



Behind the Gap between Productivity and Wage Growth

BY DEAN BAKER

Introduction

The basic numbers on wage and productivity growth in the current business cycle tell a striking story. In the five and one quarter years from the peak of the last cycle in the first quarter of 2001 to the second quarter of 2006, productivity increased by an impressive 17.9 percent, an average growth rate of 3.2 percent per year.¹ By contrast, real wages have barely moved over this period, with the average hourly wage for production and nonsupervisory workers increasing by just 1.2 percent, an average annual growth rate of just over 0.2 percent.

This extraordinary gap between wage and productivity growth demands an explanation. The simplest and most obvious explanation is that there has been redistribution from wages to capital income (primarily profits plus interest). While this is in part true, the story is a bit more complicated. To date, it appears that the redistribution from wages to capital income is typical for the early stages of a business cycle and does not suggest a structural break with the patterns from past cycles. The current cycle may not have yet reached its profit peak, but unless the capital income share continues to grow, the peak share of capital income in the current cycle will be no larger than the peak share in the nineties cycle.

A second major cause of the gap between wage growth and productivity growth is the fact that productivity is measured against gross output, while income must come from net output — no one can eat depreciation. There has been a substantial increase in the gap between gross and net output in recent years, as the share of GDP going to replace worn out and obsolete equipment has increased. As a result, the rate of growth of “usable productivity” is considerably slower than the productivity growth numbers reported by the Labor Department. When these factors are taken into account, the missing wage growth is considerably less of a mystery.

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¹ This refers to growth in the non-farm business sector.

Capital Shares Over the Business Cycle

It has been widely reported that profits have increased at the expense of wages over the course of this business cycle. Data from the Commerce Department show that the capital share of income in the corporate sector rose by 2.8 percentage points between 2000 and 2005, from 19.0 percent to 21.8 percent. This reduced the labor share from 81.0 percent to 78.2 percent.² This would appear to be a substantial shift from labor to capital income. In fact the most recent data shows a shift of an additional percentage point with the capital share rising to 22.8 percent in the second quarter of 2006. As Table 1A shows, the capital income share was higher in 2005 than at any business cycle peak since 1969. In fact, the capital income share for the second quarter actually matched the 1969 share.

TABLE 1A
Capital Income Shares at Business Cycle Peaks

| | 1959 | 1969 | 1979 | 1989 | 2000 | 2005 | 2006:2 |
|--------------------|-------|-------|-------|-------|-------|-------|--------|
| Labor Compensation | 76.9% | 77.2% | 81.3% | 80.0% | 81.0% | 78.2% | 77.2% |
| Capital Income | 23.1% | 22.8% | 18.7% | 20.0% | 19.0% | 21.8% | 22.8% |

Source: Bureau of Economic Analysis, National Income and Product Accounts, Table 1.14.

However, this picture is somewhat misleading. The capital income share in national income typically reaches its peak before the business cycle peak.³ Therefore, it is misleading to compare capital income shares in 2005 or 2006 to shares at the business cycle peaks in prior decades. It would be more appropriate to use the peak shares for capital income from prior cycles as the basis of comparison. This is shown in Table 1B.

TABLE 1B
Capital Income Shares at Profit Peaks

| | 1966 | 1977 | 1984 | 1997 | 2005 | 2006:2 |
|--------------------|-------|-------|-------|-------|-------|--------|
| Labor Compensation | 75.4% | 81.6% | 78.8% | 77.8% | 78.2% | 77.2% |
| Capital Income | 24.6% | 20.6% | 21.2% | 22.2% | 21.8% | 22.8% |

Source: Bureau of Economic Analysis, National Income and Product Accounts, Table 1.14.

When compared to the profit peaks of prior cycles, it is not clear that there has been any redistribution from wages to capital income in the current decade. The capital income share for 2005 was still slightly lower than the year-round average for 1997. While the capital income share for the most recent quarter is somewhat higher than for the full year, the capital income share peaked at 22.6 percent in the 3rd quarter of 1997, almost the same as the second quarter of 2006.

² These calculations exclude the share of corporate income that goes to indirect taxes; the numbers are taken from NIPA table 1.14, lines 4 and 8.

³ The capital income share generally peaks at the same time as the profit share since profits are by far the largest and most volatile component of capital income.

Furthermore, profit data is typically revised downward in the Commerce Department's comprehensive revisions, largely due to the accounting of stock options.⁴

Of course, it is possible that we have not yet reached the profit peak of the current cycle and that the capital income share will grow further in future quarters, but with the economy weakening, this seems unlikely. In any case, with the data we have on income shares to date, it does not appear that there has been any shift from wages to capital income in this cycle relative to the 1990s cycle. Over the longer period from the 1970s to the present there has been a shift from wages to capital income, but this change took place between the 1970s and the 1990s, not in the current decade.

Thus far in this cycle, the shift from labor income to capital income has been cyclical, not structural. If the cycle follows the same pattern as previous post-war cycles, there should be a shift back towards labor income, which should allow wage growth to exceed the rate of productivity growth for a period of time.

The Gap Between Productivity and “Usable Productivity”

Typically, we expect wage growth to track productivity growth, assuming that the wage and capital shares of national income stay constant. However, this is not possible if an increasing share of national income is devoted to depreciation. No one can eat depreciation; this is output that must be set aside to replace worn out or obsolete capital. In the fifties and sixties, there was little change in the depreciation share of output, so that the rate of growth of gross output and net output was almost the same.

This has changed in the last quarter century as a larger share of investment has been in short-lived capital goods like computers and software that wear out or become obsolete quickly. Figure 1 shows the growth path of real gross and net output since 1959. As can be seen, the growth paths have begun to diverge noticeably in recent years. Over the course of the current business cycle, the gap between the growth rate of gross and net output has averaged 0.4 percentage points. Even if there were no changes in distribution, there would be a gap of this size between the growth rate of productivity and the growth of wages.

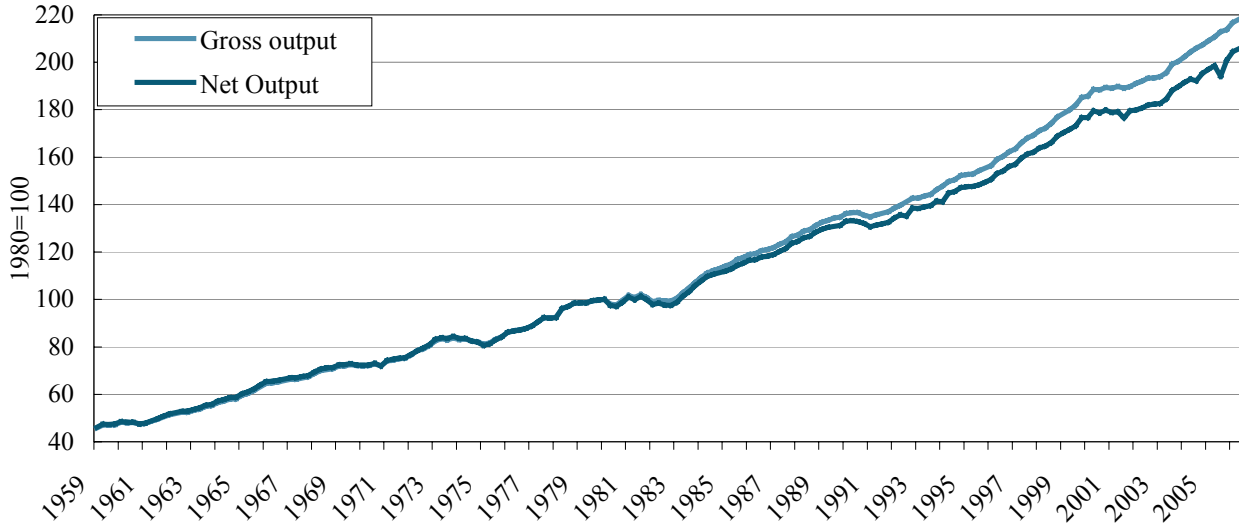
Another important factor leading to a substantial gap between productivity growth and wage growth in the current business cycle is simply the difference between the deflators used for productivity and wages. The relevant deflator for productivity is the Implicit Price Deflator (IPD) for the output of the non-farm business sector. The deflator conventionally used to measure wage growth is the Consumer Price Index. These deflators differ both in the items they cover and in their methodology.

The main difference in coverage stems from the fact that investment goods are an important component of the output of the non-farm business sector. Since the price of investment goods (e.g. computers) has been falling rapidly relative to the price of other goods, the IPD for the non-farm business sector has risen less rapidly than the consumer price index. The other reason for the gap between the rate of inflation shown by the two indices is that the Consumer Price Index is a fixed weight index and the IPD is chain-weighted – the weights of the items in the IPD change as the

⁴ The Commerce Department typically gets reported profits from corporations in which stock options are not treated as an expense. When it has fuller data the Commerce Department will deduct from reported profits the value of the options at the time they were issued.

composition of output changes. Typically a chain-weighted index will show a lower rate of inflation than a fixed weight index.⁵

FIGURE 1
The Growth of Gross and Net Output



Source: Bureau of Economic Analysis, National Income and Product Accounts, Table 1.14.

Table 2 shows the extent to which the gaps between the growth of gross output and net output and the differences in deflators created gaps between the rate of productivity growth and the extent to which wages could have been expected to rise if distribution had remained constant. As can be seen, both causes of this gap have grown substantially over the last half century. In the current business cycle, their combined impact led to a difference of almost 0.9 percentage points between productivity growth and the rate at which real wages would have grown had distribution remained unchanged.

TABLE 2
Wage-Productivity Gap (Differences in Annual Growth Rates)

| | 1959-69 | 1969-79 | 1979-89 | 1989-95 | 1995-2001:1 | 2001:1-06:2 |
|---------------------------|---------|---------|---------|---------|-------------|-------------|
| GDP-NDP | 0.01 | 0.13 | 0.16 | 0.21 | 0.24 | 0.55 |
| CPI-RS minus adjusted IPD | 0.13 | 0.24 | 0.46 | 0.38 | 0.78 | 0.33 |
| <i>Total</i> | 0.14 | 0.37 | 0.62 | 0.59 | 1.03 | 0.88 |
| Productivity | 2.71 | 1.88 | 1.40 | 1.59 | 2.36 | 3.19 |
| Usable Productivity | 2.58 | 1.51 | 0.78 | 1.00 | 1.34 | 2.31 |

Source: Bureau of Economic Analysis, Bureau of Labor Statistics and author's calculations.⁶

⁵ It is arguable that we should be using a chain-weighted index for consumption as well, but this discussion is simply attempting to identify the sources of the differences between the rate of productivity growth and real wage growth as conventionally measured.

⁶ The gap between real GDP growth and the growth in real net national product is calculated based on the data in NIPA Table 1.7.6, lines 1 and 10. The CPI-RS is constructed from CPI-U-X-1 for years prior to 1978 and the CPI-U-RS for subsequent years, found in *The Economic Report of the President*, 2006, Table b-62. The implicit price deflator (IPD) for

There are two important points worth noting about Table 2. The first is that the missing wage growth in the current cycle is far less than would be suggested by simply looking at productivity growth. The “usable productivity” figure is the distribution-neutral number that we should focus on, not the straight productivity growth figure.

The other point is that the history of the productivity downturn in the seventies and subsequent upturn in the nineties looks considerably different if we focus on “usable productivity.” The falloff from the early post-war “golden age” productivity growth rates is considerably larger with the usable productivity measure, reaching 1.8 percentage points when the 1960s rate of productivity growth is compared with the 1980s rate. The upturn in mid-nineties, while impressive, has still left the growth rate of usable productivity far below the growth rate of the golden age. Since the mid nineties upturn, the growth rate in usable productivity is still almost a full percentage point slower than the growth rate in the sixties. While the growth rate for usable productivity in the current cycle appears higher than in the late nineties, the business cycle is not yet complete and there are likely to be revisions that will push the growth rate downward.⁷

This means that even with the IT revolution, the economy still does not possess the capacity to raise living standards at the same rate as it did in the early post-war period. While there are some important measurement issues involved in this debate, the basic points are straightforward. Insofar as a growing portion of output must be used to replace depreciated capital, a smaller share of output growth can go to raising living standards. And the declining price or improving quality of capital goods only benefits consumers insofar as it eventually leads to more output of consumption goods and services.

Will Workers Ever Benefit from Higher Productivity?

This brief discussion addresses two points concerning the gap between productivity growth and wage growth in this business cycle. First, it shows that the redistribution from labor to capital that has taken place thus far in this business cycle is in fact typical for the early part of a business cycle. If past patterns hold, then there should be redistribution in the opposite direction in coming quarters. This redistribution has been an important factor holding down wage growth, but so far it appears to be cyclical in nature, not to represent a structural break with the pattern of distribution in the last cycle. The second point is that there is actually less productivity growth to be distributed than is generally recognized. When assessing real wage growth, the appropriate base of comparison should be the rate of growth of “usable productivity,” not the reported rate of productivity growth.

Of course, this is not the whole story. There has been a shift from wage to non-wage compensation over the course of the current cycle, primarily due to the rapid rate of increase in the cost of employer-provided health insurance. The non-wage share of compensation has risen by 2.4 percentage points from 16.9 percent in the 3rd quarter of 2001 to 19.3 percent in the 3rd quarter of 2006. If the non-wage share had stayed constant, this would have allowed for 2.9 percent growth in the average wage over this period.

the non-farm business sector was taken from the “Get Detailed Statistics” section of the Bureau of Labor Statistics website. The gap between the NDP deflator and the GDP deflator (NIPA Table 1.7.4, lines 10 and 1) was added to the IPD in order to avoid counting the price movements of depreciated investment goods.

⁷ The Bureau of Labor Statistics has reported a preliminary estimate of its 2006 benchmark revision that would add 810,000 jobs to the establishment survey. This revision will increase reported hours growth and lower productivity growth over the last year by approximately 0.6 percentage points.

Finally, there has been redistribution among wage earners, from those at the middle and the bottom to those at the top. Wages for workers at the 90th and 95th percentile have risen at a healthy pace throughout this cycle and it is likely that wage growth has been even more rapid for workers higher in the wage distribution.⁸ The evidence suggests that it is not so much the owners of capital who are profiting at workers' expense in this cycle (at least compared to the last one), but rather the workers at the top end of the wage distribution. Through luck or favorable policy, they have managed to be the big gainers in the current business cycle.

⁸ See Mishel, L., J. Bernstein, and S. Allegretto, 2006. *The State of Working America, 2006-2007*, Table 3.4. Ithaca, NY: Cornell University Press.