
KAUFFMAN INDEX OF
**entrepreneurial
activity**
1996–2009

Robert W. Fairlie

May 2010

Robert W. Fairlie is a
Professor of Economics and the
Director of the Master's Program in
Applied Economics and Finance at
the University of California,
Santa Cruz.

©2010 by the Ewing Marion Kauffman Foundation. All rights reserved.

TABLE OF CONTENTS

Executive Summary	2
Introduction	4
Trends in Entrepreneurial Activity	4
Figure 1: Kauffman Index of Entrepreneurial Activity (1996–2009).....	5
Table 1: Kauffman Index of Entrepreneurial Activity (1996–2009).....	5
Entrepreneurial Activity by Demographic Groups.....	6
Figure 2: Kauffman Index of Entrepreneurial Activity by Gender (1996–2009)	6
Figure 3: Kauffman Index of Entrepreneurial Activity by Race (1996–2009)	7
Table 2: Kauffman Index of Entrepreneurial Activity by Race (1996–2009)	7
Figure 4: Kauffman Index of Entrepreneurial Activity by Nativity (1996–2009).....	8
Table 3: Kauffman Index of Entrepreneurial Activity by Nativity (1996–2009).....	8
Figure 5: Kauffman Index of Entrepreneurial Activity by Age (1996–2009).....	9
Table 4: Kauffman Index of Entrepreneurial Activity by Age (1996–2009).....	9
Figure 6: Kauffman Index of Entrepreneurial Activity by Education (1996–2009)	10
Table 5: Kauffman Index of Entrepreneurial Activity by Education (1996–2009)	10
Entrepreneurial Activity by Industry.....	11
Figure 7: Kauffman Index of Entrepreneurial Activity by Industry (1996–2009)	11
Table 6: Kauffman Index of Entrepreneurial Activity by Industry (1996–2009)	11
Entrepreneurial Activity by State	12
Table 7: Kauffman Index of Entrepreneurial Activity by State (2009)	12
Figure 8: Kauffman Index of Entrepreneurial Activity by State (2009)	13
Figure 9: Kauffman Index of Entrepreneurial Activity by State with 95 Percent Confidence Intervals, 2009	14
Figure 10: Kauffman Index of Entrepreneurial Activity by Region (1996–2009).....	15
Table 8: Kauffman Index of Entrepreneurial Activity by Region (1996–2009).....	15
Table 9: Kauffman Index of Entrepreneurial Activity by State (2007, 2009).....	17
Table 10: Kauffman Index of Entrepreneurial Activity by State (1997–1999 and 2007–2009).....	18
Entrepreneurial Activity by Metropolitan Area	19
Table 11: Kauffman Index of Entrepreneurial Activity for the Fifteen Largest MSAs (2009).....	19
Summary	20
Appendix	21
Data	21
Detailed Definitions	21
Standard Errors and Confidence Intervals	22
Advantages Over Other Possible Measures of Entrepreneurship	23
Comparison to Specific Datasets	23
Endnotes.....	24

executive summary

In 2009, the number of people reporting entry into entrepreneurial activity in the United States reached its highest point over the last fourteen years. This increased rate of entrepreneurship was seen across most demographic categories, with the largest increases coming among older individuals and African-Americans. While the West continues to have a higher rate of entrepreneurship than other parts of the country do, it showed a sharp decline in 2008. These trends and many more are discussed here in the Kauffman Index of Entrepreneurial Activity, the leading indicator of new business creation in the United States.

Capturing new business owners in their first month of significant business activity, this measure provides the earliest documentation of new business development across the country. The percentage of the adult, non-business-owner population that starts a business each month is measured using data from the Current Population Survey (CPS). In addition to this overall rate of entrepreneurial activity, separate estimates for specific demographic groups, states, and select metropolitan statistical areas (MSAs) are presented. The Index provides the only national measure of business creation by specific demographic groups.

New 2009 data allow for an update to previous reports, with consideration of trends in the rates of entrepreneurial activity over the fourteen-year period between 1996 and 2009. The Kauffman Index reveals important shifts in the national level of entrepreneurial activity and shifts in the demographic and geographic composition of new entrepreneurs across the country. Key findings for 2009 include:

- In 2009, 0.34 percent of the adult population (or 340 out of 100,000 adults) created a new business each month, representing approximately 558,000 new businesses per month. The 2009 entrepreneurial activity rate represents an increase over the 2008 rate of 0.32 percent and represents the highest level over the past decade and a half.
- Overall, men are substantially more likely to start businesses each month than are women. The entrepreneurial activity rate for men increased slightly from 0.42 percent in 2007 to 0.43 percent in 2008. The Kauffman Index for women also increased slightly, from 0.24 percent to 0.25 percent.
- The entrepreneurial activity rate among African-Americans increased from 0.22 percent in 2008 to 0.27 percent in 2009, reaching the highest level over the past decade and a half.
- The Latino entrepreneurial activity rate decreased from 0.48 percent in 2008 to 0.46 percent in 2009, and the Asian entrepreneurial activity rate decreased from 0.35 percent in 2008 to 0.31 percent in 2009. The non-Latino white business-creation rate increased from 2008 to 2009 (0.31 percent to 0.33 percent).
- The immigrant rate of entrepreneurial activity declined slightly from 0.53 percent in 2008 to 0.51 percent in 2009, but remained substantially higher than the native-born rate of 0.30 percent.
- The oldest age group (ages fifty-five to sixty-four) experienced the second-largest increase in business-creation rates from 2008 to 2009, contributing to a two-year upward trend. Among this group, entrepreneurial activity rose from 0.36 percent to 0.40 percent. The age group thirty-five to forty-four also experienced a large increase in

entrepreneurial activity from 2008 to 2009 (0.35 percent to 0.40 percent). The youngest age group (twenty to thirty-four) has a substantially lower entrepreneurship rate (0.24 percent).

- Entrepreneurship rates increased the most for college-educated individuals (0.31 percent to 0.34 percent), and high school individuals (0.35 percent to 0.38 percent) in 2009.
- The construction industry had the highest rate of entrepreneurial activity of all major industry groups in 2009 (1.55 percent). The second-highest rate of entrepreneurial activity was in the services industry (0.42 percent).
- The entrepreneurial activity rate declined sharply in the West, from 0.42 percent in 2008 to 0.38 percent in 2009. Business-creation rates increased in the Midwest and South, but the West continues to have the highest rates.
- The states with the highest rates of entrepreneurial activity were Oklahoma (470 per 100,000 adults), Montana (470 per 100,000 adults), Arizona (460 per 100,000 adults), Texas (450 per 100,000 adults), and Idaho (450 per 100,000 adults). The states with the lowest rates of entrepreneurial activity were Mississippi (170 per 100,000 adults), Nebraska (200 per 100,000 adults), Pennsylvania (200 per 100,000 adults), Alabama (210 per 100,000 adults), and Minnesota (220 per 100,000 adults).
- The states experiencing the largest increases in entrepreneurial activity rates over the past decade were Georgia (0.20 percentage points), Arizona (0.14 percentage points), Tennessee (0.13 percentage points), District of Columbia (0.12 percentage points), and Massachusetts (0.10 percentage points). The states that experienced the largest decreases in their rates were New Mexico (-0.20 percentage points), Alaska (-0.15 percentage points), North Dakota (-0.12 percentage points), and Nebraska (-0.10 percentage points).
- Among the fifteen largest MSAs in the United States, the highest entrepreneurial activity rate in 2009 was in Houston (0.63 percent). The large MSA with the lowest rate of entrepreneurial activity was Seattle (0.16 percent).

The Kauffman Index of Entrepreneurial Activity measures the rate of business creation at the individual owner level.

Introduction

The Kauffman Index of Entrepreneurial Activity measures the rate of business creation at the individual owner level. Presenting the percentage of the adult, non-business-owner population that starts a business each month, the Kauffman Index captures all new business owners, including those who own incorporated or unincorporated businesses, and those who are employers or non-employers.¹ The Kauffman Index is calculated from matched data from the Current Population Survey (CPS), a monthly survey conducted by the U.S. Bureau of the Census and the Bureau of Labor Statistics. This report updates previous accounts of the Kauffman Index, incorporating new data from 2009.

To create the Kauffman Index, all individuals between ages twenty and sixty-four who do not own a business as their main job are identified in the first survey month. By matching CPS files for the following month, it is then determined if these individuals own a business as their main job with fifteen or more usual hours worked per week in the following survey month. These monthly entrepreneurial activity rates then are averaged to calculate an average monthly estimate for each year. More details about the datasets and measures used, and where to access the microdata for research, are provided in previous reports and in the Appendix.² The Kauffman Index of Entrepreneurial Activity improves over other possible measures of entrepreneurship because of its timeliness, dynamic nature, inclusion of all types of business activity, exclusion of “casual” businesses, and information on owner demographics.

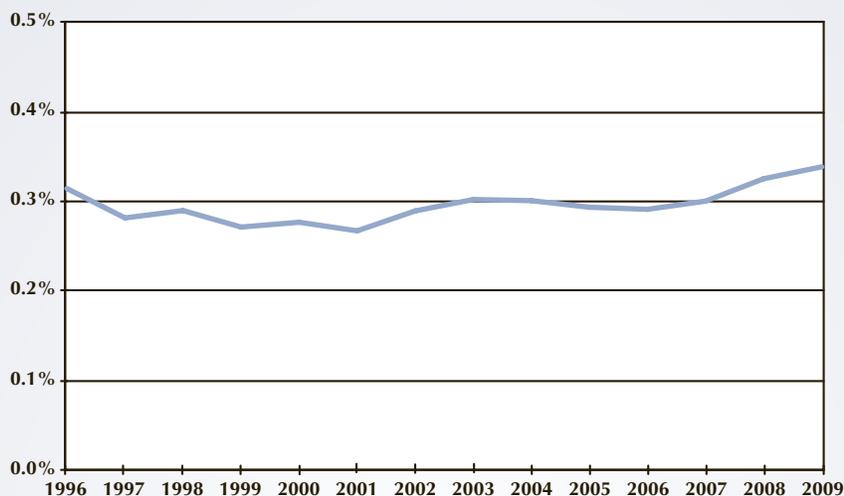
4

Trends in Entrepreneurial Activity

In 2009, an average of 0.34 percent of the adult population, or 340 out of 100,000 adults, created a new business each month.³ This business-creation rate translates into 558,000 new businesses being created each month during the year. The entrepreneurial activity rate increased from 2008, when it was 0.32 percent.⁴ It was the second straight year that the index increased, resulting in an increase from 0.30 percent in 2007 to 0.34 percent in 2009. Over the past fourteen years, the business-creation rate fluctuated between 0.27 percent and 0.31 percent, but then rose above this level in the past two years. Figure 1 and Table 1 report average monthly estimates of the Kauffman Index by year from 1996 to 2009. While there are,

Over the past fourteen years, the business-creation rate fluctuated between 0.27 percent and 0.31 percent, but then rose above this level in the past two years.

Figure 1
Kauffman Index of Entrepreneurial Activity
(1996–2009)



SOURCE: Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey.

TABLE 1
KAUFFMAN INDEX OF
ENTREPRENEURIAL ACTIVITY (1996–2009)

Year	MALE		FEMALE		TOTAL	
	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.37%	243,368	0.26%	287,639	0.31%	531,007
1997	0.35%	244,863	0.22%	286,266	0.28%	531,129
1998	0.33%	245,820	0.25%	286,476	0.29%	532,296
1999	0.32%	246,225	0.22%	286,765	0.27%	532,990
2000	0.34%	246,522	0.21%	284,901	0.27%	531,423
2001	0.31%	264,693	0.23%	304,765	0.26%	569,458
2002	0.36%	288,595	0.22%	334,562	0.29%	623,157
2003	0.38%	284,391	0.22%	330,166	0.30%	614,557
2004	0.37%	279,373	0.24%	323,314	0.30%	602,687
2005	0.35%	276,836	0.24%	320,362	0.29%	597,198
2006	0.35%	274,825	0.23%	316,781	0.29%	591,606
2007	0.41%	271,807	0.20%	314,441	0.30%	586,248
2008	0.42%	272,218	0.24%	312,167	0.32%	584,385
2009	0.43%	276,445	0.25%	315,254	0.34%	591,699

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded.

Visit www.kauffman.org/kiea to download the data files.

without a doubt, divergent patterns in business creation below the surface here, with many high-potential businesses starting and many people being forced into entrepreneurship because of lack of other job opportunities, unfortunately, it is impossible to cleanly disaggregate those trends.

ENTREPRENEURIAL ACTIVITY BY DEMOGRAPHIC GROUPS

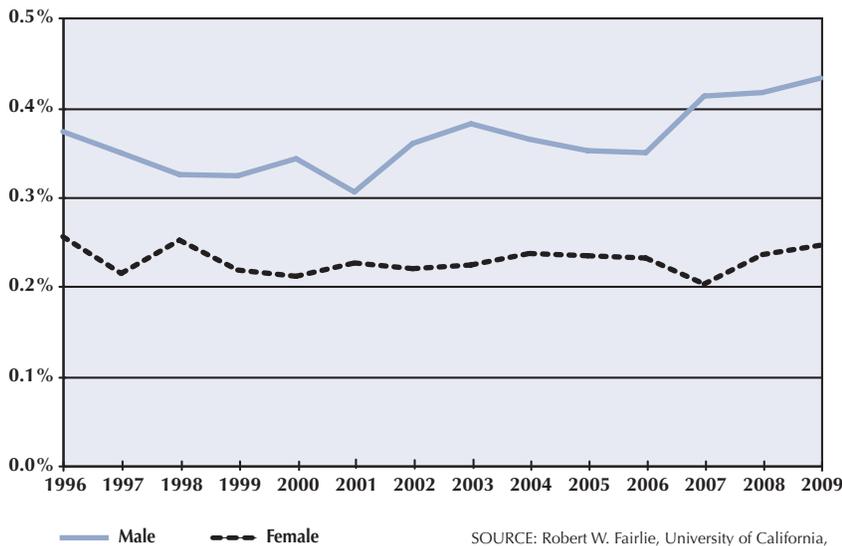
The detailed demographic information available in the CPS and large sample sizes allow for the estimation of separate indices by gender, race, immigrant status, age, and education. Large, nationally representative business-level datasets typically provide either no or very limited demographic information on the owner. Entrepreneurial activity increased slightly for both men and women from 2008 to 2009. For men, the entrepreneurial activity rate increased from 0.42 percent in 2008 to 0.43 percent in 2009, continuing an upward trend over the past few

years. The entrepreneurship rate increased from 0.24 percent to 0.25 percent for women. Figure 2 and Table 1 report estimates of the Kauffman Index by gender from 1996 to 2009. Overall, men are substantially more likely to start businesses each month than are women. The average rate of entrepreneurial activity for men over the fourteen-year period was 0.36 percent. The average rate for women was lower, at 0.23 percent.

African-Americans experienced the largest increase in entrepreneurial activity rates between 2008 and 2009. Figure 3 and Table 2 report estimates of the Kauffman Index by race and ethnicity. The African-American rate increased from 0.22 percent in 2008 to 0.27 percent in 2009, which was the highest rate over the fourteen years of reported data. In contrast, both Latinos and Asians experienced declines in entrepreneurial activity rates. The Latino entrepreneurial activity rate decreased from 0.48 percent in 2008 to 0.46 percent in 2009, and the Asian entrepreneurial activity rate decreased from

Overall, men are substantially more likely to start businesses each month than are women.

Figure 2
Kauffman Index of Entrepreneurial Activity by Gender (1996–2009)



SOURCE: Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey.

Figure 3
Kauffman Index of Entrepreneurial Activity by Race
(1996–2009)

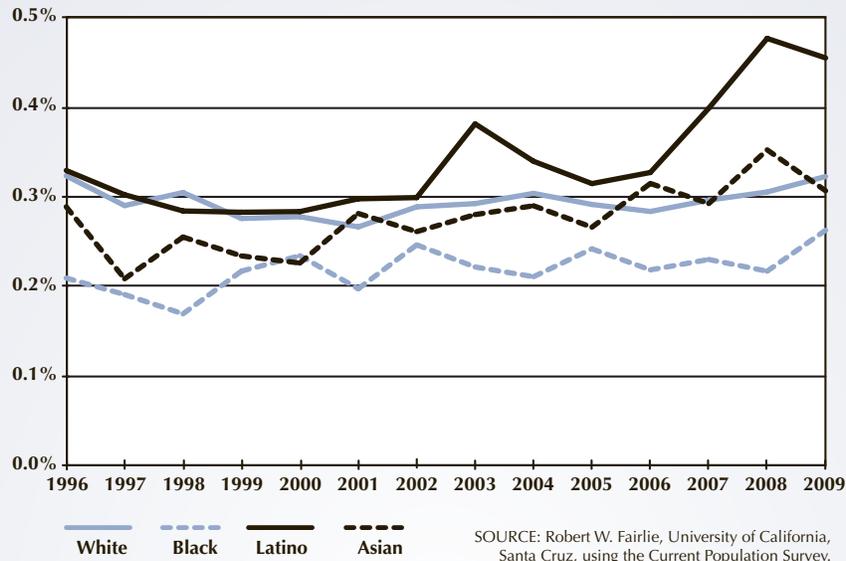


TABLE 2
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY RACE
(1996–2009)

Year	WHITE		BLACK		LATINO		ASIAN		TOTAL	
	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.33%	405,007	0.21%	54,799	0.33%	44,033	0.29%	20,489	0.31%	531,007
1997	0.29%	402,519	0.19%	55,300	0.30%	45,537	0.21%	20,711	0.28%	531,129
1998	0.31%	402,681	0.17%	54,669	0.29%	46,940	0.26%	21,099	0.29%	532,296
1999	0.28%	401,712	0.22%	54,241	0.29%	49,074	0.24%	21,256	0.27%	532,990
2000	0.28%	394,524	0.24%	55,249	0.29%	52,428	0.23%	21,897	0.27%	531,423
2001	0.27%	425,149	0.20%	58,250	0.30%	54,155	0.28%	23,895	0.26%	569,458
2002	0.29%	469,626	0.25%	61,083	0.30%	57,514	0.26%	26,373	0.29%	623,157
2003	0.29%	455,554	0.22%	58,797	0.38%	59,676	0.28%	24,011	0.30%	614,557
2004	0.31%	444,321	0.21%	56,587	0.34%	59,170	0.29%	24,227	0.30%	602,687
2005	0.29%	437,420	0.24%	55,069	0.32%	60,828	0.27%	25,690	0.29%	597,198
2006	0.29%	428,021	0.22%	55,532	0.33%	64,204	0.32%	26,578	0.29%	591,606
2007	0.30%	422,369	0.23%	56,529	0.40%	63,900	0.29%	27,128	0.30%	586,248
2008	0.31%	419,454	0.22%	56,311	0.48%	64,470	0.35%	28,097	0.32%	584,385
2009	0.33%	423,378	0.27%	57,564	0.46%	65,514	0.31%	28,961	0.34%	591,699

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) Race and Spanish codes changed in 2003. Estimates for 2003 only include individuals reporting one race. (4) All observations with allocated labor force status, class of worker, and hours worked variables are excluded.

Visit www.kauffman.org/kiea to download the data files.

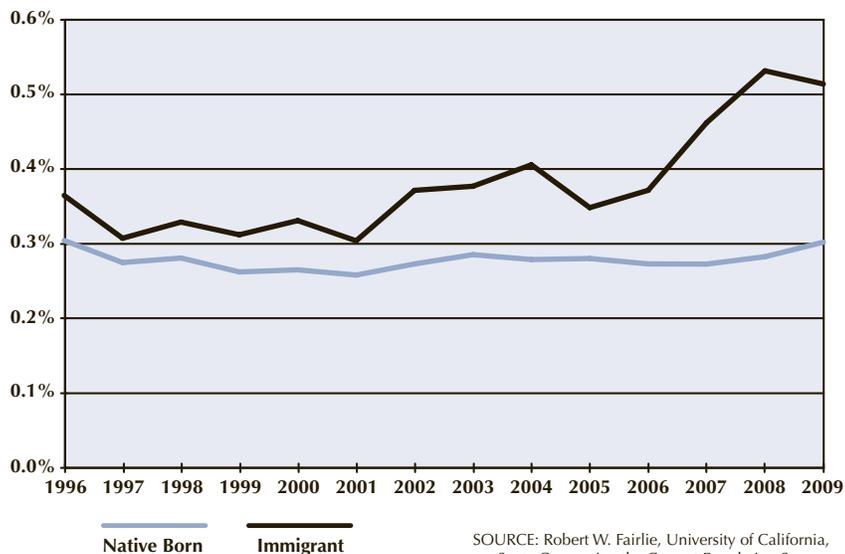
The entrepreneurial activity rate declined slightly for immigrants in 2009 and rose for the native-born.

0.35 percent in 2008 to 0.31 percent in 2009. Following the trend for the U.S. total, the non-Latino white entrepreneurship rate increased from 0.31 percent in 2008 to 0.33 percent in 2009.

The entrepreneurial activity rate declined slightly for immigrants in 2009 and rose for the native-born. The positive gap between immigrant and native-born rates, however, remained large. Figure 4 and Table 3 report estimates of the Kauffman Index by nativity. The entrepreneurial activity rate for immigrants was 0.51 percent in 2009, compared with a native-born rate of 0.30 percent. These rates imply that, for immigrants, 510 out of 100,000 people start a business each month, compared with 300 out of 100,000 people for the native-born.

Figure 5 and Table 4 report estimates of entrepreneurial activity rates by age group. The oldest age group (ages fifty-five to sixty-four) experienced the second-largest increase in business-creation rates from 2008 to 2009, contributing to a two-year upward trend. The ages thirty-five to forty-four group experienced the largest increase, rising from 0.35 in 2008 to 0.40 in 2009. From 2008 to 2009, the ages twenty to thirty-four group experienced a decline in rates, and the ages forty-five to fifty-four group experienced a slight increase in entrepreneurial activity. Business creation was lowest among the youngest group.

Figure 4
Kauffman Index of Entrepreneurial Activity by Nativity (1996–2009)



SOURCE: Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey.

TABLE 3
KAUFFMAN INDEX OF
ENTREPRENEURIAL ACTIVITY BY NATIVITY
(1996–2009)

Year	NATIVE BORN		IMMIGRANT		TOTAL	
	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.30%	474,984	0.36%	56,023	0.31%	531,007
1997	0.27%	473,208	0.31%	57,921	0.28%	531,129
1998	0.28%	472,458	0.33%	59,838	0.29%	532,296
1999	0.26%	472,107	0.31%	60,883	0.27%	532,990
2000	0.27%	466,150	0.33%	65,273	0.27%	531,423
2001	0.26%	500,292	0.30%	69,166	0.26%	569,458
2002	0.27%	549,356	0.37%	73,801	0.29%	623,157
2003	0.29%	539,914	0.38%	74,643	0.30%	614,557
2004	0.28%	528,881	0.41%	73,806	0.30%	602,687
2005	0.28%	521,967	0.35%	75,231	0.29%	597,198
2006	0.27%	513,386	0.37%	78,220	0.29%	591,606
2007	0.27%	507,985	0.46%	78,263	0.30%	586,248
2008	0.28%	505,911	0.53%	78,474	0.32%	584,385
2009	0.30%	511,798	0.51%	79,901	0.34%	591,699

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded.

Visit www.kauffman.org/kiea to download the data files.

Figure 5
Kauffman Index of Entrepreneurial Activity by Age
(1996–2009)

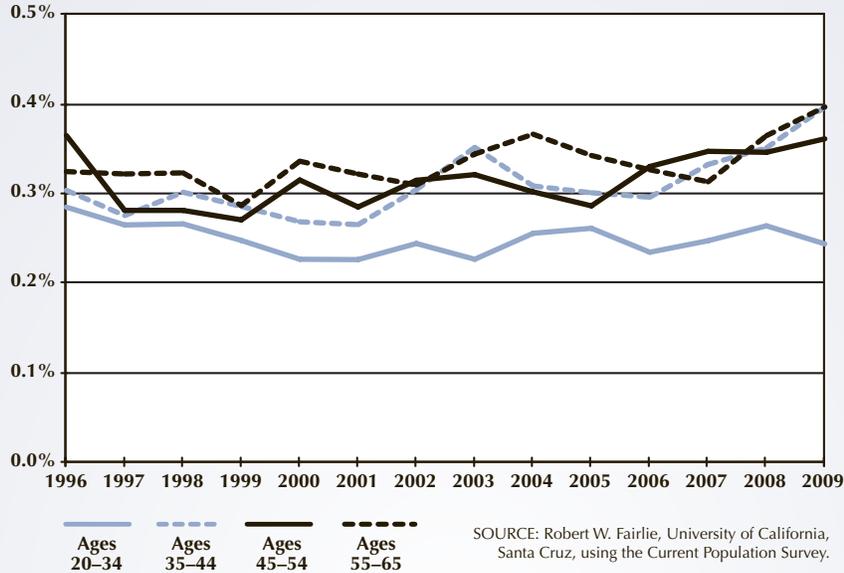


TABLE 4
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY AGE
(1996–2009)

Year	AGES 20–34		AGES 35–44		AGES 45–54		AGES 55–64		TOTAL	
	Index	Sample Size	Index	Sample Size						
1996	0.28%	193,242	0.30%	148,251	0.36%	113,187	0.32%	76,327	0.31%	531,007
1997	0.26%	189,631	0.28%	149,034	0.28%	115,371	0.32%	77,093	0.28%	531,129
1998	0.27%	185,691	0.30%	147,668	0.28%	119,502	0.32%	79,435	0.29%	532,296
1999	0.25%	180,102	0.29%	146,808	0.27%	123,993	0.29%	82,087	0.27%	532,990
2000	0.23%	178,854	0.27%	144,969	0.31%	125,619	0.34%	81,981	0.27%	531,423
2001	0.23%	187,883	0.27%	153,012	0.28%	139,228	0.32%	89,335	0.26%	569,458
2002	0.24%	203,569	0.30%	164,997	0.31%	152,841	0.31%	101,750	0.29%	623,157
2003	0.23%	198,248	0.35%	158,205	0.32%	152,447	0.34%	105,657	0.30%	614,557
2004	0.26%	193,373	0.31%	150,221	0.30%	150,743	0.37%	108,350	0.30%	602,687
2005	0.26%	190,271	0.30%	147,905	0.29%	149,119	0.34%	109,903	0.29%	597,198
2006	0.23%	186,939	0.30%	142,910	0.33%	149,117	0.33%	112,640	0.29%	591,606
2007	0.25%	184,710	0.33%	138,016	0.35%	147,387	0.31%	116,135	0.30%	586,248
2008	0.26%	184,338	0.35%	133,968	0.35%	147,230	0.36%	118,849	0.32%	584,385
2009	0.24%	187,073	0.40%	133,289	0.36%	149,073	0.40%	122,264	0.34%	591,699

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded.

Visit www.kauffman.org/kiea to download the data files.

Entrepreneurship rates increased the most for college-educated and high school individuals in 2009, as indicated in Figure 6 and Table 5. The entrepreneurship index increased from 0.31 percent in 2008 to 0.34 percent in 2009 for the college-educated, and increased from 0.35 percent in 2008 to 0.38 percent in 2009 for high school graduates, making the 2009 entrepreneurial activity rates highest for the least-educated group among all education groups. Although rates are highest for this group, previous research that controls for other correlated factors such as race, ethnicity, and unemployment status indicates increasing rates of entrepreneurship with higher levels of education.⁵

Figure 6
Kauffman Index of Entrepreneurial Activity
by Education (1996–2009)

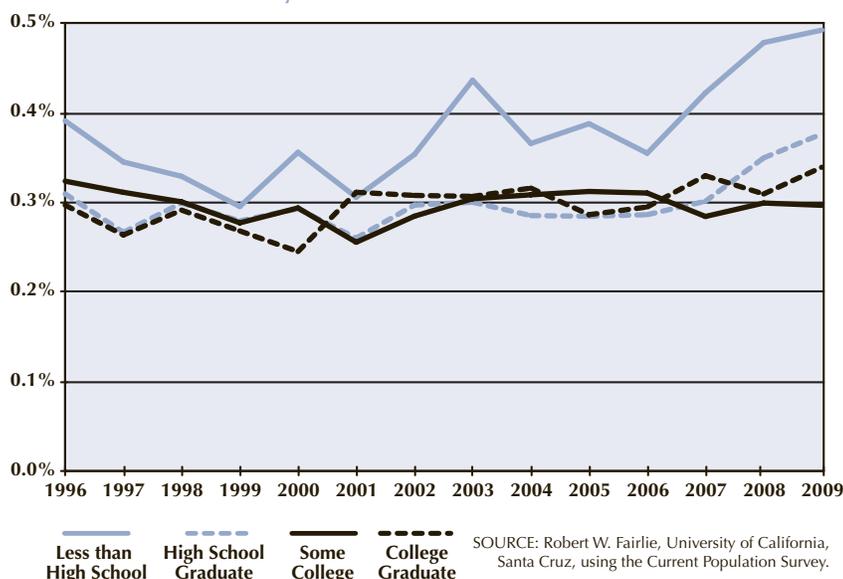


TABLE 5
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY EDUCATION
(1996–2009)

Year	LESS THAN HIGH SCHOOL		HIGH SCHOOL GRADUATE		SOME COLLEGE		COLLEGE GRADUATE		TOTAL AGES 25–64	
	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.39%	64,210	0.31%	162,390	0.32%	126,376	0.30%	121,451	0.32%	474,427
1997	0.35%	62,653	0.27%	162,088	0.31%	126,570	0.26%	123,904	0.29%	475,215
1998	0.33%	60,824	0.30%	160,574	0.30%	126,861	0.29%	128,391	0.30%	476,650
1999	0.30%	58,617	0.28%	158,787	0.28%	128,497	0.27%	131,801	0.28%	477,702
2000	0.36%	57,710	0.29%	155,477	0.29%	129,658	0.25%	131,932	0.29%	474,777
2001	0.31%	60,007	0.26%	164,765	0.26%	140,562	0.31%	144,419	0.28%	509,753
2002	0.35%	63,257	0.30%	179,230	0.29%	153,908	0.31%	161,682	0.30%	558,077
2003	0.44%	61,472	0.30%	175,389	0.30%	151,086	0.31%	161,841	0.32%	549,788
2004	0.37%	59,907	0.29%	170,234	0.31%	148,945	0.32%	160,064	0.31%	539,150
2005	0.39%	59,405	0.29%	166,435	0.31%	147,920	0.29%	159,962	0.31%	533,722
2006	0.36%	58,330	0.29%	162,751	0.31%	146,951	0.30%	161,102	0.30%	529,134
2007	0.42%	55,143	0.30%	159,239	0.28%	146,639	0.33%	163,843	0.32%	524,864
2008	0.48%	53,574	0.35%	156,810	0.30%	147,302	0.31%	166,125	0.34%	523,811
2009	0.49%	53,791	0.38%	158,573	0.30%	149,708	0.34%	168,737	0.36%	530,809

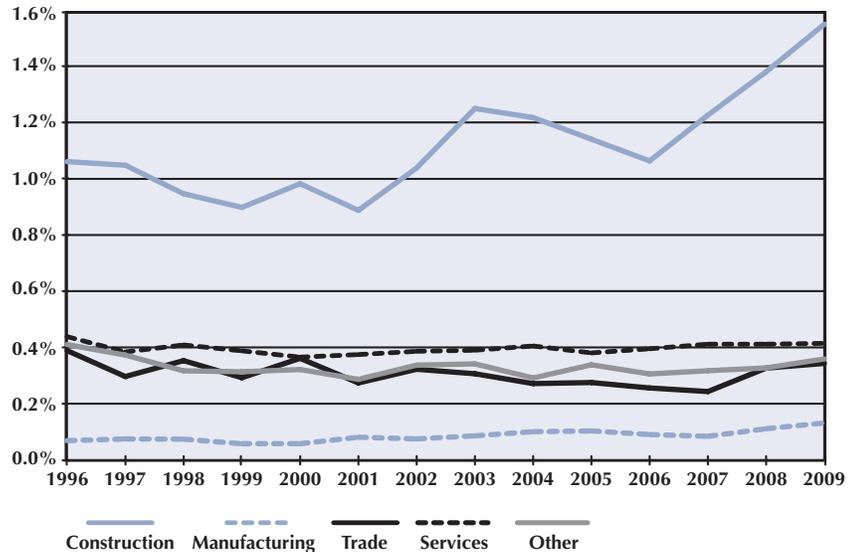
Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty-five to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded.

Visit www.kauffman.org/kiea to download the data files.

ENTREPRENEURIAL ACTIVITY BY INDUSTRY

Entrepreneurial activity rates differed substantially by major industry groups. Figure 7 and Table 6 report estimates of entrepreneurial activity by major industry. In 2009, entrepreneurial activity rates were highest in construction, at 1.55 percent. Entrepreneurial activity rates in services also were high (0.42 percent). Manufacturing had substantially lower rates of entrepreneurial activity than all other industries, with only 0.13 percent of non-business owners starting businesses per month in this industry in 2009.

Figure 7
Kauffman Index of Entrepreneurial Activity by Industry (1996–2009)



SOURCE: Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey.

TABLE 6

KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY INDUSTRY (1996–2009)

Year	CONSTRUCTION		MANUFACTURING		TRADE		SERVICES		OTHER	
	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	1.06%	23,693	0.07%	71,120	0.39%	60,144	0.44%	205,664	0.41%	55,604
1997	1.05%	23,694	0.08%	71,152	0.30%	59,480	0.38%	208,199	0.37%	55,302
1998	0.95%	23,961	0.07%	69,792	0.35%	59,763	0.41%	211,337	0.32%	55,124
1999	0.90%	24,754	0.06%	66,980	0.29%	59,935	0.39%	213,046	0.31%	54,331
2000	0.98%	25,771	0.06%	65,676	0.36%	59,445	0.37%	212,927	0.32%	53,941
2001	0.89%	28,472	0.08%	67,844	0.27%	63,069	0.38%	231,578	0.29%	56,704
2002	1.04%	31,212	0.08%	70,348	0.32%	69,660	0.39%	257,048	0.34%	61,376
2003	1.25%	31,542	0.09%	65,494	0.31%	69,037	0.39%	254,486	0.34%	58,302
2004	1.22%	31,726	0.10%	62,079	0.27%	67,839	0.41%	248,391	0.29%	56,946
2005	1.14%	32,179	0.10%	59,476	0.28%	67,491	0.38%	246,875	0.34%	57,671
2006	1.06%	32,760	0.09%	57,677	0.26%	65,244	0.40%	247,242	0.31%	57,386
2007	1.23%	31,860	0.08%	56,828	0.24%	62,789	0.41%	245,946	0.32%	57,394
2008	1.38%	30,406	0.11%	56,262	0.33%	62,200	0.41%	247,636	0.33%	57,592
2009	1.55%	29,465	0.13%	53,287	0.34%	62,662	0.42%	252,851	0.36%	57,527

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The index of entrepreneurial activity is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked per week. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded.

Visit www.kauffman.org/kiea to download the data files.

TABLE 7
KAUFFMAN INDEX OF ENTREPRENEURIAL
ACTIVITY BY STATE (2009)

Entrepreneurial activity rates follow strong geographical patterns. Entrepreneurial activity generally is highest in Western and Southern states, and lowest in the Midwestern and Northeastern states.

State	Index	Confidence Interval		Entrepreneurs per 100,000 People	Sample Size
		Lower	Upper		
U.S. Total	0.34%	0.32%	0.35%	340	591,699
Alabama	0.21%	0.11%	0.32%	210	6,704
Alaska	0.34%	0.21%	0.47%	340	7,784
Arizona	0.46%	0.30%	0.62%	460	6,865
Arkansas	0.36%	0.21%	0.52%	360	6,233
California	0.41%	0.35%	0.47%	410	48,940
Colorado	0.38%	0.27%	0.49%	380	12,782
Connecticut	0.29%	0.19%	0.38%	290	13,193
Delaware	0.30%	0.19%	0.41%	300	8,865
District of Columbia	0.32%	0.19%	0.45%	320	7,569
Florida	0.44%	0.35%	0.52%	440	22,279
Georgia	0.44%	0.32%	0.56%	440	12,553
Hawaii	0.27%	0.16%	0.37%	270	8,831
Idaho	0.45%	0.28%	0.63%	450	6,453
Illinois	0.24%	0.17%	0.32%	240	18,769
Indiana	0.28%	0.17%	0.38%	280	9,323
Iowa	0.23%	0.14%	0.32%	230	11,430
Kansas	0.23%	0.13%	0.34%	230	8,504
Kentucky	0.25%	0.14%	0.36%	250	8,991
Louisiana	0.43%	0.24%	0.62%	430	5,674
Maine	0.34%	0.23%	0.44%	340	11,301
Maryland	0.29%	0.20%	0.38%	290	13,729
Massachusetts	0.33%	0.22%	0.45%	330	9,046
Michigan	0.30%	0.21%	0.39%	300	14,143
Minnesota	0.22%	0.15%	0.29%	220	14,992
Mississippi	0.17%	0.06%	0.28%	170	5,557
Missouri	0.27%	0.17%	0.38%	270	10,386
Montana	0.47%	0.29%	0.65%	470	5,394
Nebraska	0.20%	0.11%	0.29%	200	9,278
Nevada	0.38%	0.25%	0.50%	380	9,126
New Hampshire	0.28%	0.19%	0.38%	280	13,359
New Jersey	0.33%	0.23%	0.44%	330	12,287
New Mexico	0.26%	0.12%	0.39%	260	5,095
New York	0.34%	0.27%	0.42%	340	25,087
North Carolina	0.25%	0.16%	0.34%	250	11,869
North Dakota	0.32%	0.18%	0.45%	320	7,249
Ohio	0.27%	0.19%	0.35%	270	17,181
Oklahoma	0.47%	0.31%	0.64%	470	7,133
Oregon	0.38%	0.24%	0.52%	380	8,525
Pennsylvania	0.20%	0.13%	0.27%	200	17,974
Rhode Island	0.24%	0.15%	0.34%	240	10,055
South Carolina	0.23%	0.13%	0.34%	230	8,010
South Dakota	0.43%	0.29%	0.57%	430	8,771
Tennessee	0.36%	0.23%	0.50%	360	8,146
Texas	0.45%	0.38%	0.53%	450	30,455
Utah	0.36%	0.22%	0.51%	360	7,068
Vermont	0.37%	0.24%	0.50%	370	8,779
Virginia	0.27%	0.18%	0.36%	270	12,635
Washington	0.24%	0.14%	0.34%	240	10,424
West Virginia	0.35%	0.21%	0.48%	350	7,259
Wisconsin	0.30%	0.20%	0.40%	300	11,679
Wyoming	0.33%	0.19%	0.46%	330	7,965

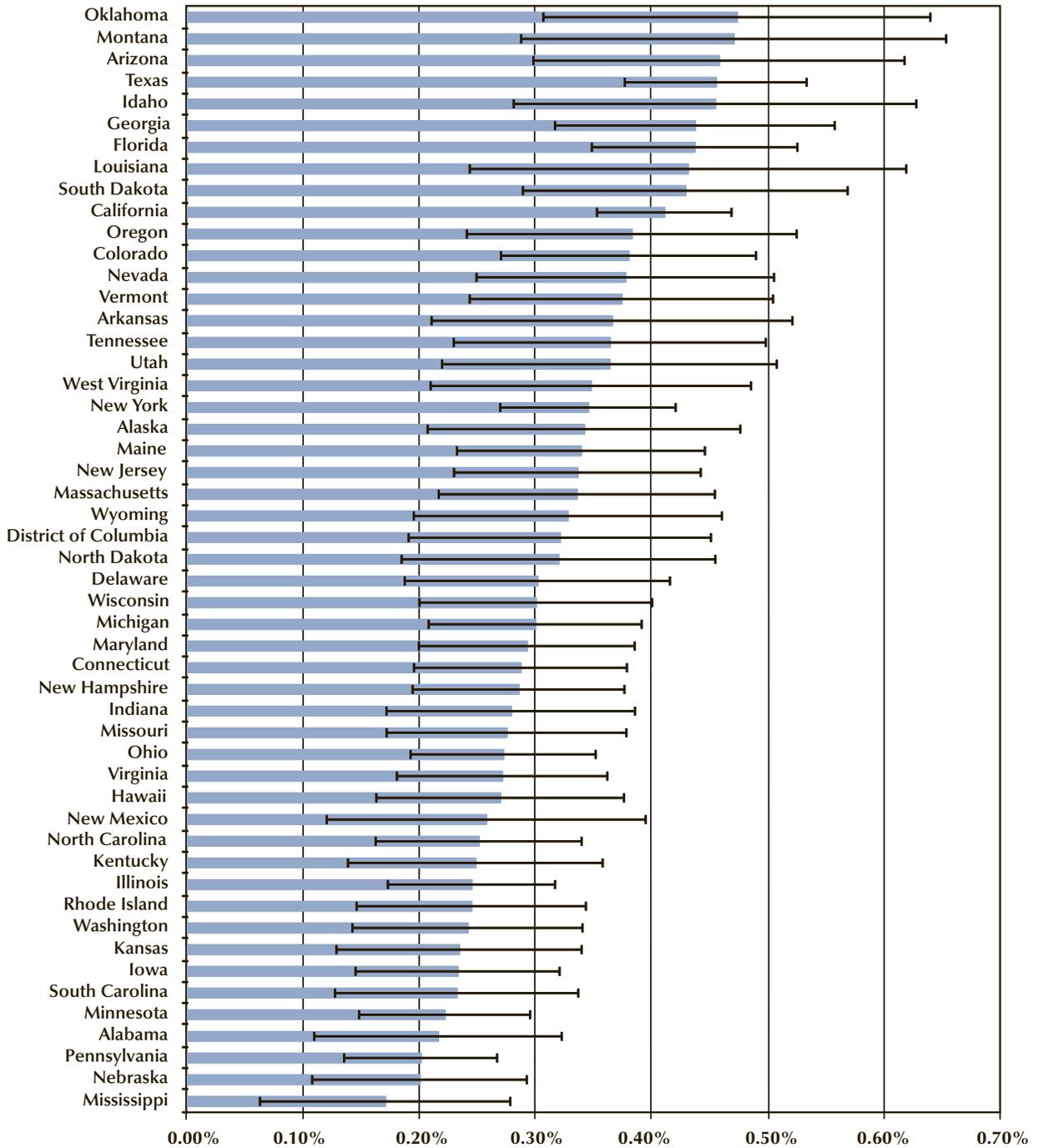
Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded. (4) Approximate 95 percent confidence intervals are reported for the entrepreneurship index.

Visit www.kauffman.org/kiea to download the data files.

ENTREPRENEURIAL ACTIVITY BY STATE

There was substantial variation in entrepreneurial activity rates across states in 2009. Mississippi exhibited the lowest entrepreneurial activity rate, with 170 per 100,000 adults starting new businesses each month. Oklahoma and Montana had the highest entrepreneurial activity rates, with 470 per 100,000 adults creating businesses each month. Table 7 reports estimates of the Kauffman Index for all fifty states and the District of Columbia, as well as sample sizes and approximate 95 percent confidence intervals for each state.

Figure 9
 Kauffman Index of Entrepreneurial Activity by State
 with 95 Percent Confidence Intervals, 2009



SOURCE: Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey.

Figure 10
Kauffman Index of Entrepreneurial Activity
by Region (1996–2009)

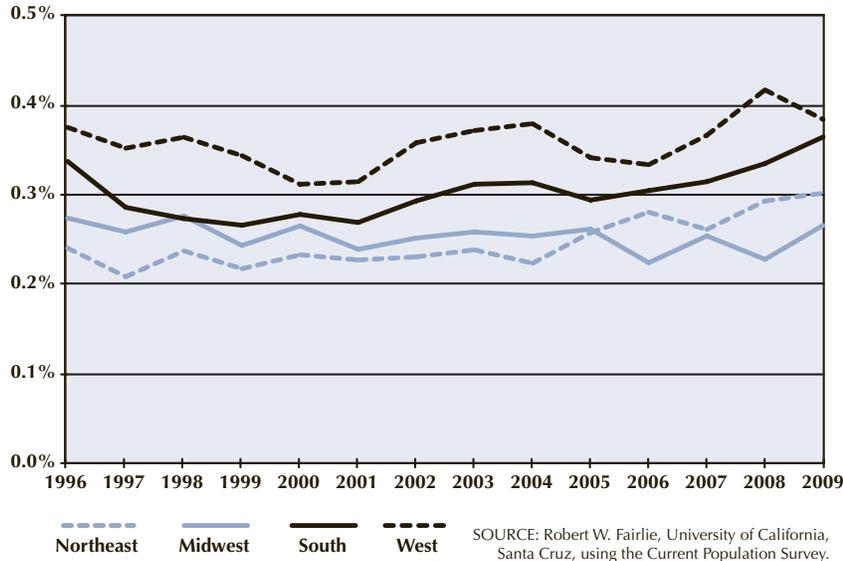


TABLE 8
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY REGION
(1996–2009)

15

Year	NORTHEAST		MIDWEST		SOUTH		WEST		TOTAL	
	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.24%	114,486	0.27%	126,402	0.34%	164,415	0.38%	125,704	0.31%	531,007
1997	0.21%	113,819	0.26%	125,603	0.29%	164,277	0.35%	127,430	0.28%	531,129
1998	0.24%	114,246	0.28%	125,411	0.27%	164,190	0.36%	128,449	0.29%	532,296
1999	0.22%	112,804	0.24%	125,372	0.27%	164,416	0.34%	130,398	0.27%	532,990
2000	0.23%	111,319	0.27%	126,975	0.28%	163,720	0.31%	129,409	0.27%	531,423
2001	0.23%	122,399	0.24%	139,538	0.27%	169,480	0.31%	138,041	0.26%	569,458
2002	0.23%	135,033	0.25%	156,223	0.29%	179,221	0.36%	152,680	0.29%	623,157
2003	0.24%	132,855	0.26%	153,953	0.31%	177,302	0.37%	150,447	0.30%	614,557
2004	0.22%	128,536	0.25%	149,380	0.31%	178,789	0.38%	145,982	0.30%	602,687
2005	0.26%	123,177	0.26%	144,081	0.29%	183,966	0.34%	145,974	0.29%	597,198
2006	0.28%	120,283	0.22%	140,195	0.30%	185,136	0.33%	145,992	0.29%	591,606
2007	0.26%	117,828	0.25%	139,827	0.31%	183,035	0.37%	145,558	0.30%	586,248
2008	0.29%	119,172	0.23%	139,301	0.33%	181,221	0.42%	144,691	0.32%	584,385
2009	0.30%	121,081	0.27%	141,705	0.36%	183,661	0.38%	145,252	0.34%	591,699

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The index of entrepreneurial activity is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked per week. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded.

Visit www.kauffman.org/kiea to download the data files.

The Northeast experienced a slight increase in entrepreneurship rates in 2009. These differential trends in entrepreneurial activity by region from 2008 to 2009 are captured by differential trends by states across regions. Table 9 reports estimates of entrepreneurial activity rates by state from 2008 to 2009. Estimated rates for some smaller states, however, can vary somewhat between the two years because of imprecise estimates instead of actual changes in economic conditions for entrepreneurship.

Trends in state entrepreneurship rates over the past decade are reported in Table 10. To increase sample sizes and precision, the three-year period between 2007 and 2009 is compared to the three-year period between 1997 and 1999.⁶ Georgia experienced the largest positive change in its entrepreneurial activity rate over the past decade, increasing from 0.27 percent to 0.47 percent, or 0.20 percentage points. Other states experiencing large increases in entrepreneurial activity rates were Arizona (0.14 percentage points), Tennessee (0.13 percentage points), District of Columbia (0.12 percentage points), and Massachusetts (0.10 percentage points). States that experienced large decreases in entrepreneurial activity rates were New Mexico (-0.20 percentage points), Alaska (-0.15 percentage points), North Dakota (-0.12 percentage points), and Nebraska (-0.10 percentage points). All of these changes over time are statistically significant at the 0.05 or 0.10 level of confidence.

TABLE 9
KAUFFMAN INDEX OF ENTREPRENEURIAL
ACTIVITY BY STATE (2008, 2009)

State	2008				2009			
	Index	Confidence Interval Lower	Confidence Interval Upper	Sample Size	Index	Confidence Interval Lower	Confidence Interval Upper	Sample Size
U.S. Total	0.32%	0.31%	0.34%	584,385	0.34%	0.32%	0.35%	591,699
Alabama	0.21%	0.09%	0.33%	6,657	0.21%	0.11%	0.32%	6,704
Alaska	0.44%	0.25%	0.64%	7,778	0.34%	0.21%	0.47%	7,784
Arizona	0.49%	0.32%	0.66%	7,189	0.46%	0.30%	0.62%	6,865
Arkansas	0.39%	0.24%	0.54%	6,449	0.36%	0.21%	0.52%	6,233
California	0.44%	0.38%	0.50%	48,441	0.41%	0.35%	0.47%	48,940
Colorado	0.43%	0.31%	0.54%	12,594	0.38%	0.27%	0.49%	12,782
Connecticut	0.30%	0.20%	0.40%	12,858	0.29%	0.19%	0.38%	13,193
Delaware	0.20%	0.11%	0.30%	8,785	0.30%	0.19%	0.41%	8,865
District of Columbia	0.29%	0.17%	0.41%	7,526	0.32%	0.19%	0.45%	7,569
Florida	0.37%	0.29%	0.45%	22,098	0.44%	0.35%	0.52%	22,279
Georgia	0.59%	0.46%	0.73%	12,462	0.44%	0.32%	0.56%	12,553
Hawaii	0.22%	0.12%	0.32%	8,675	0.27%	0.16%	0.37%	8,831
Idaho	0.37%	0.22%	0.51%	6,297	0.45%	0.28%	0.63%	6,453
Illinois	0.26%	0.18%	0.33%	18,243	0.24%	0.17%	0.32%	18,769
Indiana	0.28%	0.17%	0.39%	9,261	0.28%	0.17%	0.38%	9,323
Iowa	0.19%	0.11%	0.26%	11,529	0.23%	0.14%	0.32%	11,430
Kansas	0.25%	0.14%	0.35%	8,608	0.23%	0.13%	0.34%	8,504
Kentucky	0.36%	0.23%	0.49%	8,963	0.25%	0.14%	0.36%	8,991
Louisiana	0.26%	0.12%	0.40%	5,521	0.43%	0.24%	0.62%	5,674
Maine	0.38%	0.26%	0.50%	10,954	0.34%	0.23%	0.44%	11,301
Maryland	0.23%	0.15%	0.32%	13,529	0.29%	0.20%	0.38%	13,729
Massachusetts	0.28%	0.17%	0.39%	9,084	0.33%	0.22%	0.45%	9,046
Michigan	0.28%	0.19%	0.37%	14,059	0.30%	0.21%	0.39%	14,143
Minnesota	0.21%	0.14%	0.29%	14,651	0.22%	0.15%	0.29%	14,992
Mississippi	0.36%	0.19%	0.53%	5,543	0.17%	0.06%	0.28%	5,557
Missouri	0.15%	0.07%	0.23%	9,984	0.27%	0.17%	0.38%	10,386
Montana	0.53%	0.33%	0.72%	5,460	0.47%	0.29%	0.65%	5,394
Nebraska	0.27%	0.16%	0.38%	8,936	0.20%	0.11%	0.29%	9,278
Nevada	0.38%	0.25%	0.51%	9,027	0.38%	0.25%	0.50%	9,126
New Hampshire	0.27%	0.18%	0.36%	13,168	0.28%	0.19%	0.38%	13,359
New Jersey	0.28%	0.18%	0.38%	12,210	0.33%	0.23%	0.44%	12,287
New Mexico	0.58%	0.38%	0.79%	5,295	0.26%	0.12%	0.39%	5,095
New York	0.40%	0.32%	0.49%	24,055	0.34%	0.27%	0.42%	25,087
North Carolina	0.23%	0.15%	0.32%	11,828	0.25%	0.16%	0.34%	11,869
North Dakota	0.28%	0.15%	0.40%	7,217	0.32%	0.18%	0.45%	7,249
Ohio	0.19%	0.12%	0.26%	16,773	0.27%	0.19%	0.35%	17,181
Oklahoma	0.30%	0.17%	0.44%	6,922	0.47%	0.31%	0.64%	7,133
Oregon	0.37%	0.24%	0.50%	8,367	0.38%	0.24%	0.52%	8,525
Pennsylvania	0.14%	0.08%	0.19%	18,360	0.20%	0.13%	0.27%	17,974
Rhode Island	0.25%	0.15%	0.35%	9,929	0.24%	0.15%	0.34%	10,055
South Carolina	0.25%	0.14%	0.36%	7,933	0.23%	0.13%	0.34%	8,010
South Dakota	0.30%	0.18%	0.41%	8,488	0.43%	0.29%	0.57%	8,771
Tennessee	0.33%	0.20%	0.46%	7,822	0.36%	0.23%	0.50%	8,146
Texas	0.37%	0.30%	0.44%	29,232	0.45%	0.38%	0.53%	30,455
Utah	0.40%	0.25%	0.55%	7,334	0.36%	0.22%	0.51%	7,068
Vermont	0.27%	0.16%	0.39%	8,554	0.37%	0.24%	0.50%	8,779
Virginia	0.20%	0.12%	0.29%	12,450	0.27%	0.18%	0.36%	12,635
Washington	0.27%	0.17%	0.38%	10,603	0.24%	0.14%	0.34%	10,424
West Virginia	0.17%	0.08%	0.27%	7,501	0.35%	0.21%	0.48%	7,259
Wisconsin	0.17%	0.10%	0.24%	11,552	0.30%	0.20%	0.40%	11,679
Wyoming	0.27%	0.15%	0.38%	7,631	0.33%	0.19%	0.46%	7,965

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded. (4) Approximate 95 percent confidence intervals are reported for the entrepreneurship index.

Visit www.kauffman.org/kiea to download the data files.

TABLE 10
KAUFFMAN INDEX OF ENTREPRENEURIAL
ACTIVITY BY STATE (1997–1999 and 2007–2009)

State	1997–1999 Period				2007–2009 Period			
	Index	Confidence Lower	Interval Upper	Sample Size	Index	Confidence Lower	Interval Upper	Sample Size
U.S. Total	0.28%	0.27%	0.29%	1,596,111	0.32%	0.31%	0.33%	1,762,863
Alabama	0.21%	0.15%	0.27%	22,728	0.17%	0.11%	0.23%	20,064
Alaska	0.52%	0.42%	0.63%	18,247	0.37%	0.28%	0.46%	23,305
Arizona	0.33%	0.26%	0.41%	23,691	0.47%	0.37%	0.56%	21,926
Arkansas	0.32%	0.25%	0.40%	21,125	0.36%	0.27%	0.45%	19,198
California	0.34%	0.31%	0.38%	132,596	0.42%	0.38%	0.45%	144,703
Colorado	0.39%	0.30%	0.47%	24,123	0.38%	0.31%	0.44%	38,061
Connecticut	0.18%	0.12%	0.24%	16,782	0.26%	0.21%	0.32%	38,478
Delaware	0.17%	0.11%	0.24%	16,342	0.19%	0.14%	0.25%	26,903
District of Columbia	0.23%	0.15%	0.31%	14,894	0.35%	0.28%	0.43%	22,492
Florida	0.32%	0.27%	0.36%	71,293	0.39%	0.34%	0.44%	67,561
Georgia	0.27%	0.21%	0.34%	28,770	0.47%	0.40%	0.54%	37,960
Hawaii	0.26%	0.18%	0.35%	15,947	0.23%	0.17%	0.29%	26,216
Idaho	0.38%	0.29%	0.46%	23,106	0.43%	0.33%	0.53%	19,349
Illinois	0.23%	0.19%	0.27%	67,592	0.25%	0.20%	0.29%	55,470
Indiana	0.27%	0.20%	0.34%	22,517	0.26%	0.20%	0.33%	28,014
Iowa	0.28%	0.21%	0.36%	20,376	0.24%	0.19%	0.29%	34,211
Kansas	0.28%	0.20%	0.35%	20,317	0.24%	0.18%	0.30%	25,869
Kentucky	0.24%	0.17%	0.30%	22,118	0.30%	0.23%	0.37%	26,805
Louisiana	0.30%	0.23%	0.38%	21,903	0.39%	0.28%	0.49%	16,425
Maine	0.36%	0.26%	0.45%	17,566	0.33%	0.26%	0.39%	33,407
Maryland	0.28%	0.19%	0.36%	18,134	0.28%	0.22%	0.33%	40,730
Massachusetts	0.17%	0.13%	0.22%	39,385	0.28%	0.21%	0.34%	26,851
Michigan	0.25%	0.21%	0.30%	57,973	0.28%	0.23%	0.33%	42,684
Minnesota	0.31%	0.24%	0.38%	23,300	0.25%	0.21%	0.30%	44,211
Mississippi	0.31%	0.23%	0.39%	20,096	0.29%	0.20%	0.38%	16,649
Missouri	0.24%	0.16%	0.31%	19,163	0.22%	0.17%	0.28%	30,229
Montana	0.53%	0.42%	0.63%	21,260	0.46%	0.35%	0.57%	16,522
Nebraska	0.36%	0.28%	0.45%	20,383	0.26%	0.20%	0.33%	27,086
Nevada	0.31%	0.23%	0.39%	21,246	0.35%	0.27%	0.42%	27,604
New Hampshire	0.23%	0.16%	0.31%	16,866	0.27%	0.22%	0.33%	39,226
New Jersey	0.23%	0.18%	0.27%	48,877	0.29%	0.23%	0.35%	36,600
New Mexico	0.56%	0.46%	0.66%	22,439	0.36%	0.27%	0.45%	16,127
New York	0.27%	0.24%	0.31%	100,625	0.36%	0.31%	0.40%	73,113
North Carolina	0.28%	0.23%	0.33%	43,111	0.27%	0.21%	0.33%	35,167
North Dakota	0.41%	0.31%	0.50%	19,386	0.28%	0.21%	0.35%	21,841
Ohio	0.27%	0.22%	0.32%	62,167	0.22%	0.18%	0.26%	50,740
Oklahoma	0.33%	0.26%	0.41%	23,887	0.37%	0.29%	0.46%	21,354
Oregon	0.42%	0.33%	0.52%	19,553	0.37%	0.29%	0.45%	24,944
Pennsylvania	0.15%	0.12%	0.18%	68,241	0.16%	0.12%	0.19%	54,508
Rhode Island	0.16%	0.09%	0.23%	16,944	0.23%	0.17%	0.28%	30,161
South Carolina	0.26%	0.19%	0.34%	18,713	0.24%	0.17%	0.30%	24,099
South Dakota	0.43%	0.33%	0.52%	19,835	0.34%	0.26%	0.41%	25,527
Tennessee	0.24%	0.18%	0.31%	21,579	0.38%	0.30%	0.46%	24,067
Texas	0.28%	0.24%	0.31%	79,313	0.37%	0.32%	0.41%	88,655
Utah	0.30%	0.23%	0.38%	22,471	0.35%	0.27%	0.43%	21,830
Vermont	0.41%	0.30%	0.51%	15,535	0.36%	0.28%	0.43%	25,763
Virginia	0.24%	0.17%	0.30%	25,803	0.23%	0.18%	0.28%	37,646
Washington	0.29%	0.22%	0.37%	21,640	0.25%	0.19%	0.30%	31,847
West Virginia	0.18%	0.11%	0.24%	23,008	0.19%	0.13%	0.25%	22,660
Wisconsin	0.21%	0.15%	0.28%	23,375	0.25%	0.20%	0.31%	34,823
Wyoming	0.43%	0.33%	0.52%	19,770	0.34%	0.26%	0.43%	23,182

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded. (4) Approximate 95 percent confidence intervals are reported for the entrepreneurship index.

Visit www.kauffman.org/kiea to download the data files.

ENTREPRENERIAL ACTIVITY BY METROPOLITAN AREA

An index of entrepreneurial activity also was created for the fifteen largest metropolitan areas in the United States (Table 11).⁷ Among these metropolitan areas, Houston had the highest entrepreneurial activity rate at 630 per 100,000 adults. Miami (610 per 100,000 adults), Phoenix (510 per 100,000 adults), and Atlanta (510 per 100,000 adults) also had high rates of entrepreneurial activity. The metropolitan areas with the lowest entrepreneurial activity rates in this group of large MSAs were Seattle (160 per 100,000 adults) and Philadelphia (180 per 100,000 adults).

TABLE 11
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY
FOR THE FIFTEEN LARGEST MSAs (2009)

Metropolitan Statistical Area	2009 Index	Confidence Interval		Entrepreneurs per 100,000 People	Sample Size	2007–2009 Index	Sample Size
		Lower	Upper				
New York-Northern New Jersey-Long Island, NY-NJ-PA	0.43%	0.34%	0.51%	430	24,483	0.42%	71,689
Los Angeles-Long Beach-Santa Ana, CA	0.47%	0.37%	0.58%	470	17,980	0.47%	52,687
Chicago-Naperville-Joliet, IN-IN-WI	0.28%	0.19%	0.37%	280	13,185	0.27%	38,921
Dallas-Fort Worth-Arlington, TX	0.34%	0.21%	0.47%	340	8,416	0.34%	24,183
Houston-Baytown-Sugar Land, TX	0.63%	0.43%	0.82%	630	6,576	0.43%	19,163
Atlanta-Sandy Springs-Marietta, GA	0.51%	0.34%	0.68%	510	7,334	0.57%	21,980
Philadelphia-Camden-Wilmington, PA-NJ-DE	0.18%	0.09%	0.27%	180	12,493	0.14%	38,003
Miami-Fort Lauderdale-Miami Beach, FL	0.61%	0.42%	0.81%	610	6,615	0.52%	20,027
Washington-Arlington-Alexandria, DC-VA-MD-WV	0.29%	0.19%	0.38%	290	17,620	0.30%	52,377
Boston-Cambridge-Quincy, MA-NH	0.28%	0.16%	0.40%	280	10,154	0.25%	30,344
Detroit-Warren-Livonia, MI	0.36%	0.20%	0.51%	360	6,258	0.29%	18,824
Phoenix-Mesa-Scottsdale, AZ	0.51%	0.31%	0.72%	510	4,603	0.54%	15,256
San Francisco-Oakland-Fremont, CA	0.48%	0.30%	0.67%	480	5,751	0.44%	16,978
Riverside-San Bernardino, CA	0.36%	0.19%	0.53%	360	4,797	0.47%	14,804
Seattle-Tacoma-Bellevue, WA	0.16%	0.05%	0.27%	160	5,580	0.19%	17,108

Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The entrepreneurship index is the percent of individuals (ages twenty to sixty-four) who do not own a business in the first survey month that start a business in the following month with fifteen or more hours worked. (3) All observations with allocated labor force status, class of worker, and hours worked variables are excluded. (4) Approximate 95 percent confidence intervals are reported for the entrepreneurship index.

Visit www.kauffman.org/kiea to download the data files.

Summary

The Kauffman Index measures the monthly business-creation rate at the individual owner level, reporting the percentage of non-business-owning adults who start businesses with more than fifteen hours worked per week. The matched basic monthly files from the Current Population Survey (CPS) provide a uniquely large, nationally representative panel dataset for measuring this entrepreneurial activity. The total adult population sample size for the period from 1996 to 2009 is more than ten million. Detailed demographic information available in the CPS and large sample sizes also allow for estimates of separate indices by gender, race, immigrant status, age, and education. Indices for all states and the largest MSAs are also calculated. In 2009, 0.34 percent of the adult population, or 340 out of 100,000 adults, created new businesses each month, representing approximately 558,000 new businesses per month. This total rate of business creation increased from 0.32 percent in 2008.

In 2009, there are some interesting differences in changes in entrepreneurial activity rates for population subgroups. First, African-Americans experienced a large increase in the entrepreneurial activity rate in 2009. The rate of 0.27 percent represents the highest rate for this group over the past decade and a half. Latinos and Asians experienced declines in entrepreneurial activity rates, and the trend for non-Latino whites followed the slight upward trend for the U.S. total. A related finding is that the rate of entrepreneurial activity among immigrants declined in 2009, but remained substantially higher than the native-born rate. The oldest age group (ages fifty-five to sixty-four) and the group ages thirty-five to forty-four experienced the largest increases in entrepreneurial activity rates from 2008 to 2009. Finally, entrepreneurial activity rates increased from 0.31 percent in 2008 to 0.34 percent in 2009 for the college-educated. High school graduates also experienced an increase in entrepreneurial activity in 2009.

Entrepreneurial activity rates reflect strong regional patterns. Rates of new business creation are the highest in the West and South. The West, however, experienced the largest decline in rates from 2008 to 2009 (0.42 percent to 0.38 percent). The South and Midwest experienced large increases in entrepreneurial activity rates from 2008 to 2009.

Entrepreneurial activity rates varied substantially across states, from a low of 0.17 percent in Mississippi to a high of 0.47 percent in Oklahoma and Montana. Entrepreneurial activity rates also were high in Arizona (460 per 100,000 adults), Texas (450 per 100,000 adults), and Idaho (450 per 100,000 adults). In addition to Mississippi, the lowest rates of entrepreneurial activity were found in Nebraska (200 per 100,000 adults), Pennsylvania (200 per 100,000 adults), Alabama (210 per 100,000 adults), and Minnesota (220 per 100,000 adults). The states experiencing the largest increases in entrepreneurial activity rates over the past decade were Georgia (with an increase of 0.20 percentage points), Arizona (0.14 percentage points), Tennessee (0.13 percentage points), District of Columbia (0.12 percentage points), and Massachusetts (0.10 percentage points). States that experienced the largest decreases in entrepreneurial activity rates were New Mexico (with a decrease of 0.20 percentage points), Alaska (-0.15 percentage points), North Dakota (-0.12 percentage points), and Nebraska (-0.10 percentage points).

Analysis of the fifteen largest metropolitan areas in the United States reveals that Houston (0.63 percent) had the highest entrepreneurial activity rate in 2009. Seattle (0.16 percent) had the lowest entrepreneurial activity rate.

Appendix

DATA

The underlying datasets used in this analysis are the basic monthly files to the Current Population Survey (CPS). These surveys, conducted monthly by the U.S. Bureau of the Census and the Bureau of Labor Statistics, represent the entire U.S. population and contain observations for more than 130,000 people each month. By linking the CPS files over time, longitudinal data are created, allowing for the examination of business creations. Combining the 2008 monthly data creates a sample size of 700,000 adults ages twenty to sixty-four. The dataset built for the analysis of the entire fourteen-year period between 1996 and 2009 has a sample size of more than ten million adults.

Households in the CPS are interviewed each month over a four-month period. Eight months later they are re-interviewed in each month of a second four-month period. Thus, individuals who are interviewed in January, February, March, and April of one year are interviewed again in January, February, March, and April of the following year. The CPS rotation pattern makes it possible to match information on individuals monthly and, therefore, to create two-month panel data for up to 75 percent of all CPS respondents. To match these data, the household and individual identifiers provided by the CPS are used. False matches are removed by comparing race, sex, and age codes from the two months. After removing all non-unique matches, the underlying CPS data are checked extensively for coding errors and other problems.

Monthly match rates generally are between 94 percent and 96 percent (see Fairlie 2005). Household moves are the primary reason for non-matching. A somewhat non-random sample (mainly geographic movers) will, therefore, be lost due to the matching routine. Moves do not appear to create a serious problem for month-to-month matches, however, because the observable characteristics of the original sample and the matched sample are very similar (see Fairlie 2005).

The microdata used in this report and a codebook are available for downloading at www.kauffman.org/kiea. The dataset includes the entrepreneurial index, as well as many additional variables for analysis.

DETAILED DEFINITIONS

The CPS microdata capture all business owners, including those who own incorporated or unincorporated business, and those who are employers or non-employers. To create the Kauffman Index, all individuals who do not own a business as their main job are identified in the first survey month. By matching CPS files, it is then determined whether these individuals own a business as their main job with fifteen or more usual hours worked in the following survey month.

The main job is defined as the one with the most hours worked. Individuals who start side businesses will, therefore, not be counted if they are working more hours on a wage/salary job. The requirement that business owners work fifteen or more hours per week in the second month is imposed to rule out part-time business owners and very small business activities. It may, therefore, result in an understatement of the percent of individuals creating any type of business. The Kauffman Index also excludes individuals who owned a business and worked fewer than fifteen hours in the first survey month. Thus, the Kauffman Index does not capture business owners who increased their hours from less than fifteen per week in one month to fifteen or more hours per week in the second month. In addition, the Kauffman Index does not capture when these business owners changed from non-business owners to business owners with less than fifteen hours worked. These individuals are excluded from the sample but may have been at the earliest stages of starting a business. More information concerning the definition is provided in Fairlie (2006).

The Kauffman Index also may overstate business creation in certain respects because of

small changes in how individuals report their work status. Longstanding business owners who also have salaried positions may, for example, report that they are not business owners as their main jobs in a particular month because their wage/salary jobs had more hours in that month. If the individuals then switched to having more hours in business ownership the following month, it would appear that a new business had been created.

The main sample used to calculate the Kauffman Index includes only adults between the ages of twenty and sixty-four. For estimates of entrepreneurial activity rates by education level, the population between the ages of twenty-five and sixty-four is used instead to capture completed formal education. Older individuals (ages sixty-five and over) are removed from the sample because retirement in this age group leads to lower rates of entrepreneurial activity. There were major changes in race and industry coding over the 1996 to 2008 period. Although every effort was devoted to creating consistent coding, definitions are not perfectly consistent over time.

For the definition of entrepreneurial activity discussed in this report, all observations with allocated labor force status, class of worker, and hours worked variables are excluded. Entrepreneurial activity is substantially higher for allocated or imputed observations. These observations were included in the first Kauffman Index report (Fairlie 2005). See Fairlie (2006) for a complete discussion of the issues and comparisons between unadjusted and adjusted rates of entrepreneurial activity.

The CPS sample was designed to produce national and state estimates of the unemployment rate and additional labor force characteristics of the civilian, non-institutional population ages sixteen and over. The total national sample size is drawn to ensure a high level of precision for the monthly national unemployment rate. For each of the fifty states and the District of Columbia, the sample also is designed to guarantee precise estimates of average annual unemployment rates, resulting in varying sample rates by state (Polivka 2000).⁸ Sampling weights provided by the CPS, which also adjust for non-response and post-stratification raking, are used for all national and state-level estimates.

STANDARD ERRORS AND CONFIDENCE INTERVALS

The analysis of entrepreneurial activity by state includes confidence intervals that indicate confidence bands of approximately 0.15 percent around the rates of entrepreneurial activity. While larger states have smaller confidence bands, the smallest states have larger confidence bands of approximately 0.20 percent. Oversampling in the CPS ensures that these small states have sample sizes of at least 5,000 observations, and, therefore, provides a minimum level of precision.

The standard errors used to create the confidence intervals reported here may understate the true variability in the state estimates. Both stratification of the sample and the raking procedure (post-stratification) will reduce the variance of CPS estimates (Polivka 2000 and Train, Cahoon, and Maken 1978). On the other hand, the CPS clustering (i.e., nearby houses on the same block and multiple household members) leads to a larger sampling variance than would have been obtained from simple random sampling. It appears as though the latter effect dominates in the CPS, and treating the CPS as random generally understates standard errors (Polivka 2000). National unemployment rate estimates indicate that treating the CPS as a random sample leads to an understatement of the unemployment rate variance by 23 percent. Another problem associated with the estimates reported here is that multiple observations (up to three) may occur for the same individual.

All of the reported confidence intervals should be considered approximate, as the actual confidence intervals may be slightly larger. The complete correction for the standard errors and confidence intervals involves obtaining confidential replicate weights from the BLS and employing sophisticated statistical procedures. Corrections for the possibility of multiple observations per person, which may create the largest bias in standard errors, are made using statistical survey procedures for all reported confidence intervals. It is important to note, however, that the estimates of entrepreneurial activity rates are not subject to any of these problems. By using the sample weights provided by the CPS, all estimates of entrepreneurial activity rates are correct.

ADVANTAGES OVER OTHER POSSIBLE MEASURES OF ENTREPRENEURSHIP

The Kauffman Index of Entrepreneurial Activity has several advantages over other possible measures of entrepreneurship based on household or business-level data. First, the CPS data are available only a couple of months after the end of the year, whereas even relatively timely data such as the American Community Survey (ACS) take more than a year to be released. Second, the index includes all types of business activities (employers, non-employers, unincorporated, and incorporated businesses), but does not include small-scale business activities such as consulting and casual businesses (the Survey of Business Owners and underlying non-employer data include any business activity with at least \$1,000 in annual sales, for example). Third, the panel data created from matching consecutive months of the CPS allow for a dynamic measure of business creation, whereas most datasets only allow for a static measure of business ownership (e.g., ACS). Finally, the CPS data included detailed information on demographic characteristics of the owner, whereas most business-level datasets contain no information on the owner (e.g., employer and non-employer data).

COMPARISON TO SPECIFIC DATASETS

The Kauffman Index differs from possible measures of entrepreneurial activity from the ACS (and related decennial Census of the Population) in that it measures flows into business ownership rather than the number of existing business owners at a specific point in time. The ACS is a cross-sectional dataset, and thus does not provide information on business ownership over time for the same individual. This is a similar limitation of estimates based on the cross-sectional CPS data and Survey of Business Owners (SBO) data. Typical measures of business ownership based on these datasets do not capture the dynamic nature of entrepreneurial activity that the Kauffman Index illustrates.

The Kauffman Index differs from the 2002 SBO conducted by the U.S. Census Bureau in several major ways. First, the Kauffman Index is based on household survey data and measures individual business owners. The SBO includes all firms operating during 2002 that filed tax forms

as individual proprietorships, partnerships, or any type of corporation. Second, the Kauffman Index captures business entry, whereas the SBO captures numbers of existing businesses. Increases in the number of existing businesses over time may be a result of more business creation, less business closure or a combination of the two. Third, the Kauffman Index only includes individuals starting businesses as their main work activity with a substantial hours commitment. The SBO includes all firms with receipts of \$1,000 or more, which may include side or “casual” businesses owned by wage/salary workers, the unemployed, or retired workers. Finally, the Kauffman Index includes all new business owners, whereas the SBO excludes agricultural and a few other types of businesses.

The Kauffman Index captures a broader range of entrepreneurial activity than the national- and state-level firm birth data from the Statistics of U.S. Businesses (SUSB). These data, collected by the U.S. Census Bureau and summarized by the U.S. Small Business Administration (SBA), Office of Advocacy, include only employer firms. Employer firms represent only approximately one-fourth of all firms, and many firms start with no employees.⁹ These data, therefore, are likely to lead to a substantial undercount in the rate of entrepreneurial activity, particularly for certain industries and regions, such as the high-technology industry. Finally, the SUSB is a business-level measure, while the CPS is a person-level measure.

The Kauffman Index also differs from the Total Entrepreneurial Activity (TEA) index used in the Global Entrepreneurship Monitor. The TEA captures individuals ages eighteen to sixty-four who are involved in either the startup phase or managing a business that is less than forty-two months old (Reynolds, Bygrave, and Autio 2003). This measure of nascent entrepreneurship, therefore, includes individuals who are still in the startup phase of business creation and are not necessarily captured in the Kauffman Index because they may not be working on the new business for fifteen hours each week. In addition, the Kauffman Index captures entrepreneurs only once, when they first create their businesses.

Endnotes

1. The U.S. Census Bureau notes that the definitions of non-employers and self-employed business owners are not the same. Although most self-employed business owners are non-employers, about a million self-employed business owners are classified as employer businesses. <http://www.census.gov/econ/nonemployer/index.html>.
2. See “Kauffman Index of Entrepreneurial Activity, 1996–2008” (Fairlie 2009) and <http://www.kauffman.org/research-and-policy/kauffman-index-of-entrepreneurial-activity.aspx> for previous reports.
3. Estimates of annual business-creation rates would be approximately six to eight times higher. Annual rates are not twelve times higher than monthly rates because individuals potentially can start and exit from business ownership multiple times within the same year. Additionally, because of the broader definition of new business owners used in the Kauffman Index, it is not possible to directly compare the monthly statistics in the Kauffman Index with the annual statistics of new employer businesses produced by the U.S. Census Bureau and U.S. Bureau of Labor Statistics.
4. In 2009, the annual entrepreneurship rate is calculated using data from December 2008 to December 2009. In previous years, annual entrepreneurship rates are calculated using data from January to January. The entrepreneurship rate in 2008 using data from December 2007 to December 2008 is the same as the reported January to January measure.
5. For evidence of the relationship between education and entrepreneurship from a multivariate analysis that controls for other factors, see Fairlie (2007) “Entrepreneurship in Silicon Valley during the Boom and Bust,” University of California, Santa Cruz, Working Paper at <http://people.ucsc.edu/~rfairlie/papers/siliconvalley.pdf>.
6. Annual estimates of state-level entrepreneurship rates are available for downloading at www.kauffman.org/kiea.
7. As there is no oversampling of metropolitan areas in the CPS, only the largest metropolitan areas have sufficient observations to calculate reasonably accurate rates of entrepreneurial activity. All MSAs reported in Table 11 have at least 4,600 observations.
8. The ratio of households sampled for each state range from one in 100 households to one in 3,000 households (Polivka 2000).
9. According to the 2003 Statistics of U.S. Businesses, U.S. Census Bureau, 23.6 percent of firms have employees.

KAUFFMAN

The Foundation of Entrepreneurship

4801 ROCKHILL ROAD
KANSAS CITY, MISSOURI 64110
816-932-1000
www.kauffman.org