Watson Wyatt Worldwide

Productivity Rewards and Pay Illusions Caused by Health and Retirement Benefit Cost Increases

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Executive Summary

In summer 2009, health care reform seems almost within reach. President Barack Obama is urging the Congress to pass bills, and both the House and Senate are trying to deliver. Everyone agrees on the necessity of reform, but that's where the agreement ends.

In 2007, the U.S. population spent $2.1 trillion on health services and supplies — roughly $6,900 for every man, woman and child. Employer-sponsored health plans paid $614 billion, employers and workers paid $199 billion in payroll taxes to Medicare Hospital Insurance (HI), privately financed health insurance paid $161 billion and consumers paid $269 billion out-of-pocket.[1] The rest was paid by other Medicare financing, Medicaid, and veterans and military insurance programs — all largely financed by income taxes paid by workers. The most expensive health system in the world already levies an expensive toll on America's workers.

Figuring out exactly what final health care reform will look like in the midst of evolving discussions is a bit like nailing Jell-o to the wall. There is a broad consensus that reforms will expand coverage to most of the 46 million currently uninsured Americans. Five legislative committees are working on their own proposals as they also consider other independent proposals, each with different provisions for financing. But most of the ongoing discussions about who should pay for health care legislation have proposed employer coverage mandates, limitations on health benefit tax preferences, taxation of health insurers and "play-or-pay" provisions, all of which would distribute the costs of expanded coverage among employers and, through them, to their workers in the form of slower wage growth.

While supporters of the proposals are also hoping that modernization and reorganization of the payment system will reduce the cost of health reform, those savings are mostly speculative. In the event they don't materialize, much of the costs of reform could ultimately fall on the backs of employer-sponsored plans. How much of the $1 trillion to $1.5 trillion price tag for health reform will be financed through new charges against employer-sponsored health plans over the coming decade? What are the implications of potentially higher health benefit costs for workers and how will those implications vary over the earnings spectrum? These questions are too important to leave unexplored as the health reform discussion evolves.

An important — but often overlooked — point in these discussions is that health costs paid by employers are part of the compensation paid to workers. Compensation includes wages, employer contributions to Social Security and Medicare, the cost of any health insurance coverage for workers and their dependents, and contributions to any pension plans, 401(k) plans and other capital accumulation programs. While many of the proposals for health reform are looking to employers to fund much of the cost, there has been little focus on the links among wages, compensation and the cost of employer-sponsored health and retirement benefits. No one

[1] Center for Medicare and Medicaid Services, *National Health Expenditures by Type of Services and Source of Funds* and U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts.*

has talked much about how higher health benefit costs to employers would affect the paychecks workers bring home.

Health benefit cost inflation has been outpacing inflation and wage growth for some time now. There was a brief respite during the 1990s, when health benefit cost inflation was only 1.5 percentage points more per year than average wage growth for the bottom two-thirds of the earnings distribution. And since that decade, wage growth has fallen to roughly half what it was during the 1990s. Yet there was no comparable drop in compensation over the period. What happened? The health and pension cost share of compensation rose, which drove down cash wages. In 1980, a median-wage, full-time worker's health benefit costs were roughly 4.6 percent of compensation. By 2007, health benefits constituted more than 10 percent of the worker's compensation. Benefit costs, already painfully high, could soar even higher under reforms that expand coverage and stimulate utilization but fail to rein in health cost inflation. A 1-percentage-point increase in health costs today erodes pay roughly 2.25 times faster than it did 25 to 30 years ago.

The analysis in this report projects five scenarios that illustrate the importance of controlling health costs. In our baseline scenario, we manage to cut health benefit cost inflation rates roughly in half and do not expand health insurance coverage. In that scenario, wage growth rates are projected to be roughly equivalent to those of the 1990s for the next couple of decades.

Under an assumption that we control health cost inflation but expand coverage by means of an employer play-or-pay mandate, the effect on wage growth patterns would be negative at the bottom of the earnings distribution and mildly negative in the middle of the earnings distribution for a while. But after 2015, wage growth rates would return to the healthier levels of the 1990s. Bringing health costs under control allows more resources for expanded coverage.

If we expanded health insurance coverage but our current health cost inflation rate continued unabated, the higher overall costs would result in falling wages at the bottom of the earnings spectrum and very slow wage growth on up the earnings distribution. These dismal wage outcomes would persist over at least the next couple of decades, possibly longer.

The next scenario considers the real possibility that health inflation increases as a result of expanded insurance coverage offered under reform. Looking back at the implementation of Medicare, this is exactly what happened. This scenario combines expanded health care coverage with accelerated health inflation rates. In this case, the higher costs would drive disposable wages downward across most of the earnings spectrum, although the declines would be steepest for lower-earning workers. These depressed conditions would persist over the entire projection period.

Fixing what is broken in our health care system is about more than expanding health insurance coverage or deciding whether taxing employer-sponsored health benefits is good or bad policy. No matter how health care reform is financed — whether by employers, who pass the costs on to workers, or taxpayers — the bill will be unaffordable unless costs are brought under control. Our current health care system is embedded with incentives that encourage providers to dispense an ever-expanding menu of treatments and medications, even where there is little

evidence of their efficacy. Our health care system already costs 40 percent to 100 percent more than its counterparts in other developed countries and is growing twice as fast.

In a meeting with the Social Security Advisory Board, Dr. John Wennberg, founder of the Dartmouth Atlas Project, described three categories of unwarranted variation in health care services. The first category is effective care, which is evidence-based care that everyone seeking treatment should receive. The second category is preference-sensitive care that requires patients to make informed choices based on evidence, research and discussions with medical personnel about the treatment choices, risks and range of likely outcomes. The third category is supply-sensitive care, which approaches health care from a resource utilization perspective — i.e., more is better. Medical evidence plays a small role in supply-sensitive care. Dr. Wennberg estimates that under Medicare, 12 percent of spending is on effective care, 25 percent is on preference-sensitive care, and 63 percent is on supply-sensitive care. One reason for our runaway medical inflation is that we pay doctors on the basis of the quantity of services they deliver and generally ignore the quality or even the necessity of those services.

Reliable information about appropriate treatments, associated risks and likely outcomes should be made widely available to the public. Health care reform should consider medical research as a public good that should be publicly financed, and the public institution tasked with this research must be independent of special interests.

At this juncture, we have a choice. We can move forward with reforms, reshuffle the financing and hope to squeeze out enough savings from productivity and technology gains to offset the costs of broader health insurance coverage and medical cost inflation. Past history suggests this may not be a successful strategy. Alternatively, we can finally eliminate the incentives in our health care payment systems that encourage overutilization of medical goods and services rather than quality of care. If we fail to do something to bring health inflation under control as part of health reform, then many workers may be burdened with higher costs that put an end to pay raises for the foreseeable future.

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"The curious task of economics is to demonstrate to men how little they really know about what they imagine they can design."
Friedrich A. Hayek, in *The Fatal Conceit*

Introduction

In summer 2009, the prospect of health care reform might be stronger than it has been for decades. During his campaign, President Barack Obama promised the American people health reform early in his term, and the Congress is moving swiftly to deliver on that promise. The initial stage of the reform effort has focused on how to expand health insurance coverage and whether we need a public plan. There has been much less focus on how we will pay for all of this. In some ways, this is putting the cart before the horse. While policymakers might contrive a solution that expands health insurance coverage and eliminates many current inequities in health care coverage, the solution — the cart if you will — might come at a price that those already picking up the extremely expensive tab for the U.S. health care system — the horse — simply cannot afford.

In 2007, the U.S. population spent $2.1 trillion on health services and supplies — roughly $6,900 for every man, woman and child. Of that staggering total, employer-sponsored health plans paid $614 billion, payroll taxes to Medicare Hospital Insurance (HI) paid $199 billion, privately financed health insurance paid $161 billion and consumers paid $269 billion out-of-pocket.[2] These sources of financing covered 60 percent of all health consumption expenditures in 2007. The rest of the tab was financed mostly by other Medicare financing, Medicaid, and veterans and military insurance programs. All of the employer-sponsored insurance and Medicare HI payroll taxes were funded through employment relationships. In addition, covered

[2] Center for Medicare and Medicaid Services, *National Health Expenditures by Type of Services and Source of Funds* and U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts.*

workers and their families accounted for a large share of the out-of-pocket expenditures. The benefits provided by Medicare, Medicaid and other government-sponsored health insurance entities are largely financed by income taxes paid by workers. The most expensive health system in the world is already loading a heavy burden onto the economic horsepower of America's workers.

In a recent article published by the Center for American Progress in Washington, D.C., David Cutler and Judy Feder observe that the major cost of this reform will be the amount needed to "make health insurance affordable for all Americans — either by offering tax credits for private coverage or by expanding public programs."[3] The authors explain that health reform is likely to cost $1 trillion to $1.5 trillion over the next 10 years. Even in the current era of gargantuan government spending on economic reengineering, these are sizable numbers begging for an accounting of who will pay this bill.

Russell Long, a colorful U.S. senator from Louisiana from 1948 until 1987, chaired the Senate Finance Committee from 1966 until 1981. He described one theory of government finance with the observation that "We won't tax you and we won't tax me, we will tax the man behind the tree." His theory may be coming to the fore in the summer of 2009 as the outlines of health care reform take shape.

Figuring out exactly what final health reform will look like in the midst of evolving discussions is a bit like nailing Jell-o to the wall. Five legislative committees are working on their own proposals as they also consider other independent proposals, and each has different provisions for financing. But most of the ongoing discussions about who should pay for health care legislation have proposed employer coverage mandates, limitations on health benefit tax

[3] David M. Cutler and Judy Feder, *Financing Health Care Reform* (Washington, D.C.: Center for American Progress, 2009), www.americanprogress.org/issues/2009/06/health_financing.html (accessed July 6, 2009).

preferences, taxation of health insurers and "play-or-pay" provisions, all of which would distribute the costs of expanded coverage among employers and, through them, to their workers in the form of slower wage growth. How much of the $1 trillion to $1.5 trillion price tag for health reform will be financed through new charges against employer-sponsored health plans over the coming decade? What are the implications of potentially higher health benefit costs for workers and how will those implications vary over the earnings spectrum? These questions are too important to leave unexplored as the health reform discussion evolves.

When President Obama has discussed health care reform, he has linked health costs with workers' prosperity. In his first State of the Union Address, the president observed that over the last eight years, health insurance premiums have grown four times faster than wages, which could lead to 1.5 million Americans losing their homes in 2009.[4] Yet the reform options that have emerged appear to expect workers or their employers to shoulder a significant share of the costs. For example, on July 6, 2009, the *Washington Post* reported that "a single person earning $35,000 per year who does not have coverage today would be required to buy it under the legislation but would probably not receive help in offsetting a policy's cost, which averaged $4,704 in 2008."[5] The potential for significant costs being levied relatively far down the earnings distribution and determining who will pay them raise some major, as yet unaddressed, distributional issues.

[4] Barack Obama, "Remarks of President Barack Obama — As Prepared for Delivery Address to Joint Session of Congress Tuesday, Feb. 24, 2009" (Washington, D.C.: 2009), www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/ (accessed July 6, 2009).

[5] Shailagh Murray and Lori Montgomery, "On Health Care, the Prognosis Is Compromise**,** Hill Negotiators Must Reconcile Plans" (*Washington Post*, July 6, 2009), p. A-2.

In their analysis of health reform financing, Cutler and Feder suggest that funding health reform will likely come from three major sources. The first is savings from payments to providers, especially for Medicare and Medicaid, arising from productivity advances. The second source of funding will be new revenues, mostly from added employer payments resulting from play-or-pay requirements and possible taxes on health benefits and flexible spending accounts. The third source of funding potentially will come from modernizing the health delivery system, including the development and implementation of health information technology and comparative effectiveness research.

Cutler and Feder point out that the savings from modernization and reorganization are mostly speculative. In the event the savings don't materialize, they believe legislation will make up the difference by taxing employer-sponsored health benefits or further limiting reimbursement rates under Medicare and Medicaid. They propose a series of supplemental "fail-safe" financing options to cover any shortfalls that might arise as health reform is rolled out. These include further limitations on Medicare payments to account for productivity improvements, reductions in payments to align reimbursements at teaching hospitals with those at non-teaching facilities and lower reimbursement rates in high-cost areas. Most of the financing options would further expand the taxation of employer-sponsored health benefits or limit reimbursement rates through the public insurance components of the reform model. Cutler and Feder acknowledge that additional limitations on payments from public plans to providers may well be passed on to private employer-sponsored health benefit plans, thus raising their costs accordingly. An already heavy burden promises to become even heavier under reform options now under consideration.

If Cutler and Feder are correct in their surmising that reengineering of the delivery system will not deliver the savings hoped for under reform, half to two-thirds of the costs of health reform could fall on the backs of employer-sponsored plans. If the new "efficiencies" in the delivery system are achieved by cutting reimbursement rates for services delivered under public programs, employer-sponsored health plans might be in for further added costs. The "man behind the tree" in ultimate financing of health reform may be the American worker and the potential price may be significant.

An important point missed by many is that health costs paid by employers are an element of the compensation paid to workers. After World War II, employer-sponsored health plan costs were a trivial part of compensation. This is no longer true today, and health cost growth appears to be crowding out other important elements of compensation, such as cash wages. Health reform could play an extremely valuable economic role if it slows both inflation in health costs and erosion of other elements of compensation. If we rely too heavily on reforms that increase the cost of health benefits, as Cutler and Feder suggest could be the case, we may exacerbate an increasingly serious yet generally overlooked problem.

Concern has been mounting, as reported in the news media and economics literature, that the compensation received by workers in the lower-to-middle income ranges has not been commensurate with their productivity contributions in recent years. The supporting evidence points to falling earnings and higher unemployment for the middle class over the last economic cycle. The current downturn is likely exacerbating the longer-term patterns.[6] As we demonstrate

[6] See for example, Paul Krugman, "Falling Wage Syndrome," *New York Times* (May 4, 2009), p. A19; Jared Bernstein, "How Much More Can Consumers Be Squeezed by Stagnant Income, Skyrocketing Housing Costs, and Falling Home Prices," Testimony before the Joint Economic Committee of the U.S. Senate and House of Representatives, July 23, 2008; and Lawrence Mishel, Jared Bernstein and Heidi Shierholz, *The State of Working America 2008/2009* (Washington, D.C.: Economic Policy Institute, 2009).

in the following analysis, the perceptions that workers at various points in the earnings distribution are not faring as well as expected can be traced back to cost inflation in employer-sponsored benefit programs. In recent years, this inflation has been exacerbated by retirement plan costs, but we believe that development is temporary. Over the longer term, health costs have imposed a significantly larger claim on the productivity rewards paid to workers.

The idea that we can layer a costly health care reform bill on the workforce without significant distributional implications suggests that the reform will reengineer the financing of employer-based health insurance. To the best of our knowledge, no such change is under consideration.

The analysis that follows shows that conclusions about workers' rewards across time or across the earnings spectrum depend on how rewards are measured. Measured by hourly pay growth or increases in earnings, workers across much of the earnings spectrum are not faring as well this decade as they did in the last. On the other hand, when benefits are factored in, most workers appear to have done as well or better over this decade as they did in the last, and those at the bottom or middle of the earnings distribution have done as well as many at the top. The rapid run-up of both health and retirement costs has caused the slowdown in wage growth we have seen this decade. Health care reform that does not control costs — and that in fact could exacerbate them — presents risks that have yet to be widely discussed. *Specifically, if reform accelerates health benefit cost inflation, the associated cost increases might eat up most — if not all — of workers' wage increases over the next few years and possibly for decades to come.*

Our analysis shows that variations in the cost to employers of retirement and health benefit programs, both mandatory and voluntary, have played a major role in defining the disposable income rewards paid to workers in recent decades. These ballooning costs are now

large enough to potentially consume most, possibly all, of the productivity contribution of lower- and middle-wage workers, precluding higher wages in the future. Employer-sponsored pension costs are currently an aggravation but the long-term culprits are health and entitlement costs.

After developing the framework for our analysis and presenting results from recent history, we summarize the prosperity prospects for workers under a range of potential policy scenarios involving both health care reform and entitlement reform, which has largely been ignored so far. If we get health care reform wrong, triggering a new cycle of health cost inflation — similar to what occurred as Medicare was implemented — wages will fall for workers across much of the earnings spectrum. Entitlement reform, with its own Medicare component, further exposes workers to a health sector badly in need of restructuring. This restructuring is imperative, regardless of political agenda or what one thinks of the initiatives currently being pursued by policymakers.

Without health reform, assuming that 2000-2007 health cost inflation rates persist and entitlement reform protects current-law benefits at the expense of higher payroll taxes, we project that from 2015 to 2030, workers in the bottom half of the earnings distribution will receive only about half the wage increases they received between 2000 and 2007. If middle-class wage growth was considered inadequate in the 2000-to-2007 period, how will workers react to seeing it reduced by half to support a health care system that delivers more cost than benefit by virtually any measure? These results highlight the importance of health care reform that will rein in excessive health cost inflation.

Health care reform without cost control creates an even gloomier outlook. If health benefit cost inflation persists at roughly the same rate as in the recent past, the combination of health reform and entitlement reform could easily reduce disposable income for most workers in

the bottom half of the earnings distribution. If health inflation escalates as a result of health reform — a real possibility that no one is talking about — disposable income could fall across most of the earnings spectrum. One way to offset higher health costs, which some policymakers have suggested, is to tax those with higher incomes, forcing them to pick up the tab for the expansion of health insurance coverage. But that way out seems a terrible waste of valuable resources in the face of mounting evidence that a considerable amount of health care spending might be doing more harm than good.

In the penultimate section of the paper, we explore the problems in our health care system that create extreme inefficiency and variability, and how some provider organizations around the country are improving health delivery and outcomes. Our dilemma is not hopeless unless we refuse to act. The fix is about more than electronic records or expanding health insurance coverage — it is not even about whether a public insurer should be part of reform or whether taxing employer-sponsored health benefits is good or bad policy. Our biggest problem is that our health care system is embedded with incentives for providers to offer an ever expanding bag of treatments and medications, despite little evidence that they enhance consumers' health and considerable likelihood that they are making our health worse. At this juncture, we have a choice: We can either change the incentives in our health care payment systems to slow the growth of health costs and encourage the delivery of quality services, or we can concede that standards of living — which have risen fairly consistently since World War II — have reached a pinnacle and are headed for decline.

Background

Employers reward workers for their labor with compensation. Many people view their reward for working as the amount in their weekly or monthly paycheck, but the employer pays a lot more. Compensation includes contributions toward Social Security pensions and Medicare benefits. It also often includes the cost of health insurance coverage for workers and their dependents, and contributions to finance pension plans, 401(k) plans and other capital accumulation programs.

Figuring out the dollar amount of each component of the compensation package is complicated. For example, consider a worker's pension and how much of it an employer finances at any given year. From an economic perspective, a worker "earns" the value of the total pension at year end, minus the amount accumulated at the prior year end, plus the interest that would have been paid had the amount been held as a separate, freestanding asset.

The amount of pension compensation and the amount of the employer contribution to the pension trust fund might be different in any given year because variations in financial market returns can drive plan funding higher or lower. For retiree health benefits, the economic value of the benefit earned in a given year is like a pension. But these benefits are largely financed on a pay-as-you-go basis, so the benefit accrued for a year of service will not be paid for until after the individual retires.

Because employers cannot maintain segregated funds for deferred benefits like pensions and retiree health benefits, their contributions are an attempt to hit a moving target. If financial market declines require higher contributions to the pension fund in one year, there is less money in the compensation till for other forms of reward. Including the legacy costs of unfunded retiree health benefits or unfunded pension obligations in current compensation captures the extent to

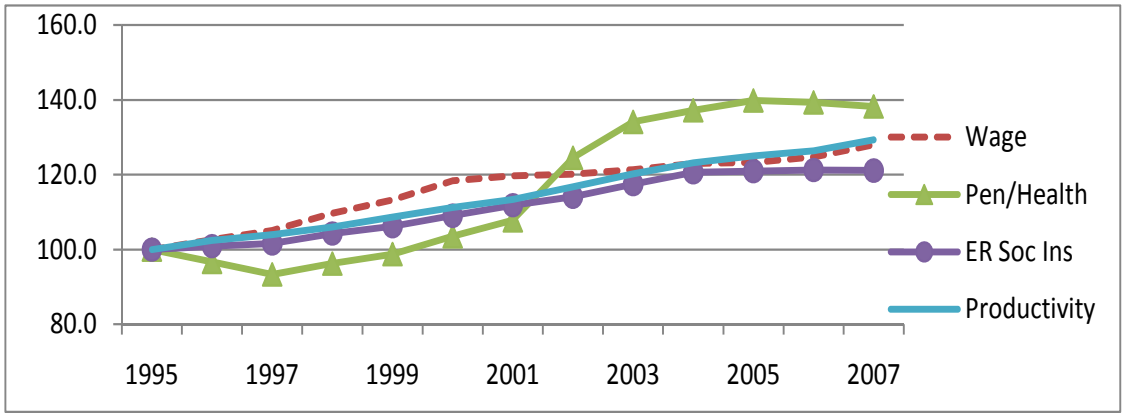
which employers deduct such deferred labor costs from active workers' current pay. Because social insurance contributions are set by external legislative forces and the costs of health and retirement benefits vary over time, disposable earnings are actually a residual paid to workers after other costs are met. If employers determine that the composition of their compensation packages is short on cash pay, they restructure other elements of the package.

Some analysts argue that purer economic measures of compensation are better for measuring workers' rewards than the cash-flow measure of compensation. There is evidence to the contrary. For example, consider the fate of employer-sponsored retiree health benefits in recent years. When employers realized the magnitude of their commitments after the Financial Accounting Standards Board established procedures for calculating and reporting these benefits, many employers drastically curtailed or eliminated their programs. Were the benefits accrued earlier in workers' and retirees' careers really compensation if the benefits were never delivered? We don't think so. So our analysis considers compensation as the cash contribution that employers make to cover both public and private current and deferred compensation programs for any given period. Over an extended period of time, the economic and cash flow measures of compensation and their components must be equivalent even though they fluctuate from period to period.

Using our cash-flow definition, workers averaged $19.40 per hour in 1995 (in 2000 dollars). Of that, 82 percent was paid as cash wages, salaries or bonuses, 12 percent was paid in the form of health or retirement benefits, and 6 percent was paid for social insurance coverage. Using the values of each component as a base 100 in 1995, **Figure 1** shows the pattern of growth for these compensation elements up through 2007, as well as output per hour worked. Between 1995 and 2000, wages grew more rapidly than productivity and then leveled off. Wages grew

faster when productivity outpaced pension and health benefit costs. As these latter costs escalated around the beginning of the new millennium, wage growth slowed and has remained less than productivity growth since then.

Figure 1: Real Wages, Employer Pension and Health Costs, Employer Contributions for Social Insurance and Output per Hour Worked Relative to 1995 Levels for Selected Years



Source: Derived from unpublished data from the Office of the Actuary, Social Security Administration. Wages and benefit costs were converted into constant dollars using the GDP deflator.

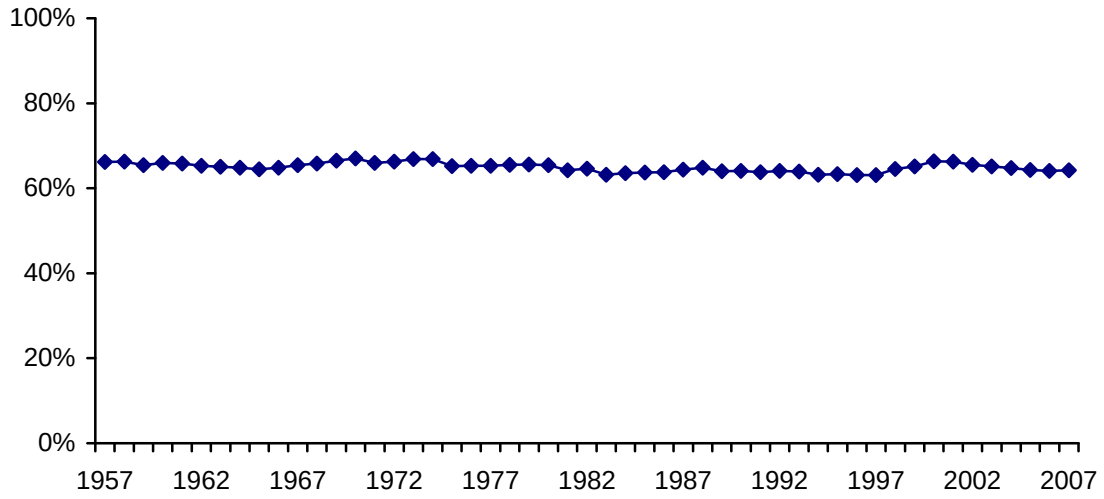
The data underlying Figure 1 indicate that benefit cost growth has been somewhat more variable than wage growth over the period. From an employer's perspective, there are a number of tradeoffs between paying workers in benefits versus wages. Employers base the composition of the benefit/wage package partly on which benefits or rewards will help them attract and retain the specific sorts of workers they need to succeed. But they cannot ignore workers' preferences. If too great a share of the productivity reward is paid out as pensions or health benefits, many workers will seek employment with higher direct wages.

An organization's overall productivity must support both workers' remuneration and returns to the capital owners. Capital owners have no reason to care how workers are paid as long as they get a fair return on their investment. But once the returns are split between capital

owners and workers, disposable pay will depend on benefit costs. A problem with this type of reward system is that benefit costs can vary widely over time, as implied in Figure 1, because of forces beyond the employer's or worker's control and can play out over extended periods.

What's important to employees is the share of their output that they receive. **Figure 2** calculates the share of output paid to employees and the total workforce over the last 50 years. What is remarkable is that workers' share of productivity has remained relatively constant, through swings of great fortune and deep recessions, when marginal taxes were high and when they were low, in eras of high inflation and of stable prices, in times of recession and high unemployment, and during rapid economic growth and tight labor markets. As workers' output has varied over time, their rewards have varied similarly. This suggests that if benefits continue to outpace overall productivity, the imbalance will constrain the growth of real wages in the years ahead.

Figure 2: Share of GDP Paid to Employees and the Self-Employed



Source: Derived by the authors from the U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts.*

The growth in workers' total compensation during the 2000-2007 period across the earnings spectrum looks different from their wage growth. In fact, after including benefits in the equation, the pattern of compensation growth during the recent period is not very different from that during the 1990s. There could be several reasons why workers feel they are falling behind while employers believe they are paying generous compensation. For example, workers might not appreciate the magnitude of the costs of employer-provided retirement and health benefit programs. Alternatively, workers might not value the benefits they receive at levels equivalent with their costs. If a worker's health benefit costs go up 20 percent from one year to the next, but he or she makes no claim on the plan, has the value to the individual increased in step with the effect on other elements of compensation? Maybe it has, but, then again, maybe it hasn't. If not, employers could restructure their compensation packages and improve the welfare of workers without incurring added costs. Some workers might be willing to make do with less health insurance or retirement protection in exchange for a larger share of cash.

In the following discussion, we clarify the pattern of rewards across the earnings spectrum over most of the last three decades. We track earnings levels and other components of compensation of full-year, full-time workers from 1980 through 2007. The databases used to develop this analysis are the annual March Supplements to the *Current Population Survey* (CPS) conducted by the Census Bureau on a sample of U.S. households that are representative of the civilian, non-institutionalized population.

In the March Supplement of the CPS, survey participants are asked how much they worked over the past year, their annual earnings and whether they were covered by an employer-sponsored pension plan. We augment the survey data with information from the *National Income and Product Accounts* (NIPA) developed by the U.S. Department of Commerce, Bureau of

Economic Analysis, which reports employers' annual contributions made on behalf of employees to Social Security, Medicare, and employer-sponsored pension, savings and health benefit plans. The technical appendix describes in detail the allocations of annual contributions to retirement and health benefit plans across the workforce.[7]

Pay Growth Across the Earnings Spectrum

People tend to think of pay as cash compensation earned over some defined period of employment — an hour, a week, a pay period, a month or a year. In surveys like the CPS, people are asked both how much they earn and how the pay period is defined. They are also asked how many hours they work. We use all this information to estimate hourly pay rates. For this part of the analysis, we consider only employees who worked 35 hours or more per week over the full year.

Given the concerns that some income segments are getting ahead of others and that higher-income workers are gaining the most, we segment the population into 10 income categories. The first nine groups include 10 percent each of the populations studied each year, and the tenth group includes the remaining 9 percent (because we excluded the top 1 percent for whom we did not have earnings information). From 1980 through 2007, we track average pay rates per hour for all 10 income categories.

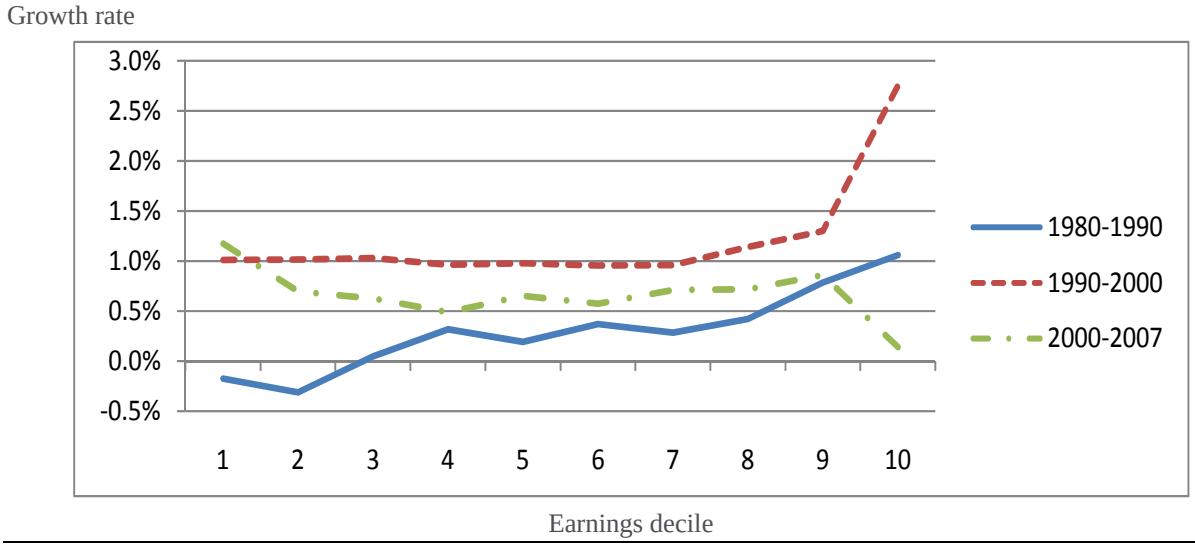
The top 1 percent of the earnings distribution is of particular interest from a variety of perspectives. However, the CPS data coding limits on high earnings and the consequent lack of detailed information do not allow a meaningful analysis of this group. Understanding how the

[7] Census Bureau policy is not to disclose extraordinarily high earnings because doing so could make the few people who earn that much identifiable. So in developing our analysis, we eliminated all instances of "top-coded" earnings by excluding the top 1 percent of reported earnings in each year. Our goal is to trace the growth rates of pay and other elements of compensation over time, so knowing actual earnings is important for the analysis.

bottom 99 percent of workers fared in absolute and relative terms should provide a relatively clear picture.

Figure 3 shows the compound annual growth rates in real average hourly pay rates across the 10 pay groups by decade, namely from 1980 to 1990, 1990 to 2000, and 2000 to 2007. Wage growth patterns appear to vary considerably over time. During the 1980s, there was negative wage growth at the bottom of the earnings spectrum, modest but flat growth across the middle-income segments and progressively higher growth across the top 30 percent of the distribution. In the 1990s, on the other hand, there was significant wage growth across all earnings categories — but wages grew considerably more at the top than at lower earnings levels. The worries about pay not keeping up with workers' productivity contributions, especially in the middle earnings ranges, may reflect relative declines in disposable pay after the 1990s. Workers struggling to make ends meet may take little solace from the fact that the early 2000s compare favorably with the 1980s.

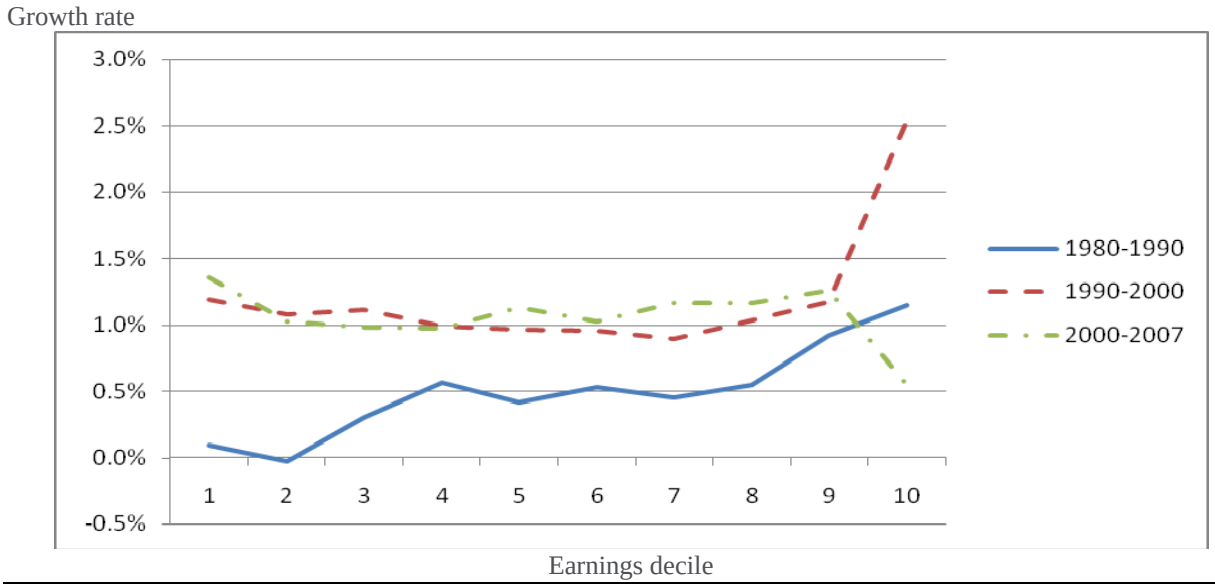
Figure 3: Compound Annual Growth Rates of Inflation-Adjusted Hourly Pay for Full-Time, Full-Year Workers by Earnings Decile and for Selected Periods



Source: Watson Wyatt Worldwide tabulations of the *Current Population Survey*, various years.

In **Figure 4**, we add employer costs for retirement plans, including both employer-sponsored plans and social insurance benefits, as well as those for employer-sponsored health plans. While wage growth in the 2000s falls short of that achieved during the 1990s, there has been more compensation growth across much of the earnings spectrum in this decade than in the last. To the extent that the high-income folks out-earned the rest of the labor market, the 1990s delivered the biggest gains since 1980. To the extent that middle-income workers are not realizing increases in disposable income comparable to those of the 1990s, it is because more of their compensation is being siphoned off for retirement and health benefits.

Figure 4: Compound Annual Growth Rates of Inflation-Adjusted Hourly Compensation for Full-Time, Full-Year Workers by Earnings Decile and for Selected Periods



Source: Watson Wyatt Worldwide tabulations of the *Current Population Survey*, various years.

The analysis thus far includes both private- and public-sector workers. We realize that the relative size of pensions compared with earnings is somewhat higher in the public sector than in the private. But in some ways, that supports our point. It is commonly asserted that public-sector workers accept lower wages in exchange for richer pensions. More importantly, most public-

sector workers are covered under the same social insurance programs as private-sector workers, and most are covered by similar health insurance plans. Separating out this segment of the workforce, which makes up 16 percent of full-time equivalent workers, should not change our results significantly, especially in light of the results presented below about the relative magnitude of benefit cost claims on pay made by benefit components over time.

Sorting Out the Benefit Elements

Three major elements of compensation are not paid to workers as cash — employer contributions to the government for half of Social Security and Medicare tax obligations, employer contributions to retirement plans and the cost to employers of sponsoring health benefit plans. We have estimated the costs of these components for each of the earnings groups from 1980 to 2007. We base estimations of payroll taxes on prevailing law governing contribution obligations in each year. The allocation of employer contributions to retirement plans is based on coverage rates at each earnings level and progressively across the earnings distributions. Employer health benefit costs are allocated according to coverage rates at each earnings level and on differential rates of single and family coverage within those earnings levels.

Payroll Tax Contributions

Figure 5 shows the compound annual growth rates of employer contributions for Social Security and Medicare. The increases were quite significant during the 1980s due to legislative changes adopted in 1977 and 1983 to deal with Social Security's financing crisis during the late 1970s and early 1980s. The increases in covered earnings and higher tax rates affected high earners somewhat more than middle and lower earners. This moderated during the 1990s after the phase-in of the earlier rates was complete, but the extension of the Medicare payroll tax rate

to all earnings enacted by the Omnibus Budget Reconciliation Act of 1993 still resulted in a somewhat higher growth rate for higher-wage workers during the decade. The increases in contribution rates in the 2000s are largely attributable to increases in real earnings levels.

Figure 5: Compound Annual Growth Rates of Inflation-Adjusted Hourly Payroll Taxes Paid by Employers for Full-Year Workers by Earnings Decile and for Selected Periods

Source: Watson Wyatt Worldwide tabulations of the *Current Population Survey*, various years.

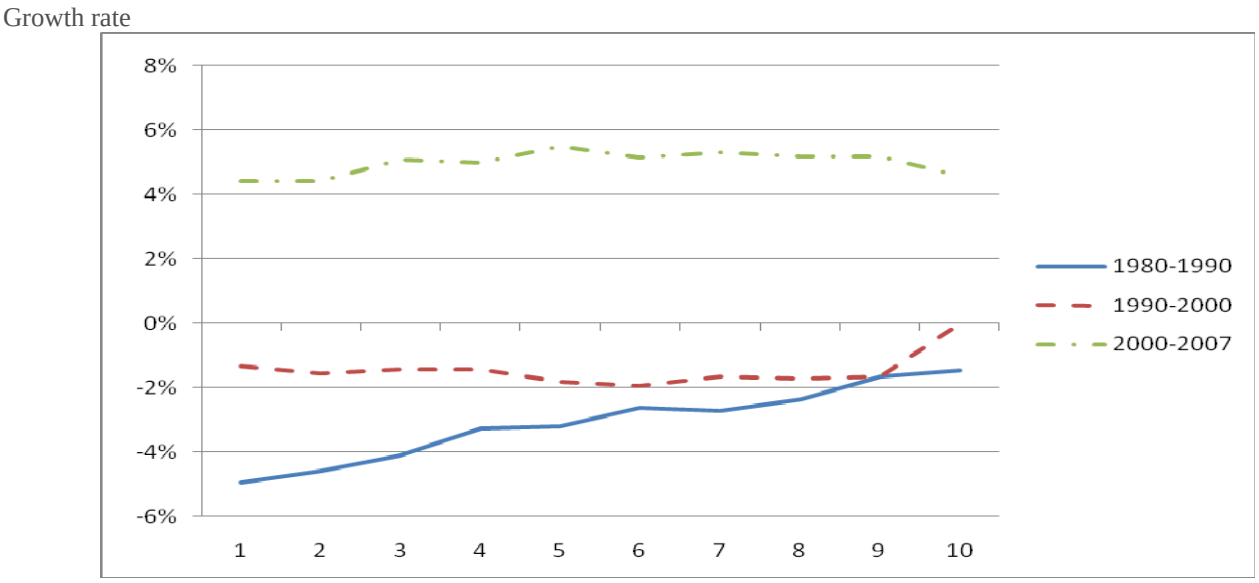
While there is no new legislation to change payroll tax rates beyond the effects of real wage growth, the program is underfunded, so accelerated growth could reappear in this element of compensation. Under the projections in the most recent Trustees Report on Social Security financing, under current law, the costs of the Old-Age and Survivors and Disability Insurance programs are projected to climb from 12.35 percent of covered payroll in 2009 to 16.76 percent of covered payroll by 2030.[8] That would be a compound annual growth rate of 1 percent per year in the share of compensation diverted to Social Security financing for most workers. The longer policymakers wait to address the upcoming shortfalls in Social Security, the greater the likelihood that higher payroll taxes will constitute most of the solution.

[8] *The 2009 Annual Report of the Board of Trustees of the Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, Table IV.B1.

Employer Contributions for Employer-Sponsored Retirement Benefits

Figure 6 shows the growth rates in employer contributions to their retirement plans. In terms of cash pay, the 1980s and 1990s were bonanza years, as retirement plan contributions shrank across the board. The story changes dramatically at the beginning of the new millennium, however, as the downturn in financial markets necessitated much bigger employer contributions The even steeper financial market declines in 2008 and 2009 will make more cash demands on retirement plan sponsors. The explanation for this erratic pattern of contribution claims on compensation resources is somewhat complicated but offers lessons for today.

Figure 6: Compound Annual Growth Rates of Inflation-Adjusted Hourly Employer-Sponsored Retirement Benefit Costs Paid by Employers for Full-Year Workers by Earnings Decile and for Selected Periods



Source: Watson Wyatt Worldwide tabulations of the *Current Population Survey*, various years.

The funding of the baby boom generation's retirement benefits was strongly affected by policy developments during the 1980s and early 1990s, and then by financial market

developments during the 1990s, especially later in the decade. During the early 1980s, policymakers became concerned about the growth in tax preferences accorded employer-sponsored retirement plans and, over the next decade, passed several laws to curtail plan contributions. As a result, the funding of the baby boom's retirement benefits was derailed from the course followed for earlier generations. Instead of saving at a steady rate over the workers' careers, the new laws shifted the funding toward the latter part of the baby boomers' careers. Under the new funding limitations, from the late 1980s well into the 1990s, many pension plan sponsors contributed nothing to their pension plans. Then in the mid-1990s, soaring equity prices delivered extraordinary rates of return on plan assets. The consequent appreciation of pension trusts further extended sponsors' "contribution holiday" period.[9]

In early 2000, the U.S. economy downshifted from strong growth to recession. Stock prices tumbled, driving down the value of pension assets, and long-term interest rates fell, driving up pension liabilities. In the late 1990s, assets exceeded liabilities by an average of one-third in nearly 85 percent of large private plans. After the fall, two-thirds of plans were underfunded by an average of nearly 20 percent. In contrast to earlier decades, there was no exploding supply of labor on the horizon to come to the rescue. And the baby boomers were now in the latter half of their careers, many in the last decade before their planned retirement.

Given the effects of the 2008-2009 recession on pension assets, retirement plan contributions, which accelerated between 2000 and 2007, are likely to soar even higher over the next few years. While events have come as a startling surprise to many retirement analysts, plan sponsors and plan participants, it was a predictable surprise and was indeed forecast in at least

[9] See Sylvester J. Schieber, *Pension Aspirations and Realizations: A Perspective on Yesterday, Today and Tomorrow* (Washington, D.C.: Watson Wyatt Worldwide, 2007).

one analysis developed some 15 years ago.[10] The steeply higher cost of retirement financing during the first decade of the new millennium has been a difficult lesson, but it has re-taught employers about the importance of making regular pension contributions. And large numbers of workers have learned the hard way that investments can go down as well as up, which can make saving for retirement a major financial challenge.

Higher employer contributions to retirement plans have profound implications for cash wages. Over virtually all years from 1980 through 2000, the percentage of compensation devoted to employer contributions to their retirement plans was shrinking. In 2001, only about 4.25 percent of compensation was dedicated to retirement plans. By the end of this decade, 6 percent to 7 percent of compensation could be required for pension funding. If those were the only compensation dollars taking a larger bite out of regular paychecks, workers might be able to live with it. But retirement plans represent only one part of accelerating benefit claims on compensation that is underway.

Health Benefit Costs Out of Control

The last major benefit cost is the biggest — employer-provided health insurance for workers and dependents. As **Figure 7** shows, these costs have outpaced inflation over virtually the entire study period. In fact, they have grown more rapidly than wages or inflation since the end of World War II. There was a brief respite during the mid-1990s, when the combination of managed care practices and health providers' reaction to the Clinton Administration's attempt at health care reform slowed the growth of health benefit costs. They still grew by an average of 2.5

[10] Sylvester J. Schieber and John B. Shoven first wrote and presented "The Consequences of Population Aging" at a pension conference in Washington, D.C., in 1994. The paper was subsequently published in Sylvester J. Schieber and John B. Shoven, eds., *Public Policy Towards Pensions* (Cambridge: The MIT Press, 1997), pp. 219-246.

percent more per year than inflation for the bottom two-thirds of the earnings distribution, while wages grew by only about 1 percent per year.

Figure 7: Compound Annual Growth Rates of Inflation-Adjusted Hourly Health Benefit Costs Paid by Employers for Full-Year Workers by Earnings Decile and for Selected Periods

Source: Watson Wyatt Worldwide tabulations of the *Current Population Survey*, various years.

By the end of the 1990s, pent-up anger at managed care programs among the provider community, consumers, the media and public policymakers forced insurers to eliminate several cost-effective but unpopular features. Once again, costs escalated, although not at the furious pace of the 1980s. One aspect of this story not depicted in these figures is that many employers reacted to escalating costs by curtailing — or in some instances eliminating — their plans. Reductions in employer-provided coverage shift more costs to workers. Our analysis simply distributes employer costs for their benefit plans, as reported in the *National Income and Product Accounts*, across the covered workforce for each earnings decile considered. If workers are losing coverage, this appears as a cost reduction but is a transfer instead. These workers now must acquire and pay for health insurance and retirement protection on their own.

Benefit Growth Consumes Productivity Rewards

When benefit costs grow more rapidly than the compensation budget, they consume a larger share of cash wages. When we add total compensation growth across the earnings spectrum decade-by-decade and calculate the share diverted to benefits, as we show in **Table 1**, it explains some of the public consternation about what is happening to disposable earnings.

Table 1: Share of Compensation Gains Provided in the Form of More Expensive Benefits Paid by Employers for Full-Year Workers by Earnings Decile and for Selected Periods[*]

Earnings decile	1980-1990[*]	1990-2000	2000-2007
1	100.0%	29.5%	29.1%
2	100.0%	22.2%	44.6%
3	87.0%	24.2%	48.9%
4	52.7%	20.5%	59.6%
5	61.8%	17.2%	53.6%
6	41.7%	18.3%	54.5%
7	46.9%	12.1%	50.2%
8	35.5%	9.5%	49.7%
9	29.0%	7.8%	43.8%
10	20.8%	6.9%	78.0%

Source: Watson Wyatt Worldwide estimations as described in the text.

[*]Total benefit cost increases in the 1980s for the first and second earnings decile exceeded 100 percent of compensation growth. In both cases, benefit costs increased significantly but total compensation growth was negative in the first decile and negligible in the second.

In many ways, the 1980s was a decade of discontent. Women's workforce participation rates were higher than ever before and the number of families with two earners jumped significantly. Yet many of these families felt like they were running in place. And one reason for that perception was that most of the rewards for the extra work effort were being diverted to benefit costs, especially among the bottom half of earners. During the 1990s, on the other hand, workers across the income spectrum seemed to be getting ahead — most compensation rewards

were paid out as higher wages. In the 2000s, a substantial portion of compensation is again being diverted to benefit costs, although the effect is distributed somewhat more evenly along the earnings spectrum than during the 1980s. Still the perception is that rank-and-file workers are not gaining ground in terms of disposable earnings rewards for their productivity contributions. Two recessions in the decade have not helped matters.

Work Patterns of the Employed

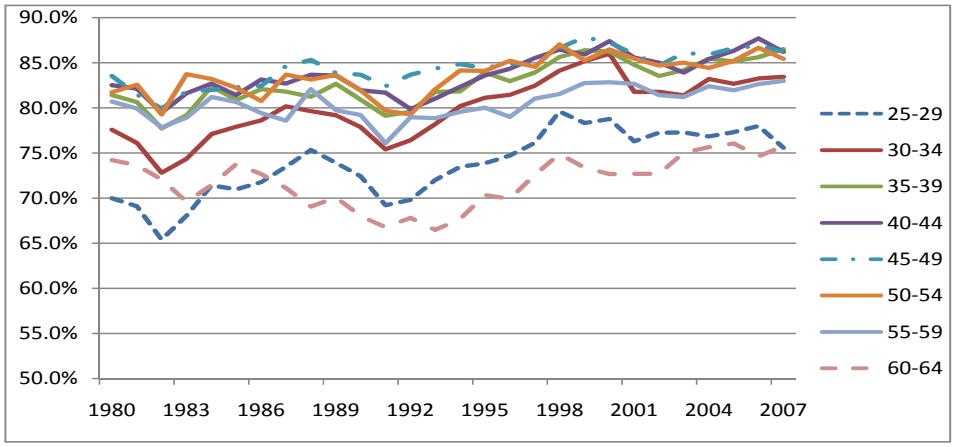
The analysis thus far has focused on hourly pay rates and hourly compensation rates. Labor income is the product of the hourly wage times the hours worked. Cash wages or total compensation could be rising while income is falling because employees are working fewer hours. Employment hours might fall for several reasons, including employers offering fewer job opportunities or workers choosing to work fewer hours. As the workforce has become more predominantly female, more workers might prefer less than full-time jobs to leave more time for family obligations. As the baby boomers near the end of their careers, more workers might want to scale back their hours as they transition into retirement.

In reviewing recent work patterns, we focus on adults at prime working ages; specifically five-year age groups from 25 to 29 through 60 to 64. Before age 25 and after 64, people are less likely to depend entirely on work income, and we want to uncover what drives the prosperity of those who work for their economic sustenance and, over time, improvement in living standards. Moreover, labor demand does not appear to have changed dramatically for those younger or older than prime working age — these trends should apply to all age groups.

Figure 8 shows the percentage of men at various ages who were employed full-time and full-year from 1980 through 2007. At the beginning of the period, between 70 percent and 80

percent of employed men had full-year, full-time jobs. For the most part, the trend lines have been positive over the period: Employment rates in full-year, full-time jobs were about 5 percentage points higher in 2007 than in 1980 at all ages. The percentage of men of all ages in full-year, full-time employment was higher in 2007 than it was in either 1990 or 1995. The percentages of full-year, full-time employees dropped slightly during the recession in the early 2000s, but participation fell no further than it did in the early 1980s or during the recession of the early 1990s.

Figure 8: Percentage of Employed Males Who Worked Full-Year and Full Time by Age

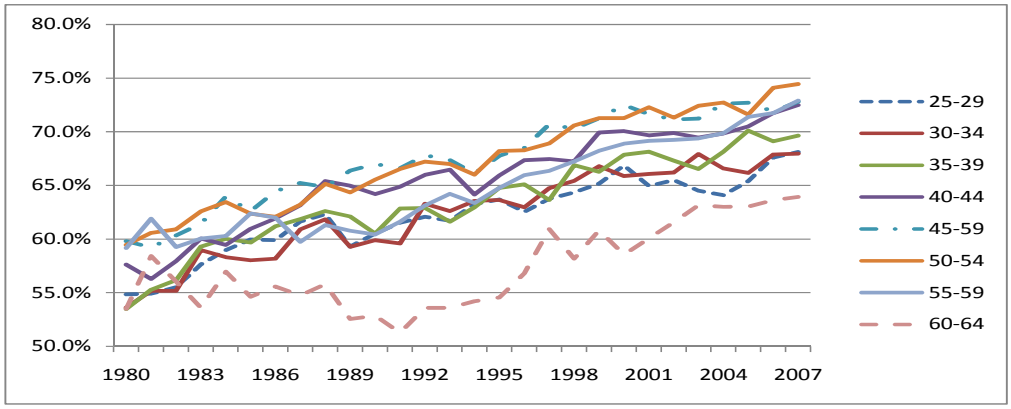


Source: Watson Wyatt tabulations of the *Current Population Survey*, various years.

Figure 9 shows the percentage of employed women who worked full-time, full-year jobs over the same period, 1980 through 2007. These trend lines are even more robustly positive across the entire period, with full-time employment rates climbing by at least 10 percentage points over the past quarter century for women of all ages. Once again, there were some slight dips during severe recessions, but these seem to have been very temporary. The vast majority of working women in the United States are clearly as attached to the workforce as their male

counterparts. Considering the variations in economic performance over the period — high inflation and recession in the early 1980s, stabilization in the later 1980s, slow growth in the early 1990s, rapid expansion in the late 1990s, and a recession and "jobless recovery" in the 2000s, the stable trends in Figure 9 are all the more remarkable. There is some evidence that the rise in entry rates for younger women is tapering off, but the relatively high rates of female labor force participation are likely to persist for the indefinite future.

Figure 9: Percentage of Employed Females Who Worked Full-Year and Full-Time by Age

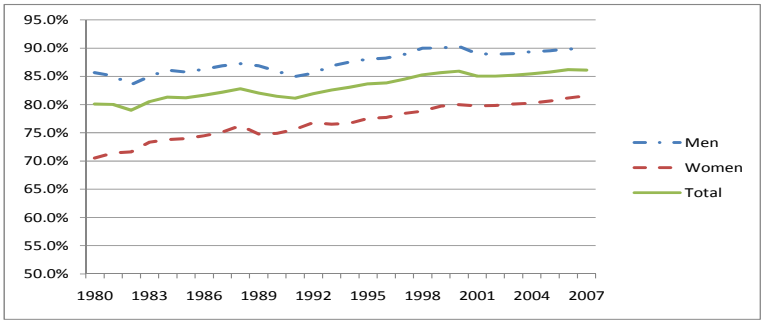


Source: Watson Wyatt tabulations of the *Current Population Survey*, various years.

In recent years, some 75 percent to 85 percent of male workers and 65 percent to 75 percent of female workers between the ages of 25 and 65 have been working at full-year, full-time jobs. **Figure 10** shows the share of hours worked by men and women at full-time, full-year jobs and the combined share of all hours worked by people in these age ranges. Once again, the trends for both men and women are positive across most of the period, with some flattening in recent years. The pattern has been relatively flat for men since the beginning of the millennium. But 90 percent of all hours worked by the men and women in these age groups are in full-time jobs. Employment will never reach 100 percent as long as anyone wants to work less than full

time or anyone is offering a job that is less than full time. Growth has slowed for women in recent years but remains positive.

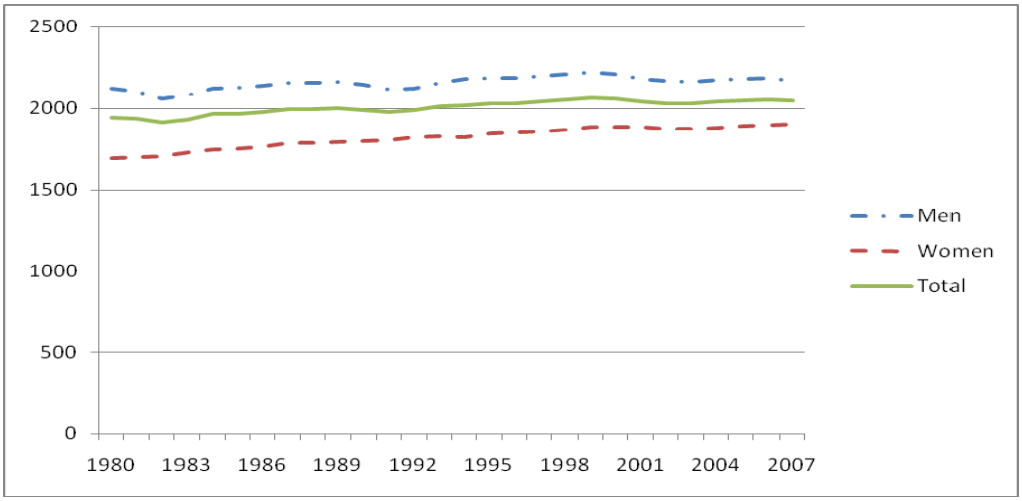
Figure 10: Share of Total Male Hours, Total Female Hours and Total of All Hours Worked by Full-Time, Full-Year Workers



Source: Watson Wyatt tabulations of the *Current Population Survey*, various years.

Figure 11 shows the average hours worked by men and women, including those working part-time. The trends are generally positive from 1980 through 2000 and then level out. A comparison of these results with the average hours by individual age and gender groups considered in the earlier part of the analysis shows that among full-time, full-year workers, average hours worked continued to grow for young and middle-aged workers. They fell slightly for men aged 60 to 64 and for women aged 55 to 64. Other declines in average hours worked were concentrated among various groups of part-time or part-year workers.

Figure 11: Average Hours of Male, Female and All Workers for Selected Years



Source: Watson Wyatt tabulations of the *Current Population Survey*, various years.

Average hours worked increased modestly across virtually all age and gender groups between 2000 and 2007. We see no disproportionately large share of the productivity contribution of workers being diverted from the lower end of the wage spectrum to the upper end. We do find, though, that substantial shares of compensation rewards are being siphoned out of disposable earnings to pay for retirement and health benefit programs, and a larger share of rewards are diverted from the lower- and middle-income ranges than from the higher ranges. Current economic conditions and public policy discourse suggest that benefit costs could continue to crowd out productivity rewards for both the near- and long-term future.

Intermediate-Term Outlook for Benefit Costs

As noted earlier, different forces have been driving retirement and health costs. The economic forces behind historical patterns of retirement plan costs can be subdivided between public plans and private plans, which can be further subdivided between defined benefit plans and self-directed retirement savings plans. Of health benefit plan costs, employer costs most directly affect compensation distributions, but public plan costs play a growing role.

Social Security Costs

The long-term financing outlook for Social Security pensions has consistently predicted underfunding ahead for at least a quarter century, with virtually no response to the warnings. The April 2009 Trustees Report says that the short-term surpluses have taken a significant hit from the 2008-2009 recession, and the system could begin running a cash-flow deficit as early as next year — some seven years sooner than previously predicted. As the program goes into deficit, pressure will mount to find a solution. While it is impossible to predict how policymakers might respond, the solution is likely to involve some combination of benefit adjustments and tax increases. Higher payroll taxes would stake a further claim on workers' compensation packages.

Employer-Sponsored Pensions

Regulatory changes and favorable stock market returns limited employers' contributions to their pensions over much of the 1980s and 1990s. But the market environment in the current decade has been much less advantageous, demanding higher pension contributions from employers. The baby boomers' upcoming retirement will put additional pressure on pension funding in the years ahead. Contributions could be ameliorated somewhat by the decline in defined benefit plan coverage in recent years, including both closing plans to new hires and

freezing pension accruals for existing workers. But the steep declines in equity returns in 2008 will necessitate higher plan contributions to restore plan funding, which will outweigh the effect of dwindling numbers of active participants.

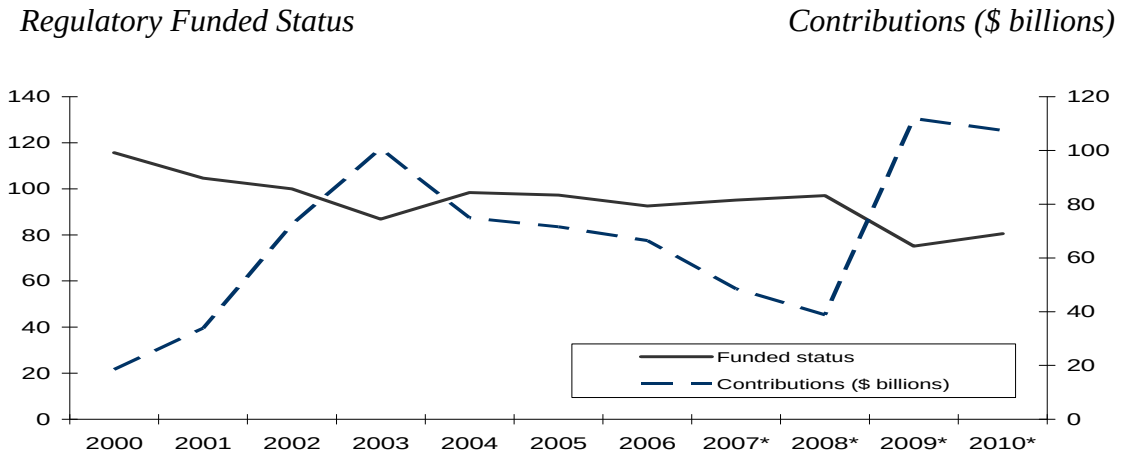
Figure 12 shows contributions to defined benefit plans and the associated funded status — ratio of pension asset to liabilities — over the current decade. Data are available from the U.S. Department of Labor through 2006. To project contributions and funded status through the rest of the decade, we use Watson Wyatt's funding model, which simulates some 8,000 representative plans based on initial funded status, asset allocations, valuation election methods and actives status. It then weights these plans to reflect their distribution based on governmental tax forms, financial disclosure data files and Watson Wyatt surveys. Projected funded status and required contributions are based on actual returns in the S&P 500 total return index and Dow Jones corporate bond total return index for 2007 and 2008, and assumes an equity market return of 7.9 percent and bond return of 5.3 percent for 2009 and 2010.

As shown by the dashed line in Figure 12, contributions in 2009 are expected to be nearly double those for 2006 and to be more than six times what they were at the beginning of the decade. Contributions are expected to jump from $39 billion in 2008 to more than $110 billion in 2009. The escalation arises from a 22-percentage-point decline in funded status — from 97.1 percent in 2008 to 75.1 percent in 2009.

The future costs of these programs hinge largely on how equity markets — and ultimately the U.S. economy — perform. If the economy begins to expand in 2010, as many prognosticators expect, funding ratios will likely rise, thereby reducing the contribution burden. Similarly, as more companies close their defined benefit plans, replacing them with enhanced contributions to 401(k) and other defined contribution plans, pension contributions should decline even more.

However, if baby boomers retire much later than earlier generations, as many expect, this will put added pressure on defined benefit program costs in the next decade.

Figure 12: Average Regulatory Funded Status and Employer Contributions to Defined Benefit Plans for 2000 to 2006 and Projected for 2007 to 2010



Source: "The Future of DB Plan Funding Under PPA, the Recovery Act and Relief Proposals," *Watson Wyatt Insider*, January 2009.

Note: (*) projected.

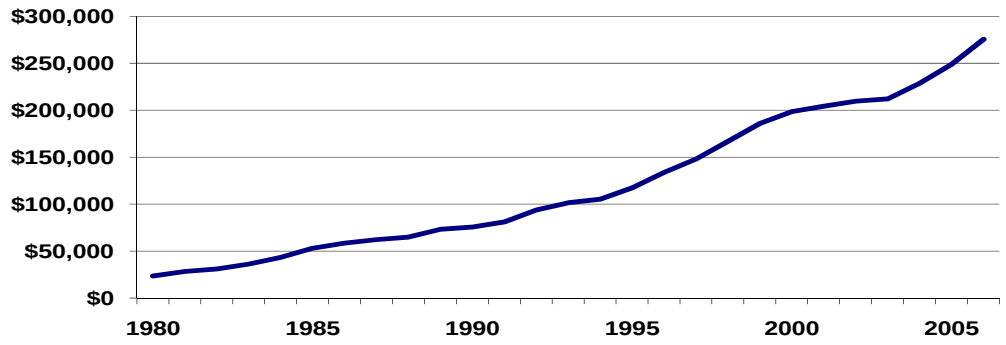
Employer-Sponsored Retirement Savings Programs

Over the past three decades, retirement savings plans have become the primary retirement plan at most companies, replacing traditional defined benefit plans. Between 1980 and today, the number of active employees enrolled in defined contribution plans soared from roughly 18 million to nearly 65 million. In contrast, the number of active enrollees in defined benefit plans dropped from 24 million to 18 million over the same period.

Employer contributions to defined contribution plans have been steadily rising (**Figure 13**). Between 1990 and 2006, employer contributions to these plans grew by 10 percent per year, due to both the skyrocketing number of plan participants and their growing prevalence as the

primary retirement plan. In 2006, the last year for which data are available, employer contributions eclipsed $275 billion. At the current pace, contributions to these plans would have been roughly $330 billion in 2008 and will reach $400 billion in 2010. Companies are not likely to maintain this scale of contribution growth during the economic downturn. Moreover, plan contributions are often tied to company performance. To the extent shrinking company profits persist, so will contributions to these plans. In fact, the only perceptible slowdown in contributions to defined contribution plans over the last 30 years was during the recession at the beginning of this decade.

Figure 13: Employer Contributions to Defined Contribution Pension Plans From 1990 to 2006 ($ millions)



Source: U.S. Department of Labor, EBSA, "Private Pension Plan Bulletin Historical Tables and Graphs," February 2009.

All indications suggest that companies will follow a similar course during the current recession. A recent survey by Watson Wyatt found that as of April 2009, 22 percent of large employers had reduced or suspended their 401(k) matching contributions, up from 12 percent in

February 2009.[11] While no one knows precisely how long this recession will last, more companies are likely to scale back 401(k) contributions in the coming months. We don't know how quickly companies will be to reinstate these matching contributions once the economy rebounds. Given that these programs are workers' primary means of accumulating retirement savings, employers will likely restore these contributions when retaining and attracting employees again becomes more important than conserving scarce resources.

Health Benefit Program Claims

In some regards, the intermediate compensation claims made by health benefit programs are harder to predict than others because of the potential for reform. President Obama has made health reform his highest domestic priority, and congressional leaders are promising a reform package during 2009. The goals for the reform vary from one interest group to the next. Some are primarily interested in ensuring that all Americans have health insurance. Some large employers with outsize retiree health obligations are hoping that reform will give them a way out of their predicament. Some view this as an opportunity to shift from an employer-financed system to a single-payer system operated by a government or quasi-government entity.

The analysis suggests that health care costs have played a significant role in the allocation of productivity rewards for workers. But given the implications of health cost inflation, we are now in a much more sensitive spot than ever before. In 1980, a median-wage, full-time worker's health benefit costs represented roughly 4.6 percent of compensation. By 2007, health benefits claimed 10.3 percent of the worker's compensation. To the extent that health costs continue spiraling, we will be indexing the share of compensation diverted to health care against a base

[11] Watson Wyatt Worldwide, "Effect of the Economic Crisis on HR Programs, Update: April 2009," Washington, D.C., http://www.watsonwyatt.com/news/pdfs/HR_Programs_April_Report.pdf.

that is 2.25 times higher than it was in 1980. The risks associated with health cost inflation under health care reform are substantial and troubling. Major reforms to some elements of a system often create unintended consequences elsewhere in that system. The implementation of Medicare offers a valuable lesson for health care reform today.

In 1965, Congress established the HI program for Social Security beneficiaries aged 65 and older when it established Medicare. At that time, the Congress strongly believed that the payroll tax schedule should make the HI program self-supporting. The law called for the tax to start at 0.35 percent of up to $6,000 in covered earnings in 1966, paid by both the employer and employee for a combined total of 0.7 percent. The rate was scheduled to rise to 1.0 percent of covered earnings from 1967 to 1972, and gradually rise to a maximum of 1.6 percent in 1987 and thereafter. The self-employed were scheduled to pay only one-half the combined contribution rates for employed workers. In estimating the long-term costs of the program, the actuaries estimated that the wage base would rise at the rate of wage growth over time.[12] While they acknowledged that estimating the cost of HI was more complicated than estimating costs for Social Security, the actuaries indicated that their cost estimates were "made under very conservative assumptions with respect to all foreseeable factors."[13]

In a system such as HI, the tax rate required to support the pay-as-you-go funding basis is the product of two ratios: first, the ratio of the average cost of benefits to average covered wages; and second, the ratio of the number of beneficiaries to covered workers. In estimating the tax rates for Medicare, factors that affect these two ratios were taken into consideration.

[12] Robert J. Myers, Actuary to the Committee on Ways and Means, "Actuarial cost estimates and summary of provisions of the Old-Age, Survivors, and Disability Insurance Systems as modified by the Social Security Amendments of 1965 and actuarial cost estimates and summary of provisions of the Hospital Insurance and Supplementary Medical Insurance Systems as established by such act" (Committee on Ways and Means, House of Representatives, 89th Congress, First Session, July 1965).

[13] Ibid, p. 21.

The projected relationship between average wages in covered employment and the average costs of benefits provided under HI was based on several considerations. The first was that hospitalization costs were growing faster than increases in average covered wages (**Table 2**). Hospital cost rates appeared to have been rising about 3 percentage points faster per year than covered wages.

Table 2: Comparison of Annual Increases in Hospitalization Costs and Earnings in Covered Employment

	Increase over previous year in percents	
Year	Average wages in covered employment	Average daily hospitalization costs
1955	3.8	6.3
1956	5.7	4.5
1957	5.5	7.7
1958	3.3	8.6
1959	3.3	6.8
1960	4.3	6.8
1961	3.1	8.5
1962	4.2	5.3
1963	2.4	5.6
Average	4.0	6.7

Source: Robert J. Myers, Actuary to the Committee on Ways and Means, "Actuarial cost estimates and summary of provisions of the Old-Age, Survivors, and Disability Insurance Systems as modified by the Social Security Amendments of 1965, and actuarial cost estimates and summary of provisions of the Hospital Insurance and Supplementary Medical Insurance Systems as established by such act" (Committee on Ways and Means, House of Representatives, 89th Congress, First Session, July 1965).

An Advisory Council on Social Security financing met during 1963 and 1964 to consider these trends and determine what assumption to use in projecting the new HI program costs. They concluded that, were these trends to continue indefinitely, "eventually hospitalization costs

would exceed 100 percent of the earnings of all workers in the country — let alone, of taxable earnings."[14]

Because "the Congress very strongly believes that the financing basis of the new hospital insurance program should be developed on a conservative basis," the Advisory Council decided to use the following assumptions for the initial projections: hospital costs would rise by 2.7 percent more than wages over the first five years of the program's operations, then trend down to the wage growth rate over the next five years and for all subsequent years.[15]

Figure 14 shows the year-to-year changes in average covered wages and average daily hospital cost reimbursement rates over the first quarter century of the HI program. The average covered wage grew at an average compound rate of 6.2 percent per year, while average daily hospital costs rose at a compound rate of 11.9 percent. Over the last 10 years of the projection period — when it was "conservatively" assumed that hospital costs would grow at the same rate as wages — they were outpacing wages by 4.5 percentage points per year. If reality had lived down to expectations, the costs in 1990 would have been less than half of what they were. As noted earlier, the ratio of average program costs to average covered wages is a direct determinant of total system costs. This element alone was underestimated by 60 percent or more, depending on the period.

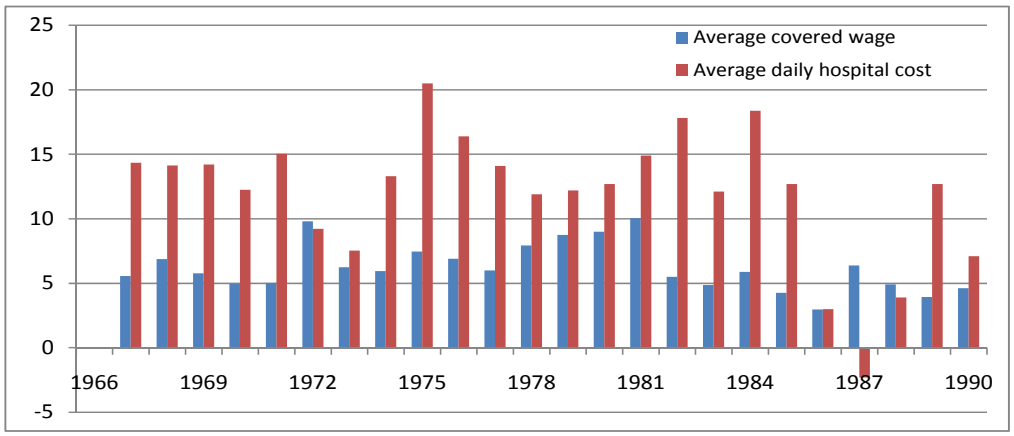
A second major variable in determining HI cost rates was the hospital utilization rate. The basis for the rates in the original cost estimates appeared in Actuarial Study No. 59 authored by Robert J. Myers and published by the Social Security Administration in January 1965. Utilization rates were based on the 1957 Survey of Beneficiaries conducted by Social Security.

[14] Ibid, p. 26.

[15] Ibid, p. 28.

In the report, two rates were reported as plausible for cost estimates: a low cost rate estimated utilization rates at 2.44 hospital days per HI enrollee per year and a high cost estimate set the rate at 3.01 days per year per enrollee.[16]

Figure 14: Percentage Increases in Average Covered Wages and Average Daily Hospital Costs Reimbursed for Aged HI Beneficiaries



Sources: Average wages were taken from the Average Wage Index series developed by the Office of the Actuary, Social Security Administration; average daily hospital charges and reimbursement rates were taken from the *Social Security Bulletin Annual Statistical Supplement, 1976*, p. 178, *Social Security Bulletin Annual Statistical Supplement, 1981*, p. 209 and *Social Security Bulletin Annual Statistical Supplement, 1993*, p. 311.

In the actuarial study, Myers argued that utilization rates were most likely to conform to the low-cost estimate, at least during the early years of the program. He suggested that using the low-cost utilization rate for long-range estimates "may be said to give recognition to the possibility of success of current efforts for progressive patient care, for reductions in hospitalization costs resulting from development of outpatient hospital diagnostic facilities, and

[16] Robert J. Myers, "Actuarial Cost Estimates for Hospital Insurance Act of 1965 and Social Security Amendments of 1965," Actuarial Study No. 59 (U.S. Department of Health, Education, and Welfare, Social Security Administration, Division of the Actuary, January 1965), p. 7.

for progressive cost-reducing trends in medical practice."[17] In making his final cost estimates for Actuarial Study No. 59, Myers used the low-cost estimates during the early years of program operation and shifted to the higher-cost utilization rates in the longer term. This hybrid determination was considered an "intermediate" cost projection.

As the final legislation was being considered by the House Ways and Means Committee, Myers stated that under earlier cost estimates "no account is taken of the possibility that there will be a drastic change in philosophy as to the best medical practices, so as, for example, to utilize in-hospital care to a much greater extent than is now the case."[18] He said that people in the insurance business and Blue Cross had argued for significantly higher utilization rates, "as much as 40 percent higher in the early years of operation."[19] In the final cost projections, the Ways and Means Committee had Myers use higher utilization rates than those used for Actuarial Study 59. The increase in the early-year utilization rates was about 20 percent. The use of the high-cost utilization rates in later years was considered a safety factor.

Figure 15 shows actual and estimated average numbers of days of hospitalization under the Medicare HI program per each aged enrollee. Over the first 17 years or so, utilization levels consistently ran some 20 percent higher than those projected in the original cost estimates. The estimates that had been repeatedly characterized as conservative turned out to be excessively optimistic. But this was not the only expense to take the original architects of Medicare by surprise.

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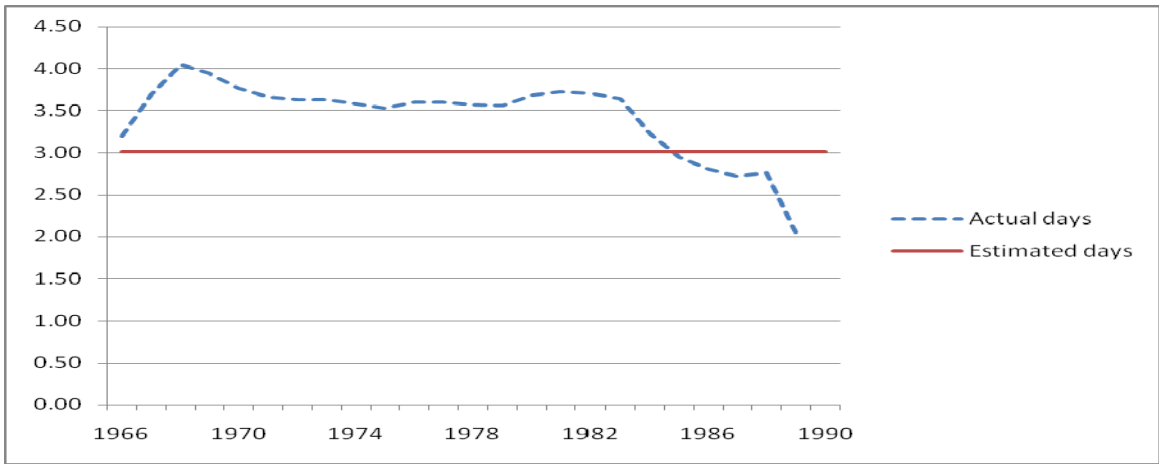
[17] Ibid, p. 8.

[18] Robert J. Myers, Actuary to the Committee on Ways and Means, "Actuarial cost estimates and summary of provisions of the Old-Age, Survivors, and Disability Insurance Systems as modified by the Social Security Amendments of 1965, and actuarial cost estimates and summary of provisions of the Hospital Insurance and Supplementary Medical Insurance Systems as established by such act" (Committee on Ways and Means, House of Representatives, 89th Congress, First Session, July 1965), p. 28.

[19] Ibid.

Figure 15: Actual and Estimated Hospital Utilization Rates per Aged Enrollee Under the Medicare HI Program for Selected Years



Sources: Estimated utilization rates were derived from the discussions in Robert J. Myers, "Actuarial Cost Estimates for Hospital Insurance Act of 1965 and Social Security Amendments of 1965," Actuarial Study No. 59 (U.S. Department of Health, Education, and Welfare, Social Security Administration, Division of the Actuary, January 1965); and Robert J. Myers, Actuary to the Committee on Ways and Means, "Actuarial cost estimates and summary of provisions of the Old-Age, Survivors, and Disability Insurance Systems as modified by the Social Security Amendments of 1965 and actuarial cost estimates and summary of provisions of the Hospital Insurance and Supplementary Medical Insurance Systems as established by such act" (Committee on Ways and Means, House of Representatives, Eighty-ninth Congress, First Session, July 1965); actual utilization rates were based on calculations by the authors as the product of hospital admission rates per enrollee and number of days per hospital bill under the HI program taken from the *Social Security Bulletin Annual Statistical Supplement, 1976*, pp. 178 and 184, *Social Security Bulletin Annual Statistical Supplement, 1981*, pp. 209 and 214, and *Social Security Bulletin Annual Statistical Supplement, 1990*, pp. 272 and 280.

The expanding protections offered through HI became a third contributing factor in cost inflation. In 1972, all those who had received disability benefits for 24 consecutive months under the Social Security Disability Insurance (DI) program or the Railroad Retirement program became eligible for coverage. At the same time, HI benefits were also made available to those younger than 65 with end-stage renal disease who were fully or currently insured under the Social Security retirement system or receiving a DI benefit. These individuals could begin receiving benefits at the beginning of the third month following the start of renal dialysis treatment. By 1975, the number of days of HI-covered care provided to this new group was

approaching 10 percent of the elderly caseload. By 1983, the disabled and end-stage renal covered days of care under the HI program were 16 percent of the elderly caseload.

The cost underestimations for Medicare were not simply additive — they compounded each other. The higher cost of hospital services per day applied to anticipated cases and to unplanned cases that were added to the rolls because of the higher utilization rates, the new disability caseloads, and expansions for kidney dialysis and other treatments introduced over the years.

This somewhat lengthy discussion about Medicare should raise a flag that health reform must be about more than increasing health care access or insurance coverage rates. It must also bring health cost inflation under control. One way to achieve this is to stop delivering expensive goods and services that do not enhance the health of the American public. In raising this flag, we are not arguing against health care reform, but rather are suggesting that to succeed, reforms must make cost control a primary focus. Otherwise, health care costs under the reformed system could take a bigger bite out of workers' paychecks than ever before.

The concept of health inflation outpacing wage growth or total compensation should surprise no one, given labor market developments in the United States since World War II. **Table 3** shows compound annual growth rates in productivity, compensation, cash wages and employers' health benefit costs decade-by-decade from 1950 through the mid-2000s.

Table 3: Historical Growth Rates in Real Output per Hour, Total Compensation, Wages and Health Benefit Costs

Decade	Output per hour of work	Compensation	Real wages	Employers' inflation-adjusted health benefit costs
1950s	2.5%	2.5%	2.6%	12.5%
1960s	2.6	2.7	2.4	8.9
1970s	1.5	1.3	0.0	8.1
1980s	1.5	1.3	0.9	4.9
1990s	1.6	2.0	1.5	2.7
2000-2005	2.5	1.8	0.9	5.9

Source: Computed by the authors from U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts.*

Future Productivity Rewards Under Alternative Scenarios

In order to understand the implications of current and proposed policies for the distribution of productivity rewards in the future, we projected earnings and benefit cost levels to 2030 at 10 earnings levels (corresponding to the decile levels of earnings analyzed earlier). The projections were made under baseline conditions and then under five alternative scenarios. The baseline projection assumes that employer-sponsored health benefit costs grow at the same rate as compensation plus 1.5 percentage points per year — less than half recent trend rates — and that current employer-sponsored health insurance coverage rates persist. In alternative scenario 1, the uninsured are covered in the future, and the cost of their insurance is equivalent to the cost of existing coverage provided to workers, adjusted for family composition. In the first expanded coverage scenario, health costs increase at the rate of wage growth plus 1.5 percentage points per year. In alternative scenario 2, coverage is expanded as in scenario 1, but recent health benefit cost inflation trend rates persist. In alternative scenario 3, health cost inflation accelerates. In

alternative scenario 4, health coverage is expanded at the higher cost inflation rates, and payroll tax rates are increased to the projected cost rates for Social Security and Medicare's HI. In scenario 5, there is no health care reform, employer-provided health insurance coverage continues at current rates, and insurance costs grow at 2000-2007 rates. Under the baseline conditions and alternative scenarios 1-5, we assume real compensation grows at 1.27 percent annually from 2008 to 2030.

Baseline Projections

The baseline scenario assumes that health benefit costs grow at the rate of compensation growth plus 1.5 percentage points per year. To link back to other projections, the model is calibrated to 1.1 percent wage growth over the 2015-to-2030 period, which is consistent with the baseline projections of Social Security costs developed by the Social Security actuaries for the 2009 Trustees Report. The wage growth resulting from these projections up to 2015 is somewhat less than the Social Security actuaries project, because we do not believe they took into account the extra pension contributions that will be required for the next few years. Employer contributions to pension and profit sharing plans are assumed to grow by 8.1 percent from 2008 to 2012. This pattern is consistent with the 2000-2004 period, which was after the last significant decline in equity prices. From 2012 onward, we assume that employer contributions to retirement programs increase at the rate of wage growth or, alternatively, that they remain a constant share of earnings over time. The results of our baseline projection appear in **Table 4**.

Table 4: Baseline Projections of Annual Wage Growth Rates Across Earnings Deciles for Selected Periods

	Projection periods		
Income deciles	2007 to 2015	2015 to 2030	2007 to 2030
All	0.88%	1.10%	1.02%
1	0.99%	1.01%	1.00%
2	0.94%	1.01%	0.98%
3	0.89%	1.00%	0.96%
4	0.85%	1.00%	0.95%
5	0.84%	1.02%	0.96%
6	0.84%	1.05%	0.97%
7	0.84%	1.07%	0.99%
8	0.84%	1.09%	1.00%
9	0.86%	1.12%	1.03%
10	0.91%	1.17%	1.08%

Source: Calculated by the authors.

Under the baseline assumptions, workers all across the earnings spectrum would realize much of the reward for their productivity contributions over the next couple of decades. Rewards would be somewhat smaller earlier in the period than later because of the costs of digging out of the pension funding shortfall discussed earlier. The costs of the added pension funding would be somewhat more concentrated at the middle- and higher-income levels because of the higher prevalence of plan coverage for those employees. This baseline projection, however, assumes that health benefit costs grow at the rate of compensation growth plus 1.5 percentage points per year. In recent years — 2000 to 2007 — that trend has been running at compensation growth plus 3.2 percentage points per year.

The Potential Cost of Expanding Health Care Insurance Coverage

Under alternative scenario 1, health care is mandated for the uncovered population and financed through employers. In developing scenario 1, our concept of expanded coverage might be more conservative than ultimate legislation would provide. For example, we assume that children covered under a State Children's Health Insurance Program (SCHIP) remain in the plan and that those who currently buy their own individual coverage continue doing so.[20]

This scenario assumes that health costs will grow at the rate of compensation growth plus 1.5 percentage points per year. For workers who already have health insurance, the projection is the same as the baseline projection, but those who used to lack insurance make a new health care benefit cost claim on productivity rewards. Because those at lower earnings levels are more likely to lack health insurance, the expansion of health coverage would have a larger effect on residual rewards left for wages at lower earnings levels. The results of this projection are presented in **Table 5**.

The projections under scenario 1 suggest that expanding health insurance coverage to the remaining uncovered population through an employer-financed mechanism could cause average wages to decline among lower-earning workers during the early implementation phase, even under assumptions of moderating health cost inflation. Once the initial shock of these costs is absorbed, growing health costs would nibble away at the productivity rewards of all workers but take a bigger bite at lower earnings levels. Some of the loss might be mitigated through tax credits or an alternative financing device, but an employer-based solution might be most viable. But while such a solution might appear to minimize fiscal costs, it would not be free to workers.

[20] We estimate that average annual costs by employers for all full-time full-year workers (regardless of coverage status or source) were $4,464 in 2007. For the same period, we estimate that annual costs for employees with employer-sponsored insurance in their own name were $6,828. When uninsured workers are included, we estimate annual costs for all full-time, full-year employees to be $5,333 in 2007.

Table 5: Scenario 1, Annual Wage Growth Rate Projections Across Earnings Deciles Assuming Health Insurance Reform Is Adopted Where Such Insurance Is Provided and Financed Through Employers, and Health Cost Inflation Rates Decline to Wage Growth Plus 1.5 Percentage Points Per Year

	Projection periods		
Income deciles	2007 to 2015	2015 to 2030	2007 to 2030
All	0.63%	1.06%	0.91%
1	-1.93%	0.47%	-0.37%
2	-0.29%	0.80%	0.42%
3	0.15%	0.88%	0.63%
4	0.43%	0.94%	0.76%
5	0.59%	0.98%	0.85%
6	0.64%	1.01%	0.89%
7	0.72%	1.05%	0.93%
8	0.76%	1.08%	0.96%
9	0.81%	1.11%	1.00%
10	0.88%	1.17%	1.07%

Source: Calculated by the authors.

Health Costs with Sustained Inflation Rates and Expanded Coverage

It is natural to assume away potentially adverse results when proposing solutions to broad policy problems. The Medicare story told above offers a good case study of a likely reality if we expand health insurance without controlling health cost inflation. In fact, there is no good reason to assume that expanding health insurance coverage will moderate health costs. Virtually all studies of the relationship between health insurance coverage and consumption have found that coverage generally stimulates consumption. In alternative scenario 2, we assume that cost trend rates from 2000 through 2007 persist until 2030 (see **Table 6**).

Table 6: Scenario 2, Annual Wage Growth Rate Projections Across Earnings Deciles Assuming Health Insurance Reform Is Adopted Where Such Insurance Is Provided and Financed Through Employers, and Health Cost Inflation Rates Persist

	Projection periods		
Income deciles	2007 to 2015	2015 to 2030	2007 to 2030
All	0.42%	0.68%	0.59%
1	-2.74%	-1.41%	-1.87%
2	-0.78%	-0.16%	-0.38%
3	-0.25%	0.11%	-0.02%
4	0.08%	0.28%	0.21%
5	0.29%	0.43%	0.38%
6	0.38%	0.53%	0.47%
7	0.48%	0.63%	0.58%
8	0.55%	0.71%	0.66%
9	0.64%	0.82%	0.75%
10	0.78%	0.99%	0.92%

Source: Calculated by the authors.

In this case, the financial shock of expanded coverage would be much larger and would drive wages down for nearly the bottom 40 percent of the earnings distribution. The higher health cost inflation rates in scenario 2 suggest that workers at the bottom of the earnings distribution might not recover from the implementation shock of mandated insurance. The base cost would be so high that the higher inflation rate would consume the benefits of any productivity improvements and then some over the next 20 years. Some might be tempted to dismiss this projection as making overly pessimistic assumptions about health inflation in coming years. But readers should keep in mind that the assumptions in scenario 2 are milder than the actual experience reflected in Table 3, in which health cost growth exceeded the assumptions used to develop this projection in 35 of the 45 years for which we have historical data.

Health Costs With Increased Inflation Rates and Expanded Coverage

When the Medicare program was started during the 1960s, real wages grew at a compound annual rate of 2.8 percent, while employer-sponsored health benefits costs grew by 8.9 percent per year, after adjusting for inflation. During the 1970s, when demand for services under Medicare intensified, real wages grew by 0.8 percent per year, while employers' health benefit costs grew by 8.1 percent per year, after adjusting for inflation.[21] Given that the legislation now being proposed to expand health insurance coverage includes no particularly effective mechanisms for controlling the pressures of new demand for health goods and services, it seems prudent to at least consider a scenario where expanded coverage accelerates health inflation. In alternative scenario 3, our high-cost scenario, employers' health costs increase by 6 percentage points per year more than compensation. The results of this "adding fuel to the fire" scenario appear in **Table 7**.

In alternative scenario 3, health cost growth would swamp the productivity rewards of all but the very highest earners. By the end of the projection period, workers at the lowest earnings levels would have no wage income — all remuneration rewards would be spent on health care and retirement obligations. Of course, before reaching this point, policymakers would have to find another way to finance benefits for the most vulnerable. But assuming that expanding health insurance coverage will somehow moderate service pricing would be risky policy. The real experience of the 1960s and 1970s proves that health costs can greatly exceed the growth in the productivity capacity of workers for protracted periods. The cost basis of these benefits is so much higher now than it was in the 1960s and 1970s that we cannot safely ignore the cost inflation potential of reforms. Under alternative scenarios 1 and 2, the two lower-inflation

[21] Derived by the authors from the U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Accounts.*

scenarios, one might argue that having higher earners finance some of the benefits for lower earners could enable all workers to realize some reward from their added productivity. But in scenario 3, the negative effects are pronounced relatively high up the earnings distribution, closing off any readily apparent escape valve.

Table 7: Scenario 3, Annual Wage Growth Rate Projections Across Earnings Deciles Assuming Health Insurance Reform Is Adopted Where Such Insurance Is Provided and Financed Through Employers, and Health Cost Inflation Rates Increase to Wage Growth Plus 6 Percentage Points per Year

	Projection periods		
Income deciles	2007 to 2015	2015 to 2030	2007 to 2030
All	-0.16%	-0.96%	-0.69%
1	-4.66%	-189.55%	-191.52%
2	-1.94%	-5.48%	-4.26%
3	-1.24%	-3.68%	-2.84%
4	-0.79%	-2.75%	-2.07%
5	-0.48%	-2.03%	-1.49%
6	-0.32%	-1.61%	-1.16%
7	-0.14%	-1.16%	-0.81%
8	-0.01%	-0.86%	-0.57%
9	0.15%	-0.46%	-0.25%
10	0.45%	0.21%	0.29%

Source: Calculated by the authors.

Fixing Entitlement Program Finance and Expanding Health Coverage

Since his inauguration, President Barack Obama has said on a number of occasions that he wants to both expand health insurance coverage and reform entitlements. In his first State of the Union address, the president said, “To preserve our long-term fiscal health, we must also address the growing costs in Medicare and Social Security. Comprehensive health care reform is

the best way to strengthen Medicare for years to come. And we must also begin a conversation on how to do the same for Social Security, while creating tax-free universal savings accounts for all Americans."[22] President Obama has not proposed any concrete reforms for Medicare or Social Security, but he appears to understand that these costs threaten the fiscal operations of government. They also threaten the economic prosperity of American workers.

To show the potential claim that entitlement programs could make on workers, alternative scenario 4 assumes the cost increases projected under current law for Social Security retirement and disability programs and the Medicare HI program come to pass. We developed these projections in conjunction with the expanded health insurance scenario developed under our middle range of health cost inflation assumptions. For entitlement program costs, we used the pay-as-you-go cost rates for the Old-Age, Survivors and Disability Insurance and HI programs from the most recent Trustees Reports. The results of our projections are presented in **Table 8**.

In alternative scenario 4, the combination of entitlement reform that raises taxes to projected cost rates along with health care reform could reduce wage income for the bottom 40 percent of the earnings distribution over the entire projection period. It would significantly erode the productivity reward to most higher-earning workers as well.

The longer we wait to address entitlement financing, the more likely policymakers are to raise taxes rather than adjust benefits or enact some combination of the two.

[22] President Barack Obama, Remarks of President Barack Obama — As Prepared for Delivery — Address to Joint Session of Congress Tuesday, February 24, 2009, as found at: www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/ at 10:15 a.m. on June 23, 2009.

Table 8: Scenario 4, Annual Wage Growth Rate Projections Across Earnings Deciles Assuming Health Insurance Reform Is Adopted Where Such Insurance Is Provided and Financed Through Employers, Recent Health Cost Inflation Rates Persist, and Social Security and Medicare HI Payroll Tax Rates Increase to Finance Current Law Benefits

	Projection periods		
Income deciles	2007 to 2015	2015 to 2030	2007 to 2030
All	0.27%	0.43%	0.38%
1	-2.94%	-1.92%	-2.28%
2	-0.95%	-0.51%	-0.66%
3	-0.42%	-0.21%	-0.28%
4	-0.09%	-0.02%	-0.04%
5	0.12%	0.15%	0.14%
6	0.21%	0.25%	0.24%
7	0.32%	0.37%	0.35%
8	0.39%	0.45%	0.43%
9	0.48%	0.56%	0.53%
10	0.65%	0.80%	0.75%

Source: Calculated by the authors.

As the baby boom generation becomes eligible for Social Security, it is going to become increasingly difficult to consider policy options that might lower their benefits. The dramatic increase in Social Security costs over the next 25 years will be driven entirely by increasing retirement rates linked to the baby boomers' aging. To ignore them would likely bring about declining standards of living for many workers and their families over the next quarter century.

Our results focus only on the share of Medicare financed through the payroll tax — a far smaller share than that financed through other revenue sources. If medical costs are not reined in, the added income or other taxes needed to finance benefit growth are also likely to fall heavily on workers and their dependents. To the extent that we finance medical benefits by cutting other

governmental activities, we will be scaling back services for the younger population, including education and training programs, crucial infrastructure efforts, law enforcement and other essentials of domestic tranquility.

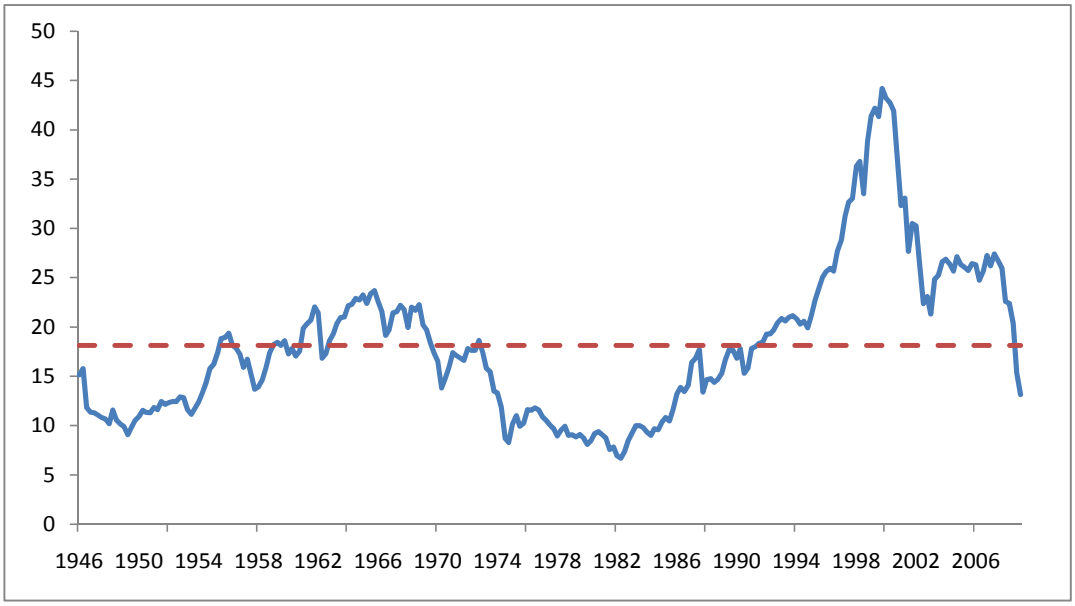
Prospects for Prosperity

Between 2000 and 2007, the productivity rewards being siphoned off for benefits significantly dampened the growth of workers' take-home pay. Meanwhile, the base costs of benefits are now large enough to potentially consume most and possibly all of the productivity contribution of lower- and middle-wage workers. Public policymakers should not be surprised if large segments of the workforce become restive if they are called upon to contribute more to the output of their employers and our economy but receive little or no reward in their paychecks. To assess the outlook for workers, we looked at the implications of higher retirement savings costs, higher health benefit costs and higher entitlement costs. Our assessments of the potential implications of these costs on future prosperity vary from component to component.

The high cost of employer-sponsored retirement plans results primarily from low employer contribution rates during the 1980s and 1990s. The former was due to regulatory restrictions and the latter resulted from the abnormally high returns during the financial market bubble, reflected by the variable line in **Figure 16**, as compared with the flat dashed line indicating the average price/earnings of U.S. equities since 1946.[23] With the aging of the baby boom generation and the decline of asset prices in the market corrections since 2000, plan sponsors are now playing catch-up.

[23] Robert Shiller, a finance professor from Yale University, has developed data on the price-earnings ratios on U.S. stocks back to the early 1880s. Over the whole period of Shiller's data, the average P/E ratio has been 16.2. Since 1946, the P/E ratio has been only slightly higher at 17.9. The ratio peaked at slightly above 25 in 1901 and at 33 in 1929, just before the big crash. At the end of 1999, it was at 44.2.

Figure 16: Price-Earnings Ratios on U.S. Stocks for Selected Years



Source: Robert J. Shiller, updated data used in developing *Irrational Exuberance* (Princeton: Princeton University Press, 2000).

We are not suggesting that pension funding practices should be driven by religious texts, but occasionally a lesson learned in one aspect of our lives can be applied effectively elsewhere. The biblical story of Joseph's dream and the decision to amass grain stores during the seven years of plenty to feed the people during seven years of famine could well be the perfect analogy for desirable pension funding practice over the past quarter century.

A pension funding requirement based on Joseph's dream might have raised funding requirements during the 1990s for pension sponsors investing assets in equities. A look at historical data would have indicated that price-to-earnings (P/E) ratios in the U.S. equity markets were moving into unprecedented territory. Policymakers could have required pension plan sponsors to fund a multiple of accrued benefits in proportion to the extent that the P/E ratio of pension assets exceeded the historical average. Those investing in bonds and immunizing their

pension liabilities could have continued to fund on the basis of accrued pension obligations under the standing rules. But those investing in stocks could have then amassed a larger asset pool to cover their pending obligations. Such a policy would have significantly ameliorated the shock of the equity market declines during this decade. Under this model, pension contributions would have tracked much more uniformly than they have under the existing rules and would have likely created far less disruption for pension sponsors or plan participants.

Alas, we got Joseph's lesson backwards and did not fund accruing obligations when the baby boom was young or when the economy was booming and must now play catch-up in the midst of lean times, just when we can least afford it. Many workers have ended up paying the price — having their pension plans frozen because companies found that disruptive funding patterns were disturbing their operations. But if we start doing things right, we could achieve more stability in the retirement component claim on productivity rewards. While personal or private pension retirement savings alone should not pose a long-term threat to workers' paycheck gains from their added productivity contributions, this saving will have to be undertaken in an environment where health and entitlement costs must also be absorbed.

Table 9 reflects alternative scenario 5, in which there is no health care reform, employer-provided health insurance coverage persists at current rates, and the costs of that insurance continue growing at the 2000-2007 rates. Payroll taxes for Social Security and Medicare are increased as necessary to deliver benefits promised under current law. The results up to 2015 do not differ much from those during the first seven years of this decade — results that some analysts consider unsatisfactory because of the drag on wage growth. Beyond 2015, the outlook becomes somewhat more dismal for the bottom three-quarters of the earnings distribution as the prospects of higher health benefit costs and higher entitlement taxes take their toll. All those who

were disappointed with the 2000-to-2007 period would find the outlook beyond 2015 even less appealing.

Table 9: Scenario 5, Annual Wage Growth Rate Projections Across Earnings Deciles for Selected Periods Assuming Health Reform Is Not Adopted, Health Cost Inflation Rates Persist, and Social Security and Medicare HI Payroll Tax Rates Increase to Finance Current Law Benefits

	Projection periods		
Income deciles	2007 to 2015	2015 to 2030	2007 to 2030
All	0.56%	0.56%	0.56%
1	0.56%	0.25%	0.36%
2	0.51%	0.24%	0.33%
3	0.45%	0.22%	0.30%
4	0.42%	0.22%	0.29%
5	0.42%	0.29%	0.33%
6	0.45%	0.35%	0.39%
7	0.47%	0.43%	0.44%
8	0.49%	0.49%	0.49%
9	0.54%	0.59%	0.57%
10	0.69%	0.81%	0.77%

Source: Calculated by the authors.

The long and the short of this story is that unless we can reel in health costs, the outlook for increasing returns on labor and higher productivity is bleak. Much of the growth in entitlement costs contributing to the results in Table 9 relates to health cost inflation. Even more importantly, considering only the HI payroll tax component of Medicare financing exposes only the tip of the Medicare iceberg threatening future workers. The additional financing that must be diverted from other federal revenue will dwarf the HI payroll tax effects.

Health Cost Inflation: A Critical Illness Needs Treatment

Health care costs have been rising steadily along with the demand for services since World War II. Ample evidence exists that we gain little benefit from the extra money we spend on a system that costs 40 percent to 100 percent more than its counterparts in other developed countries and is growing twice as fast.

It is intuitively understandable that the sickest members of our society receive the most intensive care, but most people do not appreciate the extent of the concentration. Under Medicare, in any given year, 5 percent of the beneficiary population receives approximately 60 percent of all benefits. On average, these people are treated by 10 to 12 physicians and receive 20 prescription medications. There is often little coordination of care, and, in many cases, some of the services and prescriptions are contraindicated for the treatment of the patient's other ailments. The distribution of benefits might not be quite as skewed in the younger population, but under employer-sponsored health benefit plans, 50 percent of the benefits typically go to 5 percent of beneficiaries. Patients under both public and private insurance plans receive their treatments from the same doctors and hospitals, and so are susceptible to the same treatment variations and risks.

For the past 20 years, researchers at Dartmouth College have been examining regional variations in medicine and health care spending across the Medicare population.[24] They identified a threefold variation in Medicare spending across "U.S. hospital referral regions," and found that two-thirds of the variations were due to differences in the volume of health care services received by similar patients. Their studies have consistently found that a higher volume

[24] Elliott Fisher, David Goodman, Jonathan Skinner and Kristen Bronner, "Health Care Spending, Quality, and Outcomes; More Isn't Always Better," *A Dartmouth Atlas Project Topic Brief* (February 2009).

of care does not produce healthier outcomes. “The findings are remarkably consistent: higher spending does not result in better quality of care, whether one looks at the technical quality and reliability of hospital or ambulatory care, or survival following such serious conditions as heart attack or hip fracture … Higher spending also did not result in improved patient perceptions of the accessibility of quality of medical care and their experiences in the hospital.”[25]

During fall 2008, the Social Security Advisory Board met with Dr. John Wennberg, the founder of the Dartmouth Atlas Project. Dr. Wennberg described three categories of unwarranted variation in health care services. The first category was effective care, which he described as evidence-based care that anyone with the need for services should receive. The second category was preference-sensitive care, which involves tradeoffs because more than one treatment exists and the outcomes are different. In this case, the care should be based on the patient’s own preferences after a discussion with medical personnel about the nature of the treatments available and range of likely outcomes. The third category was supply-sensitive care. In this case, the frequency of use of a treatment is governed by the assumption that resources should be fully utilized — i.e., that more is better. Specific medical theories and medical evidence play little role in governing the frequency-of-use of these services. Dr. Wennberg estimated that under Medicare, 12 percent of spending was on effective care, 25 percent was on preference-sensitive care and 63 percent was on supply-sensitive care.

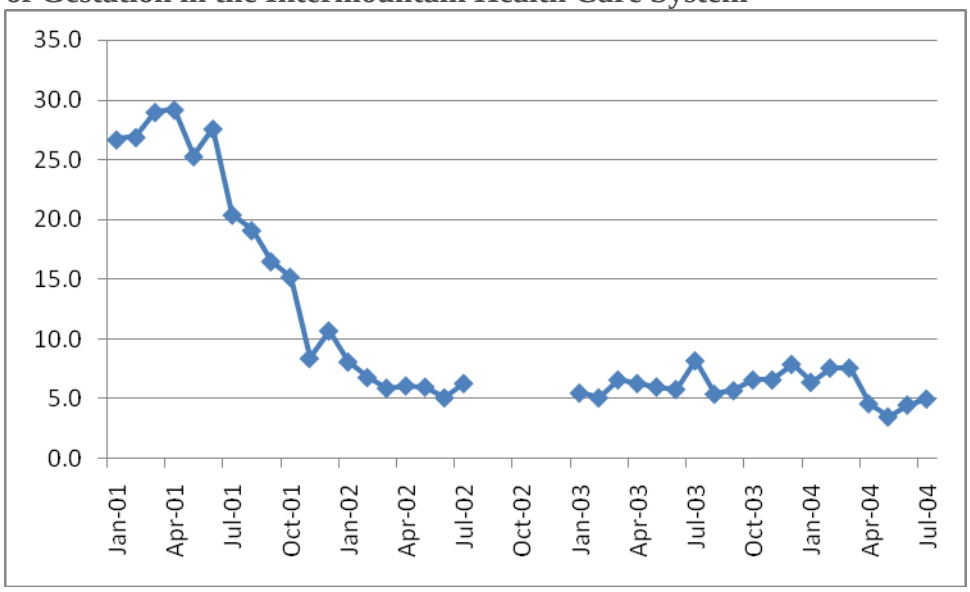
After meeting with Dr. Wennberg, the Social Security Advisory Board met with Dr. Brent James, Executive Director of the Institute for Health Care Delivery Research at Intermountain Healthcare in Utah. Dr. James discussed several research programs underway at Intermountain Healthcare to develop the sort of effective care regimens that Dr. Wennberg had described. For example, the institute developed an analysis of medical complications associated

[25] Ibid, p. 2.

with induced labor in childbirth related to the gestation period of the fetus. They found that complications increased significantly for labor inductions prior to 39 weeks, and were more prevalent the earlier the induction. For those induced at 37 weeks, 6.66 percent of the children born were admitted to the neonatal intensive care unit. The rate dropped to 3.36 percent at 38 weeks and to 2.47 percent at 39 weeks.

As the Intermountain Health Care System amassed evidence of the relationship between the timing of labor induction and complications for the infant and disseminated that information to their staff, they also began measuring different delivery patterns within their hospitals, as clearly shown in **Figure 17**.

Figure 17: Percentage of Live Births by Elective Induction of Labor at Less Than 39 Weeks of Gestation in the Intermountain Health Care System



Source: Intermountain Health Care System, Salt Lake City, Utah.

Barring medical complications, the Intermountain policy today is that voluntary labor inductions before 39 weeks of gestation are bad medicine. This policy has dramatically reduced complications, including cesarean section rates, and has also reduced costs. The c-section rate of

12 percent for first births and 21 percent overall at Intermountain Healthcare is dramatically lower than the rates reported recently by the *Miami Herald* at hospitals in South Florida.

Table 10 shows the total births and c-section rates at hospitals in Miami-Dade and Broward Counties between July 2007 and June 2008. The c-section rates varied from a high of 70.4 percent of births at Kendall Regional hospital to a low of 34.2 percent at Jackson South, with all hospitals above the national average of 31.8 percent. The article in which these data are found, "More S. Florida babies born by an appointment," suggested these high rates were tied to several factors, such as the mother's busy work schedule, fear of pain and concerns about bladder problems later in life. From a health perspective, a doctor quoted in the article said one reason "not to have a more liberal cesarean policy is that babies born without labor tend to have more respiratory problems."[26] Costs are another good reason for a less liberal c-section policy — a c-section in South Florida costs between $11,000 and $30,000 per birth compared with $5,000 to $16,000 per natural birth, according to the Florida Agency for Health Care Administration. Reducing the c-section rates in these two counties to the national rates would save between $0.5 billion and $1 billion a year.

If the parents scheduling c-section births were willing to pay the extra $5,000 to $15,000 themselves, that would be one thing. But it is quite another when the costs of these extra services are spread across the larger pool of insurance participants, who receive no value from the services and show signs of being excessively burdened by their costs. The high c-section rates become even more problematic after factoring in the added risk to the babies. The prospect of adopting health care reform that expands insurance coverage and potentially escalates utilization without also curtailing unnecessary health services like the high c-section rates in South Florida,

[26] John Dorschner, "More S. Florida babies born by an appointment," *The Miami Herald* (May 10, 2009, Early Edition), Health and Medicine Section, Page 1.

which increase both costs and potential complications of childbirth, is akin to throwing gasoline on an open fire.

Table 10: South Florida Birth Rates and C-Section Rates for Specified Hospitals for July 2007 through June 2008

Miami-Dade	C-sections	Total births	Percentage c-sections
Kendall Regional	1,534	2,180	70.4%
Hialeah	871	1,657	52.6%
South Miami	2,483	4,145	59.9%
Baptist	2,221	4,416	50.3%
Mercy	803	1,384	58.0%
Mount Sinai	944	1,944	48.6%
North Shore	847	2,016	42.0%
Palmetto General	959	2,005	47.8%
Homestead	758	1,522	49.8%
Jackson Memorial	2,786	5,524	50.4%
Jackson North	626	1,704	36.7%
Jackson South	504	1,472	34.2%
Total	15,336	29,969	51.2%
Broward			
Plantation General	1,544	3,254	47.4%
Northwest Medical	745	1,855	40.2%
Holy Cross	625	1,211	51.6%
Memorial Regional	1,733	4,153	41.7%
Memorial West	1,947	4,758	40.9%
Memorial Miramar	1,413	2,992	47.2%
Broward General	1,479	3,550	41.7%
Coral Springs	837	2,214	37.8%
Total	10,323	23,987	43.0%

Source: John Dorschner, "More S. Florida babies born by an appointment," *The Miami Herald* (May 10, 2009, Early Edition), Health and Medicine Section, Page 1.

The research conducted by Intermountain Healthcare and a few others is a public good that should be publicly financed, and the public institution tasked with this research must be independent of special interests. Information about appropriate treatments and associated risks

should be made widely available to the public. These proposals should be a crucial part of the health reform debate now underway.

For many medical conditions, there are a range of appropriate treatment options. For example, in his discussion with the Social Security Advisory Board, Dr. Wennberg said there were seven conditions involving preference-sensitive surgical decisions that accounted for 45 percent of Medicare's surgical costs. These were silent gallstones, chronic stable angina, hip and knee arthritis, carotid artery stenosis, herniated disc, early prostate cancer and enlarged prostate. In each case, alternative treatments to surgery are available, but the choice involves tradeoffs related to risks from the disease and from the treatments themselves. Ultimately, the patient's own preferences should determine the treatment.

As this discussion was unfolding, a member of the Social Security Advisory Board told of a relative being treated for breast cancer at Group Health of Seattle. Prior to any treatment, the patient met individually with members of the treatment team to discuss alternative approaches, potential outcomes, possible reactions and other relevant issues. After these discussions, a case manager met with the patient to answer any questions and provide support as the patient chose the treatment approach. In this case, treatment was based on informed patient choice. More often, however, the provider determines the treatment approach and asks the patient to sign consent forms indicating that he or she was informed of the associated risks and agrees to undergo the recommended regimen.

In assessing the appropriateness of health care services, the practitioner often comes to the table with a strong sense that his or her services will provide needed relief, and the expression of that belief can sway the patient's views. In recent years, the prevalence of knee and hip replacements has increased significantly. Yet some data suggest that most people suffering

problems with their knee or hip would prefer not to have surgery. One study early in the decade focused on people aged 55 and older with severe arthritis. Across two study areas, the medical indication of need ranged from 2.85 percent to 3.63 percent of the population. Yet among these patients with severe arthritis, "no more than 15 percent were definitely willing to undergo arthroplasty, emphasizing the importance of considering both patients' preferences and surgical indications when evaluating the appropriateness of rates for surgery."[27]

Once again, there are insufficient data to construct a scientific basis for managing preference-sensitive care. This is largely because developing such data offers a public good rather than a private gain, and, so far, no one in the private marketplace has been able or willing to tackle the job. The state of Washington has changed its standard of practice from informed consent to informed patient choice, which gives physicians more freedom from liability in exchange for using decision aids to help patients select procedures. Other states should be encouraged to do likewise. Insurers, led by CMS in its management of Medicare and Medicaid, should establish reimbursement policies that assure that informed patient choice is widely accessible and utilized as appropriate. Medicare, for example, could require participating hospitals and doctors to establish a certified shared decision-making process in order to be reimbursed for surgeries. Once such processes are in place for the Medicare population, they could be easily adapted and made available to the larger population serviced under other insurance arrangements.

Dr. Wennberg cited supply-sensitive care as the source of nearly two-thirds of the unwarranted variation in service delivery patterns across the United States. A recent article in the *New Yorker* looked at health delivery and spending patterns for individuals eligible for Medicare

[27] Gillian A. Hawker, et al., "Determining the Need for Hip and Knee Arthroplasty: The Role of Clinical Severity and Patients' Preferences," *Medical Care* (2001) vol. 39, no. 3, 207.

in McAllen and El Paso, Texas.[28] The two Texas towns, some 800 miles apart, are similar in many ways. Both counties have a population of roughly 700,000, similar public-health statistics, similar percentages of non-English-speaking residents, illegal immigrants and unemployment. In 2006, Medicare spent $15,000 per enrollee in McAllen and only half that — $7,504 per enrollee — in El Paso. While Hildago County, where McAllen is located, has the lowest household income in the country, Miami is the only U.S. city with higher Medicare costs per enrollee.

The *New Yorker* article describes the magnificent medical facilities in McAllen housing "all the technology that you'd find at Harvard and Stanford and the Mayo Clinic."[29] But treatments, technologies and quality in McAllen appear no better than in El Paso, or elsewhere around the country, based on Medicare records. Of the 25 metrics on which Medicare ranks hospitals for quality, McAllen's largest five hospitals performed worse, on average, on all but two of the measures than the largest five hospitals in El Paso.

Turning to Jonathan Skinner at Dartmouth to sort out why Medicare costs were so much higher in McAllen than El Paso, Gawande reports:

> Between 2001 and 2005, critically ill Medicare patients received almost fifty percent more specialist visits in McAllen than in El Paso, and were two-thirds more likely to see ten or more specialists in a six-month period. In 2005 and 2006, patients in McAllen received twenty percent more echocardiography, two hundred percent more nerve-conduction studies to diagnose carpal-tunnel syndrome, and five hundred and fifty percent more urine flow studies to diagnose prostate troubles. They received one-fifth to two-thirds more gallbladder operations, knee replacements, breast biopsies, and bladder scopes. They also received two to three times as many pacemakers, implantable defibrillators, cardiac-bypass operations, carotid endarterectomies, and coronary-artery stents. And Medicare paid for five times as many home-nurse visits. The primary cause

[28] Atul Gawande, "The Cost Conundrum: What a Texas town can teach us about health care," *The New Yorker* (June 1, 2009), www.newyorker.com/reporting/2009/06/01/090601fa_fact_gawande?yrail (accessed at 10:00 a.m., June 24, 2009).

[29] Ibid.

> of McAllen's extreme costs was, very simply, the across-the-board overuse of medicine.[30]

To sort out the reasons for different practice patterns in the two cities, Gawande interviewed a hospital administrator with extensive experience managing for-profit hospitals along the border. The administrator suggested that the typical doctor in El Paso would receive 85 percent of his or her annual income from the usual practice of medicine. He said that the doctors in McAllen, on the other hand — whom he characterized as having "entrepreneurial spirit" — received much more of their income from investments, including imaging centers and surgery centers, to which they directed their patients.[31]

Medical costs are exorbitant in McAllen, Texas, because we pay doctors on the basis of the quantity of services they deliver and generally ignore the quality or even the necessity of those services. For whatever reason, the medical-industrial complex in McAllen has come to view the practice of medicine in a profit-maximization context, where the investment and utilization of added capital has taken on a life of its own, generating higher revenues regardless of the value delivered to patients. In El Paso, there has been less investment and less intensive delivery of services — with no measurable adverse effect on the local population.

While drawing broad conclusions from treatment and spending patterns in two Texas towns might seem to overreach the data, broader market data also suggest that in the medical marketplace, Jean-Baptiste Say's Law that "supply creates its own demand" seems to apply. **Table 11** shows the contrast in practice patterns and costs associated with patients in their last two years of life under Medicare for the highest and lowest hospital referral regions based on their quintile ranking by utilization levels. The intensity of resources is captured by comparing

[30] Ibid.

[31] Ibid.

the relative number of doctors with the patient populations. Where there are more doctors, service delivery is intensified across virtually every measure considered. Most importantly, the cost of providing services goes up accordingly.

Table 11: Contrasting Practice Patterns in Managing Chronic Illness in Hospital Referral Regions Ranked in the Highest and Lowest Quintiles by Utilization Levels for Patients in Their Last Two Years of Life

	Hospital referral regions		
	Lowest quintile	Highest quintile	Ratio of high to low
Resource input/utilization			
Medicare spending per capita	$38,300	$60,800	1.59
Physician labor per 1,000			
All physicians	16.6	29.5	1.78
Medical specialists	5.6	13.1	2.35
Primary care doctors	7.4	11.5	1.55
Terminal care in last 6 months			
Hospital days	8.5	15.6	1.83
Hospital MD visits	12.9	36.3	2.82
Percentage seeing 10 or more MDs	20.8	43.7	2.16
Percentage of deaths in ICUs	14.3	23.2	1.63

Source: The Dartmouth Atlas Project.

With no calibrating guidelines for evaluating the treatment of chronic illness, McAllen's doctors can continue to run all their tests and bill third-party payers, arguing that they are in the best interest of their patients — despite patient outcomes that are generally no better than those being provided to El Paso patients at much lower cost and risk. If health reform simply expands insurance coverage in this environment, the excesses now overheating the health-industrial complex will be spread over a larger patient population, accelerating our current problems.

Gathering the data required to develop scientific measures of good medical practice for managing chronic illness is a core requirement for discouraging excessive treatment patterns. As the private market is unlikely to develop the necessary data resources, health reform must include federal financing of a data and analysis program to identify effective treatment protocols for chronic illness, which can be used to stanch the flow of resources into unwarranted service delivery. In its administration of Medicare and Medicaid, CMS should move toward reimbursement policies that encourage care coordination and the growth of service delivery groups oriented toward providing good health outcomes while reducing overuse of resources and excess capacity.

Many people contend that the practice of medicine is still more art than science. In the realm of art, rigid guidelines or criteria cannot determine what is good or bad, what is beautiful or not and, sometimes even, what is straight or crooked. Many in the medical sector are skeptical about developing guidelines and statistical models of good practice that they fear will shoehorn them into practicing “cookbook medicine.” Dr. James at Intermountain Health Care in Utah told the Social Security Advisory Board that most health delivery is organized around two interacting administrative structures. The first runs facilities and manages the associated costs of doing so, including staffing. The professional staff, doctors and nurses operate as independent agents who often determine their own practice patterns on an “in my experience” model rather than empirical evidence. Dr. James indicated that some of the professional staff were skeptical of the move to evidence-based models. But as they introduced empirical observation and conversed with staff about issues such as the relative risks to newborns from early inducement of labor, most came to appreciate the power of the data to expose risks in their patterns of practice that individual observation and experience had failed to detect.

While delivering babies today is different in an Intermountain Health Care hospital than it was 10 years ago, the judgment of the medical staff still plays a vital role in delivering quality care. The practice of evidence-based medicine acknowledges that patients might respond differently to the baseline modes of treatment. It is not cookbook medicine, because it respects differences between individuals and their responses to treatment. Intermountain modifies treatment from the shared baseline about 5 percent to 15 percent of the time in treating individual patients, according to Dr. James.

The *Washington Post* recently described an initiative by the Geisinger Health Systems that offers a 90-day warranty on elective heart surgery for a flat fee.[32] Any necessary follow-up procedures during the warranty period are performed without charge. A few years ago, when a new patient arrived for a heart procedure, the nurses' first question was which surgeon would operate on the patient. All six surgeons did things differently, and the nurses had to prep their patients accordingly. Moreover, there were more variations among different cases. Today, the hospital follows a strict protocol of 40 best-practice action items for patients receiving heart bypass surgery, such as administering antibiotics within 30 minutes of surgery to reduce infections, a major cause of extended treatments and readmissions.

The 40-item list was largely based on guidelines developed by the American Heart Association and the American College of Cardiology. When the system was first implemented in 2006, only 58 percent of the patients received all 40 items. Today, virtually all do so. Surgeons can opt out of any action for a valid medical reason, but failure to account for each item can result in a canceled or postponed procedure. An electronic record system helps manage the whole process. Once again, these doctors resisted the new regime. But since the new protocols

[32] Ceci Connolly, "For This Health System, Less Is More," *The Washington Post* (March 31, 2009), p. A-1.

were adopted, in-hospital death rates dropped from 1.5 percent to 0 percent, and readmission rates dropped by 44 percent, bringing costs down with them.

Organizations that have successfully used empirical evidence to develop more efficient and effective delivery protocols rely on organized systems of care. The cottage artisan cannot afford to develop record-keeping systems to track treatments and outcomes, analyze statistics to identify best practices and develop the integrated staffing protocols to deliver the services required. Many doctors may wish to continue delivering health care on the "in my experience" model, but the evidence strongly suggest that this model is incompatible with growing prosperity based on workers' productivity outlook. At this moment in history, we must choose between changing the incentives in our health care payment systems to slow the growth of health costs and accepting stagnant or even declining standards of living in the future.

The policymakers and analysts working on health care reform proposals are not oblivious to these issues. In April, the Center for American Progress (CAP) convened a group of experts to evaluate health reform proposals, assess where there was sufficient information and consensus to move forward and where more work was required to develop a value-based quality health care payment system.[33] In their analysis, they examined the most prominent pay reform proposals under consideration, including:

- Rewarding the delivery of primary care through care coordination programs that reimburse primary care practice to provide and coordinate patients' care;
- Bundling payment for episodes of care rather than paying for individual visits or procedures to coordinate care and improve outcomes; and
- Moving medical practices into integrated health delivery organizations and establishing payment arrangements that move toward global capitation, paying a single price for all health care services needed by patients.

[33] Ellen-Marie Whelan and Judy Feder, *Payment Reform to Improve Health Care* (Washington, D.C.: 2009), www.americanprogress.org/issues/2009/06/health_payment_reform.html (accessed July 3, 2009).

Strengthening Primary Care

The move to expand the role of primary care is often characterized by the term “medical home,” which these days refers to a primary care practice where providers deliver primary health services and coordinate care in more complex cases. The concern of the CAP panel is that the CMS demonstration projects being developed define a medical home too narrowly, ignoring other potentially successful approaches.

In moving forward, the panel believes that future policy should test a wide variety of medical home models, tie payments to actual performance, evaluate the impact on the quality and costs of care, and give CMS authority to take successful models public without specific enabling legislation. The sense is that current demonstration projects do not sufficiently examine outcomes and hold providers accountable for them. The House and Senate committees working on health reform are calling for greater reward authority for successful models and expanded experimentation.

The CAP reviewers are calling on Congress to: (1) establish explicit criteria for identifying and prioritizing promising demonstration projects for development and implementation; (2) provide added resources for CMS to review applications for new demonstrations on a timely basis; (3) require CMS to publish results of these demonstrations on a timely basis and to outline the pros and cons of expanding the approaches; and (4) require the Medicare Payment Advisory Commission (MedPAC) to review and comment on the CMS project evaluations and to make their own recommendations on whether an approach should be implemented more broadly.

Bundling Payments

Medicare has been bundling payments for health service delivery for the last 25 years under the diagnostic reimbursement groups (DRG) model, which reimburses hospitals for an episode of care on a flat fee basis, regardless of the cost of the services and any complications. CMS is now experimenting with broader bundling of the services of both doctors and hospitals in a three-year Acute Care Episode (ACE) demonstration project. The Geisinger Health Systems approach to heart surgery discussed earlier would fall into this category of alternative payment mechanism to encourage better ways to practice medicine and deliver treatments.

A potential problem with this approach is that, while it might encourage doctors and hospitals to treat specific ailments more efficiently, it does nothing to discourage unwarranted treatment. The Dartmouth Atlas evidence suggests that much of the unwarranted variation in medical practice arises from unnecessary services rather than inefficient delivery. In addition, the focus is on efficient procedures instead of coordinated care aimed at the broader range of ailments patients often bring to the table.

The health reform legislation evolving in both the House and the Senate would encourage hospitals to extend treatment bundling beyond the hospital stay to include the post-operative period in a treatment episode. While there is support for encouraging hospitals to expand their scope of treatment, this approach could penalize some hospitals serving low-income populations or others with special needs, because their patients cannot access resources in their communities for post-hospital assistance in regaining good health. Rather than focus on bundling the post-hospital treatment with the hospitalization costs, the CAP panel suggests that the new model should encourage appropriate treatment during the transition from hospitalization to good health. To limit readmissions, the panel recommends assigning a supporting health professional, usually

a nurse, to meet with the patient before release to explain the treatment plan and to coordinate care across all providers, including the hospital, post-acute care and the treating physician. They maintain that CMS should already be paying for such transitional care because of its documented benefits.

Integrated Care and Global Capitation

In developing a rational business model, no one has proposed a theoretically superior integrated health delivery system that would provide a full range of services for an annual fixed payment. In this model, a patient does not become an added revenue opportunity during illnesses. When the patient is sick, the system "wins" by delivering appropriate services efficiently and restoring the patient to good health. Unfortunately, 80 percent of U.S. physicians are in practices with fewer than five other doctors and do not maintain a close relationship with the hospitals that serve their patients.

In the craft-shop environment, there are ways to achieve the same results as integrated systems of care. Independent practice associations (IPAs) are groups of small practices that attain economies of scale without integrating practices, such as in negotiating leases and office services. These groups sometimes invest in records systems and other modernizations to enhance their medical practices. Some even employ chronic-care management professionals who can assemble virtual teams of treating physicians for participants' patients. Medicare has experimented with a Physician Group Practice Demonstration in which 10 large multi-group specialty practices shared the savings achieved by delivering more integrated services to their patients. In a meeting with the Social Security Advisory Board, Mark McClellan, former head of CMS, discussed developing Accountable Care Organizations (ACOs), which are "virtual"

organizations of doctors and hospitals that share responsibility for delivering effective and efficient health services to Medicare patients and share in the savings as well.

While the CAP panel members agree that integrated practices are the most desirable way to deliver services, they favor encouraging — rather than forcing — providers to change. They want to see more CMS experimentation and demonstration projects on outcomes under alternative payment mechanisms and shared savings arrangements. The health reform legislation evolving in the House would require a pilot test program to evaluate different incentive models, including ACOs, on the integration of care delivery. The Senate Finance Committee would expand the Physician Group Practice (PGP) demonstration already underway with CMS backing as a way to implement the ACO model. The CAP panel clearly fears that health reform will fall short on encouraging integrated practices in the near future.

Conclusions

This analysis links evolving pay levels for workers across the earnings spectrum with costs to employers for Social Security, Medicare, and employer-sponsored retirement and health benefits. From 2000 to 2007, wage growth across much of the earnings spectrum was roughly half what it was during the 1990s, even though total compensation growth was the same across both periods. Benefit costs are now high enough for rapid cost inflation to do even more damage to wage growth in the future.

Pension costs are running at abnormally high levels in this decade for two reasons. The first relates to the effects of delaying the funding of the baby boomers' pensions from early in their careers to later, which resulted from legislation passed in the 1980s and 1990s to narrow tax preferences. Low pension contributions during these workers' early years necessitate higher

contributions now that they are nearing retirement age. The second relates to the boom-bust investment cycle during the 1990s and 2000s. Abnormally high returns on pension assets during the 1990s further reduced the need for pension contributions and exacerbated the effects of the financial market collapse that followed. However, the need for higher pension contributions should be temporary and could be ameliorated by public policy changes for future generations.

With the exception of the 1990s, soaring health benefit cost inflation has persisted since World War II. Even during the 1990s, health benefit cost inflation was 1.5 percentage points more per year than average wage growth for the bottom two-thirds of the earnings distribution. Without cost control measures, high health cost inflation will almost certainly persist. And today, the stakes are higher than ever before. Our estimates are that in 1980, a median-wage, full-time worker's health benefit costs represented about 4.6 percent of his or her compensation. By 2007, health benefits were claiming 10.3 percent of the worker's compensation. A 1 percentage point increase in health costs today erodes pay 2.25 times faster than it did 25 to 30 years ago.

Entitlement reform is likely to drive up the payroll taxes that support Social Security and Medicare, and the longer reforms are delayed, the greater the likely erosion of pay. There is generally consensus that retirees and workers near retirement age should not lose benefits when it is too late to replace them. With the leading edge of the baby boom generation already claiming Social Security benefits and within two years of Medicare eligibility, baby boomers are on track to receive the benefits they have been promised under current law. To the extent their benefits remain intact, entitlement reform will have to look to tax increases to balance the system. Moreover, much of the cost of Medicare reform will be borne through general revenue financing, loading yet another tax burden on younger generations of workers.

Health care reform is likely to impose new inflationary pressures as broader coverage increases the demand for health services. The implementation of the Medicare program warns of the potential ramifications of not coupling expanded coverage with provisions to control cost. Our series of projection scenarios shows how important controlling health costs will be for the future prosperity of American workers.

Our baseline projection assumes that we cut health benefit cost inflation rates roughly in half, to 1.5 percentage points more than the growth rate of compensation, and public policies do not increase current levels of insurance coverage among the working-age population. Under this scenario, we estimate wage growth rates roughly equivalent to those of the 1990s for the next couple of decades.

In a scenario with the baseline rates of health cost inflation and expanded coverage under an employer play-or-pay mandate, we project a negative effect on wage growth patterns at the bottom of the earnings distribution and a mildly negative effect on workers in the middle of the earnings distribution. Beyond 2015, wage growth rates would return to levels similar to those achieved during the 1990s. While this scenario predicts some higher costs associated with expanding coverage, the longer-term beneficial effects of controlling health costs enhances the future prosperity of workers and their dependents.

In projection scenarios that involve both expanded health insurance coverage and continuing high health inflation rates, the outcomes are dire, including falling wages at the bottom of the earnings spectrum and very slow wage growth on up the earnings distribution. These outcomes are projected to persist over at least the next couple of decades, and there are no indications they would improve thereafter.

Expanded health care coverage coupled with accelerated health inflation rates produce even worse results. The resulting rapid escalation in health benefit costs would drive disposable wages downward across most of the earnings spectrum, although lower-earning workers would be the hardest hit. These poor outcomes would persist over the entire projection period.

In all scenarios, introducing entitlement reform worsens the outcomes. Our modeling assumes that policymakers will raise taxes rather than reduce benefits, at least for the short term. Over the long haul, however, entitlement reform will affect the welfare of future generations regardless of whether the rebalancing tilts toward higher taxes or lower benefits. Which is more deleterious to the economic welfare of 25-year-old workers today: a 20 percent reduction in benefits or a comparable tax increase? The higher taxes would reduce these workers' paychecks over their remaining working years. But if Social Security benefits are 20 percent lower down the road, they would have to either live with less retirement income or make up the missing 20 percent somewhere else.

The risks of continued health cost inflation are too high to ignore. If we do not throttle back the system, many workers will have to live with much lower compensation rewards in coming years. The likelihood that entitlement reform will follow on the heels of health reform makes controlling health costs even more urgent. If final health reform expands employment-based coverage but fails to slow health cost inflation, the discontent with wage growth so far will seem negligible compared with reactions to falling wages on the horizon. The subsequent entitlement reform that will again lean on compensation rewards could drive wages down across much of the earnings spectrum for the next couple of decades and beyond. If expanding health care coverage to 40 million uninsured Americans drives incomes down for the foreseeable future, many people will consider the cost to have been too high.

Technical Appendix

This appendix describes our approach for estimating wages and the cost of benefits per earnings decile from 1980 to 2007. We use two sources of data: the *Current Population Survey* (CPS) conducted by the U.S. Census Bureau for the Bureau of Labor Statistics and the *National Income and Product Accounts* (NIPA) developed by the U.S. Department of Commerce, Bureau of Economic Analysis.

The CPS is one of the most comprehensive sources of labor market data in the United States. The monthly survey of roughly 57,000 households collects detailed information on labor force status, earnings, hours at work and other workforce indicators. To estimate earnings, we use the Annual Social and Economic Supplement (ASEC), formerly known as the March supplement of the CPS. We restrict our analysis to full-time, full-year workers aged 18 to 64. Full-time means at least 35 hours per week and full-year refers to 50 or more weeks per year. We impute earnings deciles using total income from wages and salaries for employees and income from self-employment, including farm, non-farm and non-incorporated, self-employed workers. The sample includes only workers with positive earnings in a given year. In addition, our analysis excludes the top 1 percent of earners. The Census Bureau does not report annual earnings above a certain level in the CPS, because the disclosures could make the earners identifiable. As shown in **Table A1**, excluding the top 1 percent eliminates all "top-coded" annual earnings. Not doing so would distort growth rates for the top decile group to the extent top-code levels were adjusted in various years, so this step is critical in accurately tracing growth rates in pay and other compensation elements over time.

Table A1. Breakpoints on Total Earnings for the 90th and 99th Percentiles and Top-Code Earnings Levels from 1980 to 2007

Current $'s	90th Percentile	99th Percentile	Maximum earnings in CPS sample
1980	$30,000	$50,000	$100,000
1985	$40,000	$88,000	$199,998
1990	$50,000	$99,999	$199,998
1995	$60,000	$150,000	$547,015
2000	$72,382	$335,115	$506,794
2005	$87,000	$410,175	$689,551
2007	$92,000	$366,022	$706,118

Source: Authors' tabulations of the U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, various years.

To estimate employers' annual contributions on behalf of employees, we focus on the three benefits: health care insurance coverage, contributions to employer-sponsored retirement programs and social insurance (OASDHI). Employers' annual costs for health care insurance, pensions and savings are based on Table 6.11 of the NIPA. However, to distribute the cost of each benefit by earnings decile from 1980 thru 2007, we had to impute coverage rates for both health care and pensions. We use the ASEC, which annually tracks health care insurance coverage and employer-sponsored pension coverage for the non-institutionalized population.

Employer-sponsored health coverage is typically offered to employees and their immediate families, including spouses and children. Respondents to the ASEC survey are asked to identify their source of health care coverage: group health, privately purchased and/or old age government-sponsored insurance. Respondents are also asked whether the health care coverage is in their own name. Using these responses, we impute five coverage tiers: single, employee plus spouse, employee plus child, employee plus children and family. We assign the costs of health care coverage to the contract holder, regardless of whether the respondent's own employer

offers health care coverage. As shown in **Table A2**, we estimate nearly 69 million contract holders among the 105 million full-time, full-year workers in 2007.

Table A2. Estimates of Coverage Tiers for Employer-Sponsored Health Care Programs from 1980 to 2007

			Coverage Tiers					
Millions	All FTFY workers ages 18-64	Total contract holders	EE Only	EE + Spouse	EE + One Child	EE + Children	Family	Weighted avg. cost of coverage
			1X	2X	2X	3X	3X	
1980	63.0	49.8	24.1	5.8	3.1	3.7	13.0	92.3
1990	79.0	55.5	28.9	6.8	3.2	3.7	12.8	98.6
2000	97.9	67.5	36.7	7.0	4.2	4.5	15.2	118.0
2007	105.0	68.7	39.2	7.4	3.3	3.6	15.1	116.8

Source: Authors' tabulations of the U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, various years.

To allocate total health care costs to each contract holder, we created a coverage-based weight for each as a multiple of an employee-only policy. In many employer-sponsored plans, the average cost for a policy with an employee plus spouse or child is twice the cost of employee-only coverage. Similarly, a family plan or one with children is three times the cost of an employee-only policy. Using these multiples for the five coverage tiers, we impute the weighted average cost of health care coverage for full-time, full-year workers and the overall population. Since total expenditures for private health care coverage from NIPA are attributed to all workers, we scale annual health expenditures by the portion of costs ascribed to full-time, full-year workers. In 2007, companies spent a total of $532.1 billion on group health plans. We estimate that 88.1 percent of total private group health care expenditures were paid on behalf of full-time, full-year workers, resulting in adjusted expenditures of $468.9 billion. We then distribute the adjusted total group health care costs for full-time, full-year workers to each

earnings decile by the proportion of the weighted average costs of coverage. See Table A3 for more details for 2007.

Table A3. Imputation of Total Group Health Care Expenditures for Full-Time, Full-Year Workers in 2007

Earnings deciles	Weighted avg. cost of coverage (millions)	Proportion of weighted avg. costs of coverage	Total group health care expenditures, 2007
0 to 10	4.4	3.8%	$17.7
10 to 20	7.2	6.2%	$28.8
20 to 30	9.3	7.9%	$37.2
30 to 40	10.9	9.3%	$43.7
40 to 50	11.9	10.2%	$47.7
50 to 60	12.9	11.0%	$51.7
60 to 70	13.4	11.5%	$53.7
70 to 80	14.7	12.6%	$59.0
80 to 90	15.5	13.3%	$62.1
90 to 100	16.7	14.3%	$67.2
All	**116.8**	**100.0%**	**$468.9**

Source: Authors' tabulations of the U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, various years and the U.S. Department of Commerce, U.S. Bureau of Economic Analysis, *National Income and Product Accounts*, various years.

Whether defined benefit or defined contribution, most pension plan formulas are based on the worker's pay. As a result, a larger share of employers' annual costs for these programs is spent on the highest-paid individuals. To allocate total costs for private pension and profit-sharing plans, we again begin by using the ASEC survey to determine pension coverage for the entire U.S. workforce and also for full-time, full-year workers. We estimate the proportion of total annual wages for covered workers for each earnings decile from 1980 through 2007. Because a portion of pension costs is attributed to part-time and/or part-year workers, we impute the ratio of covered wages to total wages to estimate an adjusted amount of total employer expenditures for pension and profit-sharing plans for full-time, full-year workers. In 2007, total expenditures on private pension plans were $387.9 billion. We estimate the proportion of total

wages to full-time, full-year workers as 91 percent in 2007, resulting in adjusted pension costs to full-time, full-year workers of $353 billion. Adjusted pension expenditures are then distributed to each earnings decile by their share of total annual covered wages.

Finally, we base annual estimates for OASDI and HI expenses on imputations of eligible earnings using our estimates of total pay described above. We apply payroll taxes and contribution limits for both OASDI and HI for all full-time, full-year workers from 1980 through 2007. For employees, we include only the costs paid by their employer. Because the self-employed pay the entire amount of OASDI and HI taxes, we include half of self-employed total payroll taxes to align with the taxes for the employed workforce.