JOINT ECONOMIC COMMITTEE
SENATE REPUBLICANS
SENATOR SAM BROWNBACK, SENIOR REPUBLICAN SENATOR

JUNE 15, 2007

UNDERSTANDING WORKER PAY: WAGES, SALARIES, AND BENEFITS

Have workers been receiving real gains in pay since the beginning of 2001? The answer is an unambiguous yes. Have workers received real gains in pay in every period (month, or quarter of a year) during the current economic expansion? The answer is no, as has been typical during past economic expansions. Has growth in productivity – output per hour of labor – outstripped growth in worker pay? The answer is that it has in many recent periods, as has been the case in many past periods. What exactly is worker pay, given that workers receive compensation for their work effort in various forms – wages, salaries, and benefits? The answer is that there are many ways of measuring worker pay, varying from narrow measures that include only wages and salaries of a relatively small subset of the workforce to more inclusive measures that include wages, salaries, and benefits of a relatively larger segment of the workforce. This article considers various measures of worker pay to assess how workers have fared in recent periods and how the recent behavior of worker pay compares with the past.

WHAT IS WORKER PAY AND HOW IS IT MEASURED?

Worker pay is defined and measured in a number of ways. There are at least eight statistical programs at the Bureau of Labor Statistics (BLS) that provide information on worker pay, and a number of other government and private sources also collect compensation information. The Bureau of Economic Analysis (BEA), for example, provides data on worker pay in accounting for national income (compensation of employees is the largest component, comprising close to 65% of national income in the first quarter of this year).

Many measures of worker pay and labor costs are produced by the BLS and other government agencies and, depending on the particular purpose of analysis, each has its advantages and disadvantages. This article examines data that are often used to provide information on recent and longer-term trends in dollar-valued, or "nominal," and inflation-adjusted, or "real," worker pay. The data that are examined are: *usual weekly earnings*, from the BLS Current Population Survey; *average hourly earnings*, from the BLS Current Employment Statistics survey; *hourly compensation*, from the BLS Employer Costs for Employee Compensation survey; *hourly compensation*, from the BLS productivity statistics program; *employee compensation*, from the BEA National Income and Product Accounts; and the *employment cost index*, from the BLS National Compensation Survey.

NOMINAL VS. REAL PAY CHANGES

Whenever workers' nominal (dollar-valued) pay increases, they take home more dollars than before. However, as prices of goods and services increase over time because of general price inflation, the purchasing power, or "real value," of a dollar shrinks. Whether or not workers' nominal pay increases offset the erosive effects on purchasing power of price inflation determines whether or not they receive inflation-adjusted, or "real," gains – that is, whether or not they are able to purchase more goods and services with their dollar-valued pay increases. Workers care about whether they are making real gains, not whether they are taking home more

dollars per se. Whenever workers' pay increases in inflation-adjusted, or "real," terms, they can buy more goods and services than before.

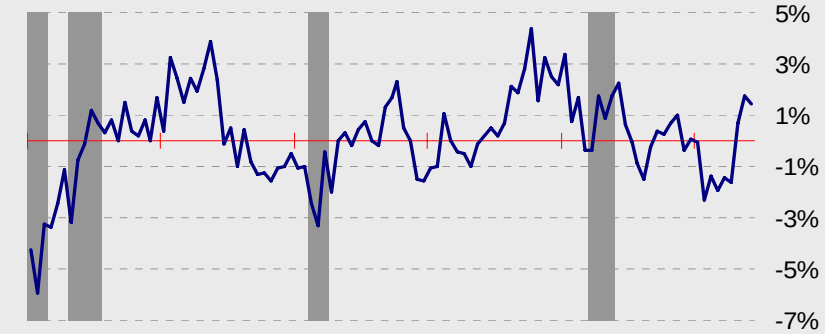
NARROW MEASURES OF PAY – WAGES AND SALARIES, NO BENEFITS

Some measures of worker pay include only wages and salaries, and exclude benefits. Two often-cited data series on worker pay that include only wages and salaries, and exclude benefits, are median usual weekly earnings and average hourly earnings.

Median Usual Weekly Earnings. This measure of worker pay is collected as part of the BLS Current Population Survey, a monthly survey of 60,000 U.S. households that is the source of information used to compile the Nation's unemployment rate. One-quarter of the households in the survey are asked each month about the earnings of wage and salary workers (those paid wages, salaries, commissions, tips, payments in kind, or piece rates). Information about self-employed workers is not available from the survey. The term "usual earnings" is as perceived by the survey respondent. The median is the amount that divides the earnings distribution in half, with half having earnings at or above the median and the other half having earnings at or below the median.

Figure 1 shows growth in real median usual weekly earnings beginning in 1980.[1] Since 2001, there have been periods in which there was negative real median usual weekly earnings growth, meaning that there were actually declines in inflation-adjusted median earnings. In those periods, growth in the nominal, or dollar-valued, median earnings of the full-time wage and salary workers in the survey was not fast enough to outstrip growth in general consumer price inflation. As a consequence, during parts of 2004 and 2006, and during all of 2005 – periods with rapid escalation in energy prices – real median usual weekly earnings fell. This means that even though the median earner in the sample received increases in the dollar amounts of wage and salary earnings that they took home, that worker was able to buy fewer goods and services than before because of rising consumer prices.

Real Median Usual Weekly Earnings (Excludes Benefits) Fig. 1
(year-over-year % change, full-time wage and salary workers)



Source: Bureau of Labor Statistics

Figure 1 reveals that it is not unusual to observe declines in real median usual weekly earnings. In fact, there were even declines in those earnings in some periods of the much ballyhooed 1990s. Notice, also, that declines in median usual weekly earnings have occurred around the periods with high escalation in energy prices, such as the period following Iranian revolution of 1979 and the period following the doubling of oil prices between 2003 and 2005. As Figure 1 reveals,

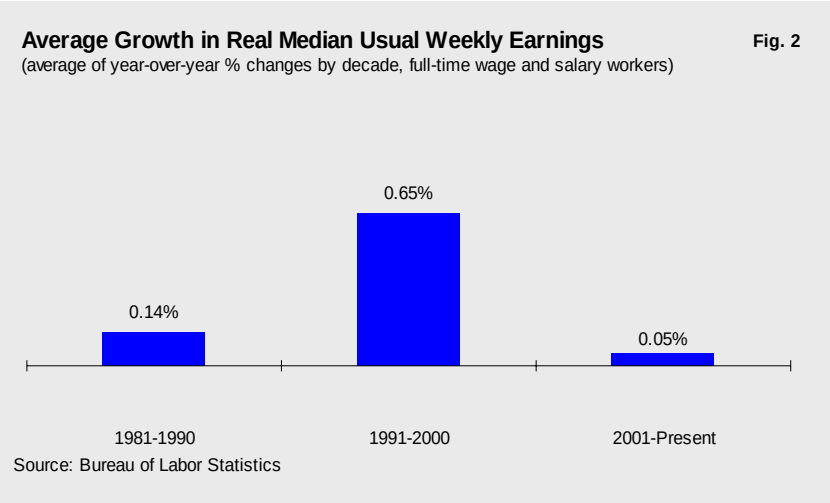
[1] Unless otherwise noted, the consumer price index for urban wage earners and clerical workers (CPI-W) is used when adjusting nominal wage or benefit values for inflation to generate real values.

however, the recent response of real earnings to escalating energy prices thus far has been much more muted than the response following the energy price shock in 1979.

On average, growth in real median usual weekly earnings has been modest since the beginning of 2001, as Figure 2 shows.

While median usual weekly earnings can be useful to address some questions, there are disadvantages to using the data to assess overall compensation gains for American workers. For example:

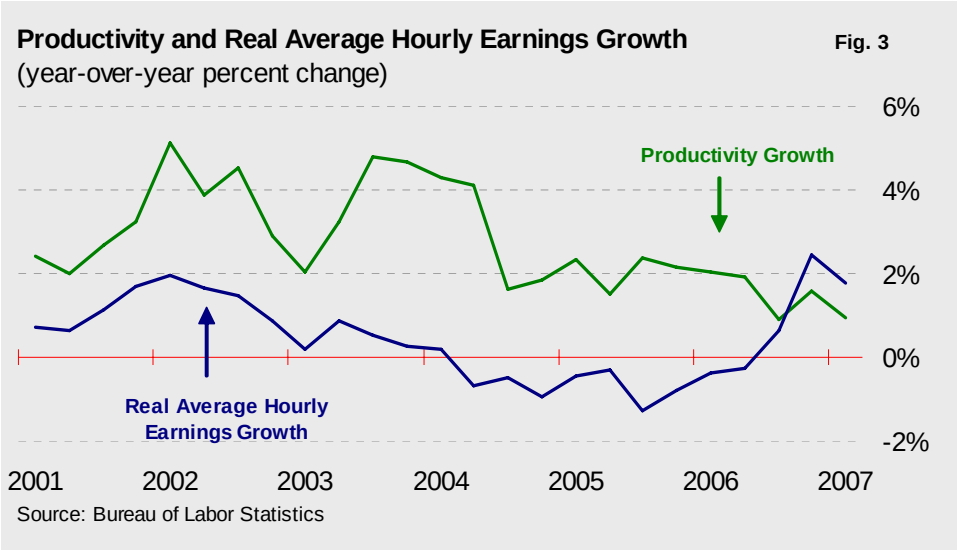
1. The earnings data may include significant **reporting errors** which could be larger than reporting errors in worker-pay measures based on information derived from employers or earnings records. The median usual weekly earnings data come from a household-based survey with self-responses and "proxy" responses (i.e., one person in the household answers questions on behalf of himself or herself and everyone else in the household). While many people can report accurately, they may have difficulty reporting their gross earnings before taxes and other deductions rather than their take home pay. While the survey asks about gross earnings before taxes and other deductions, some respondents may actually be reporting the amount of take-home pay. People may also have difficulty reporting the earnings of other members of their household, even when they are close family members.



2. Median usual weekly earnings measures only wages and salaries and *not* worker benefits, which **ignores 30% of worker pay.**

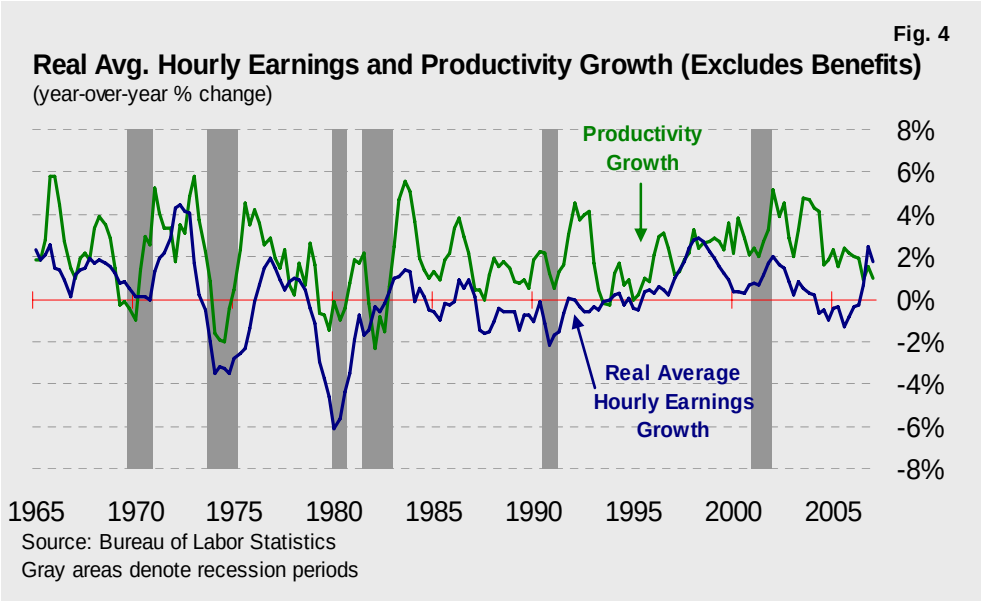
Average Hourly Earnings. This measure of worker pay is collected as part of the BLS Current Employment Statistics survey, a monthly survey of 400,000 non-farm establishments in the private sector and in Federal, State, and local governments. The survey collects information on earnings of a sub-category of workers in the private sector called "production or non-supervisory" workers. The survey does not obtain information about earnings of non-production workers in manufacturing and mining, construction workers in the construction industry, or supervisory workers in service-providing industries. The earnings information from the survey also does not include tips, stock options, the cash value of payments in kind, and many commissions and bonuses.

The worker pay data available from the survey are for average hourly earnings and average weekly earnings. Figure 3 shows recent growth of real average hourly earnings and, for comparison, also shows growth in labor productivity.



There are two noteworthy features of Figure 3. First, there have been periods since 2001 in which there was negative real average hourly wage growth, meaning that there were declines in inflation-adjusted wages in those periods. As with median usual weekly earnings, during parts of 2004 and 2006, and during all of 2005, real average hourly earnings fell as energy prices and general consumer price inflation accelerated. The second noteworthy feature of Figure 3 is that growth in real average hourly earnings throughout most of the period shown has been below growth in labor productivity, leading to the often-heard charge that workers have not been participating in recent productivity gains.

Now consider an extended view, beginning in 1965, of the average hourly earnings and productivity series shown in Figure 4.



The extended view reveals three things. First, it is not unusual to observe declines in real average hourly earnings. In fact, there were even declines in those earnings in some tight labor market periods of the 1990s.

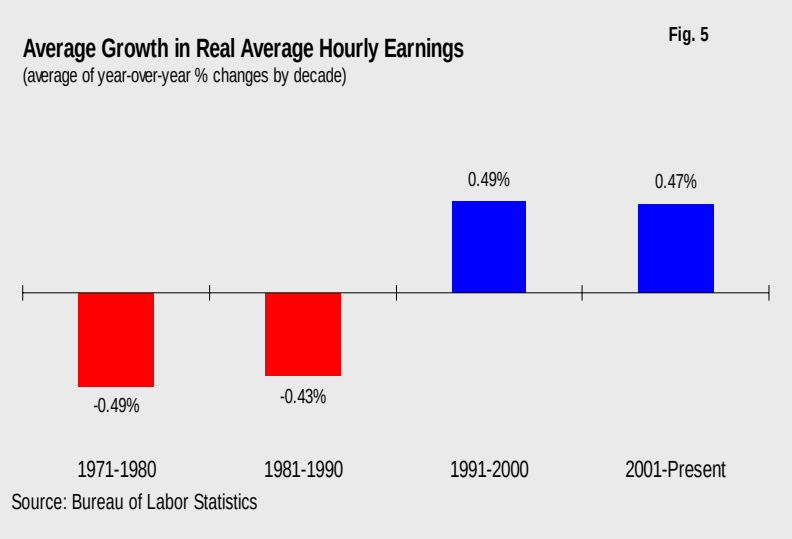
Second, declines in average hourly earnings have roughly coincided with periods of high escalation in energy prices, such as the periods following the OPEC oil embargo of 1973 and the Iranian revolution of 1979. As Figure 4 reveals, however, the recent response of real average

hourly earnings to the recent energy price escalation has been much more muted than the responses following energy price shocks of the past.

The third notable feature of the data displayed in Figure 4 is that it has not been unusual to observe periods with productivity growth outstripping growth in real average hourly earnings. In fact, since the late 1970s, it has been more the norm than the exception, including much of the 1990s.

A glance at Figure 4 indicates that it is not atypical to see workers realize reductions in their average hourly earnings and that they seem to typically *not* participate in productivity gains. However, there are many disadvantages to average hourly earnings to portray compensation gains for American workers. Included among the disadvantages:

1. Average hourly earnings measures only wages and salaries and *not* worker benefits. Consequently, **the average hourly earnings series ignores 30% of worker pay.**
2. Average hourly earnings measures only wages and salaries of production and non-supervisory workers. Consequently, **the average hourly earnings series ignores around 20% of American workers.**
3. The BLS itself acknowledges that the **average hourly earnings data series "…is not accurate or relevant in measuring pay of today's workers."**[2] In fact, the BLS plans to drop the average hourly earnings series in the near future and is working to "…make the survey more accurate and relevant."

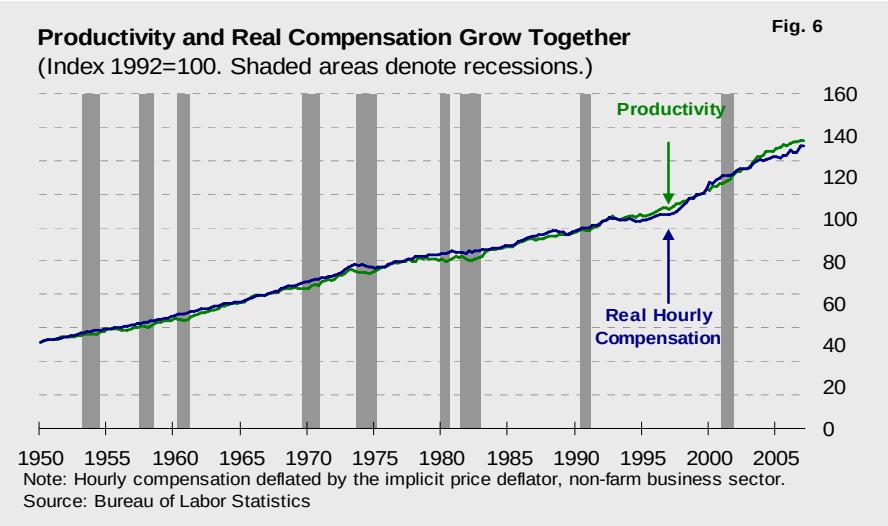


On average, growth in real average hourly earnings has been favorable since the beginning of 2001, as Figure 5 shows. Despite periods between 2004 and 2006 with reductions in real average hourly earnings, on average growth has been positive. And, whenever growth in real wages is positive, it means that workers are making real gains. That is, they are able to buy more goods and services from receipts of each hour of work than before.

PRODUCTIVITY AND WORKER PAY ARE TIGHTLY LINKED.

Figure 4, above, suggests that wage and salary growth, measured using average hourly earnings data, often falls below growth in labor productivity. However, growth in labor productivity and growth in real worker pay, including benefits, are tightly linked over time, as Figure 6 shows.

[2] For information on planned changes for the BLS Current Employment Statistics survey, including measurement of worker pay, see "CES program: changes planned for hours and earnings series," by Patricia M. Getz, *Monthly Labor Review*, October 2003, Bureau of Labor Statistics (at http://www.bls.gov/opub/mlr/2003/10/ressum1.pdf).



The measure of worker pay shown in Figure 6 is hourly compensation – wages, salaries, *and* benefits per hour – in the non-farm business sector deflated, for inflation adjustment, by prices received by businesses in that sector. As the figure reveals, sometimes productivity growth outpaces growth in worker pay, and sometimes the opposite holds true. But, in the long run, productivity and real worker pay are closely connected.

BENEFITS ARE IMPORTANT.

The median usual weekly earnings and average hourly earnings data shown above do not include workers' benefits. To gauge the importance of wages and salaries *and* of benefits in the total pay package of American workers, consider the anatomy of the Nation's paycheck in the table below, compiled from data for the fourth quarter of 2006 from the BLS Employer Costs for Employee Compensation survey.

ANATOMY OF THE NATION'S PAYCHECK

	Per Hour	% of Total Compensation
Total Compensation	**$27.54**	**100%**
Wages and Salaries	$19.24	70%
Total Benefits	$8.30	30%

Benefits Summary			
	Per Hour	**% of Total Benefits**	
Total Benefits	**$8.30**	**100%**	
Paid Leave	$1.94	23.4%	
Supplemental Pay*	$0.69	8.3%	**Per Hour**
Insurance	$2.26	27.2%	Life $0.05 Health $2.13 Disability $0.09
Retirement and Savings	$1.21	14.6%	Defined Benefits $0.76 Defined Contribution $0.44
Legally Required Benefits	$2.20	26.5%	Social Security $1.23 Medicare $0.31 Unempl. Insurance $0.18 Workers Comp. $0.48

*Overtime, premium pay for weekends and holidays, shift differentials, non-production bonuses.
Source: Based on data for the 4th quarter of 2006 from the BLS Employer Costs for Employee Compensation.

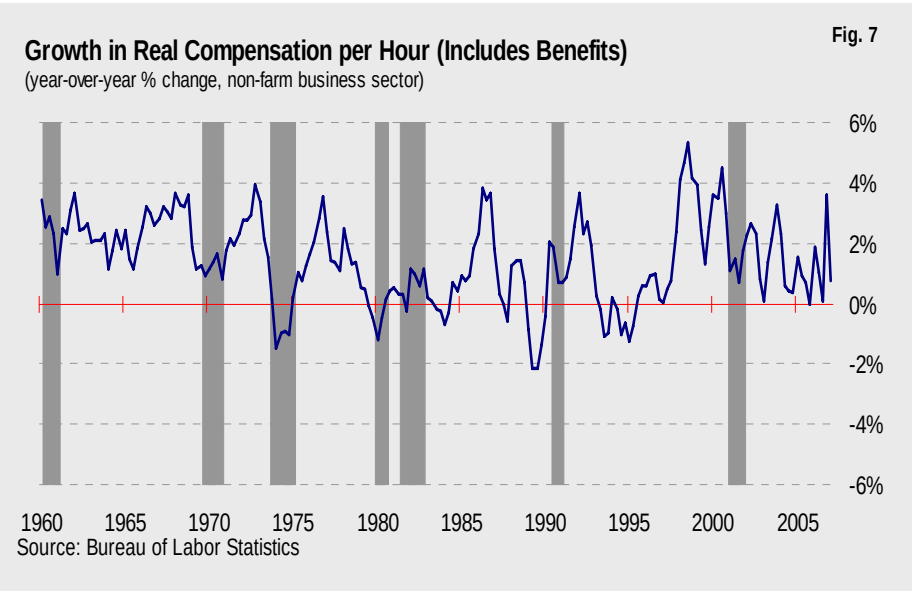
As the paycheck anatomy shows, benefits are indeed important components of overall worker pay, accounting for around 30 percent of overall pay. This suggests that benefits are no longer the "fringe" that they have traditionally been called. There are many reasons, including the tax code and legal mandates, why workers and employers choose labor compensation partly in the form of benefits rather than wages and salaries. But it is clear that ignoring benefits in attempting to assess how worker pay has been evolving takes a lot of compensation out of the picture.

COMPREHENSIVE MEASURES OF PAY – WAGES, SALARIES, *AND* BENEFITS

Given that benefits account for around 30 percent of overall worker compensation, it is useful to consider measures of worker pay that include benefits when trying to analyze how worker pay has fared over time. Two such measures are compensation per hour, from the BLS productivity statistics Program, and the employment cost index, from the BLS National Compensation Survey.

Compensation per Hour. The real hourly compensation data from the BLS productivity statistics program are derived partly from national income measures produced by the Bureau of Economic Analysis. BEA estimates of employee compensation are divided into two categories – wages and salaries, and supplements to wages and salaries – and cover virtually all workers and all sources of compensation. In contrast to the usual weekly earnings data discussed earlier, which are derived from self-reports by households who respond to the BLS Current Population Survey, the primary source that BEA uses to estimate wages and salaries for workers in the private sector is the BLS Quarterly Census of Employment and Wages, which includes workers covered by State unemployment insurance programs. Unemployment insurance records are used to verify data accuracy, rather than relying on self reports by households.

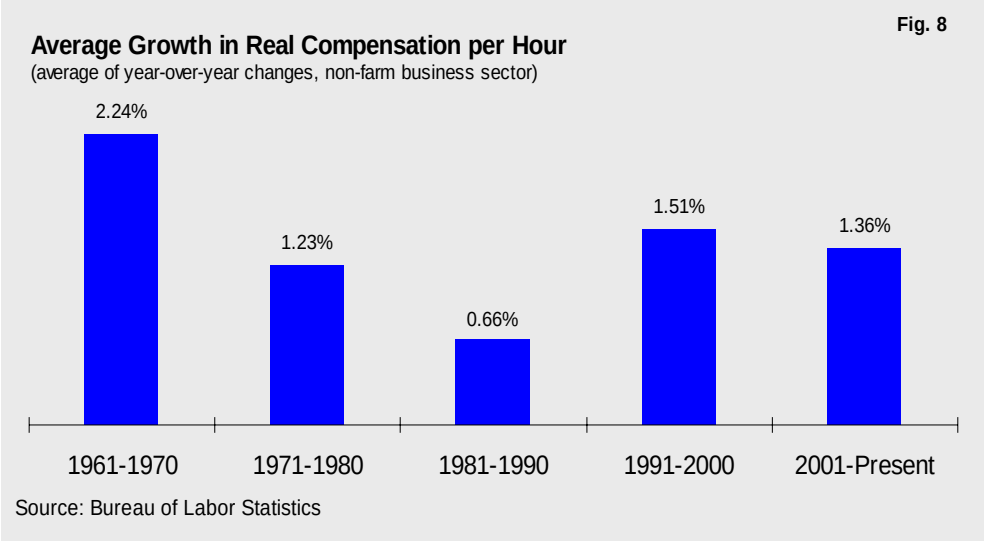
Figure 7 shows growth in real compensation per hour. Since 2001, there has been only one quarter – the 4th quarter of 2005 – in which there was a decline (negative growth) in real compensation per hour. Consequently, in all but one period since the beginning of 2001, there have been *real* gains in worker pay as measured by the comprehensive real compensation per hour data, which covers virtually all workers and all sources of compensation – wages, salaries, and a variety of benefits that are paid to workers in return for their labor services.



On average, growth in real compensation per hour has been favorable since the beginning of 2001 compared to previous decades, as Figure 8 shows. And the recent growth in real compensation per hour compares very favorably to recent

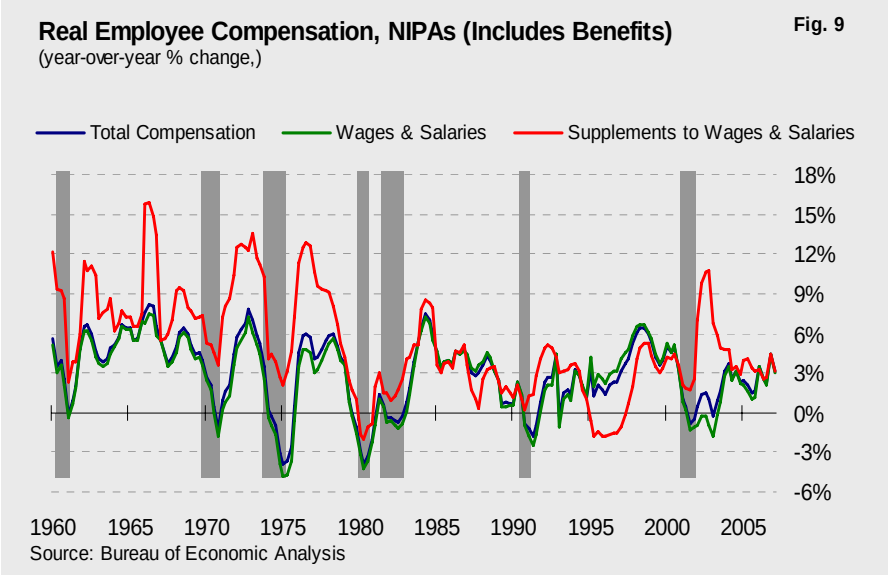
growth in wages and salaries alone (for contrast, see Figure 2 for average growth in real median usual weekly earnings and Figure 5 for average growth in real average hourly earnings for the period since the beginning of 2001).

Relatively modest recent growth in measures that look only at wages and salaries compared to the much more robust recent growth in overall compensation, which includes benefits along with wages and salaries, suggests that much of the recent gains in real worker pay have come in the form of growth in benefits.



To see whether this is true, Figure 9 shows real employee compensation data from the BEA National Income and Product Accounts (NIPAs). The figure shows growth in total real compensation (in blue) along with growth in each component of total compensation – wages and salaries (in green) and supplements to wages and salaries (in red).

The data confirm that much of the recent gains in real worker pay since the beginning of 2001 has come in the form of real gains in supplements to wages and salaries (i.e., growth in the real value of "benefits"), while growth in the real value of wages and salaries has been more modest relative to some past periods.



Employment Cost Index. The Employment Cost Index (ECI) provides measures of employers' costs for wages and salaries and benefits. The data, released each quarter, come from a very comprehensive source of information on compensation, the BLS National Compensation Survey. The survey includes workers in non-farm businesses and State and local governments. It

excludes workers in the Federal government, agriculture, private households (such as nannies), and those who are able to set their own compensation, such as self-employed business owners. The survey provides detailed information on pay and benefits. Benefits include paid leave, supplemental pay, insurance benefits, retirement and savings benefits, legally required benefits, and "other" benefits such as severance pay and supplemental unemployment plans.[3] In addition to a measure of total compensation, the ECI data offer measures of wages and salaries and of benefit costs.

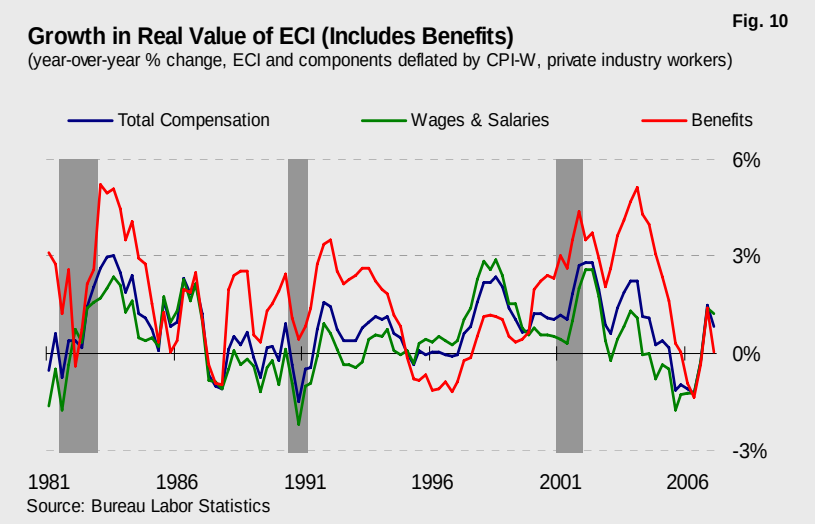


Figure 10 shows growth in real values of the ECI's total compensation measure (in blue) and in real values of wages and salaries (in green) and in real values of benefits (in red). The data tell a story consistent with what the NIPA data above told – that much of the recent growth in worker pay has been accounted for by relatively rapid growth in benefits since the beginning of 2001.

Figure 10 also reveals that throughout most of the period since the beginning of 2001, workers have been realizing real gains in total compensation – that is, they have been able to acquire more goods and services than before given that growth in the dollar values of their compensation has generally outstripped growth in consumer prices.

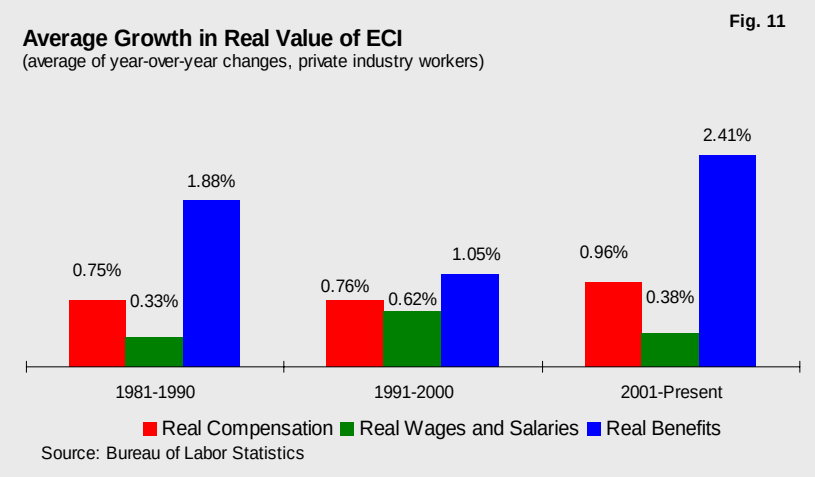


Figure 11 shows the relatively rapid growth in real benefits since the beginning of 2001 viewed in comparison to the past two decades. While growth in real wages and salaries has been somewhat

[3] One difference between the ECI and other measures of worker pay discussed in this paper is that the ECI measures changes in employment costs that are not influenced by employment shifts across occupations and industries. When shares of employment in occupations and industries shift over time, overall average compensation can change even if average pay within the occupations and industries did not change. Since March 2006, the ECI has held the occupation and industry employment shares constant at 2002 levels. Consequently, the ECI data examined here can be though of as reflecting the cost of obtaining a basket of workers represented by the 2002 industry and occupation mix. In contrast, the other worker pay measures examined in this article are affected not only by changes in pay levels within occupations and industries, but also by employment shifts across occupations and industries.

modest since the beginning of 2001, growth in the real value of benefits has been relatively strong.

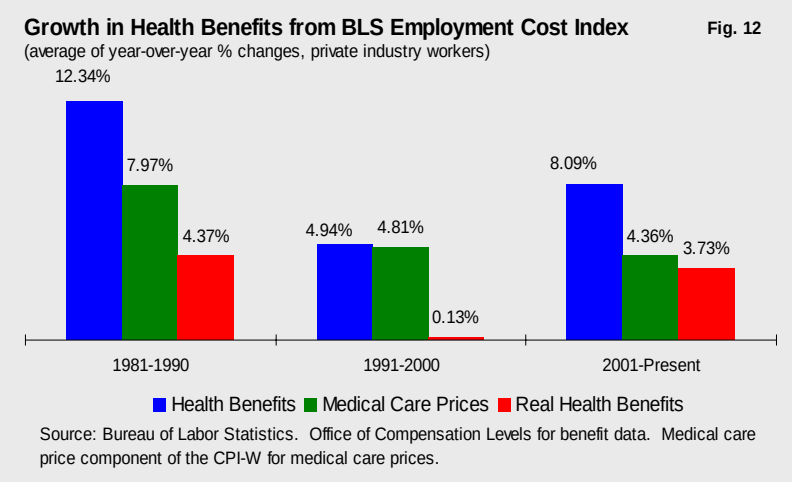
HAVE INCREASED BENEFITS ALLOWED WORKERS TO BUY MORE?

A pessimistic view of recent developments in worker pay would say that the recent relatively robust growth in benefits largely reflects higher insurance payments that workers are forced to make because of rapidly escalating health care costs. There are two things to note about such a view.

First, the fact that workers and employers choose, freely or by coercion of the tax code, to pay for labor effort in the form of benefits rather than wages and salaries is the result of bargaining in the free market, fettered by government regulations and tax preferences for certain forms of pay, between private citizens and their employers.

Second, there are data that strongly suggest that workers *are* making real gains in the form of benefits – they are able to acquire more goods or services through benefit increases than they have been in the past. Examples of real benefit increases include access to new and improved medical tests and treatments, enhanced insurance coverage for previously excluded benefits, and more generous vacation and leave allowances.

One piece of evidence is in Figure 11 above, which shows that after adjusting for consumer prices, the real value of benefits has increased at an average robust rate of 2.41 percent since the beginning of 2001. A second piece of evidence comes from looking at *health* benefits in particular and what has happened to the real value of those benefits. Have workers been receiving increases in the dollar value of their health benefits to simply keep up with higher health care costs, with no real gain in the form of more and better health care through time? Or, have workers in fact made real gain in that they have received enough increases in the dollar value of their health care benefits to be able to afford even more health care than before?



To address that question, ECI data on the cost of health benefits can be used.[4] Figure 12 shows averages of year-over-year growth rates of nominal, or the current-dollar-value, of health benefits (in blue), of the medical care price component of the consumer price index – CPI-W (in green), and of the medical-care-inflation adjusted value of

[4] The ECI health benefits data are taken to be suggestive, yet not definitive. The BLS estimates, but does not publish, the 12-month percent change in the cost of health benefits. The data are taken from the Haver Analytics database. Data are not yet published for a variety of reasons, including: lack of calculated variances; fewer observations compared with total benefits; non-responses which may affect the quality of the estimates; and survey respondents who may be able to report only a single cost for a combination of benefits with the BLS then allocating the cost.

health benefits (in red). As the red bars show, there *have* been real gains in health benefits since the beginning of 2001, and those gains have been very robust compared with past decades. Since 2001, workers have realized gains, on average, of 3.73 percent from year to year in the amount of health care they can purchase with the dollar value of the increases in health benefits they have received. Those gains have been especially robust compared with the much more modest gains that averaged 0.13 percent from the beginning of 1991 through 2000.

SUMMING UP

There are many sources of information available when considering what happens to worker pay over time. Relatively narrow measures, such as median usual weekly earnings and average hourly earnings, show movements in wages and salaries alone, without accounting for benefits, and include only subsets of American workers. Those measures suggest that, since the beginning of 2001, wages and salary growth has been relatively modest in inflation-adjusted, or real, terms. Real wages and salaries have, in fact, sometimes fallen recently, though that is not unusual historically. It is especially not unusual following major run-ups in energy costs as experienced since 2003. It is also not unusual, as has been observed in some recent periods, to see some measures of real wage and salary growth run below growth in labor productivity.

Comprehensive measures of worker pay, such as employee compensation and the employment cost index, which include the important benefits components of overall worker compensation, indicate that overall real worker pay has grown, on average, at healthy rates since the beginning of 2001. That is, workers have been making real gains through an ability to purchase more goods and services over time with the increases in nominal wages and benefits that they receive, even in the face of rapid escalations in energy and health care prices.