

Topical Study #74: Productivity, Profitability, Prosperity

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I. The P3 Economy

During the early 1990s, I predicted that the competitive forces unleashed by the end of the Cold War combined with the High-Tech Revolution would revive the growth in productivity, which would lead to lower inflation and interest rates. In my Topical Study #33, titled “Productivity Must Be Booming,” and dated January 20, 1997, I argued that all the circumstantial evidence suggested that productivity was growing faster than the official measures showed.¹ Subsequently, Fed Chairman Alan Greenspan deduced the same. According to Greg Ip of *The Wall Street Journal*:

In 1999, he tackled a key economic mystery with an analogy to the discovery of the planet Pluto. Scientists inferred Pluto’s existence from the unexplained behavior of Uranus’s and Neptune’s orbits, he told colleagues that year. Similarly, he inferred from the fact that both the inflation rate and unemployment were falling that productivity growth must be much higher than economists had thought.²

In his 2004 book, “A Term At The Fed,” former Fed Governor Laurence H. Meyer observed:

As we continued into the second and third quarter of 1999, the leap in productivity was no longer in dispute. Now in what was essentially a rewriting of economic history, the government agencies responsible for collecting and publishing the economic statistics, revised upward the data for productivity and real GDP—at the end of October 1999 and again at the end of July 2000. With the revised data, we could see that productivity acceleration had actually started at the end of 1995.

The same Plutonic logic suggests that productivity must be growing faster than the latest numbers suggest. This is the best way to explain why inflation remains so low despite soaring energy prices. It is why profitability is so high despite soaring energy prices. It’s the best way to understand why real pay per worker continues to rise rapidly, allowing consumer spending to grow much faster than most economists would have predicted given the surge in the cost of energy goods and services.

In biblical terms: Productivity begets Profitability which begets Prosperity. This is why our “P3” economy has been so resilient and is likely to continue to be so.

¹ “I’m convinced that the official statistics woefully understate productivity growth... I believe that the rise in real wages—with nominal wage gains outpacing price increases—is another important piece of evidence pointing to a rebound in productivity... Another surprising puzzle has been the strength of corporate profits in a very weak pricing environment. Again, the puzzle is easy to solve if productivity gains are much better than officially measured....”

² Greg Ip, “Greenspan’s Legacy Explored,” *The Wall Street Journal*, August 26, 2005.



II. Disputed Data

In my opinion, the productivity data are not the only ones that are understating the remarkable performance of our economy and overstating the inflationary risks. As a result, a few economists erroneously believe that stagflation is underway. Here are the data that I am disputing:

1) **Productivity:** The second quarter's growth in nonfarm business productivity was revised down from 2.2% to 1.8%. On a year-over-year basis it is up only 2.2%. This is below the 10-year trend growth rate of 3%. The data are volatile even on a year-over-year basis. Taking the yearly percent change in the four-quarter average of nonfarm business productivity, we find that it rose 3.8% in 2003 and 3.4% in 2004, but only 2.4% over the past four quarters through the second quarter.

I believe that nonfinancial corporate (NFC) productivity may be a more accurate measure of our economy's productivity recently than the one for nonfarm business (NFB). It was up a whopping 6.8% during the second quarter, and 6.3% from a year ago, the highest since 1959! The 4.1 percentage-points discrepancy in the NFB and NFC measures, on a year-over-year basis, is the largest on record (Figures 1, 2, 3, and 4).

2) **Hourly Compensation:** Another questionable number is NFB hourly compensation, which was up 4.4% during the second quarter and 6.5% from a year ago, the highest since the third quarter of 2000. The data include wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. I do believe that compensation is growing rapidly, boosted earlier this year and at the end of last year by big increases in stock options and bonuses. But these two sources of compensation are not likely to be as inflationary as labor costs attributable to wages and salaries.

An alternative measure of compensation, i.e., the Employment Cost Index, does not include stock options compensation. It was up 3.2% from a year ago during the second quarter, a 5½ year low (Figure 5).

3) **Unit Labor Costs:** So during the second quarter compared to a year ago, unit labor costs were:

- Up 4.2% using the most widely followed NFB data for productivity and hourly compensation.
- Up only 0.4% using NFC data for productivity and hourly compensation (Figure 6).
- Down 3.1% using NFC productivity and the ECI measure for compensation.

So which is it? I think that the second of the three is closest to reality because it best explains why inflation remains so low. The average spread between the year-over-year percent changes in the personal consumption expenditures deflator excluding food and energy and NFC unit labor costs was 124 basis points since 1980. The second-quarter spread was 158 basis points (Figure 7).



Because prices are rising faster than unit labor costs, NFC profits per unit of real output as well as profits per dollar of sales have been increasing since late 2001 (Figure 8). High profit margins combined with solid growth in business sales explain why profits have been growing faster than widely expected for the past 2½ years.

Productivity is the main driver of our standard of living, which is best measured as inflation-adjusted real compensation per worker. To calculate this series I use wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, a.k.a., supplements to wages and salaries. This total accounts for 69% of personal income (Figure 9). The supplements to wages and salaries now account for 19.6% of total compensation (Figure 10).

To derive real compensation per worker, I divide the compensation series by the personal consumption expenditures deflator and by payroll employment. This series is remarkably, though not surprisingly, highly correlated with productivity. Both rose approximately 3% per year on average during the 1960s and until the first energy supply shock of 1973. Then the trend growth rates of both fell to roughly 1% per year through 1995. Since then, both have been back on the 3% track (Figure 11).

Real compensation per worker was at an all-time record high in July (Figure 11). It is up 3.2% from a year ago and well above the 1.7% gain in payroll employment. Rapidly growing productivity is the main reason why real compensation per worker is growing roughly three times faster over the past 10 years than from the early 1970s through the mid-1990s. Over that previous long time span, employment usually rose faster than real pay per worker during economic expansions. That's because the labor market was flooded with relatively young and inexperienced new entrants, including both baby boomers and females of dual-income households. The good news is that they mostly found employment. The bad news is that real pay per worker was depressed along with productivity. Over the past 10 years, real pay per worker has been growing as fast as or faster than employment.

III. Where Does The Fed Stand?

Interestingly, now that he is about to retire, Fed Chairman Alan Greenspan doesn't seem as willing to use Plutonic logic as he did in 1999 to conclude that productivity must be growing faster than we recognize. In his July 20, 2005 testimony to Congress, he said:

The evolution of unit labor costs will also reflect the growth of output per hour. Over the past decade, the US economy has benefited from a remarkable acceleration of productivity: Strong gains in efficiency have buoyed real incomes and restrained inflation. But experience suggests that such rapid advances are unlikely to be maintained in an economy that has reached the cutting edge of technology. Over the past two years, growth in output per hour seems to have moved off the peak that it reached in 2003. However, the cause, extent, and



duration of that slowdown are not yet clear. The traditional measure of the growth in output per hour, which is based on output as measured from the product side of the national accounts, has slowed sharply in recent quarters. But a conceptually equivalent measure that uses output measured from the income side has slowed far less. Given the divergence between these two readings, a reasonably accurate determination of the extent of the recent slowing in productivity growth and its parsing into cyclical and secular influences will require the accumulation of more evidence.³

NFB productivity is measured from the product side. NFC productivity is measured from the income side and it excludes financial corporations and unincorporated business. Nonfinancial corporations accounted for about 54% of the value of GDP in 2000.

In the past, the Fed Chairman often expressed his preference for the latter measure because measuring the output of financial business is a difficult task. The Fed Chairman's recent ambiguity is puzzling since he was such a gung-ho proponent of the productivity story in the past. I guess that leaves me as one of the remaining gung-ho proponents of this story.

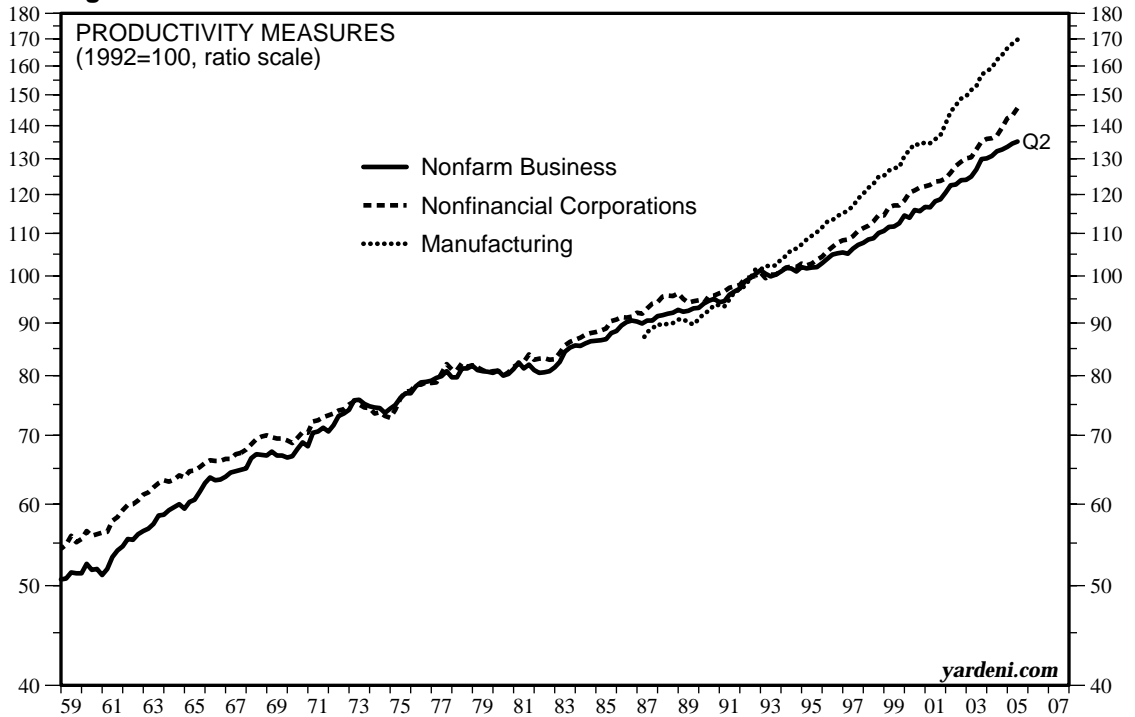
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³ <http://www.federalreserve.gov/boarddocs/hh/2005/july/testimony.htm>.



- Productivity -

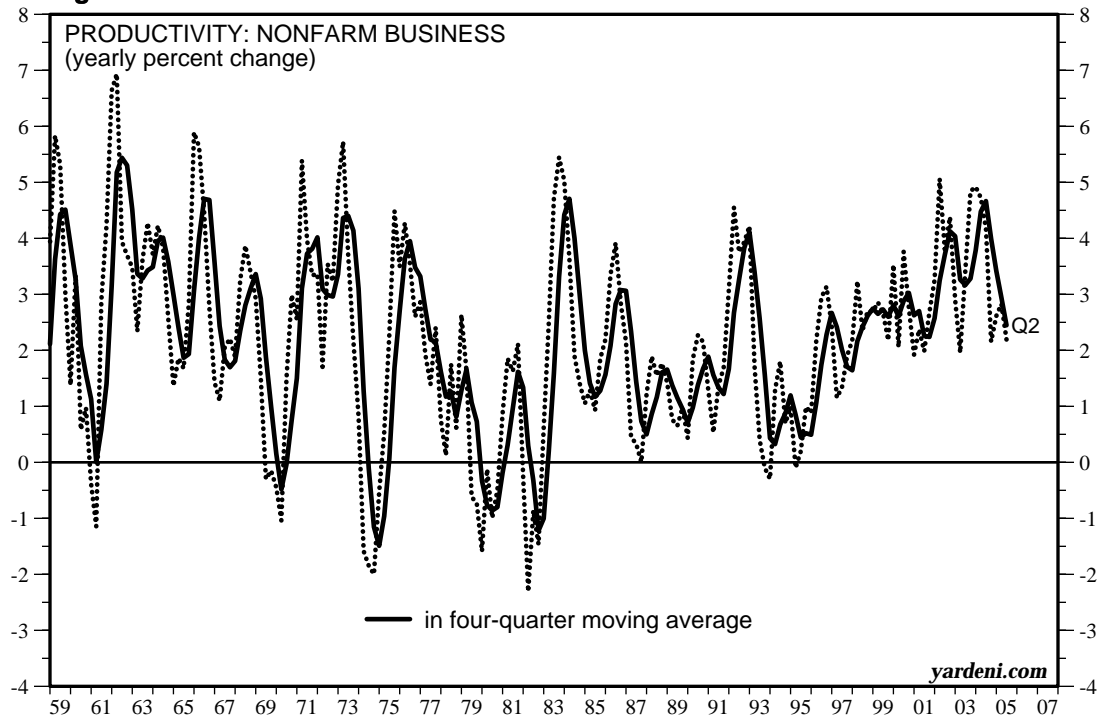
Figure 1.



Source: US Department of Labor, Bureau of Labor Statistics.

Is productivity growth slowing? It depends on the measure.

Figure 2.

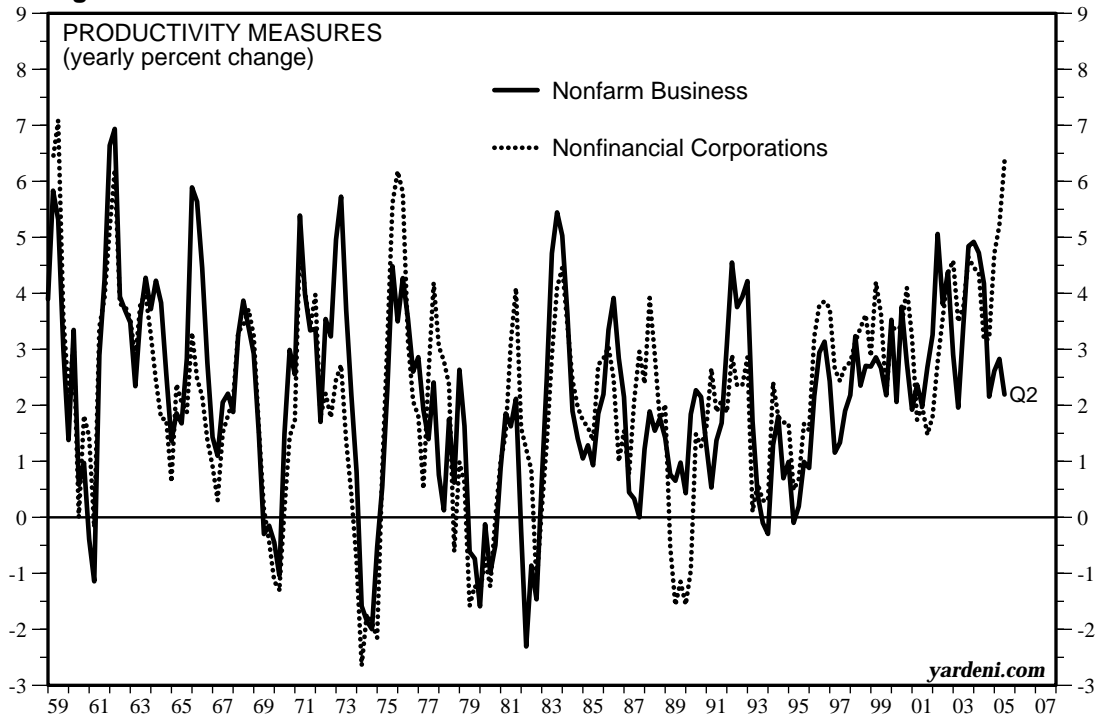


Source: US Department of Labor, Bureau of Labor Statistics.



- Productivity -

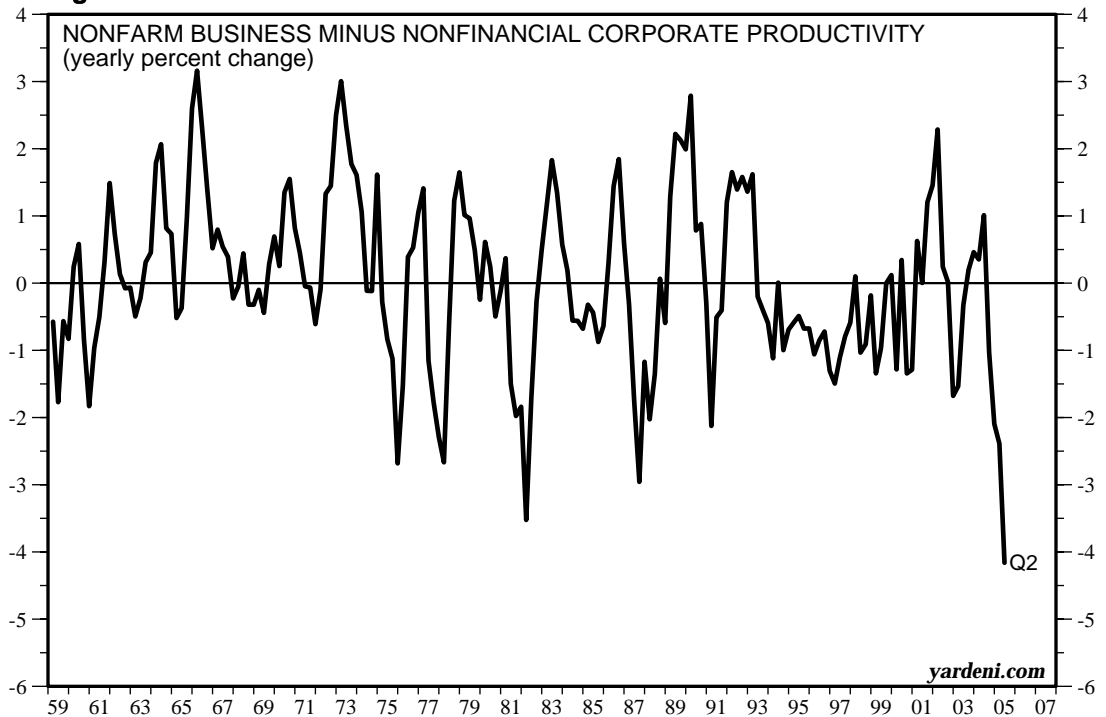
Figure 3.



Source: US Department of Labor, Bureau of Labor Statistics.

Very unusual and extreme divergence between these two measures of productivity.

Figure 4.

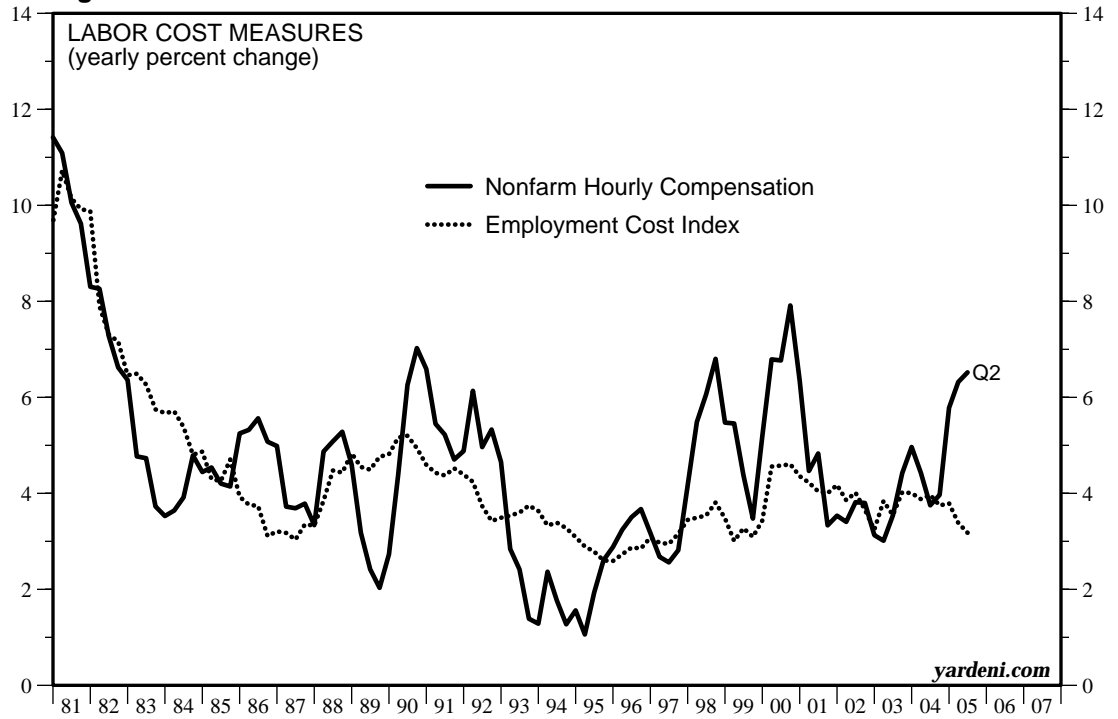


Source: US Department of Labor, Bureau of Labor Statistics.



- Unit Labor Costs -

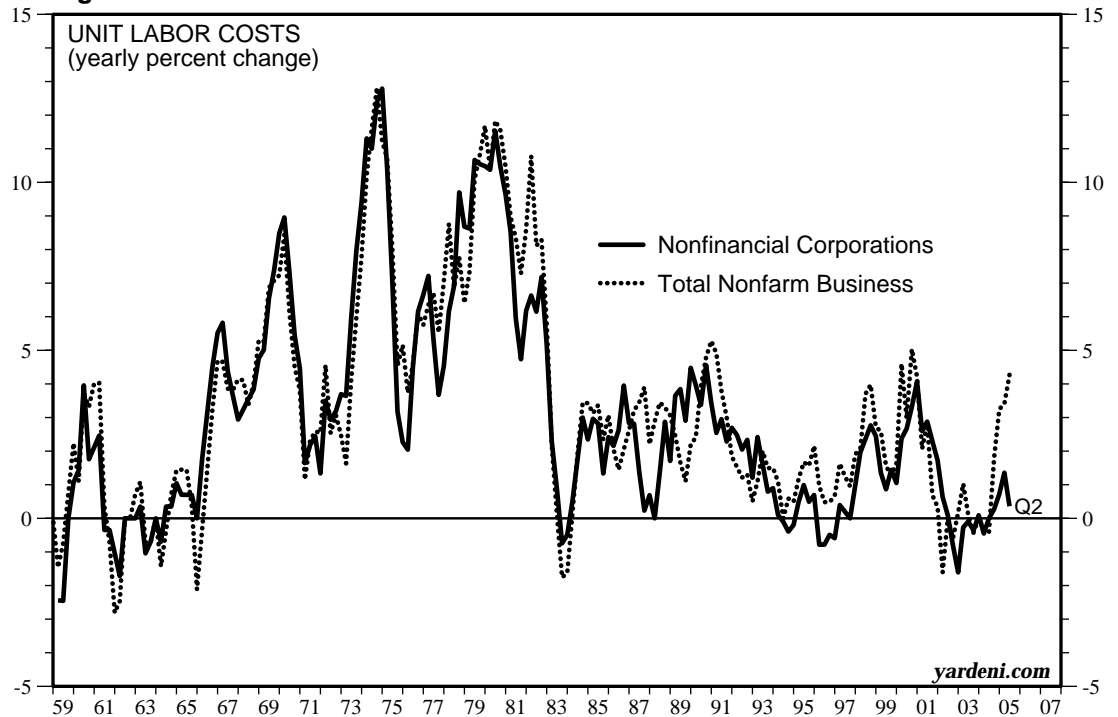
Figure 5.



Source: US Department of Labor, Bureau of Labor Statistics.

Also big divergence between these two measures of labor compensation.

Figure 6.



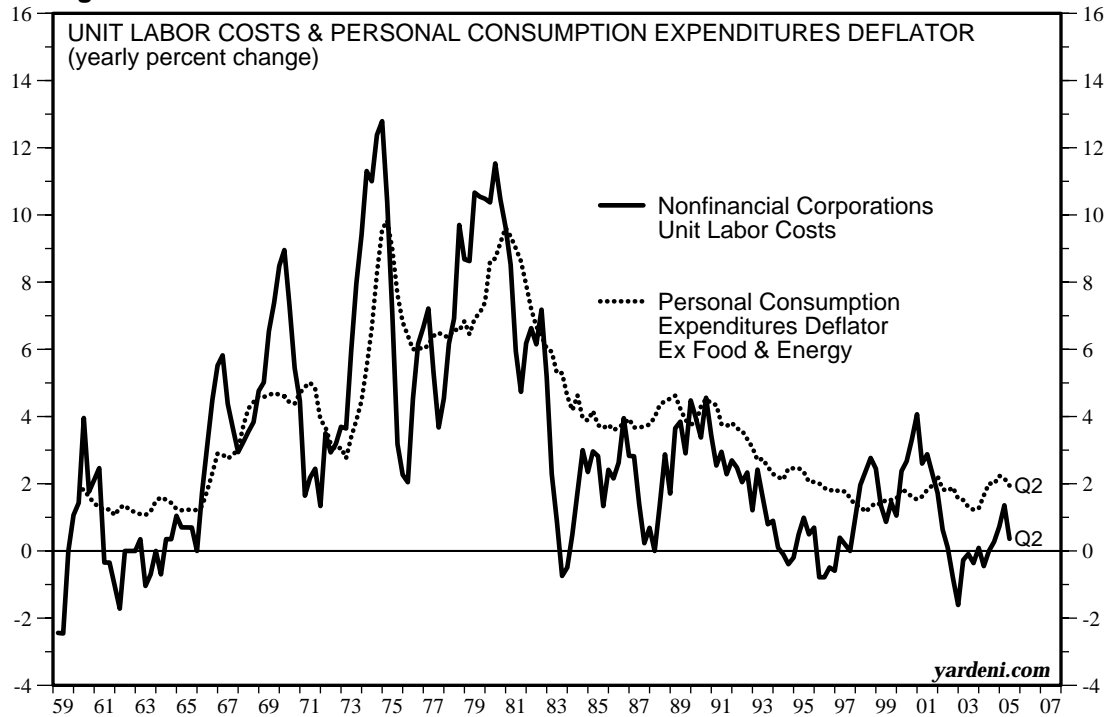
Source: US Department of Labor, Bureau of Labor Statistics.

Unit labor costs inflation is either close to zero or to 4%. I pick zero.



- Pricing & Profits -

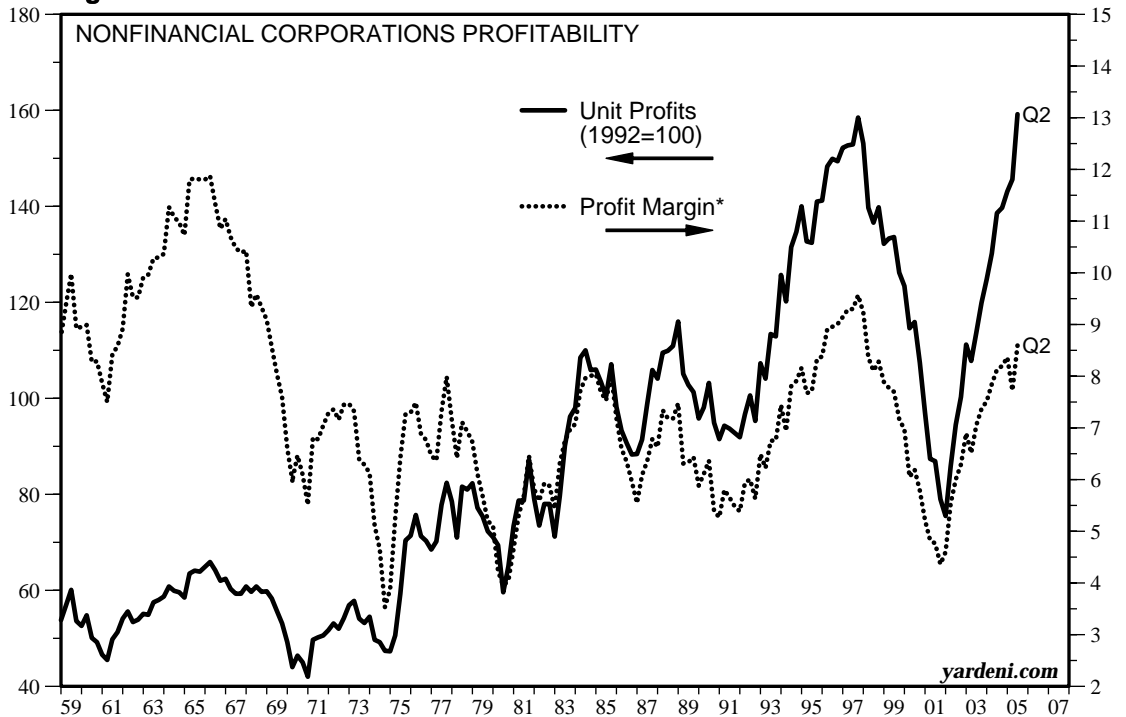
Figure 7.



Source: US Department of Labor, Bureau of Labor Statistics and US Department of Commerce, Bureau of Economic Analysis.

Prices aren't rising much, but they are rising faster than unit labor costs which explains why profit margins are so high.

Figure 8.



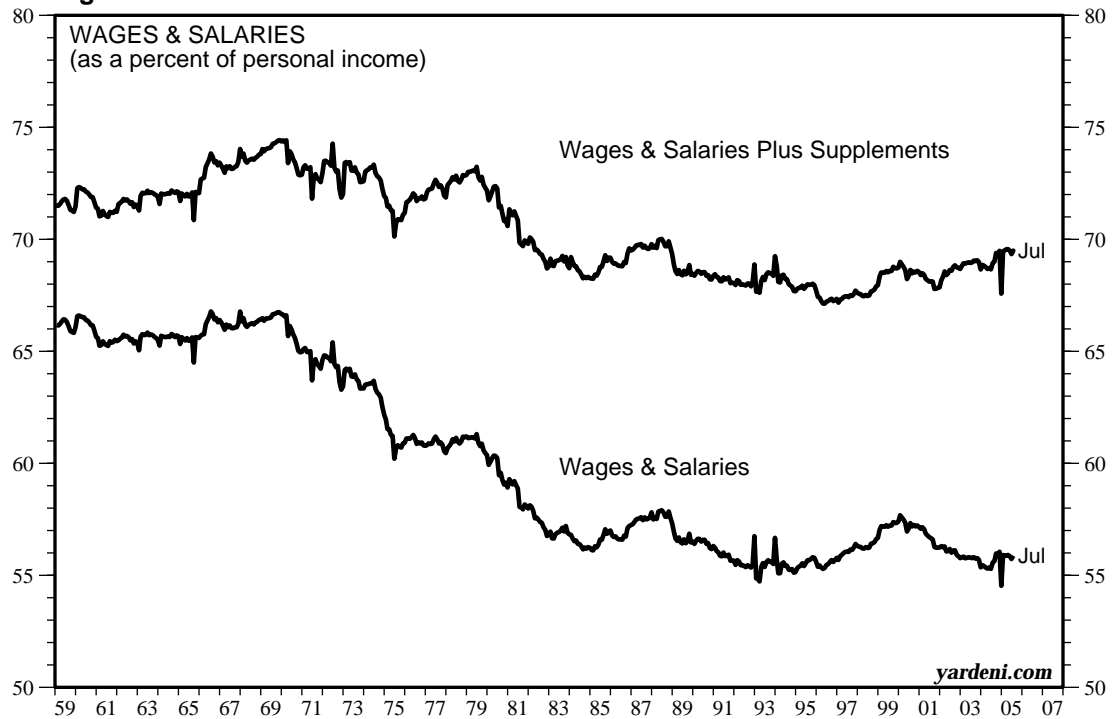
* After-tax profits including Inventory Valuation Adjustment (IVA) and Capital Consumption Adjustment (CCAdj) divided by nominal GDP.

Source: US Department of Labor, Bureau of Labor Statistics.



- Wages & Salaries -

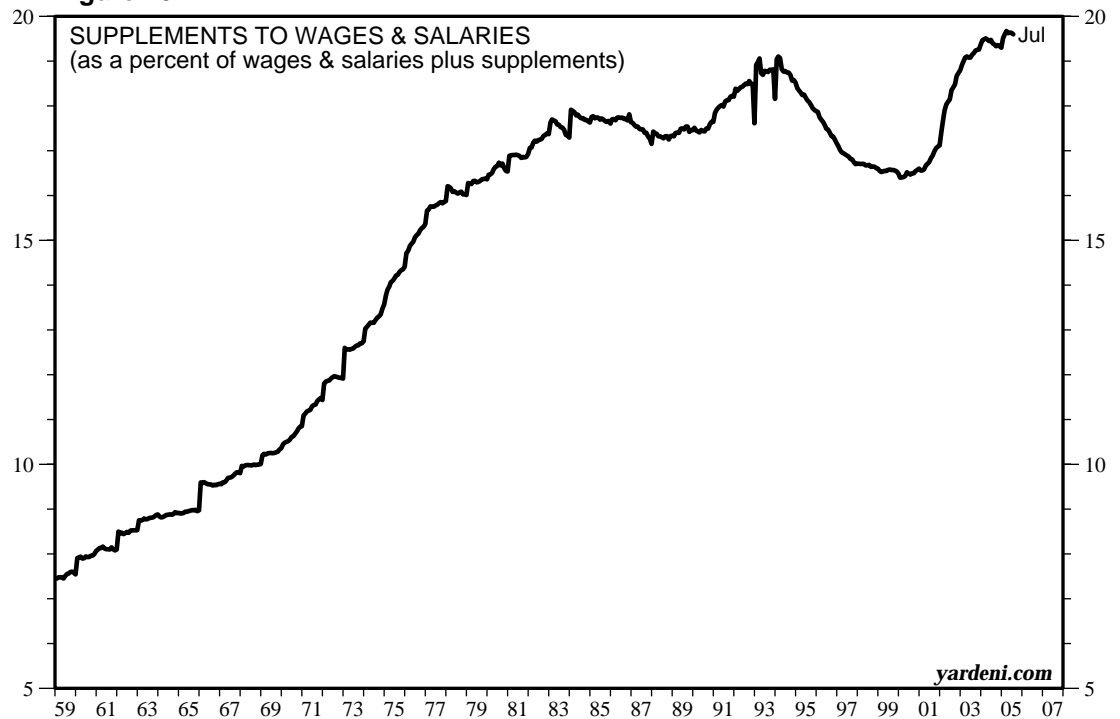
Figure 9.



Wages & salaries plus benefits account for 69% of personal income.

Source: US Department of Labor, Bureau of Labor Statistics and US Department of Commerce, Bureau of Economic Analysis.

Figure 10.



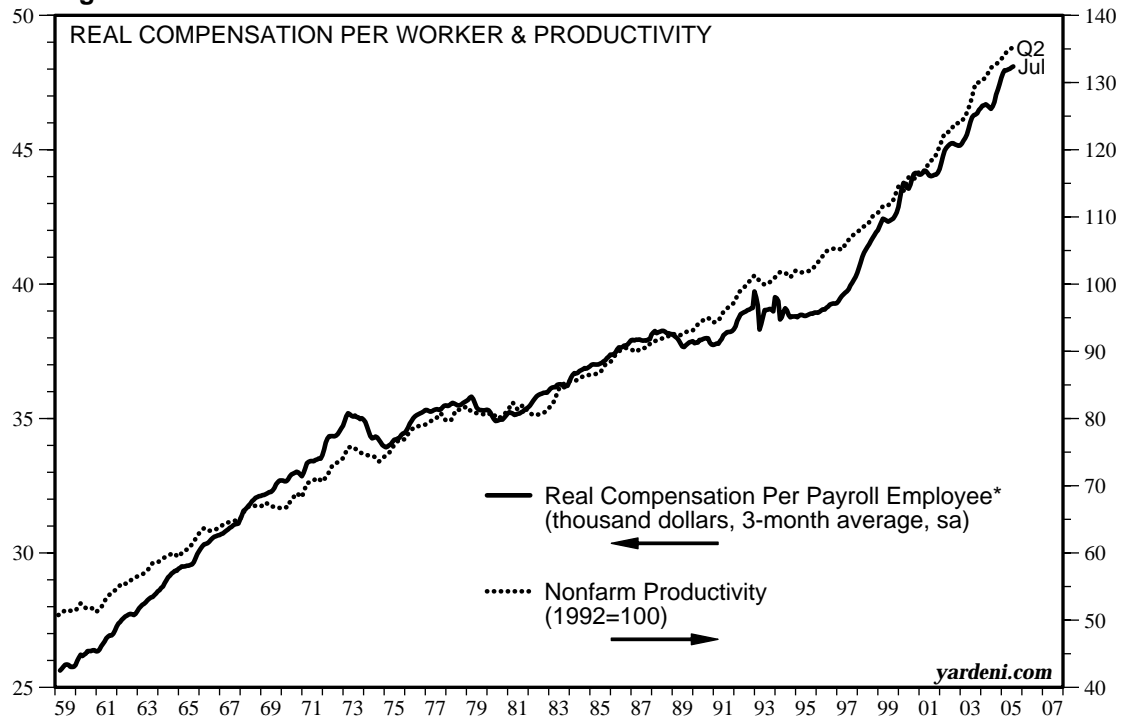
Benefits now account for a record 19.6% of compensation.

Source: US Department of Labor, Bureau of Labor Statistics.



- Real Compensation Per Worker -

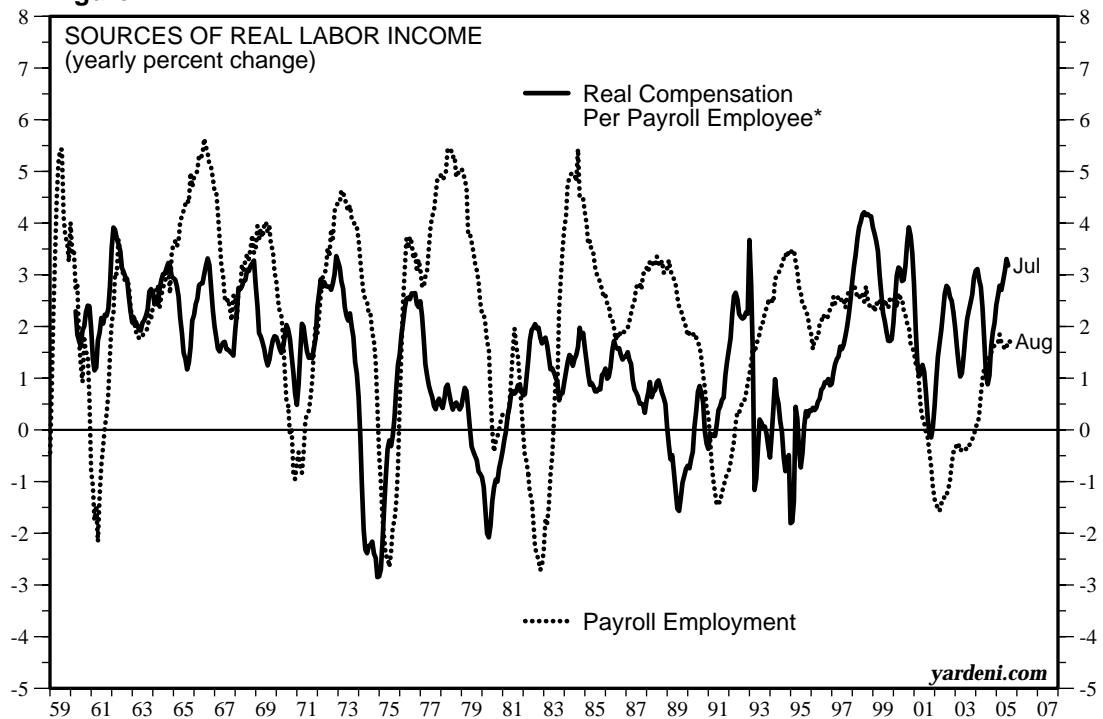
Figure 11.



Productivity is the main driver of real compensation per worker.

* Three-month average of wages & salaries plus supplements to wages & salaries divided by personal consumption expenditures deflator divided by payroll employment.
Source: US Department of Commerce, Bureau of Economic Analysis, and US Department of Labor, Bureau of Labor Statistics.

Figure 12.



Real compensation per worker growing faster than employment for the past few years.

* Three-month average of wages & salaries plus supplements to wages & salaries divided by personal consumption expenditures deflator divided by payroll employment.
Source: US Department of Commerce, Bureau of Economic Analysis, and US Department of Labor, Bureau of Labor Statistics.



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