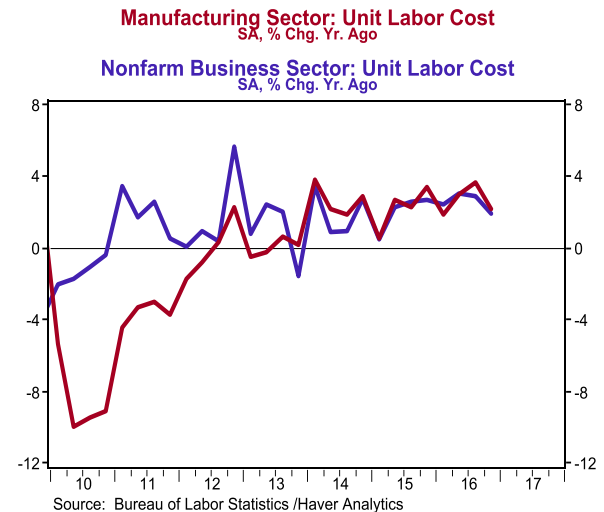
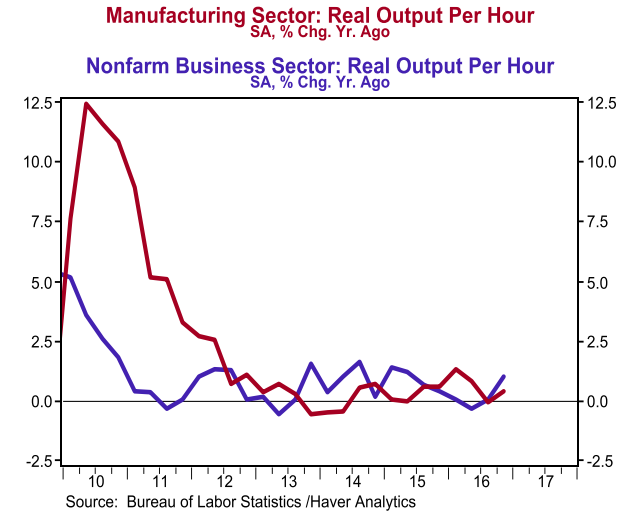


Q4 Productivity (Preliminary)

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- Nonfarm productivity (output per hour) increased at a 1.3% annual rate in the fourth quarter, narrowly beating the consensus expected 1.0%. Nonfarm productivity is up 1.0% versus last year.
- Real (inflation-adjusted) compensation per hour in the nonfarm sector declined at a 0.4% annual rate in Q4 but is up 1.1% versus a year ago. Unit labor costs rose at a 1.7% annual rate in Q4 and are up 1.9% versus a year ago.
- In the manufacturing sector, productivity rose at a 0.7% annual rate in Q4. The smaller gain in manufacturing productivity was due to slower growth in output. Real compensation per hour was up at a 0.6% annual rate in the manufacturing sector, while unit labor costs increased at a 3.3% rate.

Implications: Productivity continued to grow in the 4th quarter, coming on the back of a large gain in productivity in the third quarter. Nonfarm productivity grew at a 1.3% annual rate in Q4. Hours continued to increase at a decent clip and output climbed even faster so output *per hour* increased. Measured productivity has accelerated lately, up 1% from a year ago, versus a 0.4% gain in the year ending in the fourth quarter of 2015. However, we think government statistics underestimate actual productivity growth. (For example, do the data fully capture the value of smartphone apps, the tablet, the cloud, Alexa...etc.?) We believe the figures from the government miss the full value of technological advances, such as all those free smartphone apps so many people carry around in their pockets. The figures from the government miss the value of these improvements, because anything free, no matter how much it improves everyday life, isn't included in output, which means it's not included in productivity either. This means our standard of living is improving faster than the official reports show. Still even on the manufacturing side, where it's easier to measure output per hour, productivity is up only 0.4% in the past year. In spite of the measurement problems, we anticipate faster productivity growth over the next few years as better policies lead to a smaller government and a more vibrant private sector. In turn more new technology from a stronger private sector will increase output in many sectors of the economy. Meanwhile a tighter labor market and faster growth should generate 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 jobless benefits declined 14,000 last week to 246,000. Continuing claims fell 39,000 to 2.06 million. Plugging this into our models puts our final forecast for tomorrow's jobs report at an increase of 195,000 in nonfarm payrolls (versus a consensus 175,000). In other recent news, automakers reported sales of cars and light trucks at a 17.6 million annual rate in January, a robust rate, but down 4.4% from the torrid pace in December and down 1.6% from a year ago.



Productivity and Costs (% Change, All Data Seasonally Adjusted)	Q4-16	Q3-16	Q2-16	Q1-16	Y to Y % Ch. (Q4-16/Q4-15)	Y to Y % Ch. (Q4-15/Q4-14)
Nonfarm Productivity	1.3	3.5	-0.2	-0.6	1.0	0.4
- Output	2.2	4.2	1.6	0.7	2.2	2.0
- Hours	0.9	0.6	1.7	1.4	1.1	1.6
- Compensation (Real)	-0.4	2.1	3.4	-0.6	1.1	2.7
- Unit Labor Costs	1.7	0.2	6.2	-0.3	1.9	2.7
Manufacturing Productivity	0.7	0.0	-0.5	1.4	0.4	0.6
- Output	0.8	0.6	-1.0	0.6	0.2	0.1
- Hours	0.0	0.5	-0.5	-0.8	-0.2	-0.4
- Compensation (Real)	0.6	1.7	5.4	-4.5	0.7	3.5
- Unit Labor Costs	3.3	3.3	8.5	-6.1	2.2	3.4

Source: US Department of Labor