State Notes

TOPICS OF LEGISLATIVE INTEREST

Winter 2020

The Michigan Public School Employees' Retirement System
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The current version of the Michigan Public School Employees' Retirement System (MPSERS) was established under Public Act (PA) 300 of 1980. Depending on when an employee was hired, and what plan the employee chose upon hiring (if a choice was provided), MPSERS may provide pension and retiree health care benefits upon reaching years-of-service and age eligibility. As of the 2018 valuation (which is most recent), there were nearly 183,000 active employees in MPSERS, and roughly 216,600 retirees and beneficiaries; another 22,000 inactive employees are entitled to benefits but are not yet receiving them.

The Michigan Public School Employees' Retirement System is the largest State-operated pension plan in Michigan. It has assets totaling more than $56.0 billion. For comparison, the State Employees' Retirement System (SERS) has assets totaling roughly $15.0 billion. However, SERS no longer is an open pension plan, having been closed to new hires since March 1997.

An employee newly hired in MPSERS today has a choice between a hybrid defined benefit (DB)/defined contribution (DC) plan (called Pension Plus 2 Plan, or PP2) and a straight DC plan. Retiree health care premium coverage was discontinued for employees first hired on or after September 4, 2012. However, employees hired since September 4, 2012, have been provided a personal healthcare fund, which is a 401k-type savings plan that can be used for healthcare expenses.

Recent discussion surrounding MPSERS has focused on the schedule to pay off unfunded liabilities that exist in legacy (closed) benefit plans, both for pension and retiree health care. This article will examine the existing funded ratio, amortization schedule, and assumptions specified by statute and by policy that determine annual MPSERS payments.

Background

Before looking at specific information for MPSERS, the following will help explain terminology and underlying mechanics for pension systems. A 'defined benefit' plan is a plan that offers a defined benefit upon a person's retirement, based on a formula that typically takes into account years of service and salary earned during those years of service. This type of plan is sometimes known as a pension plan. In contrast, a 'defined contribution' plan is one in which the employer contributes a specified amount into a 401k or 401k-type plan, which the employee typically can access for retirement income upon termination from employment, subject to Internal Revenue Code rules for eligibility.

To fund a DB plan, contributions must be made, generally by the employer and, especially in the public sector, often with additional contributions made by an employee during their working career. Those contributions are invested in a variety of investment vehicles, and the investment returns, combined with the contributions, are used to make pension payments upon retirement. In Michigan's retirement plans, roughly two-thirds of every dollar paid for pension payments comes from investment returns.

An actuary determines how much must be contributed for the 'normal cost', which is the amount contributed today that, if all actuarial assumptions were correct, would pay the pension benefits

accrued during a year of employment. Actuarial assumptions that are used by an actuary to determine how much must be paid into the system each year include mortality, retirement age, salaries, health care inflation, and rates of return in the stock market.

When there is a difference between actual events and the assumptions used to determine funding for a pension system, there can be either positive or negative impacts on a retirement system. When reality is less favorable than the assumptions and negative impacts occur, this results in 'unfunded actuarially accrued liabilities' (UAAL), or essentially a shortfall in the assets in the system compared to the value of benefits earned to date. It is important to note, however, that UAAL is calculated as the shortfall in assets compared to the value of all benefits earned, *if those earned benefits had to be paid out in their entirety today*. Since benefits are paid out over time, when unfunded accrued liabilities occur, they do not have to be eliminated all at once; instead, they can be reduced over time.

Pension systems generally include a smoothing mechanism to fold in either positive or negative investment impacts over a period of years. Positive results and UAAL from negative impacts from investment returns often are "financed" like a homeowner's mortgage, and in Michigan, they are smoothed into the system over five years. The stock market losses in 2008 and 2009 contributed heavily to UAAL in pension systems around the country.

The 'funded status' of a pension system illustrates the percentage of assets on hand compared to the amount of benefits earned. When UAAL increases, the funded status declines. However, as mentioned in the previous paragraph, since UAAL is calculated *as if all earned benefits had to be paid today*, and since, in reality, benefits are paid out over a retiree's lifetime, what is perhaps more important than funded status is the *stability of payments made to the system and the efforts made over time to reduce existing UAAL,* along with efforts to lessen the potential for further UAAL.

Stability of Annual Payments into MPSERS and the Difference between Intentionally and Unintentionally Underfunding the Calculated Payments

Every year, an independent actuary (Michigan contracts with Gabriel, Roeder, Smith and Company, a firm of actuaries not employed directly by the State) compiles a valuation for each of the State's retirement systems, including MPSERS. The valuation is done for both the pension plan and for the retiree health care plan. (Even though new employees hired do not have retiree health care coverage, employees hired before September 4, 2012, have access to these benefits, called other postemployment benefits, or OPEB.) The valuation measures a system's funding progress, determines the employer contribution for future years, and provides actuarial information for the system's financial report.

A retirement system is not generally required to adhere to the calculated employer contributions found in the valuation. Earlier accounting standards required the calculation of an annual required contribution (ARC), and if a state or system did not fund the ARC, it could face negative consequences in its credit rating. However, current standards only require the calculation of a *recommended*, not required, contribution. This recommended contribution is called the actuarially determined contribution (ADC). While not required, if a plan did not make a good faith effort to fund its ADC, it is likely that ratings agencies would react negatively, as they did when plans did not adequately fund calculated ARCs.

Some states and cities have intentionally not funded the calculated contributions. Unlike those situations, Michigan has consistently applied the required contribution, expressed as a *percentage of payroll*, to the payroll of the various retirement systems. However, if *payroll* does not materialize as estimated, then there can be times of an unintentional underfunding of the calculated contributions, and this has happened in Michigan (shown in Table 1).

Efforts Made to Lessen Exposure to Risk

Over the past several years, there have been numerous changes to MPSERS to reduce exposure to the risk of incurring unfunded accrued liabilities. Those changes include reducing the AROR on contributions and assets invested in the stock market, moving away from a level percentage of payroll to a level dollar contribution for UAAL, instituting a funding floor, and updating experience studies for things like mortality and wage inflation assumptions.

Assumed Rates of Return

Since two-thirds of every dollar of pension benefit comes from investment returns, how the market investment portfolio performs has a significant impact on the financial stability of a pension system. Before the market declines in 2008 and 2009, an 8% AROR was used in the majority of pension systems around the country; this was also the case for the pension systems in Michigan. Since that time, however, actuaries have recommended reducing the ARORs, but doing so is costly on two fronts: it increases the normal cost and it increases the UAAL.

The older MPSERS plans, the Basic Plan and the Member Investment Plan (MIP), were structured assuming an 8% rate of return. The first hybrid pension plan (Pension Plus 1, or PP1, discussed in more detail below), which was operational for employees hired between 2010 and 2018, had an AROR of 7% instead of the 8% assumed by the older MPSERS plans. In the fiscal year (FY) 2017-18 School Aid budget, Governor Snyder proposed to finance a reduction in the AROR in the older MPSERS plans from 8% to 7.75%, and then to 7.5% in FY 2018-19. The Legislature agreed, and included funding in the School Aid budget to hold schools harmless from the increased costs due to lowering the AROR. The MPSERS Board and the Director of the Department of Technology, Management, and Budget, who have the authority to change actuarial assumptions, lowered the AROR to 7.5%.

The second hybrid pension plan, PP2, which began for new hires in February 2018, includes a 6% AROR, which is the most conservative of the MPSERS plans and further reduces the potential for UAAL if or when investments do not perform as well as assumed. This plan also instituted 50/50 cost-sharing between employees and employers if or when UAAL does materialize in the future, as well as 50/50 cost-sharing on the normal cost of the pension system. This means the employer and the employee are sharing equally in the cost of the PP2 plan.

The MPSERS pension plans, as well as the State's other pension systems, recently have adopted a 'dedicated gains' policy. This policy uses any gains in investment returns, in excess of the assumed rate of returns, to 'buy down' the AROR for future years. While the dedicated gains keep UAAL costs neutral for employers, it does increase the normal cost at the same time. Statutorily, employers are responsible for the increase in normal costs, although, since FY 2017-18, the Governor and Legislature have included funds to hold employers harmless from these increases in normal costs. Because of the dedicated gains policy, the current

ARORs for the older MPSERS pension plans (Basic, MIP, and PP1) have been reduced to 6.80%; the AROR for the open PP2 plan remains at 6%.

Other Efforts to Reduce Exposure to Risk

Before 2018, the actuary assumed that payroll would increase at 3.5% per year. The actuary would calculate a dollar figure for employer UAAL contributions, and convert that dollar to a percentage of payroll. However, if payroll did not grow at 3.5% as assumed in the calculations, then, even though the percentage of payroll was applied as determined by the actuary, there would be shortfalls in total contributions.

To illustrate with an example: assume that the actuary calculated a contribution of $1.0 billion for the UAAL in a given year, and payroll was assumed to be $10.0 billion. Converting the $1.0 billion total dollar payment to a *percentage of payroll* would mean that employers would be charged 10% of their payroll. However, if actual payroll materialized at $9.5 billion instead of the assumed $10.0 billion, that would mean employers remitting 10% of their actual payroll would have generated a UAAL payment of $950.0 million, instead of the $1.0 billion calculated by the actuary as the appropriate payment. With a shortfall in the UAAL payment, additional reconciliation payments would be added in future years, and the funded status would not improve as otherwise scheduled.

In MPSERS, a shortfall in employer contributions did occur for a number of years. Table 1 illustrates the difference between the calculated payment and the actual payment over the past 11 years; shortfalls occurred in six of those years, and overpayments occurred in the other five. It is important to understand that the shortfalls do not indicate intentional underfunding of the payment. Instead, the payroll failed to grow at the assumed 3.5% rate; the contribution rate calculated by the actuary was appropriately applied to payroll, but with the payroll not growing at 3.5%, the result was a shortfall in contributions. Shortfalls are folded in over a five-year period, with a reconciliation payment made in subsequent years.

Table 1

Recommended and Actual Employer Contributions (millions of dollars)

Fiscal Year	Initially-Computed Employer Contribution	Actual Employer Contribution	(Shortfall)/Overpayment
2007-08	$915.3	$999.4	$84.1
2008-09	999.6	1,000.4	0.8
2009-10	1,146.0	1,001.3	(144.7)
2010-11	1,420.3	1,156.1	(264.2)
2011-12	1,653.3	1,454.4	(198.9)
2012-13	1,723.5	1,364.1	(359.4)
2013-14	2,004.8	1,600.4	(404.4)
2014-15	1,917.9	1,967.6	49.7
2015-16	2,156.3	2,308.7	152.4
2016-17	2,185.5	2,399.0	213.5
2017-18	2,204.6	2,791.5	586.9

Source: Annual MPSERS Pension Valuations, Slide B-6

One reason for payroll not growing at the assumed 3.5% is the privatization of services that had previously been performed by employees directly hired by a school (and who were part of MPSERS). Other reasons include declining enrollment, resulting in the need for fewer staff, and charter schools, to the extent staff at those schools are employed by educational management organizations (and, therefore, are not part of MPSERS).

Public Act 181 of 2018 amended the statute that governs MPSERS so that beginning with FY 2021-22, the assumed payroll growth will be lowered by 50 basis points each year, until reaching 0%. This essentially will convert the MPSERS UAAL amortization method from a 'level percent of payroll basis' to a 'level dollar basis'. Once the payroll growth assumption is at 0%, if other actuarial assumptions are met, the UAAL payment will not grow year-to-year; therefore, payments in future years will not increase, all other things being equal. This should reduce the possibility that the system sustains any contribution shortfalls compared to the calculated recommended contribution, as they pertain to payroll growth assumptions.

Public Act 92 of 2017 added in a contribution rate floor, such that the contribution *rate* could not decline from one year to the next. Subsequently, PA 181 of 2018 changed the contribution rate floor to a *dollar* contribution floor, such that, beginning in FY 2021-22, employer contributions made in dollar terms toward the UAAL may not be less from one year to the next. The contribution floor is meant to pay off the UAAL more quickly without costing additional dollars. This funding change, along with the gradual change to level dollar payments and the reductions in assumed rates of return, combine to reduce exposure to risk and to increase stability.

What is MPSERS Today? What are the Benefits and Options?

A person newly hiring into a MPSERS-participating employer today has the choice between a DB/DC Pension Plus 2 hybrid plan or a straight DC-only plan. The pension portion of the PP2 plan requires a 50/50 cost sharing between the employer and the employee for both the normal cost and for any UAAL that might occur in the future.

The pension portion of the hybrid plan has the following parameters: pension payments on or after age 60; no cost-of-living adjustments (COLA); no purchase of service credit allowed; and, a five-year calculation of final average compensation. The DC portion of the hybrid plan offers a 50% match for up to the first 2% of an employee's 457 deferrals into the 401k plan. (In other words, an employee's contributions go into a 457 plan; the employer matching and mandatory contributions go into the employee's 401k plan.) For FY 2019-20, the cost to the employer for the open hybrid plan is 6.20% of salary for the DB portion, plus up to 1% of salary in matching contributions if the employee contributes to the DC portion of the plan.

The remaining MPSERS pension plans are closed to new hires, but active employees who are participating in those plans continue to accrue benefits, based on hire date and choice of plan. The old plans include the following:

-- A traditional DB plan (called the Basic Plan): retire at age 55 with 30 years of service, or at age 60 with 10 years of service, to qualify for pension.

-- A Member Investment Plan: retire at any age with 30 years of service - higher employee contributions than the basic DB plan that pay for the ability to retire at an earlier age.

-- The first hybrid DB/DC plan (PP1), in place between 2012 and 2018: draw pension at age 60 with 30 years of service, no COLA, no ability to purchase service credit, and fixed employee contributions toward cost of the plan (i.e., no 50/50 cost sharing of the normal cost or any future UAAL that may accumulate in the plan).

Data Charts for MPSERS

The next several charts depict historical data for MPSERS. Table 2 shows the market rate of return on assets in the MPSERS plans, compared with the actuarial (five-year smoothed) values for the Basic and MIP plans, and for PP1 (open from 2010 to February 2018). Recall that the pension plans, except for PP2, are now assuming a 6.8% AROR; the PP2 plan assumes a 6% rate of return.

Table 2

Historical Rates of Return			
Plan Year Ending September 30	**Market Value**	**Actuarial Value: Basic and MIP**	**Actuarial Value: Pension Plus (PP1)**
2009	(7.16%)	1.91%	N/A
2010	10.59	1.77	8.52%
2011	3.78	0.56	6.37
2012	15.96	(0.67)	8.60
2013	13.27	5.68	8.97
2014	15.90	10.84	9.88
2015	2.14	9.57	7.88
2016	7.42	10.48	7.72
2017	13.09	14.40	8.62
2018	11.08	11.11	11.84

Source: September 30, 2018 MPSERS Pension Valuation, Page C-8

Table 3 shows a 10-year history of the funded status of the MPSERS pension plans. As shown, the most recent data show a funded ratio of 60.7%. However, as noted earlier, the funded ratio is not necessarily the best measure of a plan's status. The 2018 valuation adjusts the liabilities for the most recent actuarial study, and also reflects the dedicated gains policy that reduced the assumed rate of return. Both of these factors increased liabilities, but at the same time are incorporating more realistic and likely future costs. The system would have a much higher funded ratio if it were still assuming an 8% rate of return (which was the assumption as recent as the 2015 valuation), or if the experience study's results were not factored into the calculations and expectations for the future.

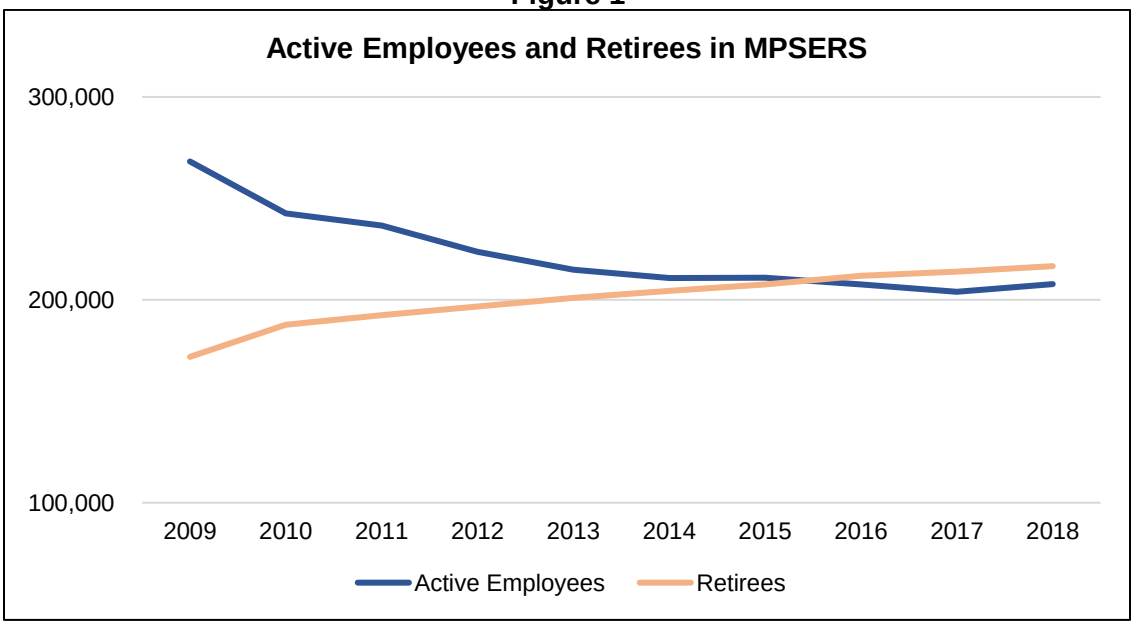
Table 3

Historical Funding Levels for Actuarial Accrued Liabilities (millions of dollars)			
Valuation Date September 30	**Actuarial Accrued Liability**	**Actuarial Value of Assets**	**Funded Ratio**
2008	$54,608	$45,677	83.6%
2009	56,685	44,703	78.9
2010	60,927	43,294	71.1
2011	63,427	41,038	64.7
2012	62,716	38,450	61.3
2013	63,840	38,044	59.6
2014	66,105	39,626	59.9
2015	67,728	41,006	60.5
2016	72,310	43,204	59.7
2017	76,693	47,255	61.6
2018	83,375	50,630	60.7

Source: September 30, 2018 MPSERS Pension Valuation, Page B-5

Figure 1 shows a 10-year history of active employees and retirees. As shown in the figure, the population of active employees continues to decline. The peak of active employees (not shown in the figure) was 326,938; this occurred in 2003, which also was the peak for the K-12 student population. Since that time, the active number of workers enrolled in MPSERS has declined more than 36%, though recently the active employment has stabilized around 207,000. Over the same timeframe, K-12 enrollment declined less than 14%.

Figure 1

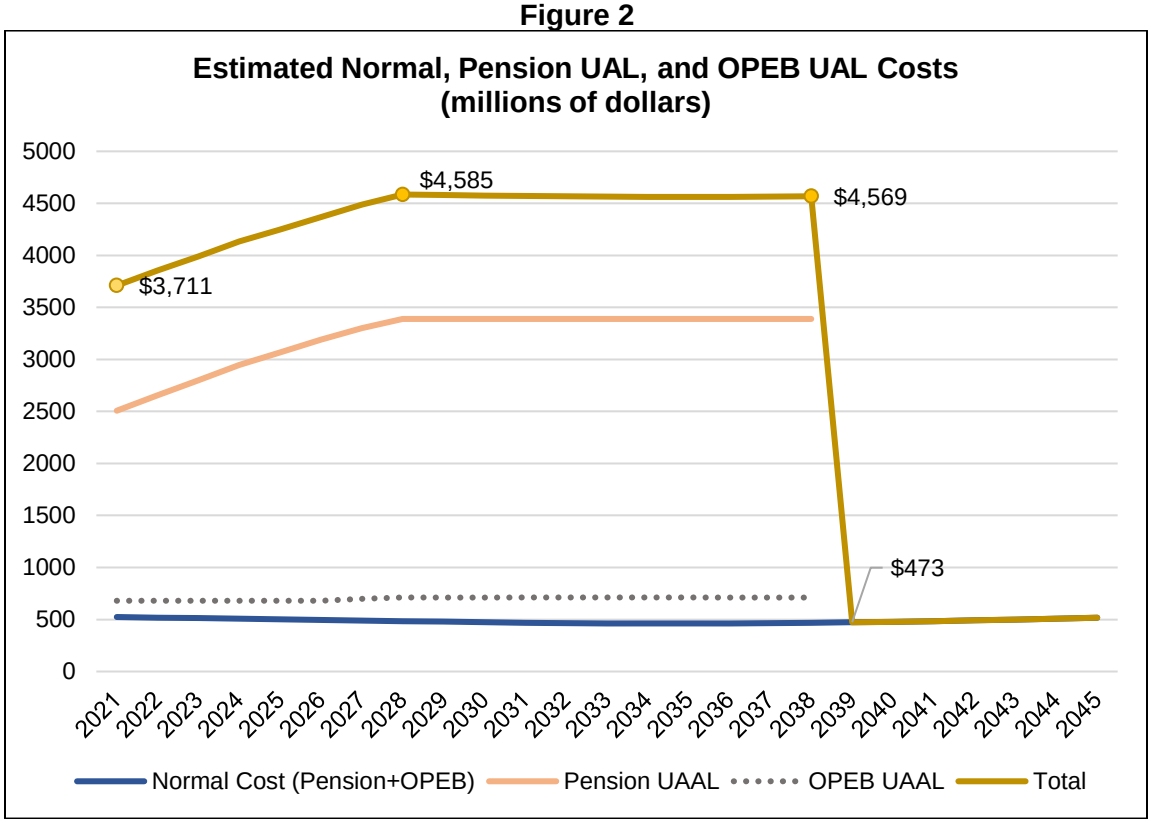


Source: 2018 Comprehensive Annual Financial Report for MPSERS

The Future Projections for MPSERS

Figure 2 charts the current estimates of payments to be made to pay off unfunded liabilities in the DB plans of MPSERS by FY 2037-38. The chart shows payments for both pension UAAL and retiree health care (OPEB) UAAL, along with estimated normal costs (the ongoing costs supporting a pension system), combined for pension and OPEB. Figure 2 does not include required payments for MPSERS employees who have chosen the DC option, nor the contributions toward the DC component of the pension plus hybrid plans; these are shown in Figure 4. As shown in Figure 2, total payments are expected to grow from roughly $3.7 billion in FY 2020-21 to roughly $4.6 billion beginning in FY 2027-28, then level off for several years, and finally drop to under $500.0 million annually beginning in FY 2038-39 when the UAAL for pension and OPEB are scheduled to be paid off.

Figure 2



Source: Office of Retirement Services, September 20, 2018 Valuation

Figure 3 breaks out the payments shown in Figure 2 into required State payments, required system costs that are currently paid for, but not mandated to be paid by, the State, and local employer payments. For the closed DB plans, statute requires the State to pay the portion of the UAAL that exceeds 20.96% applied to payroll. Under Public Act 92 of 2017, the State also is required to pay a portion of the normal cost in PP2. The State optionally has made additional payments to employers to hold them harmless from the increase in normal costs attributable to lowering the assumed rates of return and the contribution rate floors.

As shown, local employers are expected to contribute an estimated $2.1 billion in FY 2020-21, and the State is anticipated to contribute $1.3 billion as required by statute, and $294.0 million if continuing the past several years' practice of hold-harmless payments. Note that if the State discontinued its optional payments, those costs would be shifted to local employers — the costs are not optional, but who pays this portion of the costs is optional. By FY 2037-38, it is estimated that local payments will grow to $3.2 billion, required State payments will decline to $1.3 billion, and optional State payments will decline to $153.0 million. In the next year, all UAAL would be paid off: local payments will decline to $178.0 million, optional State payments (again, related to the costs of lower the assumed rates of return) will remain at roughly $147.0 million, and required State payments would decline to $148.0 million. The peak of required State payments is anticipated for FY 2027-28, when they will reach $1.9 billion.

Figure 3

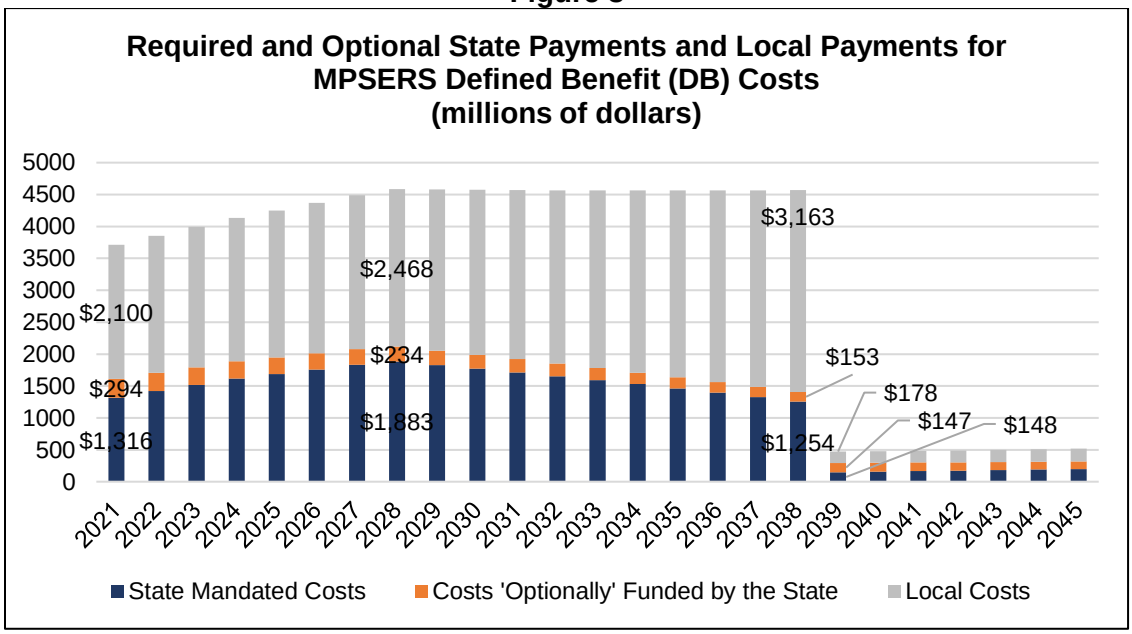
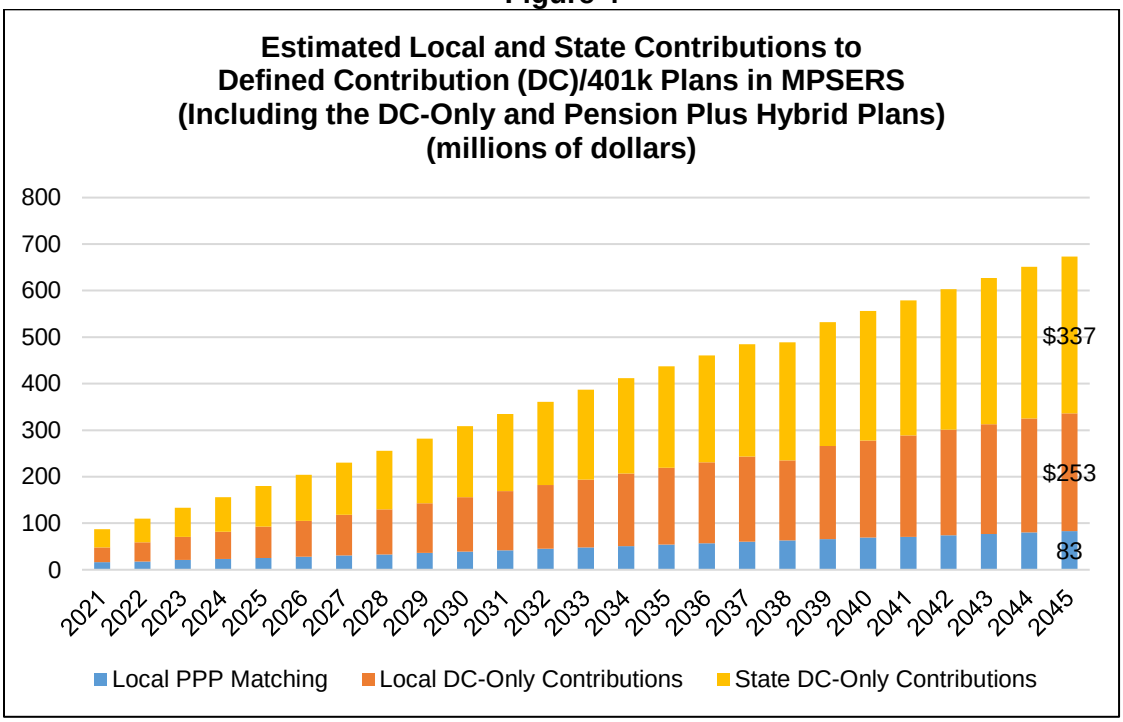


Figure 4 charts the estimated DC payments for those employees who have chosen the DC option, and the matching DC payments for those employees who have chosen the pension plus hybrid plans. As noted earlier, the only plans open for new hires in MPSERS are a straight DC-only plan, that provides a 4% mandatory employer contribution plus up to 3% in matching contributions into a 401k plan, or the PP2 plan, which is a hybrid DB/DC plan, where the DB plan splits the normal cost between the employee and the employer, along with any unfunded liabilities that may accrue over time, and the DC component offers employer matching contributions up to 1% of compensation.

Statute requires the State to pay the additional defined contribution costs that are prescribed under Public Act 92 of 2017; local employers are required to pay the matching DC contributions in the pension plus plans (up to 1% of compensation), as well as up to 3% of matching contributions in the DC-only plan. As shown, current costs for the open plans are relatively small, but expected to grow over time as new employees are hired. By FY 2044-45, it is anticipated that local employers will be paying $83.0 million in 1% matching contributions and $253.0 million in contributions for employees enrolled in the DC-only plan. That same year, it is anticipated that the State will be required to contribute $337.0 million for employees in the DC-only plan

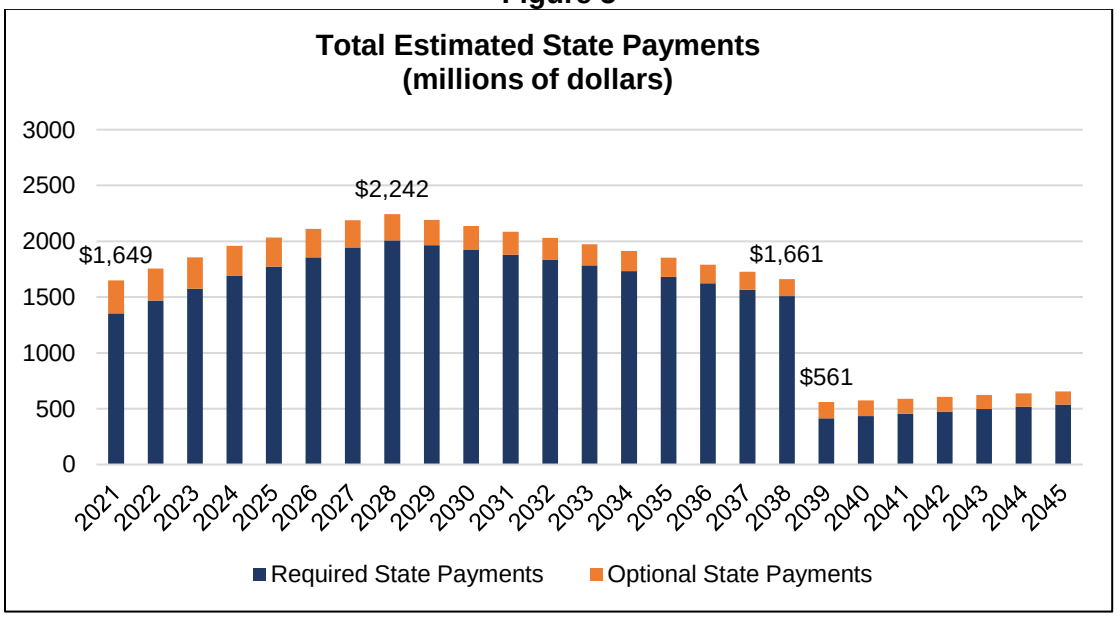
Figure 4



Source: Office of Retirement Services and SFA Calculations

Figure 5 shows the sum of the expected State costs over time, both required and optional, for both the DB plans and the DC plans. As shown, the expected total State payment for FY 2020-21 is $1.6 billion, growing to $2.2 billion by FY 2027-28, dropping to $1.7 billion in the final year of UAAL payments, and declining to $561.0 million beginning in FY 2038-39 when the UAAL is scheduled to be paid off.

Figure 5

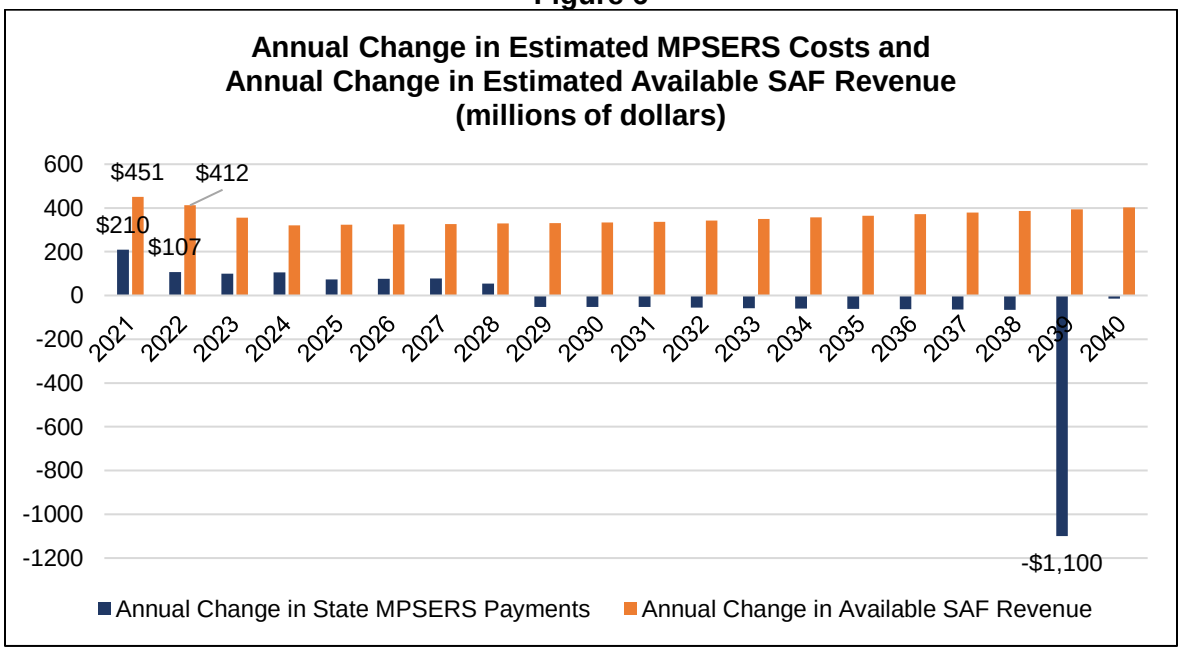


The Ability to Pay for MPSERS Costs Out of Anticipated Budget

Figure 6 takes the total estimated State payments from Figure 5 and determines the annual increase in MPSERS costs. It also shows the estimated dollar change in revenue available for the School Aid Budget. This second dollar amount is a combination of anticipated growth in the School Aid Fund (SAF) and anticipated savings due to declining enrollment statewide. Growth in the SAF for FYs 2020-21 and 2021-22 is from the Consensus Revenue Estimating Conference (CREC) held on January 10, 2020; outyears assume a 2% annual growth in baseline revenue. Declining enrollment estimates for the next two years are from the CREC; after that, the assumption is that the annual pupil decline will taper down, until pupil population holds steady beginning in FY 2030-31.

As shown, for FY 2020-21, the annual change in MPSERS costs is $210.0 million, and the estimated change in SAF revenue (the sum of the change in baseline revenue plus the State savings from statewide declining enrollment) is $451.0 million, meaning that the growth in SAF revenue is anticipated to exceed the growth in MPSERS costs by $241.0 million. For the next year, FY 2021-22, it is estimated that available SAF revenue will exceed MPSERS costs by $305.0 million. Starting in FY 2028-29, the annual change in MPSERS costs is negative, meaning the costs in FY 2028-29 will be less than FY 2027-28. The large negative annual change in MPSERS costs shown for FY 2038-39 reflects the anticipated payoff of the unfunded accrued liabilities.

Figure 6



Source: Office of Retirement Services and SFA Calculations and Estimates

All of the MPSERS costs used in Figures 2-6 are based on the September 30, 2018, valuation. This valuation incorporated the results of the five-year experience study, the reductions to the assumed rates of return for the pension and OPEB plans, the funding floors, and the ratcheting-down of the assumed growth in payroll. To the extent additional legislative changes are made to MPSERS, and to the extent actual experience deviates from the assumptions, future valuations will adjust the estimated payment streams noted in the tables.