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Introduction: In its proposed 2012 school budget, the School Board's top priority is to secure some form of pay increase for the employees of the Fairfax County Public Schools. Dr. Dale's proposed increase, if not offset, will cause an increase in real-estate tax of \$200 per household. The purpose of this report is to provide the background for possible pay increase.

Summary: The average-teacher salary is 88% of the average private-sector wage; however, the teacher works 82% of the days that the private-sector worker works. A report by the U.S. Bureau of Labor Statistics shows that both teachers and other professionals work approximately 50 hours per week; therefore, teachers work the same 82% of the hours that the private-sector professional works. The average-teacher total remuneration, which includes salary plus pension plus benefits, is 133% of the average private-sector worker's total remuneration.

Increased teacher salaries might be justifiable if their productivity has increased or if the quality of education is increased. Increases, if they occurred, are difficult to see in the data. Although the number of students has increased 7% from 2001 to 2009, the number of classroom teachers has increased 15%, as if productivity decreased. This apparent decrease is partially offset by the increase in the number of disadvantaged students.

Teachers may need a higher salary to offset the recent increases in food and fuel costs, just as do non-teachers. School superintendent Jack Vale has proposed a 3.6% increase in the school budget that includes a 2% increase in the teacher pay scales due to the cost-of-living (COLA) and another 2%, on average, due to teachers moving to the next step¹. The CPI-U increased 4% over the last three years², during which time the teachers' salaries remained the fixed; therefore, their standard of living has decreased. The 3.6% increase corresponds to a \$200 real-estate-tax increase per County household. What benefits the teacher injures the taxpayer. The injury can be avoided if (1) the retirement age is increased; (2) teacher pensions are modified; and/or (3) enough vacancies are left unfilled. The retirement age would need to be increased two years if both the Virginia Retirement System (VRS) and Employee Retirement System of Fairfax Count (ERFC) are modified or six years if only the ERFC is modified. If the ERFC pension is changed to a defined-contribution plan, with the County contributing 10%, the salary increase is more than offset. If only 50% of the new vacancies are filled, the increase would be offset.

The increase in real-estate tax could also be avoided if a new defined-contribution plan is made optional, so the teacher could choose between (a) the 4% salary increase with a switch to the defined-contribution plan for years starting in FY2012 (retaining the defined-benefit plan for years before FY2012), or (b) no salary increase while retaining the existing defined-benefit plan.

Discussion: We frequently hear the argument that the County must pay the highest teacher salaries so we get the best teachers. Raising teacher salaries means taxing County residents more; therefore, there are pros and cons to raising the teacher salaries. Herein we provide the background by which the reader can decide if the teacher salaries should be raised and, if they are raised, what should be done to decrease the impact on the taxpayers.

Current teacher salaries

In 2009, the average Fairfax County teacher salary³ was 88% of the average private-sector salary⁴ (Exhibit 1). The increase in the teacher salary was 10% from 2001 to 2009, whereas the increase in the average private-sector salary in

¹ See http://www.ebmcdn.net/fcps/courses/publish_budget_2012/index.htm for school superintendent Jack Vale's presentation.

² In the private sector, cost-of-living adjustments are usually considerably less than the cost-of-living (CPI-U) increase.

³ http://www.doe.virginia.gov/teaching/workforce_data/index.shtml

⁴ <http://data.bls.gov:8080/PDQ/outside.jsp?survey=en>

Fairfax County was 14%. These two figures indicate that teachers are paid less than the average private-sector worker and that the disparity is increasing. We need to examine these overall figures more closely because, whereas the salaries of the teaching staff remains uniformly distributed, the private-sector discipline may be changing because more high-level employees are being employed (more lawyers, more lobbyists, etc.). In addition, total remuneration should be considered, not simply salary. Health-care, personal leave, and pensions must be considered. The number of work days also differ. Most teachers have 194-day contracts, whereas most private-sector employees work 236 days per year; therefore, teachers work 82% of the time of private-sector workers⁵. On a per-work-day basis, the 88% salary is above the average private-sector salary.

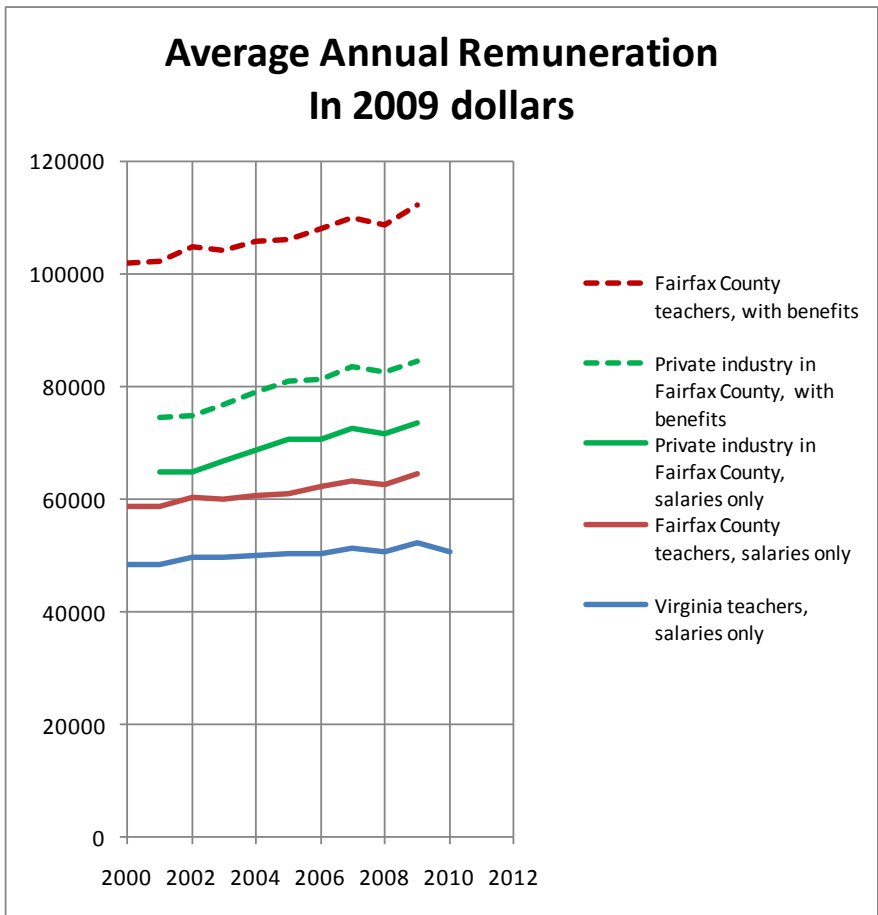


Exhibit 1: A Comparison of Remuneration with and without Benefits

A more meaningful comparison may be between teachers and other workers in their individual labor class (Exhibit 2). Of the occupations listed, the highest salaries were earned by Computer Systems Designers and the highest rate of increase (27% from 2001 to 2009) was earned by those in Engineering Services. The average County teacher salary, if divided by 82% for the days worked per year, is \$78,500, which is 74% of the Engineering Services employees. We leave for the future, the perhaps endless argument whether the 74% is justifiable: whose job is more difficult, whose

⁵ Some assert that teachers work much more than eight hours per day. A survey by the U.S. Bureau of Labor Statistics (<http://www.bls.gov/opub/mlr/2008/03/art4full.pdf>, Figure 9 on Pg 58) shows that teachers and other professionals work approximately the same number of hours per week. Several articles on teacher-related web sites state that teachers spend 50 hours per week on their work, which is not unlike what private-sector professionals spend. My experience in private industry, ten years as an employee and 30 years as a private consultant to many corporations, large and small, indicates that private-sector employees also work much more than eight hours per day.

job has the greater responsibility, whose job requires the more rigorous training, whose job has the greater supply of workers relative to the demand, etc..

Industry	Salary, 2009	Salary change, 2001 to 2009
Furniture stores	\$ 36,796	-12%
Financial industry	\$ 87,570	-2%
Office admin service	\$ 89,209	2%
Offices of lawyers	\$100,603	4%
Colleges and universities	\$ 44,506	6%
All Fairfax County employees	\$ 53,025	6%
Residential plumbing & HVAC	\$ 51,355	6%
Mental health practitioners	\$ 45,254	7%
Computer systems design	\$105,992	9%
Real estate	\$ 64,550	9%
Fairfax County PS teachers	\$ 64,559	10%
Education and health services	\$ 51,179	10%
Mental health physicians	\$ 77,459	13%
All employees in Fairfax County	\$ 72,117	14%
All private-sector employees	\$ 73,617	14%
Accounting services	\$ 91,373	17%
Business and prof services	\$ 98,336	23%
Engineering services	\$106,603	27%

Exhibit 2: A Comparison of Salaries and Salary Increases from 2001 to 2009 for Employees in Fairfax County

Those in bold include public-sector employees; the others do not.

Current teacher remuneration

When we add the benefits to the salaries, the picture changes. The teachers have a defined-benefit pension that is far more lucrative than that of most private-sector employees, who have defined-contribution plans⁶. A typical teacher is hired at age 25 with a Master’s degree. Under the current pension system, the teacher must work for 32 years before retiring. Upon retirement, this typical teacher would receive 80% of his peak salary⁷, as averaged over their last three years (for the ERFC component) and five years (for the VRS component). His retirement income starting at age 55 is approximately \$74,500 per year (in 2010 dollars). Those working under a defined-contribution plan, if they retire at age 55 after only 32 years of service, would receive approximately \$4,000 per year. Rather than attempting to live on such a small pension, those with a defined-contribution plan usually work until age 65 or beyond so that the amount in their pension plan is greater and must be spread over fewer years or retirement. (The present life expectancy is age 83, so working until 69 instead of 55, for example, spreads the defined-contribution plan over half the number of years.) If

⁶ Many of those who read this report are on defined-benefit plans because they have worked for the government or have worked in private industry before private industry converted the defined-benefit plans to defined-contribution plans. Those living under defined-benefit plans may have some difficulty realizing how much more lucrative such plans are.

⁷ <http://www.fcta.org/data/fx-public-schools/are-salaries-of-fairfax-county-teachers-too-high-too-low-or-just-right>. Many of the other pension-related computations reported herein use this same reference; however, the computations have been updated from the 75% that was for those hired after July 2010 but working 30 years to the new 80% for those working 32 years. The differences are not great.

the teacher pension is recast as additional salary, using standard financial computations and a return on investment of 2% above inflation, the pension represents a 54.8% addition to the salary. Because the teacher pays 4% per year into his pension, the pension adds, in effect, 50.8% to the salary⁸. The private-sector pension adds between 5% and 10% to the private-sector employee's salary, depending on the policy of the employer. The graph above is based on 7%. In addition, on a national scale, the benefits for county employees are 15% greater than for private-sector employees, primarily due to the differences in health-care benefits. The graph is based on 37% and 22% for the teachers and private-sector employees, respectively.

As the graph below indicates, when pensions and benefits are added to the salaries, the teachers are paid 128% of the total remuneration of the average private-sector employee in Fairfax County, even without any adjustment for the teachers' working only 82% of the private-sector days. The graph shows that the ratio of the cost of benefits to the teacher base salary increased 7% during the time period, rising to the 37% used in the graph.

Productivity as a Justification for Salary Increases

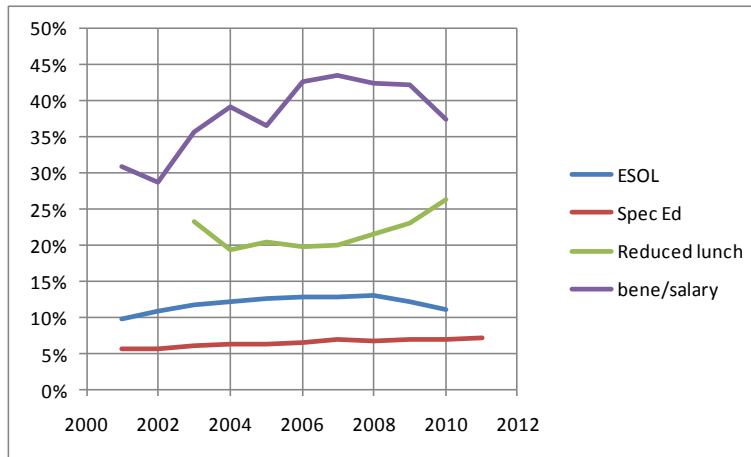
Increases in the average salary, as corrected for inflation, for a single industry, such as Engineering Services, can be justified if productivity increases. If productivity were constant, the inflation-adjusted salaries should remain the same. Older, high-salary employees would be retiring as younger, low-salary employees are entering the workforce; therefore, although individuals would be getting salary increases, the average would remain the same. The same can be said of teachers⁹.

One measure of teacher productivity is the number of students being taught. In Fairfax County, school enrollment (called membership) has increased 7% since 2001; however, the number of classroom teachers increased 15% and total number of employees, 16%, indicating the productivity decreased.

The number of students being taught is not the sole measure of productivity. The percent of students that are educationally disadvantaged might change. In Fairfax County, of the enrollees, 30% were minorities in 2000 and 32% in 2009; therefore, because at least some minorities require extra work, some productivity increases can be attributed to the increase in minorities. An increase in the number of otherwise disadvantaged students might also impact the students-taught measure. The following graph shows that there has been a minor increase (1.4%) in the number of special-education students and in the number of students having English as a Second Language (ESOL) (1.3%). The number qualifying for free or reduced-cost lunches has increased approximately 6.3%. We do not know how many of these reduced-lunch-cost students are new students and how many are students who slipped below the income line due to the downturn in the economy and, therefore, would not be considered disadvantaged.

⁸ The 54.9% seems extraordinarily high until you realize that the retiree receives 80% of his peak salary for, on average, 25 years (from age 58 to age 83) after working only 32 years. Instead of 54.2%, you might expect $80\% * 25/32 = 62.5\%$; however, the time-value of money reduces this to 54.9%.

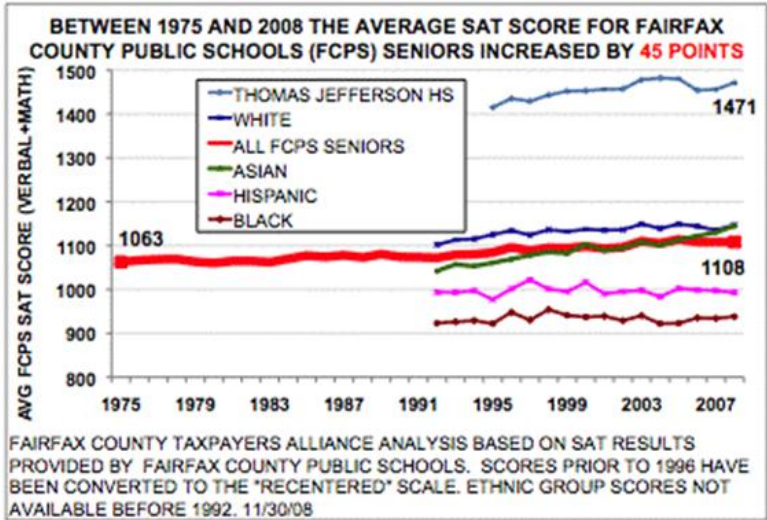
⁹ Fairfax County calls this salary saving due to replacing retiring employees with lower-paid employees the "salary lapse."



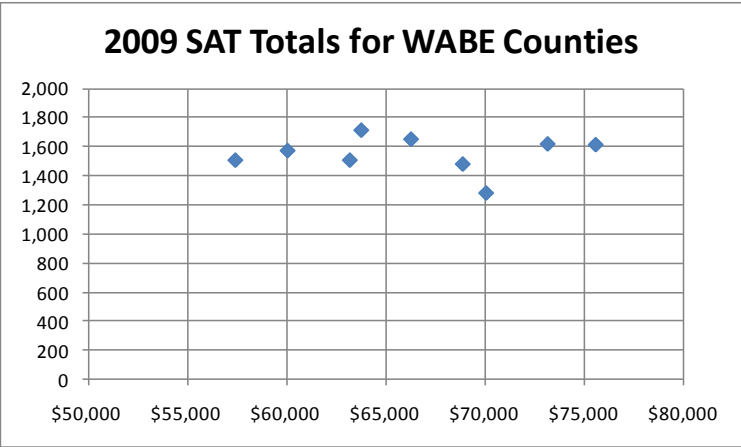
Suppose we were to assume that Special Education students require one teacher per six students and that ESOL and reduced-lunch-cost students require two times the number of teachers as regular students. These three categories should encompass the minority students, so we need not add the 2% increase in minority students. The changes from 2001 to 2010 are shown in the following table. With this allocation of students per teacher, the table shows that, for the number of teachers hired, the increase in capacity is higher in every student category exceeds the increase in demand. For example, the increase in Special Education teachers would be 35% whereas the need increased 24%. Notice, also, that the number of students per teacher is much lower than the almost 30 that is currently reported. If we were to use 3 students per Special Education teacher and three times the number of teachers for ESOL and reduced-lunch students, we would get numbers close to the indicated needs, thereby showing that the productivity has not diminished.

	2001	2010	Increase
Number of teachers	12,697	13,980	10%
Number of students	158,331	172,391	9%
Regular students %	64.5%	55.6%	-14%
Spec Ed %	5.7%	7.1%	24%
ESOL %	9.8%	11.1%	13%
Reduced lunch %	20%	26.3%	31%
Students per teacher			
Average	12.5	12.3	
Regular students	17.6	18.8	
Special Ed	6	6	
ESOL	8.8	9.4	
Reduced lunch	8.8	9.4	
Teacher requirement			
Regular students	5821	5099	-12%
Special Ed	1503	2033	35%
ESOL	1765	2030	15%
Reduced lunch	3609	4818	34%
TOTAL	12697	13980	10%

Improved student performance might also be used as an indicator of productivity improvement, performance being measured by SAT scores. This productivity improvement is difficult to ascertain. The following graph, taken from old.fcta.org, shows little improvement in the SAT scores, especially for minorities. Some of the improvement might stem from a reduced number of students taking the test.



A frequent argument is that higher teacher salaries result in higher SAT scores; however, the SAT scores in the Washington area seem little related to the teacher salaries, as the following graph shows for 2009 and the nine counties that participate in the WABE¹⁰. (The lowest SAT is for Prince George's County in Maryland.)



Maintaining the standard of living for teachers

The teachers may need more income today to offset the increases in the cost of food and fuel. They cannot spend their pensions today, so they may need a salary increase.

One method of increasing salaries without increasing total cost to the taxpayer would be to decrease the pension benefit. Young people just entering the teaching profession would probably be less concerned about the pension than about the salary. We can estimate the change in pension for each percent increase in inflation-adjusted salary. We can consider, for example, raising the retirement age (rather than decreasing the annual pension amount). If the minimum

¹⁰ Washington Area Board of Education. See <http://www.fcps.edu/fs/budget/wabe/>

retirement age were raised from 58 to 59, the years of receiving the pension would decrease 4.0%. Because the pension is 54.9% of the employee's total remuneration, this decrease would offset an increase in salary of 2.2%.

Under the Virginia Retirement System (VRS), the State may not allow for a requirement that the teacher work until age 59. Under the Employee Retirement System of Fairfax County (ERFC) the County pays for approximately 32% of the teacher's total pension, with the VRS providing 68%. If the State does not allow for delayed retirement, so that only the ERFC is affected by a one-year increase in retirement age, the one-year delay would offset an increase in salary of 0.7%.

If the pension plans were changed to defined-contribution plans, the allowable retirement age would be immaterial. The County contribution could be 10%, which is much less than the current 54.9% for which the taxpayers pay. Although the Constitution of the Commonwealth of Virginia¹¹ requires that public employees have a pension plan, it does not state the terms of the plan, including whether it is a defined-contribution or defined-benefit plan. The current law would need changing. The County does have the authority to change the ERFC to a defined-benefit plan. The saving would be approximately 32% of the 54.9%, or 17.6%. This saving would be partially offset by the County's 10% contribution to the defined-contribution plan. The net saving of 7.6% would more than offset the teacher's salary increases. Many counties in the U.S. have been switching or transitioning to defined-benefit plans. If such a switch is made, the benefits earned to date by the teachers under the present defined-benefit plan would be retained while all future benefits would be those from the defined-contribution plan. A teacher currently near retirement would be almost unaffected by the change.

There is a third possible method of raising the teacher salaries without increasing the homeowner tax is to leave unfilled the current and some of the vacancies to be created by retirees and those leaving the system for personal reasons. Approximately 3.3% of the teachers retire each year, although Dale's school budget is based on a lower rate. The total number of vacancies created for personal reasons is almost another 5%. We were unable to determine the number of vacancies at the start of each school year because the WABE and CAFR data, when combined, show a negative number of vacancies, as if the number of approved positions was lower than the number hired. If we assume all positions were filled at the beginning of the school year (no vacancies), then the 4% increase in teacher salary could be offset by hiring only 50% of the number of teacher's leaving the system. The number of teachers would be decreased by 4%.

¹¹ Article IV: Section 14

Appendix A: Clarifications Needed from the FCPS

On January 20, Kristen Michael, the Director of Budget for Fairfax County Public Schools, ably presented the proposed 2012 school budget to the Federation of Citizens Associations. She, or the Federation's Charlie Dane in some cases, provided the answers to the following questions. The indented paragraphs are the answers, elaborated and paraphrased.

1. The budgeted pension contribution seems small. Has some of the pension contribution been deferred to future years? Where in the budget (County and school) do I find all of the teacher-pension contributions?
Yes the pension contribution is small this year and next because of General Assembly action intended to partially alleviate local school budgets. Thus, this year (2011) it was about 8% and next year (FY2012) it will be about 10%. Then, it will increase to the "normal" amount of about 18% and the money that school districts "saved" this year and next will have to be repaid to the State with about 7.5% interest. FCPS is setting aside about \$70M to partially cover the increases in the out years. The payment to the VRS will exceed the 18% until 2023 sufficiently to recover the years of reduced cost.
2. Is the market scale adjustment (2%) justified by the increase in the CPI for three years? The data that I have shows the CPI-U rose 4% (as did the CPI). Would it be applied to the pay scales?
The 2% market-scale adjustment is indeed the COLA proposed in the Superintendent's proposed budget. It is not directly related to the CPI. It applies to all pay scales. It amounts to 50% of the CPI increase.
3. Would the teachers get a single step increase or would they make up for the past two years?
Not all teachers would get a step increase. Those in "hold" years beginning after 21 years of service would not get one. The school board did not allow any increases in steps last year or this year (2011); therefore, no one changed step positions during that time.
4. Why are the salary increases associated with the one-step increases for teachers not offset by the retirement saving ("salary lapse")? Are you replacing the retirees with new graduates? Can a retiring teacher be re-hired? In a teaching capacity?
In past years the sum of each teacher's step increase has been offset by the salary lapse. However, the figures diverge in the 2012 Proposed Budget with about \$40.2M for the steps but only \$28.8M for the expected salary lapse. Because the County expects fewer teachers to retire, due to the poor economy, the lapse is not as large as usual.
5. How many of the positions are currently unfilled? Does the budget cover filling them?
In 2009, not many adequately performing teachers were being forced to leave the system. There have been hundreds of positions eliminated, but this has been offset by (1) non-performers being ruffed through annual reviews, (2) individuals retiring, and (3) position changes. This last offset occurs because of the number of teachers that are added to deal with the student enrollment increase, enabling some individuals to be shifted into new positions.
6. The WABE data shows that 8.9% of the FCPS personnel are non-school, rather than 0.8% on the chart. Is the 0.8% only the management people, with the remaining 8.1% having other roles such as maintenance? What is the percentage is based on funds? It seems to be 87% teachers and 13% non-teachers.
The 0.8% is indeed only the management people. The WABE data includes all non-school-based people. For 2012, 7.2% of the people are not school based.