

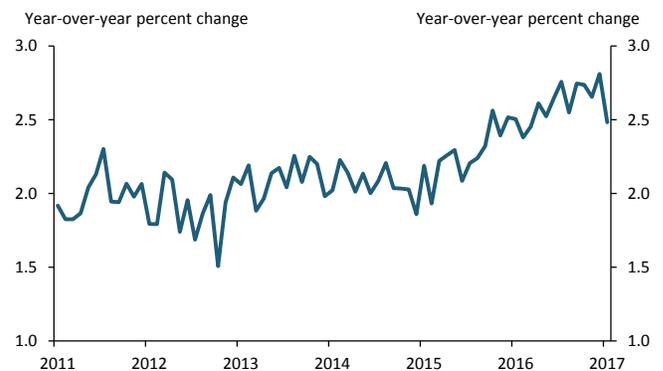
Wage Leaders and Laggards: Decomposing the Growth in Average Hourly Earnings

By Willem Van Zandweghe

Wage growth has accelerated gradually over the past two years, largely due to a pickup in wage growth in a few industries—the wage leaders. Another, larger group of industries—the wage laggards—has not contributed at all to the acceleration. But the wage laggards have seen relatively strong growth in hours worked over the past two years, indicating rising labor demand that could lead to a further acceleration in overall wage growth.

Growth in average hourly earnings (AHE) of all employees has accelerated gradually over the past two years despite a marked slowdown in January 2017. Chart 1 shows growth in AHE in the nonfarm private sector fluctuated around an average of 2.0 percent from 2011 to 2014. In 2015, however, wage growth began to pick up. AHE growth increased from 1.9 percent in December 2014 to 2.8 percent in December 2016. Although wage growth fell back to 2.5 percent in January, it remains 0.6 percentage point higher than in December 2014.

Chart 1: Average hourly earnings, all employees, nonfarm private sector



Source: Bureau of Labor Statistics (Haver Analytics).

Table 1: Increase in within-industry wage growth, December 2014–January 2017

Industry sector	Share of hours worked (percent)	Contribution (percentage point)
Total nonfarm private	100	0.52
Wage leaders	23.5	0.42
Manufacturing	11.9	0.22
Construction	6.2	0.10
Wholesale trade	5.4	0.10
Wage laggards	63.9	-0.06
Education and health care	17.8	0.11
Leisure and hospitality	9.7	0.06
Professional and business services	17.5	-0.03
Retail trade	11.6	-0.05
Financial activity	7.4	-0.15
Other industries	12.5	0.16
Transportation	4.6	0.06
Other services	4.3	0.04
Information	2.4	0.03
Mining and logging	0.7	0.02
Utilities	0.6	0.01

Sources: Bureau of Labor Statistics (Haver Analytics) and author's calculations.

I decompose the recent 0.6 percentage point acceleration in wage growth into the contributions from each industry as well as the contribution from shifts in economic activity between industries.¹ When the number of hours worked shifts from a low-wage industry to a high-wage industry, for instance, the overall wage level rises even if the wages in both industries remain constant. This “between-industry” wage growth is typically small: indeed, it contributed just 0.1 percentage point to the recent acceleration in AHE. The remaining 0.5 percentage point of the acceleration can be attributed to wage growth within individual industries. The contributions to this “within-industry” wage growth consist of each industry’s wage growth weighted by its share of total hours worked, so large industries will more easily contribute to overall wage growth than small ones.

Table 1 displays the share of hours worked in each nonfarm, private-sector industry alongside its

contribution to the increase in within-industry wage growth. The table divides industries into one of three groups: wage leaders, wage laggards, and other industries. Wage leaders—the manufacturing, construction, and wholesale trade industries—made outsized contributions to the acceleration of AHE. Although their contributions are not necessarily the largest, they are impressive considering these industries’ medium size. As a group, wage leaders made up less than a quarter of total hours worked but contributed 0.4 of the 0.5 percentage point increase. In contrast, wage laggards made modest contributions considering their size, or even negative ones. For example, the education and health-care industry contributed about 0.1 percentage point to the acceleration, a small contribution given the industry’s large share of hours worked. As a group, wage laggards accounted for almost two-thirds of hours worked but subtracted almost 0.1 percentage point from the acceleration in AHE. Finally, the five remaining industries in the “other” group were too small to make significant contributions. Together, they made up 12.5 percent of hours worked and accounted for less than 0.2 percentage point of the wage acceleration.²

Though only a few industries accounted for much of the recent acceleration in AHE, it may yet be sustainable. Chart 2 shows the growth in hours worked for both wage leaders and wage laggards. From 2011 to 2014, the two groups experienced similar growth in hours worked. However, over the past two years, wage laggards have seen faster growth in hours worked. The relatively strong growth in hours worked suggests labor demand in the wage laggard industries continues to rise at a brisk pace. As labor demand rises nearer to labor-supply constraints, wages in these industries may soon begin accelerating. Thus, Chart 2 supports a forecast of a continued rise in overall wage growth based on the combination of rising wage growth for the wage laggards and steady (or rising) wage growth for the wage leaders. The bottom-up approach taken here complements the macroeconomic Phillips-curve approach relating higher wage growth to declining labor market slack. Reassuringly, as the latest Blue Chip consensus forecast calls for continued declines in the unemployment rate, both approaches predict a further increase in wage growth: one based on the wage laggards’ relatively strong growth in hours worked, the other based on a projected decline in overall labor market slack.

Chart 2: Hours worked



Source: Bureau of Labor Statistics (Haver Analytics).

¹ The decomposition proceeds in two simple steps. First, each month’s total earnings in the nonfarm private sector (that is, total hours worked times AHE) is equal to the sum of total earnings in each industry:

$$H * w = H_1 * w_1 + \dots + H_N * w_N,$$

where H_i and w_i denote hours worked and AHE in industry $i = 1, \dots, N$, respectively, and N is the number of industries. Dividing both sides of the equation by total hours worked in the nonfarm private sector, I calculate overall AHE as a weighted average of AHE in each industry:

$$w = h_1 * w_1 + \dots + h_N * w_N,$$

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where the industry shares of hours worked ($h_i = H_i / H$) are the weights. Second, for each month, the 12-month change in AHE (denoted by Δ) consists of two components that measure the “within-industry” wage growth and the “between-industry” wage growth:

$$\Delta w = (\bar{h}_1 * \Delta w_1 + \dots + \bar{h}_N * \Delta w_N) + (\Delta b_1 * \bar{w}_1 + \dots + \Delta b_N * \bar{w}_N),$$

where \bar{h}_i and \bar{w}_i denote industry i 's average hours share and average AHE over the two periods. I convert the change to percent change by dividing by the value of w 12 months ago. I then compare the decomposition of wage growth in January 2017 with that in December 2014.

² While there may be other interesting ways to classify industries in the table, I classify an industry as a wage leader (laggard) if its share of hours worked is at least 5 percent and the ratio of its contribution to within-industry wage growth and share of hours worked is greater than (less than or equal to) 1. For example, wholesale trade is classified as a wage leader because its ratio is $0.10/0.054 = 1.9$, while education and health care is classified as a wage laggard because its ratio is $0.11/0.0178 = 0.6$.

Willem Van Zandweghe is an assistant vice president and economist at the Federal Reserve Bank of Kansas City. The views expressed are those of the author and do not necessarily reflect the positions of the Federal Reserve Bank of Kansas City or the Federal Reserve System.