

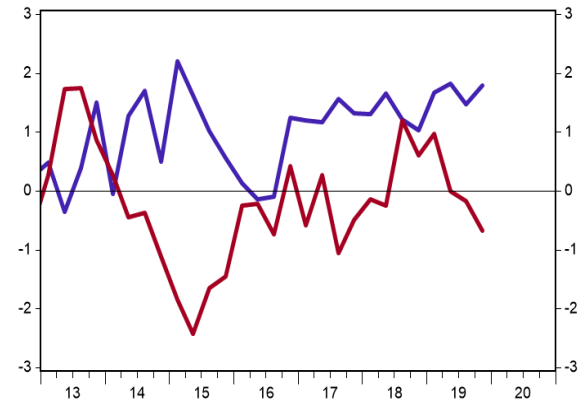
## Q4 Productivity (Preliminary)

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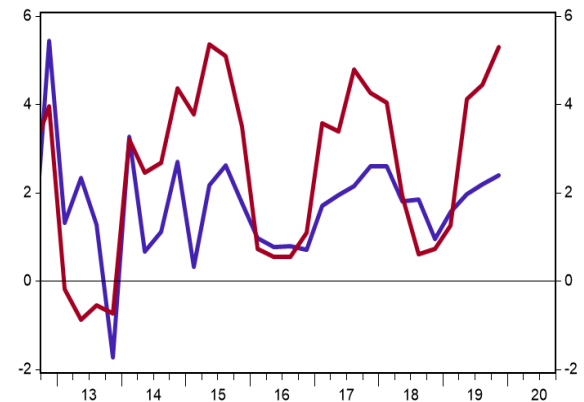
- Nonfarm productivity (output per hour) increased at a 1.4% annual rate in the fourth quarter, coming in slightly below the consensus expected 1.6%. Nonfarm productivity is up 1.8% versus last year.
- Real (inflation-adjusted) compensation per hour in the nonfarm sector rose at a 0.3% annual rate in Q4 and is up 2.1% versus a year ago. Unit labor costs rose at a 1.4% annual rate in Q4 and are up 2.4% versus a year ago.
- In the manufacturing sector, productivity declined at a 1.2% annual rate in Q4. The decline in manufacturing productivity was due to a decline in output. Real compensation per hour was up at a 2.0% annual rate in the manufacturing sector, while unit labor costs rose at a 5.3% annual rate.

**Implications:** Nonfarm productivity grew at a 1.4% annual rate in Q4. Hours grew at a 1.1% annual rate while output climbed at an even faster 2.5% annual rate so output *per hour* increased. Measured productivity has accelerated lately, up 1.8% from a year ago, versus a 1.0% gain in the year ending in the fourth quarter of 2018. We believe government statistics underestimate actual productivity growth. (For example, do the data fully capture the value of smartphone apps, the tablet, the cloud, Alexa...etc.?) These numbers miss the full value of technological advances, such as all those free smartphone apps so many people carry around in their pockets. Keep in mind, 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. On the manufacturing side, productivity declined 1.2% at an annual rate in fourth quarter, is down 0.7% in the past year. The decline was probably partly attributed to a month-long strike at GM in Q4, along with cutbacks in production and hours after exports stalled specifically with China. We anticipate faster productivity growth over the next few years as business investment picks back up as uncertainty around trade abates, and 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 15,000 last week to 202,000. Continuing claims rose 48,000 to 1.751 million. Plugging this into our models puts our final forecast for tomorrow's jobs report at an increase of 172,000 in nonfarm payrolls.

Manufacturing Sector: Real Output Per Hour  
 SA, % Chg. Yr. Ago  
 Nonfarm Business Sector: Real Output Per Hour  
 SA, % Chg. Yr. Ago



Manufacturing Sector: Unit Labor Cost  
 SA, % Chg. Yr. Ago  
 Nonfarm Business Sector: Unit Labor Cost  
 SA, % Chg. Yr. Ago



Source: Bureau of Labor Statistics/Haver Analytics

<b>Productivity and Costs</b> <i>(% Change, All Data Seasonally Adjusted)</i>	<b>Q4-19</b>	<b>Q3-19</b>	<b>Q2-19</b>	<b>Q1-19</b>	<b>Y to Y % Ch.</b> <b>(Q4-19/Q4-18)</b>	<b>Y to Y % Ch.</b> <b>(Q4-18/Q4-17)</b>
<b>Nonfarm Productivity</b>	<b>1.4</b>	<b>-0.2</b>	<b>2.5</b>	<b>3.5</b>	<b>1.8</b>	<b>1.0</b>
- Output	<b>2.5</b>	<b>2.3</b>	<b>1.9</b>	<b>3.9</b>	<b>2.7</b>	<b>2.9</b>
- Hours	<b>1.1</b>	<b>2.5</b>	<b>-0.5</b>	<b>0.4</b>	<b>0.9</b>	<b>1.9</b>
- Compensation (Real)	<b>0.3</b>	<b>0.5</b>	<b>-0.4</b>	<b>8.4</b>	<b>2.1</b>	<b>-0.2</b>
- Unit Labor Costs	<b>1.4</b>	<b>2.5</b>	<b>0.1</b>	<b>5.7</b>	<b>2.4</b>	<b>1.0</b>
<b>Manufacturing Productivity</b>	<b>-1.2</b>	<b>-0.3</b>	<b>-2.4</b>	<b>1.2</b>	<b>-0.7</b>	<b>0.6</b>
- Output	<b>-1.0</b>	<b>1.0</b>	<b>-3.1</b>	<b>-1.7</b>	<b>-1.2</b>	<b>2.5</b>
- Hours	<b>0.2</b>	<b>1.3</b>	<b>-0.7</b>	<b>-2.9</b>	<b>-0.5</b>	<b>1.9</b>
- Compensation (Real)	<b>2.0</b>	<b>1.2</b>	<b>-0.3</b>	<b>7.2</b>	<b>2.5</b>	<b>-0.9</b>
- Unit Labor Costs	<b>5.9</b>	<b>3.3</b>	<b>5.1</b>	<b>6.9</b>	<b>5.3</b>	<b>0.7</b>

Source: US Department of Labor