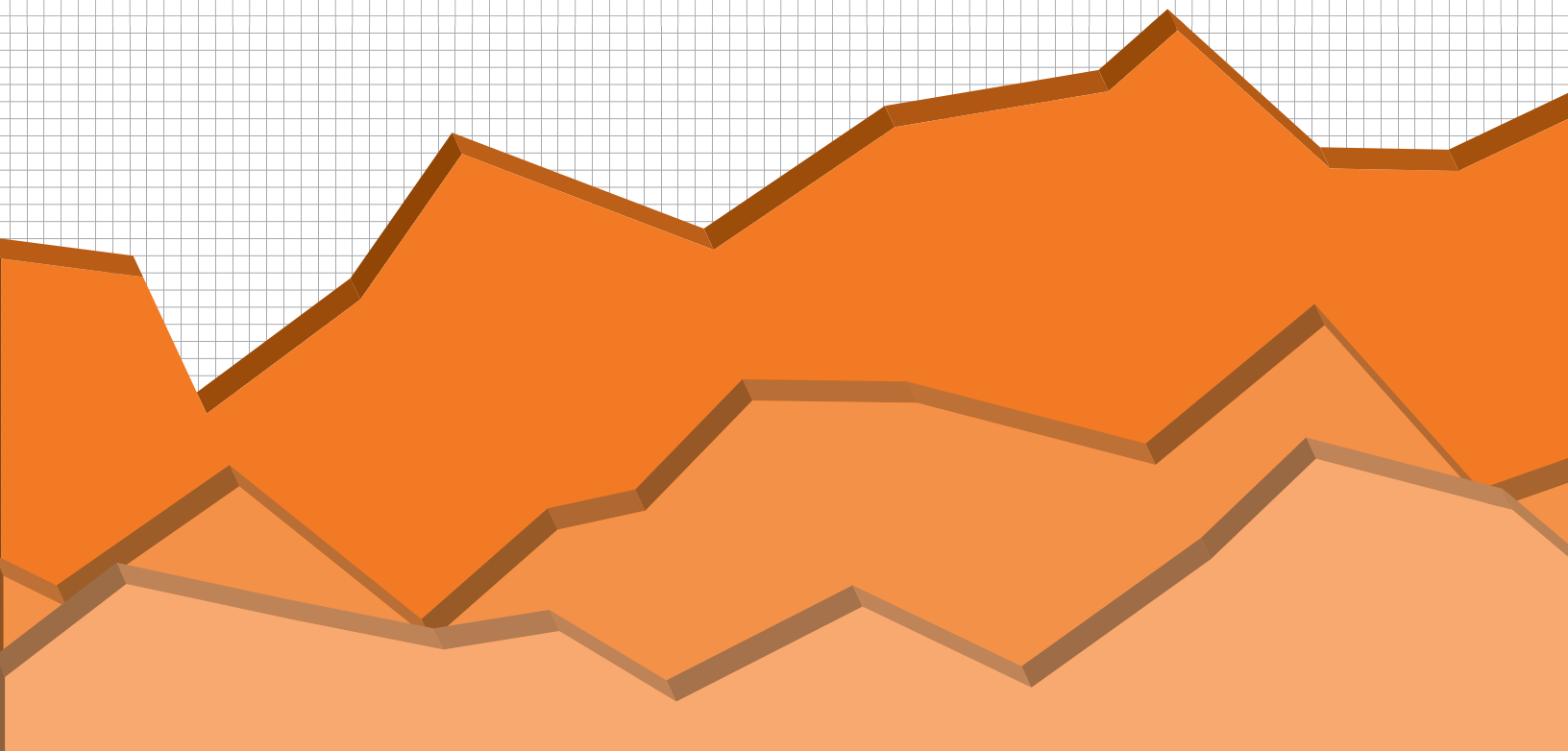




KAUFFMAN
INDICATORS *of*
ENTREPRENEURSHIP

2018 **NEW EMPLOYER
BUSINESS REPORT:**
NATIONAL AND STATE TRENDS

MARCH 2020



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ACKNOWLEDGEMENTS

For discussion or feedback, the authors thank Emin Dinlersoz, Principal Economist, Center for Economic Studies, U.S. Census Bureau; Brian Headd, Economist, U.S. Small Business Administration; Robert Fairlie, Professor, University of California Santa Cruz; and A.J. Herrmann, Director of Policy, Office of the Mayor, Kansas City, Missouri. Special production thanks to Kim Wallace Carlson, Ashley Dvorak, Kim Farley, Alyse Freilich, Lacey Graverson, Megan Hirt, Larry Jacob, David Kimmis, Tim Racer, and Kayla Smalley.



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Suggested citation: Desai, S., Howe, T. and Murray, H. (2020) "2018 New Employer Business Report: National and State Trends," Ewing Marion Kauffman Foundation: Kansas City.

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Executive Summary

The Kauffman New Employer Business Indicators series has been compiled in an effort to provide information on new employer businesses, a subset of all entrepreneurial activity. The series provides users with measures to track trends in the emergence of these businesses, their representation in the population and among all firms, and the time it takes these businesses to become employers. This report presents indicators for the United States and all 50 states and Washington, D.C., beginning in 2005 and through the most recent year of data available for each metric.

Rate of new employer business actualization: This indicator reflects the proportion of all new business applications that become employer businesses within eight quarters. In 2018, the national rate of new employer business actualization was 11.33%, meaning that for every 100 new business applications, about 11 businesses made a first payroll within eight quarters. For the same year, the value of this indicator ranged from 6.59% in Delaware to 17.36% in Washington, with a median of 11.30% across states.

Rate of new employer businesses: The rate of new employer businesses reflects new employer businesses in the population. The national rate of new employer businesses was 0.12 in 2018, meaning there were 120 new employer businesses for every 100,000 people. This ranged from 0.07 in West Virginia to 0.31 in Wyoming in 2018, with a median of 0.12 across states.

New employer business velocity: New employer business velocity is the average amount of time it takes, in quarters, for a new business application to become an employer, assuming it does so within eight quarters. In 2014, the national new employer business velocity was 1.92, indicating that, on average, approximately six months pass between business application and first payroll. For the same year, the value of this indicator ranged from 1.46 in North Dakota to 2.37 in Washington, D.C., with a median of 1.83.

Employer business newness: Employer business newness captures new employer businesses as a share of employer firms, regardless of age. In 2016, national employer business newness was 6.8%, meaning that almost 7 out of every 100 employer businesses were new businesses that made a first payroll within the first eight quarters. This ranged from 4.44% in Washington, D.C. to 8.67% in Nevada in 2016, with a median of 5.99%.

We also calculate the **New Employer Business Actualization Speed (NEBAS) Index**, a snapshot reflecting both the emergence (actualization) and speed (velocity) of new employer businesses. In 2014 (the most recent year for which data are available), the national NEBAS index was 0.76. The value of this measure in 2014 ranged from 0.60 in Washington, D.C., to 0.93 in South Dakota, with a median of 0.79 across states.

Table 1 presents the most recent data for each indicator nationally and for all 50 states and Washington, D.C.

The Kauffman New Employer Business Indicators series has been compiled in an effort to provide information on new employer businesses and provides users with measures to track trends in the emergence of these businesses, their representation in the population and among all firms, and the time it takes these businesses to become employers.

TABLE 1	NEW EMPLOYER BUSINESS INDICATORS (MOST RECENT YEARS AVAILABLE)				
STATE	RATE OF NEW EMPLOYER BUSINESS ACTUALIZATION (2018)	RATE OF NEW EMPLOYER BUSINESSES (2018)	NEW EMPLOYER BUSINESS VELOCITY (2014)	EMPLOYER BUSINESS NEWNESS (2016)	NEBAS INDEX (2014)
United States	11.33%	0.12	1.92	6.80%	0.76
Alabama	9.93%	0.09	1.68	5.36%	0.80
Alaska	13.50%	0.17	1.67	7.14%	0.85
Arizona	10.04%	0.10	2.02	6.97%	0.72
Arkansas	12.50%	0.10	1.70	6.05%	0.83
California	15.62%	0.14	1.91	7.97%	0.81
Colorado	11.09%	0.17	1.94	7.62%	0.75
Connecticut	9.45%	0.09	2.01	4.45%	0.72
Delaware	6.59%	0.18	2.15	7.33%	0.65
District of Columbia	6.85%	0.12	2.37	4.44%	0.60
Florida	8.67%	0.16	2.17	8.04%	0.67
Georgia	7.83%	0.12	2.03	6.98%	0.69
Hawaii	8.04%	0.09	2.08	4.65%	0.68
Idaho	14.46%	0.18	1.67	7.11%	0.86
Illinois	12.15%	0.11	2.02	6.03%	0.75
Indiana	10.54%	0.08	1.82	5.10%	0.77
Iowa	13.46%	0.10	1.62	4.85%	0.85
Kansas	13.25%	0.11	1.67	5.54%	0.84
Kentucky	10.94%	0.08	1.70	5.30%	0.81
Louisiana	8.26%	0.10	1.86	5.66%	0.73
Maine	17.17%	0.14	1.63	5.78%	0.91
Maryland	7.87%	0.10	2.11	5.58%	0.67
Massachusetts	13.52%	0.12	1.92	5.92%	0.78
Michigan	9.08%	0.09	1.95	5.12%	0.73
Minnesota	12.30%	0.10	1.81	5.24%	0.80
Mississippi	8.24%	0.08	1.64	5.58%	0.79
Missouri	12.68%	0.12	1.53	5.98%	0.86
Montana	12.97%	0.19	1.72	6.26%	0.86
Nebraska	14.68%	0.12	1.66	5.65%	0.87
Nevada	9.58%	0.14	2.08	8.67%	0.69
New Hampshire	12.24%	0.12	1.77	4.80%	0.82
New Jersey	9.91%	0.12	2.09	6.17%	0.70
New Mexico	11.13%	0.09	1.73	5.54%	0.80
New York	12.47%	0.15	2.03	6.92%	0.74
North Carolina	11.30%	0.11	1.89	6.49%	0.77

TABLE 1		NEW EMPLOYER BUSINESS INDICATORS (MOST RECENT YEARS AVAILABLE)			
STATE	RATE OF NEW EMPLOYER BUSINESS ACTUALIZATION (2018)	RATE OF NEW EMPLOYER BUSINESSES (2018)	NEW EMPLOYER BUSINESS VELOCITY (2014)	EMPLOYER BUSINESS NEWNESS (2016)	NEBAS INDEX (2014)
North Dakota	14.77%	0.16	1.46	5.99%	0.93
Ohio	9.56%	0.07	1.87	4.78%	0.75
Oklahoma	11.68%	0.12	1.65	6.08%	0.82
Oregon	15.69%	0.15	1.80	6.87%	0.84
Pennsylvania	11.63%	0.09	1.94	4.89%	0.76
Rhode Island	14.53%	0.14	1.90	5.34%	0.81
South Carolina	11.05%	0.11	1.89	6.44%	0.77
South Dakota	14.69%	0.15	1.47	5.96%	0.93
Tennessee	11.31%	0.09	1.72	6.17%	0.80
Texas	11.97%	0.12	1.84	8.13%	0.78
Utah	10.68%	0.17	1.87	8.30%	0.75
Vermont	13.55%	0.14	1.76	4.62%	0.85
Virginia	10.11%	0.10	2.04	6.07%	0.72
Washington	17.36%	0.16	1.77	7.52%	0.86
West Virginia	11.14%	0.07	1.63	4.71%	0.83
Wisconsin	11.28%	0.09	1.83	4.76%	0.78
Wyoming	9.37%	0.31	1.75	7.78%	0.81

Introduction

The Kauffman New Employer Business Indicators series explores attributes of new employer businesses in order to facilitate tracking and greater understanding of trends related to these firms. These businesses represent a relatively small but impactful subset of new businesses that contribute disproportionately to job creation.¹ The indicators in this series capture trends in the emergence of these new employer businesses, their representation in the population and among all employer firms, and the time it takes to become employers. The series includes the following four indicators:

- 1. Rate of new employer business actualization:**
The percentage of all new businesses that make a first payroll within eight quarters of business application.
- 2. Rate of new employer businesses:**
The number of new employer businesses per 100 people.
- 3. New employer business velocity:**
The average time between business application and making a first payroll within eight quarters, conditional on having payroll within eight quarters.
- 4. Employer business newness:**
New employer businesses as a share of all employer firms regardless of age.

We also calculate the **New Employer Business Actualization Speed (NEBAS) Index**, an equally weighted snapshot of the new employer business actualization rate and new employer business velocity.

These indicators are calculated using three underlying data products from the U.S. Census Bureau: the Business Formation Statistics (BFS)², Business Dynamics Statistics (BDS), and Population Estimates Program (PEP). Like many measures of entrepreneurial dynamics, the indicators are limited by sampling, interpretation, and reporting constraints. While no single indicator can fully capture the dynamics of new employer businesses, each indicator in this series provides insight into a specific and important dimension. The appendix to this report provides more information regarding methodology and data sources.

The indicators in this series capture trends in the emergence of these new employer businesses, their representation in the population and among all employer firms, and the time it takes to make a first payroll.

1. See Haltiwanger et al. (2013).

2. Bayard et al. (2018) describes the BFS in detail.



NEW EMPLOYER BUSINESS ACTUALIZATION, DEFINED

The Business Formation Statistics (BFS) (which are quarterly state- and nation-level data) use applications for an Employer Identification Number (EIN) as a measure of new business applications. A new business is regarded as a new employer business “formation” if it makes a first payroll within eight quarters of its EIN application. Payroll is measured based on the timing of first payroll observation.

The measures of new employer businesses do not capture businesses with a first payroll date outside of the eight quarter window (Bayard et al. 2018).

The new employer business actualization value for a given year represents the percentage of business applications in that year that made a first payroll within eight quarters. The structure of the BFS data is such that the period between application and formation is assigned to the year of original application: Actualizations reported for 2014 include new business applications for an EIN in 2014 that made a first payroll within eight quarters of that. New employer business formations data is unavailable after quarter one of 2015. The BFS provide projected data for employer formations for the subsequent years, which are used here for 2015 through 2018.

Kauffman New Employer Business Indicators

NEW EMPLOYER BUSINESS ACTUALIZATION RATE

This indicator represents the percentage of all firms filing business applications in a given year that become employers within eight quarters of their business application.

The national new employer business actualization rate in 2018 was 11.33%, meaning that for every 100 new business applications for an Employer Identification Number (EIN), about 11 of these businesses became employers within eight quarters. In 2018, this indicator ranged from 6.59% in Delaware to 17.36% in Washington, with a median of 11.30% across all states.

Other states with relatively high rates of new employer business actualization in 2018 included Maine (17.17%), Oregon (15.69%), and California (15.62%). States with relatively low rates of new employer business actualization included Washington, D.C. (6.85%), Georgia (7.83%), and Maryland (7.87%).

The table below presents the rate of new employer business actualization nationally and for all 50 states and Washington, D.C., in 2018.

STATE	RATE OF NEW EMPLOYER BUSINESS ACTUALIZATION
United States	11.33%
Alabama	9.93%
Alaska	13.50%
Arizona	10.04%
Arkansas	12.50%
California	15.62%
Colorado	11.09%
Connecticut	9.45%
Delaware	6.59%
District of Columbia	6.85%
Florida	8.67%
Georgia	7.83%
Hawaii	8.04%
Idaho	14.46%
Illinois	12.15%

STATE	RATE OF NEW EMPLOYER BUSINESS ACTUALIZATION
Indiana	10.54%
Iowa	13.46%
Kansas	13.25%
Kentucky	10.94%
Louisiana	8.26%
Maine	17.17%
Maryland	7.87%
Massachusetts	13.52%
Michigan	9.08%
Minnesota	12.30%
Mississippi	8.24%
Missouri	12.68%
Montana	12.97%
Nebraska	14.68%
Nevada	9.58%
New Hampshire	12.24%
New Jersey	9.91%
New Mexico	11.13%
New York	12.47%
North Carolina	11.30%
North Dakota	14.77%
Ohio	9.56%
Oklahoma	11.68%
Oregon	15.69%
Pennsylvania	11.63%
Rhode Island	14.53%
South Carolina	11.05%
South Dakota	14.69%
Tennessee	11.31%
Texas	11.97%
Utah	10.68%
Vermont	13.55%
Virginia	10.11%
Washington	17.36%
West Virginia	11.14%
Wisconsin	11.28%
Wyoming	9.37%

For every 100 new business applications for an Employer Identification Number (EIN), about 11 businesses became employers within eight quarters.

New employer business actualization rates fluctuate over time. Table 3 shows variation in this indicator nationally and at the state level for the years between 2005 and 2018. At the national level, the percentage of new businesses that became employers within eight quarters decreased by nearly half over this time period. In 2005, slightly more than one in five new businesses that filed an application for an EIN became employers within eight quarters, compared with just over 11% by 2018.

State-level data mirrors this decline at the national level. New employer business actualization rates declined for all states and Washington, D.C., over this time period. Wyoming experienced the most variation in this indicator during this period, and Washington, D.C., had the least variation.³

In 2005, slightly more than one in five new businesses that filed an application for an EIN became employers within eight quarters, compared with just over 11% by 2018.

3. Standard deviations are 6.26 for Wyoming and 1.42 for Washington, D.C.

KAUFFMAN INDICATORS OF ENTREPRENEURSHIP

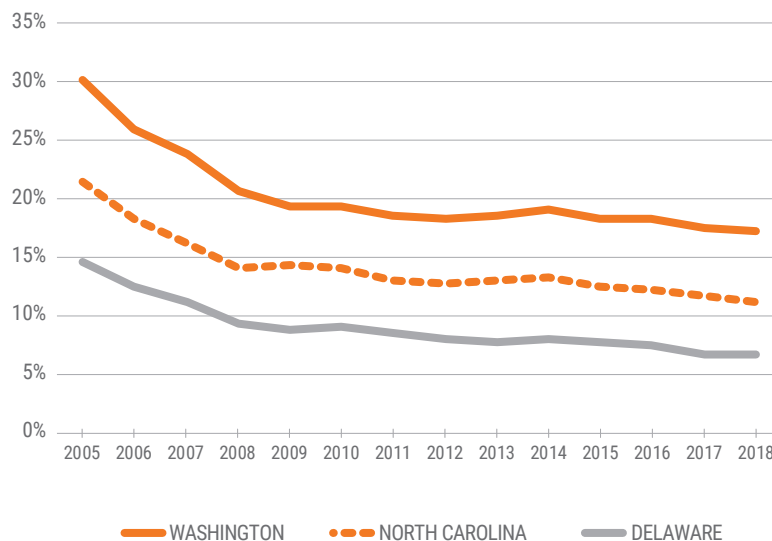
TABLE 3		RATE OF NEW EMPLOYER BUSINESS ACTUALIZATION BY GEOGRAPHY (2005-2018)												
STATE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
United States	21.14%	18.22%	16.43%	14.43%	14.00%	13.86%	13.37%	12.97%	13.02%	12.92%	12.59%	12.14%	11.62%	11.33%
Alabama	20.78%	17.74%	16.24%	13.64%	13.29%	13.12%	12.86%	12.16%	12.00%	12.53%	11.47%	10.86%	10.50%	9.93%
Alaska	29.96%	24.69%	22.74%	20.88%	20.72%	18.73%	18.33%	17.61%	16.17%	16.59%	16.80%	15.95%	14.36%	13.50%
Arizona	21.63%	18.00%	15.08%	11.87%	11.31%	11.43%	10.93%	10.84%	10.97%	11.15%	10.95%	10.74%	10.29%	10.04%
Arkansas	22.94%	20.24%	19.30%	16.77%	16.05%	15.91%	15.52%	14.93%	15.44%	15.08%	14.34%	13.56%	12.90%	12.50%
California	26.49%	22.46%	20.39%	18.51%	17.72%	17.37%	17.05%	16.90%	17.23%	16.83%	16.92%	16.38%	15.86%	15.62%
Colorado	22.16%	19.44%	17.18%	14.79%	14.29%	13.00%	12.77%	12.65%	12.51%	12.53%	12.19%	11.96%	11.44%	11.09%
Connecticut	17.01%	14.28%	13.17%	11.79%	11.81%	11.99%	11.98%	11.11%	10.80%	10.96%	10.83%	10.13%	9.79%	9.45%
Delaware	14.50%	12.52%	11.13%	9.31%	8.81%	9.19%	8.55%	7.93%	7.70%	7.94%	7.68%	7.38%	6.78%	6.59%
District of Columbia	11.97%	10.54%	9.28%	8.59%	9.54%	8.47%	7.71%	8.11%	8.13%	7.74%	7.43%	7.23%	7.41%	6.85%
Florida	16.45%	13.81%	12.15%	11.15%	11.46%	11.29%	10.74%	10.20%	10.21%	10.11%	9.60%	9.18%	8.90%	8.67%
Georgia	17.74%	14.99%	12.69%	10.55%	9.85%	9.90%	9.35%	9.11%	9.35%	9.30%	8.80%	8.37%	8.15%	7.83%
Hawaii	18.89%	16.31%	13.92%	11.47%	11.34%	10.86%	10.31%	9.27%	10.11%	9.53%	9.05%	8.74%	8.75%	8.04%
Idaho	29.98%	25.38%	21.31%	17.40%	16.50%	16.12%	15.94%	15.06%	16.48%	16.60%	15.67%	14.45%	14.77%	14.46%
Illinois	20.35%	18.32%	16.64%	14.23%	14.57%	14.47%	14.14%	14.18%	14.13%	13.78%	13.66%	13.01%	12.84%	12.15%
Indiana	22.56%	19.95%	17.92%	13.41%	10.77%	11.84%	11.90%	11.93%	12.07%	11.88%	11.57%	11.32%	11.11%	10.54%
Iowa	26.48%	21.81%	20.47%	18.80%	17.51%	17.17%	16.14%	15.69%	15.68%	15.25%	14.97%	14.52%	13.36%	13.46%
Kansas	24.95%	21.19%	20.50%	17.95%	16.42%	16.23%	15.99%	14.50%	15.40%	15.55%	14.66%	14.29%	13.52%	13.25%
Kentucky	20.83%	18.64%	17.53%	15.34%	15.29%	14.58%	13.99%	13.55%	14.52%	13.34%	13.15%	12.68%	11.58%	10.94%
Louisiana	16.25%	14.78%	13.25%	11.59%	10.95%	10.40%	10.41%	9.93%	9.70%	9.82%	9.25%	8.60%	8.41%	8.26%
Maine	29.45%	25.78%	24.47%	21.18%	20.13%	23.33%	20.54%	19.87%	21.82%	20.69%	21.29%	19.63%	18.67%	17.17%
Maryland	16.41%	13.52%	11.73%	10.16%	10.55%	10.07%	9.84%	9.63%	9.52%	9.29%	9.06%	8.59%	8.24%	7.87%
Massachusetts	21.89%	18.25%	17.06%	16.07%	15.49%	14.97%	14.67%	14.75%	14.65%	14.30%	14.50%	14.21%	13.60%	13.52%
Michigan	17.84%	15.31%	13.54%	11.80%	11.54%	11.29%	11.05%	10.65%	11.02%	11.14%	10.46%	9.88%	9.41%	9.08%
Minnesota	23.98%	20.10%	18.24%	15.94%	13.88%	14.15%	13.80%	13.59%	13.92%	14.22%	13.62%	13.53%	12.74%	12.30%
Mississippi	19.20%	16.57%	14.71%	12.64%	12.07%	12.20%	11.26%	11.05%	10.79%	10.73%	10.13%	9.47%	8.64%	8.24%
Missouri	23.03%	19.61%	17.27%	15.19%	14.61%	14.70%	14.30%	14.01%	14.33%	15.12%	14.20%	13.78%	13.11%	12.68%
Montana	28.50%	24.56%	22.58%	19.56%	18.23%	17.28%	18.05%	17.11%	17.35%	17.55%	16.69%	15.63%	14.71%	12.97%
Nebraska	29.29%	25.26%	23.33%	21.57%	20.53%	19.79%	19.25%	18.60%	18.13%	17.63%	17.77%	17.83%	16.02%	14.68%
Nevada	14.48%	12.86%	11.73%	9.67%	10.05%	10.80%	9.83%	10.20%	10.32%	9.70%	10.12%	9.58%	9.44%	9.58%
New Hampshire	22.01%	18.74%	18.34%	15.92%	16.33%	15.89%	15.84%	15.06%	14.75%	15.19%	14.70%	14.09%	12.61%	12.24%
New Jersey	18.33%	16.13%	13.94%	12.39%	12.53%	12.60%	11.95%	11.53%	11.50%	11.46%	11.22%	10.87%	10.16%	9.91%
New Mexico	27.54%	22.93%	18.67%	16.16%	15.27%	15.11%	14.59%	14.27%	13.67%	13.40%	13.37%	13.04%	11.63%	11.13%
New York	20.28%	18.31%	17.07%	16.48%	16.79%	15.87%	14.93%	14.36%	14.09%	13.56%	13.93%	13.52%	12.87%	12.47%
North Carolina	21.33%	18.37%	16.29%	14.20%	14.27%	13.98%	13.02%	12.72%	12.96%	13.36%	12.51%	12.19%	11.81%	11.30%
North Dakota	30.77%	26.00%	24.75%	24.56%	21.94%	23.28%	24.93%	21.64%	19.59%	19.14%	19.22%	18.11%	15.29%	14.77%
Ohio	20.44%	17.95%	16.01%	13.52%	12.63%	12.32%	11.60%	11.22%	10.91%	11.07%	10.61%	10.89%	9.88%	9.56%

TABLE 3 RATE OF NEW EMPLOYER BUSINESS ACTUALIZATION BY GEOGRAPHY (2005-2018)

STATE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Oklahoma	22.50%	19.88%	18.77%	16.21%	14.75%	14.66%	15.00%	14.30%	13.93%	13.66%	13.30%	12.45%	11.76%	11.68%
Oregon	28.64%	23.69%	21.23%	17.77%	16.99%	17.07%	16.84%	16.79%	17.08%	17.63%	16.31%	16.19%	15.94%	15.69%
Pennsylvania	21.13%	17.93%	17.25%	15.35%	14.55%	14.65%	13.98%	13.64%	13.10%	13.18%	12.73%	12.42%	11.85%	11.63%
Rhode Island	25.05%	22.39%	19.42%	17.65%	18.43%	18.33%	16.58%	17.71%	16.77%	16.82%	17.04%	16.47%	15.22%	14.53%
South Carolina	22.02%	18.33%	15.77%	13.33%	13.00%	13.14%	12.90%	12.57%	12.68%	13.11%	12.18%	11.51%	11.36%	11.05%
South Dakota	32.52%	28.38%	26.99%	24.42%	21.91%	19.70%	20.61%	20.26%	19.16%	19.67%	19.72%	17.99%	15.22%	14.69%
Tennessee	23.00%	19.84%	17.84%	15.14%	15.54%	15.68%	12.80%	12.89%	12.95%	12.71%	12.24%	12.15%	11.63%	11.31%
Texas	20.07%	18.08%	16.93%	14.78%	14.28%	14.21%	14.01%	13.41%	13.50%	13.36%	12.98%	12.52%	12.00%	11.97%
Utah	23.07%	19.66%	16.66%	13.45%	12.95%	13.41%	13.58%	11.69%	10.97%	11.05%	10.76%	10.49%	10.44%	10.68%
Vermont	28.43%	24.52%	23.25%	20.23%	19.30%	19.96%	18.89%	17.07%	19.51%	17.33%	16.71%	16.27%	14.54%	13.55%
Virginia	21.70%	18.03%	15.86%	13.51%	12.81%	13.40%	12.52%	11.79%	11.53%	11.76%	11.31%	11.03%	10.46%	10.11%
Washington	30.04%	26.00%	23.77%	20.65%	19.33%	19.44%	18.68%	18.23%	18.44%	19.03%	18.38%	18.23%	17.54%	17.36%
West Virginia	25.06%	19.76%	17.37%	15.55%	15.44%	15.79%	15.08%	13.37%	13.93%	13.61%	13.71%	12.67%	11.57%	11.14%
Wisconsin	21.38%	18.82%	17.03%	14.54%	13.86%	13.02%	12.97%	12.49%	13.13%	13.18%	12.62%	12.43%	11.82%	11.28%
Wyoming	30.10%	26.04%	22.98%	17.16%	14.92%	15.25%	14.40%	14.02%	12.39%	13.93%	12.35%	10.23%	9.15%	9.37%

Figure 1 displays new employer business actualization rates over time for the state with the highest rate in 2018 (Washington), the state with the lowest rate in that year (Delaware), and the median state (North Carolina).

FIGURE 1 RATE OF NEW EMPLOYER BUSINESS ACTUALIZATION (2005-2018)





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RATE OF NEW EMPLOYER BUSINESSES, DEFINED

Using the same numbers for employer business formations within eight quarters that were used in the rate of new employer business actualization indicator, we divide by a state's population to produce a comparable measure. This results in a measure that is comparable across states for a given year and across years for a given state.

In 2018, there were 120 new employer businesses per every 100,000 people.

RATE OF NEW EMPLOYER BUSINESSES

The rate of new employer businesses represents new employer businesses within the population. It is defined as the number of new employer businesses that became employers within eight quarters of filing an EIN application per 100 people.

In 2018, the national rate of new employer businesses was 0.12 meaning that 120 new employer businesses were formed per every 100,000 people. This indicator ranged from 0.07 in West Virginia to 0.31 in Wyoming, with a median of 0.17.

Other states with relatively high rates of new employer businesses in 2018 included Montana (0.19), Idaho (0.18), and Delaware (0.18). States with relatively low rates of new employer businesses included Ohio (0.07), Kentucky (0.08), and Indiana (0.08).

The table below presents the rate of new employer businesses nationally and for all 50 states and Washington, D.C., in 2018.

TABLE 4 | RATE OF NEW EMPLOYER BUSINESSES (2018)

STATE	RATE OF NEW EMPLOYER BUSINESSES
United States	0.12
Alabama	0.09
Alaska	0.17
Arizona	0.10
Arkansas	0.10
California	0.14
Colorado	0.17
Connecticut	0.09
Delaware	0.18
District of Columbia	0.12
Florida	0.16
Georgia	0.12
Hawaii	0.09
Idaho	0.18
Illinois	0.11

STATE	RATE OF NEW EMPLOYER BUSINESSES
Indiana	0.08
Iowa	0.10
Kansas	0.11
Kentucky	0.08
Louisiana	0.10
Maine	0.14
Maryland	0.10
Massachusetts	0.12
Michigan	0.09
Minnesota	0.10
Mississippi	0.08
Missouri	0.12
Montana	0.19
Nebraska	0.12
Nevada	0.14
New Hampshire	0.12
New Jersey	0.12
New Mexico	0.09
New York	0.15
North Carolina	0.11
North Dakota	0.16
Ohio	0.07
Oklahoma	0.12
Oregon	0.15
Pennsylvania	0.09
Rhode Island	0.14
South Carolina	0.11
South Dakota	0.15
Tennessee	0.09
Texas	0.12
Utah	0.17
Vermont	0.14
Virginia	0.10
Washington	0.16
West Virginia	0.07
Wisconsin	0.09
Wyoming	0.31

Nationally, the rate of new employer businesses decreased from 180 per 100,000 people in 2005 to 120 per 100,000 people in 2018, with a low of 110 per 100,000 people between 2009 and 2017. The 2018 rate, then, was approximately two-thirds of the 2005 rate.

All states experienced a decline for this indicator over the same period, with many states experiencing a low in the years between 2009 and 2013. Idaho showed the most substantial variation, and New York exhibited the least variation.⁴ Table 5 presents variation in the rate of new employer businesses between 2005 and 2018 at the national and state levels.

Nationally, the rate of new employer businesses decreased from 180 per 100,000 people in 2005 to 120 per 100,000 people in 2018, with a low of 110 per 100,000 people during all years between 2009 and 2017. The 2018 rate, then, was approximately two-thirds of the 2005 rate.

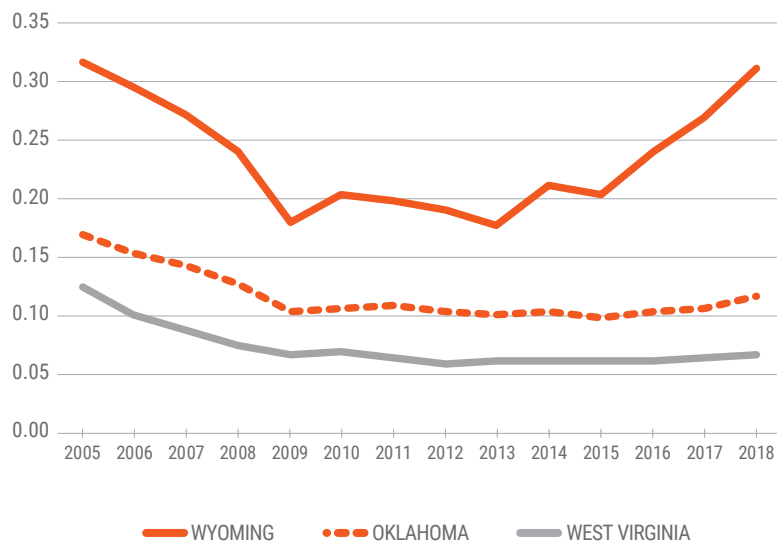
4. Standard deviations are 0.063 for Idaho and 0.015 for New York.

STATE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
United States	0.18	0.16	0.15	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12
Alabama	0.14	0.13	0.12	0.09	0.08	0.08	0.08	0.07	0.07	0.08	0.07	0.08	0.08	0.09
Alaska	0.21	0.19	0.17	0.15	0.13	0.12	0.13	0.13	0.12	0.12	0.13	0.14	0.14	0.17
Arizona	0.21	0.19	0.16	0.12	0.10	0.10	0.10	0.09	0.09	0.09	0.09	0.10	0.10	0.10
Arkansas	0.15	0.14	0.13	0.11	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10	0.10
California	0.20	0.18	0.16	0.14	0.12	0.12	0.12	0.12	0.13	0.13	0.13	0.13	0.13	0.14
Colorado	0.27	0.25	0.22	0.18	0.17	0.16	0.15	0.15	0.15	0.16	0.16	0.16	0.16	0.17
Connecticut	0.14	0.13	0.11	0.10	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.09
Delaware	0.20	0.17	0.17	0.14	0.13	0.13	0.14	0.13	0.13	0.14	0.14	0.15	0.16	0.18
District of Columbia	0.16	0.15	0.13	0.12	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.10	0.11	0.12
Florida	0.26	0.22	0.19	0.16	0.15	0.15	0.15	0.14	0.15	0.15	0.15	0.15	0.15	0.16
Georgia	0.19	0.18	0.16	0.12	0.11	0.11	0.11	0.10	0.10	0.11	0.10	0.11	0.11	0.12
Hawaii	0.14	0.13	0.11	0.09	0.08	0.08	0.08	0.07	0.08	0.08	0.07	0.07	0.08	0.09
Idaho	0.31	0.29	0.23	0.16	0.13	0.13	0.13	0.12	0.13	0.14	0.14	0.15	0.15	0.18
Illinois	0.16	0.14	0.13	0.12	0.11	0.11	0.11	0.11	0.10	0.11	0.10	0.10	0.10	0.11
Indiana	0.14	0.12	0.11	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
Iowa	0.15	0.13	0.12	0.10	0.09	0.09	0.09	0.09	0.09	0.08	0.08	0.09	0.09	0.10
Kansas	0.17	0.15	0.14	0.12	0.10	0.10	0.10	0.09	0.10	0.10	0.10	0.10	0.10	0.11
Kentucky	0.13	0.11	0.10	0.09	0.08	0.08	0.08	0.08	0.08	0.07	0.07	0.08	0.08	0.08
Louisiana	0.13	0.14	0.12	0.10	0.09	0.09	0.09	0.08	0.08	0.08	0.09	0.09	0.09	0.10
Maine	0.21	0.18	0.16	0.12	0.11	0.13	0.11	0.11	0.12	0.12	0.12	0.12	0.12	0.14
Maryland	0.16	0.14	0.12	0.10	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.10
Massachusetts	0.16	0.14	0.13	0.11	0.10	0.11	0.10	0.10	0.10	0.11	0.11	0.11	0.11	0.12
Michigan	0.14	0.12	0.11	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09
Minnesota	0.19	0.16	0.14	0.12	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Mississippi	0.13	0.13	0.11	0.09	0.08	0.08	0.08	0.07	0.07	0.08	0.08	0.08	0.08	0.08
Missouri	0.18	0.16	0.13	0.11	0.10	0.10	0.10	0.10	0.10	0.11	0.11	0.12	0.12	0.12
Montana	0.32	0.29	0.25	0.21	0.16	0.16	0.17	0.16	0.16	0.17	0.17	0.16	0.17	0.19
Nebraska	0.17	0.15	0.14	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12
Nevada	0.26	0.22	0.19	0.16	0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.13	0.14
New Hampshire	0.18	0.15	0.15	0.12	0.11	0.10	0.10	0.10	0.09	0.10	0.10	0.10	0.11	0.12
New Jersey	0.19	0.17	0.15	0.13	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12
New Mexico	0.16	0.15	0.13	0.11	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.09	0.09
New York	0.19	0.18	0.17	0.15	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.14	0.14	0.15
North Carolina	0.18	0.16	0.14	0.11	0.10	0.10	0.09	0.09	0.09	0.10	0.10	0.10	0.10	0.11
North Dakota	0.19	0.17	0.15	0.16	0.13	0.15	0.21	0.19	0.16	0.17	0.14	0.13	0.14	0.16
Ohio	0.12	0.11	0.10	0.08	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07

STATE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Oklahoma	0.17	0.15	0.14	0.13	0.10	0.11	0.11	0.10	0.10	0.10	0.10	0.10	0.11	0.12
Oregon	0.23	0.21	0.19	0.15	0.13	0.13	0.12	0.12	0.13	0.13	0.14	0.14	0.14	0.15
Pennsylvania	0.13	0.11	0.11	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09
Rhode Island	0.17	0.16	0.13	0.11	0.11	0.11	0.10	0.11	0.10	0.11	0.11	0.11	0.12	0.14
South Carolina	0.17	0.15	0.13	0.11	0.09	0.09	0.09	0.09	0.09	0.10	0.09	0.10	0.10	0.11
South Dakota	0.22	0.20	0.18	0.16	0.13	0.12	0.14	0.13	0.13	0.14	0.14	0.12	0.14	0.15
Tennessee	0.14	0.13	0.12	0.09	0.09	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.09	0.09
Texas	0.15	0.14	0.14	0.12	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.12	0.12	0.12
Utah	0.27	0.27	0.23	0.17	0.15	0.15	0.15	0.14	0.14	0.15	0.15	0.15	0.16	0.17
Vermont	0.21	0.18	0.17	0.14	0.12	0.13	0.12	0.11	0.12	0.11	0.12	0.12	0.12	0.14
Virginia	0.18	0.16	0.14	0.11	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Washington	0.24	0.21	0.20	0.16	0.13	0.13	0.13	0.12	0.13	0.14	0.14	0.14	0.15	0.16
West Virginia	0.13	0.10	0.09	0.08	0.07	0.07	0.07	0.06	0.06	0.06	0.06	0.06	0.06	0.07
Wisconsin	0.15	0.13	0.11	0.09	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.09
Wyoming	0.32	0.30	0.27	0.24	0.18	0.20	0.20	0.19	0.18	0.21	0.20	0.24	0.27	0.31

Figure 2 displays the rate of new employer businesses for the state with the highest rate in 2018 (Wyoming), the state with the lowest rate in that year (West Virginia), and the median state (Oklahoma).

FIGURE 2 RATE OF NEW EMPLOYER BUSINESSES (2005–2018)





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NEW EMPLOYER BUSINESS VELOCITY, DEFINED

New employer business velocity captures the average amount of time, in quarters, between business application and first payroll, conditioned on a business making payroll within eight quarters. The measure originates from the BFS, which use an eight-quarter window after the business application to capture the time of the first payroll. As a result, if a business made a first payroll outside of eight quarters, it is not captured in this measure.

The most recent data available for this measure in the BFS are from 2014.

NEW EMPLOYER BUSINESS VELOCITY

New employer business velocity is a measure of the speed at which new businesses become employers. The indicator reflects the time that it takes to make a first payroll within eight quarters of the initial business application conditional on making payroll within the first eight quarters. New employer business velocity is expressed in average quarters: A lower velocity value, then, indicates faster time to becoming an employer.

2014 is the most recent year for which data are available for this indicator. New employer business velocity in 2014 was 1.92 quarters nationally, meaning that it took new businesses on average 1.92 quarters from the time they filed an EIN application to make their first payroll. New employer business velocity ranged from 1.46 in North Dakota to 2.37 in Washington, D.C., in 2014, with a median of 1.83.

States with relatively faster velocity included South Dakota (1.47), Missouri (1.53), and Iowa (1.62). States with relatively slower velocity included Florida (2.17), Delaware (2.15), and Maryland (2.11). Table 6 presents new employer business velocity nationally and for all 50 states and Washington, D.C., in 2014.

The national new employer business velocity slowed between 2005 and 2014: in 2005, a new business took an average of 1.43 quarters to make a first payroll but by 2014, it took an average of 1.92 quarters.

TABLE 6 | NEW EMPLOYER BUSINESS VELOCITY (2014)

STATE	NEW EMPLOYER BUSINESS VELOCITY
United States	1.92
Alabama	1.68
Alaska	1.67
Arizona	2.02
Arkansas	1.70
California	1.91
Colorado	1.94
Connecticut	2.01
Delaware	2.15
District of Columbia	2.37
Florida	2.17
Georgia	2.03
Hawaii	2.08
Idaho	1.67
Illinois	2.02

STATE	NEW EMPLOYER BUSINESS VELOCITY
Indiana	1.82
Iowa	1.62
Kansas	1.67
Kentucky	1.70
Louisiana	1.86
Maine	1.63
Maryland	2.11
Massachusetts	1.92
Michigan	1.95
Minnesota	1.81
Mississippi	1.64
Missouri	1.53
Montana	1.72
Nebraska	1.66
Nevada	2.08
New Hampshire	1.77
New Jersey	2.09
New Mexico	1.73
New York	2.03
North Carolina	1.89
North Dakota	1.46
Ohio	1.87
Oklahoma	1.65
Oregon	1.80
Pennsylvania	1.94
Rhode Island	1.90
South Carolina	1.89
South Dakota	1.47
Tennessee	1.72
Texas	1.84
Utah	1.87
Vermont	1.76
Virginia	2.04
Washington	1.77
West Virginia	1.63
Wisconsin	1.83
Wyoming	1.75

An increase in the amount of time to become an employer between 2005 and 2014 is also seen in this indicator for all states and Washington, D.C. New businesses that became employers took more time in 2014 than they did in 2005 in all states. Wyoming showed the greatest variation over this period, while Florida experienced the least variation during this period.⁵

Table 7 presents the trends in new employer business velocity nationally and for all 50 states and Washington, D.C., between 2005 and 2014.

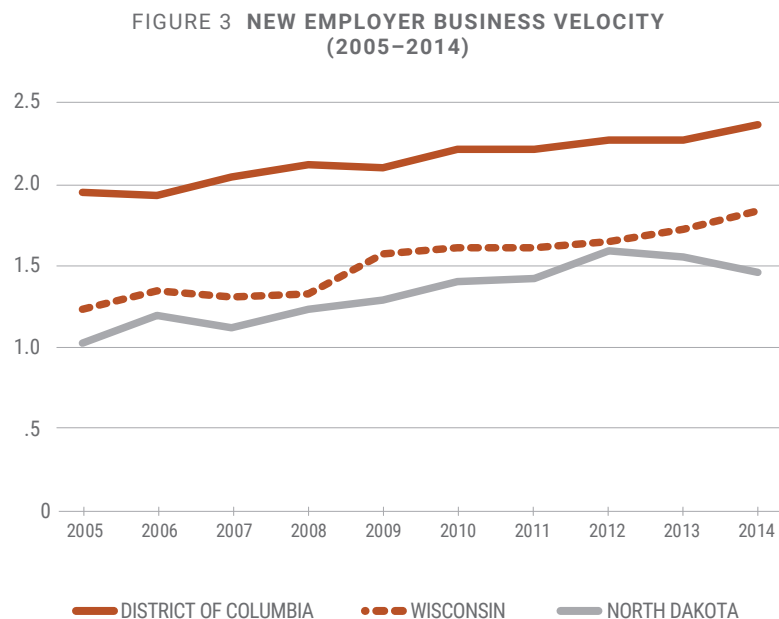
In 2005, a new business took an average of 1.43 quarters to become an employer but by 2014, it took an average of 1.92 quarters.

5. Standard deviations are 0.228 for Wyoming and 0.126 for Florida.

STATE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
United States	1.43	1.51	1.49	1.55	1.70	1.75	1.76	1.76	1.86	1.92
Alabama	1.18	1.18	1.24	1.30	1.37	1.48	1.52	1.55	1.65	1.68
Alaska	1.08	1.33	1.29	1.39	1.36	1.46	1.65	1.53	1.65	1.67
Arizona	1.58	1.64	1.62	1.66	1.83	1.79	1.85	1.86	1.94	2.02
Arkansas	1.16	1.30	1.26	1.26	1.42	1.50	1.50	1.46	1.49	1.70
California	1.39	1.49	1.47	1.53	1.67	1.72	1.72	1.74	1.85	1.91
Colorado	1.46	1.53	1.50	1.52	1.70	1.78	1.78	1.74	1.92	1.94
Connecticut	1.40	1.57	1.53	1.56	1.67	1.73	1.71	1.69	1.85	2.01
Delaware	1.64	1.73	1.7	1.61	1.78	1.92	1.86	1.85	2.08	2.15
District of Columbia	1.95	1.92	2.04	2.11	2.09	2.21	2.22	2.27	2.27	2.37
Florida	1.82	1.87	1.82	1.92	2.03	2.07	2.04	2.03	2.14	2.17
Georgia	1.53	1.58	1.55	1.64	1.80	1.80	1.82	1.83	1.93	2.03
Hawaii	1.49	1.60	1.55	1.64	1.82	1.91	2.01	1.92	2.08	2.08
Idaho	1.22	1.23	1.24	1.35	1.49	1.59	1.66	1.58	1.61	1.67
Illinois	1.62	1.66	1.63	1.66	1.84	1.85	1.84	1.82	1.96	2.02
Indiana	1.29	1.37	1.35	1.46	1.60	1.64	1.68	1.66	1.83	1.82
Iowa	1.12	1.24	1.15	1.22	1.38	1.50	1.48	1.49	1.61	1.62
Kansas	1.15	1.24	1.30	1.25	1.43	1.53	1.58	1.58	1.59	1.67
Kentucky	1.24	1.34	1.31	1.31	1.44	1.56	1.55	1.57	1.61	1.70
Louisiana	1.46	1.56	1.57	1.56	1.68	1.77	1.77	1.82	1.82	1.86
Maine	1.09	1.25	1.19	1.16	1.43	1.33	1.42	1.41	1.47	1.63
Maryland	1.55	1.66	1.68	1.68	1.83	1.98	1.93	1.88	2.02	2.11
Massachusetts	1.35	1.44	1.43	1.53	1.67	1.78	1.79	1.78	1.84	1.92
Michigan	1.41	1.58	1.51	1.55	1.75	1.77	1.76	1.77	1.88	1.95
Minnesota	1.38	1.45	1.47	1.49	1.69	1.70	1.71	1.70	1.78	1.81
Mississippi	1.19	1.27	1.29	1.36	1.45	1.47	1.50	1.53	1.58	1.64
Missouri	1.18	1.20	1.23	1.30	1.48	1.52	1.54	1.50	1.56	1.53
Montana	1.16	1.24	1.19	1.29	1.46	1.55	1.58	1.61	1.58	1.72
Nebraska	1.14	1.33	1.25	1.25	1.38	1.43	1.52	1.50	1.54	1.66
Nevada	1.71	1.79	1.72	1.79	1.88	1.89	1.97	1.90	2.08	2.08
New Hampshire	1.20	1.24	1.19	1.24	1.43	1.52	1.55	1.49	1.61	1.77
New Jersey	1.59	1.71	1.70	1.75	1.96	1.96	1.95	1.96	2.03	2.09
New Mexico	1.28	1.37	1.30	1.32	1.54	1.63	1.62	1.63	1.66	1.73
New York	1.65	1.74	1.71	1.76	1.85	1.88	1.91	1.92	2.00	2.03
North Carolina	1.38	1.46	1.43	1.52	1.64	1.69	1.67	1.67	1.79	1.89
North Dakota	1.03	1.19	1.12	1.24	1.28	1.40	1.42	1.58	1.54	1.46
Ohio	1.29	1.42	1.40	1.44	1.64	1.66	1.71	1.71	1.83	1.87

STATE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Oklahoma	1.22	1.33	1.32	1.34	1.55	1.59	1.69	1.59	1.72	1.65
Oregon	1.27	1.36	1.32	1.39	1.60	1.57	1.61	1.64	1.65	1.80
Pennsylvania	1.37	1.48	1.48	1.54	1.69	1.71	1.75	1.77	1.84	1.94
Rhode Island	1.31	1.38	1.34	1.35	1.65	1.62	1.71	1.67	1.73	1.90
South Carolina	1.33	1.44	1.39	1.46	1.57	1.67	1.64	1.69	1.81	1.89
South Dakota	0.94	1.04	1.10	1.17	1.26	1.38	1.45	1.41	1.40	1.47
Tennessee	1.13	1.22	1.18	1.23	1.39	1.47	1.51	1.48	1.62	1.72
Texas	1.34	1.41	1.42	1.48	1.62	1.67	1.66	1.66	1.79	1.84
Utah	1.50	1.51	1.47	1.53	1.68	1.76	1.69	1.74	1.84	1.87
Vermont	1.20	1.14	1.23	1.14	1.48	1.51	1.43	1.39	1.52	1.76
Virginia	1.46	1.57	1.56	1.60	1.77	1.84	1.82	1.87	1.98	2.04
Washington	1.23	1.32	1.24	1.34	1.52	1.56	1.60	1.56	1.70	1.77
West Virginia	1.16	1.22	1.27	1.32	1.45	1.55	1.51	1.43	1.65	1.63
Wisconsin	1.22	1.35	1.31	1.33	1.57	1.61	1.60	1.65	1.72	1.83
Wyoming	1.15	1.15	1.18	1.26	1.42	1.59	1.47	1.48	1.73	1.75

Figure 3 displays new employer business velocity over time in 2014 for the fastest (North Dakota), slowest (Washington D.C.) and median (Wisconsin).





EMPLOYER BUSINESS NEWNESS, DEFINED

We combine measures from two different data sources to calculate employer business newness. The first comes from the BFS and is the number of employer formations within eight quarters of application. The second measure, from the Business Dynamics Statistics (BDS), is the total number of employer firms. We divide the formations measure by the total number of employer firms to obtain the newness indicator.

The BDS data are available between 2006 and 2016, so this indicator has been calculated for 2006 to 2016.

Employer business newness for the nation overall in 2016 was 6.8%, meaning that, on average, 6.8% of employer firms were new employers that had been formed within the previous eight quarters.

EMPLOYER BUSINESS NEWNESS

Employer business newness reflects the presence of new employers among all employer firms. This is expressed as a share of all employer firms regardless of age, and it broadly reflects dynamism tied to new employer businesses.⁶

Employer business newness for the nation overall in 2016 was 6.8%, meaning that the new employers were about 6.8% of all employer firms. At the state level, employer business newness ranged from 4.44% in Washington, D.C., to 8.67% in Nevada, with a median of 5.99%.

Other states with relatively high employer business newness included Utah (8.30%), Texas (8.13%), and Florida (8.04%). States with relatively low rates of employer business newness included Connecticut (4.45%), Vermont (4.62%), and Hawaii (4.65%).

Table 8 presents employer business newness nationally and for all 50 states and Washington, D.C., in 2016.

TABLE 8 | **EMPLOYER BUSINESS NEWNESS (2016)**

STATE	EMPLOYER BUSINESS NEWNESS
United States	6.80%
Alabama	5.36%
Alaska	7.14%
Arizona	6.97%
Arkansas	6.05%
California	7.97%
Colorado	7.62%
Connecticut	4.45%
Delaware	7.33%
District of Columbia	4.44%
Florida	8.04%
Georgia	6.98%
Hawaii	4.65%
Idaho	7.11%
Illinois	6.03%

6. For more on employer firms and business dynamism, see Decker et al. (2016), Gourio et al. (2014), and Dvorkin and Gascon (2017); on nonemployer firms and business dynamism, see Bento and Restuccia (2019).

STATE	EMPLOYER BUSINESS NEWNESS
Indiana	5.10%
Iowa	4.85%
Kansas	5.54%
Kentucky	5.30%
Louisiana	5.66%
Maine	5.78%
Maryland	5.58%
Massachusetts	5.92%
Michigan	5.12%
Minnesota	5.24%
Mississippi	5.58%
Missouri	5.98%
Montana	6.26%
Nebraska	5.65%
Nevada	8.67%
New Hampshire	4.80%
New Jersey	6.17%
New Mexico	5.54%
New York	6.92%
North Carolina	6.49%
North Dakota	5.99%
Ohio	4.78%
Oklahoma	6.08%
Oregon	6.87%
Pennsylvania	4.89%
Rhode Island	5.34%
South Carolina	6.44%
South Dakota	5.96%
Tennessee	6.17%
Texas	8.13%
Utah	8.30%
Vermont	4.62%
Virginia	6.07%
Washington	7.52%
West Virginia	4.71%
Wisconsin	4.76%
Wyoming	7.78%

Rates of employer business newness vary over time. As shown in Table 9, the proportion of new employers among all employer firms decreased at the national level between 2006 and 2016, from just over 10% to nearly 7% – a decline of close to one-third.

A similar decline can be seen in employer business newness rates in each state. Table 9 documents the trend in employer business newness nationally and for all states and Washington, D.C., between 2006 and 2016. Idaho showed the greatest variation during this period, and Washington, D.C., experienced the least variation.⁷

The proportion of new employers among all employer firms decreased at the national level between 2006 and 2016, from just over 10% to nearly 7% – a decline of close to one-third.

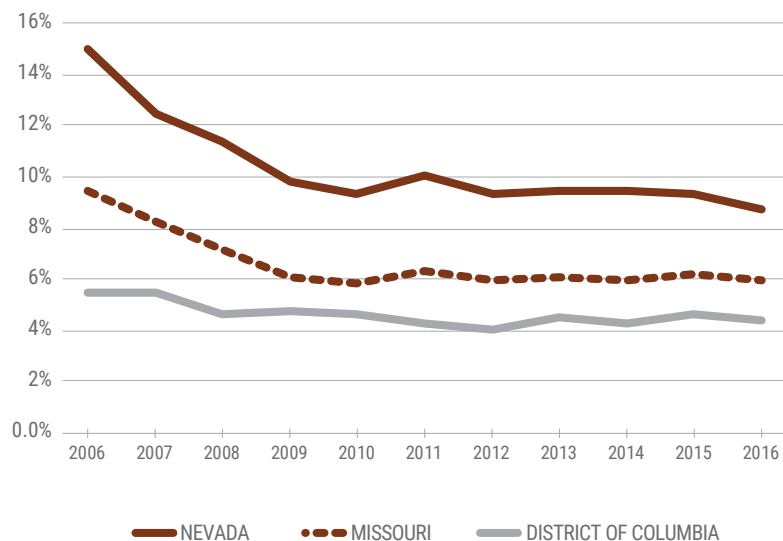
7. Standard deviations are 2.50 for Idaho and 0.44 for Washington, D.C.

STATE	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
United States	10.07%	8.93%	8.10%	7.09%	6.80%	6.97%	6.70%	6.60%	6.68%	6.93%	6.80%
Alabama	8.90%	8.13%	7.11%	6.04%	5.64%	5.75%	5.54%	5.28%	5.19%	5.71%	5.36%
Alaska	10.40%	9.30%	8.58%	7.58%	6.47%	6.87%	6.70%	6.76%	6.34%	6.76%	7.14%
Arizona	13.55%	11.57%	9.72%	8.02%	7.65%	7.77%	7.21%	6.93%	7.02%	7.16%	6.97%
Arkansas	9.11%	8.09%	7.51%	6.53%	5.92%	6.25%	5.86%	5.78%	5.90%	6.11%	6.05%
California	11.52%	10.09%	9.10%	8.05%	7.36%	7.62%	7.45%	7.51%	8.08%	8.03%	7.97%
Colorado	11.19%	10.21%	9.33%	7.96%	7.90%	7.48%	7.07%	7.19%	7.31%	8.01%	7.62%
Connecticut	7.02%	6.31%	5.74%	4.96%	4.85%	4.93%	4.96%	4.57%	4.47%	4.70%	4.45%
Delaware	8.96%	7.90%	8.32%	6.82%	6.81%	7.10%	7.41%	7.34%	7.08%	7.99%	7.33%
District of Columbia	5.44%	5.45%	4.64%	4.73%	4.58%	4.26%	4.04%	4.48%	4.32%	4.63%	4.44%
Florida	12.54%	10.50%	9.19%	8.38%	8.36%	8.53%	8.14%	7.84%	8.00%	8.46%	8.04%
Georgia	11.13%	10.28%	8.84%	7.69%	7.22%	7.36%	6.93%	6.76%	6.87%	7.21%	6.98%
Hawaii	7.50%	6.98%	6.06%	5.28%	4.75%	4.90%	4.73%	4.48%	4.87%	4.86%	4.65%
Idaho	13.81%	11.90%	9.53%	7.55%	6.41%	6.77%	6.54%	6.53%	6.82%	7.16%	7.11%
Illinois	8.59%	7.75%	7.43%	6.59%	6.51%	6.51%	6.32%	6.26%	6.07%	6.34%	6.03%
Indiana	8.15%	7.26%	6.72%	5.48%	5.34%	5.46%	5.33%	5.30%	5.16%	5.27%	5.10%
Iowa	7.61%	6.54%	6.07%	5.33%	5.17%	5.13%	4.97%	4.70%	4.90%	4.70%	4.85%
Kansas	8.29%	7.19%	6.88%	5.93%	5.51%	5.68%	5.70%	5.24%	5.60%	5.52%	5.54%
Kentucky	8.06%	7.08%	6.61%	5.76%	5.86%	5.75%	5.44%	5.59%	5.65%	5.32%	5.30%
Louisiana	8.35%	7.97%	6.84%	5.98%	5.45%	5.75%	5.56%	5.14%	5.13%	5.45%	5.66%
Maine	8.91%	7.58%	6.79%	5.50%	5.16%	6.06%	5.20%	5.40%	5.40%	5.62%	5.78%
Maryland	8.79%	7.64%	6.79%	5.51%	5.52%	5.59%	5.32%	5.49%	5.59%	5.68%	5.58%
Massachusetts	7.97%	6.93%	6.28%	5.70%	5.74%	5.81%	5.67%	5.71%	5.67%	5.85%	5.92%
Michigan	8.08%	7.29%	6.48%	5.89%	5.68%	5.68%	5.45%	5.26%	5.27%	5.53%	5.12%
Minnesota	8.85%	7.43%	6.67%	6.38%	5.63%	5.53%	5.20%	5.22%	5.33%	5.49%	5.24%
Mississippi	8.98%	8.12%	7.17%	5.93%	5.67%	5.69%	5.41%	5.36%	5.40%	5.76%	5.58%
Missouri	9.41%	8.23%	7.11%	6.11%	5.86%	6.30%	5.97%	6.03%	5.90%	6.21%	5.98%
Montana	11.20%	9.48%	8.41%	7.05%	5.83%	6.16%	6.40%	6.16%	5.98%	6.53%	6.26%
Nebraska	7.93%	6.95%	6.37%	5.78%	5.39%	5.58%	5.58%	5.51%	5.24%	5.73%	5.65%
Nevada	14.93%	12.49%	11.33%	9.83%	9.27%	10.00%	9.29%	9.41%	9.48%	9.30%	8.67%
New Hampshire	8.10%	6.63%	6.27%	5.67%	5.08%	5.05%	4.96%	4.84%	4.57%	4.87%	4.80%
New Jersey	8.91%	7.87%	7.08%	6.31%	6.28%	6.63%	6.27%	6.15%	6.09%	6.26%	6.17%
New Mexico	9.61%	8.68%	7.74%	6.42%	5.54%	6.04%	5.54%	5.60%	5.26%	5.80%	5.54%
New York	9.29%	8.41%	8.00%	7.52%	7.54%	7.58%	7.09%	6.88%	6.78%	6.84%	6.92%
North Carolina	9.93%	8.76%	7.95%	6.65%	6.57%	6.51%	6.08%	6.07%	6.23%	6.57%	6.49%
North Dakota	7.93%	6.62%	6.44%	6.25%	5.53%	7.02%	8.44%	7.70%	6.59%	6.90%	5.99%
Ohio	7.20%	6.40%	5.94%	5.11%	5.10%	5.10%	4.84%	4.74%	4.69%	4.71%	4.78%

STATE	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Oklahoma	9.21%	8.33%	7.78%	6.90%	6.06%	6.37%	6.25%	6.16%	6.03%	6.15%	6.08%
Oregon	10.59%	9.31%	8.26%	6.85%	6.39%	6.50%	6.13%	6.23%	6.30%	6.76%	6.87%
Pennsylvania	7.39%	6.52%	6.15%	5.26%	4.99%	5.13%	4.99%	4.89%	4.80%	5.06%	4.89%
Rhode Island	7.92%	6.77%	6.04%	5.26%	5.54%	5.51%	4.93%	5.27%	5.17%	5.29%	5.34%
South Carolina	9.68%	8.78%	7.58%	6.44%	6.07%	6.00%	5.87%	5.93%	6.05%	6.67%	6.44%
South Dakota	8.84%	7.84%	7.22%	6.36%	5.38%	5.74%	5.82%	5.86%	5.60%	6.12%	5.96%
Tennessee	9.12%	8.42%	7.64%	6.32%	6.44%	6.51%	6.12%	5.96%	5.88%	6.26%	6.17%
Texas	10.12%	9.47%	9.04%	7.78%	7.65%	8.03%	7.89%	7.66%	7.76%	8.15%	8.13%
Utah	14.10%	13.18%	10.90%	9.18%	8.81%	8.56%	8.56%	7.99%	7.98%	8.38%	8.30%
Vermont	7.32%	6.54%	5.81%	5.04%	4.51%	4.84%	4.55%	4.51%	4.45%	4.62%	4.62%
Virginia	10.08%	8.51%	7.67%	6.49%	6.04%	6.31%	6.08%	6.02%	5.91%	6.32%	6.07%
Washington	11.54%	10.18%	9.25%	7.67%	6.99%	7.50%	7.02%	7.01%	7.13%	7.55%	7.52%
West Virginia	7.74%	5.97%	5.77%	4.81%	4.55%	4.86%	4.41%	4.45%	4.46%	4.73%	4.71%
Wisconsin	7.63%	6.84%	5.93%	5.18%	4.93%	4.93%	4.68%	4.66%	4.81%	4.96%	4.76%
Wyoming	10.75%	9.70%	8.99%	7.98%	6.67%	7.62%	7.20%	7.01%	6.98%	7.89%	7.78%

Figure 4 illustrates rates of employer business newness between 2006 and 2016 for the state with the highest rate in 2016 (Nevada), the state with the lowest rate in that year (Washington, D.C.), and the median state (Missouri).

FIGURE 4 EMPLOYER BUSINESS NEWNESS (2006–2016)



NEW EMPLOYER BUSINESS ACTUALIZATION SPEED INDEX

The New Employer Business Actualization Speed (NEBAS) Index combines two indicators: rate of new employer business actualization and new employer business velocity. The index is calculated by averaging normalized values of these two indicators. The underlying BFS data for new employer business velocity are calculated through 2014, so the NEBAS index is calculated for the years between 2005 and 2014.

The NEBAS index for 2014 for the United States overall was 0.76. Index estimates ranged from 0.60 in Washington, D.C., to 0.93 in South Dakota, with a median of 0.79. Table 10 presents the NEBAS index for all states, Washington, D.C. and the nation overall for 2014.

The NEBAS index has decreased over the past decade. Nationally, the index in 2005 was 0.96, and it fell to 0.76 by 2014. Wyoming saw more variation between 2005 and 2014 than any other state, and Pennsylvania saw the least variation.⁸

TABLE 10 | NEBAS INDEX (2014)

STATE	NEBAS INDEX	STATE	NEBAS INDEX
United States	0.76	Mississippi	0.79
Alabama	0.80	Missouri	0.86
Alaska	0.85	Montana	0.86
Arizona	0.72	Nebraska	0.87
Arkansas	0.83	Nevada	0.69
California	0.81	New Hampshire	0.82
Colorado	0.75	New Jersey	0.70
Connecticut	0.72	New Mexico	0.80
Delaware	0.65	New York	0.74
District of Columbia	0.60	North Carolina	0.77
Florida	0.67	North Dakota	0.93
Georgia	0.69	Ohio	0.75
Hawaii	0.68	Oklahoma	0.82
Idaho	0.86	Oregon	0.84
Illinois	0.75	Pennsylvania	0.76
Indiana	0.77	Rhode Island	0.81
Iowa	0.85	South Carolina	0.77
Kansas	0.84	South Dakota	0.93
Kentucky	0.81	Tennessee	0.80
Louisiana	0.73	Texas	0.78
Maine	0.91	Utah	0.75
Maryland	0.67	Vermont	0.85
Massachusetts	0.78	Virginia	0.72
Michigan	0.73	Washington	0.86
Minnesota	0.80	West Virginia	0.83
		Wisconsin	0.78
		Wyoming	0.81

8. Standard deviations are 0.49 for Wyoming and 0.06 for Pennsylvania.

TABLE 11 NEBAS INDEX BY GEOGRAPHY (2005-2014)

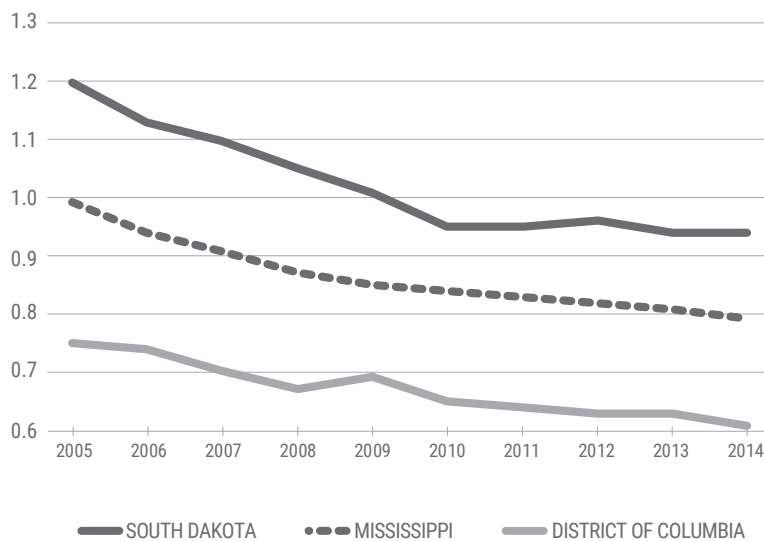
STATE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
United States	0.96	0.91	0.89	0.85	0.82	0.81	0.80	0.79	0.77	0.76
Alabama	1.01	0.97	0.94	0.89	0.87	0.85	0.84	0.82	0.80	0.80
Alaska	1.14	1.02	1.01	0.97	0.97	0.93	0.88	0.90	0.85	0.85
Arizona	0.94	0.88	0.85	0.80	0.76	0.77	0.75	0.75	0.73	0.72
Arkansas	1.04	0.98	0.97	0.94	0.90	0.88	0.88	0.88	0.88	0.83
California	1.03	0.96	0.94	0.91	0.87	0.85	0.85	0.84	0.82	0.81
Colorado	0.97	0.92	0.90	0.86	0.82	0.79	0.79	0.79	0.75	0.75
Connecticut	0.91	0.85	0.84	0.82	0.79	0.79	0.79	0.78	0.75	0.72
Delaware	0.84	0.79	0.78	0.77	0.73	0.71	0.71	0.71	0.66	0.65
District of Columbia	0.74	0.73	0.69	0.67	0.68	0.64	0.63	0.63	0.63	0.60
Florida	0.82	0.78	0.77	0.74	0.72	0.71	0.71	0.70	0.68	0.67
Georgia	0.90	0.85	0.83	0.78	0.74	0.74	0.73	0.73	0.71	0.69
Hawaii	0.92	0.87	0.85	0.80	0.76	0.73	0.71	0.71	0.69	0.68
Idaho	1.11	1.05	1.00	0.93	0.89	0.87	0.85	0.85	0.87	0.86
Illinois	0.91	0.88	0.86	0.83	0.79	0.79	0.79	0.79	0.76	0.75
Indiana	1.01	0.96	0.94	0.86	0.79	0.80	0.79	0.80	0.77	0.77
Iowa	1.09	1.01	1.01	0.97	0.93	0.90	0.89	0.88	0.86	0.85
Kansas	1.07	1.00	0.98	0.96	0.90	0.88	0.87	0.85	0.86	0.84
Kentucky	1.00	0.95	0.94	0.91	0.88	0.85	0.85	0.84	0.84	0.81
Louisiana	0.89	0.85	0.83	0.81	0.78	0.76	0.76	0.74	0.74	0.73
Maine	1.13	1.06	1.05	1.02	0.95	1.01	0.95	0.95	0.96	0.91
Maryland	0.88	0.82	0.79	0.77	0.75	0.71	0.72	0.73	0.70	0.67
Massachusetts	0.99	0.92	0.91	0.88	0.84	0.81	0.81	0.81	0.80	0.78
Michigan	0.92	0.86	0.85	0.82	0.78	0.77	0.77	0.76	0.74	0.73
Minnesota	1.00	0.94	0.92	0.88	0.82	0.82	0.81	0.81	0.80	0.80
Mississippi	0.99	0.94	0.91	0.86	0.84	0.84	0.82	0.81	0.80	0.79
Missouri	1.03	0.99	0.95	0.91	0.87	0.86	0.85	0.86	0.85	0.86
Montana	1.11	1.04	1.03	0.97	0.92	0.89	0.89	0.87	0.88	0.86
Nebraska	1.12	1.03	1.02	1.00	0.96	0.94	0.92	0.91	0.90	0.87
Nevada	0.82	0.78	0.78	0.74	0.73	0.74	0.71	0.73	0.69	0.69
New Hampshire	1.02	0.97	0.97	0.93	0.90	0.88	0.87	0.87	0.85	0.82
New Jersey	0.89	0.84	0.82	0.79	0.75	0.75	0.74	0.73	0.72	0.70
New Mexico	1.07	1.00	0.96	0.92	0.87	0.85	0.84	0.83	0.82	0.80
New York	0.90	0.86	0.85	0.84	0.82	0.80	0.78	0.78	0.76	0.74
North Carolina	0.97	0.92	0.90	0.86	0.83	0.82	0.81	0.81	0.79	0.77
North Dakota	1.16	1.07	1.07	1.04	1.00	0.99	1.01	0.93	0.92	0.93
Ohio	0.98	0.92	0.90	0.86	0.81	0.80	0.79	0.78	0.75	0.75

TABLE 11 NEBAS INDEX BY GEOGRAPHY (2005-2014)

STATE	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Oklahoma	1.02	0.97	0.95	0.92	0.86	0.85	0.83	0.84	0.81	0.82
Oregon	1.08	1.01	0.98	0.93	0.88	0.88	0.87	0.86	0.86	0.84
Pennsylvania	0.97	0.91	0.90	0.87	0.83	0.82	0.81	0.80	0.78	0.76
Rhode Island	1.03	0.99	0.96	0.93	0.88	0.89	0.85	0.87	0.85	0.81
South Carolina	0.99	0.92	0.90	0.86	0.83	0.81	0.82	0.80	0.78	0.77
South Dakota	1.20	1.13	1.10	1.05	1.00	0.95	0.95	0.95	0.94	0.93
Tennessee	1.04	0.99	0.97	0.92	0.90	0.89	0.84	0.85	0.82	0.80
Texas	0.97	0.93	0.91	0.87	0.84	0.83	0.82	0.82	0.79	0.78
Utah	0.97	0.93	0.90	0.84	0.81	0.80	0.81	0.78	0.75	0.75
Vermont	1.10	1.06	1.03	1.01	0.93	0.93	0.93	0.92	0.92	0.85
Virginia	0.96	0.89	0.87	0.83	0.79	0.78	0.77	0.76	0.73	0.72
Washington	1.11	1.04	1.03	0.97	0.92	0.91	0.89	0.90	0.87	0.86
West Virginia	1.06	0.99	0.95	0.91	0.88	0.87	0.87	0.86	0.83	0.83
Wisconsin	1.01	0.95	0.93	0.90	0.84	0.82	0.82	0.81	0.80	0.78
Wyoming	1.13	1.08	1.03	0.94	0.88	0.85	0.87	0.86	0.79	0.81

The figure below displays the NEBAS index between 2005 and 2014 for the state with the highest value in 2014 (South Dakota), the state with the lowest value in that year (Washington, D.C.), and the median state (Mississippi).

FIGURE 5 NEBAS INDEX (2005-2014)



REFERENCES

- Bayard, K., Dinlersoz, E., Dunne, T., Haltiwanger, J., Miranda, J., and Stevens, J. (2018) Early-stage business formation: An analysis of applications for employer identification numbers. NBER Working Paper No. 24364.
- Bento, P., and Restuccia, D. (2019) The role of nonemployers in business dynamism and aggregate productivity. NBER Working Paper No. 25998.
- Decker, R., Haltiwanger, J., Jarmin, R., and Miranda, J. (2016) Declining business dynamism: What we know and the way forward: *American Economic Review: Papers and Proceedings*, 106(5): 203–207.
- Dvorkin, M. and Gascon, C. (2017) Startups create many jobs, but they often don't last. *The Regional Economist*, Federal Reserve Bank of St. Louis.
- Ghislandi, S., Sanderson, W., and Scherbov, S. (2019) A simple measure of human development: the human life indicator. *Population and Development Review*, 45(1): 219-233.
- Gourio, F., Messer, T., and Siemer, M. (2014) What is the economic impact of the slowdown in new business formation? *Chicago Fed Letter*, September.
- Haltiwanger, J., Jarmin, R., and Miranda, J. (2013) Who creates jobs? Small versus large versus young. *The Review of Economics and Statistics*, 95(2): 347-361.
- Mazziotta, M., and Pareto, A. (2016) On a generalized non-compensatory composite index for measuring socio-economic phenomena. *Social Indicators Research*, 127: 983-1003.
- United Nations Development Programme (UNDP) (2016) Human Development Report: Human Development for Everyone.

Appendix: Methodology and Data Sources

This section of the report presents the methodology for calculating the new employer business indicators as well as additional detail about the underlying data sources. The Kauffman New Employer Business Indicators are calculated using three datasets from the U.S. Census Bureau: The Business Formation Statistics (BFS) are the primary source for this series, and the Business Dynamics Statistics (BDS) and Population Estimates Program (PEP) are used for some calculations. Data used in this report was pulled in October 2019.

Data sources and variables

BFS data. See Bayard et al. (2018) for detailed descriptions of the sources and underlying data, as well as inclusion of types of business applications, matching approach to create BFS, and modeling. The BFS data can be used to assess early trends in entrepreneurship related specifically to employer businesses. The BFS capture the number of businesses that apply for an Employer Identification Number (EIN) in a given quarter and year, and the number of these businesses that go on to make payroll. New business applications are identified using EIN applications. The BFS define new business “formations” based on the time of first payroll, using first payroll tax liabilities. A new business is regarded as a new employer business formation if it makes a first payroll within eight quarters of EIN application. The BFS provide data at the state and national levels.

As the BFS use an eight-quarter window after the business application to capture the time of the first payroll, a business that makes a first payroll outside of the eight quarter observation window is not captured in the formation measure. It also does not capture the number of people hired initially or the number hired subsequently.

The data cover the period starting from the third quarter of 2004 (Q3) at a quarterly frequency. BFS data are released approximately two weeks after the end of the observed quarter. The structure of the BFS data is such that the period between the EIN application and the first payroll is assigned to the year of the original EIN application. Actualizations reported for 2014,

therefore, include new businesses that filed an application for an EIN in 2014 and made a first payroll within eight quarters of filing. New employer business formations data are unavailable after Q1 of 2015.

The BFS provide projected data for projected employer formations for subsequent years, which are used in this report for 2015 through 2018. This use of projected data allows for reasonable anticipation of trends. Projected data also introduce the possibility of projecting errors, which can be corrected once validated data becomes available.

The variables used in the calculations of the indicators include: “Business Applications,” “Business Formations within Eight Quarters,” and “Average Duration from Business Application to Formation within Eight Quarters.” These variables are denoted below as ba_{qys} , $bf8q_{qys}$, and $dur8q_{qys}$, respectively, where q indexes the application quarter, y the application year, and s the state. This indexing is consistent in what follows. The BFS “Projected Business Formations within Eight Quarters” variable is used in the calculation of the new employer business actualization rate, the rate of new employer businesses, and employer business newness from 2015 through 2018.

While the BFS data are available quarterly, the BDS and population data are available yearly. In order to compute a time-comparable set of measures, the BFS data are translated from quarterly to yearly measurements. In the case of “Business Applications,” the yearly values are constructed by summing the quarters of a given year, treating the fourth quarter as the end of the year.

This new, yearly variable is denoted ba_{ys} :

$$ba_{ys} = \sum_{q=1}^4 ba_{qys}$$

Two different calculations are used, however, for yearly measurements for “Business Formations within Eight Quarters.” The first calculation is constructed along the same lines as ba_{ys} , treating the fourth quarter as year-end and summing the quarters of a given year:

$$bf8q_{ys} = \sum_{q=1}^4 bf8q_{qys}$$

The second yearly measure of “Business Formations within Eight Quarters,” denoted $bf8q_{ys}^m$, instead treats the first quarter as year-end:

$$bf8q_{ys}^m = bf8q_{1ys} + \sum_{q=2}^4 bf8q_{q(y-1)s}$$

Finally, a yearly measure of “Average Duration from Business Application to Formation within Eight Quarters,” denoted $dur8q_{ys}$, is calculated using the following formula:

$$dur8q_{ys} = \frac{\sum_{q=1}^4 dur8q_{qys} * bf8q_{qys}}{bf8q_{ys}}$$

Seasonally adjusted BFS data were used to create all the indicators.

BDS data. The BDS data were developed by the Center for Economic Studies at the U.S. Census Bureau. The dataset is compiled from the Longitudinal Business Database (LBD), a longitudinal database of business establishments and firms with coverage starting in 1976. The variable from the BDS used in the construction of the indicators represents the number of

employer firms. As this variable is a yearly metric, no further transformation is necessary. This variable is denoted $firms_{ys}$.

PEP data. The U.S. Census Bureau’s Population Estimates Program (PEP) produces estimates of the population of the United States as well as of each state, specific counties, cities, and towns, and the Commonwealth of Puerto Rico. PEP data are used in these indicators for population measures. This variable, pop_{ys} , is also a yearly metric.

For more information on the data sources, see:

U.S. Census Bureau, Business Formation Statistics (BFS), 2019, <https://www.census.gov/programs-surveys/bfs.html>; Bayard et al. (2018).

U.S. Census Bureau, Business Dynamics Statistics (BDS), 2019, <https://www.census.gov/programs-surveys/bds/about.html>.

U.S. Census Bureau, Population and Housing Unit Estimates (PEP), 2019, <https://www.census.gov/programs-surveys/popest.html>.

Indicator calculations

Rate of new employer business actualization: The share of business applications that become employers within eight quarters of the application. This measure is calculated as $bf8q_{ys}/ba_{ys}$.

Rate of new employer businesses: The number of startups that become employers per 100 people in a state. This indicator is calculated by dividing the number of business applications that become employers within eight quarters by the population for a given state and year, and multiplying by 100: $(bf_{ys}/pop_{ys}) * 100$.

New employer business velocity: The average amount of time (in quarters) that passes between business application and a first payroll, conditional on business formation within eight quarters. This measure is simply $dur8q_{ys}$, the annualized BFS variable “Average Duration from Business Application to Formation within Eight Quarters,” as described previously.

Employer business newness: The proportion of total employer firms within a region, for a given year, that are considered new employers. This measure is calculated using two different data sources. We use the BFS data to determine the number of new employers within eight quarters of application, and we use the BDS data to determine the total number of new employers. To calculate employer business newness, we divide the number of

new employers — using the first-quarter year-end definition — by the total number of employer firms in a state: $bf8q_{ys}^m / firms_{ys}$.

We use this first quarter year-end definition of the number of business applications that become new employers so that the BFS data are aligned with the BDS data. The BDS report a yearly snapshot of total businesses from mid-March to mid-March. As the first quarter ends on the last day of March, there is a roughly two-week discrepancy between the time frame for the BFS data and that for the BDS data used in the calculation of this measure. We assume this discrepancy is not significant given that the BDS measure reflects total firms. The datasets track each other closely (for more on the comparability of BFS and BDS, refer to https://www.census.gov/programs-surveys/bfs/technical-documentation/methodology.html#par_textimage_3).

As the BDS data are available for the years between 2006 and 2016, we calculate this indicator for 2006 to 2016.

New Employer Business Actualization Speed (NEBAS)

Index: The NEBAS index is calculated using the new employer business actualization rate and the new employer business velocity indicators. To calculate the index, each of the measures is normalized using the “goal post” method,⁹ in which the polarity of the actualization and velocity indicators is positive and negative, respectively, and 2005 is used as the base year and 2014 as the end year (BFS data are available through 2014). The normalized values are then aggregated to form the index by calculating their geometric mean. It is an equally weighted index of the two normalized indicators.

9. For more on the goal post method, see Mazziotta and Pareto (2016), UNDP (2016: Technical Notes), and Ghislani (2019). We additionally divided by 100 to “center” each of the transformed indicators near 1.



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