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Business Establishment Survival

**Younger vs. Older
Establishments**

Business Establishment Survival in Oklahoma: Younger vs. Older Business Establishments

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Business Establishment Survival in Oklahoma: Younger vs. Older Business Establishments

The U.S. economy is characterized by dynamic changes and constant churning of both workers and businesses. Each year, many new businesses are formed through establishment openings. At the same time, many establishments are unsuccessful and exit the market. The long-standing debate about the role and impact of small versus large businesses has expanded in recent years to consider the contributions of younger versus older businesses.¹

Entrepreneurship plays a vital role in the growth of the U.S. economy. The U.S. Bureau of Labor Statistics (BLS) collects data on new businesses and job creation through the Business Employment Dynamics (BED) program, providing insights on the contribution of new and small businesses to the number of businesses and jobs in the economy.² The BED data are compiled by the U.S. Bureau of Labor Statistics from the administrative records of the Quarterly Census of Employment and Wages (QCEW), or ES-202, program. This program is a quarterly census of all establishments under State unemployment insurance programs, representing about 98 percent of employment on nonfarm payrolls. The administrative records are linked across quarters to provide a longitudinal history for each establishment. The linkage process allows the tracking of net employment changes at the establishment level, which in turn allows the computation of gross jobs gained at opening and expanding establishments and gross jobs lost at closing and contracting establishments.

According to the BLS definition, an establishment is defined as an economic unit that produces goods or services, usually at a single physical location, and engages in one, or predominantly one, activity.³ A single firm may operate at one or more establishments under common ownership by a corporate parent. Therefore, an establishment birth can represent either the startup of a new business or the expansion of an existing one.⁴

The BED program also includes data regarding the age of business establishments, which is based on the annual BED methodology measuring the over-the-year employment change from March of each year. The age of an establishment is determined by its date of first positive employment. Currently, the available data is from March 1994 through March 2016. Age categories used by BED for private-sector business establishments are: 'Less Than One Year'; 'One Year Old'; 'Two Years Old'; and so forth, as well as those 'Born Before March 1993'. Using this dataset, it is possible to conduct research on entrepreneurship, focusing on new and younger business establishments, and comparing those with older establishments.

This analysis, which updates previous studies,⁵ will look at new and younger business establishments' growth: how do they survive in competition, when do they likely withdraw from the market, how many job gains do new business establishments generate, and what has been the effect of the most recent 'Great Recession' on new and young business establishments in Oklahoma.

¹ Carol Leming, Akbar Sadeghi, James R. Spletzer, and David M. Talan, 'The Role of Younger and Older Business Establishments in the U.S. Labor Market', *Issues in Labor Statistics*, Office of Publications & Special Studies, U.S. Department of Labor, Bureau of Labor Statistics, Summary 10-09, August 2010.

² 'Entrepreneurship and the U.S. Economy', BED Update, Business Employment Dynamics (BED) program, U.S. Department of Labor, Bureau of Labor Statistics, 2010.

³ Leming, Sadeghi, Spletzer, and Talan, *op. cit.*

⁴ Phoebe Colman, 'Young Businesses Restrained by Recession', Workforce and Economic Research Division, Oregon Employment Department, April, 2012.

⁵ Yin Zhou, 'Business Establishment Survival in Oklahoma: Younger vs. Older Business Establishments', Economic Research & Analysis Division, Oklahoma Employment Security Commission, January 2013.

We will focus on Oklahoma private-sector business establishments and analyze their survival rates and employment gains and losses by different age categories. Young establishments may have different survival patterns than older ones. Also, we'll look at how the past two recessions have affected these younger business establishments, especially in their early stages of growth.

It is our hope that this study provides the reader with a general but somewhat detailed picture of Oklahoma entrepreneurship by looking at business activities across different establishment ages. Especially, we hope our readers gain useful information regarding Oklahoma's new and younger business establishments from this analysis.

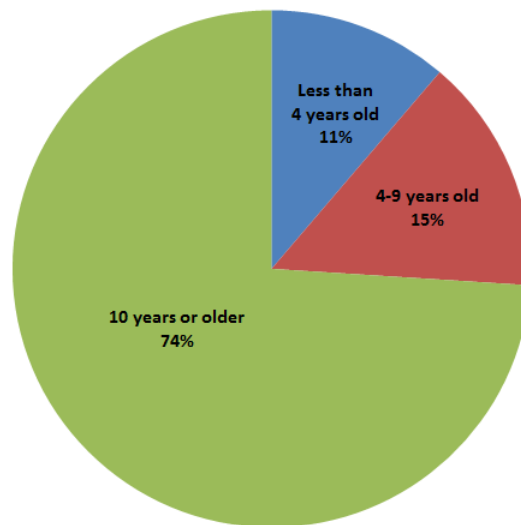
I. Oklahoma Private-Sector Establishments by Age: Younger vs. Older Establishments

The older establishments, more than 10 years old, which employed about 74 percent of the total private sector jobs in March 2016, were the main employers within Oklahoma's private-sector workforce. Private sector business establishments, four to nine years old, accounted for 15 percent of private-sector employment, while business establishments less than four years old accounted for around eleven percent of employment, (See Chart 1, below).

This figure is only three percentage points lower than the national average where older business establishments employed 77 percent of the U.S. total private employment in March 2016, (See Appendix A, page 11).

Chart 1. Percent of Oklahoma total private employment by establishment age: March 2016

SOURCE: Business Employment Dynamics (BED), U.S. Department of Labor, Bureau of Labor Statistics



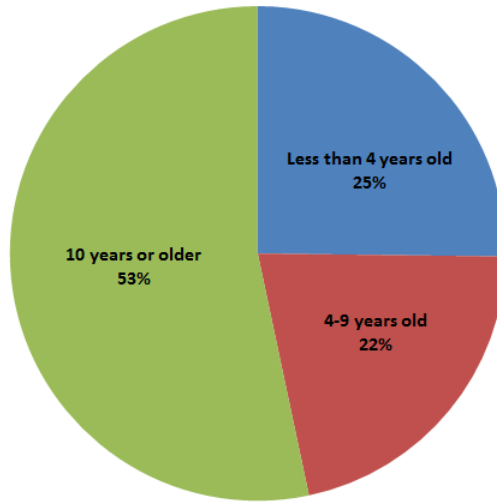
NOTE: Due to rounding errors, results may add up to more than 100 percent

The older business establishments had the most number of total private business establishments for both the nation and state. In Oklahoma, 53 percent of the business establishments were 10 years or older. Business that were four to nine years old accounted for 22 percent of the total private establishments, while businesses less than four years old also accounted for 25 percent (See Chart 2, page 3).

This data, which is used to monitor a cohort of establishments over a period of time, presents the level of employment and number of establishments through the age of an establishment. A cohort is defined in this report as those establishments that opened during a given year.

Chart 2. Percent of Oklahoma total private establishments by age: March 2016

SOURCE: Business Employment Dynamics (BED), U.S. Department of Labor, Bureau of Labor Statistics

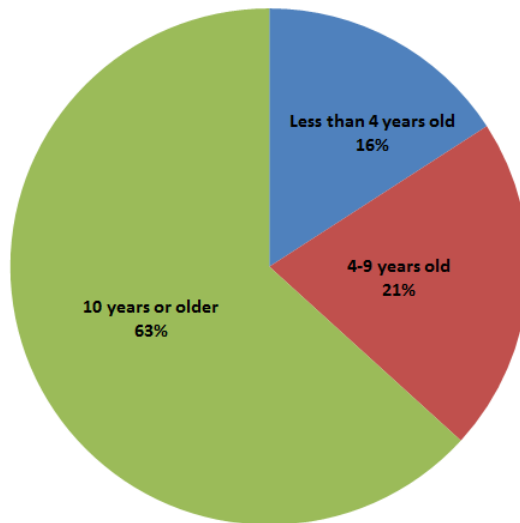


NOTE: Due to rounding errors, results may add up to more than 100 percent

Before the ‘Great Recession’⁶, younger establishments—less than four years old—had a greater share of private-sector employment in Oklahoma. In March 2007, younger establishments accounted for 16 percent of total private-sector employment, (see Chart 3, below).

Chart 3: Percent of Oklahoma total employment by establishment age: March 2007

SOURCE: Business Employment Dynamics (BED), U.S. Department of Labor, Bureau of Labor Statistics



NOTE: Due to rounding errors, results may add up to more than 100 percent

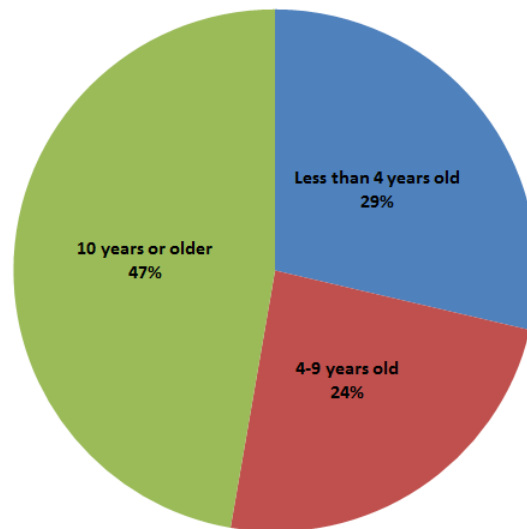
⁶ The ‘Great Recession’ began in December 2007 and ended in June 2009, lasting 18 months and making it the longest of any recession since World War II, according to the National Bureau of Economic Research (NBER).

By March 2016, only eleven percent of total private-sector employment was attributed to the younger establishments, (see Chart 1, page 2).

Younger establishments' share of total private-sector business establishments was 25 percent in March 2016, four percentage points less than March 2007 (prior to the 'Great Recession'), at 29 percent, (see Chart 4, below).

Even though the younger establishments were an important factor in the private-sector, older establishments played a much more significant role in Oklahoma private-sector employment. From March 2007 to March 2016, older establishments' share of private-sector employment increased by nearly 11 percentage points. Older establishments' share of total private-sector establishments also increased during that eight-year period, growing about six percentage points.

Chart 4. Percent of total number of Oklahoma private establishments by age: March 2007
SOURCE: Business Employment Dynamics (BED), U.S. Department of Labor, Bureau of Labor Statistics



NOTE: Due to rounding errors, results may add up to more than 100 percent

Table 1, shown on the next page, illustrates the employment levels of Oklahoma private-sector business establishments by age in March 2007 and March 2016. Prior to the recession, businesses of all ages played a key role in the state's economy. This was especially true for younger businesses, less than four years old, which accounted for 15.8 percent of the private-sector employment, and nearly one-third of the total private-sector establishments in March 2007, (see Table 2, page 5).

However, the share sizes for both establishments and employment at young establishments saw a reduction going from 15.8 percent to 11.3 percent in employment and from 28.7 percent to 25.2 percent in establishments from 2007 to 2016. Their market shares lost ground to the older establishments, during the recession and in the recovery period after the recession.

Between March 2007 and March 2016, the market share for business establishments four to nine years old declined slightly from 24.1 percent to 21.5 percent while their employment share decreased from 20.8 percent to 14.8 percent.

At the same time, older business establishments saw their market share increase from 47.3 percent in March 2007 to 53.3 percent in March 2016. During this time, their employment share also grew from 63.4 percent to 74 percent.

Table 1. Oklahoma private-sector employment by establishment age

Age	March 2007		March 2016	
	Number	Percent of Total	Number	Percent of Total
< 1 year	47,445	3.9	35,555	2.9
1-3 years	143,162	11.9	104,368	8.4
4-9 years	250,342	20.8	183,921	14.8
10+ years	764,185	63.4	920,884	74
Total	1,205,134	100	1,244,728	100

Source: Business Employment Dynamics (BED), U.S. Bureau of Labor Statistics

Table 2. Oklahoma private-sector establishments by age

Age	March 2007		March 2016	
	Number	Percent of Total	Number	Percent of Total
< 1 year	7,456	9.3	7,118	8.1
1-3 years	15,543	19.4	14,965	17.1
4-9 years	19,312	24.1	18,836	21.5
10+ years	37,939	47.3	46,740	53.3
Total	80,250	100	87,659	100

Source: Business Employment Dynamics (BED), U.S. Bureau of Labor Statistics

II. Oklahoma Private-Sector Establishment Births and Deaths

An establishment birth refers to a new opening, which is less than one year. Generally, the births for private-sector establishments in Oklahoma have dropped significantly over the past 22 years. Private-sector establishment births fell from 7,547 openings in March 1994 to 7,118 openings in March 2016—a decline of nearly 5 percent. Newly opened private-sector establishments also employed fewer workers over that period, from 51,067 in March 1994 to 35,555 in March 2016, (see Table 3, below).

March 1998 saw the largest number of private-sector establishment births in Oklahoma, with 8,052 new establishment openings occurring that year. However, the largest level of employment for newly-opened establishments occurred in March 1997, with 65,667 workers.

In the 2000's, the peak point for the new private-sector business establishment openings in Oklahoma was March 2006, when a total of 7,850 private-sector establishments opened with an employment level of 48,087 workers. By March 2007 the number of newly-opened business establishment openings began to fall. By March 2007, the number of newly-opened business establishments began to fall, a trend that would continue through March 2010 as the Oklahoma economy entered the 'Great Recession'. Business establishment births in the state hit a low of 6,296 in March 2010. At the same time, employment at newly-opened establishments sank to 30,997 workers.

Oklahoma's economy began to recover by March 2011 as the number of newly-opened business establishments climbed to 6,362 and eventually reached a level of 7,437 by March 2015.

Likewise, employment at newly-opened establishments rose from 33,160 workers in March 2011 to 39,895 by March 2014 then dipped to 36,868 in March 2015. During this time period, energy

sector employment peaked in June 2014 and slowly started to decline on falling commodity prices, eventually bottoming in early 2016. As of March 2016, the number of newly-opened business establishments had slipped to 7,118 and employment at these establishments had dropped to 35,555 workers.

Table 3. Oklahoma Private-Sector Establishment Births, March 1994 to March 2016

Year	Employment of Newly Opened Establishments (Less Than 1 Year Old)	Number of Newly Opened Establishments (Less Than 1 Year Old)	Average Employment Size of New Openings
1994	51,067	7,547	7
1995	51,247	7,324	7
1996	58,910	7,072	8
1997	65,667	7,903	8
1998	56,501	8,052	7
1999	60,277	7,876	8
2000	59,184	7,285	8
2001	57,850	6,695	9
2002	60,471	7,620	8
2003	46,768	6,680	7
2004	50,732	6,973	7
2005	48,662	7,042	7
2006	48,087	7,850	6
2007	47,445	7,456	6
2008	45,661	7,402	6
2009	39,434	7,315	5
2010	30,997	6,296	5
2011	33,160	6,362	5
2012	33,101	6,451	5
2013	34,511	6,733	5
2014	39,895	7,103	6
2015	36,868	7,437	5
2016	35,555	7,118	5

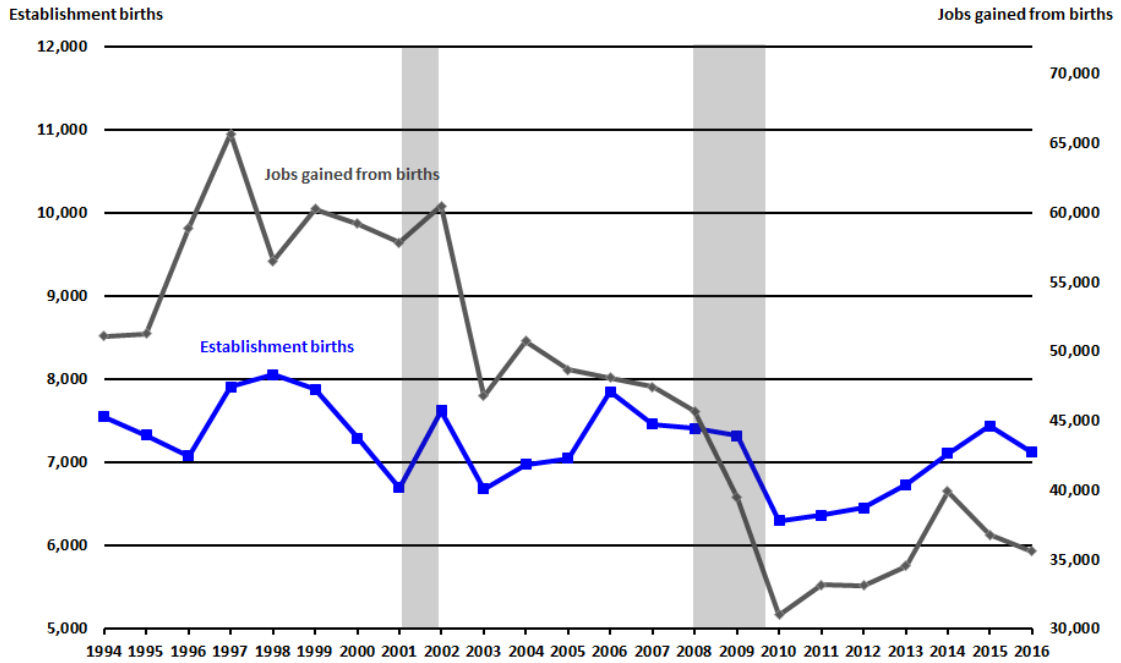
Source: Business Employment Dynamics (BED), U.S. Bureau of Labor Statistics

On average, nine employees were hired at newly-opened establishments in March 2001. However, that number dropped to five by March 2009, 2010, 2011, and 2012, which was the period during and after the ‘Great Recession’. Starting in March 2001, a trend of declining average employment size of new openings occurred until March 2014, when the average rose from five to six employees.

Chart 5, (page 7), plots the growth trends for Oklahoma’s newly opened business establishments using annual data for private-sector establishment births and jobs gained from births from March 1994 to March 2016. During the period between 2006 and 2011, there were major declines in establishment births. The largest decline occurred between March 2009 and 2010, as the effects of the last recession started and ended in Oklahoma.

Chart 5. Oklahoma private-sector business establishment births
Annual data, March 1994 to March 2016

SOURCE: Business Employment Dynamics (BED), U.S. Department of Labor, Bureau of Labor Statistics

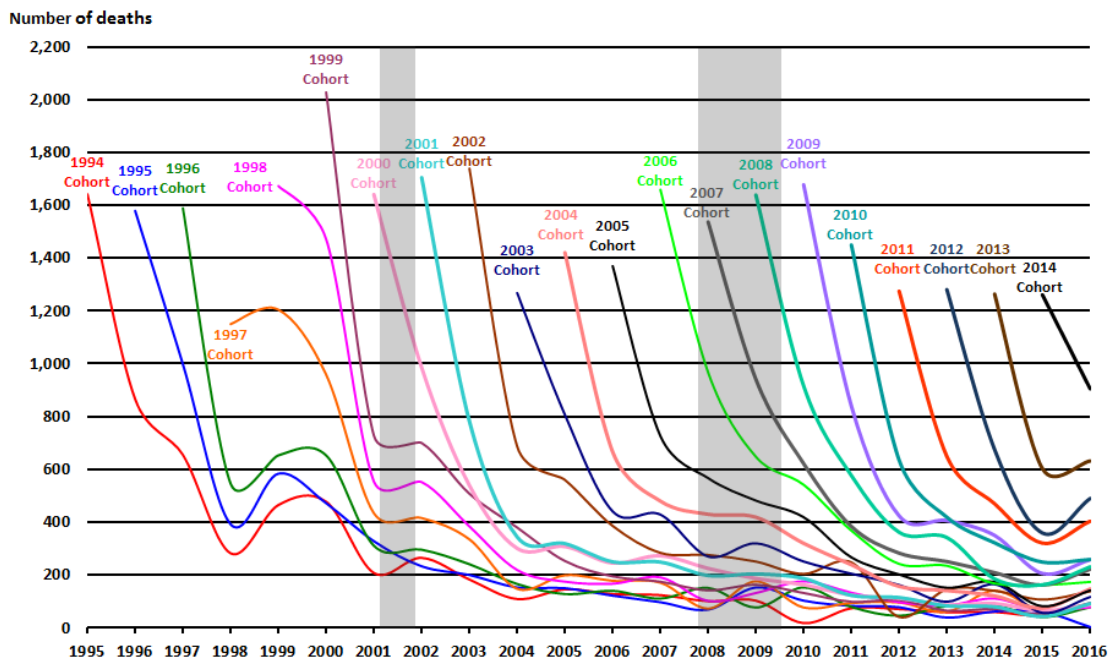


NOTE: Shaded areas represent National Bureau of Economic Research defined recession periods.

There were major declines in job gains from births between 2008-2010 and 2002-2003 and more recently from 2015-2016. This can be attributed to the reduction of jobs in the newly-opened establishments.

Chart 6. Oklahoma private-sector business establishment deaths
Annual data, March 1994 to March 2016

SOURCE: Business Employment Dynamics (BED), U.S. Department of Labor, Bureau of Labor Statistics



NOTE: Shaded areas represent National Bureau of Economic Research defined recession periods.

The typical life cycle of a newly-opened establishment in Oklahoma is about two to three years after birth. A business establishment's death is most likely to occur during the early stages of the business's existence. In Chart 6, (page 7), the trends of private-sector establishment deaths over the past 22 years are plotted from March 1994 to March 2016.

III. Survival Rates of Oklahoma Private-Sector Establishments by Age

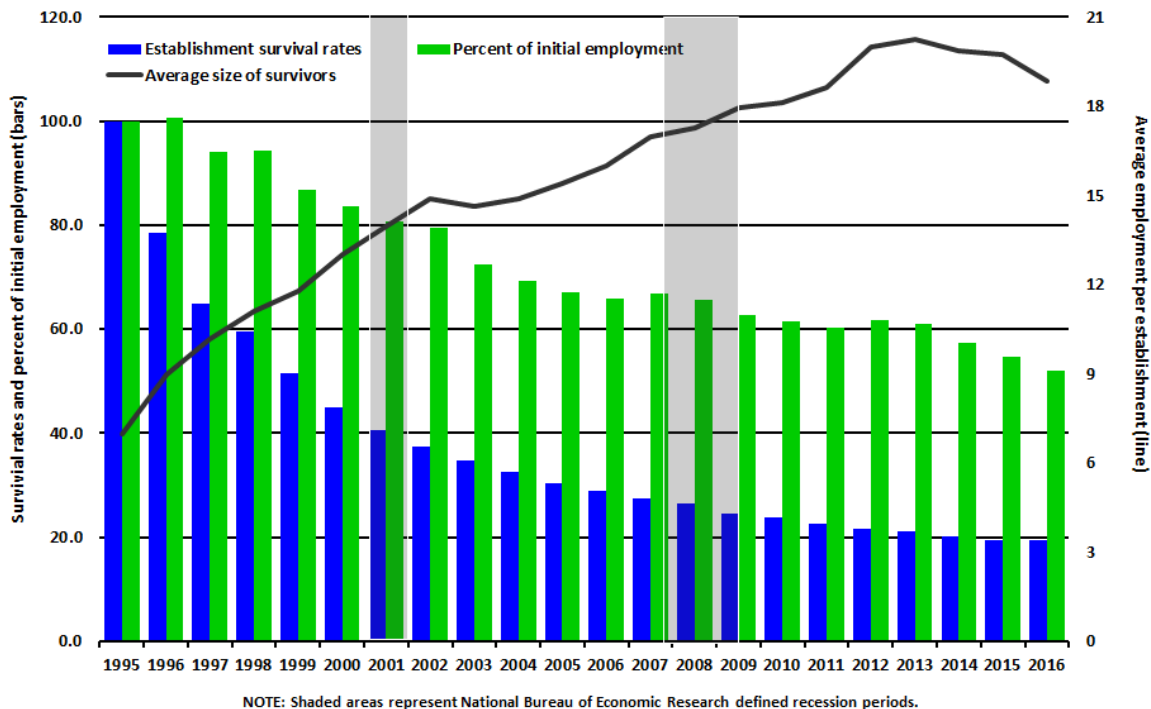
The BED establishment by age series traces cohorts of new businesses as a measurement of survival yearly. Chart 7, below, details the survival rates for the cohort in March 1995 of new Oklahoma business establishments opening in March 1995. In Chart 7, the proportion of all business establishment openings in March 1995 surviving in any given year is represented by the blue 'establishments' bars. Approximately 19 percent of businesses that opened in March 1995 remained in business in 2016, employing about 52 percent of the cohort's initial employment. The first three years of a newly-opened business establishment are critical because that is the typical survival rate for a business. For every 100 private-sector establishments born in March 1995 in Oklahoma, 22 failed to survive past the first year, 35 failed to survive past the second year, and 41 failed to survive past the third year after opening (see Chart 7).

In Chart 7, the green 'employment' bars represent employment levels at the surviving establishments as a percent of the cohort's initial employment.

The 'average size of survivors' line, in Chart 7, is computed by dividing the surviving cohort employment levels by the total number of surviving establishments, reflecting the number of employees hired by surviving establishments on average. The trend line shows how the cohort of Oklahoma establishments opening in March 1995 averaged seven workers per establishment. By March 2005, the surviving establishments' size had more than doubled to about 15 employees and by March 2015 that number had grown to 20 employees. The surviving establishments' size grew quickly within the birth stages in its first three years.

Chart 7. Survival rates of Oklahoma business establishments opening in 1995 and average employment per surviving establishment

SOURCE: Business Employment Dynamics (BED), U.S. Department of Labor, Bureau of Labor Statistics



There may be two possible reasons as to why the average size of surviving establishments increases over time: 1) the employment levels are likely to increase within their early levels at the surviving establishments; and 2) if smaller establishments are more likely to die and larger establishments are more likely to survive, the declining number of smaller establishments and growing number of larger establishments will increase the average size of surviving establishments.⁷

IV. Survival Rates and the Recessions

Because the first three years appear to be the most crucial to business survival, we will now look at how the past two recessions impacted the survival rates for new private-sector establishments in their early stages in Oklahoma.

Table 4. below, outlines the first three years of new private-sector business establishments opening since March 1999 as it pertains to the survival rate. The bolded survival rates indicate those affected by the recessions. During their early stages, the following cohorts were affected by the recession which occurred between March and November 2001: 1999 (that is, establishments born in March 1999), 2000 and 2001. Similarly, the following cohorts were affected by the most recent ‘Great Recession:’ 2005, 2006, 2007, 2008, and 2009.

Table 4. Survival rates of new establishments Oklahoma 1999-2015

Annual Births Year Ended	Percent of Surviving		
	1 year	2 years	3 years
1999	74.3	65.0	56.1
2000	77.5	64.0	56.6
2001	74.5	62.9	57.7
2002	77.2	68.2	60.8
2003	81.0	68.9	62.3
2004	79.6	70.1	63.2
2005	80.5	70.2	62.2
2006	78.9	66.5	58.3
2007	79.4	66.8	58.4
2008	77.9	65.5	57.7
2009	77.1	65.6	59.8
2010	77.0	66.9	60.2
2011	80.0	69.8	62.4
2012	80.1	69.7	64.1
2013	81.2	72.3	62.9
2014	82.2	69.5	\
2015	77.9	\	\
Average (non-recession)	79.0	68.3	60.7
Average (recessions)	77.2	65.7	58.8

Source: Business Employment Dynamics (BED), U.S. Bureau of Labor Statistics

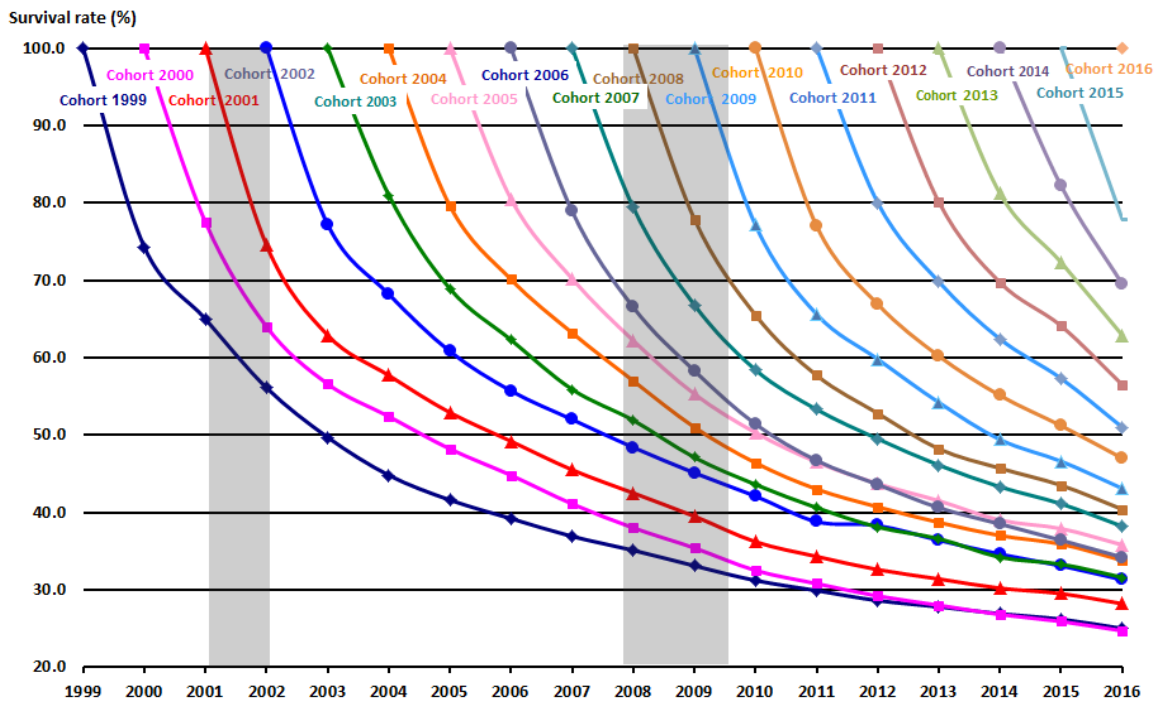
⁷ Leming, Sadeghi, Spletzer, and Talan, *op. cit.*

In the first-year survival rates impacted by the recession, the average level was about two percentage points lower compared to that of the non-recession average. A similar situation occurred for the second and third year average survival rates when the levels are compared to the non-recessionary averages. While the past two recessions appear to have made an impact on the survival rates for new business establishments during their first three years, the negative effect is relatively small when it is compared to that of the non-recessionary survival rates (see Table 4, page 9).

Chart 8, below, shows the survival rates of Oklahoma private-sector business establishments during the past two recessions for all of the cohorts since March 1999. The establishment survival rates for the older cohorts of 1999, 2000, and 2001 seem to be less affected by the ‘Great Recession’ than the younger cohorts of 2007, 2008, and 2009.

Chart 8. Survival rates of Oklahoma business establishments during the past two recessions
Annual data, March 1999 to March 2016

SOURCE: Business Employment Dynamics (BED), U.S. Department of Labor, Bureau of Labor Statistics



NOTE: Shaded areas represent National Bureau of Economic Research defined recession periods.

V. Conclusion

The role young businesses play continues to be evaluated as a factor in understanding job creation in the state and national economies. The past two recessions, and especially the ‘Great Recession’ seem to have reduced establishment birth and survival rates and delayed employment growth among young business establishments in Oklahoma. New establishments in Oklahoma were also opening with fewer employees, part of an ongoing ten-year trend ending in March 2014. As a result, younger business establishments in Oklahoma play a less important role, compared to the older establishments, within the state’s private sector in 2016 than before the ‘Great Recession.’

Appendix A: United States Employment & Establishments of Private Sector Businesses

Age class	Establishments		Employment	
	March 2015	Percent	March 2015	Percent
< 1 year	725,269		3,086,724	
1 year	541,899		3,083,253	
2 years	452,972		2,946,097	
3 years	386,595	2,106,735	<4 years old	27%
4 years	350,049		2,861,772	11,977,846
5 years	297,019		<4 years old	10%
6 years	263,659		2,766,105	
7 years	260,458		2,534,276	
8 years	259,833		2,417,226	
9 years	247,219	1,678,237	4-9 years old	22%
10 years	234,705		2,764,539	15,724,876
11 years	217,069		4-9 years old	13%
12 years	199,165		2,750,049	
13 years	192,992		2,800,219	
14 years	185,432		2,730,303	
15 years	171,435		2,859,017	
16 years	169,524		2,886,741	
17 years	154,026		2,795,936	
18 years	146,050		3,102,192	
19 years	136,287		2,967,738	
20 years	124,537		2,972,061	
21 years	118,699		2,734,215	
22 years	106,789		2,594,428	
Born before March 1993	1,777,779	3,934,489	10 years or older	51%
Total	7,719,461		54,327,473	90,339,075
			10 years or older	77%
			100%	118,041,797
				100%

Page 2: 77% is the ratio of total employment of business establishments 10 years or older (85,586,589) by total employment (112,858,589) in March 2014 for the United States.