

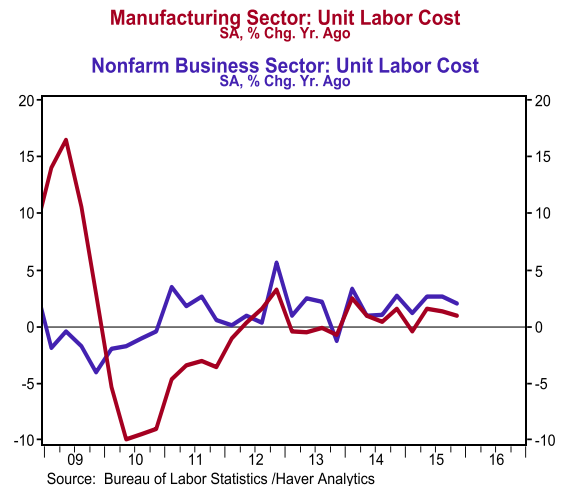
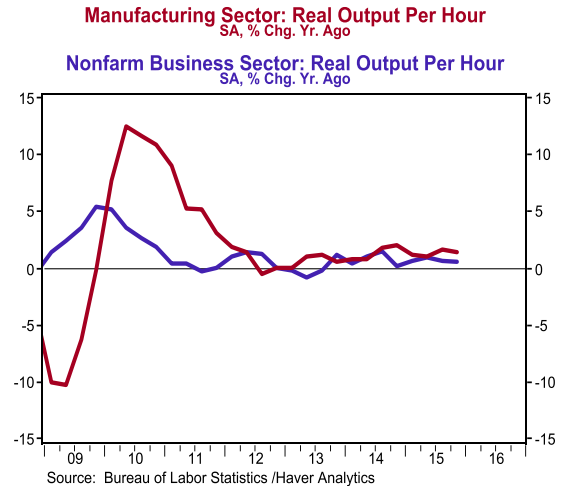
Q4 Productivity (Final)

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- Nonfarm productivity (output per hour) declined at a 2.2% annual rate in the fourth quarter, revised higher from last month's -3.0% estimate. Nonfarm productivity is up 0.5% versus last year.
- Real (inflation-adjusted) compensation per hour in the nonfarm sector rose at a 0.9% annual rate in Q4 and is up 2.1% versus last year. Unit labor costs rose at a 3.3% rate in Q4 and are up 2.1% versus a year ago.
- In the manufacturing sector, the -0.7% annual growth rate for productivity in Q4 was better than among all nonfarm businesses. The slower decline in productivity growth was due to slower growth in hours than in the nonfarm sector as a whole. Real compensation per hour was up in the manufacturing sector (2.2%) and unit labor costs rose at a 3.2% annual rate.

Implications: Productivity growth in the fourth quarter was revised higher, consistent with last week's upward revision to real GDP. According to the official data, nonfarm productivity declined at a 2.2% annual rate in Q4. Output continued to increase at a Plow Horse 1% annualized clip, but hours climbed at a 3.2% annual pace, so output *per hour* declined. We suspect the government is underestimating output in the increasingly important service sector, which means growth and productivity are higher than the official data show. Have you used Google Maps lately? It will find the fastest route to your destination in real-time taking into account current traffic, weather, etc. And it's all free! As the economy becomes more and more friction-free due to new apps and technologies, productivity rises, but it does not get fully picked up in statistics because many of these benefits are free for consumers. And anything free, no matter how much it improves everyday life, isn't directly included in output – which means they aren't directly included in productivity either. In turn, this means our standard of living is improving faster than the official reports show. Note that on the manufacturing side, where it's easier to measure output per hour, productivity is up 1.4% in the past year versus the more tepid 0.5% for the overall nonfarm business sector. Since 1973, productivity has grown at a 1.8% annual rate. However, it's only up at a 1.1% rate since the last business cycle peak in 2007. That's odd given slower growth in the labor force, which should put upward pressure on productivity growth.

Less labor should make firms pursue efficiency gains more aggressively, another reason why we think the data underestimate actual productivity gains. In spite of the problems with measurement, we anticipate faster productivity growth over the next few years as new technology increases output in all areas of the economy. The declining unemployment rate and faster growth in wages should create even more pressure for efficiency gains, while the technological revolution continues to provide the inventions that make those gains possible. In other news this morning, new claims for unemployment insurance rose 6,000 last week to 278,000. Continuing claims increased 3,000 to 2.26 million. Yesterday, it was reported that the ADP index, which measures private-sector payrolls, increased 214,000 in February. Plugging these figures into our models suggests tomorrow's official report on nonfarm payrolls will show a gain of 223,000, another solid month. Meanwhile, consumers continue to flock to auto dealerships, with cars and light trucks selling at a 17.5 million annual rate in February, down 0.2% from January but up 7% from a year ago.



Productivity and Costs (% Change, All Data Seasonally Adjusted)	Q4-15	Q3-15	Q2-15	Q1-15	Y to Y % Ch. (Q4-15/Q4-14)	Y to Y % Ch. (Q4-14/Q4-13)
Nonfarm Productivity	-2.2	2.0	3.1	-0.8	0.5	0.1
- Output	1.0	1.8	5.1	0.5	2.1	3.0
- Hours	3.2	-0.2	1.9	1.3	1.6	2.9
- Compensation (Real)	0.9	0.7	2.1	4.9	2.1	1.7
- Unit Labor Costs	3.3	0.4	2.0	2.6	2.1	2.8
Manufacturing Productivity	-0.7	5.0	2.3	-0.8	1.4	2.0
- Output	0.1	3.2	1.3	-0.5	1.0	3.9
- Hours	0.8	-1.7	-0.9	0.3	-0.4	1.9
- Compensation (Real)	2.2	2.4	2.5	0.6	1.9	2.3
- Unit Labor Costs	3.2	-0.9	3.2	-1.6	1.0	1.5

Source: US Department of Labor