

## Why are Estimates of Self-Employment Hours So Volatile?

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Although unincorporated self-employed workers comprise less than six percent of the total workforce, high volatility in the measurement of their hours sometimes has a disproportionate effect on major sector quarterly labor productivity growth published by the Bureau of Labor Statistics. Self-employment can be volatile for two broad reasons. First, self-employment is genuinely volatile. For example, people start businesses and shut them down because they often use self-employment as a bridge between spells of employment. And second, because the self-employed are such a small share of the labor force, it is harder to measure their size using the Current Population Survey (CPS), which was not designed to track this class of workers. We perform both cross-sectional and panel analyses to examine how the CPS design—the sample rotation framework, sample weighting, imputation of missing data, and proxy respondents answering on behalf of other household members—can lead to volatility in self-employment that affects the labor input used in productivity measurement. Results indicate that the sample rotation framework plays an outsized role in the volatility, but changes in class of worker status when there is a change from proxy to self-response, or vice versa, also contribute to increased volatility. In addition, the imputed data are more volatile than the non-imputed data. And although relatively few responses are imputed, the number has been rising steadily. We propose several solutions to smooth the series.