Seasonal bias in sentiment indicators: reduced, but not eliminated

In October 2011, we first alerted readers to the likelihood of stronger data in the following months, driven largely by imperfect seasonal adjustment (see Stronger data ahead: explanation and implication, 28 October 2011). And, by various measures, US economic data have been better than anticipated over the past few months (Figure 1). The flipside of our analysis was that come spring, these factors would reverse and reported data would be worse than the underlying state of the economy (see Stubbornly High and Frustratingly Slow, 20 January 2012, for the impact on employment data).

Since much of our focus has been on national and regional manufacturing surveys, we paid special attention to annual revisions released recently and whether the releases acknowledged the distortion (see 'Tis the Seasonals, 16 December 2011). The first three releases of indicators we’ve tracked – Philly Fed’s Business Outlook Survey (12 January), Empire State Manufacturing Survey (17 January) and the ISM-Chicago Business Survey (26 January) – did not explicitly acknowledge the issue. However, today, when the Institute for Supply Management (ISM) released its annual adjustment to the seasonal factors used when computing its manufacturing and non-manufacturing indices, the phenomenon we’ve identified was explicitly acknowledged (see the ISM press release).

“In response to concerns that the unusually large declines in autumn 2008 associated with the recent recession that may not have been adequately handled with default settings, this year the Department of Commerce used lower thresholds (critical values) for detecting outliers.”

In many ways, the approach that the ISM, working with the Office of the Chief Economist of the Department of Commerce, implemented is similar to our alternative method of adjustment. As a result, the revised index is more aligned with our adjusted series than the originally-reported ISM manufacturing index. Importantly, month-to-month variation in 2011 is less pronounced in the revised series (Figure 2).

Fig. 1: Nomura USD Overall Surprise Index

Fig. 2: 2011 ISM manufacturing index: estimates of “seasonal bias” before and after revisions

Bloomberg: NGISOUUSD Index<GO>; see FX Quant Insights: Nomura growth surprise indices (GSI) for details.

Source: Nomura Global Economics; ISM.
The revised ISM manufacturing index is both smoother and closer to our alternative seasonally adjusted series. For example, our alternative series suggested that the ISM manufacturing index (“PMI”) was understated by 1.9 points in August in the original release, suggesting that the actual index was 52.5 (instead of the reported 50.6). Now, the index was revised up to precisely that number, 52.5 (Figure 3).

In our earlier analysis, we found the ISM seasonal factors for both manufacturing and non-manufacturing anticipated weaker data in the fourth and first quarters, and stronger data in the second and third, relative to both the pre-financial-crisis period and our alternative estimate. Figure 3 shows that the revisions to the ISM data resolve some of these issues by showing more strength in Q2 and Q3 than the understated first report, and conversely removing part of the boost to Q1 and Q4. In retrospect, this suggests that in 2011, the second year of economic recovery, manufacturing activity likely occurred in less “fits and starts” than initial estimates suggested.

Reduced, but not eliminated

Despite the reduction of detected seasonal bias in the revised ISM series, we do not believe that it has been completely eliminated. Figure 2 continues to show some residual bias related to the sharp contraction in late 2008 and early 2009. While we do not have any illusions that our own seasonal adjustment approach, which excludes the critical months of the financial crisis for the purposes of seasonal adjustment, is ideal, we find our analysis helpful in highlighting risks around month-to-month changes and monthly forecasts.

This especially true for economic data series where the seasonal bias is still pronounced. For the Chicago-ISM’s business barometer index, revisions were also released in January. Similar to ISM, these adjustments did resolve a portion of the...
seasonal bias (an improvement is indicated by the gray bars in the lower chart of Figure 4 being smaller than the black bars); however, the residual bias remains.

The biggest risk to underlying activity being misinterpreted arises from the month-to-month swings in the seasonal bias. For instance, this occurs when the bias leads to official reports overstating an indicator in one month followed by understating in the next. For both the ISM manufacturing index and Chicago PMI, this phenomenon is not pronounced in January (Figure 5). So, we cannot use the seasonal argument to explain the disappointing Chicago PMI in January 2012, which declined 2 points from December to 60.2 and was lower than expected (Bloomberg consensus forecast: 63.0) (see Chicago PMI weaker in January, 31 January 2012).

The month-to-month variation in seasonal bias also has import for the ISM manufacturing index. However, despite new information from the ISM revisions, we have not made material changes to our forecast for the January ISM manufacturing index (released on February 1). We did revise down our forecast from 54.6 to 54.2 (Consensus: 54.6), reflecting a level change in the December 2011 base, which was revised from 53.0 to 52.6. Beyond the limited boost from the December 2011-January 2012 change in seasonal bias, we also emphasize that often the indicators which can be readily used to forecast Chicago PMI and ISM manufacturing already incorporate a seasonal bias. These forecast inputs include regional manufacturing surveys, such as the Empire State Manufacturing Survey and the Philly Fed Business Outlook.

Looking ahead, for both the ISM manufacturing index and the Chicago PMI, the most pronounced swing in the bias – when it changes from overstated to understated – occurs in the reports for February (released in March) and April (released in May) (Figure 5). This suggests that, in addition to the potential for downside risks to emerge from abroad in the coming months, the lingering effects of the financial crisis in seasonal adjustments, too, are likely to be a headwind.
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