A Note on Distribution and Growth

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Introduction

Several recent reports have shown that most families have seen little gain from the economy's growth in the current business cycle. For example, in August the Census Department released data showing that median household income in 2005 was still 2.7 percent below the level it had reached before the recession in 2000[1]. Similarly, the real average hourly wage for production and non-supervisory workers is virtually the same as its level of five years ago. This pattern is striking given the seemingly healthy productivity growth of the last six years.

This paper briefly examines some simple evidence on distribution and productivity growth. Specifically, it looks at trends in the distribution between wages and profits over the post-war era. It also examines productivity, adjusting for the growing gap between net and gross output and differences in price deflators. This quick examination shows that there has been little change in the distribution between labor and capital between the current business cycle and the 90s cycle. It also shows that productivity growth has been considerably less impressive than is generally recognized, when a consumption-based measure is used.

The Distribution Between Capital and Labor

The most basic measure of distribution in the economy is the division of net output between capital income (profits and interest) and labor income (wages and benefits). This division should be examined in the corporate sector, since this is the only place in the economy in which profits are earned.

Table 1 shows the division of income in the corporate sector (excluding direct taxes) between labor compensation and capital income at the peaks of the cycles in the 50s, 60s, 70s, 80s, 90s, and for the most recent year and quarter. The table

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[1] These numbers are taken from Census Department, 2006. *Income, Poverty and Health Insurance Coverage in the United States, 2005*, Table A-3 [http://www.census.gov/prod/2006pubs/p60-231.pdf].

would seem to provide evidence that there has been a substantial redistribution from labor to capital in the current business cycle, as the capital share has risen from 19.0 percent in 2000 to 22.8 percent in the most recent quarter. However, this redistribution is largely driven by cyclical factors.

TABLE 1
Profits at Business Cycle Peaks (percent)

	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.[2]

Table 2 shows the division of income at the profit peaks in the 60s, 70s, 80s, 90s, and for the most recent year and quarter. The profit share generally peaks a year or two before the peak of a business cycle. While we cannot know yet whether this cycle has yet hits its profit peak, the capital share in 2005 was actually slightly lower than the capital share at the peak of the 90s cycle. While the capital share in the second quarter of 2006 is higher than the share in 1997, it is virtually identical to the 22.6 percent share hit in the third quarter of 1997. Furthermore, since profits are generally revised downward in comprehensive revisions based on more complete data, it is likely that the profit shares reached in the second quarter will be revised down below the peak hit in the 90s[3]. In other words, there is little evidence to date that there has been redistribution from labor to capital in the current business cycle. If it turns out that capital shares continue to rise, so that we have not yet reached the profit peak of the current cycle, then it is likely that the capital share will surpass the 90s peak.

TABLE 2
Profits at Cyclical Profit Peaks (percent)

	Profit Peaks					
	1966	1977	1988	1997	2005	2006:2
Labor Compensation	75.4	81.6	79.5	77.8	78.2	77.2
Capital Income	24.6	18.4	20.5	22.2	21.8	22.8

Source: Bureau of Economic Analysis, see note to Table 1.

[2] These data are taken from the National Income and Products Accounts (NIPA) Table 1.14, lines 4 and 8.

[3] In the most recent comprehensive revision, profits for 2003 were revised down by 3.8 percent (Table 12C). They had been revised down by 4.6 percent in the 2004 revisions and revised up by 1.0 percent in the 2005 revision (see Table 12C of the advance release for second quarter GDP).

"Usable" Productivity Growth

If the distribution between labor and capital stays constant, then labor compensation should increase at roughly the same rate as productivity growth[4]. However, there are some measurement issues that create a gap between productivity growth and real compensation or wage growth.

The first measurement issue is the difference between gross output and net output. Productivity measures the rate of growth of gross output; however consumption must come out of net output. Insofar as there is an increase in the gap between the two (a rise in depreciation) we should expect to see a gap between the productivity growth and the growth rate of labor compensation. This would be comparable to a situation in which a new type of corn increased our yield by 10 percent, but we had to use an additional 5 percent of output as seed for next year's crop. We would have increased our gross output by 10 percent, but we would have increased the amount that we had available to eat by only 5 percent.

In the 50s and 60s, there was little difference between the rate of growth of gross output and net output, so the increase in output could be translated directly into increased consumption. However, this began to change in the 70s, as computers and software became an increasingly important share of investment and output. In the most recent business cycle, the depreciation share of GDP has risen by 0.45 percentage points annually, as shown in the first row of Table 3.

TABLE 3
The Gap Between Productivity and "Usable" Productivity

	Differences in Annual Growth Rates					
	1959-69	1969-79	1979-89	1989-95	1995-2000	2000-06:2
GDP-NDP	0.01	0.13	0.16	0.21	0.27	0.45
CPI-RS minus adjusted IPD	0.13	0.24	0.46	0.38	0.74	0.42
Total	0.14	0.37	0.62	0.59	1.01	0.87
Productivity	2.71	1.88	1.40	1.59	2.55	2.72
Adjusted Productivity	2.58	1.51	0.78	1.00	1.54	1.85

Source: Bureau of Economic Analysis, Bureau of Labor Statistics and author's calculations.[5]

The second row of Table 3 shows the gap between the CPI-RS, the standard deflator used to measure the growth in real wages and the adjusted IPD deflator, which is used to deflate the output of the items produced in the non-farm business sector. (The IPD is adjusted to take out investment

[4] It is important to remember that labor compensation includes non-wage compensation such as pension benefits, payroll taxes, and health care benefits. Insofar as the latter increase as a share of compensation, it will lead to gap between wage growth and compensation growth.

[5] The gap between real GDP growth and the growth in real net domestic 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 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.

goods that have been depreciated, as explained in note 5.) This gap was just over 0.1 percentage point annually in the 60s. It has grown to more than 0.4 percentage points in the most recent cycle. This gap reflects the fact that the price indices for investment goods (e.g. computers) have been falling, while the price indices for some consumption items (e.g. health care) have been rising rapidly.

If our data show the economy as producing much more and/or better investment goods, but this is never reflected in an increase in consumption, then we have not really produced anything of economic benefit. In other words, if our data show a rise in productivity growth because investment goods are falling in price, but this does not lead to increased consumption, then this gain is an oddity of measurement, not a real economic benefit to society.

The total of the two adjustments to productivity growth rise from just 0.14 percentage points in the 60s to 1.01 percentage points in the late 90s, before falling back slightly to 0.87 percentage points in the current business cycle, as shown in row 3. To get a measure of usable productivity growth, these adjustments must be subtracted from reported productivity growth.

Reported productivity growth for each period is shown in row 4. The data from the Bureau of Labor Statistics show the annual rate of productivity growth falling by more than a full percentage point, from 2.71 percent in the 60s to just 1.4 percent in the 80s. There was a sharp uptick in productivity growth to 2.55 percent in the second half of the 90s, with a further increase to 2.72 percent in the current business cycle.[6] The rate of productivity growth reported for the current cycle is actually slightly higher than the rate reported for the 60s.

However, the pattern in the growth rate of usable productivity shows a somewhat different picture. As a result of the growing gap between gross and net output and the rate of inflation shown in the CPI and IPD, usable productivity growth fell off even more sharply than measured productivity growth. The rate of usable productivity growth was 1.8 percentage points lower in the 80s than in the 60s. The 90s uptick in productivity growth offsets some of this loss, but even in the most recent business cycle, the rate of usable productivity growth is still more than 0.7 percentage points less than in the 60s.

To put this slightly differently, if there were no change in distribution through time, and the wage share of labor compensation remained constant, the rate of productivity growth in the 60s would have been fast enough to allow real wages to rise 2.58 percent annually. The rate of productivity growth in the current cycle would have only allowed a rate of real wage growth of 1.85 percent a year.[7]

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[6] The recent release of data on benchmark revisions, showing that 810,000 more jobs were created as of March 2006, than is currently reported in the establishment survey, will lead productivity growth for the current cycle to be revised down by approximately 0.1 percentage point.

[7] This calculation ignores the fact that the non-farm business sector is not the whole economy. If productivity growth in the other sectors (the farm sector, the government sector, and the nonprofit sector) is slower, then economy-wide wages cannot rise as fast as productivity growth in the non-farm business sector.

Conclusion

This paper has briefly examined recent patterns in distribution between capital and labor and productivity growth. Using data from the National Income and Product Accounts, it shows that there is no evidence of redistribution from labor to capital thus far in the current business cycle. The shares are approximately the same as at the profit peak of the 90s cycle.

There is a large and growing gap between productivity growth and usable productivity growth, with the difference attributable to the growing gap between gross and net output, and the gap between the CPI and implicit price deflator used for measuring output. As a result of this growing gap, the rate of usable productivity growth is still more than 0.7 percentage points lower than in the 60s golden age.