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THE U.S. PRIVATE SECTOR JOB QUALITY INDEX (JQI)[®] DECEMBER 2019

Following the release of the [Employment Situation Report](#) for December 2019 by the U.S. Bureau of Labor Statistics (BLS), the U.S. Private Sector Job Quality Index (JQI)[®] has been revised to a level of **80.53**, up slightly by **0.14%** from its level one month ago and reflecting a modestly higher proportion of U.S. production and non-supervisory (P&NS) jobs paying more than the mean weekly income of all P&NS jobs, relative to those jobs paying less than such mean. The mean weekly income of all P&NS jobs as of the current reading (reflecting the level as of October 2019) was **\$794.70**, an increase of **0.01%** from its level the month prior. Some of the improvement in JQI can be attributed to the return of striking General Motors workers, reflected in the November 2019 data that rolled into the index reading for this month. The **JQ-Instant[™]** preliminary read of the 139,000 increase in all private sector, non-farm payrolls in November 2019 shows that approximately **56.40%** of the change in private sector jobs in November was in industry sectors offering P&NS jobs with an average weekly income below the above mean weekly income of all P&NS jobs (i.e. “Low Quality Jobs”). The average of the **JQ-Instant** readings for the final five months indicated a weighted average of **60.80%** Low Quality Job formation for that period, following the reversal of an improved trend earlier in the year.

For a new explanatory video on the JQI, please see: www.vimeo.com/jqi

Chart 1: JQI levels November 2017 to November 2019

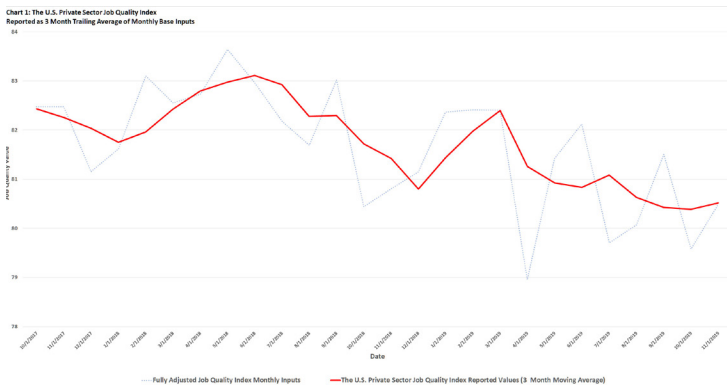
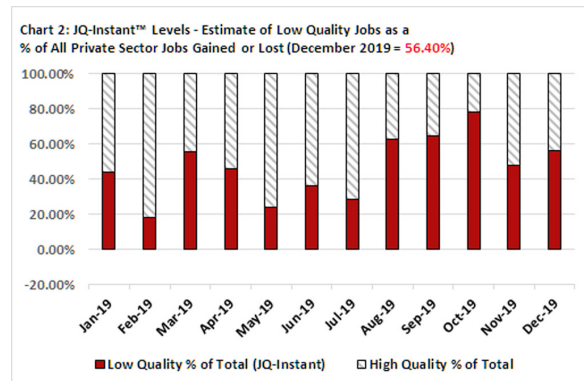


Chart 2: JQ-Instant[™] for 12 Months ending November 2019



This news release presents data from the most recent **JQI** and **JQI-Instant** readings calculated through the month immediately prior to the month of this release date. The **JQI** assesses job quality in the United States by measuring desirable higher-wage/higher-hour jobs versus lower-wage/lower-hour jobs. The **JQI** offers a near-real time analytical tool to policymakers, researchers and financial market participants with relevance to a variety of trends in the economy at large. While economists and international organizations have developed other, complementary conceptions of job quality such as those addressing the emotional satisfaction employees derive from their jobs, the **JQI** interprets “job quality” as meaning the weekly dollar-income a job generates for an employee.

The **JQI** analyzes a representative sample of the economy using production and non-supervisory job (P&NS) data from 180 different industry groups spanning across all 20 super-sectors into which the BLS groups establishments. The principal data utilized is contained in the Current Employment Survey (CES, also often referred to as the establishment survey) P&NS data on average weekly hours (AWH), average hourly wage (AHW) and total employment for each given industry group (seasonally adjusted, in all cases). The **JQI** is updated on a monthly basis contemporaneously with the release of new CES data from the BLS.

The **JQI** establishes a Quality Job Benchmark for each given month. The benchmark value is indicated by the average weighted weekly wage within the set of 180 industry groups, and weighted for the number of jobs in each group. Once the benchmark is established for that given month, each industry group is sorted into low or high quality by comparing each group’s specific weekly wage to the quality benchmark. If an industry’s weekly wage for the month is below (above) the benchmark, then it is considered low (high)-quality job.

Once the data are sorted, the total number of high-quality jobs is divided by the total number of low-quality jobs for that given month. This ratio represents the preliminary **JQI** value. An index reading of 100 would indicate an even distribution. Readings below 100 indicate a greater concentration in/prevalence of lower-quality (those below the mean) positions, and a reading above 100 indicates greater concentration/prevalence of higher-quality positions. It should be noted that the total number of “jobs” is represented by the total number of positions, as opposed to workers, for that given industry group.

The Preliminary **JQI** measure is then further adjusted in the case of certain industries that (i) support a significantly large number of jobs, relative to other industry groups that are used in computing the **JQI**, and (ii) generate weekly wages at or near the quality benchmark and contain a sufficient number of jobs such that minor movements in weekly wages would have the effect of moving them from one side of the quality benchmark to the other from month to month, thereby resulting in unintended statistical fluctuations that can be remedied by further sectoral subdivision.

To address such larger groups of employees, the **JQI** parameterizes a flip category as an industry that contains more than a million employees and has an average weekly wage that typically falls within +/- 10% of the Job Quality Benchmark for a time span of ten or more years. Flip category industries are separated into subcategories below which further sub-category analysis would render little-to-no material difference in internal composition of high income to lower

income jobs, with the outcome of the flip category adjustments being the elimination of large and distortive groups suddenly moving from one side of the Job Quality Benchmark mean to the other during the life of the index (although the sub-categories may exhibit such moves). Industries that satisfy this parameter for the inception date of the **JQI** to date are listed below:

| Flip Category | P&NS Employees (December 2018) |
|----------------------------------|--------------------------------|
| Education | 3,197,100 |
| Offices of Physicians | 2,202,000 |
| Depository Credit Intermediation | 1,277,600 |
| Food Manufacturing | 1,276,300 |

In the aggregate, these four categories comprised just over 7.5% of all private sector P&NS jobs in the U.S., as of December 2018.

The above sectors are subdivided using data provided by the annual Occupational Employment Statistics (OES) survey, which is released by the BLS annually in late March or early April. The OES provides a more detailed breakdown of the wages for each occupation in each industry group. To maintain consistency, OES occupations in the foregoing flip categories that involve supervisory roles are not included. Information from the OES is applied to assess how many jobs within each flip industry are high- or low-quality occupations from the standpoint of weekly income and thereby split the larger industry category into subcategories. For this analysis, the OES data is filtered to only include major occupations within each industry; usually, this includes up to 24 different occupations.

Weekly wages derived from the OES are then compared to the weekly wage benchmarks used in the preliminary **JQI** index. The occupations are then assigned a quality of high or low depending on whether they are above or below the benchmark.

Following the foregoing adjustments, the total number of high-quality jobs are divided by the total number of jobs for each category. This results in the percentage of high-quality jobs (and, correspondingly, low-quality jobs) for each of the flip categories. The relative percentage of high-quality/low-quality jobs is now used to normalize and adjust each flip category, by multiplying the percentage of high-quality/low-quality jobs by the CES employment count so that each flip category industry is split into two groups, which are then independently used in the overall **JQI** calculation.

Because the OES data is released annually, the intra-year percentage divisions of the flip category industry groups are adjusted annually, as well. Such adjustments are calculated to commence with **JQI** data released beginning in May of each year, through to the following April.

Finally, it should be noted that certain industry subgroup data lags data for larger categories by one month because of BLS data release schedules. Furthermore, while the raw **JQI** is otherwise statistically consistent from month to month, even the adjustments heretofore mentioned do not remove all distracting statistical noise in movements of the index from month to month. The **JQI** is more useful to other analysis and forecasting when observed on the basis of a three-

month moving average, and the headline **JQI** index is reported as such.

For a full description of the calculation of the **JQI**, please see: [the November 2019 white paper introducing the U.S. Private Sector Job Quality Index.](#)

The **JQ-Instant** is a snapshot index that results from the subdivision of the change in the CES calculation of all private sector jobs (not just P&NS jobs) for the subject month into high-quality and low-quality jobs, utilizing the **JQI** sectoral divisions for P&NS jobs. Thus, if a marginal job is created or lost in a sector that the **JQI** classifies as high-quality, all private sector jobs created or lost in the subject month are considered high-quality for the purposes of the **JQ-Instant** calculation – the reverse being the case for low-quality jobs. **JQ-Instant** readings are revised in subsequent months commensurate with revisions to the CES data by the BLS.

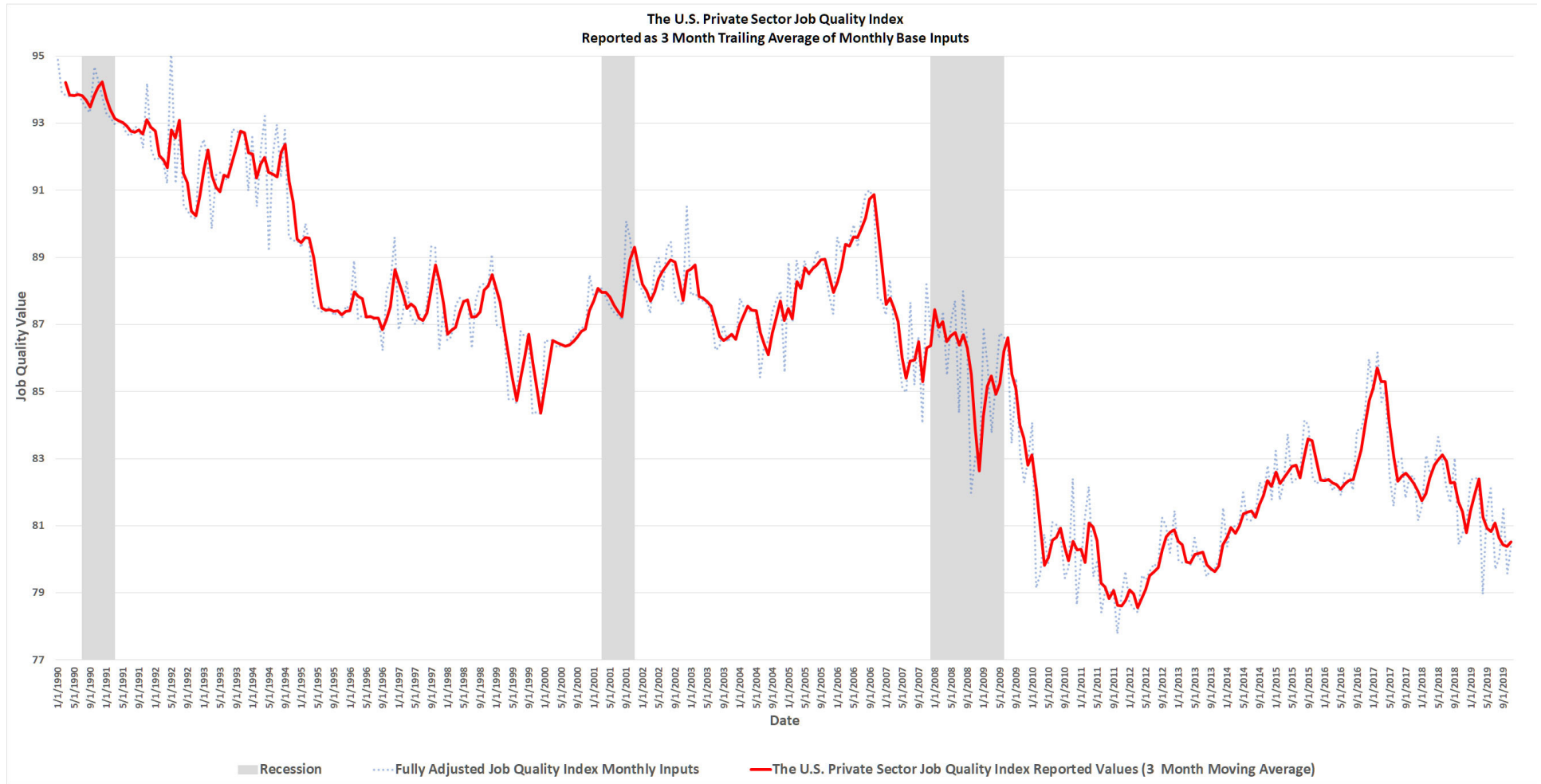
The **JQ-Instant** calculation utilizes 123 sectoral categories, in contrast to the 180 used in the **JQI** itself, because of a one month delay in the BLS reporting of more granular data. Because **JQ-Instant** inherently assumes that all industry categories and subcategories that are on one side or another of the Quality Job Benchmark for purposes of the **JQI** (which analyzes only P&NS jobs) are also on the same side when considering all jobs (i.e. P&NS as well as managerial/supervisory jobs), there may occasionally be certain industry categories that may flip from one quality designation to the other when all jobs are considered, making the **JQ-Instant** reading somewhat inaccurate. In general, however, industries offering high or low quality P&NS jobs (82.5% of all jobs) are generally in the same category when all jobs are considered, making the **JQ-Instant** reading a useful tool for a snapshot analysis of the job quality of the subject month's level of total private sector jobs gained or lost.

Finally, the **JQ-Instant** reading has implications for the likely direction of the **JQI** itself in future months. As the **JQI** is reported as a three-month rolling average of actual monthly readings, significant imbalances (readings varying from an even distribution between high and low quality jobs) in the **JQ-Instant** results would suggest future **JQI** readings moving in the direction of the dominant side of such distribution.

JQ-Instant is reported on a scale of +100 to -100, reflecting the relative proportion of low quality jobs. Positive readings indicate overall net month over month gains in all U.S. private sector jobs. Negative readings indicate overall net month over month losses in all U.S. private sector jobs. A reading of +100 would indicate that all jobs gained in the subject month are low quality jobs. A reading of -100 would indicate that all jobs lost in the subject month are low quality jobs. A **JQ-Instant** reading of +50 would indicate that 50% of the overall jobs gained in the subject month are low quality jobs, and a reading of -50 would indicate that 50% of the overall jobs lost in the subject month are low quality jobs, and so forth.

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Chart 3: The U.S. Job Quality Index from Inception to November 2019
(Reported as 3-month moving average, monthly readings in blue, recessions shown in grey)



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[Tables 1a, 1b, 2a and 2b to be available during the week of January 20, 2020]