

BLS Measures of State Productivity

Mike Brill

BLS Productivity Program

11/10/2020



BLS Productivity Data

■ National data for...

▶ Major Sectors

- e.g. Nonfarm Business, Manufacturing

▶ Industries

- e.g. Restaurants, Hospitals, Motor Vehicle Manufacturing

■ Data now available by state and region

State Productivity Measures

Areas

50 States and District of
Columbia, Regions

Years

2007-2019

Sector

Private Nonfarm Sector

www.bls.gov/lpc/state-productivity.htm

On This Page:

INTERACTIVE MAPS

- » [Annual growth rates for select measures](#)
- » [Long-term growth rates for select measures](#)

FREQUENTLY ASKED QUESTIONS

- » 1. [How is output measured for states?](#)
- » 2. [How is hours measured for states?](#)
- » 3. [What are the differences between the way BLS constructs state-level and national labor productivity measures?](#)
- » 4. [What are 'experimental' measures?](#)

Download Data:

- » Private nonfarm productivity and costs by state and region ([XLSX](#))

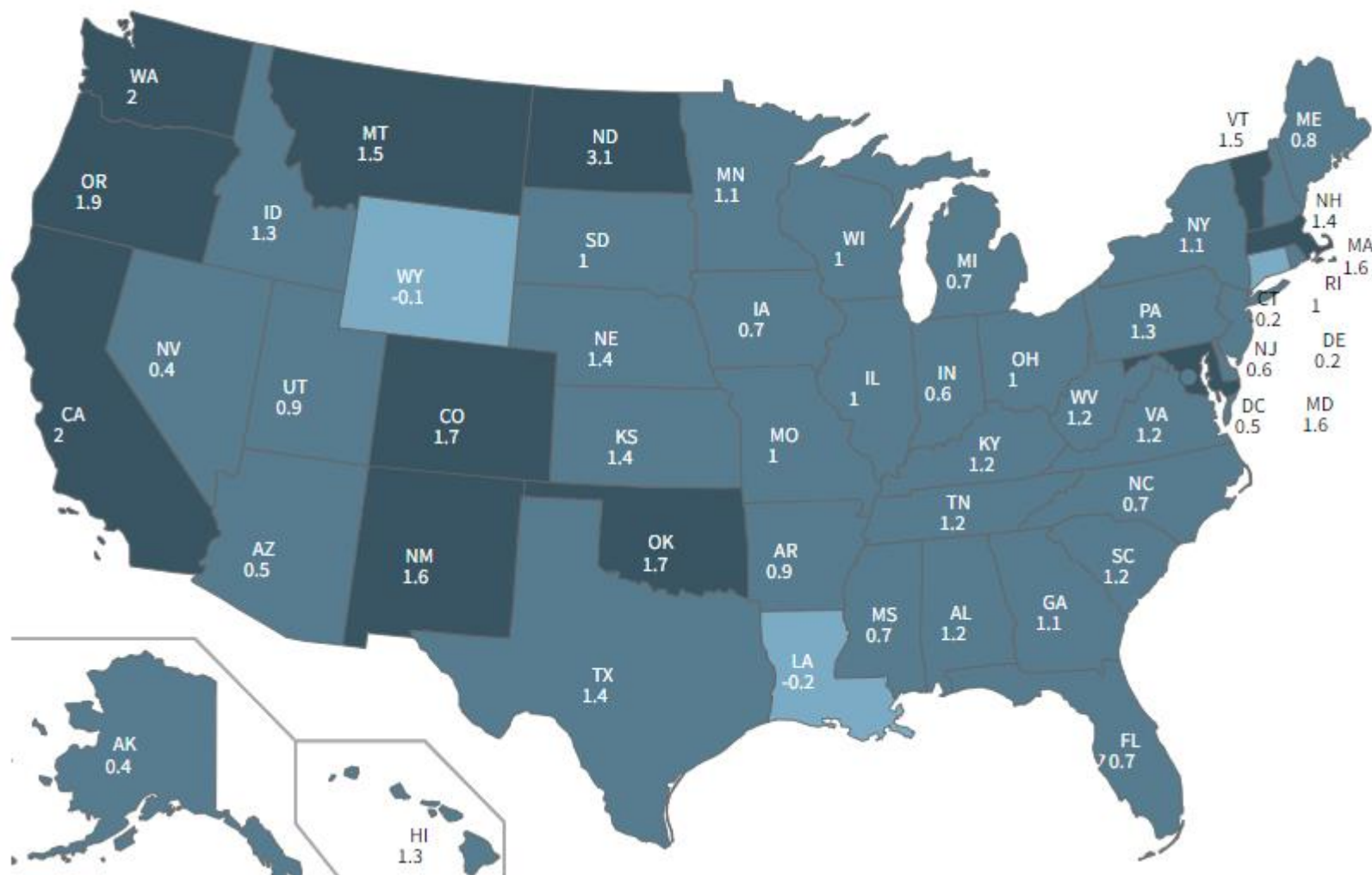
MLR Article:

- » BLS Publishes Experimental State-level Labor Productivity Measures ([HTML](#)). ([PDF](#))

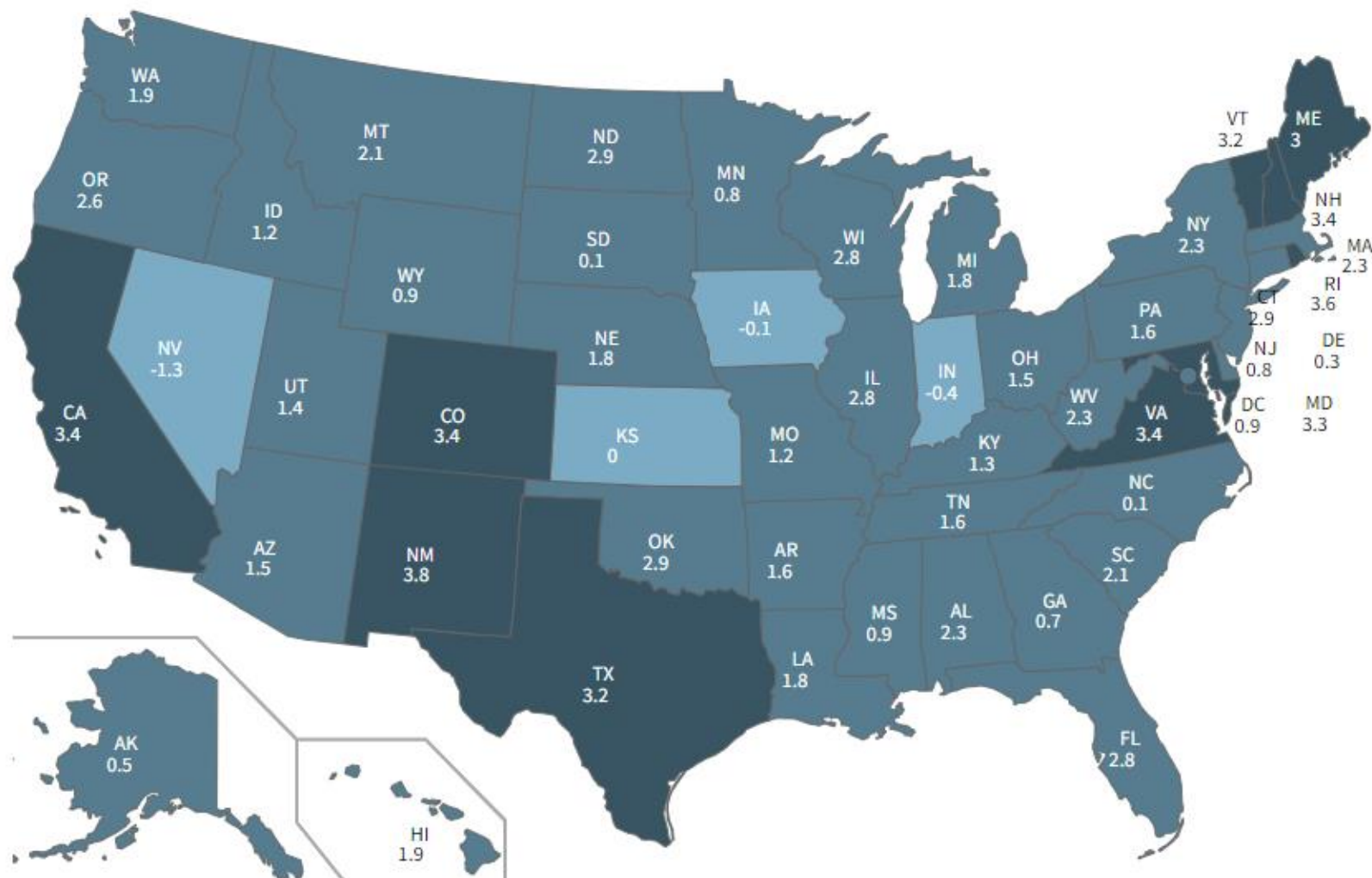
Inquiries and Feedback:

- » **Email** - productivity@bls.gov
- » **Phone** - (202) 691-5606

Labor Productivity Growth Rates, 2007-2019



Labor Productivity Growth Rates, 2018-2019



Data in Excel – Wide Format

	A	B	C	D	E	P	Q	R
1	Area Name	Area Type	Sector	Measure	Units	2017	2018	2019
2	Alabama	State	Private Nonfarm	Employment	1-Yr Rate	1.3	1.4	1.4
3	Alabama	State	Private Nonfarm	Employment	2012=100	106.85	108.357	109.922
4	Alabama	State	Private Nonfarm	Hourly labor compensation	1-Yr Rate	2.8	3.3	3.6
5	Alabama	State	Private Nonfarm	Hourly labor compensation	2012=100	112.203	115.908	120.077
6	Alabama	State	Private Nonfarm	Hourly labor compensation cost	\$/hour	31.934	32.988	34.175
7	Alabama	State	Private Nonfarm	Hourly labor compensation cost	1-Yr Rate	2.8	3.3	3.6
8	Alabama	State	Private Nonfarm	Hours	1-Yr Rate	0.5	1.4	0.7
9	Alabama	State	Private Nonfarm	Hours	2012=100	105.165	106.64	107.35
10	Alabama	State	Private Nonfarm	Implicit output deflator	1-Yr Rate	1.8	2.5	1.6
11	Alabama	State	Private Nonfarm	Implicit output deflator	2012=100	108.51	111.217	112.961
12	Alabama	State	Private Nonfarm	Labor compensation	1-Yr Rate	3.3	4.8	4.3
13	Alabama	State	Private Nonfarm	Labor compensation	2012=100	117.999	123.604	128.902
14	Alabama	State	Private Nonfarm	Labor compensation cost	1-Yr Rate	3.3	4.8	4.3
15	Alabama	State	Private Nonfarm	Labor compensation cost	million\$	95149.937	99669.743	103942.504
16	Alabama	State	Private Nonfarm	Labor productivity	1-Yr Rate	0.9	2	2.3
17	Alabama	State	Private Nonfarm	Labor productivity	2012=100	99.447	101.454	103.805

Data in Excel – Flat Format

	A	B	C	D	E	F	G
1	Area Name	Area Type	Sector	Measure	Units	Year	Value
2	Alabama	State	Private Nonfarm	Number of hours	millions	2007	3150.003
3	Alabama	State	Private Nonfarm	Number of hours	millions	2008	2999.17
4	Alabama	State	Private Nonfarm	Number of hours	millions	2009	2715.493
5	Alabama	State	Private Nonfarm	Number of hours	millions	2010	2727.896
6	Alabama	State	Private Nonfarm	Number of hours	millions	2011	2738
7	Alabama	State	Private Nonfarm	Number of hours	millions	2012	2833.265
8	Alabama	State	Private Nonfarm	Number of hours	millions	2013	2880.841
9	Alabama	State	Private Nonfarm	Number of hours	millions	2014	2849.26
10	Alabama	State	Private Nonfarm	Number of hours	millions	2015	2897.888
11	Alabama	State	Private Nonfarm	Number of hours	millions	2016	2965.176
12	Alabama	State	Private Nonfarm	Number of hours	millions	2017	2979.603
13	Alabama	State	Private Nonfarm	Number of hours	millions	2018	3021.386
14	Alabama	State	Private Nonfarm	Number of hours	millions	2019	3041.517
15	Alaska	State	Private Nonfarm	Number of hours	millions	2007	468.319
16	Alaska	State	Private Nonfarm	Number of hours	millions	2008	462.61
17	Alaska	State	Private Nonfarm	Number of hours	millions	2009	452.619
18	Alaska	State	Private Nonfarm	Number of hours	millions	2010	459.836
19	Alaska	State	Private Nonfarm	Number of hours	millions	2011	467.658



Article

[HOME](#)[ARCHIVES](#)[FOR AUTHORS](#)[ABOUT](#)[SUBSCRIBE](#)[GO](#)

ARTICLE

JUNE 2019

BLS publishes experimental state-level labor productivity measures

The U.S. Bureau of Labor Statistics recently published experimental data on state-level labor productivity for the private nonfarm sector, including state-level output per hour, output, hours, unit labor costs, hourly compensation, and real hourly compensation data series. These annual data series, covering 2007–17, provide insights into the variation in productivity across states. Over this period, average annual productivity growth ranged from 3.1 percent in North Dakota to –0.7 percent in Louisiana.



Frequently Asked Questions

Frequently asked questions

1. How is output measured for states?

BLS state-level measures of output for the private nonfarm sector are created using GDP by state and industry data published by the Bureau of Economic Analysis (BEA). BEA does not produce a private nonfarm sector measure of real output by state. To create the necessary output series, BLS subtracts several industry components — the farm sector, private households, and owner-occupied housing — from GDP by state using a Fisher ideal index formula. See *output* subsection of [MLR article](#) for more information on BEA's methods for nominal and real measures of GDP by state and industry.

[▲ Back to Top](#)

2. How is hours measured for states?

Hours are the number of hours worked by all employed persons, including wage and salary workers, self-employed persons, and unpaid family workers. Hours for wage and salary workers are primarily from BLS Current Employment Statistics (CES) and hours for self-employed and unpaid family workers are from the BLS Current Population Survey (CPS). The hours are adjusted from an hours paid basis to an hours worked basis using data from the BLS National Compensation Survey (NCS). See *hours* subsection of [MLR article](#) for more information

Data in BLS Search Tool

Industry Productivity and Costs

Help ?

1 Select one or more Areas ?

Search

U.S. Total
Alabama
Alaska
Arizona
Arkansas
California
Colorado
Connecticut
Delaware
District of Columbia

2 Select one or more Measures ?

Search

Labor productivity (2007=100)
Output (2007=100)
Hours worked (2007=100)
Employment (2007=100)
Output per employee (2007=100)
Labor compensation (2007=100)
Unit labor costs (2007=100)
Implicit output deflator (2007=100)
Value of production (Million \$)
Labor compensation (Million \$)

3 Select one or more Sectors ?

Search

Multi-Sector

4 Select one or more Industries ?

Search

D _____ PRIVATE NONFARM
N _____ Private Nonfarm

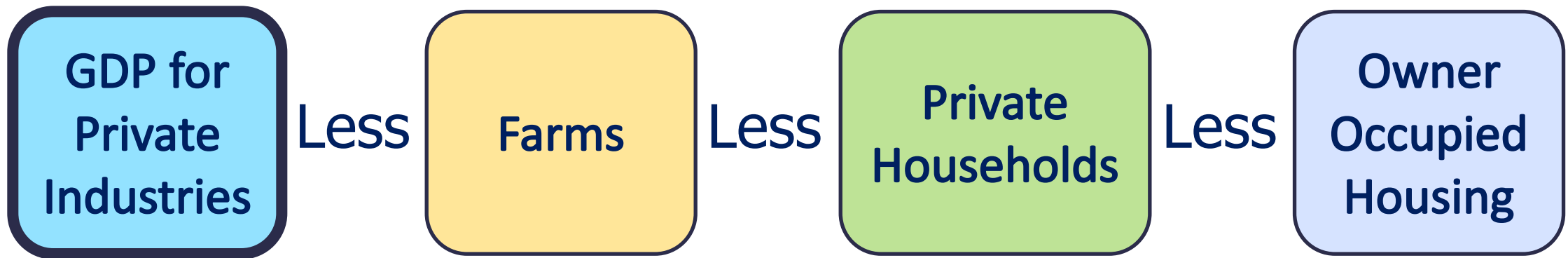
5 Select Duration ?

- ☒ Indexes or values
- ☒ Annual percent changes

Output Data Sources and Methodology

- **Data source:** GDP by State and Industry Data from the Bureau of Economic Analysis

Output =



Hours Data Sources and Methodology

- **BLS Current Employment Statistics:** Used for hours of wage and salary workers
- **BLS Current Population Survey:** Used for hours of self-employed and unpaid family workers
- **BLS National Compensation Survey:** Used to transform hours paid to hours worked







Measures Available by State

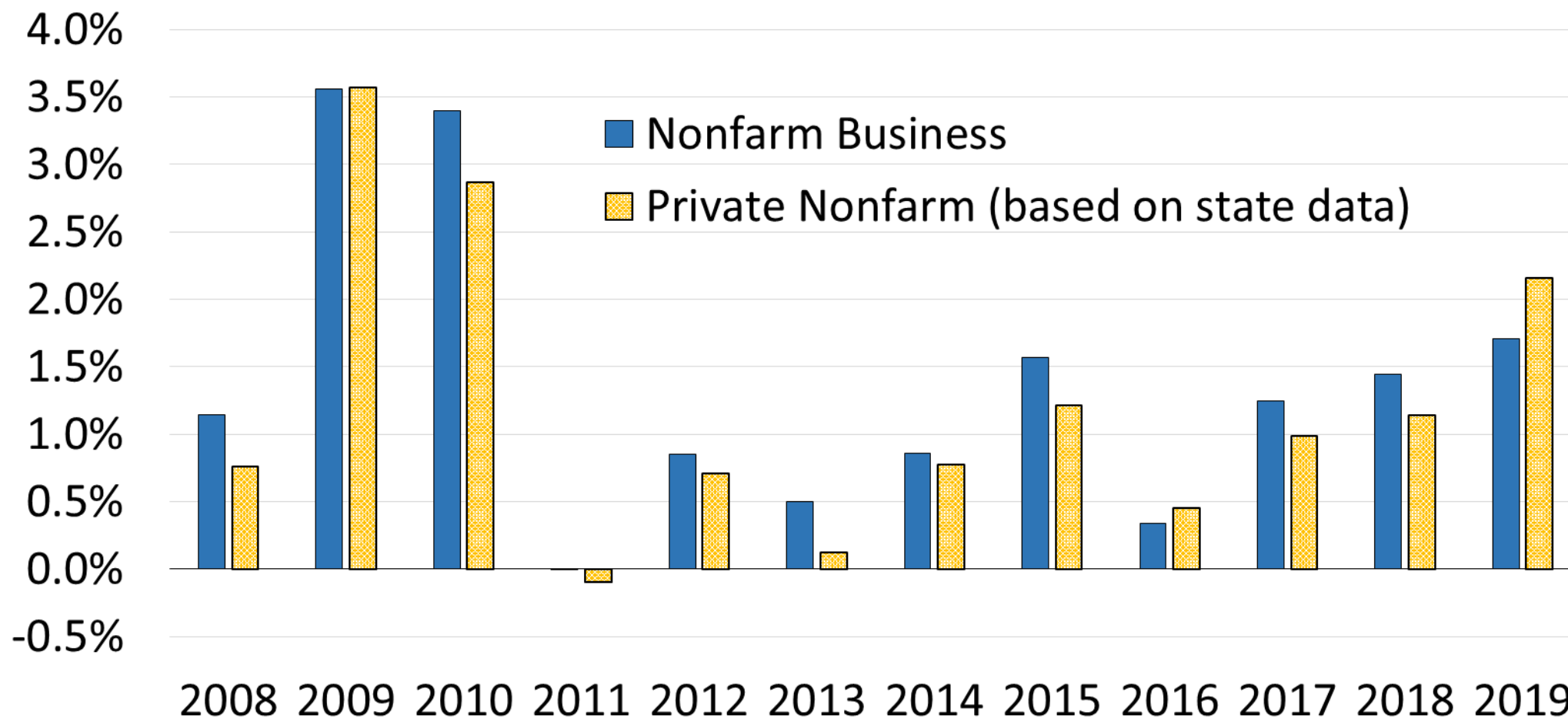
- Output per hour worked
- Output per worker
- Output (nominal and real)
- Implicit output deflator
- Hours worked
- Number of workers
- Labor compensation
- Real labor compensation
- Hourly labor compensation
- Real hourly labor compensation
- Unit labor costs

National vs State Measures

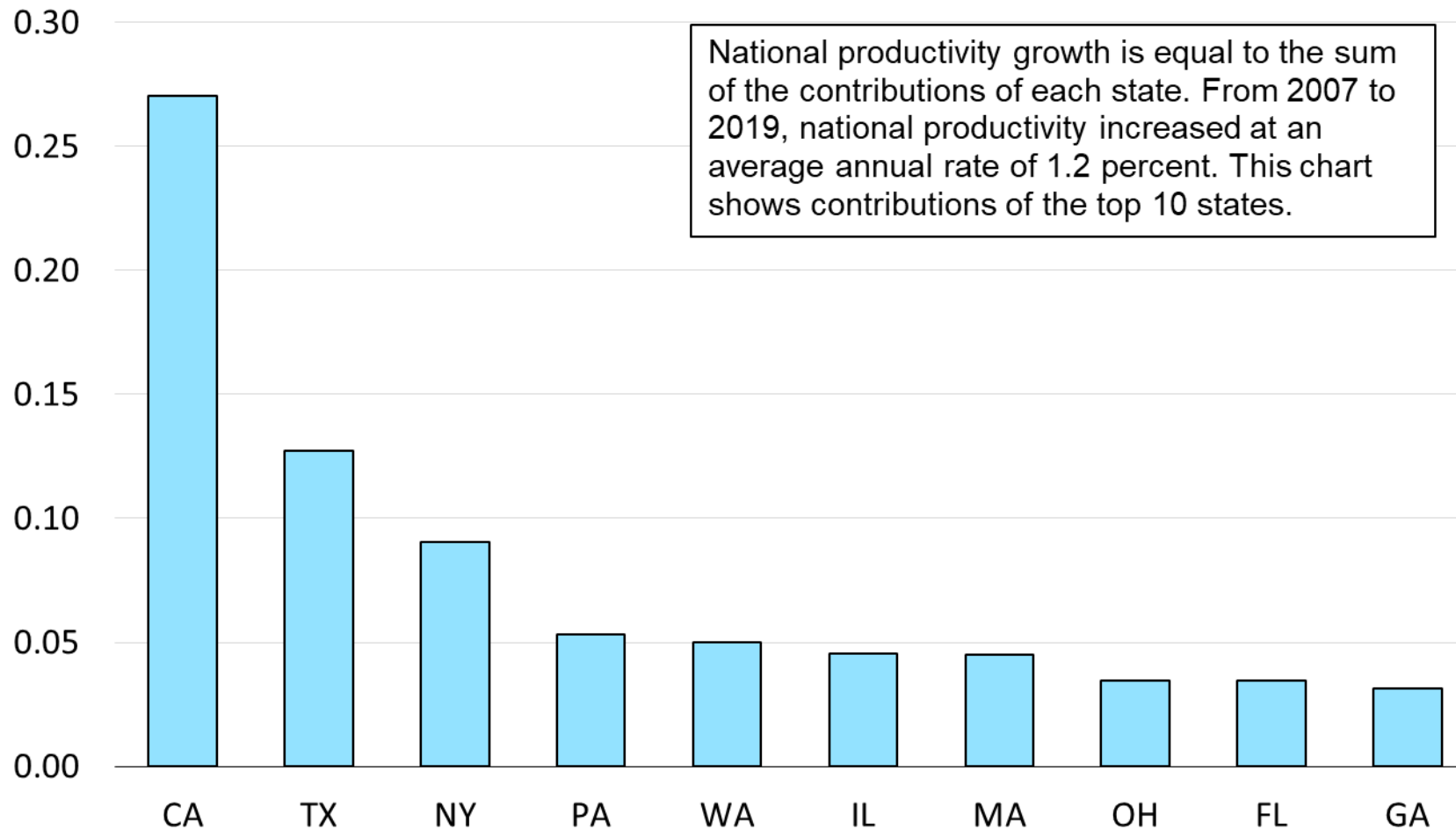
Key Differences

	National Measures	State Measures
Sector Covered	Nonfarm Business	Private Nonfarm
Nonprofit Institutions		
Government Enterprises		

Annual percent change in labor productivity

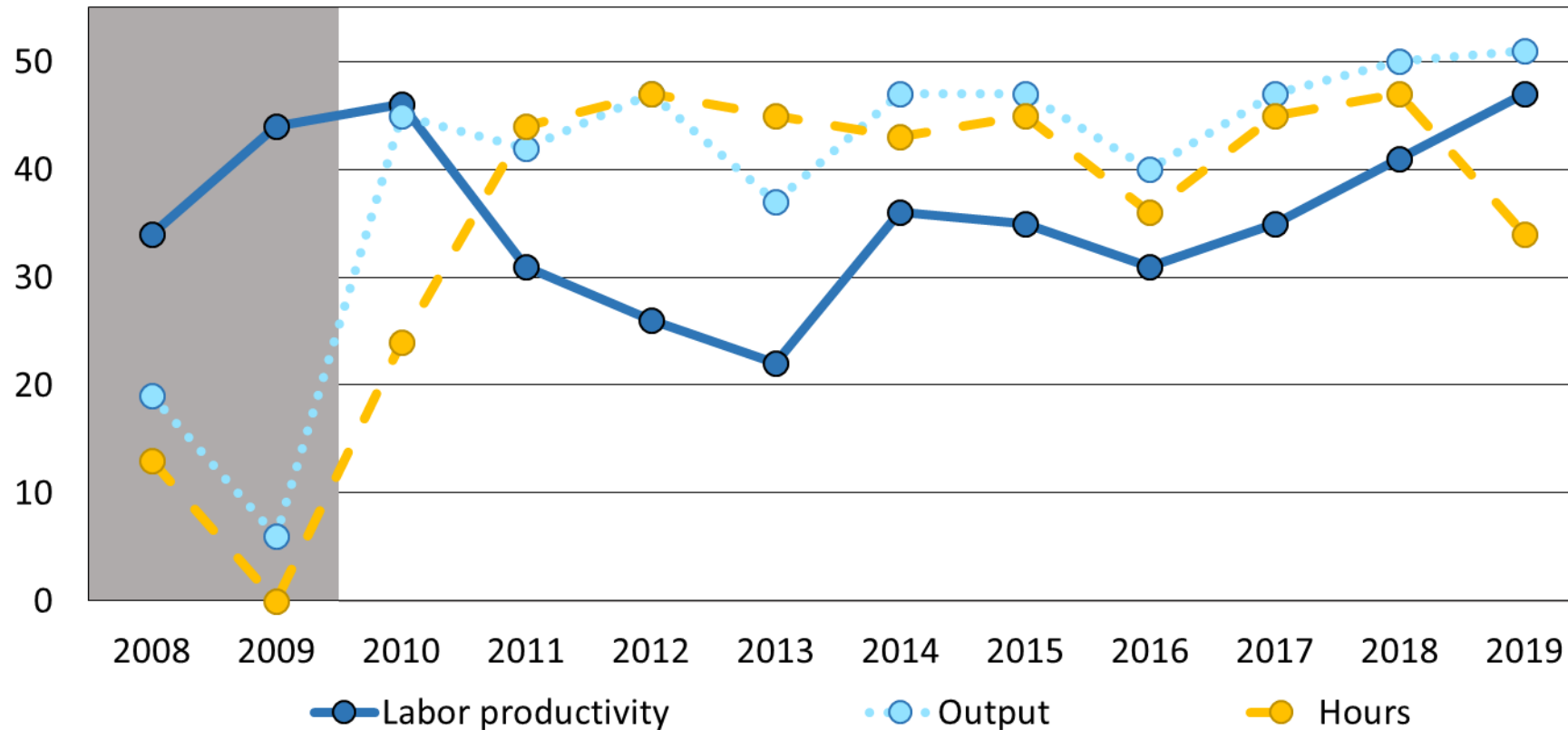


States contributing most to national labor productivity growth, 2007-2019



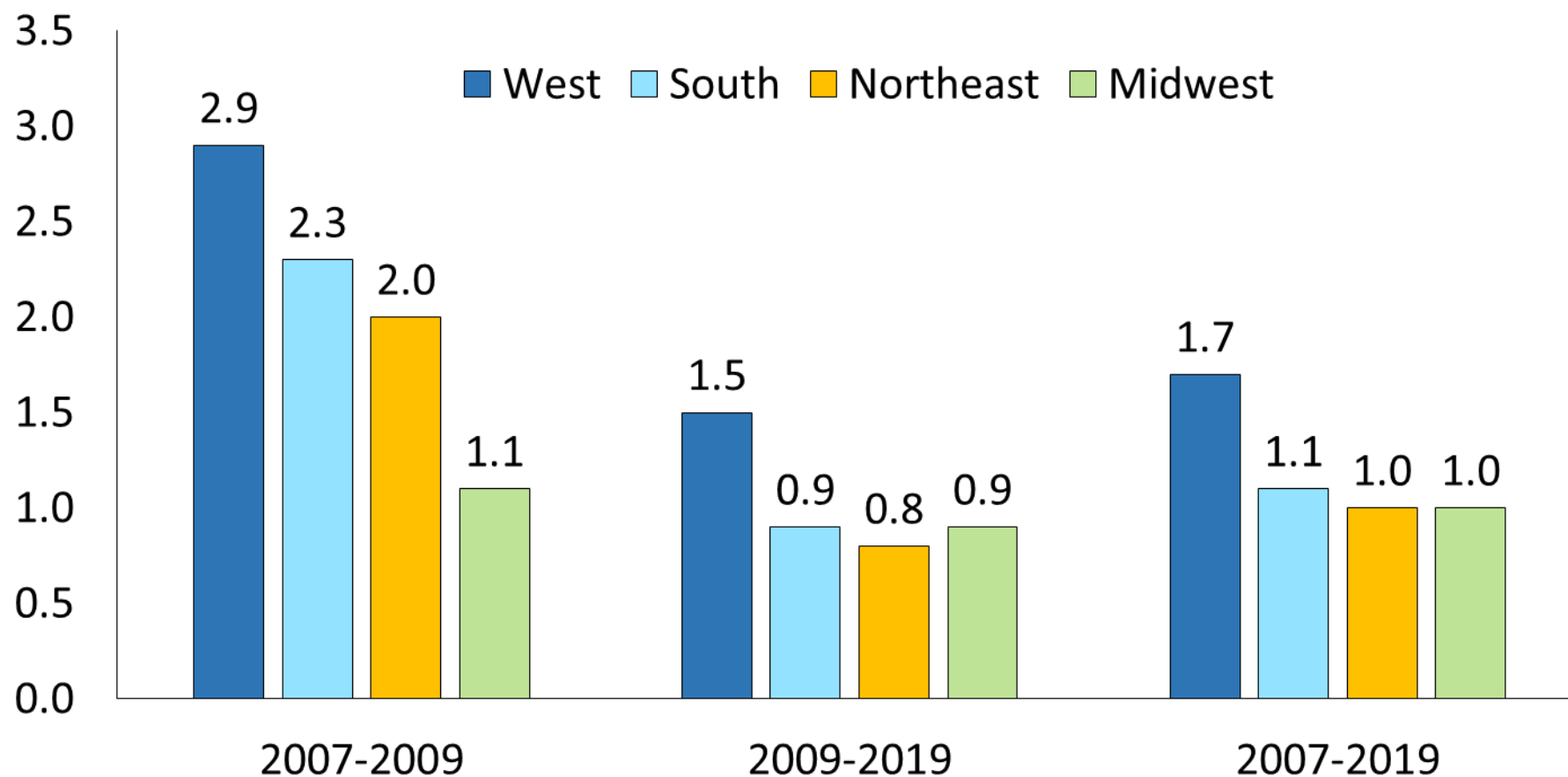
Number of states with increases in labor productivity, output, and hours worked

Number of States



Note: Shaded areas denote years that include recessions

Average annual percent change in labor productivity by region

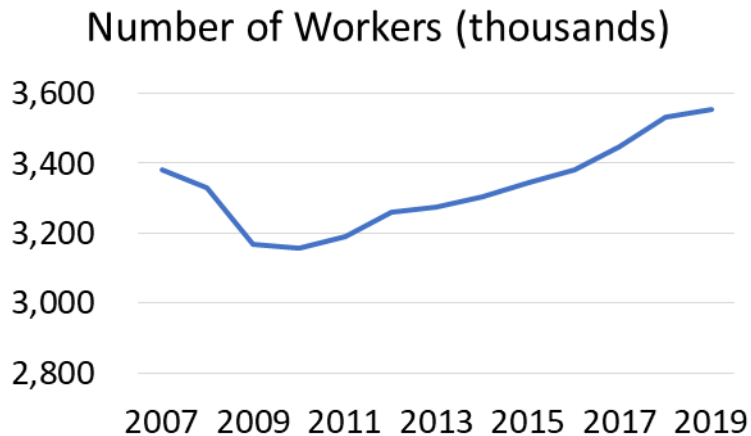


Statistics for Virginia in 2019

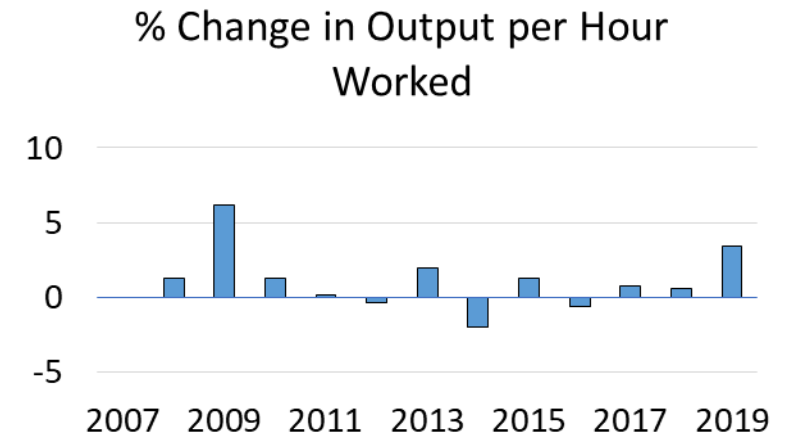
Labor	
Hours Worked	-0.9%
Number of Workers	0.6%

Output	
Output	2.5%

Productivity	
Output per Hour Worked	3.4%
Output per Worker	1.8%



Compensation and Unit Labor Costs	
Hourly Labor Compensation	4.4%
Unit Labor Costs	1.0%



Future Research

■ More Industry Detail



■ More Geographic Detail



Find out more at:

www.bls.gov/lpc/state-productivity.htm

Questions? Feedback?

productivity@bls.gov



Topics for Discussion

- 1. Expansion priorities** - Would it be more valuable for BLS to expand state productivity measures with additional industry detail or additional geographic detail (e.g. large MSAs or counties) if you had to pick only one? Are there particular industries or geographies the committee would be most interested in?
- 2. Data limitations and presentation** - If we expand our industry detail, we may run into data limitations in a number of states. Would you still find more detailed industry measures for a subset of states useful, even if we could not produce them for all states? Is there a certain threshold in the number of states that you feel is needed for detailed industry data to be useful? Do you have suggestions for presenting an incomplete mix of industry/state data to customers so that it is less confusing?



Contact Information

Mike Brill

Supervisory Economist
BLS Productivity Program

www.bls.gov/lpc

202-691-5657

brill.michael@bls.gov

