ANCHORAGE SCHOOL DISTRICT (ALASKA)

SUMMARY

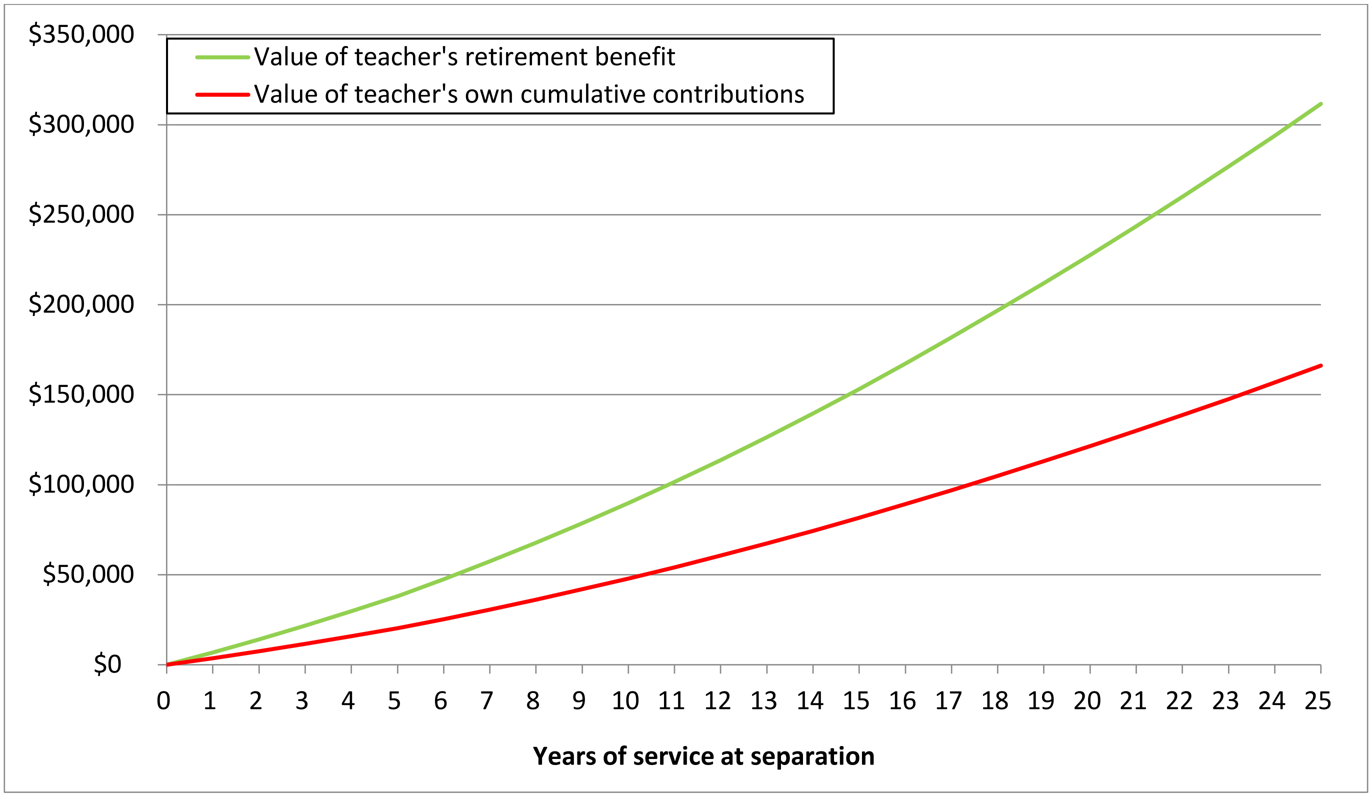
Anchorage teachers enroll in a defined contribution plan under the Alaska Teachers' Retirement System. There is no crossover point because, under a defined contribution plan, benefits are solely based on an individual teacher's retirement account balance, equal to her and her employer's contributions plus interest and investment earnings. A teacher's benefit is worth more than her cumulative contributions, and her net benefit is positive and grows the longer she stays.[1] At the same time, she bears no penalty for separating with only a few years of service and moving her investment elsewhere.

About the District	
Students	48,159
Teachers (FTE)	2,902

About the Retirement Plan	
Type	Defined contribution
Coverage	Teachers
Active members	7,303
Total members	19,171

Sources: Enrollment: NCES (2013–14). Retirement plan membership: Urban Institute (membership as of June. 2011)

Figure 1: A new teacher in the Anchorage School District realizes a return on her contributions immediately, and her net benefit grows over time.



Note: Calculations assume inflation to be 2.5 percent, the real interest rate to be 2.5 percent, return on investments to be 5.0 percent, and a female teacher first hired in FY13 with an entry age of 25.

Take a look at Figure 1. The red line is the value of a teacher's cumulative contributions should she separate from the system after a given number of years of service.[2] The green line is the value of her lump-sum retirement benefit should she separate from the system at a given time. Said another way, her benefit is equal to the balance of her retirement account at the time she separates: all of her contributions, the portion of the employer contributions in which she is currently vested, and the earnings on those contributions (interest and increased investment value). Because we assume a constant 5 percent return on investment, the balance of her retirement account accrues in a fairly smooth manner over time.

For an Anchorage teacher, there is no crossover point—her retirement benefit (green line) is always worth more than her cumulative contributions (red line), and her "net benefit" (the difference between the two) is always positive. She does not have to work a specified number of years in order to receive the balance of her retirement account in which she is vested, or to transfer it to another system. Said another way, she can separate from the system at any time without incurring a financial penalty. Exact figures can be found in Tables 1 and 2.

Let's take a look at how this plays out should a teacher choose to separate from the system at different points.

WHAT IS THE CROSSOVER POINT?

This study asks: how long must a new teacher wait until the value of her retirement benefits exceeds the value of her contributions (the "**crossover point**")?[3] A new teacher begins contributing a percentage of her salary to her retirement system the day she receives her first paycheck. The idea is that, over her career, she and her employer will make contributions to prefund her benefit and, when she leaves the system, she receives retirement benefits. The total benefit the teacher receives after she leaves depends on the plan's parameters and provisions, among other factors.

In a traditional **defined benefit** (DB) plan, retirement benefits take the form of pension payments made periodically for the rest of her life after retirement. The pension benefit is based on a formula: the number of years of service in the system, multiplied by an average of her final years' salaries, times an accrual factor, which is a percentage generally around 1 percent to 2.5 percent. In order to receive any retirement benefits, a teacher must be vested in the system, meaning she has stayed long enough that she's eligible for a pension when she leaves. Vesting periods generally range from three to 10 years. A teacher can only begin to receive benefits once she reaches retirement eligibility, a condition usually determined by some combination of the teacher's age and years of service.[4] The *total* value of the retirement benefit the teacher receives under a DB plan—her **pension wealth**—depends on the yearly benefit, plus her age at retirement and life expectancy.[5] Before the crossover point in a DB plan, a teacher's expected lifetime retirement benefit is worth less than what she contributed over her career. After the crossover point, her benefit is worth more than what she contributed. The longer it takes a new teacher to reach the crossover point, the longer it takes for her to realize any return on her contributions.

In a **defined contribution** (DC) plan, retirement benefits are equal to what the retirement account is worth: her and her employer's contributions, plus any gains (or losses) from investment performance over time. She typically can transfer the balance of her account to another retirement system, withdraw it completely as a lump-sum amount, or draw down balances as periodic payments (less taxes, should she leave early). In a DC plan there is no crossover point, and the value of her benefits will always be greater than her contributions (assuming the investment gained value over time).

A **hybrid plan** combines elements of both DB and DC plans. A teacher's total benefits are equal to the balance of her retirement savings account plus whatever pension benefits she is eligible for. Depending on the specific terms of the plan, there may or may not be a crossover point.

In all three cases, to calculate the crossover point we compare the value of a teacher's contributions with her expected benefits.[6] While the concept of retirement "benefits" implies a positive return on contributions, the analyses presented in this study show that, in order to reach the crossover point and receive a true benefit, new teachers in many of the nation's largest districts must remain in their retirement system for 20 or 30 years—or more. These teachers, usually enrolled in traditional DB plans, are financially penalized if they leave at any point before the crossover. Moreover, they cannot enroll in a different system that would give them larger, or more short-term, benefits. New teachers in DC plans, and most of the hybrid plans we consider, do see a return on their contributions even early in their career.

EARLY CAREER

An Anchorage teacher is always eligible to receive her contributions plus investment earnings on those contributions. After five years, she is also vested into the entire employer contribution, meaning after five years her benefit also includes the employer contribution plus investment earnings. (She partially vests into the employer contributions starting at two years of service.) After five years, the value of her contributions is $20,270 and the balance of her retirement account is $38,007—just shy of double her cumulative contributions. Her net benefit (benefit minus contributions) is $17,736.

Table 1. At key points in a teacher's career, what is the value of her retirement benefit? What is the value of her contribution? And what is the difference between the two?

Age	Years of Service	Value of teacher's pension benefit (A)	Value of teacher's cumulative contributions to date (B)	Net benefit (A-B)
30	5	$ 38,007	$ 20,270	$ 17,736
40	15	$ 153,155	$ 81,683	$ 71,472
50	25	$ 311,570	$ 166,171	$ 145,399

MID-CAREER

Although there is no financial penalty for leaving the system early—an Anchorage teacher's net benefit is always positive—her net benefit increases the longer she stays. Say she separates from the system after 15 years—the average experience of a teacher who leaves the profession.[7] At this point she has contributed a total of $81,683, and her retirement benefit is worth $153,155.

AFTER 25 YEARS OF SERVICE

A 25-year career is longer than most teachers' careers—fewer than one out of four teachers nationwide stays more than 20 years.[8] Should an Anchorage teacher stay 25 years, the balance of her retirement account has had even more time to grow. Her contributions are worth $166,171 and the value of her retirement account is now $311,570, with a net benefit of $145,399.

Bottom line: In this defined contribution plan, there is no penalty for leaving early, nor an incentive to quit earlier or stay longer than a teacher desires. An Anchorage teacher can separate from the system at any point and her retirement benefit will be worth more than her contributions. She can always leave without financial penalty, and once vested she is free to transfer the balance of her retirement account to another system. The DC plan is portable and offers a chance for Alaska teachers to save toward a secure retirement and choose the plan that fits their own life circumstances, career goals, and preferences.

TECHNICAL MATTERS

Retirement System

A teacher working in the Anchorage School District enrolls in the Alaska Teachers' Retirement System, a defined contribution plan in which a teacher's retirement benefit is equal to her account balance when she separates from the system.

Plan Provisions by the Numbers

Eligibility for retirement benefits

- Vesting requirement: Teachers immediately vest in their own contributions plus investment earnings. Teachers vest in employer contributions plus investment earnings on the following schedule: 25 percent after two years of service, 50 percent after three years, 75 percent after four years, and 100 percent after five years.
- Retirement eligibility: no age or years of service requirements. Teachers may withdraw the balance of their retirement account in which they have vested at any time.

Employer and employee contributions

- Employee contribution rate: 8 percent of salary
- Employer contribution rate: 7 percent of salary

Summary of Plan Provisions

Upon leaving the retirement system, an Anchorage teacher receives the balance of her personal retirement account: her own contributions plus investment earnings, and all of the employer contributions plus investment earnings in which she is vested. After entering service, a teacher immediately vests in (or is eligible to receive) her own contributions. She fully vests in the employer contribution after five years, and partially vests before that. There are no age or years of service requirements for retirement.

The employer contribution rate is set at 7 percent of earnings. The employee contribution rate is set at 8 percent of earnings.

Anchorage teachers do not pay into Social Security.

Assumptions for Computing Retirement Benefits

Note: For DC plans, retirement benefit is equal to the balance of the teacher's retirement account

- Entry age: 25 years old
- Gender: female
- Teacher has bachelor's degree for first five years; master's degree for the remainder[9]
- Teacher salary schedule for 2012–13 school year[10]
- Member contributions to retirement savings accounts = minimum (required) amount
- Overall rate of return: 5 percent (2.5 percent inflation, 2.5 percent real interest rate)

Sources: Teacher salary schedule is from district website (or requested directly from the district where required). The salary schedule is supplemented by the district collective bargaining agreement and/or teacher work rules for the 2012–13 school year where applicable/necessary.[11] Retirement plan parameters are primarily taken from a database assembled by the National Council on Teacher Quality, and supplemented where necessary with information from plan documents.[12]

Table 2: Benefits, contributions, and net benefit for a representative new teacher in the Anchorage School District

Age	Years of Service	Value of teacher's retirement benefit (A)	Value of teacher's cumulative contributions to date (B)	Net benefit (A-B)
25	0	$ 0	$ 0	$ 0
26	1	$ 6,875	$ 3,667	$ 3,208
27	2	$ 14,104	$ 7,522	$ 6,582
28	3	$ 21,697	$ 11,572	$ 10,125
29	4	$ 29,661	$ 15,819	$ 13,842
30	5	$ 38,007	$ 20,270	$ 17,736
31	6	$ 47,510	$ 25,339	$ 22,171
32	7	$ 57,432	$ 30,630	$ 26,802
33	8	$ 67,783	$ 36,151	$ 31,632
34	9	$ 78,573	$ 41,906	$ 36,667
35	10	$ 89,813	$ 47,900	$ 41,913
36	11	$ 101,514	$ 54,141	$ 47,373
37	12	$ 113,687	$ 60,633	$ 53,054
38	13	$ 126,343	$ 67,383	$ 58,960
39	14	$ 139,495	$ 74,398	$ 65,098
40	15	$ 153,155	$ 81,683	$ 71,472
41	16	$ 167,334	$ 89,245	$ 78,089
42	17	$ 181,860	$ 96,992	$ 84,868
43	18	$ 196,739	$ 104,928	$ 91,812
44	19	$ 211,982	$ 113,057	$ 98,925
45	20	$ 227,597	$ 121,385	$ 106,212
46	21	$ 243,592	$ 129,916	$ 113,676
47	22	$ 259,977	$ 138,654	$ 121,323
48	23	$ 276,762	$ 147,606	$ 129,156
49	24	$ 293,956	$ 156,777	$ 137,180
50	25	$ 311,570	$ 166,171	$ 145,399

Pension wealth, contributions, and net pension wealth for a female teacher who begins teaching at age 25. Ex: After her fifth year of service, her pension benefits are worth $38,007 (A) and her cumulative contributions are worth $20,270 (B). Her net pension wealth accrued at this point is $17,736, which is her pension wealth minus her cumulative contributions (A-B). All values are adjusted for inflation.

ENDNOTES

1 In practice, it is possible that investment returns over some period of time are sufficiently negative such that a teacher's net benefit could also be negative. However, in the long run, net benefit is likely to be positive (especially if it factors in employer contributions). For this description, we assume a positive long-term net benefit.

2 "Contributions" here and throughout refer to the value of a teacher's total contributions—the amount she contributes, grown by each system's assumed rate of return.

3 Results are based on the retirement plan's rules as they apply to new hires who began in FY13. Provisions for state-covered plans were obtained from the National Council on Teacher Quality pension database (http://www.nctq.org/statePolicy/2015/nationalFindings.do?policyIssueId=4&masterGoalId=22).

4 A vested teacher who leaves a DB pension plan before reaching retirement eligibility faces a choice: She can leave her contributions in the pension fund and wait until she reaches retirement age to receive benefits. Or she can "cash out" and immediately receive a refund of what she has contributed up to that point, sometimes with interest. In rare cases, refunds may also include some or all of the employer contributions, potentially with interest, depending on the terms of the plan and whether the teacher is vested. There are also exceptions where a refund benefit is actually less than what the teacher put in. For instance, Illinois keeps 1 percent of earnings for survivor benefits (see https://trs.illinois.gov/members/pubs/tier2guide/Refunds.pdf).

5 Pension wealth is the total expected value of a teacher's yearly stream of pension payments over her lifetime, discounted back to the present and accounting for life expectancy, conditional on the age of separation. See Appendix B.

6 The value of a teacher's contribution is the employee's required payment into the retirement system, grown by each system's assumed rate of return.

7 S. Provasnik and S. Dorfman, Mobility in the Teacher Workforce (Washington, D.C.: NCES, 2005), http://nces.ed.gov/pubs2005/2005114.pdf.

8 NCES, Digest of Education Statistics, Table 209.10, http://nces.ed.gov/programs/digest/d14/tables/dt14_209.10.asp.

9 According to the Beginning Teacher Longitudinal Study, 80 percent of beginning teachers had a bachelor's degree. See NCES, Beginning Teacher Longitudinal Study, http://nces.ed.gov/surveys/btls/cohort.asp (accessed October 30, 2016). Additionally, given that about 55 percent of the current teaching workforce has a master's degree or higher, but approximately 21 percent of current teachers have five or fewer years of teaching, the analysis assumes that a teacher who remains five years will have a master's degree by that point.

10 "Professional growth" credits are not included in salary calculations. First, they cannot be applied uniformly across districts: one district may give teachers a salary increase when they earn, for example, 10 credits, while another may specify a salary increase at 20 credits. Second, there are no data available as to the rate at which teachers earn salary credits throughout their career. As others have demonstrated, however, the provisions governing public pension plans will be the primary determinants of benefit accrual patterns (see R. Costrell and M. Podgursky, "Peaks, Cliffs, and Valleys: The Peculiar Incentives in Teacher Retirement Systems and their Consequences for School Staffing," Education Finance and Policy 4, no. 2 (2009), 175–211). Variation in a teacher's earnings path, such as that just described, will likely have limited impact on pension wealth accrual patterns or the timing of the crossover point.

11 For example, some districts specify longevity payments in the contract instead of in the salary schedule.

12 NCTQ, "2015 Pension Flexibility," http://www.nctq.org/statePolicy/2015/nationalFindings.do?policyIssueId=4&masterGoalId=22. Some plan parameters were also independently verified using the Urban Institute's State and Local Employee Pension Plan Database (http://apps.urban.org/features/SLEPP/data.html).