

Revisions in Payroll Data

Ensuring the Quality of U.S. Statistics

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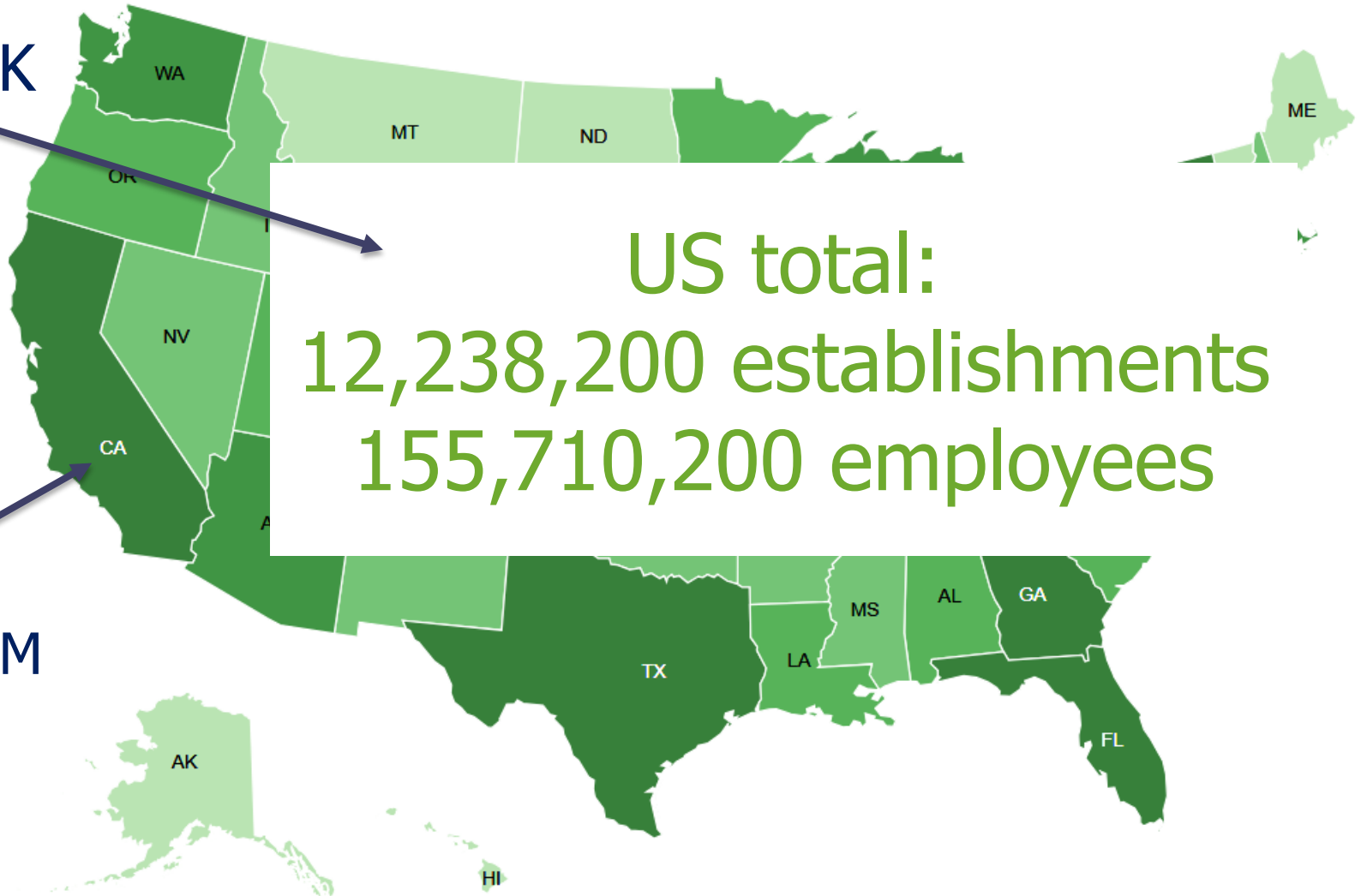
March 3, 2025



Employment

WY: 291K

CA: 18.2M



Source: Quarterly Census of Employment and Wages, June 2024



Monthly Revisions

■ Two primary reasons

- ▶ Additional sample

- ▶ Re-evaluation of seasonal adjustment



Timeliness

- Reference: the pay period that includes the 12th of the month, and collection starts as early as the 13th of the month
 - ▶ Reporters paying their employees monthly may not be able to report
- Not all respondents provide data in time for the current month's estimate
- Reporting errors



Quick turnaround

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Feb-25						
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	
Mar-25						
						1
2	3	4	5	6	7	8

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Apr-25						
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			
May-25						
				1	2	3



Additional Sample

- CES publishes revised estimates for the prior two months to allow for the reporting of more data for use in estimation
 - ▶ Average collection rate 2020-2023:
 - 1st published: 68.3%
 - 2nd published: 89.0%
 - 3rd published: 92.8%

Seasonal adjustment

- Driven by the underlying not-seasonally adjusted data
- Seasonal factors must be adjusted to account for the impact of:
 - ▶ Additional sample to previous month's estimates
 - ▶ Additional observation as input to the model



Breakdown between causes of revisions

Seasonal adjustment = SA-NSA

↪ $(+28) = 56 - 28$

Additional sample

Not
Seasonally
Adjusted

Seasonally
Adjusted

	Seasonally Adjusted	Not Seasonally Adjusted
October 1st-2nd	+24,000	+25,000
September 2nd-3rd	+32,000	+3,000
Net Revision	+56,000	+28,000



Improves data quality

- Monthly revisions improve data quality:
 - ▶ **Additional sample improves the reliability of the over-the-month change**
 - Standard error first preliminary estimates: 81,687
 - Standard error second preliminary estimates: 72,680
 - ▶ **Reduce annual error/revisions**
 - Reduction in annual error via a reduction in reporting and non-response error
 - Reduction in annual revisions to over-the-month-changes seasonally adjusted*

* = “Concurrent Seasonal Adjustment for Industry Employment Statistics,” October 2022. <https://www.bls.gov/ces/additional-resources/cescapdf.pdf>



Takeaways & Final Notes

- Revisions are an important part in the quality control of CES sample-based estimates
- Revisions have been a part of the CES program for many decades
- Monthly and annual revisions improve CES estimates
- BLS publishes extensive information on both monthly and annual revisions, as well as information on the reliability of CES estimates



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