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US Economics | North America

Answering Your Questions on Employment

Low response rates, persistent downward revisions, and upcoming benchmark revisions – there is a lot to dissect in the employment report. We answer your questions.

1. What does a low response rate for the Establishment Survey mean?
2. What are nonfarm payroll revisions doing?
3. What can we expect from the benchmark revisions on February 2?
4. What does the birth-death model tell us?
5. Are we seeing abnormal seasonal factors?

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What does a low response rate for the Establishment Survey mean?

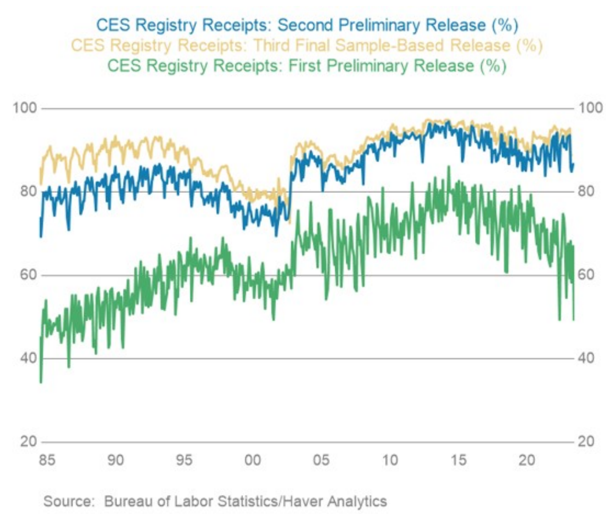
The initial response rate for the December 2023 establishment survey was 49.4% - a low since 1991. This compares to an average response rate of 65.5% in 2022 and 73% pre-COVID. While the initial response rate is very low, the collection rate after the third and final estimate of monthly jobs is consistently at least 90%. We have seen sharp drops in the response rate before – last year the response rate dropped from 66.5% in October to 49.4% in November, before recovering back to 64.0% in December 2022 (Exhibit 1).

There are several reasons why initial response rates to the establishment survey may be low in any given month: business failures, storms that interrupt normal activity, timing of holidays, government shutdowns, strikes, pandemic, etc. More generally, response rates have been in decline over the past decade and were further exacerbated by COVID. This causes less stable and less statistically sound data estimates and leads to more volatility in back revisions.

The cause of the decline in the response rate in December 2023 report was not an obvious interruption like a storm and does not appear to be due to business failures given how low initial jobless claims remain. There could be an impact from the Holiday, which would not persist into January.

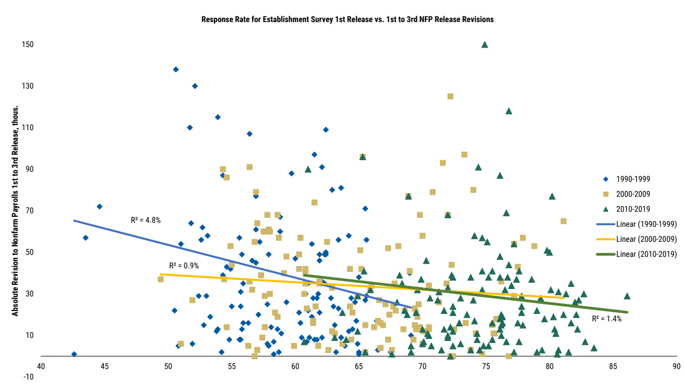
Does a low response rate mean anything for revisions? There is a statistically significant negative relationship between the absolute size of payroll revisions between the first and third release and the response rate in the initial release – lower response rates tend to portend larger revisions. However, we have seen the relationship weaken over the past 30 years (Exhibit 2). And over the COVID period (2020-2023), the relationship has become insignificant.

Exhibit 1: Response rate from first to third release of Establishment Survey



Source: Bureau of Labor Statistics, Morgan Stanley Research

Exhibit 2: Scatter plot on revisions and response rates



Source: Bureau of Labor Statistics, Morgan Stanley Research

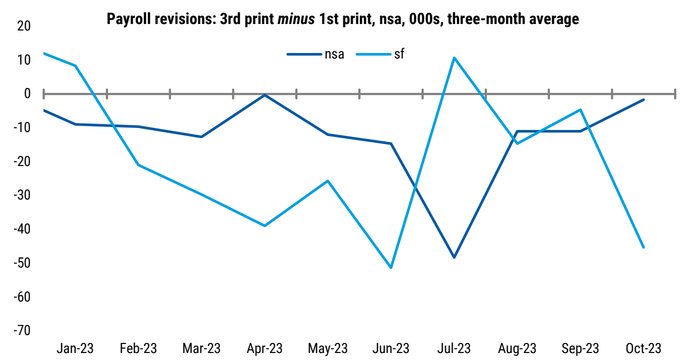
What are nonfarm payroll revisions doing?

Payroll revisions from the initial release to the third release have been down in 9 of

the past 10 payroll prints. The three-month average on first to third release revisions has been -47k. Most of the downward revisions over the past year have come between the 2nd and third prints (in 2023 the average revision from the first to second release is -11k and 2nd to 3rd release is -30k).

More of the revision to SA payrolls is coming through revisions to seasonal factors rather than through the revision of underlying NSA data on employment. In 2023, the 1st to 3rd release revision has been -15k on average from NSA revision vs. -27k on average from the seasonal adjustment (Exhibit 3).

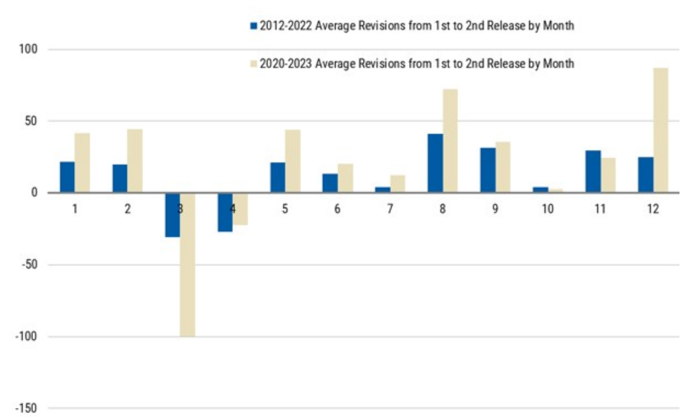
Exhibit 3: More of the revisions have come from seasonal factors than from revisions to underlying NSA payrolls



Source: Bureau of Labor Statistics, Morgan Stanley Research

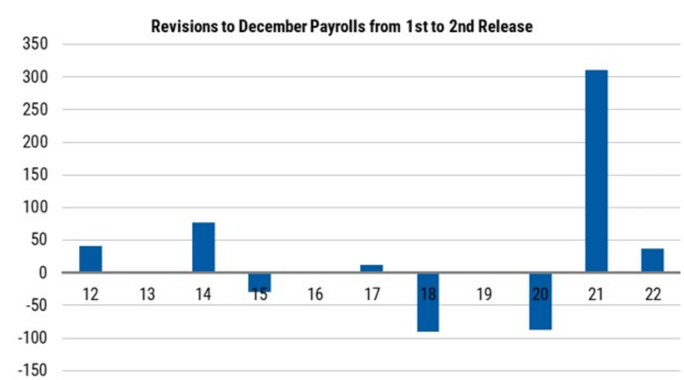
Looking at December specifically, the direction of the revisions in the 2nd release is mixed. The pattern over the past year points to another downward revision. The historical pattern for December payrolls, however, is typically upward revisions (Exhibit 4 & Exhibit 5). From the 1st to 2nd release for nonfarm payrolls has seen upward revisions on average from 2012-2022. More recently, 2021 and 2022 saw December payrolls revised up, while December 2020 was revised down. The clear trend in downward revisions over the course of 2023 versus a more volatile historical revision pattern to the month of December leads us to believe **this downward revision trend will prevail for December 2023 payroll revisions in the second and third releases.**

Exhibit 4: Average revisions each month to nonfarm payrolls from 1st to 2nd release



Source: Bureau of Labor Statistics, Morgan Stanley Research

Exhibit 5: Average revisions from first to second release for December payrolls



Source: Bureau of Labor Statistics, Morgan Stanley Research

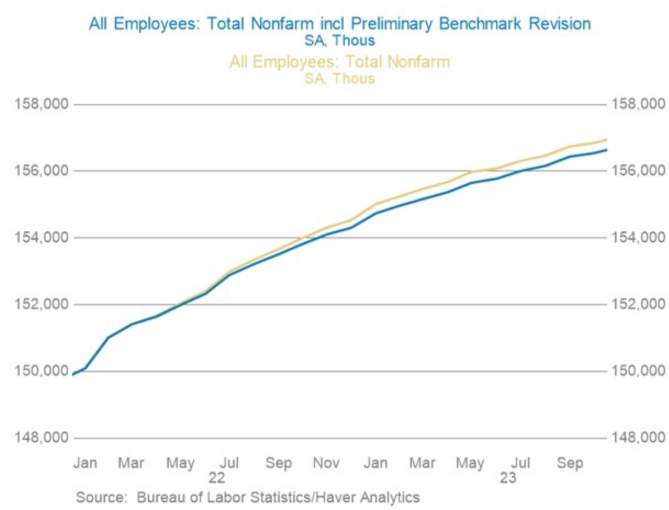
What can we expect from the benchmark revisions on February 2?

The benchmark revisions realign the level of employment between April 2022 and

March 2023 with comprehensive data from unemployment insurance records. The preliminary estimate for total change in employment across sectors was released in August 2023. The BLS estimated that the March 2023 level of payrolls will be lowered by 306k, or 0.2% - a bit larger than the average adjustment over the past 10 years of +/- 0.1%. As published, payrolls have risen an average of 337k per month in the 12 months through March 2023. This benchmark suggests that pace will be cut by 26k per month to 311k per month on average through March 2023. Transport and warehousing payrolls get cut sharply, accounting for almost half of the overall downward revision. Professional and business services will also be trimmed, along with leisure and hospitality and other services. Retail and wholesale trade payrolls get a slight boost, as does government (Exhibit 6 & Exhibit 7).

The final estimate that is released on February 2, 2024 will provide a monthly breakdown, revised seasonal factors, and business birth/death adjustments. While the revisions are only through March 2023 and will not change the near-term trend in nonfarm payrolls, the revised seasonal factors and birth/death model adjustments will matter for current payrolls. The net birth-death forecasts used in the re-estimated values from April of the benchmark year to December of the benchmark year are updated during this process.

Exhibit 6: Nonfarm payrolls as reported vs. preliminary benchmark revisions



Source: Bureau of Labor Statistics, Morgan Stanley Research

Exhibit 7: Preliminary revisions by sector

Preliminary Benchmark Revisions by Major Industry Sector

	Benchmark revision (in thousands)	Percent benchmark revision
Total nonfarm	-306	-0.2
Total private	-358	-0.3
Mining and logging	-2	-2
Construction	30	0.4
Manufacturing	-43	-0.3
Trade, transportation, and utilities	-43	-0.2
Wholesale trade	47.7	0.8
Retail trade	38.2	0.2
Transportation and warehousing	-146.4	-2.2
Utilities	17.3	3
Information	-39	-1.3
Financial activities	47	0.5
Professional and business services	-116	-0.5
Private education and health services	-85	-0.3
Leisure and hospitality	-46	-0.3
Other services	-63	-1.1
Government	52	0.2

Source: Bureau of Labor Statistics, Morgan Stanley Research

What does the Establishment Survey birth-death model tell us?

The birth-death (BD) model estimates business openings and closures. Through March 2023, its approximations for total payrolls were quite accurate: the preliminary estimate of the benchmark revision would not cause significant revision to the levels of payrolls. But data since then still rely on the accuracy of the birth-death model.

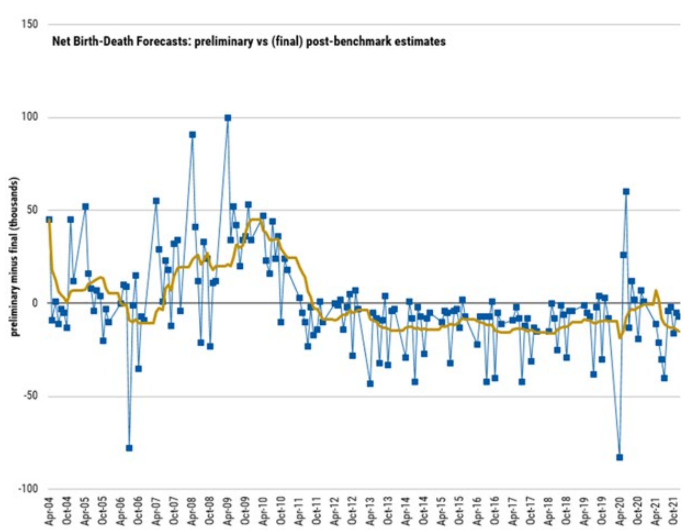
Based on an analysis of historical revisions to the birth-death residuals for the April to December period from 2004 to 2021, we find:

1. There has been overestimation before and during downturns. Only one recession ex-COVID is in the sample, but this was clear in 2008-2010 (the Great Recession). That is, preliminary estimates coming from the birth-death model were higher than final numbers coming from the Quarterly Census of Employment and Wages (the QCEW covers more than 95% of U.S. jobs available; and it's the basis for the benchmark revisions).
2. Surprisingly, forecast errors have been mostly negative since 2012 with some positive prints during the COVID recession. We would have expected errors moving around zero in normal times.
3. We would take the overestimation during the Great Recession as a strong upper bound considering the magnitude of 2008-2010 vs the current slowdown. The BD model overestimated NFP by ~30k/month on average across 2008-2010 (2x one standard deviation in revisions from the BD model across 2004-2011, Exhibit 8).
4. The impact from the BD model on NFP revisions tends to account for a small share of revisions.

The most important factor here is that while the birth-death component is a relatively stable portion of employment, given that a majority of the employment change is explained by changes in continuing business units rather than the relationship between employment associated with business births and deaths, **there is a cyclicality in the BD model – in downturns business closures have a larger drag on employment.**

According to the BLS, there is an over/under estimation issue with the birth-death model depending on what is happening with continuing business units (sensitivity to the business cycle). When continuing units are increasing, the birth-death factor adds more jobs compared to when continued units are decreasing. This is because even though birth-death is a forecast value, there is current information being used through the imputation of business deaths.

Exhibit 8: Net birth-death forecasts for preliminary vs. final post-benchmark estimates

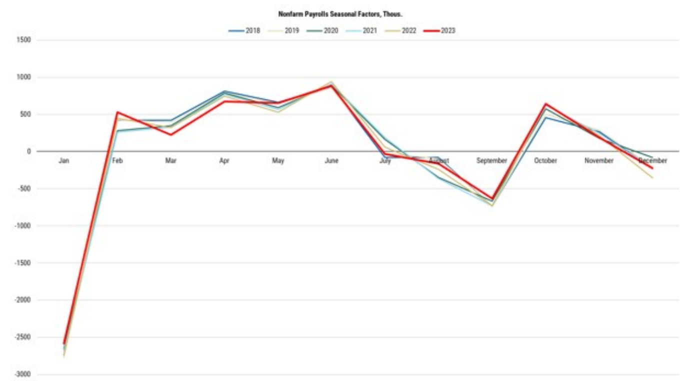


Source: Bureau of Labor Statistics, Morgan Stanley Research

Are there abnormal seasonal factors?

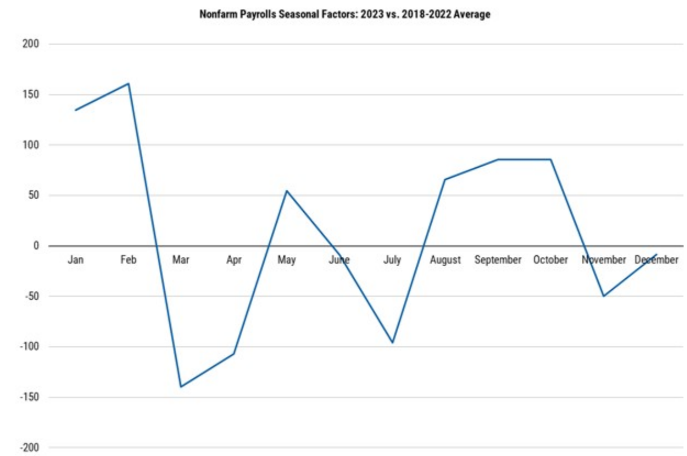
Seasonal factors have not shown any notable dislocation from prior year trends. Over the course of 2023, the seasonal factors were at times both larger and smaller than the 2018-2022 average, with no clear trend (Exhibit 9). In 2023, the first quarter showed the biggest variability in seasonal factors relative to historical trend (Exhibit 10).

Exhibit 9: Nonfarm payrolls seasonal factors over past six years



Source: Bureau of Labor Statistics, Morgan Stanley Research

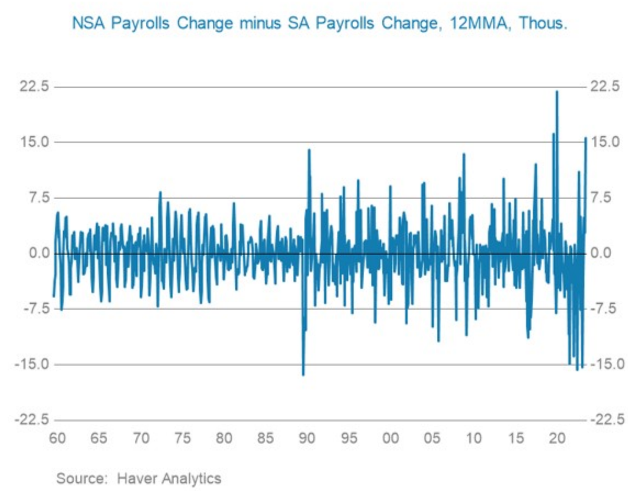
Exhibit 10: Nonfarm payrolls seasonal factors for 2023 vs. 2018-2022 average



Source: Bureau of Labor Statistics, Morgan Stanley Research

It is also important to note we cannot rely on seasonal factors netting out to zero over the course of a year. In the 12-months through December, the NSA was on average 15k/month stronger than SA. This is a larger gap by historical standards and is likely to revert in coming months, with stronger SA than NSA. From 2010-2019, seasonal factors have netted out to +/- 7.5k, whereas over the COVID period (2020-2023), seasonal factors have netted out to +/- 15k (Exhibit 11). **This matters because you cannot rely on bias from seasonal factors reversing rapidly if there has been over/undershooting.**

Exhibit 11: Seasonal factors do not net out to zero



Source: Bureau of Labor Statistics, Morgan Stanley Research

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