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ABSTRACT

To facilitate teacher mobility in the Northeast, barriers to interstate movement must be lessened. Presently, teachers are restricted from transferring pension assets across state lines; they can lose up to 40 percent of their retirement benefits, can usually transfer only part of their years of service, and may be financially unable to "buy in" years of service even when allowed. This policy brief recommends that the seven Northeastern states consider passing legislation (similar to Rhode Island's) allowing full and equitable pension portability. This system would simplify buy-in regulations, end transferring teacher financial losses, increase teacher mobility and school distric ring choices, and complement the Northeast Regional Credential. The program would involve no administrative cost and would minimally affect state retirement systems' financial assets. Teachers from New York, Connecticut, and Maine could easily attain their full number of years when transferring within the region. Teachers from Massachusetts and Rhode Island would still face a reduction in years of service upon transferring to half the states in the region, and teachers from Vermont and New Hampshire would face a similar reduction upon transferring to nearly all the states. However, teachers in all states would maintain their full pension assets when crossing state lines. An appendix indicates how estimated salaries, contribution rates, and accrued pension assets were derived. (MLH)

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*The **Policy** Group*

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PENSION PORTABILITY IN THE NORTHEASTERN STATES

David Title

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The Regional Laboratory
for Educational Improvement of the Northeast & Islands

PENSION PORTABILITY IN THE NORTHEASTERN STATES

A Policy Brief Prepared by
David Title

for the Steering Committee
of the Northeast Common Market Project

1990

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To ensure that the Northeast continues to have highly qualified educators into the 21st century, the commissioners of education from seven Northeast states and The Regional Laboratory are working toward a Northeast Common Market for educators. One step toward that goal was the adoption in December 1989 of a Northeast Regional Credential. Other projects include developing visionary credentials for special educators and administrators and developing guidelines for teacher induction programs.

As state education agency and Lab staff have worked on various components of the Northeast Common Market project, they have prepared policy briefs for the commissioners that discuss the issues and offer a variety of options. A list of these papers can be found after Appendix A.

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Executive Summary

To facilitate teacher mobility in the Northeast, barriers to interstate movement must be lessened. One such barrier is the difficulty of transferring pension assets across state lines. Presently, teachers are restricted from transferring pension assets for three reasons. First, teachers stand to lose up to 40 percent of their retirement benefits by moving. Second, teachers may be able to transfer only part of their years of service. Third, teachers may be financially unable to buy-in their years of service even where it is allowed.

Pension portability refers to a system where a teacher loses no retirement assets for taking a teaching job in a different state. This policy brief recommends that the seven Northeast states consider passing legislation similar to Rhode Island's that would allow a full and equitable transfer of assets between the states. This system has several advantages:

1. The patchwork of buy-in regulations throughout the region would be simplified to one common formula.

2. Teachers would suffer no pension-related financial loss for taking a teaching job in another state in the region.

3. It would increase the choices available to teachers in terms of where to work, thus allowing teachers greater mobility.

4. It would increase the choices of school districts in whom they hire, because they can recruit more easily from all parts of the Northeast. Thus, the quality of applicants would likely increase.

5. Pension portability is a logical complement to the Northeast Regional Credential. Reducing the certification barrier may have limited impact without reducing the pension barrier.

6. This system can be implemented with no administrative cost and with minimal to no impact on the financial assets of state retirement systems.

This policy brief describes the anticipated impact of implementing such a portable pension system in the Northeast. Teachers from New York, Connecticut, and Maine would find it relatively easy to attain their full number of years when transferring within the region. Teachers from Massachusetts and Rhode Island would still face a reduction in years of service upon transferring to approximately half of the states in the region. Teachers from Vermont and New Hampshire would face a reduction in credited years of service upon transferring to nearly all the states. Under this system, however, teachers in all states do maintain their full pension assets -- employee and state contributions and accrued interest -- when crossing state lines.

Pension Portability in the Northeastern States

During the 1990s rising student enrollment and an increased number of teacher retirements will mean that the Northeast states will need to hire additional teachers. Because of variations in supply and demand of qualified teachers in the region, some states will need to attract teachers from other states. Currently, many states in the region recognize this need and are pursuing policies to attract the best teachers -- including increased salaries, improved teacher preparation programs and teacher induction programs. The impact of such enhancements may be limited, however, if some barriers act as disincentives for teachers to cross state lines.

Therefore, to facilitate teacher mobility in the seven Northeast states, barriers to interstate movement must be lessened. One such barrier is the difficulty of transferring pension assets and years of credited service from one state to another. Presently, teachers are restricted from moving for three pension-related reasons. First, states either limit or do not allow teachers to use funds accrued in one state to buy years of credited service upon moving to another. Second, vested teachers lose a substantial amount of retirement income when they change states, even if they become subsequently vested in their new state. Some researchers have estimated this loss at approximately 40 percent for a teacher working 15 years in each of two states as opposed to working 30 years in the same state (see Jump, 1986). Third, teachers allowed to purchase years of credited service may be financially unable to do so. The problems with non-portability of pensions are explained in greater detail by Jean McDonald in the National Governors' Association publication *Pension Portability for Educators: A Plan for the Future (1988).*

Pension portability allows teachers to cross state lines without losing retirement assets. A teacher's pension is funded in part from contributions made by the teacher, usually as a percentage of the teacher's salary. Because the teacher's contributions are generally insufficient to cover the pension benefit that the state has promised the teacher, each year the state contributes money on the teacher's behalf in order to fund the system. One assumption underlying the concept of pension portability is that dollars that go toward funding a teacher's pension -- teacher and state contributions and the accumulated interest -- belong to the teacher, not to the state.

The benefits of pension portability

A fully portable pension system in the Northeast would have several benefits. First, the patchwork of systems that teachers must navigate in order to transfer pension assets would be simplified. States vary greatly in the rules regarding buying in of years of service from out of state. For instance, New York allows no buy-in. On the other hand, Connecticut pays half the cost of any buy-in for an incoming teacher, although what the teacher must pay is not fully known until just before retirement. A fully portable system would replace the seven existing regulations with a simple method of transferring assets.

Second, teachers would not lose financially because they change states to teach. Teachers would not be restricted to any number of years available for transfer. (Most states in the region allow teachers to buy-in only 10 years of service from out of state.) Teachers would be able to take all contributions that they have made or that have been made on their behalf (plus interest) and transfer those assets to a new state.

Third, it would increase the choices available to both teachers and school districts. Teachers would be more able to move between states because they would not lose pension assets by doing so. Similarly, teachers wishing to become school administrators would be able to seek such positions in other states without incurring a loss of assets. Likewise, school districts would have a greater choice in whom they hire (both teachers and administrators), because districts could recruit throughout the Northeast for the most qualified candidates. Hence, the quality of teachers and administrators available to local districts would increase.

Fourth, pension portability is a logical complement to the Northeast Regional Credential (NRC). Teachers possessing an NRC are more likely to use it if they do not lose pension benefits. Said differently, the lack of a portable pension system may limit the effectiveness of the NRC. The NRC was designed to help remove one of the thorniest barriers to interstate mobility in the Northeast, certification. The goal of the NRC is to make it easier for teachers to move between states. However, some experienced teachers likely would not apply for an NRC, much less use it, if they knew that their pension assets were not fully transferrable. Teachers for whom the NRC was intended -- those willing and able to move in order to fill positions in other states -- may not find it in their interest to obtain this credential.

Fifth, pension portability can be accomplished at no administrative cost to the states. The plan suggested below can be implemented by the existing retirement system staffs. Most states already have done the necessary calculations in their existing buy-in provisions. Where this is not the case, retirement system personnel can provide this information with relative ease. In fact, this system should be easier and less expensive to administer than the systems currently in existence in most states in the Northeast.

Overcoming the pension barrier

One way to overcome this mobility barrier is to implement a portable pension system such as the one now in place in Canada. In that country, a teacher may transfer pension assets from one province's system to another province's system (except in British Columbia, which is not party to the agreement). These assets comprise the teacher's contributions, the employer's and province's contributions on the teacher's behalf, and the interest credited to the teacher's account. (The interest rate is a constant agreed to by all the provinces in the compact.) Once a teacher has transferred assets, the teacher no longer has any money in his or her former province and thus has no right to any pension benefit from that province.

The purpose of this policy brief is to describe some anticipated impacts of implementing a Canadian-type system in the Northeast states. In *Pension Portability for Educators*, Jean McDonald modeled the consequences of the Canadian system for teachers in selected states of the United States who began teaching in 1977 and who taught continuously for the subsequent ten years in the same state. This policy brief modifies

McDonald's research in three ways. First, it examines the impact on only the seven Northeast states. Second, because of up-to-date salary data (Title, 1989), more accurate projections of a teacher's salary in each state for the past ten years are used to calculate the contributions. Third, compound interest is included in the calculations. A complete description of the methodology is found in Appendix A.

Results

Table 1 displays the estimated pool of money contributed by a teacher, school district, and state for a teacher employed over a 10-year period, from September 1978 to June 1988. (See Table A-1 in Appendix A for data from the seven states upon which the estimates in Table 1 are derived.) Teachers employed in higher-paying districts in a state will, naturally, have more money to transfer at the end of the ten-year period than teachers in lower-paying districts. This estimate is based upon the average teacher salary schedule in each state.

Table 1 shows that there are now wide discrepancies in the pool of money available for transfer in the seven Northeast states. Teachers in states with a large pool of money (New York and Connecticut, for instance) would find it relatively easy to transfer their assets and purchase an equivalent number of years in most other states. (Under the Canadian agreement, a teacher may not buy additional years of service with any excess money. Individual provinces determine the distribution.) Teachers in New Hampshire and Vermont, who have the smallest pools of money, would have the option of investing additional money to cover the shortfall or buying only a fraction of their credited service in their new state. However, teachers in New Hampshire and Vermont will generally receive much greater benefits at retirement in their new state; benefits for teachers moving from Connecticut and New York will generally be much less in their new state. Therefore, while teachers moving from low-benefit states will need to invest additional money or work additional years to maintain their service credit, their benefits at retirement will be better than if they had stayed. Teachers moving from high-benefit states will maintain their years of credited service, but will need to invest their surplus skillfully to overcome their lower benefit level at retirement.

Table 1 Estimated pool of money available to be transferred in June 1988 for a teacher beginning service September 1978.

State	*Pool of Money*
New York	$60,319.
Connecticut	50,614.
Maine	40,524.
Massachusetts	38,485.
Rhode Island	35,400.
Vermont	17,827.
New Hampshire	11,927.

Pension Transfer Analysis

Table 1 displays the amount of money a typical teacher would have available for transfer in June 1988 after 10 years of continuous service. The next step is to determine the amount of money needed to be transferred to each of the seven states in order to buy the full ten years. The state a teacher is leaving is referred to as the "exporting state" and the state a teacher is moving to is called the "importing state."

Under the Canadian agreement, the amount needed for a full transfer is calculated as follows: take the teacher's salary in the exporting state and calculate how much money would be in the teacher's account in the importing state had the teacher taught in the importing state for the same ten years at the same salary. If that amount is less than or equal to the actual pool of money the teacher has available, then the teacher may buy the full ten years. Otherwise, the teacher may contribute the difference or buy only a fraction of the ten years.

Each state is estimated as to the amount of money that would be needed for a full transfer, the resulting surplus or deficit, and the number of years available to be bought by the typical teacher from that state. These estimates are based on average transferrable assets in a teacher's account in each of the Northeastern states. Because of intrastate variation in salary schedules and advanced degrees earned, individual teachers may find themselves better or worse off than these averages indicate.

For example, Figure 2a shows a typical teacher in Connecticut with $50,614 available to be transferred in 1988. If that teacher wants to move to Maine, he or she may buy only 9.5 years of service because the full transfer amount in Maine is $53,070 for that teacher. In other words, had this teacher taught in Maine for ten years at the same salary earned in Connecticut, his or her account would be worth $53,070. Thus, the teacher either loses .5 years of service or pays $2,456 to close the deficit and receive the full 10 years credit.

The same teacher wanting to move to Massachusetts may buy the full ten years and have $5,445 left over. Individual states may determine what happens to the surplus, but the logical solution would be to return it to the teacher. The estimated transfer amounts for all states may be seen in Tables 2a through 2g.

Table 2a Pension transfer analysis for the typical teacher in Connecticut after 10 years of service, 1978-1988.

Pool of money available for transfer: $50,614

Transfer to	*Amount needed for full transfer*	*Surplus (Deficit)*	*Years available to buy*
Maine	$ 53,070	$ (2,456)	9.5
Massachusetts	45,169	5,445	10.0
New Hampshire	15,884	34,730	10.0
New York	58,336	(7,722)	8.7
Rhode Island	39,675	10,939	10.0
Vermont	24,402	26,212	10.0

The typical teacher from Connecticut may buy the full ten years of service in four of the other six states. In Maine and New York, the Connecticut teacher would have to contribute additional money to secure all ten years, or take a modest reduction in credited service. Upon moving to New Hampshire, this teacher would have a $34,730 surplus.

Table 2b Pension transfer analysis for the typical teacher in Maine after 10 years of service, 1978-1988.

Pool of money available for transfer: $40,524

Transfer to	*Amount needed for full transfer*	*Surplus (Deficit)*	*Years available to buy*
Connecticut	$ 38,712	$ 1,812	10.0
Massachusetts	34,562	5,962	10.0
New Hampshire	12,097	28,427	10.0
New York	44,426	(3,902)	9.1
Rhode Island	30,219	10,305	10.0
Vermont	18,583	21,941	10.0

The typical teacher moving from Maine may buy all ten years of service in every other Northeast state except New York, where the teacher would have to forego approximately one year of credited service (or contribute $3,902). This teacher would have a surplus ranging from $1,812, upon moving to Connecticut, to $28,427, upon moving to New Hampshire.

Table 2c Pension transfer analysis for the typical teacher in Massachusetts after 10 years of service, 1978-1988.

Pool of money available for transfer: $38,485

Transfer to	*Amount needed for full transfer*	*Surplus (Deficit)*	*Years available to buy*
Connecticut	$ 43,118	$ (4,633)	8.9
Maine	45,186	(6,701)	8.5
New Hampshire	13,486	24,999	10.0
New York	49,546	(11,061)	7.8
Rhode Island	33,636	4,849	10.0
Vermont	20,726	17,759	10.0

The typical teacher moving from Massachusetts would be able to buy all ten years of service in three of the other six states. This teacher would lose 1.1 years of service by moving to Connecticut, 1.5 years of service by moving to Maine, and 2.2 years of service by moving to New York. These years could be purchased for $4,633 in Connecticut, $6,701 in Maine, or $11,061 in New York.

Table 2d Pension transfer analysis for the typical teacher in New Hampshire after 10 years of service, 1978-1988.

Pool of money available for transfer: $11,927

Transfer to	*Amount needed for full transfer*	*Surplus (Deficit)*	*Years available to buy*
Connecticut	$ 37,867	($25,940)	3.1
Maine	40,019	(28,092)	3.0
Massachusetts	33,727	(21,800)	3.5
New York	43,940	(32,013)	2.7
Rhode Island	29,390	(17,463)	4.1
Vermont	18,388	(6,461)	6.5

Table 2d indicates that a typical New Hampshire teacher moving to any other Northeast state would be unable to keep the ten years of service credit without expending additional money. This amount ranges from a low of $6,461 for a move to Vermont to a high of $[illegible]013 for a move to New York. However, a former New Hampshire teacher would receive a greater benefit at retirement in the new state than he or she would have received in New Hampshire.

Table 2e Pension transfer analysis for the typical teacher in New York after 10 years of service, 1978-1988.

Pool of money available for transfer: $60,319

Transfer to	*Amount needed for full transfer*	*Surplus (Deficit)*	*Years available to buy*
Connecticut	$ 52,268	$ 8,051	10.0
Maine	54,979	5,340	10.0
Massachusetts	46,608	13,711	10.0
New Hampshire	16,398	43,921	10.0
Rhode Island	40,682	19,637	10.0
Vermont	25,237	35,082	10.0

A teacher moving from New York to any New England state would be able to buy all 10 years of credited service. In addition, the former New York teacher would have a surplus ranging from $5,340 in Maine to $43,921 in New Hampshire. The teacher would need to invest this surplus carefully in order to compensate for the lower benefit to be received from the new state upon retirement.

Table 2f Pension transfer analysis for the typical teacher in Rhode Island after 10 years of service, 1978-1988.

Pool of money available for transfer: $35,400

Transfer to	*Amount needed for full transfer*	*Surplus (Deficit)*	*Years available to buy*
Connecticut	$ 44,856	($9,456)	7.9
Maine	46,127	(10,727)	7.7
Massachusetts	40,233	(4,833)	8.8
New Hampshire	13,813	21,587	10.0
New York	50,422	(15,022)	7.0
Vermont	21,075	14,325	10.0

A typical teacher transferring from Rhode Island would be able to maintain the full 10 years of service only by moving to New Hampshire or Vermont. The loss of service credit ranges from 1.2 years in Massachusetts to 3.0 years in New York. The teacher could maintain the 10 years of credit by contributing additional money. This amount ranges from $4,833 in Massachusetts to $15,022 in New York.

Table 2g Pension transfer analysis for the typical teacher in Vermont after 10 years of service, 1978-1988.

Pool of money available for transfer: $17,827

Transfer to	*Amount needed for full transfer*	*Surplus (Deficit)*	*Years available to buy*
Connecticut	$ 37,531	$ (19,704)	4.7
Maine	38,945	(21,118)	4.6
Massachusetts	33,583	(15,756)	5.3
New Hampshire	11,644	6,183	10.0
New York	42,635	(24,808)	4.2
Rhode Island	29,455	(11,628)	6.1

A typical Vermont teacher would be able to maintain the full 10 years of service only by moving to New Hampshire (and would have $6,183 left to invest). Without additional investment, this teacher would lose more than half of the 10 years of service by moving to Connecticut, Maine, or New York.

The matrix in Table 3 summarizes the years of service for transfers among the seven states. To determine the years available, locate the importing state along the left-hand side and the exporting state across the top.

Table 3 Matrix showing years of creditable service (without additional investment) for teachers with 10 years experience transferring among the seven Northeastern states (maximum is 10 years).

		Transferring from:						
		CT	ME	MA	NH	NY	RI	VT
Trans-ferr-ing to:	CT	--	10.0	8.9	3.1	10.0	7.9	4.7
	ME	9.5	--	8.5	3.0	10.0	7.7	4.6
	MA	10.0	10.0	--	3.5	10.0	8.8	5.3
	NH	10.0	10.0	10.0	--	10.0	10.0	10.0
	NY	8.7	9.1	7.8	2.7	--	7.0	4.2
	RI	10.0	10.0	10.0	4.1	10.0	--	6.1
	VT	10.0	10.0	10.0	6.5	10.0	10.0	--

A scan of table 3 indicates that typical teachers from New York, Connecticut, and Maine would face little or no service loss by transferring anywhere in the Northeast. The teachers from Massachusetts and Rhode Island would face a modest amount of service loss if they move to the aforementioned states. Those from Vermont and New Hampshire would almost always face a substantial service loss when they transfer.

Even if the seven Northeast states should adopt a pension portability agreement, teachers contemplating an interstate move would have pension considerations other than an equitable transfer of assets. Because states vary greatly in retirement benefit levels, some teachers may not want to transfer from, say, Connecticut to Vermont, even if they would not lose any years of service. One major reason is that, for a typical teacher, retirement income in Vermont is considerably less than in Connecticut. Even if a teacher's excess Connecticut contributions were fully refunded, the teacher would then have to reinvest those retirement contributions skillfully enough to compensate for the lower level of retirement benefits in Vermont.

States with low retirement benefits restrict mobility in two ways. First, they are not attractive to those who might wish to move in because, typically, a teacher's future benefits will be lower in the new state than the old. Secondly, these states in essence "trap" their current teachers, who would have to either 1) expend large sums of money to purchase their years of credited service in a new state; or 2) face a proportional loss in years of service, which may be as high as 73 percent. Should the Northeast states adopt pension portability, it will force states with low benefit levels to consider raising them or risk becoming less competitive in the market for teachers.

Additional Issues

One factor to take into consideration is the money lost to states that are net exporters of teachers. Currently, employer contributions of teachers who are leaving subsidize others remaining in the system because states do not refund employer (i.e., state) contributions to departing teachers. Estimates of the magnitude of this figure would depend on the number of teachers likely to transfer in and out of a system in any given year, as well as the demographic composition of these teachers.

A related issue is that the levels of unfunded liability in each state's retirement system vary. If a state has a large unfunded liability and is a importer of teachers, then this liability could grow. On the other hand, if it is a net exporter of teachers, its unfunded liability could diminish.

Both the subsidy and unfunded liability problems may be mitigated by three factors. First, they would matter only to the extent a state is a net importer or exporter of teachers. The impact of net migration would likely be very small when compared to the assets of the entire system. Second, the unfunded liabilities in states with this condition have been getting smaller. As states continue to work toward eliminating this problem, the effect of the problem will lessen further. Individual states could test the sensitivity of their retirement system's assets to differing levels of net migration to determine the actual extent of this problem. Third, the problems offset each other to some extent. That is, states that are net importers could be taking on some unfunded liability but also would be gaining another state's subsidy of the incoming teacher. States that are net exporters might be losing a subsidy but also ridding themselves of part of their unfunded liability.

The retirement systems in the Northeast vary in whether they are underfunded, fully funded, or overfunded. This variation is due largely to differences in state contributions on behalf of teachers in the system, actuarial assumptions, and local politics. Under this system, teachers from states that have not contributed the fully funded amount of money to the retirement system will have less money to transfer, on average, than teachers from states that have fully funded their system. One possible outcome of pension portability might be more uniformity in actuarial assumptions and funding strategies -- an outcome that would enhance the mobility of teachers in the region. The details of any such arrangement are best left to the state retirement board administrators to tackle.

Another issue that occasionally arises when states contemplate pension portability is social security. Social security is, of course, totally portable. It would not be affected in any way by the transfer of assets in the state retirement account. Only the assets in a teacher's state retirement system are included in any calculation. Thus, social security money would not be affected by implementing this portable pension system. If one state's teachers are covered by social security and another's are not, the states may still agree to transfer assets in the teacher's state retirement account.

Given the wide variation in assets in the region, it may be wise to begin any interstate compact in the Northeast between states with similar transfer amounts. Maine and Massachusetts would be two such states, where teachers would be able to transfer with relatively little change in account status. Another mechanism to facilitate mobility might be to encourage states with low benefit levels to enhance the attractiveness of their pension plans. This change would allow freer movement both into and out of those states.

Policy Recommendation

Connecticut, Maine, Massachusetts, New Hampshire, New York, and Vermont should consider passing legislation similar to Rhode Island Bill 89-H 5856 (Public Law 546), allowing for the equitable transfer of pension assets between states.

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APPENDIX A

Methodology and Tables

This section presents a technical summary of how the estimates in Table 1 were derived. Comments on the quality of the data from each state follow where appropriate.

Salary Estimates

My previous research on teacher incentives estimated the average starting salary and average master's maximum salary in each state in the Northeast for the 1987-88 school year (Title, 1989). I also had estimated the average number of years of service needed to reach the maximum salary in each state. From this information I constructed a salary schedule for each state for 1987-88 using a semi-log transformation. This transformation assumes a constant percentage growth rate in salary from the first year to the year needed to reach maximum. The formula used to determine the yearly growth rate in salary in each state is the following (ln means natural logarithm):

Rate = ([ln (maximum salary] - ln [starting salary])/number of steps

Once the 1987-88 salary schedule had been estimated, I constructed salary schedules for each of the previous nine years by estimating starting salaries in each of those years (from National Education Association data) and applying the growth rate determined above. This means that I assume the shape of the salary schedule has remained constant over the ten-year period.

Employee and Employer (State) Contributions

The individual state retirement boards were the sources of these data. The employee rates of contribution were easy to find and accurate. The employer contributions (district plus state contributions) were harder to get accurate information on. New York, New Hampshire, Rhode Island, and Maine have very accurate figures. Connecticut's are accurate back until 1981, then they are estimated. Vermont's are accurate back until 1985; then the retirement board estimated them. Massachusetts' numbers are the least accurate, with only the last two years' figures accurate and the retirement board projecting the previous eight.

Estimated Interest Rate

Under the Canadian agreement, the amount of money in a teacher's account is compounded at a rate stipulated by all the provinces. I used the 3-month bond yield on U.S. government securities as the standard. This is seen as a conservative figure by the National Association of State Budget Officers. Furthermore, I did not credit a teacher with interest on an account during the year it was contributed. In other words, interest was not credited on 1978-79 contributions until 1979-80. The three-month bond yields used in these calculations are the following:

School Year	Interest Rate
1979-80	10.774%
1980-81	12.768%
1981-82	12.358%
1982-83	9.658%
1983-84	9.105%
1984-85	8.530%
1985-86	6.730%
1986-87	5.900%
1987-88	5.820%

Table A-1 on the following pages summarizes the data from which the estimates in Table 1 are derived. For each state, the year, the estimated salary, the contribution rates and amounts for each year, and the total contributions (both before and after interest is added) are listed.

TABLE A-1: ESTIMATED SALARIES, CONTRIBUTION RATES, AND ACCRUED PENSION ASSETS FROM THE SEVEN NORTHEASTERN STATES, 1978-88

Connecticut

YEAR	SALARY	EE RATE*	ER RATE	EE CONTRIB	ER CONTRIB	TOTAL CONTRIB
78-79	$10,944	6.0	7.7	$ 657	$ 843	$1,500
79-80	11,885	6.0	8.5	713	1,010	1,723
80-81	13,161	6.0	9.[illegible]	790	1,211	2,001
81-82	14,997	6.0	10.3	900	1,545	2,445
82-83	16,993	6.0	12.6	1,020	2,141	3,161
83-84	18,552	6.0	14.5	1,113	2,690	3,803
84-85	21,004	6.0	16.5	1,260	3,466	4,726
85-86	23,354	6.0	18.0	1,401	4,204	5,605
86-87	27,587	6.0	19.2	1,655	5,297	6,952
87-88	30,397	6.0	20.2	1,824	5,140	7,964

Total without interest = $39,879
Total with interest = $50,614

Maine

YEAR	SALARY	EE RATE	ER RATE	EE CONTRIB	ER CONTRIB	TOTAL CONTRIB
78-79	$ 8,334	6.5	10.3	$ 542	$ 858	$1,400
79-80	8,939	6.5	14.1	581	1,260	1,841
80-81	9,776	6.5	14.3	635	1,398	2,033
81-82	11,003	6.5	15.7	715	1,727	2,442
82-83	12,314	6.5	16.2	800	1,995	2,795
83-84	13,278	6.5	16.[illegible]	863	2,191	3,054
84-85	14,847	6.5	16.8	965	2,494	3,459
85-86	16,305	6.5	17.0	1,060	2,772	3,832
86-87	19,023	6.5	17.3	1,237	3,291	4,528
87-88	20,702	6.5	19.4	1,346	4,016	5,362

Total without interest = $30,747
Total with interest = $40,524

Massachusetts

YEAR	SALARY	EE RATE	ER RATE	EE CONTRIB	ER CONTRIB	TOTAL CONTRIB
78-79	$ 9,310	7.0	8.0	$ 652	$ 745	$1,397
79-80	10,185	7.0	8.5	713	866	1,579
80-81	11,361	7.0	9.0	795	1,022	1,817
81-82	13,041	7.0	9.0	913	1,174	2,087
82-83	14,885	7.0	9.5	1,042	1,414	2,456
83-84	16,370	7.0	10.0	1,146	1,637	2,783
84-85	18,670	7.0	10.5	1,307	1,960	3,267
85-86	20,911	7.0	11.1	1,464	2,321	3,785
86-87	24,883	7.0	12.8	1,742	3,185	4,927
87-88	27,518	7.0	12.8	1,933	3,535	5,468

Total without interest = $29,566
Total with interest = $38,485

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*Connecticut's 6% rate is broken into two pieces: a five percent contribution and a one percent supplemental contribution.

TABLE A-1: ESTIMATED SALARIES, CONTRIBUTION RATES, AND ACCRUED PENSION ASSETS FROM THE SEVEN NORTHEASTERN STATES, 1978-88 (cont'd)

New Hampshire

YEAR	SALARY	EE RATE	ER RATE	EE CONTRIB	ER CONTRIB	TOTAL CONTRIB
78-79	$ 8,367	4.6	2.9	$ 385	$ 243	$ 628
79-80	9,005	4.6	3.0	414	270	684
80-81	9,882	4.6	3.0	455	296	751
81-82	11,159	4.6	2.0	513	223	736
82-83	12,531	4.6	2.2	576	276	852
83-84	13,558	4.6	0.9	624	298	922
84-85	15,212	4.6	0.9	700	137	837
85-86	16,761	4.6	0.9	771	151	922
86-87	19,621	4.6	0.9	903	177	1,080
87-88	21,425	4.6	0.7	986	193	1,179

Total without interest = $ 8,590
Total with interest = $11,927

New York

YEAR	SALARY	EE RATE	ER RATE	EE CONTRIB	ER CONTRIB	TOTAL CONTRIB
78-79	$11,401	3.0	21.5	$ 342	$2,451	$2,793
79-80	12,208	3.0	22.4	366	2,735	3,101
80-81	13,329	3.0	23.8	400	3,172	3,572
81-82	14,976	3.0	22.3	449	3,340	3,789
82-83	16,732	3.0	23.5	502	3,932	4,434
83-84	18,011	3.0	22.9	540	4,124	4,664
84-85	20,106	3.0	22.8	603	4,584	5,187
85-86	22,042	3.0	21.4	661	4,717	5,378
86-87	25,672	3.0	18.8	770	4,826	5,596
87-88	27,891	3.0	16.8	837	4,686	5,523

Total without interest = $44,038
Total with interest = $60,319

Rhode Island

YEAR	SALARY	EE RATE	ER RATE	EE CONTRIB	ER CONTRIB	TOTAL CONTRIB
78-79	$ 9,195	6.5	3.8	598	$ 349	$ 947
79-80	10,207	6.5	4.6	663	470	1,133
80-81	11,554	6.5	5.4	751	624	1,375
81-82	13,458	6.5	6.6	875	888	1,763
82-83	15,587	7.0	7.3	1,091	1,138	2,229
83-84	17,395	7.0	8.1	1,218	1,409	2,627
84-85	20,132	7.0	9.4	1,409	1,892	3,301
85-86	22,881	8.0	9.9	1,830	2,265	4,095
86-87	27,629	8.5	9.5	2,348	2,625	4,973
87-88	31,118	8.5	9.5	2,645	2.956	5,601

Total without interest = $28,045
Total with interest = 35,400

TABLE A-1: ESTIMATED SALARIES, CONTRIBUTION RATES, AND ACCRUED PENSION ASSETS FROM THE SEVEN NORTHEASTERN STATES, 1978-88 (cont'd)

Vermont

YEAR	SALARY	EE RATE	ER RATE	EE CONTRIB	ER CONTRIB	TOTAL CONTRIB
78-79	$ 7,887	5.5	10.0	$ 434	$ 789	$1,223
79-80	8,521	5.5	10.0	469	852	1,321
80-81	9,386	5.5	9.0	516	845	1,361
81-82	10,639	0.0	9.0	0	958	958
82-83	11,993	0.0	8.0	0	959	959
83-84	13,024	0.0	8.0	0	1,042	1,042
84-85	14,669	0.0	7.8	0	1,144	1,144
85-86	16,225	0.0	7.8	0	1,266	1,266
86-87	19,065	0.0	7.8	0	1,487	1,487
87-88	20,897	0.0	7.8	0	1,630	1,630

Total without interest = $12,390
Total with Interest = $17,827

Explanation of Headings:

Salary:	Employee's estimated yearly salary
EE Rate:	Employee's yearly rate of contribution (percent)
ER Rate:	Sum of district's and state's yearly rate of contribution (percent)
EE Contrib:	Dollars contributed by the employee to the retirement fund (salary X employee rate)
ER Contrib:	Dollars contributed by the district and state to the retirement fund (salary X employer's rate)
Total Contrib:	Sum of employee's contribution and employer's contribution

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