

Introduction of State Managed 403(b) Plan in North Carolina:

Phase I Research Methods and Data

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I. Payroll and Survey Data

The research team developed a detailed administrative records request in collaboration with North Carolina State Department of State Treasurer, Retirement Systems Division staff and legal counsel to ask for and securely obtain the payroll data needed for the analysis presented in this paper. At the time of the data request, two companies provided the payroll software database and programs to all except two of the 115 public school districts in North Carolina. Developers of K12 Enterprise’s “SunPac” program and Education Management System’s “ISIS” program each constructed a query that would extract the information needed. Both created a software update patch so that all school districts would have this query pre-loaded in their software when we requested their data file. This allowed districts to easily pull a consistent set of records corresponding with all salary and other forms of compensation paid in March 2013, along with various demographic variables and employees’ contributions to all supplemental retirement plans. Complete payroll data was received from 53 districts (43 used SunPac software and 10 used ISIS software).¹

¹ Out of the 115 school districts in North Carolina, we received data from a total of 68 districts. We excluded 10 that did not respond to our survey and 5 that provided incorrect or incomplete data.

Table 1 illustrates the data cleaning process. The sample is restricted to full-time employees who were age 17 or older in March 2013. While data from SunPac include a field for employment type, full time employees in the ISIS database are identified using job and payment descriptions and contract period. Individuals with contract period less than 10 months, as well as those with negative salary and deduction amounts, are removed from the sample. We also remove entries corresponding to retroactive payments for pay periods in 2012 and earlier.

Data from ISIS include detailed job and payment descriptions which help to identify irregular payment types (e.g., overtime or annual leave), and part-time positions. We should note that we may not accurately capture all irregular payments due to differences (and errors) in how data are reported in some districts. For example, for individuals with multiple payment records for the same job classification and pay period, we attempted to determine whether this could be due to a local supplement. To do this, all payments were compared to average local supplement data at the district level to determine whether the district typically reports the local supplement as a separate payment in the payroll records. If so, the payments are summed. If not, the smaller unclassified payment is considered to be ‘irregular payment’ and is dropped.²

In the case of multiple payments because of multiple pay periods, the most recent record is included in the sample. We further restrict the sample to individuals with imputed annual salary more than \$14,240 (i.e., annual salary based on 30 hour workweek for the lowest salary grade for public school employees in North Carolina). We are not able to identify full-time workers directly in some of the districts using the ISIS software, so restricting on salary allows us to better capture full-time workers. Individuals are classified into three job categories- managers, instructional faculty and support personnel using ORBIT job classification codes and

² Future work will explore whether irregular payments can or should be included by adding them to the annualized value of the March 2013 salary.

job descriptions.³ Note that for individuals with multiple jobs we calculate salary by summing over all payments.

Managers include superintendents, principals, assistant principals, school based administrators and other managers. For SunPac, we assume that districts classify job positions such as food service managers as management personnel. Also, managers are restricted to 12 month contract employees. Instructional faculty includes teachers and teaching assistants, as well as faculty like audiologists, speech therapists, etc. Support staff includes office staff and support personnel. People with multiple job categories are assigned hierarchically.

Table 2 provides a comparison of our data with three other data sources to show the accuracies and limitations of our variables. The first column of Table 2 includes the payroll data merged to survey responses. The second column uses data from the North Carolina Department of Public Instruction (NCDPI). These data include information about full-time public school employees at school district level.⁴ Table 2, Column (3) includes data from the American Community Survey (ACS). The ACS sample was created using 2008-2012 ACS 5-year Public Use Microdata Samples.⁵ The sample is created as follows:

1. Full time employees: Individuals who worked at least 30 hours for 14 or more weeks in the past year were included.
2. Public sector workers: Identified using Class of Worker variable. Includes federal, state and local government employees.

³ <http://www.ncpublicschools.org/work4ncschools/employment/jobdescrip/>
<http://www.nctreasurer.com/ret/Employers/JobClassificationCode.pdf>

⁴ NCDPI data are available at: <http://www.ncpublicschools.org/fbs/resources/data/>, [accessed November 2014].

⁵U.S. Census Bureau; American Community Survey, 2010 American Community Survey 5-Year Estimates, using American FactFinder; <<http://factfinder2.census.gov>>; [November, 2014].

3. Education employees: Individuals are classified based on North American Industry Classification System (NAICS) codes for education industry and school related occupation codes.
4. School district employees: Public Use Microdata Areas (PUMAs) are converted to school district codes, and only school districts in our data are retained.⁶
5. Demographic restriction: Individuals with missing demographics (age, gender, marital status, and income), and those with wage income less than \$14,240, are dropped.

The final comparison data set, presented in Table 2, Column (4), is constructed from the actuarial report, “Teachers’ and State Employees’ Retirement System of North Carolina, Report on the Seventy-First Annual Valuation, Prepared as of December 31, 2013.”⁷ This report includes summary measures of active workers by age, years of service, gender, and compensation, which are required to be reported for the calculation of pension liabilities. Although no individual-level data are available, the summary measures are adequate for comparing to our sample. Note that these data represent the population of all employees in the Teachers’ and State Employees’ Retirement System (TSERS), so they are not identical to our school district employees sample.

First, we see that the age distribution of our data roughly matches what we anticipate from the individual-level data in the ACS and are nearly identical to the TSERS summary measures. About a quarter of the sample are individuals over age 55. Next, we observe that our measure of salary is quite a bit lower than that from both the ACS and TSERS report, \$34,623 per year relative to \$42,818 and \$41,351. RSD provided aggregate data not included in the

⁶ Using MABLE/Geocorr12 Geographic Correspondence Engine available at: <http://mcdc.missouri.edu/websas/geocorr12.html>, [accessed November 2014].

⁷ This annual report is made public by the Board of Trustees and can be accessed at: http://www.nctreasurer.com/ret/Board%20of%20Trustees/TSERSActuarialValuation_December31_2013.PDF, [accessed June 2015]. Data are derived from Appendix Tables B-2 and B-3.

TSERS report indicating that among education personnel the average salary is \$36,237. Still, we conclude that our salary measure is understated, at least for some employees. We believe salary is understated for several reasons. First, many districts provide a local salary supplement, which may be paid monthly, annually, or in two installments. The payment frequency and month of payment differ among districts. If the district provides a local supplement but not in March, salary will be understated. Second, in North Carolina school district employees on a 10 or 11 month contract can choose to be paid over those months or over 12 months.⁸ The data do not report pay-out period, so we have an underestimate of the salary for 10 month employees paid out over 12 months. Finally, we observe longevity pay and other non-recurring income only for the month of March and only in some districts. Where possible, we exclude irregular payments. Because we will include some non-recurring payments when we calculate annual salary, we may be overstating salary for those whose March pay-check was higher than average, but understating salary for those that only received non-recurring payments in other months.

We believe that marital status is self-reported only for tax purposes, so will not correctly reflect the marital status of individuals that are married but filing separately. Compared with nationally representative data, we see far fewer married individuals (58 percent in the payroll data versus 72 percent in the American Community Survey). As expected, the labor force in K-12 schools is disproportionately female (78 percent of the labor force) including one third of employment being single women. It is not surprising that the TSERS report sample has far fewer women, since it includes all state employees. The racial composition of the labor force closely

⁸ For more information, see: http://www.ncga.state.nc.us/EnactedLegislation/Statutes/HTML/BySection/Chapter_115C/GS_115C-302.1.html, [accessed April 2015].

mirrors the ACS estimates of the population with about 72.9 percent being white and 20.6 percent being black.

The data include a “start date”, which will either be the original date of hire or the date of hire of the most recent employment spell, depending on how the district organizes their data. Since tenure is determined based on the date of hire at a particular school district, previous employment tenure in another district is not considered. Thus, we anticipate that our measure of tenure will be less than total retirement service years for many of the workers. In the ACS, we do not observe tenure at the current job so simply impute experience as age minus education minus 6. This leads to a large overestimate of tenure. More appropriately, we compare tenure to the reported years of service available in the TSERS actuarial report. Here we see that the pattern of tenure is very similar to the full TSERS population.

II. Survey Data: Definition of Key District-Level Variables

The survey was available online from mid-August until early November 2013.

Number of Plans and 457 plan offerings:

Survey question: “Which of the other supplemental retirement savings plans, if any, does your school district offer?”

Response Options:

- *North Carolina 401(k) Plan from Prudential*
- *401(k) plan from other vendor(s)*
- *North Carolina 457 Plan from Prudential***
- *457 plan from other vendor(s)***
- *None*
- *Other*

All 90 districts offered the NC 401(k) and a 403(b) plan. Survey questions about 403(b) plans and Prudential participant information for NC 401(k) were used to verify the accuracy of these responses. It was necessary to determine the number of plans offered by the district as of March 2013 (i.e. when the payroll records were obtained).

NC 457 participation information provided by Prudential did not match survey responses as several school districts adopted NC 457 during school year 2013-14. In order to accurately determine plan offerings as of March 2013, the research team used survey responses in conjunction with NC 457 adoption dates for school districts provided by the RSD team. Also, to ensure accuracy of information on 457 plan offerings, payroll deduction codes and descriptions in the payroll data were used when available.

Adopted NC 457 within last 5 years:

The variable determines if the district adopted the NC 457 plan between 2009 and March 2013 using NC 457 adoption year information provided by the RSD team. All but 6 districts adopted after 2008. Those districts were all small in size and had less than 800 full-time employees.

Number of vendors

Number of vendors is defined as the number of vendors approved to enroll new participants in your district's 403(b) plan at the end of the most recent plan year.

Survey Question: "Which of the following vendors were approved to enroll new participants in your district's 403(b) plan at the end of the most recent plan year?"

Selective

This is a binary variables indicating if the district is selective in approving vendors to offer 403(b) plans. The survey asked

Survey Question: "Which of the following criteria, if any, does your school district consider in selecting 403(b) vendors?"

Response Options:

- *Minimum number of employees enrolled with vendor,*
- *No load fees*
- *Cap on administration fees*
- *No surrender charges*
- *No 12B-1 fees*
- *Array of investment options*
- *Access to on-site advising provided by vendor*
- *Online access to accounts and financial literacy programs*
- *Access to individualized investment advising, either in person, via phone, or via email*
- *Other*

Districts are classified as *selective* if they adopt any vendor selection criteria apart from minimum enrollment.

Reviewed Criteria

This is a dichotomous variable indicating if the district reviewed their vendor selection criteria in the past 5 years.

Survey Question: “How long has it been since these criteria were reviewed and/or updated?”

Evaluate plans

This is a dichotomous variable indicating if the district evaluates any aspect of their plan offerings. The district is classified as evaluating plans if they use any evaluation techniques among the survey response options.

Survey Question: “Does your school district use any of the following tools to evaluate its 403(b) plans?”

Response options:

- *We do not review or evaluate any aspects of our 403(b) plans.*
- *Periodic review of net and gross investment returns compared to benchmarked funds*
Periodic review or evaluation of investment lineup
- *Periodic review of fee reasonableness*
- *Conducting periodic participant surveys*
- *Periodic review or evaluation of enrollment, participation, or deferral rates*
- *Other*

Attempted to obtain fee information

A binary variable to indicate if the district has attempted to obtain information on fees charged by 403(b) vendors.

Survey Question: “Has your school district attempted to collect data on fees being charged by vendors in its 403(b) plan?”

Website Quality

School district websites were accessed in June 2013 to assess the information provided regarding supplemental retirement plans. We collected information from Benefits and Human Resource pages for current employees, as well as monthly newsletters. Based on the quality of information, we classified districts into three categories:

Ranking	Description	Number of Districts
High	Vendor list, contact information, and, if TPA, TPA information, retirement planning information	18
Moderate	List of vendors and links to websites, no local representative information	26
Low	No mention of a supplemental plans or information is not easily accessible (i.e., board minutes)	71

District Size

District size calculated as number of individuals in payroll records in each district.

Directly Provided Information

District originating information is an indicator for employees obtaining information on vendor list and contact information from any of the sources like district website, district staff or committee and benefit fairs.

Survey Question: How do school personnel obtain your district's list of approved 403(b) vendors and vendor contact information?

Response options:

- *By requesting list from school/district-level department (e.g. Human Resources)*
- *By visiting the district website*
- *By attending benefit fairs or district-sponsored event(s)*
- *Payroll insert*
- *By requesting list directly from vendor(s) (via phone, email, on-site meeting)*
- *By visiting vendor website*
- *New employees receive list of approved vendors during orientation*
- *We do not maintain a list of 403(b) vendors*
- *Other*

If the district chose any of the first four response options, we categorized it as actively providing plan information to employees.

Table 1: Data Construction

Removal Criteria	SUNPAC		ISIS	
	Number of records	Unique Individuals	Number of records	Unique Individuals
	120,759	113,803	30,352	17,714
Entire districts has incomplete/ incorrect data	1,880	1,772	3,872	2,826
Age <=16	31	31	0	0
Employment type: part-time, unknown or contract job	24,756	24,323	2,987	862
Multiple contract periods and/or pay frequencies	32	10	392	100
Retroactive payments	430	428	16	0
Negative deduction amounts	0	0	4	0
Unknown pay-frequency	0	0	2	0
Irregular pay type	201	29	0	0
Multiple pay periods, keep only most recent	0	0	3,527	125
Negative salary/ deduction amounts	15	5	0	0
Contract period < 10 months	358	356	1	1
Annual salary < \$14,240	13,774	13,774	776	776
Duplicate entries for same job category	77	0	3,849	0
Hire date after March 2013	124	124	72	72
Sample	79,081	72,951	15,630	12,952
Total			85,903	
Survey Responses Not Available			14,747	
FINAL ANALYSIS SAMPLE			71,156	
Final Number of Districts	43			10

Notes: Cells report the count of the number removed due to the criterion per row.

Table 2: Payroll Data Means and Comparison to NC and US Data

Characteristics	Payroll Data	NCDPI	ACS	TSERS Report
<i>School Districts</i>	53	53	53	N/A
<i>Number of Individuals</i>	71,156		3,289	310,370
Age below 35	20.61%		22.41%	21.72%
Age 35-49.99	39.57%		35.88%	39.68%
Age 50-54.99	14.65%		15.54%	14.63%
Age 55+	25.16%		26.18%	23.97%
Annual Salary	\$34,623		\$42,818	\$41,351
Female	78.39%	77.46%	76.19%	68.9%
Married	58.01%		71.69%	
Married Female	45.67%		53.60%	
Single Male	9.27%		5.72%	
Married Male	12.34%		18.09%	
Single Female	32.72%		22.59%	
White	72.90%	74.53%	79.54%	
Black	20.61%	21.75%	16.90%	
Hispanic	1.41%		1.40%	
Other	5.08%		2.16%	
Other including Hispanic		3.72%		
Tenure		Imputed Experience	Years of Service	
Less than 1	7.71%		9.39%	4.90%
1 – 2.99	10.01%		3.62%	14.01%
3 – 4.99	8.75%		3.50%	9.10%
5 - 10 .99	29.21%		12.86%	28.75%
11 – 20.99	29.61%		23.87%	29.41%
21 or more	14.63%		46.76%	13.84%
Managers	3.14%			
Instructional Faculty	78.59%			
Support Staff	18.30%			

Notes: Data sources are described in the text.

Column (1) merged payroll and survey data, reported at the individual-level.

Column (2) reports data on all full-time public school employees provided by the NC Department of Public Instruction. (<http://www.ncpublicschools.org/fbs/resources/data/>).

Column (3), data were extracted from the American Community Survey 5 year estimates (2008-2012) for full-time public school employees.

Column (4), data from the 2013 TSERS Actuarial Valuation.