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October 26, 2010

Representative Bette Grande, Chair
 Legislative Employee Benefits Committee
 State Capital
 600 East Boulevard
 Bismarck, ND 58505-0360

Re: **Technical Comments – Bill Draft No. 10080.0200**

Dear Representative Grande:

The following presents our analysis of the proposed changes found in Bill Draft No. 10080.0200:

Systems Affected: North Dakota Public Employees Retirement System (PERS) Main System.

Summary: The proposed legislation would close Main employee participation in the PERS Hybrid Plan, which is a defined benefit (DB) plan, to new State employees first hired after July 31, 2011. New Main State employees would participate in the Defined Contribution (DC) Plan.

- New employees of political subdivisions would still be eligible to participate in the Hybrid Plan. Currently, political subdivisions represent approximately 48% of the active population of the Main System.
- Temporary State employees hired after July 31, 2011 would only be able to elect to participate in the Defined Contribution Plan.
- Contribution rates for new State employees in the Defined Contribution Plan would be the same contribution rate as statutorily required under the defined benefit plans applicable to the appropriate employee group.



Actuarial Cost and Technical Analysis:

The proposed legislation would affect the cost of PERS in a number of ways.

- If the Statutory Contribution Rate were to be adjusted to achieve full funding, the increase would be higher under the proposed legislation than it would be under the current plan. Based on the most recent available data, the rate to achieve full funding would increase from 17.41% to 23.91% for the Main System (State only).
- If the Statutory Contribution Rate is not adjusted, the projected date that the Main System's assets that are allocated to State employees will be exhausted is projected to be earlier under the proposed legislation (2031) than the current Plan (2037).
- When the Plan's assets are exhausted the Plan's liabilities would still have to be met. Under Bill 80, the employer contributions needed to pay ongoing benefits are projected to rise to over 26% of payroll in the year that the funds are depleted. Under the current Plan for the Main System, the employer contributions needed to pay ongoing benefits are projected to rise to 23% of payroll in the year that the funds are depleted.
- The proposed DC Plan does not provide the same level of spouse or disability benefits as the current Plan. Also, the proposed DC Plan does not contain the Portability Enhancement Provision (PEP) that provides an incentive for supplemental retirement savings under the Hybrid Plan.
- If the proposed legislation were adopted, then there will be further challenges to the current method of providing Ad Hoc adjustments to retiree benefits since contributions to the Hybrid plan will be reduced.
- Bill 80 shifts the investment risk from the employer to the individual members. Investment education will be needed to help the member with this added responsibility.
- The proposed DC Plan is not sufficient to provide the same level of retirement security that current Hybrid Plan members receive. An increase to the DC Plan contribution to provide comparable retirement security would result in a large increase in the cost of the proposed legislation.

The current bill draft would only close PERS to future state employees. Since 48% of the active population is employed by political subdivisions, the DB Plan could be modeled as if it were an open plan. That is, if the bill were to pass, the Plan would continue to add new entrants, but at a slower rate than under the current Plan. However, this would create an equity issue involving the contribution rate.

Since the Plan is funded with contributions that are a percent of active payroll, the political subdivisions, by continuing to add active members, would assume a larger and larger share of the burden of paying off the Unfunded Actuarial Accrued Liability (UAAL). Although the bill does not prevent the political subdivisions from adding new entrants, there is no reason to assume they would continue to do so if it meant they would be responsible for more than their fair share of

the cost of the Plan. These subdivisions could choose to stop adding new entrants and could withdraw from PERS at any time, in which case they would only be responsible for paying off the UAAL for their own participants.

The only practical way the Plan could continue as an open plan would be if the Main System were divided so that state employees made up a single cost group. This would mean the State would be responsible for paying off the UAAL associated with State employees. We have assumed that if the bill passed State employees would make up a separate cost group as of July 1, 2011. By doing this we can accurately reflect the State's funding obligation, which is independent from what the political subdivisions choose to do.

Impact on the Systems' Assets

If the Main System were closed to new state employees the state employees' segment of the assets would be exhausted in 2031 if the current statutory contribution rate were left unchanged. Charts 1 and 2, attached, illustrate this. Chart 1 shows the projected market values of assets allocated to state employees in the Main System under the current Plan and Bill 80. Chart 2 shows the projected funded ratios (based on the actuarial value of assets) under each scenario.

Closing the Plan to new members reduces the Plan's future liabilities but it also removes an important funding source. These do not counterbalance each other. Contributions to the DB Plan are reduced as soon as new members and their associated contributions are diverted to the DC Plan, but benefit payments from the DB Plan are not affected for many years. It will become increasingly difficult to make up the funding shortfall as the payroll of active members decreases.

Another way to look at this is as follows:

- Under Bill 80, the actuarial present value of all future benefits for Main System state employees, determined as of July 1, 2010, is \$2,779 million. This includes the actuarial present value of future benefits for current annuitants, current active members, current inactive, vested members, and all future members assuming the active population remains constant.
- The actuarial present value of future member contributions is \$524 million, and the actuarial present value of future employer contributions is \$540 million.
- The estimated market value of assets at July 1, 2010 is \$1,001 million.
- Therefore, there is a net liability shortfall of \$714 million without a funding source.

This is illustrated on the attached Chart 3. While the total value of all benefits to be earned in the future is smaller under the bill, there are two important points to note. First of all, under Bill 80 the DB shortfall is nearly as big as it is under the current Plan, but the DB payroll is declining under Bill 80, so it may be more difficult to make up the shortfall.

Please note that the estimates in these charts are extremely sensitive to the projected valuation results and the actuarial assumptions used.

Impact on Contribution Requirements

One way to measure the effect of the bill on the cost of the Plan is to calculate the contribution rate to fully fund the Plan so that assets will be available to pay all benefits. Note that this rate is different than the actual contribution rate, which is set in statute and does not reflect the true cost of the Plan. Relative to the current defined benefit plans, the proposed bill would increase the immediate cost of the plans. This is primarily due to the fact that the Unfunded Actuarial Accrued Liability (UAAL) could no longer be amortized over the future payroll that is expected to grow by 4.5% per year.

The following table shows the estimated total contribution requirements as of July 1, 2011. These estimates are based on the July 1, 2010 actuarial valuation results, including the asset information, participant data and actuarial assumptions on which that valuation was based. The “Current Plan” uses amortization of the UAAL over 20 years as a level percent of payroll, which is assumed to increase 4.5% per annum. The “Closed Plan” amortizes the UAAL as a percent of projected payroll of the group that is closed as of July 31, 2011.

| Estimated Total* Contribution Requirements to Achieve Full Funding | | | | |
|---|-------------------|--------------------------|-------------------|--------------------------|
| | Current Plan | | Closed Plan | |
| | Amount (000's) | Percentage of Payroll | Amount (000's) | Percentage of Payroll |
| Main System (State Only) | \$80,252 | 17.41% | \$110,214 | 23.91% |

** Employer plus member contributions*

Note that the costs of the defined benefit plans are projected to increase in the future for the following reasons:

- Closing the Defined Benefit Plan will ultimately require changes in asset allocation that will likely produce lower investment returns. This will increase the UAAL and the actuarial contribution requirement. Note that we have not taken any asset reallocation into account in this analysis and have instead used the same long-term expected return for the projection period.
- For the Main System, the statutory contribution rate is currently less than the actuarially determined contribution rate, which leads to actuarial losses each year.

Since the State has a number of options in adjusting the funding policy to meet the obligation, we have assembled a number of charts to illustrate various options.

Chart 4 shows the contribution requirements if the current statute was not amended. The current statutory requirement is all that would be paid until the System's assets were exhausted, at which time the State would be required to contribute enough to make benefit payments.

Chart 5 shows the projected contributions if the statutory contribution rate were increased enough to achieve full funding in 20 years for the current Plan. The current actuarially determined rate is based on a 20 year amortization of the UAAL.

Chart 6 is the same as Chart 5 with the amortization period increased to 30 years for the current Plan.

Impact on Reporting

Another effect of the bill worth noting deals with the requirements of the Governmental Accounting Standards Board. GASB requires the determination of an Annual Required Contribution (ARC). PERS is required to disclose in a supplemental schedule to its financial statement the actual amount of employer contributions received and what percentage of the ARC this represents.

GASB 25 sets certain parameters to be used in calculating the ARC. Generally, the ARC must include the normal cost (reduced for the share paid by member contributions) and an additional charge to amortize the unfunded actuarial accrued liability (UAAL). The amortization period may not exceed 30 years. A plan open to new members may determine the amortization charge as a level percentage of payroll, which is assumed to increase. PERS currently uses an amortization period of 20 years with assumed payroll increases of 4.5% per annum. When a plan is closed to future members, though, GASB 25 requires that the amortization charge be computed as either a flat dollar amount or a decreasing amount in line with expected decreases in covered payroll. The following table shows the employers' ARC for the 2011-12 fiscal year using amortization charges that increase at 4.5% each year and level dollar amortization.

| <u>Plan</u> | <u>ARC Rate*</u> <u>(4.5% Payroll</u> <u>Growth)</u> | <u>ARC Rate*</u> <u>(Level Dollar)</u> | <u>Statutory Employer</u> <u>Contribution Rate</u> |
|-----------------------------|--|---|---|
| Main System (State Only) | 12.87% | 16.01% | 4.12% |

** Expressed as a percentage of covered payroll.*

Technical Comments: Our comments on the bill are as follows:

General

The bill essentially closes the State's defined benefit plans to new entrants employed by the State, which means the bill would have a major impact in the following areas, as described in more detail in this letter:

- Similarly situated employees would have different levels and forms of retirement benefits;
- The proposed changes would have a significant impact on the funding status of the defined benefits plans; and
- The role of the affected Systems in administering retirement benefits for State employees would shift dramatically over time.

Benefits Policy Issues

➤ Adequacy of Retirement Benefits

- ◆ *Replacement Ratio*: In comparison to members in the current defined benefit plans, the replacement ratios of income by retirement benefits for new members in the Defined Contribution Plan are expected to decrease from that which is currently provided for several reasons, including the following.
 - The contribution to the Defined Contribution Plan would be 8.12% of pay while the Normal Cost for the Main System is 9.22% of payroll.
 - In practice, individually managed accounts can expect lower investment returns than a longer time horizon, professionally managed defined benefit fund.
 - DC accounts suffer from “leakage” as funds are used for purposes other than retirement.
 - There is a higher cost of annuitization at market annuity rates or else members must assume longevity risk on top of investment risk.

In a letter dated September 3, 2010 (attached), we provided updated analysis of how benefits under the DB Plan compare to benefits under the DC Plan. It showed that the contribution rate for the DC Plan would need to be dramatically increased in order to provide a benefit that is comparable to the current DB Plan. Specifically the analysis shows the following for individuals who are presently in the DC Plan established in the late 1990's:

1. DC Plan participants are projected to have a retirement benefit that is on average 50% less than what they would have had if they stayed in the DB Plan.
2. DC contributions will need to increase to 16.5% to 20% to provide a similar benefit to the current DB system (under the DB Plan a 25 year employee would receive 50% of their final average salary).
3. For those individuals that are age 55 and above the effect of the recent market downturn on their portfolios makes it extremely difficult for them to recover even if contributions are increased dramatically. The recent market downturn highlights

one of the risks faced by DC plan members. Without significant contribution increases or favorable asset returns, these individuals will likely have to work well past age 65 in order to receive satisfactory benefits.

4. The benefit provided in the existing DC Plan is not adequate in providing a comparable benefit to the DB Plan at the existing contribution levels.
- ◆ *Retirement Savings:* The nature of the Defined Contribution Plan with lump sum benefit payments may decrease the amount of a member's retirement benefit that will be available for retirement to the extent it is used for current consumption. Employee Benefit Research Institute (EBRI) statistics indicate that because of this "leakage" effect, less than 100% of employer contributions will actually be used to provide retirement benefits. Based upon the EBRI study entitled "Reported Uses for Any Portion of Lump-sum Distributions", the average amount of distributed funds retained in retirement vehicles (tax-qualified financial savings) is 41.5%. Seventeen percent is saved, and the remainder (41.5%) is used for debt, education or consumption. Forty-six percent of these individuals rolled over at least some of the money into another retirement plan and 27% put some of the money into other savings investments. Because of this "leakage" effect, less than 100% of the employer contributions will actually be used to provide retirement benefits. Nationally, 58.5% of any lump sum distribution is not used for retirement purposes. The current Defined Benefit Plans have minimal leakage of employer contributions.

On average, refund payments under PERS are approximately 24% of the employee contributions. Of these refunds, 58.5% will be used for non-retirement purposes if the national statistics are applied. Thus, the leakage rate on employee contributions is estimated to be about 14% per year or 0.56% of PERS payroll.

If these patterns of refunds and uses of lump sum distributions remain unchanged, the leakage rate on employer contributions under the Defined Contribution Plan could be presumed to be 14%. For every \$1,000,000 of employer contributions accumulated, about \$140,000 will not be available for retirement purposes.

- ◆ *Personal savings:* Participation in a defined contribution plan may increase interest of members to save for retirement because of the participant directed investment feature and the awareness that it is important to save for their own early retirement or post-employment inflation protection. However, the State's Defined Contribution Plan does not provide any separate monetary incentive or opportunity to increase personal savings. The existing PERS main retirement plan added the PEP feature in 1999. One aspect of this provision is to create an incentive for members to engage in supplemental retirement savings. Specifically this feature provides that if a member participates in the State's deferred compensation plan, they will vest in the employer contribution in the Defined Benefit Plan. This provision has helped to encourage participation in the supplemental savings plan and has been successful at enhancing the overall retirement preparedness for those participants. The proposed Defined Contribution Plan would not have a similar defined benefit incentive to encourage participation.

➤ Benefits Equity and Group Integrity

Under the bill virtually all State employees hired after July 31, 2011 would accumulate employer-provided retirement benefits only under the Defined Contribution Plan. Two benefit equity issues arise if this is enacted:

1. Presently PERS Main System members and TFFR members are provided essentially the same benefit at retirement. Both systems provide a benefit equaling 2.0% of pay per year of service which provides essentially identical benefits at retirement. However, if Bill 2 is also enacted the TFFR defined contribution members will receive a contribution of 16.50% of pay (8.75% of which will be paid by the employer), or more than double the PERS members' contribution of 8.12% of pay (4.12% of which will be paid by the employer). Consequently, TFFR members will receive a retirement benefit that is over twice as much as PERS Main System members if investment earnings are the same. This will create a clear inequity between the benefits provided by the two systems.
2. The second equity issue will be in having two types of retirement plans in the workplace with newer employees in the new DC Plan and older employees in the current Hybrid Plan. If the contribution levels for the DC plan are set at 8.12% of pay there will be a clear inequity between the two groups.
3. The above inequities can be at least partially resolved by increasing the contributions of the proposed PERS DC plan to be the same as the proposed TFFR DC plan contributions.

➤ Competitiveness

The Defined Contribution Plan design increases the ability of shorter-term employees to earn and retain a valuable retirement benefit. The Main Plan's Portability Enhancement Provision (PEP) also offers similar benefits, which can be a valuable tool for attracting such employees. The proposed DC Plan, however, may be less competitive for career employee positions compared to other public employee retirement plans. The proposed changes could motivate job mobility and increase turnover. This may or may not be desirable depending on the workforce issues facing the employer.

In another sense, the bill will be following the trend among smaller private sector employers to use defined contribution plans instead of defined benefit arrangements as a primary vehicle for retirement benefits. However, it does not match the designs of many larger private sector employers and most public sector employers that have continued to maintain a combination plan structure - a core defined benefit plan with a supplemental set of defined contribution and/or profit sharing arrangements.

➤ Purchasing Power Retention

A defined contribution plan does not provide guaranteed purchasing power retention after benefits are distributed. The ability to maintain purchasing power will depend solely on the investment performance of the distributed assets. It is not possible under current federal tax laws to directly provide post-retirement increases for defined contribution plan retirees.

➤ Preservation of Benefits

A defined contribution plan can work well to preserve the value of benefits for former members but actual preservation of such values will depend on the investment performance on the amounts distributed. To the extent benefits are not invested adequately or not saved at all for retirement purposes, then the ability to preserve the value of the retirement benefits is diminished.

In July 2009, the federal Government Accountability Office (GAO) published a report that found workers face a number of risks in both accumulating and preserving pension benefits. The GAO found, in relevant part, that workers that receive lump sum distributions, in particular, face several risks related to how they withdraw their benefits, including:

- ◆ *Longevity risk:* Retirees may draw down benefits too quickly and outlive their assets. Conversely, retirees may draw down their benefits too slowly, unnecessarily reduce their consumption, and leave more wealth than intended when they die.
- ◆ *Investment risk:* Assets in which retirement savings are invested may decline in value.
- ◆ *Inflation risk:* Inflation may diminish the purchasing power of a retiree's pension benefits.

➤ Portability

The bill generally provides a high degree of portability of retirement benefits for new State employees who participate in the Defined Contribution Plan, since their entire benefit is available for distribution or rollover after termination of employment. Note that with the PEP the existing Plan also has a significant level of portability.

➤ Ancillary Benefits

- ◆ Pre-retirement death benefits and disability benefits provided under a defined contribution plan would generally be less than similar benefits provided under a defined benefit plan structure because defined contribution plan benefits depend on the total amount of contributions made and investment performance of assets, while defined benefit plan benefits are not contingent upon such factors. Specifically:
 1. The Hybrid Plan provides for a disability retirement benefit of 25% of final average salary calculated at the date of disability. A member is eligible for this after six months of participation in the system. The proposed DC Plan would offer no other disability benefits other than the account balance at the date of disability, which in most cases would be much less than the current Hybrid Plan disability benefit. Many

employers provide disability insurance benefits to employees, which offsets the need for this in the retirement plan. It is our understanding the state does not currently provide employer paid disability insurance to its employees, meaning that under the bill disability benefits would be less than State employees currently receive under Hybrid Plan.

2. Section 54-52-17 (6) (b) provides benefits for the surviving spouse. Essentially the spouse has three choices: 1) a lump sum payment of the member contributions with interest, 2) lifetime payment of monthly benefit equally to fifty percent of the deceased member's accrued single life benefit, or 3) if the member at death was eligible for a normal retirement benefit the spouse can select a benefit equal to the member's 100% J&S benefit. In the proposed DC Plan the spouse would be eligible to receive a lump payment of the account balance only. Generally, the proposed DC Plan benefit would be significantly less than the spouse benefits in the DB Plan. Many employers do have employer paid life plans that offset the need for this benefit in the retirement plan. In North Dakota, it is our understanding that the state only provides \$1,300 in life coverage. In the DC Plan a death benefit could be added or the state could provide expanded life insurance coverage to provide for the surviving spouse, otherwise the bill would result in lower death benefits for State employees than are provided by the current Hybrid Plan.
- ♦ The PERS Plan has from time to time, provided for retiree increases over time with ad hoc adjustments. This has occurred as a result of favorable plan experience and when the Plan's funding situation has allowed. Given the present challenges it is unlikely that the fund will be able to support any ad hoc adjustments until the Plan's funding challenges are overcome. However, at some future date it is possible that the Plan may reach a funded level that would allow it to again provide ad hoc adjustment to retirees. Under the proposed legislation, contributions to the current PERS Plan will decrease as the active population decreases, and the assets will decrease as the liability for members is paid off over time. Since the contributions under the closed plan will be used for paying off the unfunded liability, it is unlikely that excess contributions will be available to fund ad hoc increases to current retirees.

Also, the proposed DC Plan does not provide for sharing of favorable plan experience among members, nor does it specifically provide for ad hoc adjustments to retirees. However, for any members in the proposed DC Plan that realize favorable investment experience, they are able to benefit from what would generally be comparable to an ad hoc adjustment. If the state has a wish to someday provide retiree adjustments a new process would need to be identified.

- ♦ Social Security: No impact.
- ♦ Retiree Health Insurance Credit Plan: Benefits under the current Retiree Health Insurance Credit Plan are coordinated with the Hybrid Plan. Members who are eligible for benefits under the Hybrid Plan are also eligible for the health credit. Since benefits under the proposed Defined Contribution Plan will likely be received as a lump sum in many cases,

it may be necessary to amend the Retiree Health Insurance Credit Plan to allow for receipt of these benefits when a lump sum payment is received.

Funding Policy Issues

➤ Actuarial Impacts

As previously noted, the bill will have an actuarial impact on the Hybrid Plan.

- ◆ The bill will have an immediate effect on the actuarial contribution requirement.
- ◆ The bill will not provide for a change in the statutory contribution rate.
- ◆ Projected contributions will be lower than they otherwise would be beginning August 1, 2011.
- ◆ Benefit payments will not be affected for years to come. To illustrate the effect we have projected the market value of assets and the funded ratio of the Main System State employees for the current Plan as well as the proposed plans.

➤ Investment Impacts

- ◆ Depending on the performance of the capital markets and the investment choices made by members, new employees participating in the Defined Contribution Plan may experience greater, or, more likely, lesser benefits than those provided under the current Hybrid Plan. The risk of loss or gain is borne by the member.
- ◆ *Cash Flow:* In general, the bill will cause cash flows under PERS and HPRS to be altered as membership does not enter the defined benefit plans as currently anticipated. This will impact cash flow needs for funding and benefit payments under PERS and HPRS. These changes are projected to impact the overall funding of PERS and HPRS for the future, as previously described. As indicated above, it may be desirable to conduct asset-liability and cash flow studies to better predict the outcomes for the Systems.
- ◆ *Asset Allocation:* The bill may create new investment asset allocation issues for the defined benefit plans under PERS and HPRS as the amount of new contributions to the plans decreases relative to the amount of benefit payments from the plans.

Administration Issues

➤ Implementation Issues

If passed this bill would be effective on August 1, 2011. PERS may not know if the bill is passed and signed until April of 2011. Due to the magnitude of the changes, three months may not be a sufficient period for this transition. In order to ensure an orderly and effective implementation the effective date of the bill should be January 1, 2012 or later.

➤ Administrative Costs

The bill will have an impact on the administrative resources needed for both the defined benefit plans and Defined Contribution Plan because it would add a relatively large number of new members to the Defined Contribution Plan. Administrative costs may need to be reallocated from the defined benefit plans to the Defined Contribution Plan over time, as membership numbers shift to the Defined Contribution Plan. Initially, however, the bill will require maintaining the administrative resources for the defined benefit plans, while increasing the administrative resources available to the Defined Contribution Plan.

➤ Needed Authority

The bill appears to provide appropriate levels of administrative and governance authority to the PERS Board to implement the changes made by the bill.

➤ Integration

No impact.

➤ Employee Communications

The nature of defined contribution plans allowing participant directed investments will require additional employee education effort regarding retirement and investment planning. The need for this effort is supported by information found in a recent retirement portability study conducted by the federal Office of Management and Budget. A survey of employees indicated an overall low level of understanding of the how to invest moneys for retirement. The survey indicated a low level of understanding regarding investment categories and investment risk. Because the Defined Contribution Plan will be the primary retirement vehicle for its members, it will be critical to provide these education services.

Consideration should be given to participant education, including requiring or allowing members to attend financial planning seminars and meeting with financial advisors in the work place and during working hours. Increasingly, sponsors of defined contribution plans are making available investment advisory services to assist members to invest their retirement assets prudently. There are a variety of methods for providing these education and advisory services that should be examined, including group meetings, individual counseling and technology based approaches. With a DC plan individual members are responsible for monitoring their own investment performance and making changes as appropriate. Their success or failure is a direct result of how they fulfill this responsibility.

➤ Miscellaneous and Drafting Issues

- ◆ Consideration should be given to examining the fiduciary issues surrounding defined contribution plans, including the nature of the risks associated with participant directed investments, provision of employee investment information and education, self-directed brokerage windows, financial and retirement planning and investment advisory services.

The projections were made using generally accepted actuarial practices and are based on the July 1, 2010 actuarial valuation results, including the asset information, participant data and actuarial assumptions on which that valuation was based. In addition, the active member population has been assumed to remain constant in all future years. Calculations were completed under the supervision of Kurt Schneider, ASA, MAAA, Enrolled Actuary.

Projections, by their nature, are not a guarantee of future results. The modeling projections are intended to serve as illustrations of future financial outcomes that are based on the information available to us at the time the modeling is undertaken and completed, and the agreed-upon assumptions and methodologies described herein. Emerging results may differ significantly if the actual experience proves to be different from these assumptions or if alternative methodologies are used. Actual experience may differ due to such variables as demographic experience, the economy, stock market performance and the regulatory environment.

Please call if you have any questions or comments.

Sincerely,

A handwritten signature in blue ink, appearing to read 'BR Ramirez', with a stylized flourish at the end.

Brad Ramirez, FSA, MAAA, FCA, EA
Consulting Actuary

Chart 1
North Dakota Main System State Employees
Market Value of Assets
Based on July 1, 2010 Data and 8% Market Return Thereafter

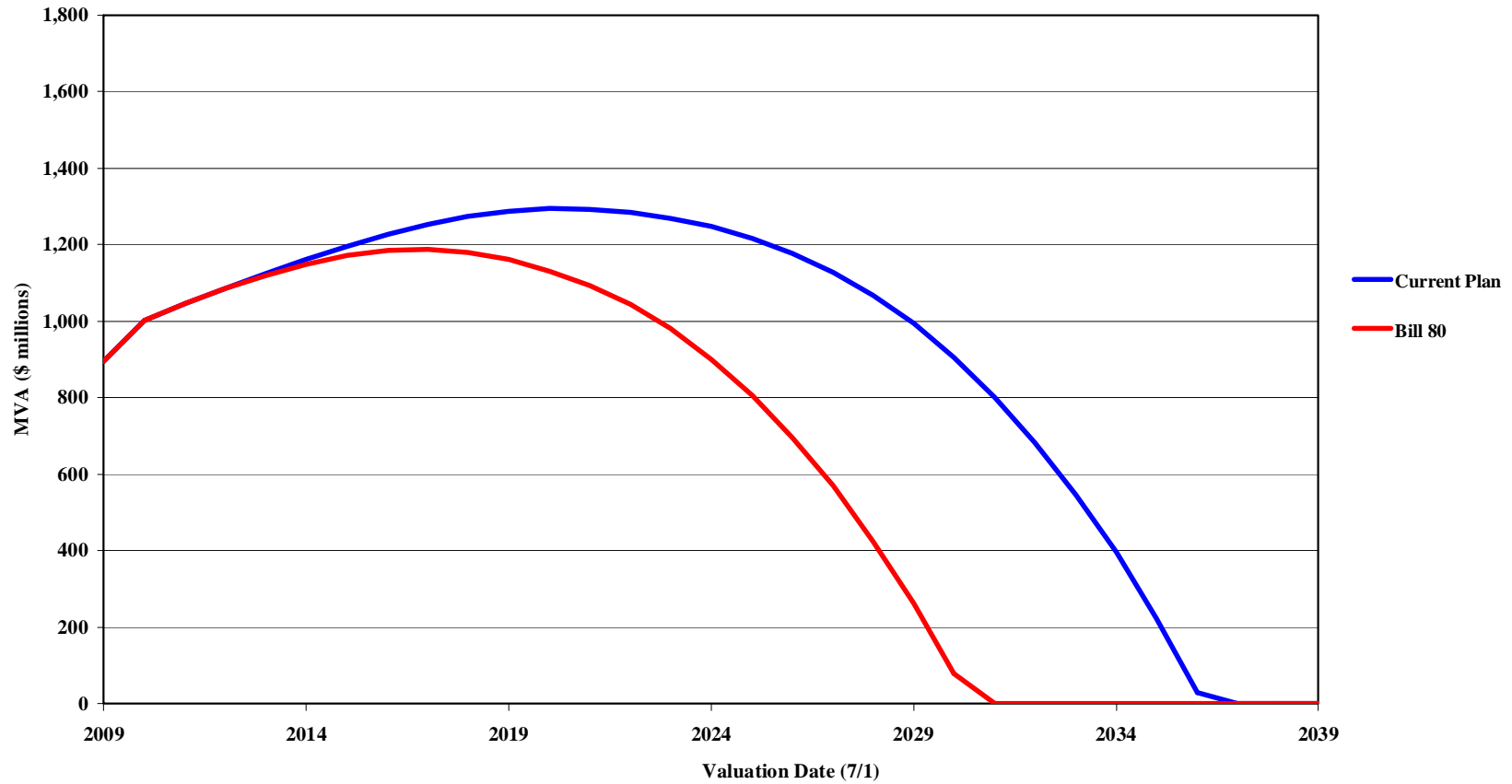


Chart 2
North Dakota Main System State Employees
Projected Funded Ratio
Actuarial Value of Assets to the Actuarial Accrued Liability
Based on July 1, 2010 Data and 8% Market Return Thereafter

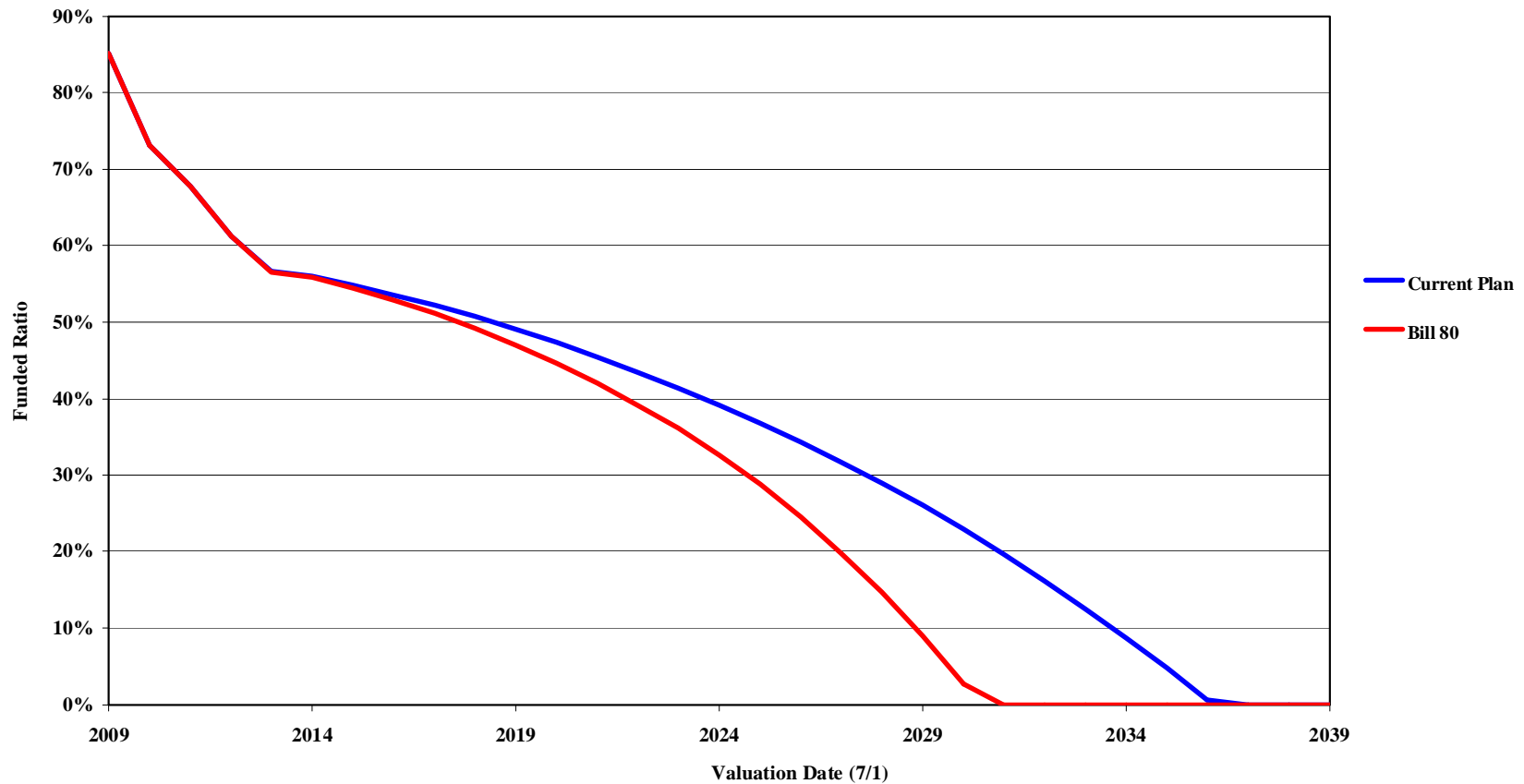


Chart 3
North Dakota Main System State Employees
Actuarial Present Value of Future Benefits by Funding Source
as of June 30, 2010

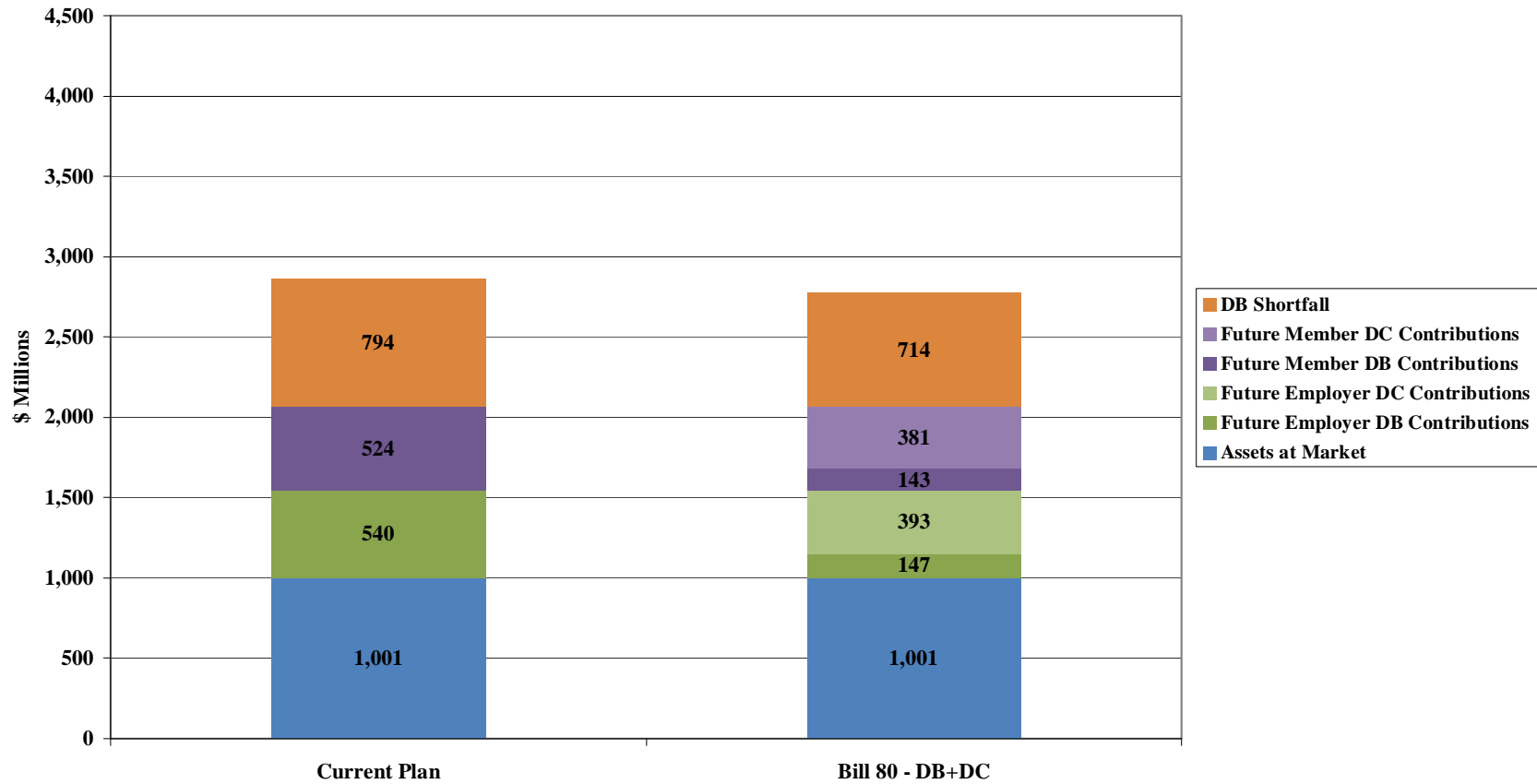


Chart 4
North Dakota Main System State Employees
Statutory Contribution Rate Plus Required Benefit Payments
Combined Total Contributions (DB Plus DC) as a Percent of Total Payroll
Under Current Statutory Contribution Rate

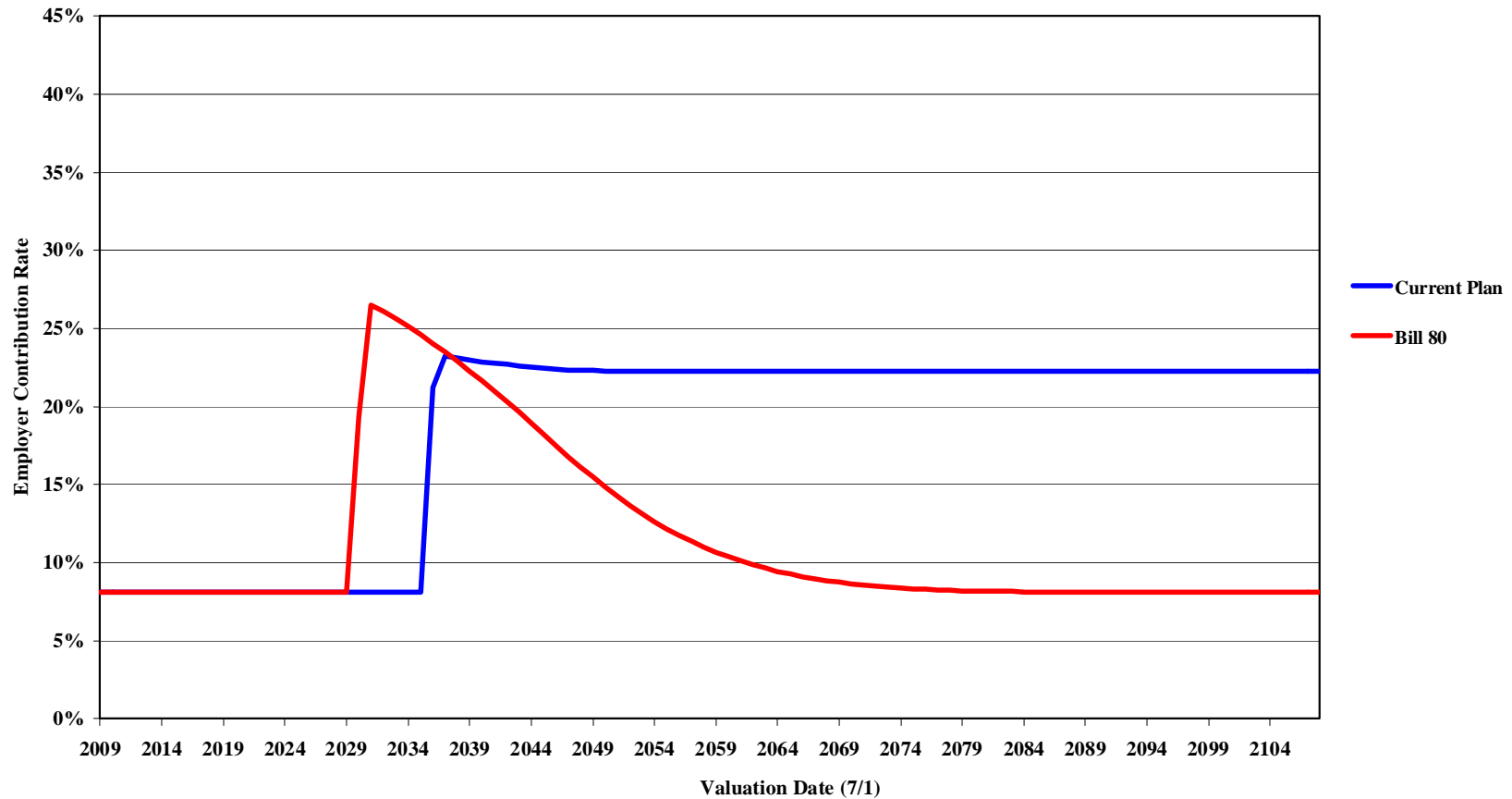


Chart 5
North Dakota Main System State Employees
Level Prefunding Contribution Rates
Combined Total Contributions (DB Plus DC) as a Percent of Total Payroll
20 Year Amortization for Current DB Plan

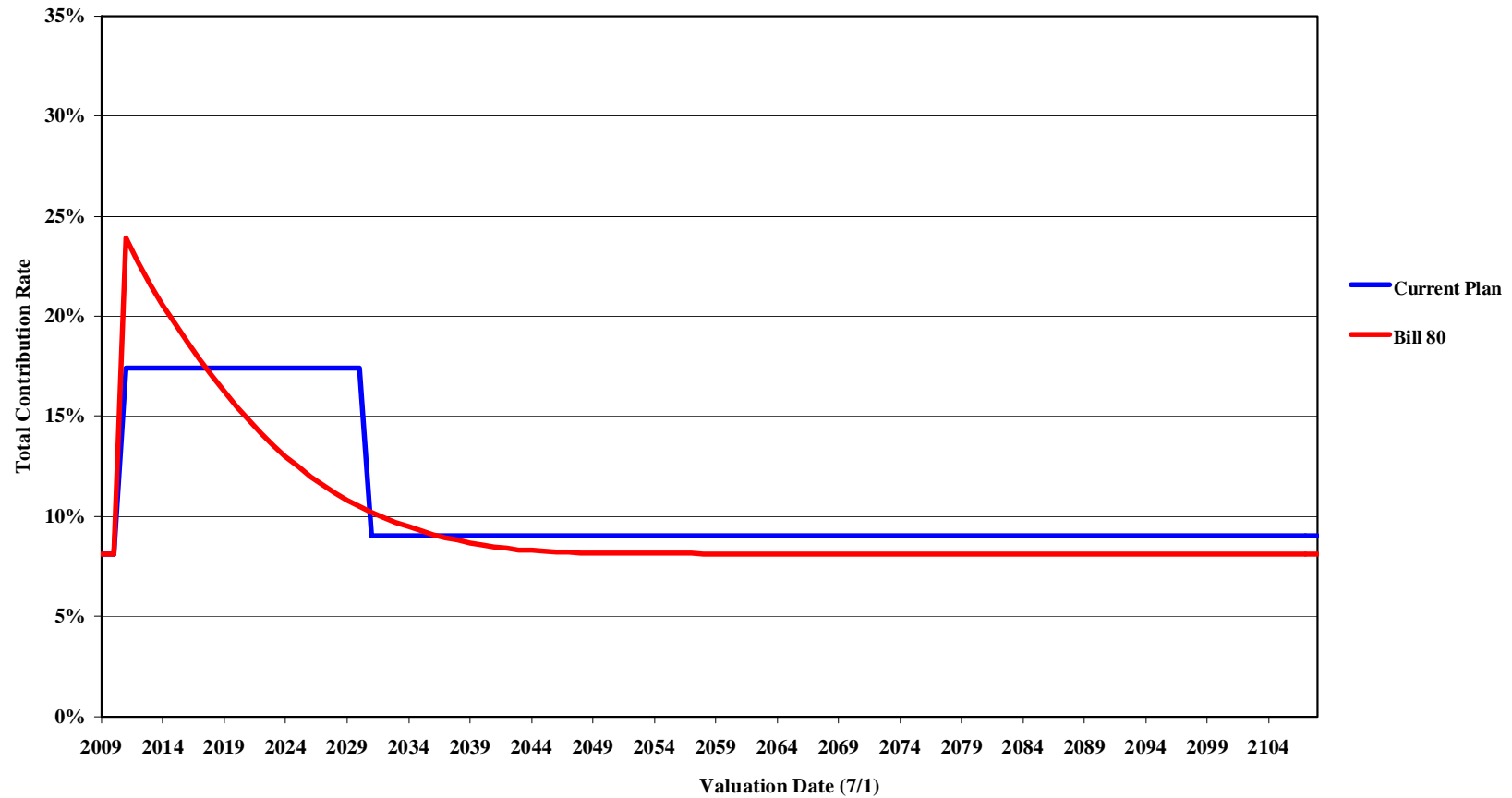


Chart 6
North Dakota Main System State Employees
Level Prefunding Contribution Rates
Combined Total Contributions (DB Plus DC) as a Percent of Total Payroll
30 Year Amortization for Current DB Plan

