plan because providers need to cover costs and earn a reasonable return for services provided. In a competitive market, we would expect fees to be at a reasonable and fairly uniform level, with any differences in fees attributable to differences asset scale, asset management, and participant services. However, the prior section documented that providers in open access states assess a wider variety of fees and charge significantly higher fees relative to providers in controlled access states. These differences in fee structures are large enough to suggest violation of the public policy principle of horizontal equity which states that similar teachers (in terms of age, tenure, pay, and contributions) should experience similar 403(b) retirement plan outcomes. The data suggest that teachers in open access states face a lower likelihood of a secure retirement simply because they are subjected to a more complex fee structure and higher overall fees.

Figure 4 shows the accumulation path for real (constant 2010 dollars) asset accumulation for career teachers assuming three different asset-based fee levels. We assume teachers have a starting salary of \$35,000 and receive annual nominal pay raises of 4 percent. Teachers begin immediate participation in the supplemental 403(b) plan, contributing 5 percent of salary, earning a gross nominal return of 7.5 percent, and facing an inflation rate of 2.8 percent. We examine the impact on asset accumulation when the gross return is reduced by asset-based fees of 25, 75, or 150 basis points. At the end of a 30-year career (age 55) the teacher with the low-fee plan has about \$25,000 more in real retirement wealth relative to the teacher in the high-cost plan. If these teachers continue to work another 10 years (age 65), the difference grows to almost \$59,000 in real retirement assets.

The primary objective of a retirement plan is to help workers accumulate assets that can be converted into retirement income. Figure 5 shows the impact of different fee structures on annuitized retirement wealth. At age 55, the low-fee plan generates about \$1,400 in additional real retirement income relative to the high-fee plan. Placing these amounts in terms of replacing pre-retirement income, the low-fee plan provides an income replacement rate of about 15 percent and the high-fee plan a replacement rate of about 12 percent. If the teacher works to age 65, then the low-fee plan generates about \$3,900 more in real retirement income than the high-fee plan. This is equivalent to a 28 percent income replacement ratio for the low-fee plan, which is 7 percentage points higher than the high-fee plan replacement rate of 21 percent.

Loads and surrender charges also have a detrimental effect on retirement well-being. Back-end load impacts retirement income received by directly reducing retirement wealth used for converting assets into income. Figure 6 shows the effect of back-end loads on real retirement income. In this example, we assume that all retirement assets are converted into a single-life annuity at retirement. One teacher has a low-cost plan portfolio with no loads. A second teacher incurs the same asset-based fees but is also subject to a 2.5 percent back-end load. The third teacher has a high-cost plan portfolio, paying 150 basis points in asset based fees and subject to a 2.5 percent back-end load. The teacher with the no-load portfolio is slightly better off than the teacher incurring similar asset-based fees, with replacement rates that are about one percent higher at various retirement ages. The combination of high-fees and back-end loads has a substantially detrimental effect on retirement income, reducing annual retirement income by over \$3,300 and lowering the income replacement rate by 6 percentage points (27 percent versus 21 percent) for an age 65 retiree.

Surrender charges impact retirement asset accumulations for teachers switching into different plans or to lower-cost providers. Figure 7 shows the effect of surrender charges on real annuity income assuming that some participants switch from a high-cost provider to lower-cost providers. The calculations assume that the first teacher participates in a medium-cost plan (100 basis points in asset-based fees) throughout the career. The second teacher switches from a high-cost (150 basis points) to the medium-cost plan after 5 years of participation. A third teacher begins in a high-cost plan (200 basis points), switches plans twice, once at 5 years to the medium-cost plan and once at 10 years tenure to a low-cost (50 basis points) plan. While all three teachers spend the majority of their careers in a medium- or low-cost plan, the combination of surrender charges and higher asset-based fees early in the career result in lower retirement income at all retirement ages. Figure 7 shows that switching to a low-cost provider improves teachers' retirement well-being. The teacher that switches into the low-cost plan receives almost \$1,000 in real annuity income compared to the teachers in the medium-cost plan. However, comparing Figures 6 and 7 shows that while switching to lower-cost providers and plans is a superior strategy to holding onto the high-cost plan, teachers that start and remain in a low-cost plan are better off. For example, a teacher retiring at age 65 and who spent an entire career in a low-cost plan receives about \$580 more in real annuity income per year relative to the teacher who eventually shifts into the low-cost plan.

Finally, we consider the impact on real asset accumulation and retirement income for teachers who make systematic withdrawals from their 403(b) plan rather than convert the entire amount into annuity income. Figure 8 shows real asset accumulation and decumulation using mean asset-based fees in California, Texas, and Arizona. We maintain the assumptions from the previous examples with the exception that teachers in each plan begin systematic withdrawals beginning at age 66. We assume teachers use a simple distribution rule of the minimum of 4 percent of assets or the

Internal Revenue Service required minimum distribution.²⁰ Figure 8 shows that the low-cost plan generates about \$52,000 more in real retirement assets at age 65. The benefit of lower fees persists throughout retirement, with the low-cost plan having about \$80,000 more in real assets when a teacher attains age 85. The combination of a larger initial asset base and lower fees generates substantially more income over time. Figure 9 shows that initial real annual retirement income is about one-third higher in the low-cost plan relative to the high-cost plan. By the time the teacher attains age 75, the low-cost plan is generating an additional 49 percent in retirement income. By the twentieth year of retirement, the low-cost plan is generating about \$13,100 in retirement income, an increase of about 69 percent over the \$7,750 generated by the high-cost plan.²¹ Figure 10 illustrates that the low-cost plan generates both higher real income and a greater likelihood of not outliving resources. At age 100, the low-cost plan has generated almost \$500,000 in real retirement income, which is more than \$200,000 more than the income generated by a high-cost plan. In addition, the low-cost plan has over \$180,000 in real assets remaining, compared to about \$89,000 in the high-cost plan. Overall, a low-cost controlled access model provides a more effective mechanism for helping teachers achieve a comfortable and secure retirement.

CONCLUSIONS

Different plan sponsor control models have been examined to determine their affect plan complexity, fee structures, and retirement outcomes for public K–12 school teachers covered by supplemental 403(b) plans. We develop a taxonomy whereby 403(b) plans can be sorted into two administrative levels (state or local school district) and two models of management and oversight (open access or controlled access).

Examining data from four states, we conclude that relative to state controlled access to the 403(b) market, the open access model has an adverse effect on the retirement saving of participating teachers. The states using the open access model have supplemental 403(b) plans with a large and potentially bewildering number of providers and investment options, with minimal monitoring of providers, and with teachers bearing most of the burden in selecting a cost-effective option. Participants also face a high likelihood of reduced investment liquidity because of the high prevalence of loads and surrender charges associated with provider products. By contrast, the controlled access states in our sample use a competitive bidding process, with potential providers required to submit proposals that include information on the product and investment menu and to specify any associated fees. In general, loads and surrender charges are prohibited. As a result, median fees are lower and the variability of fees is smaller in controlled access states, increasingly the likelihood that all teachers achieve a secure retirement.

We conduct simulations on asset accumulation and annuity value of wealth at various retirement ages. We find that over a working career, a teacher participating in a low-fee plan in a controlled access state can potentially accumulate \$25,000 to \$60,000 more in real retirement wealth relative to a teacher in a high-fee plan in an open access state. When viewed in conjunction with back-end loads or surrender charges, the teacher in a low-fee plan can generate up to an additional \$4,000 yearly real annuity income, providing an additional 7 percent real retirement income replacement rate of the teacher's final year's salary. Assuming a standard 4 percent systematic withdrawal rule, our simulations suggest a teacher in a controlled access state will generate about \$65,000 more in real (constant 2010 dollars) retirement income and have about \$80,000 more in real retirement assets remaining at age 85.

These results highlight how the controlled access model improves teacher retirement outcomes by generating more retirement income for a given level of contributions. Controlled access can also improve horizontal equity by reducing the variability of teacher retirement outcomes. In addition, the improvement in replacement rates facilitated through the 403(b) plan can make it easier to reform the other components of teachers' retirement benefits package by reducing heavy reliance on these components as the dominant source of teacher retirement security.

²⁰ Required minimum distributions are the minimum amount a retired account owner must withdraw annually beginning with the year they attain age 70.5. We use the uniform lifetime table in this example. See Department of the Treasury (2009), Table III.

²¹ For the U.S., current average life expectancy at age 65 is 18.5 years. See National Center for Health Statistics (2010), Table 24.

Appendix 1

Table A1 shows the Welch t-statistics for the null hypothesis that mean asset-based fees are equal across states. We reject the null for all cases except for the comparison of mean fees in Iowa and Arizona.

TABLE A1: AVERAGE ASSET-BASED FEES: T-TEST FOR EQUAL MEANS

	TX	IA	AZ
CA	21.53	38.07	15.29
TX		29.29	10.81
IA			0.79

source: author calculations

Table A2 show the F-statistics for the null hypothesis that the variance of asset-based fees are equal across states. We reject the null for all cases except for the comparison of the variance of fees in Iowa and Arizona.

TABLE A2: AVERAGE ASSET-BASED FEES: F-TEST FOR EQUAL VARIANCES

	TX	IA	AZ
CA	3.03	11.40	9.52
TX		3.76	3.14
IA			0.84

source: author calculations

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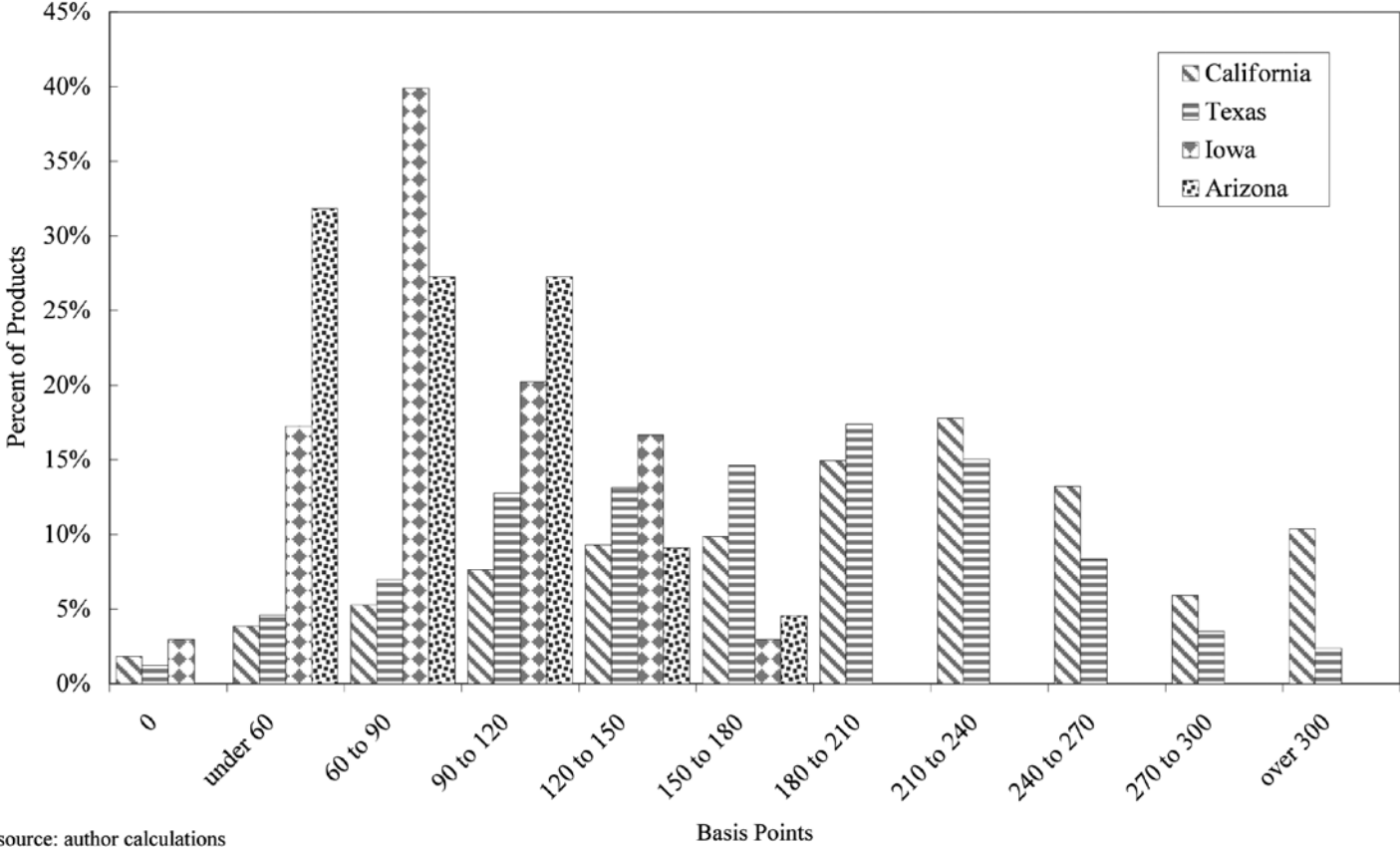
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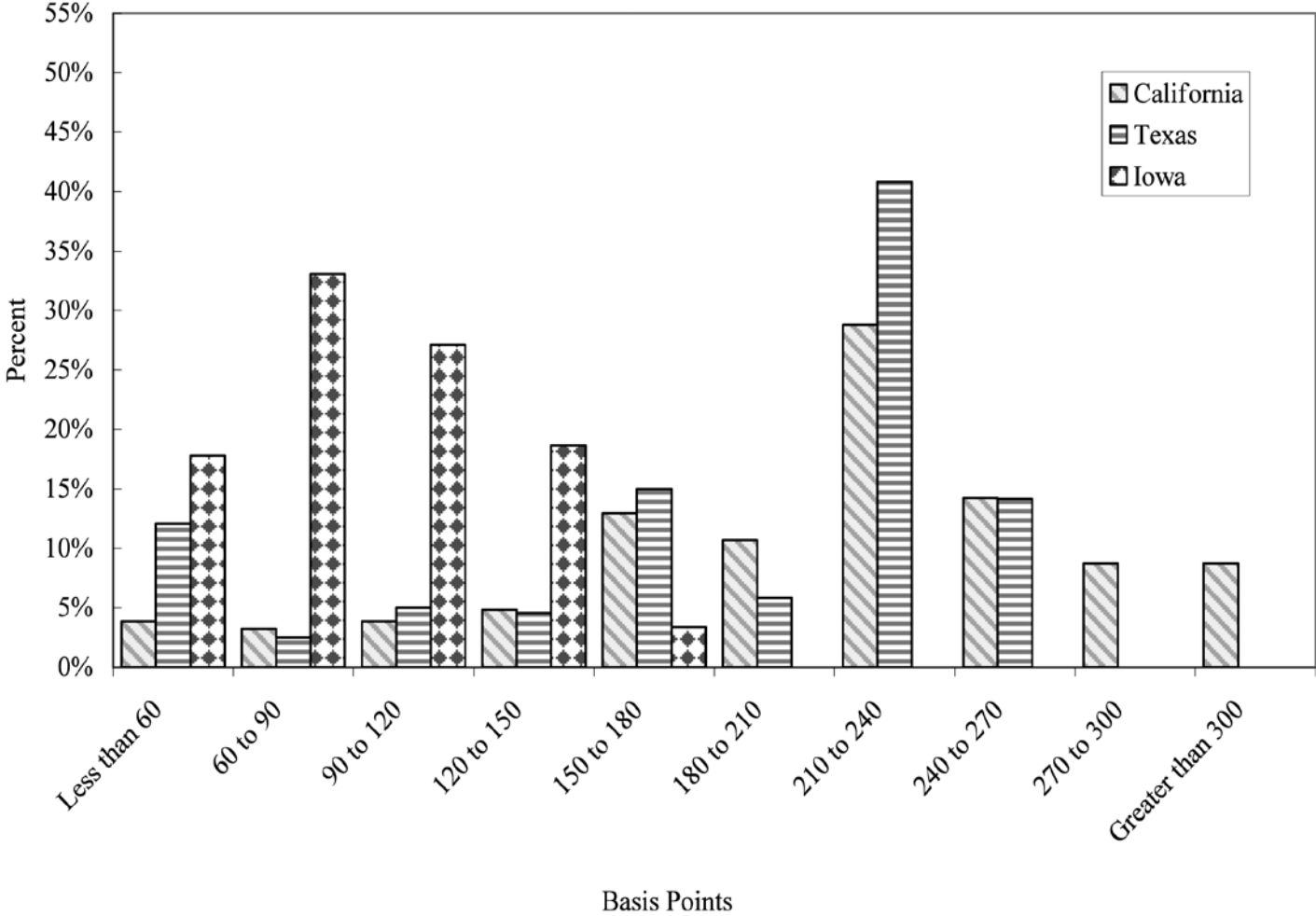
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FIGURE 2: DISTRIBUTION OF ASSET-BASED FEES FOR INVESTMENT OPTIONS BY STATE, 2009



source: author calculations

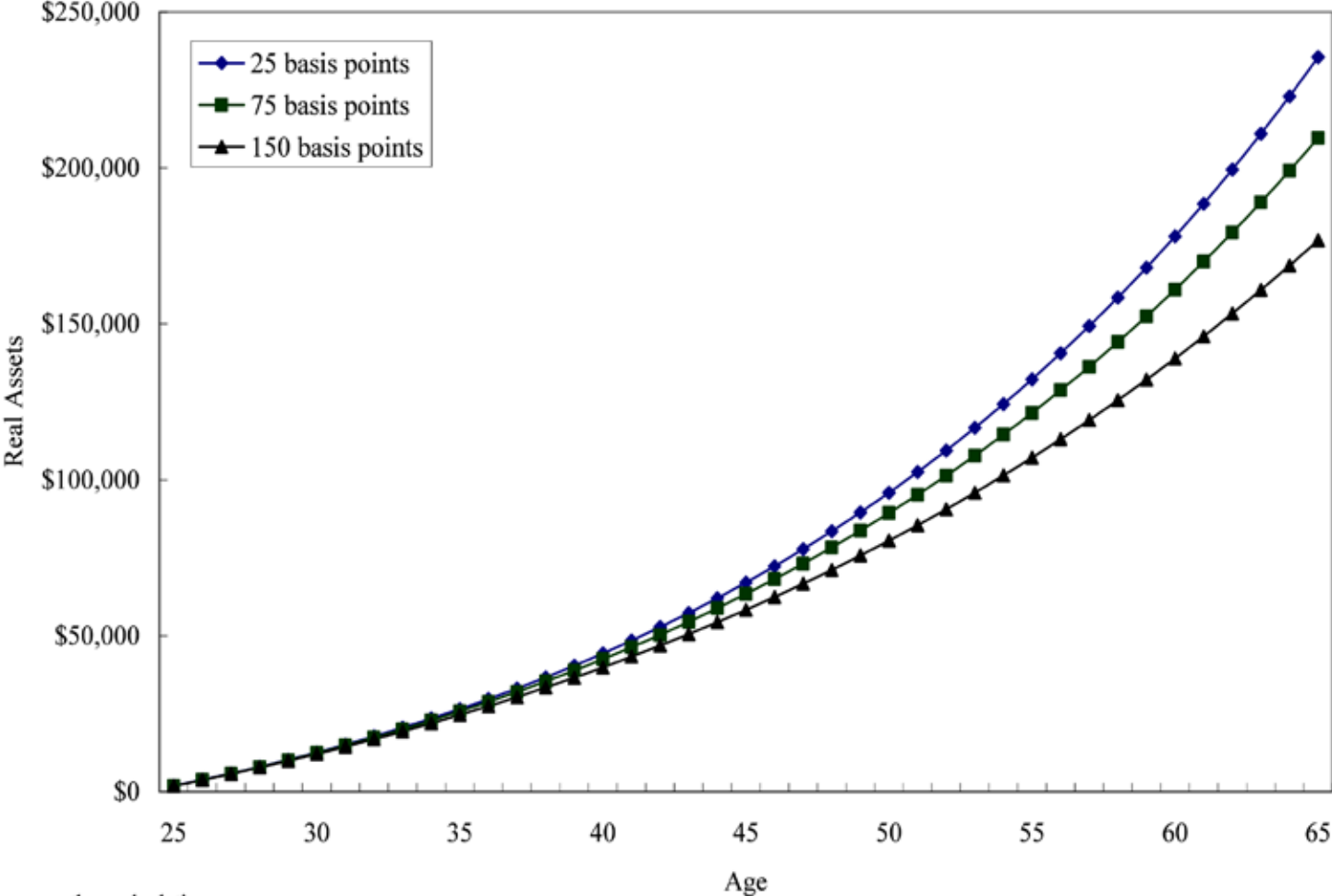
FIGURE 3: DISTRIBUTION OF ASSET-BASED FEES FOR COMMON INVESTMENT OPTIONS 2009



source: author calculations

FIGURE 4: THE IMPACT OF ASSET BASED FEES ON REAL ASSET ACCUMULATION

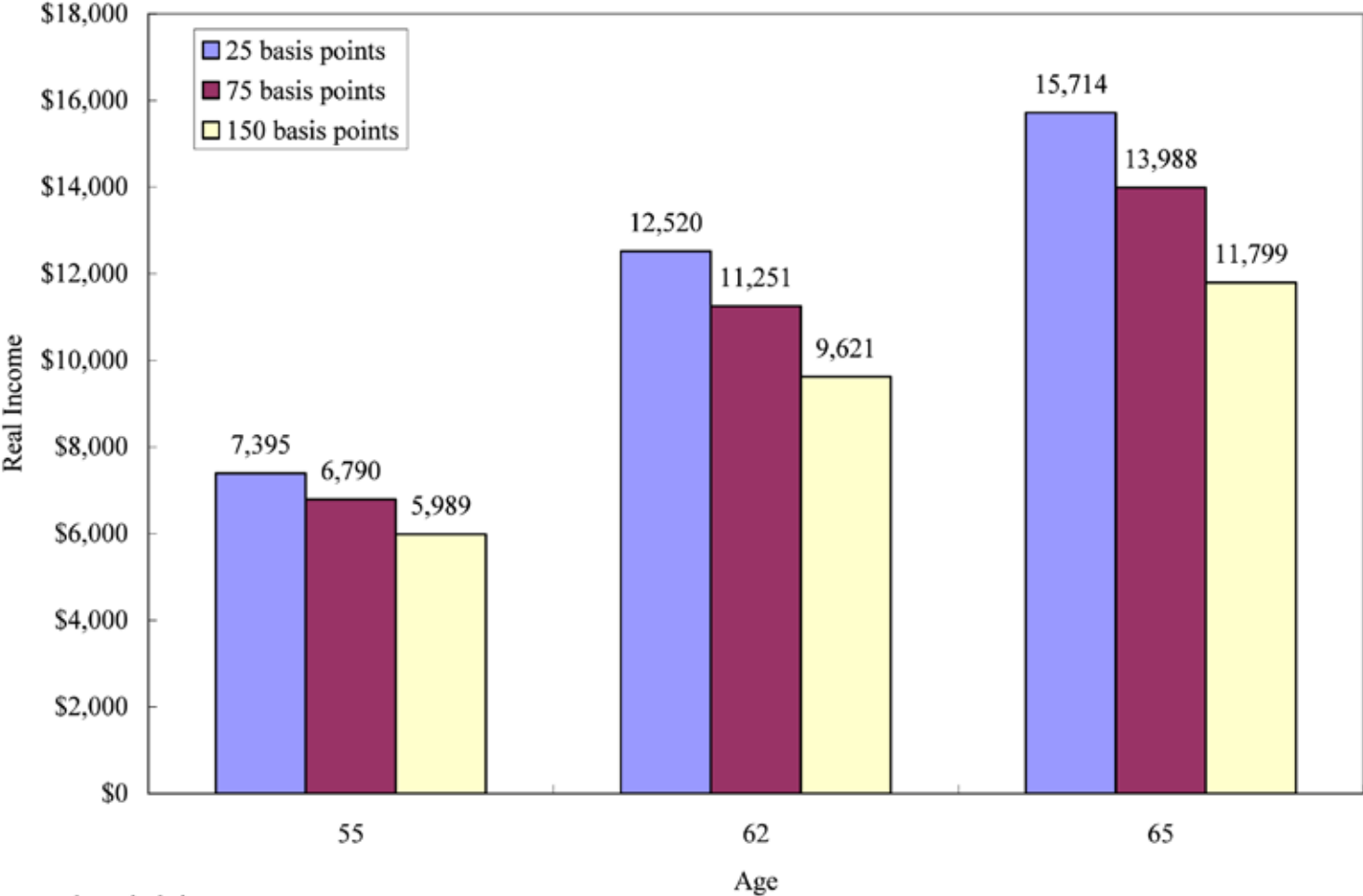
Assumes \$35,000 starting salary, 4% salary growth, 5% contribution rate, 7.5% gross investment return, 2.8% inflation rate 2010 dollars



source: author calculations

FIGURE 5: EFFECT OF ASSET-BASED FEES ON REAL ANNUITY INCOME

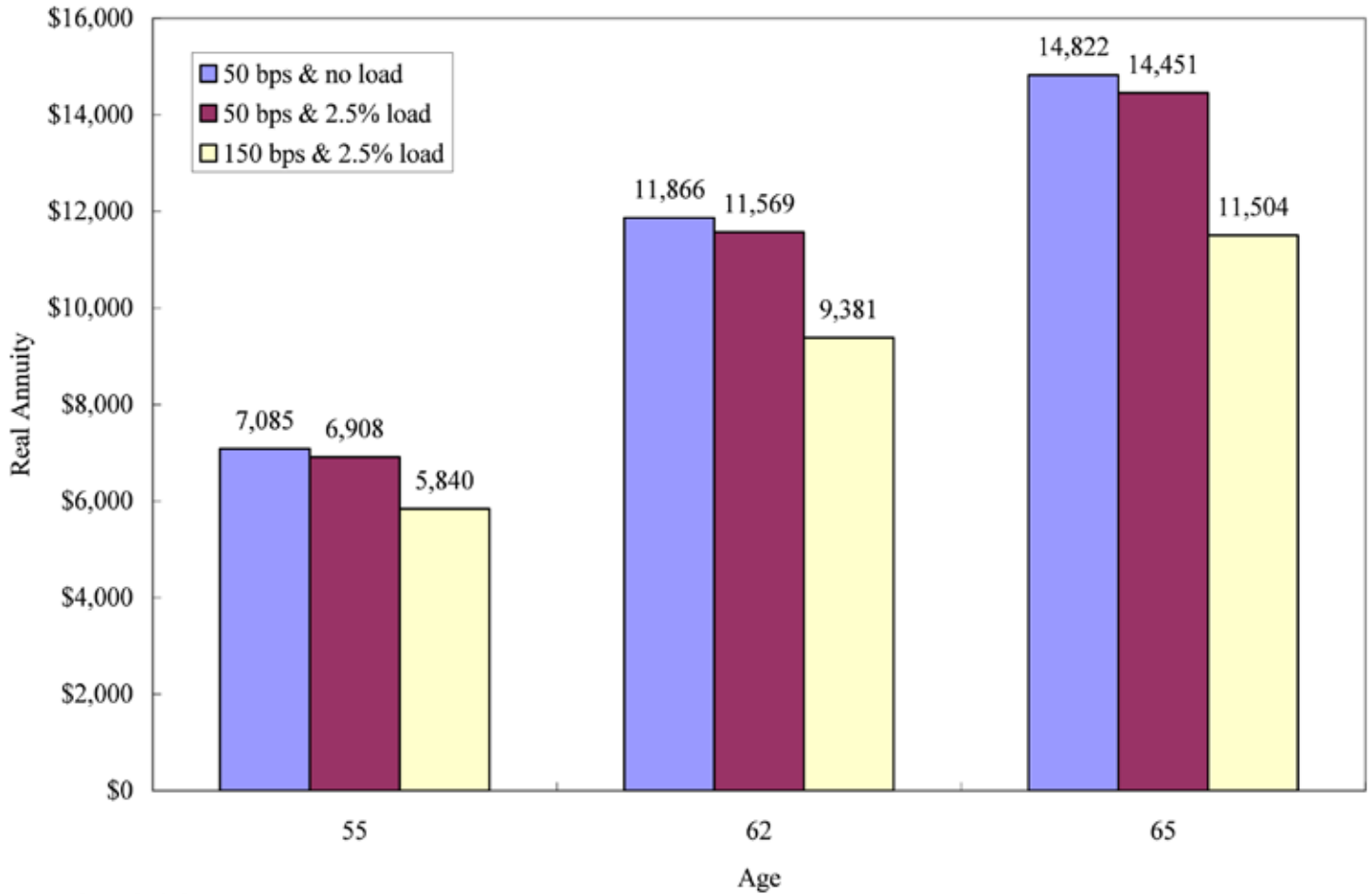
Assumes single life annuity using TIAA-CREF mortality rates, 4% interest rate, and 2.8% inflation rate
2010 Dollars



source: author calculations

FIGURE 6: EFFECT OF BACK-END LOADS AND ASSET-BASED FEES ON REAL ANNUITY INCOME

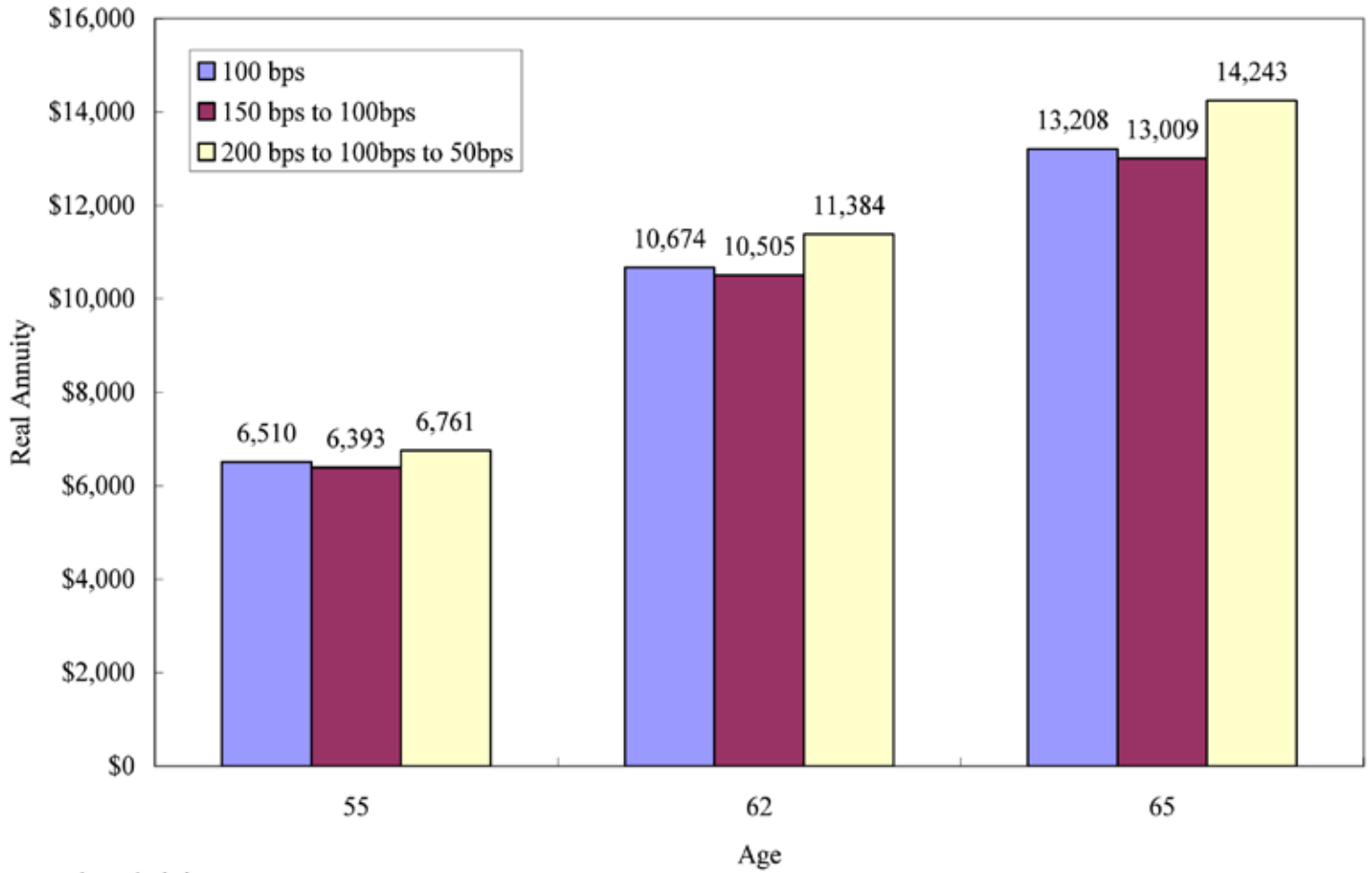
Assumes single life annuity using TIAA-CREF mortality rates, 4% interest rate, and 2.8% inflation rate
2010 Dollars



source: author calculations

FIGURE 7: EFFECT OF SURRENDER CHARGES AND ASSET-BASED FEES ON REAL ANNUITY INCOME

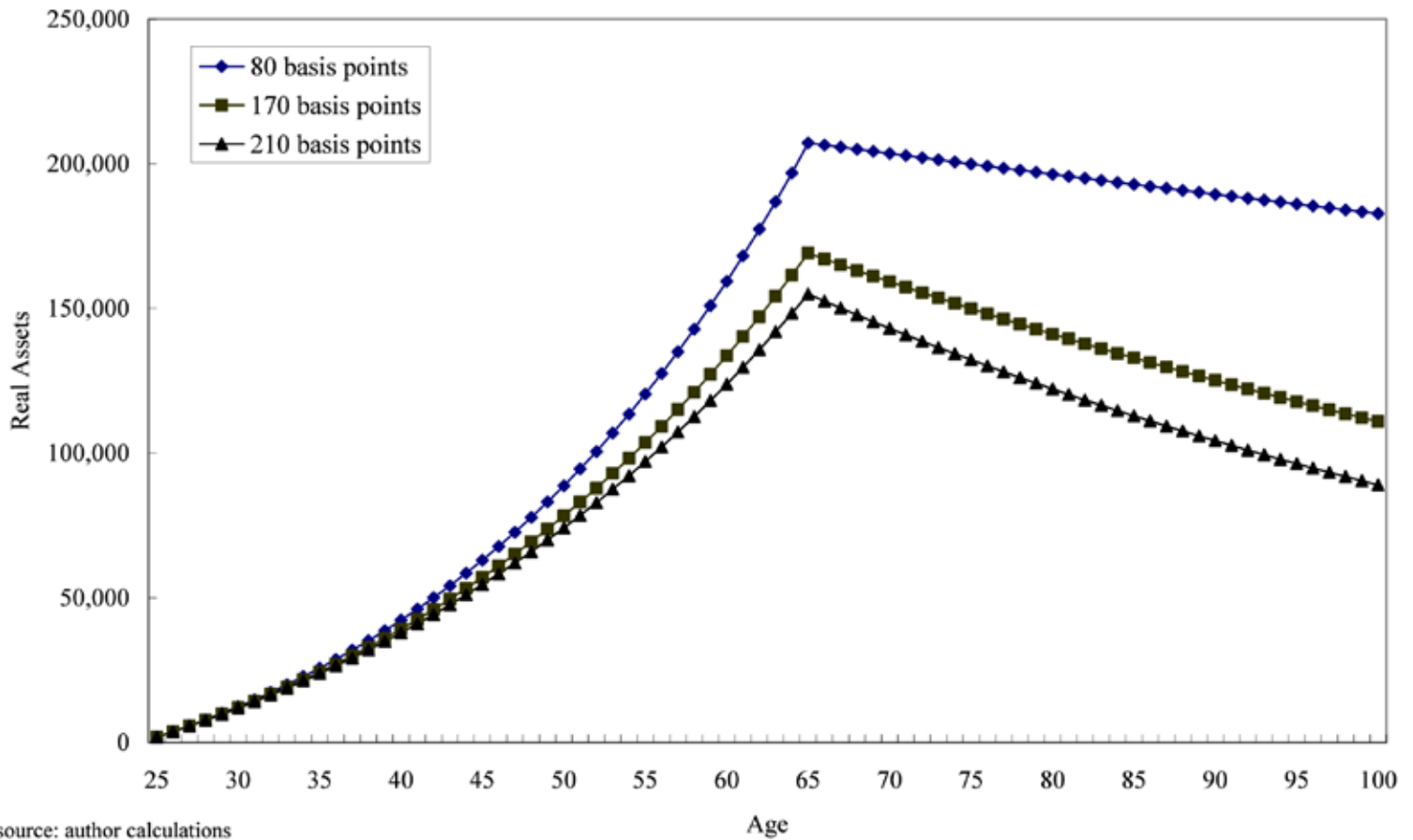
Assumes 7% surrender charge, single life annuity using TIAA-CREF mortality rates, 4% interest rate, and 2.8% inflation rate
2010 Dollars



source: author calculations

FIGURE 8: REAL 403(B) ASSET VALUES TO AGE 100

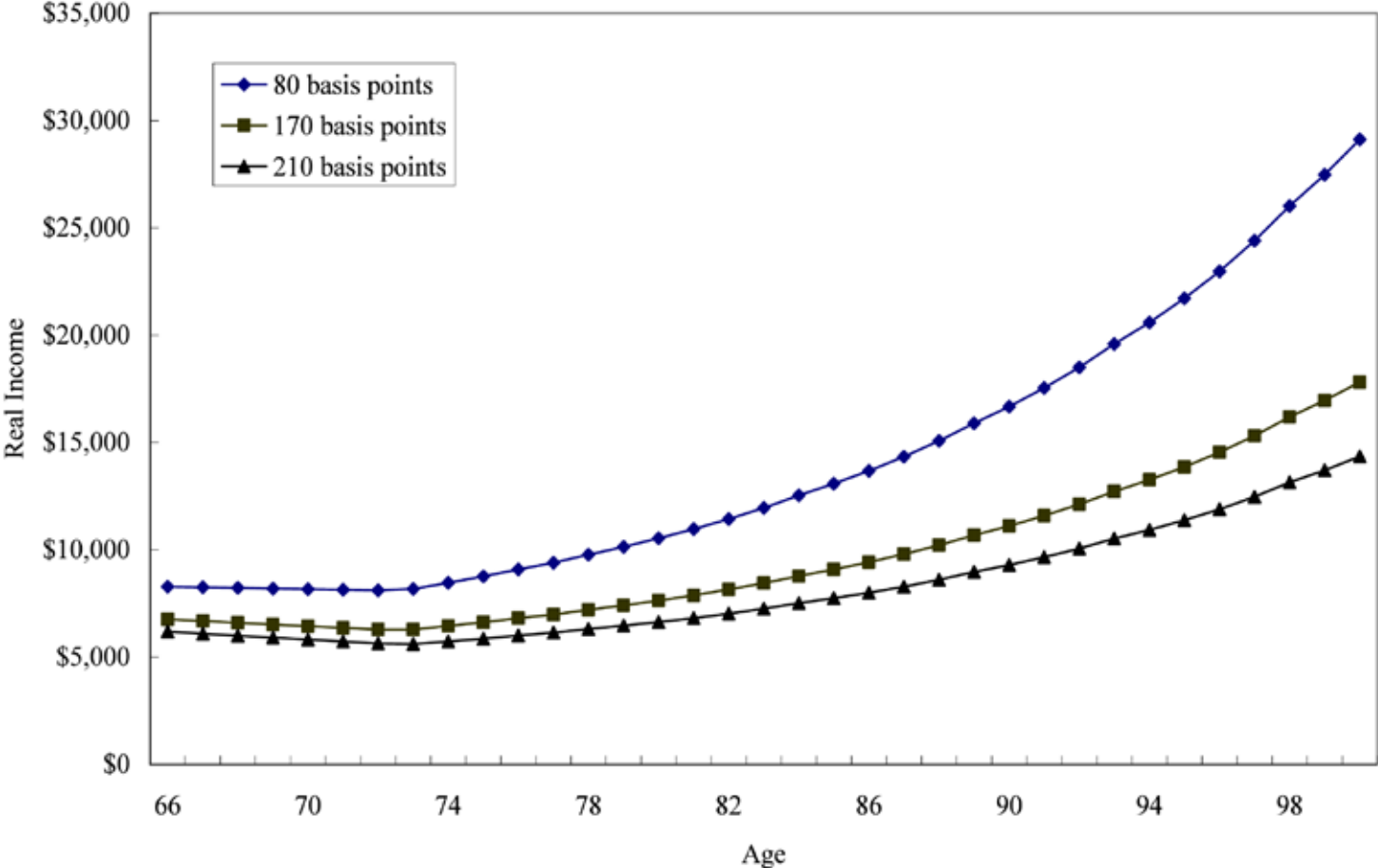
Assumes \$35,000 starting salary, 4% salary growth, 5% contribution rate, 7.5% gross investment return, 2.8% inflation rate, distribution rate=maximum of 4% or required minimum distribution, Age 65 retirement
 2010 Dollars



source: author calculations

FIGURE 9: REAL ANNUAL INCOME TO AGE 100

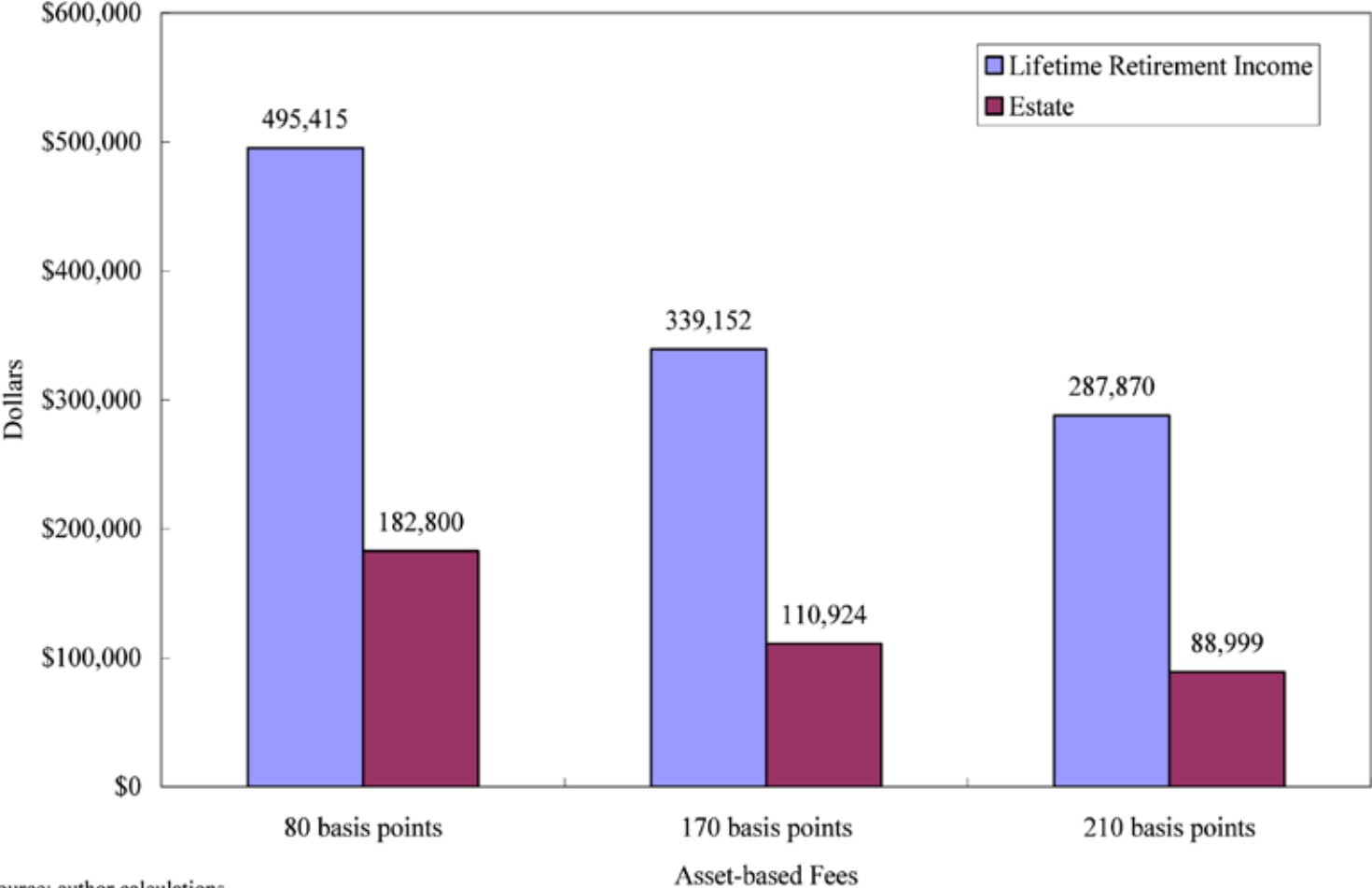
Assumes \$35,000 starting salary, 4% salary growth, 5% contribution rate, 7.5% gross investment return, 2.8% inflation rate, distribution rate=maximum of 4% or required minimum distribution, Age 65 retirement
2010 Dollars



source: author calculations

FIGURE 10: REAL LIFETIME INCOME AND ESTATE VALUE AT AGE 100

Assumes \$35,000 starting salary, 4% salary growth, 5% contribution rate, 7.5% gross investment return, 2.8% inflation rate, distribution rate=maximum of 4% or required minimum distribution, Age 65 retirement
2010 Dollars



source: author calculations