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When cycles collide

Yesterday we saw that initial claims for unemployment insurance declined rather sharply again last week, another hint that U.S. labor markets may be beginning to mend. But the improvement came with a word of caution from the folks at the Department of Labor, who note that these numbers are being affected by seasonal adjustments to the data that may present a misleading picture.

Virtually all of the economic information that gets reported by the data agencies has been seasonally adjusted. That is, the data are being reported *after* the agency has adjusted them for their usual variation for that time of year. The unemployment insurance claims data are a useful example. On an unadjusted basis, the initial claims data showed a fairly large increase last week—up 86,000 workers. But claims for unemployment compensation typically rise in early July as auto plants shut down to retool for the new model year. The jump in claims this July hasn't been as large as in years past since many of the auto plants were waylaid earlier in the year. So on a "seasonally adjusted" basis, the data showed a *drop* in claims of 47,000 workers.

Here we have that statistician's equivalent of an old existential puzzle: Do seasonal layoffs in the auto industry make a sound if there is no one there to lay off? We invite you to write up your own answer to that one. There is a long literature, perhaps most notably the work of Jeffrey Miron, that documents the interplay between the business cycle and the seasonal cycle. The thrust of this research is to help us better understand the general nature of economic cycles. But there are also more mundane issues we need to wrestle with. For instance, how accurate are seasonal adjustments to the data during times of severe cyclical disruption?

To provide some perspective, let's take a deeper look at the recently released June consumer price index (CPI) report. Last month, prices, as measured by the core CPI, were up 2.4 percent (annualized) from a 1.7 percent rise in May. There are a few bits of data that might cause you to scratch your head a little, given what we've been hearing about the economy lately. For instance, apparel prices jumped an annualized 8.8 percent last month. And new car prices were up 8.2 percent. So are department stores and car dealers having a better time of it than they are letting on? I don't think so. I believe the seasonal adjustments in the data offer a more reasonable explanation.

Apparel prices rose 8.8 percent on a seasonally adjusted basis but fell a whopping 25.5 percent (annualized) on an unadjusted basis. And new car prices? Well, they rose on an unadjusted basis, but not nearly as much as the seasonally adjusted data indicated (5.1 percent versus 8.2 percent). Indeed, this pattern seems to be consistent across many of the core components of the CPI in June. On a seasonally adjusted basis, the core inflation measure rose 2.4 percent. But on an unadjusted basis, the core CPI was largely unchanged for the second month in a row (up a slight 0.9 percent, annualized).

Here's a conjecture on my part. Many of the price declines that ordinarily occur in June didn't occur this year. Why? Perhaps it's because the sharp decline in business activity has resulted in such severe production and price cuts already that usual seasonal price discounts have been disrupted. In other words, in the current economic environment, there may not be much "season" to adjust for.

This isn't a criticism of seasonal adjustment. In fact, seasonal adjustment is an entirely appropriate—and necessary—transformation of the data if you are trying to see emerging trends. But it's certainly important to exercise caution when interpreting seasonally adjusted data during a period of strong cyclical movements. If the business cycle alters the usual behavior of the seasonal cycle in the data, seasonal adjustment could produce a misleading snapshot of the data. And I suspect we saw a bit of that in the June CPI report.

In closing, I want to put in a plug that the second weekly postings of the Atlanta Fed's Economic Highlights and Financial Highlights are now available on the Bank's Web site. These summaries of national economic and financial statistics complement our monthly REIN reports on the Southeastern economy.

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