

KAUFFMAN INDEX OF
entrepreneurial
activity

National Report
1996–2005

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Ewing Marion
KAUFFMAN
Foundation

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EXECUTIVE summary

The Kauffman Index of Entrepreneurial Activity, introduced in 2005, captures the dynamic nature of business creation in the United States. Presenting the percent of the population of adult non-business owners who start a business each month, the Kauffman Index confirms the relative steadiness of the national interest in business creation and suggests that American optimism continually fuels new start-ups. This measure of the rate of business creation at the individual owner level captures all new businesses—even those that fail after the first month. It includes both businesses with employees and those without, businesses that are incorporated and those that are not, and all industries, from construction to high-tech.

While estimates from the Bureau of Labor Statistics indicate that more than ten percent of the U.S. workforce is self-employed business owners, government sources do not report the rate of business creation or entrepreneurial activity on a regular basis. The Kauffman Index uses matched data from the 1996–2005 Current Population Survey (CPS) to examine changes in the rate of entrepreneurial activity in the United States over the last decade. New CPS data available for 2005 and a refined definition of the Kauffman Index¹ allow for an updated report this year, with consideration of trends over the 1996–2005 period and separate estimates for specific demographic groups. The key findings for 2005 are:

- In 2005, an average of 0.29 percent of the adult population (or 290 out of 100,000 adults) created a new business each month, representing approximately 464,000 people per month. This rate of entrepreneurial activity represents only a slight decrease from the 0.30 percent in 2004.
- The rate of entrepreneurial activity for men decreased from 0.37 percent in 2004 to 0.35 percent in 2005, continuing the downward trend from its high in 2003. The Kauffman Index for women, however, did not change from 2004 to 2005, remaining stable at 0.24 percent.

- African Americans were the only major ethnic or racial group to experience an increase in the rate of entrepreneurial activity in 2005. The rate of entrepreneurial activity for African Americans increased from 0.21 percent in 2004 to 0.24 percent in 2005.
- The Latino rate of entrepreneurial activity decreased from 0.34 percent in 2004 to 0.32 percent in 2005. The Latino rate, however, remained higher than the white, non-Latino rate of 0.29 percent.
- While immigrants continued to have a substantially higher rate of entrepreneurial activity than native-born individuals in 2005, the immigrant rate of entrepreneurial activity declined from 0.41 percent in 2004 to 0.35 percent in 2005.
- Between 2004 and 2005, rates of entrepreneurial activity decreased in the West and South and increased in the Northeast and Midwest, reducing regional differences.
- The construction industry had the highest rate of entrepreneurial activity of all major industry groups. Construction, however, experienced a drop in rates from 1.22 percent in 2004 to 1.14 percent in 2005.

¹ See Appendix (Sensitivity Analysis and Comparison to Previous Report) for discussion of changes in the definition of the Kauffman Index. While rates of entrepreneurial activity are somewhat lower using the new definition of the Kauffman Index, the time-series patterns are similar to those in the previous year's report.

Introduction

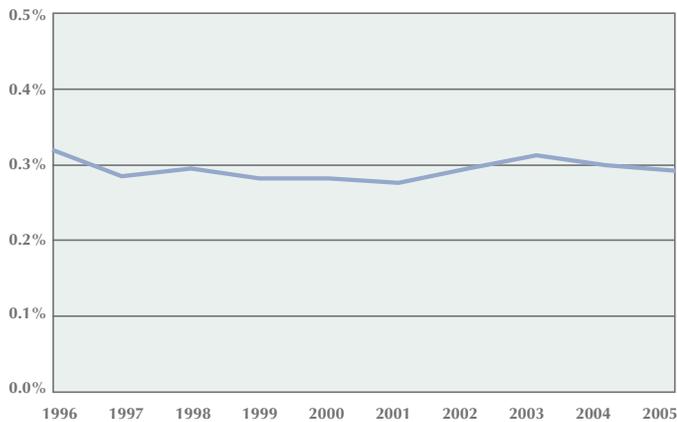
The Kauffman Index of Entrepreneurial Activity is defined as the percent of the population of non-business-owning adults who start a business each month.

The Kauffman Index of Entrepreneurial Activity, introduced in 2005, measures the rate of business creation at the individual owner level. This report updates the Kauffman Index, using matched data from the 1996-2005 Current Population Survey (CPS) and a refined definition.

The CPS is conducted monthly by the U.S. Bureau of the Census and the Bureau of Labor Statistics. All business owners are captured in the CPS microdata, including those who own incorporated or unincorporated business, and those who are employers or non-employers. To create the Kauffman Index, all individuals ages 20–64 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. The Kauffman Index is thus defined as the percent of the population of non-business-owning adults who start a business each month. These monthly rates of entrepreneurial activity are averaged to calculate an average monthly estimate for each year. More details about the data sets and measures used are provided in the previous report entitled, "Kauffman Index of Entrepreneurial Activity, 1996 to 2004" (Fairlie 2005).

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FIGURE 1
KAUFFMAN INDEX
OF ENTREPRENEURIAL ACTIVITY
(1996–2005)



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

Trends in Entrepreneurship

In 2005, an average of 0.29 percent of the adult population or 290 out of 100,000 adults created a new business each month. In other words, approximately 464,000 people created new businesses each month during the year. In fact, 0.29 percent was also the average rate of entrepreneurial activity over the last decade. Figure 1 and Table 1 report average monthly estimates of the Kauffman Index by year from 1996 to 2005. While the 2005 rate of entrepreneurial activity declined slightly from the rate of 0.30 percent in 2004, the rate of business creation remained fairly steady in the range between 0.27 percent and 0.32 percent over the entire ten-year period. Entrepreneurial

activity appears to be higher in the past few years than in the late 1990s. Activity reached a high of 0.31 percent in 2003 and has since declined each year.

ENTREPRENEURIAL ACTIVITY BY DEMOGRAPHIC GROUPS

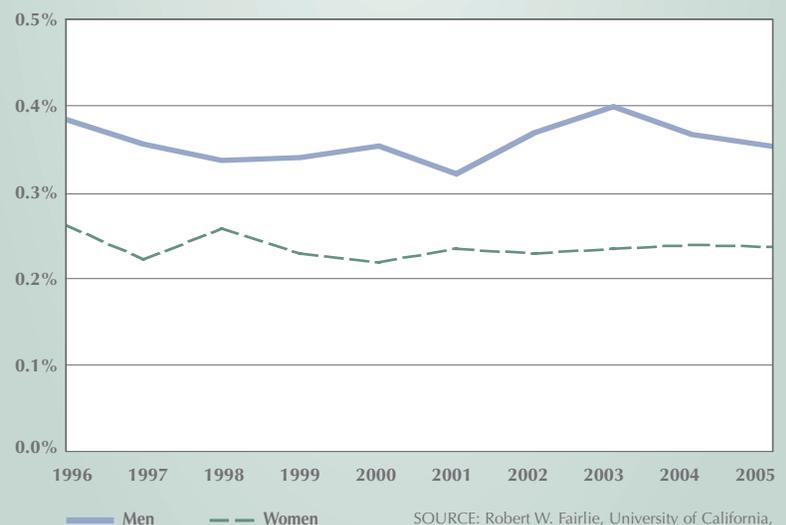
The detailed demographic information available in the CPS and large sample sizes allow for the estimation of separate indices by gender, race, education, age, and immigrant status. While the 2005 rate of entrepreneurial activity for men remained substantially higher than the rate for women, it continued in a downward trend from its high in 2003. The Kauffman Index for men decreased from 0.37 percent in 2004 to 0.35 percent in 2005. As the rate for women's entrepreneurial activity remained constant at 0.24 percent in the two-year period, the gap between men and women's entrepreneurial activity has narrowed slightly. Figure 2 and Table 1 report estimates of the Kauffman Index by gender from 1996 to 2005. The average rate of entrepreneurial activity for men over the ten-year period was 0.36 percent, and the average rate for women during this time was 0.24 percent.

TABLE 1
KAUFFMAN INDEX OF
ENTREPRENEURIAL ACTIVITY
(1996–2005)

Year	MEN		WOMEN		TOTAL	
	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.38%	244,412	0.26%	288,283	0.32%	532,695
1997	0.35%	245,874	0.22%	286,967	0.28%	532,841
1998	0.34%	246,946	0.26%	287,223	0.29%	534,169
1999	0.34%	247,424	0.23%	287,583	0.28%	535,007
2000	0.35%	247,847	0.22%	285,713	0.28%	533,560
2001	0.32%	266,077	0.23%	305,771	0.27%	571,848
2002	0.37%	290,026	0.23%	335,576	0.29%	625,602
2003	0.40%	285,968	0.23%	331,286	0.31%	617,254
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

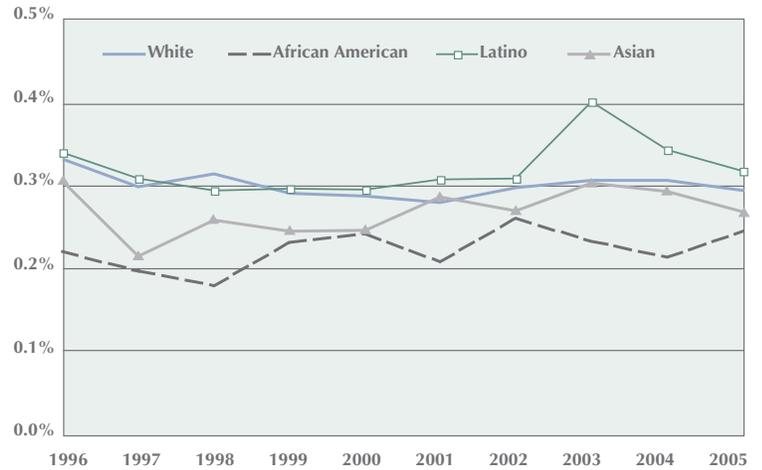
Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The index of entrepreneurial activity is the percent of individuals (ages 20–64) who do not own a business in the first survey month that start a business in the following 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.

FIGURE 2
KAUFFMAN INDEX OF
ENTREPRENEURIAL ACTIVITY BY GENDER
(1996–2005)



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

FIGURE 3
KAUFFMAN INDEX OF ENTREPRENEURIAL
ACTIVITY BY RACE (1996–2005)



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

African Americans were the only major racial or ethnic group to experience an increase in rates of entrepreneurial activity between 2004 and 2005. Figure 3 and Table 3 report estimates of the Kauffman Index by race and ethnicity. The African American rate increased from 0.21 percent in 2004 to 0.24 percent in 2005. In contrast, the white, non-Latino rate of entrepreneurial activity decreased from 0.31 percent in 2004 to 0.29 percent in 2005. The Asian entrepreneurship rate also decreased from 0.30 percent in 2004 to 0.27 percent in 2005. Rates of entrepreneurial activity in 2005 remained highest among Latinos at 0.32 percent, but entrepreneurial activity for this population has been declining since 2003.

Average rates for each racial or ethnic group over the past decade follow a similar pattern. For the ten-year period, average rates of entrepreneurial activity were highest for Latinos at 0.32 percent. Non-Latino whites had an average rate of entrepreneurial activity of 0.30 percent, and Asians had an average rate of 0.27 percent. The African American rate of entrepreneurial activity for the decade was substantially lower at 0.22 percent, but entrepreneurial activity among this population appears to have increased over this ten-year period, from 0.22 percent in 1996 to 0.24 percent in 2005. Latino and Asian rates of entrepreneurial activity fluctuated somewhat over the ten-year period.

Immigrants continued to have a substantially higher rate of entrepreneurial activity than native-born individuals in 2005. Figure 4 and Table 2 report estimates of the Kauffman Index by nativity. While the rate of entrepreneurial activity for immigrants decreased from 0.41 percent in 2004 to 0.35 percent in 2005, this rate remains higher than the 0.28 percent for the native-born. There is some variability in rates over time, but there appears to be an upward trend in entrepreneurial activity among immigrants over the longer period.

Comparisons of entrepreneurial activity among different age groups yield interesting

African Americans were the only major racial or ethnic group to experience an increase in rates of entrepreneurial activity between 2004 and 2005.

TABLE 2
KAUFFMAN INDEX OF
ENTREPRENEURIAL ACTIVITY BY NATIVITY
(1996-2005)

Year	NATIVE-BORN		IMMIGRANT		TOTAL	
	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.31%	476,467	0.38%	56,228	0.32%	532,695
1997	0.28%	474,703	0.31%	58,138	0.28%	532,841
1998	0.29%	474,088	0.33%	60,081	0.29%	534,169
1999	0.27%	473,855	0.33%	61,152	0.28%	535,007
2000	0.27%	467,992	0.34%	65,568	0.28%	533,560
2001	0.27%	502,385	0.31%	69,463	0.27%	571,848
2002	0.28%	551,448	0.38%	74,154	0.29%	625,602
2003	0.30%	542,203	0.39%	75,051	0.31%	617,254
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

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 20–64) 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.

TABLE 3
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY RACE
(1996–2005)

Year	WHITE		AFRICAN AMERICAN		LATINO		ASIAN		TOTAL	
	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.33%	406,217	0.22%	55,049	0.34%	44,173	0.31%	20,552	0.32%	532,695
1997	0.30%	403,723	0.20%	55,563	0.31%	45,696	0.21%	20,780	0.28%	532,841
1998	0.31%	403,979	0.18%	54,959	0.29%	47,113	0.26%	21,187	0.29%	534,169
1999	0.29%	403,109	0.23%	54,525	0.30%	49,286	0.25%	21,350	0.28%	535,007
2000	0.29%	395,996	0.24%	55,539	0.30%	52,670	0.25%	21,993	0.28%	533,560
2001	0.28%	426,861	0.21%	58,567	0.31%	54,361	0.29%	24,014	0.27%	571,848
2002	0.30%	471,316	0.26%	61,415	0.31%	57,774	0.27%	26,498	0.29%	625,602
2003	0.31%	457,369	0.23%	59,181	0.40%	59,985	0.30%	24,131	0.31%	617,254
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

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 20–64) 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) Race and Latino 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.

FIGURE 4
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY
BY NATIVITY (1996–2005)

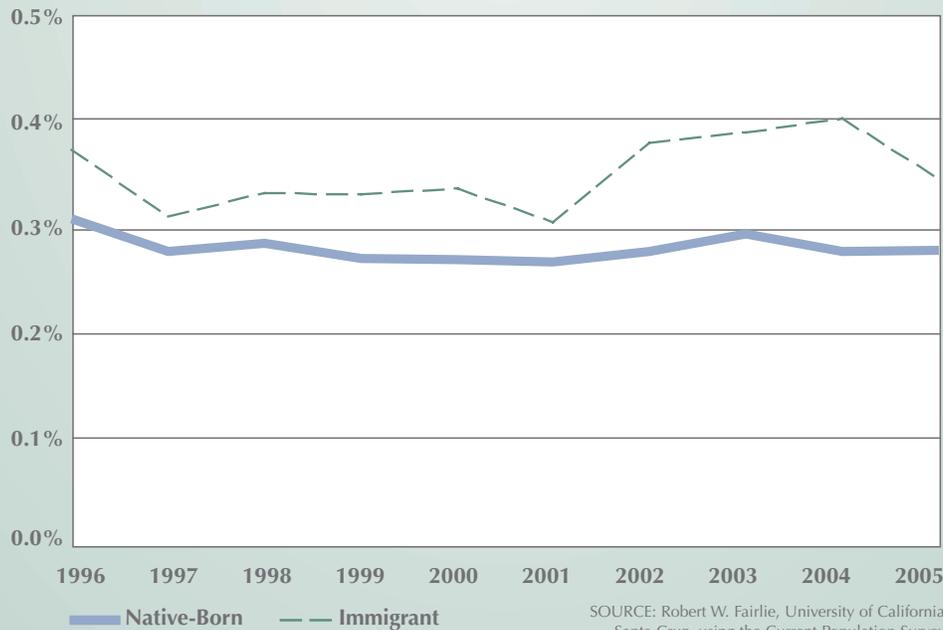
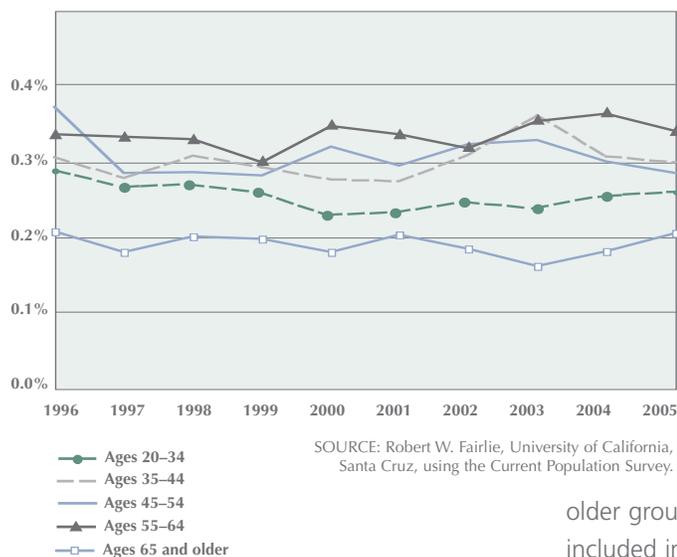


FIGURE 5
KAUFFMAN INDEX OF ENTREPRENEURIAL
ACTIVITY BY AGE (1996–2005)



results. As shown in Figure 5 and Table 4, rates of entrepreneurial activity continue to be lowest for the youngest (ages 20–34) and oldest (ages 65 and older) groups. From 2004 to 2005, however, the youngest and oldest groups experienced increasing rates of entrepreneurial activity, while the other age groups experienced declining rates. Although differences remain, these trends resulted in more similar rates for all groups in 2005 than in the previous few years. In 2005, 0.34 percent of adults ages 55–64 started a business per month compared to 0.21 percent of adults ages 65 and older. The ages 65 and

older group is only reported here for comparison and is not included in the main sample, as older individuals have a much lower likelihood of becoming business owners than other adults because of retirement.

Patterns in rates of entrepreneurial activity among different education levels remained the same in 2005. As Figure 6 and Table 5 illustrate, there continued to be little difference in rates of entrepreneurial activity between these groups, with the exception of slightly higher rates for less-educated individuals throughout the period. In 2005, the rate of entrepreneurial activity for this less-educated group was 0.39 percent compared to 0.31 percent for all individuals ages 25–64.

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TABLE 4
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY AGE
(1996–2005)

Year	AGES 20–34		AGES 35–44		AGES 45–54		AGES 55–64		AGES 65 and older	
	Index	Sample Size	Index	Sample Size						
1996	0.29%	193,916	0.31%	148,671	0.37%	113,559	0.34%	76,549	0.21%	128,650
1997	0.27%	190,363	0.28%	149,451	0.29%	115,704	0.34%	77,323	0.18%	128,672
1998	0.27%	186,447	0.31%	148,126	0.29%	119,928	0.33%	79,668	0.20%	127,848
1999	0.26%	180,915	0.29%	147,304	0.28%	124,415	0.30%	82,373	0.20%	127,338
2000	0.23%	179,697	0.28%	145,514	0.32%	126,069	0.35%	82,280	0.18%	120,769
2001	0.23%	188,840	0.27%	153,569	0.30%	139,788	0.34%	89,651	0.20%	135,423
2002	0.25%	204,512	0.31%	165,607	0.32%	153,381	0.32%	102,102	0.18%	142,529
2003	0.24%	199,283	0.36%	158,830	0.33%	153,112	0.36%	106,029	0.16%	146,012
2004	0.26%	193,373	0.31%	150,221	0.30%	150,743	0.37%	108,350	0.18%	142,810
2005	0.26%	190,271	0.30%	147,905	0.29%	149,119	0.34%	109,903	0.21%	142,576

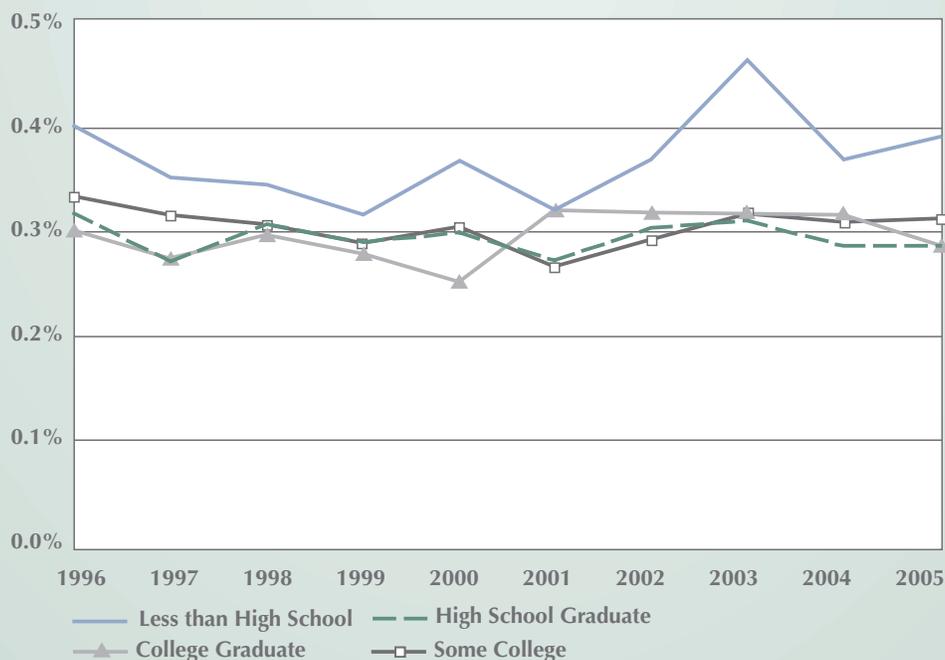
Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The index of entrepreneurial activity is the percent of individuals (ages 20–64) who do not own a business in the first survey month that start a business in the following 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.

TABLE 5
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY EDUCATION
(1996–2005)

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	0.40%	64,431	0.32%	162,941	0.33%	126,681	0.30%	121,748	0.33%	475,801
1997	0.35%	62,859	0.27%	162,617	0.32%	126,901	0.27%	124,238	0.29%	476,615
1998	0.34%	61,070	0.31%	161,105	0.31%	127,257	0.30%	128,750	0.31%	478,182
1999	0.32%	58,879	0.29%	159,334	0.29%	128,919	0.28%	132,258	0.29%	479,390
2000	0.37%	57,954	0.30%	156,092	0.30%	130,101	0.25%	132,371	0.30%	476,518
2001	0.32%	60,254	0.27%	165,421	0.27%	141,099	0.32%	144,945	0.29%	511,719
2002	0.37%	63,525	0.30%	179,930	0.29%	154,417	0.32%	162,181	0.31%	560,053
2003	0.46%	61,780	0.31%	176,156	0.32%	151,618	0.32%	162,421	0.33%	551,975
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

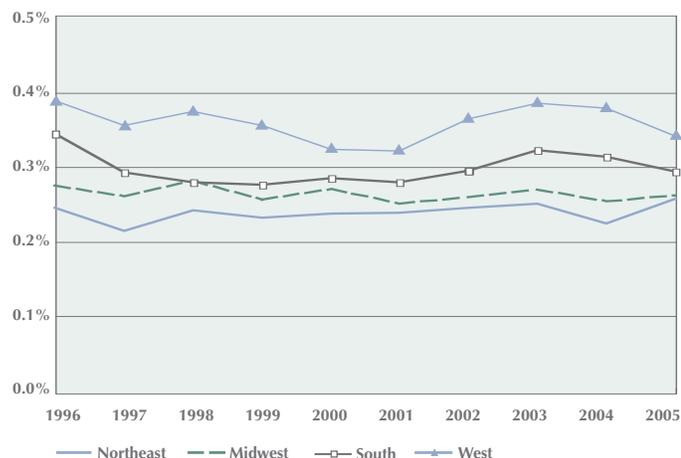
Notes: (1) Estimates calculated by Robert W. Fairlie, University of California, Santa Cruz, using the Current Population Survey. (2) The index of entrepreneurial activity is the percent of individuals (ages 20–64) who do not own a business in the first survey month that start a business in the following 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.

FIGURE 6
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY
BY EDUCATION (1996–2005)



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

FIGURE 7
KAUFFMAN INDEX OF ENTREPRENEURIAL
ACTIVITY BY REGION
(1996–2005)



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

Estimates of the Kauffman Index by region are reported in Figure 7 and Table 6. Rates of entrepreneurial activity in 2005 were highest in the West. The South had the next highest rate of entrepreneurial activity, and the Northeast and Midwest had the lowest rates of entrepreneurial activity. Although the ordering of regional rates of entrepreneurial activity remained constant over the past decade, the West and South experienced declines in rates of entrepreneurial activity from 2004 to 2005, while the Northeast and Midwest experienced increases. There was, therefore, some convergence in entrepreneurial activity rates across regions in 2005.

TABLE 6
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY REGION
(1996–2005)

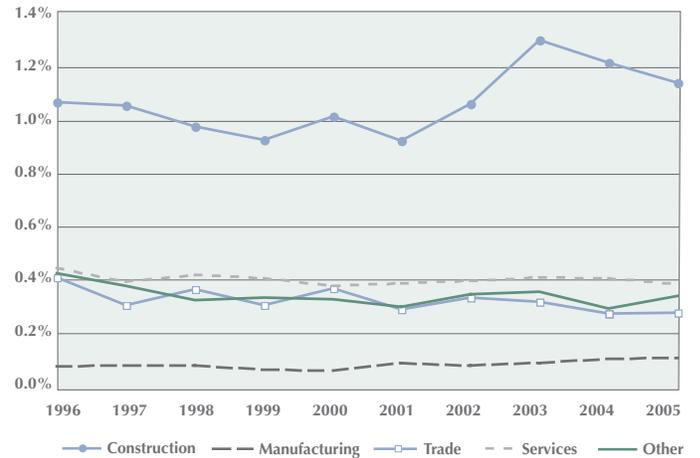
Year	NORTHEAST		MIDWEST		SOUTH		WEST		TOTAL	
	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.25%	114,903	0.27%	126,744	0.34%	164,976	0.39%	126,072	0.32%	532,695
1997	0.21%	114,290	0.26%	125,935	0.29%	164,865	0.36%	127,751	0.28%	532,841
1998	0.24%	114,739	0.28%	125,789	0.28%	164,770	0.37%	128,871	0.29%	534,169
1999	0.23%	113,301	0.26%	125,765	0.28%	165,095	0.36%	130,846	0.28%	535,007
2000	0.24%	111,809	0.27%	127,390	0.28%	164,427	0.32%	129,934	0.28%	533,560
2001	0.24%	123,006	0.25%	140,086	0.28%	170,190	0.32%	138,566	0.27%	571,848
2002	0.24%	135,651	0.26%	156,763	0.30%	179,950	0.36%	153,238	0.29%	625,602
2003	0.25%	133,507	0.27%	154,611	0.32%	178,064	0.39%	151,072	0.31%	617,254
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

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 20–64) 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.

ENTREPRENEURIAL ACTIVITY BY INDUSTRY

Finally, rates of entrepreneurial activity differed substantially by the industry of the worker. Figure 8 and Table 7 report estimates of entrepreneurial activity by major industry. In 2005, rates of entrepreneurial activity were highest in construction at 1.14 percent. Rates of entrepreneurial activity in services were the next highest (0.38 percent), followed by the other category (0.34 percent) and trade (0.28 percent). Manufacturing had substantially lower rates of entrepreneurial activity than all other industries, with only 0.10 percent of individuals starting businesses in this industry per month in 2005. From 2004 to 2005, the rate of entrepreneurial activity in construction dropped from 1.22 percent to 1.14 percent. The rate of entrepreneurial activity in services also declined (0.41 percent to 0.38 percent).

FIGURE 8
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY INDUSTRY (1996–2005)



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

TABLE 7
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY BY INDUSTRY (1996–2005)

Year	CONSTRUCTION		MANUFACTURING		TRADE		SERVICES		OTHER	
	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	1.07%	23,833	0.07%	71,293	0.41%	60,379	0.44%	206,479	0.42%	55,922
1997	1.05%	23,794	0.08%	71,322	0.30%	59,721	0.39%	209,091	0.38%	55,603
1998	0.98%	24,113	0.08%	69,979	0.36%	60,016	0.42%	212,295	0.32%	55,443
1999	0.92%	24,914	0.06%	67,177	0.30%	60,219	0.41%	214,065	0.33%	54,683
2000	1.02%	25,945	0.06%	65,836	0.37%	59,781	0.38%	213,970	0.33%	54,358
2001	0.92%	28,629	0.08%	68,030	0.29%	63,428	0.39%	232,813	0.30%	57,152
2002	1.06%	31,415	0.08%	70,520	0.33%	70,036	0.40%	258,327	0.34%	61,782
2003	1.30%	31,761	0.09%	65,718	0.32%	69,408	0.41%	255,897	0.35%	58,774
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

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 20–64) 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.

Summary

In 2005, 0.29 percent of the adult population or 290 out of 100,000 adults created a new business each month, representing approximately 464,000 people starting new businesses per month.

The matched basic monthly files from the Current Population Survey (CPS) provide a uniquely large, nationally representative panel data set for measuring entrepreneurial activity. The total sample size for the period from 1996 to 2005 for the adult population is more than eight million. The monthly rate of business creation at the individual owner level can be estimated using these data. The Kauffman Index measures the percent of non-business-owning adults who start businesses with more than fifteen hours worked per week during the month. Detailed demographic information available in the CPS and large sample sizes also allow for estimates of separate indices by gender, race, education, age, and immigrant status.

In 2005, 0.29 percent of the adult population or 290 out of 100,000 adults created a new business each month, representing approximately 464,000 people per month. The Kauffman Index decreased slightly from 0.30 percent in 2004 to 0.29 percent in 2005. Although this change represents the second consecutive year of decline, the rate of entrepreneurial activity continued to be higher in the past few years than in the late 1990s.

There are some interesting differences in changes in rates of entrepreneurial activity from 2004 to 2005 in subgroups of the population. Although rates of entrepreneurial activity were higher among men than among women, the men's rate of entrepreneurial activity decreased from 2004 to 2005, while the women's rate of entrepreneurial activity remained the same, resulting in some convergence. African Americans experienced the only increase in rates of entrepreneurial activity among major ethnic and racial groups from 2004 to 2005. The non-Latino white, Latino, and Asian rates of entrepreneurial activity declined from 2004 to 2005. Finally, the rate of entrepreneurial activity among immigrants also dropped from 2004 to 2005, but immigrants continued to start businesses at greater rates than the native-born. From 2004 to 2005, rates of entrepreneurial activity decreased in the West and South and increased in the Northeast and Midwest, reducing regional differences. Finally, rates of entrepreneurial activity in the construction and services industries declined in 2005.

appendix

DATA

The underlying data sets that are 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, are representative of 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 1996 to 2005 monthly data creates a sample size of more than eight 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 rotation pattern of the CPS makes it possible to match information on individuals monthly, and, therefore, to create monthly panel data for 75 percent of all respondents in the CPS. 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 all non-unique matches are removed, the underlying CPS data are checked extensively for coding errors and other problems.

Monthly match rates are generally between 94 and 96 percent (see Fairlie 2005), and the primary reason for non-matching is household moves. A somewhat non-random sample (mainly geographic movers) are, therefore, 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).

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 Kauffman Index is thus defined as the percent of the

population of non-business-owning adults who start a business each month. To identify whether they are business owners in each month, responses to the question concerning their main job (defined as the one with the most hours worked) are used. Individuals who start side businesses will, therefore, not be counted if they are working more hours on a wage/salary job.

In the Kauffman Index, entrepreneurial activity is counted in the second month only if the individual reports usually working fifteen or more hours per week during the second survey month. This hours restriction 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.

The Kauffman Index may also overstate business creation in certain respects because of small changes in how individuals report their work status. Individuals may, for example, simply report not being business owners as their main jobs in a particular month because their wage/salary jobs had more hours. 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

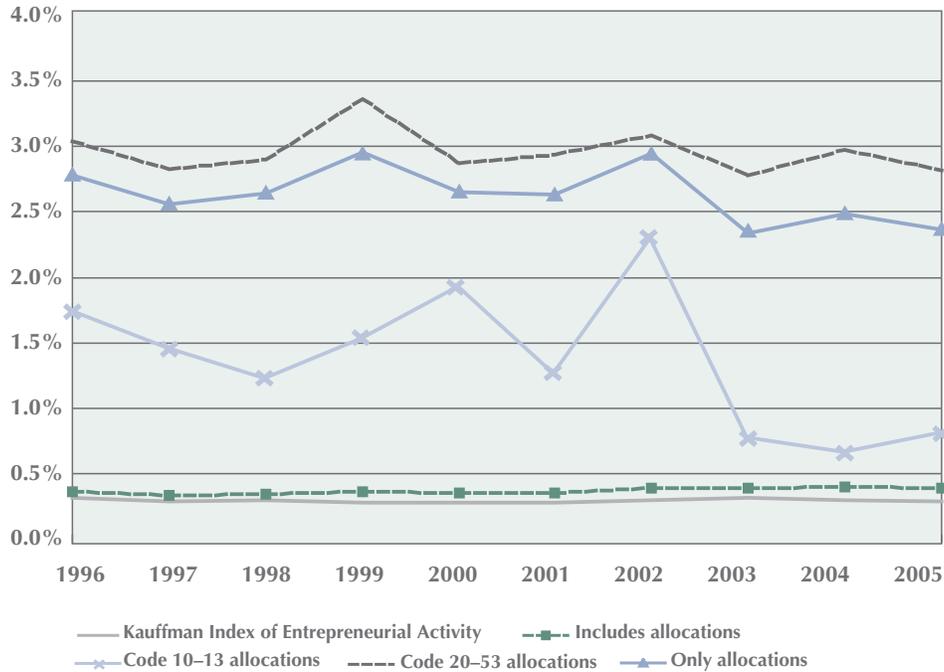
Kauffman Index includes only adults ages 20–64. For estimates of rates of entrepreneurial activity by education level, the population ages 25–64 is used instead. These age categories follow the Bureau of Labor Statistics practice of publishing unemployment rates for ages 20+ for total rates and ages 25+ for rates by education. Older individuals are removed from the main 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 2005 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. As described below, rates of entrepreneurial activity are substantially higher for allocated or imputed observations. In the previous Kauffman Index report for 1996 to 2004, these observations were included (Fairlie 2005). Estimates of the Kauffman Index from 1996 to 2004 reported here update those from the previous year's report.

SENSITIVITY ANALYSIS AND COMPARISON TO PREVIOUS REPORT

It is useful to examine the sensitivity of the Kauffman Index to the inclusion of allocated or imputed observations in the CPS (see Fairlie 2005 for a discussion of sensitivity to changes in numbers of hours worked in the Kauffman Index definition). Missing values for variables in the CPS are allocated or imputed using several procedures, including hot deck procedures and use of information from previous survey months. These allocation procedures may have a large effect on estimates of transitions in employment characteristics over time such as the Kauffman Index, as allocations appear to increase the likelihood of changes.

APPENDIX FIGURE 1
**SENSITIVITY OF KAUFFMAN INDEX OF
 ENTREPRENEURIAL ACTIVITY TO ALLOCATED OBSERVATIONS**
 (1996–2005)



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

Appendix Figure 1 and Appendix Table 1 provide estimates of the Kauffman Index by year using different samples of non-allocated and allocated observations for the key variables used to define entrepreneurial activity. The Kauffman Index, as calculated in this report, is presented in Column 1. This definition excludes all observations with allocated labor force status, class of worker, and hours worked variables from the sample. Column 2 reports estimates of the Kauffman Index in which these allocated observations are added back to the sample. This definition of the Kauffman Index was used in the previous report (Fairlie 2005).

The average Kauffman Index without allocated observations from 1996 to 2005 is 0.29 percent, as compared to 0.37 percent for the

Kauffman Index with allocated observations. The comparison of estimates indicates that the allocation procedure used in the CPS leads to higher estimates of business entry rates. Focusing on allocated observations, Columns 3, 4, and 5 report rates of entrepreneurial activity for samples of only allocated observations for labor force status, class of worker, and hours worked variables. Column 3 reports estimates for all allocated observations, Column 4 reports estimates for the most common types of allocations (codes 20-53), and Column 5 reports estimates for allocations based on consistency edits (codes 10-13). For the full sample of allocated observations and the subsamples of allocated observations, rates of entrepreneurial activity are substantially higher than for the

sample that excludes allocated observations. For example, the rate of entrepreneurial activity for the full sample period using the allocated observations is nearly ten times the rate without allocated observations (2.64 percent compared to 0.29 percent). Because of these apparently inflated rates of entrepreneurial activity for allocated observations, they are removed from the revised Kauffman Index presented in this report.

COMPARISON TO OTHER MEASURES

The Kauffman Index differs from many other measures of entrepreneurial activity in that it measures flows into business ownership rather than the number of existing businesses at a specific point in time. Other measures of the number of entrepreneurs, self-employed business owners, or businesses in the United States are readily available from several nationally-representative government data sets. For example, the Economic Census: Survey of Minority-Owned

and Female-Owned Business Enterprises provides estimates of the number of businesses every five years, and the CPS and Census of Population provide estimates of the number of self-employed business owners annually and every decade, respectively. Typical measures of business ownership based on these data, however, do not capture the dynamic nature of entrepreneurial activity that the Kauffman Index illustrates.

The Kauffman Index differs from the recently released 2002 Survey of Business Owners (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

APPENDIX TABLE 1
KAUFFMAN INDEX OF ENTREPRENEURIAL ACTIVITY
SENSITIVITY ANALYSIS TO ALLOCATED OBSERVATIONS (1996–2005)

Year	MAIN DEFINITION: REMOVES ALLOCATED OBSERVATIONS		ALLOCATED OBSERVATIONS ARE NOT REMOVED		ALLOCATED OBSERVATIONS ONLY		ALLOCATED OBSERVATIONS (10-13 CODES)		ALLOCATED OBSERVATIONS (20-53 CODES)	
	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size	Index	Sample Size
1996	0.32%	532,695	0.36%	542,343	2.78%	9,648	1.74%	1,825	3.04%	7,890
1997	0.28%	532,841	0.33%	542,965	2.56%	10,124	1.45%	1,792	2.82%	8,399
1998	0.29%	534,169	0.35%	545,639	2.64%	11,470	1.22%	1,880	2.90%	9,667
1999	0.28%	535,007	0.36%	550,069	2.96%	15,062	1.53%	3,414	3.36%	11,772
2000	0.28%	533,560	0.35%	549,870	2.65%	16,310	1.92%	3,331	2.87%	13,129
2001	0.27%	571,848	0.35%	590,335	2.63%	18,487	1.26%	3,626	2.94%	15,009
2002	0.29%	625,602	0.39%	646,685	2.95%	21,083	2.29%	4,364	3.09%	16,917
2003	0.31%	617,254	0.39%	640,293	2.34%	23,039	0.77%	5,446	2.78%	17,805
2004	0.30%	602,687	0.40%	629,583	2.49%	26,896	0.65%	5,698	2.98%	18,471
2005	0.29%	597,198	0.38%	623,346	2.37%	26,148	0.81%	5,773	2.82%	17,831

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 20–64) 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.

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 also differs from estimates of firm births from the Statistics of U.S. Businesses (SUSB) collected by the U.S. Census Bureau and summarized by the U.S. Small Business Administration, Office of Advocacy. These data only include employer firms, and, therefore, are likely to lead to a substantial undercount in the rate of entrepreneurial activity because non-employer firms represent approximately three-quarters of all firms² and many new firms start with no employees. The latest available estimates from the SUSB indicate that there were 569,750 employer firm births from 2001 to 2002. Estimates from the Kauffman Index indicate that there were roughly 409,000 new self-employed business owners per month in 2001.

Finally, the Kauffman Index also differs from the Total Entrepreneurial Activity (TEA) index used in the Global Entrepreneurship Monitor. The TEA captures individuals ages 18–64 who are involved in either the start-up phase or managing a business that is less than forty-two months old (Reynolds, Bygrave and Autio 2003). The Kauffman Index differs from the GEM measure primarily because it does not capture young businesses that are more than one year old. The measure of entrepreneurial activity defined here captures entrepreneurs only once when they first create their business.

² According to the Statistics of U.S. Businesses, U.S. Census Bureau, 23.6 percent of firms had employees in 2003.



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