Who pays for public employee health costs?

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A B S T R A C T

We analyze the incidence of public-employee health benefits. Because these benefits are negotiated through the political process, relevant labor market institutions deviate significantly from the competitive, private-sector benchmark. Empirically, we find that roughly 15 percent of the cost of recent benefit growth was passed onto school district employees through reductions in wages and salaries. Strong teachers' unions were associated with relatively strong linkages between benefit growth and growth in total compensation. Our analysis is consistent with the view that the costs of public workers' benefits are difficult to monitor, contributing to benefit oriented, and often under-funded, compensation schemes.

The cost of health care for state and local government employees is increasing rapidly, as it is for workers across the economy. Since state and local governments are large employers – one in seven people work in state and local government – these cost increases are materially important. Estimates suggest that state and local governments spent $70 billion on their employees' health insurance in 2001, and $117 billion in 2010 (both in 2012 dollars).1 The real increase was roughly $2400 per state and local government employee or $150 per U.S. resident.

Adjusting to these cost increases is more difficult for state and local governments than for private businesses. One strategy that businesses use to address rising costs is to pass those costs back to workers, in the form of increased cost sharing for health insurance, less generous coverage, lower contributions to employee benefits, or smaller wage increases (Summers, 1989; Gruber, 1994; Kolstad and Kowalski, 2012). However, in a setting where wages and benefits are covered by union contracts – as is the case with 35 percent of state and local employees (Bureau of Labor Statistics, 2014) – the ability to effect these adjustments may be limited.

To the extent that wage and benefit adjustments are limited, increases in health care spending are equivalent to an increase in input costs, much like a price increase for electricity would be. In private businesses, some of this cost increase would show up in higher prices. Prices are not as flexible in the public sector, however, since the price for state and local services is the tax rate. Tax increases may be directly constrained by institutions, as with property tax limits in California, or may be politically difficult. Debt issuance by state and local governments similarly faces institutional and political constraints. Limits to adjustment along these margins leave reductions in inputs, and with them the quality or amount of public service provision, as a residual response to increased benefit costs.

The incidence of rising benefit costs depends on which aspects of public budgets are constrained and which are relatively flexible. When compensation schemes, revenue, and debt issuance are fixed, cost increases may reduce the quality of public services (e.g., worse schools and more crime) or crowd out spending on infrastructure. Loose deficit-financing restrictions may allow burdens to be shifted onto future taxpayers. Cross-government transfer arrangements (e.g., revenue sharing across school districts) may...
similarly loosen the revenue-raising constraints faced by local governments. Finally, the strength of public sector unions may drive the extent to which benefit costs can be shifted back onto government employees. The question of which margins will yield is ultimately empirical. After characterizing the potentially relevant forces in Section 1, we thus turn to the data.

We empirically analyze rising benefit costs in the context of school districts, where health benefits for both retirees and current workers have taken center stage in recent budget debates (Costrell and Dean, 2013; Nash and Pettersson, 2014). School district finance data are sufficiently rich to allow us to assess the effects of benefits on total compensation costs, total spending, revenue-raising, and a proxy, albeit a limited one, for student outcomes—the dropout rate. The biggest drawback of the data is that they report health and pension benefits as a single aggregate.

The analysis uses a simulated instrument constructed using districts' baseline benefit levels and regional growth in health expenditures. The instrument isolates the benefit growth that would be predicted absent endogenous changes to the generosity of benefits. Our initial finding, namely that this instrument strongly predicts actual benefit growth with a coefficient near 1, suggests that, at least on average, school districts did little to counteract benefit growth within the benefit package itself.

Looking both across districts and across employee groups within districts (e.g., across teachers, administrators, maintenance, and food service workers), we find that only a small fraction of increases in benefit costs are offset through reductions in wages. Each dollar in benefit growth is associated with an 85 cent increase in total compensation. The results thus provide evidence that the market for public sector workers deviates from the competitive, private-sector benchmark analyzed by Summers (1989), Gruber (1994), and Kolstad and Kowalski (2012).

We next analyze how school districts finance these increases in benefits. To our initial surprise, we find that benefit-driven increases in employee compensation were financed by transfers from higher levels of government. A detailed inspection of these revenues reveals them to come from sources subject to significant discretionary reporting (Cullen, 2003). For example, one third of the relevant dollars are associated with “categorical aid” for students classified as having special needs or requiring remedial education. Recent work documenting fraud in school lunch programs (Bass, 2010) emphasizes the flexibility of school reporting and the limitations of the systems through which eligibility claims are validated.

Consistent with the conceptual analysis in Section 1, we find that the strength of teachers' unions mediates school districts' responses to benefit growth. The relationship between simulated benefit growth and actual benefit growth is strongest in school districts with strong teachers' unions. Districts with weak unions appear to have largely offset increases in health care costs through reductions in the generosity of benefits. Inflows of categorical aid also appear to be mediated by union strength. The same is true of inflows of general formula assistance, though this result is imprecisely estimated.

Finally, we find that benefit growth was associated with declines in student performance as measured by dropout rates. The reorganization of students required to increase flows of categorical aid may thus have worked to students' detriment, though we do not have proof that this is the case. As we estimate this final result with moderate precision on a sample severely constrained by data limitations, it should be treated with caution.

The remainder of the paper is structured as follows. The first section characterizes the avenues through which increases in government health costs can be absorbed by public budgets. The second section empirically assesses the impact of increased health insurance costs on school budgets. The last section concludes.

1. The incidence of public sector health benefits

In private labor markets, analysis of the incidence of employee benefits is facilitated by assumptions related to competition, profit maximizing firms, and market clearing (Summers, 1989). In this paper's public sector context, a variety of standard assumptions may fail to hold. We first characterize the channels through which benefit incidence can be borne using an accounting framework, which does not require taking stands regarding the operation of the markets for government services and public sector labor. We then sketch an intuitively appealing theory that is consistent with our subsequent empirical analysis as well as related recent research.

1.1. An accounting framework for tracking the incidence of public employee benefits

Public goods and services are produced according to a production function that takes labor, \( L \), and non-labor input, \( X \):

\[
G = f(L, X) \tag{1}
\]

The budget constraint is described by:

\[
T + D = L \cdot (w + p_b b) + X, \tag{2}
\]

where \( T \) is tax revenue, \( D \) is the deficit (or surplus when negative), \( w \) is the wage, \( b \) is the quantity of a non-wage benefit (e.g., health insurance or pension obligations), and \( p_b \) is the unit cost of that benefit. The non-labor input has been normalized to have a price of 1. Differentiating and rearranging, we write the budget's response to a change in the cost of non-wage benefits as follows:

\[
dp_b Lb = -dl \cdot (w + p_b b) - dwL - dbLp_b - dx + dt + dD. \tag{3}
\]

Faced with an increase in the price of benefits, there are 6 possibilities. The government can reduce employment (\( dl \)), reduce wages (\( dw \)), reduce the generosity of the benefit package (\( db \)), reduce spending on non-labor inputs (\( dx \)), increase taxes (\( dt \)), or add to the deficit (\( dD \)). Each of these will affect finances, with changes in prices mediated by the relevant quantities, and vice versa.

The incidence of rising benefit costs depends on which of the above margins adjust the most. Reductions in either wages or the generosity of benefits shift these costs back onto workers. The division of such reductions across wages, retiree benefits, and the benefits offered to current workers has significant implications for the burden's distribution across public worker cohorts. Tax increases are borne by current taxpayers, while deficit increases may either be borne by future taxpayers or shifted onto future public workers. Reductions in inputs and infrastructure spending, and by extension in public production, will be borne in part by the beneficiaries of the relevant public goods and services.

The flexibility of the first three terms of Eq. (3) depends on the valuation of health insurance by workers, the nature of employment contracts, and the relevance of unions. When firms are

\[\footnote{Allocating a change in health care costs across prices and quantities is not as conceptually straightforward as implied above. For current purposes, we intend only to allow for the possibility that an increase in cost driven by one dimension of the health benefit might be offset through a decrease in its generosity. We do not mean to imply that increases in health care costs can be described entirely as valueless price inflation.}

\[\footnote{House price capitalization of local debt obligations may also be an important channel through which the incidence of deficit increases is allocated.}

\[\footnote{The welfare implications of these alternatives depend on where levels of public service provision fall relative to their optimum, the excess burdens associated with revenue raising and other deficit financing possibilities, and on the welfare weights society places on public workers, current taxpayers, future taxpayers, and the beneficiaries of public services and infrastructure.}
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