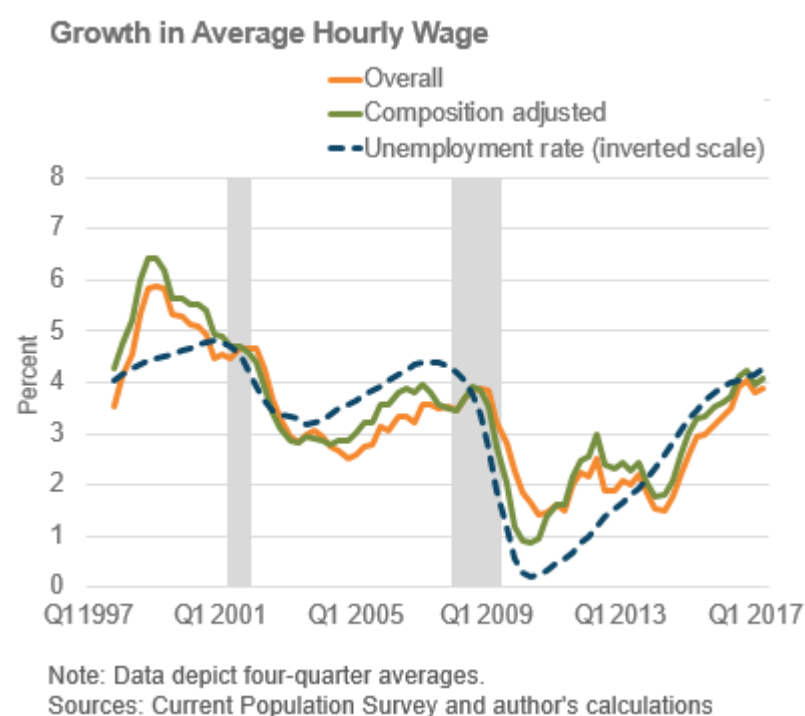**July 11, 2017**

## Another Look at the Wage Growth Tracker's Cyclicality

Though Friday's employment report showed that payroll employment rose by a robust 222,000 jobs in June—much higher than most forecasts—enthusiasm for the news was tempered somewhat by average hourly wages coming in below expectations. Is the (ongoing) relatively tepid pace of wage growth a cause for concern? Perhaps, but the ups and downs of average wages over the course of the business cycle—the pattern of expansion-recession-expansion that typifies modern economies—are a bit more complicated than they may seem.

The year-over-the-year growth in the average wage level that we see in the official employment conditions report is influenced by wages paid to people who were employed either today or a year earlier. That is, the wages of those who remained employed (EE) as well as those who entered employment (NE) and those who exited employment (EN). Because the individuals in these groups may command different wages on average—due to experience, for example—the usual wage growth measures confound the effects of changes in the average wage of people with particular types of year-over-year employment histories. In that sense, the usual wage growth statistic may not exactly be comparing apples to apples.

Research by, for example, Solon, Barsky, and Parker 1992 and Daly and Hobjin 2016 explores the effect of the changing composition of workers over time using microdata on individuals with known employment histories. They show that people who enter and exit employment have a lower average wage than those who stay employed over the year and that the net exit/entry flow increases when the labor market is weak—more people leave employment, and fewer people enter it. As a result, the disproportionate increase in the net flow of workers with a lower-than-average wage serves to boost the overall average wage level during recessions.
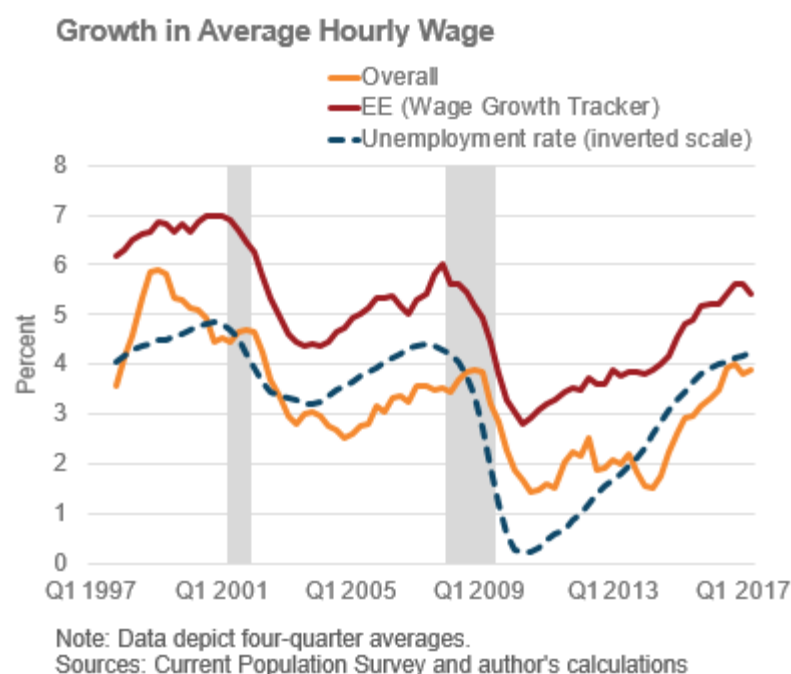
One approach to making a more apples-to-apples comparison of average wages over time is to strip out the effect that comes from the change in the share of workers who stay employed and who entered or exited employment. Technically speaking, the composition-adjusted wage growth series is determined by adding the change in average log hourly wage within the EE group and the same change within the EN/NE group, while holding constant the respective average population shares in each group. The chart below illustrates the result of this adjustment.



Growth in Average Hourly Wage

Note: Data depict four-quarter averages.
Sources: Current Population Survey and author's calculations

I should note that the change in the average wage uses data only for people who have a known employment status a year earlier, which results in a wage growth series that is somewhat higher than the change in the average wage of all employed people, some of whom have an unknown employment history.

As the chart shows, relative to the adjusted series (the green line), growth in overall average wages (the orange line) stayed up longer during the last recession, then fell by less, and was slower to adjust to improving labor market conditions (falling unemployment) after the recession ended. The correlation between the overall growth in average wages and the inverse of the unemployment rate is 0.72, and this correlation rises to 0.79 using the adjusted wage growth series.

An alternative approach to making a more apples-to-apples comparison of average wages is to ignore the entry/exit margin and only look at people who are employed *both* today and a year earlier (EE). The Wage Growth Tracker (computed here as the difference in average log hourly wage) does that for the subset of EE people who have an actual wage record in both periods (no earnings information is collected for self-employed workers in the Current Population Survey). The following chart compares this version of the Wage Growth Tracker with the growth in overall average wages.

**Growth in Average Hourly Wage**

Note: Data depict four-quarter averages.
Sources: Current Population Survey and author's calculations

The Atlanta Fed's Wage Growth Tracker uses the median change in wages rather than the average change, but it displays very similar dynamics.

As the chart shows, the growth in average wages for those who remain in wage and salary jobs (the red line) is a bit smoother than growth in overall average wages (the orange line) and moves more in sync with the inverse of the unemployment rate (the correlation is 0.85). However, its level is quite a bit higher than growth in overall average wages. This disparity is because the average wage for those entering employment is less than for those exiting, so the change in average wages along the entry/exit margin is always negative.

But enough math—let's put this all together. If you want a measure of wage growth that reflects relative labor market strength, then looking at wage growth after controlling for entry/exit composition effects is probably a good idea. The Wage Growth Tracker seems to do that job reasonably well. However, the Wage Growth Tracker almost certainly overstates the growth in per hour wage costs that employers are facing. Most importantly, it ignores the employment exit/entry margin. Hence, one should avoid interpreting the Wage Growth Tracker as a direct measure of growth in labor costs—a point also discussed in this recent Atlanta Fed podcast episode 🎧. The next reading from the Wage Growth Tracker will be available when the Census Bureau releases the Current Population Survey microdata, usually within a couple of weeks of the national employment report. Given that the unemployment rate has remained relatively low recently, I would expect the Wage Growth Tracker to stay at a relatively high level. Check back here then and we'll see what we learn.

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