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## ENTREPRENEURSHIP IN NEBRASKA

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### Introduction

**E**ntrepreneurship can be an important process in stimulating economic growth. While it is not the sole determinant of economic prosperity, it can be a way for a state such as Nebraska to outperform other states. In *Entrepreneurship in Nebraska: Conditions, Attitudes, and Actions*, Eric C. Thompson and William B. Walstad developed an entrepreneurship index that acts as a benchmark to compare Nebraska with the other forty-nine states. The index in their publication was constructed using 2005 data. The latest data available needed to calculate this index now exists for 2008. In this report, we use the method developed by Thompson and Walstad to calculate a 2008 index and compare it to the 2005 index. This comparison will allow us to see how states fluctuate in entrepreneurship rankings in a recession year versus a year like 2005 when the economy was strong.

We discuss further the components of the index and substitute a newly available component that we feel may better capture entrepreneurship in states. In particular, we create an enhanced index that substitutes gross receipts of proprietors and partnerships for the personal income of proprietors, a component in the original index. This new component may lead to a more accurate assessment of entrepreneurship because it avoids an upward bias of income in high cost-of-living states. Lastly, we will compare the index created

with new components to the index created with the original components.

### Index Components

We begin by discussing the original entrepreneurship index. Five components play a role in determining this index:

- Percent growth in employer establishments
- Percent growth in non-farm proprietorships per capita
- The business formation rate
- Patents per thousand residents
- Real income per non-farm proprietorship

An index for each component consists of calculating how much each state's performance deviates from the median state. The state at the median gets a value of 1.0. A state one standard deviation above the median gets a 2.0, while a state one standard deviation below the median gets a 0.0<sup>1</sup>. The overall entrepreneurship index is calculated by taking a simple average of the five index values for each state. Table 1 on the following page compares the 2005 entrepreneurship index from Thompson and Walstad and the updated index using 2008 data.

Some states have moved up or down significantly since 2005, while others have stayed about the same. This suggests that some states were able to maintain entrepreneurship in a recession better than others. Nebraska held its ground, making only a small move from thirty-fifth to thirty-sixth. In

<sup>1</sup>Standard Deviation: The square root of the variance, tells how much variation there is from the mean.

Table 1: State Entrepreneurship Index, 2005 and 2008

State	2005 Rank	Index Value	2008 Rank	Index Value
AL	36	0.80	48	0.48
AK	43	0.56	30	0.90
AZ	26	1.11	40	0.74
AR	41	0.67	23	1.08
CA	6	1.74	3	2.01
CO	2	2.17	11	1.52
CT	4	1.87	4	1.96
DE	10	1.53	34	0.84
FL	14	1.36	16	1.41
GA	33	0.90	41	0.72
HI	39	0.75	43	0.68
ID	1	2.44	13	1.48
IL	15	1.35	8	1.61
IN	40	0.74	38	0.80
IA	49	0.46	45	0.59
KS	31	0.92	19	1.27
KY	45	0.53	50	-0.05
LA	44	0.54	24	1.08
ME	50	0.32	35	0.84
MD	12	1.42	27	1.04
MA	5	1.84	5	1.95
MI	22	1.24	17	1.33
MN	16	1.32	21	1.13
MS	48	0.47	47	0.51
MO	38	0.77	39	0.78
MT	46	0.53	26	1.06
<b>NE</b>	<b>35</b>	<b>0.85</b>	<b>36</b>	<b>0.83</b>
NV	29	1.03	10	1.56
NH	13	1.37	12	1.51
NJ	3	2.08	6	1.89
NM	25	1.11	28	0.99
NY	7	1.74	1	2.08
NC	37	0.77	46	0.59
ND	32	0.90	25	1.07
OH	34	0.90	31	0.89
OK	20	1.25	15	1.44
OR	11	1.49	32	0.87
PA	17	1.31	14	1.47
RI	8	1.58	18	1.32
SC	27	1.11	49	0.18
SD	42	0.63	42	0.70
TN	28	1.04	22	1.10
TX	21	1.25	29	0.94
UT	18	1.29	33	0.84
VT	19	1.29	9	1.58
VA	23	1.22	20	1.20
WA	24	1.18	2	2.03
WV	47	0.51	44	0.61
WI	30	1.00	37	0.82
WY	9	1.54	7	1.69

Sources: Table 3.7 from "Entrepreneurship in Nebraska," Bureau of Labor Statistics, Bureau of Economic Analysis, U.S. Census Bureau, U.S. Statistical Abstract, and Author's calculations

regards to neighboring states, Colorado dropped nine spots, Wyoming moved up two spots, South Dakota remained unchanged, Iowa moved up four spots, Missouri dropped one spot, and Kansas jumped twelve spots. Nebraska still trails Colorado, Wyoming, and Kansas, while leading South Dakota, Iowa, and Missouri. The drop in rank for Colorado was due to a much slower growth in employer establishments in 2008 than in 2005. The jump in rank for Kansas was due to significant improvements in growth in employer establishments, firm births per person, and growth in non-farm proprietorships per person. Another big mover was Delaware, dropping twenty-four spots due to negative growth in employer establishments in 2008. South Carolina dropped twenty-two spots largely due to slower growth in establishments and fewer patents per thousand residents in 2008. Washington moved up twenty-two places due to increased growth in establishments per person.

### Index Revision

Five components play a role in determining the new Entrepreneurship Index:

- Percent growth in employer establishments
- **Percent growth in employer establishments per capita**
- The business formation rate
- Patents per thousand residents
- **Gross receipts of sole proprietorships and partnerships per capita.**

The current index substitutes gross receipts of sole proprietorships and partnerships for income per non-farm proprietorship. We felt that gross receipts of sole proprietorships and partnerships would be more descriptive of the entrepreneurship environment due to the fact it accounts only for sole proprietorships and partnerships. Real income per non-farm proprietorship includes all non-farm proprietorships, and this may have a higher probability of including those who are not truly entrepreneurs, such as contractors. The gross receipts measure is also a more complete measure of business activities relative to proprietorship income. A proprietor income measure also may be

more susceptible to differences in cost of living (and therefore, income) among states.

With the change in the income component of the index, the percent growth in non-farm proprietorships per capita component was changed to percent growth in employer establishments per capita. Again, this change was made out of the concern that the proprietor measure included too many individuals who were contractors rather than entrepreneurs. For example, the number of proprietorships could grow simply because some firms reclassified some of their employees as contractors and removed their benefits. Table 2 shows the 2008 entrepreneurship index with the new components using the latest data available.

Table 3 on the following page shows a comparison of the 2008 index using the old components and the 2008 index using the new components<sup>2</sup>. Nebraska fairs better using the new components, ranking twenty-fourth instead of thirty-sixth. Nebraska's improvement in the new index can be attributed to a ninth place ranking in the gross receipts per capita component, compared to a twenty-sixth place ranking in the income per non-farm proprietorship component used in the old index.

Using the new components, Colorado drops seven spots, Wyoming moves up one spot, South Dakota jumps six spots, Iowa falls one spot, Missouri drops one spot, and Kansas moves up two spots. Nebraska still ranks ahead of South Dakota, Iowa, and Missouri, while trailing Colorado, Wyoming, and Kansas. Colorado's drop in the rankings was due to a greater emphasis on growth in establishments in the new index. South Dakota's jump in the new index was due to the removal of the growth in non-farm proprietorships component, in which the state was ranked thirty-ninth. As noted earlier, the goal of the new index is to give more weight to high innovation states than to high income states.

Using gross receipts of sole proprietorships and partnerships per capita is one way to do this. An example of this case may be Rhode Island, which

Table 2: Revised Entrepreneurship Index, 2008

State	2008 Rank	Index Value
AL	44	0.58
AK	31	0.98
AZ	35	0.8
AR	10	1.46
CA	4	1.81
CO	18	1.23
CT	13	1.38
DE	42	0.61
FL	5	1.7
GA	22	1.15
HI	37	0.79
ID	2	1.93
IL	11	1.42
IN	39	0.73
IA	46	0.57
KS	17	1.27
KY	50	-0.51
LA	16	1.29
ME	30	1.03
MD	41	0.66
MA	9	1.54
MI	33	0.93
MN	23	1.14
MS	47	0.56
MO	40	0.73
MT	19	1.23
<b>NE</b>	<b>24</b>	<b>1.13</b>
NV	7	1.63
NH	14	1.32
NJ	12	1.4
NM	32	0.95
NY	1	2.04
NC	29	1.03
ND	21	1.18
OH	27	1.06
OK	15	1.3
OR	45	0.57
PA	28	1.06
RI	48	0.56
SC	43	0.6
SD	36	0.8
TN	20	1.19
TX	34	0.82
UT	26	1.07
VT	8	1.58
VA	25	1.11
WA	3	1.88
WV	49	0.07
WI	38	0.73
WY	6	1.64

Sources: Bureau of Labor Statistics, IRS Statistics of Income Bulletin, U.S. Census Bureau, U.S. Statistical Abstract, and Author's calculations

<sup>2</sup> We are unable to do a comparison between the index composed of the old versus the new components using 2005 data because gross receipts data for sole proprietorships and partnerships is unavailable at a state level for this time period.

dropped thirty spots in the new index due to a rank of forty-third in the gross receipts per capita component. Rhode Island was ranked fifteenth in the income per non-farm proprietorship component of the old index. Another big mover was Georgia, which jumped nineteen spots due to a greater emphasis on growth in establishments, as well as a higher ranking in gross receipts per capita than in income per non-farm proprietorship. Michigan dropped sixteen spots because of ranking thirty-ninth in the gross receipts per capita component.

### Conclusion

We compared entrepreneurship indexes for 2005 and 2008 and found that some states handled the recession better than others, while some states maintained a similar ranking. Nebraska is one state that kept a steady ranking, while remaining in the middle of the pack with its border states. We also proposed improvements to the entrepreneurship index and compared a new index to the old one. We look forward to tracking the new index in the future, and plan to release the index on an annual basis each spring. The BBR will continue to look for alternative components for the index in an attempt to further its development.

Table 3: Entrepreneurship Index: Old components vs. New components, 2008

State	Old Rank	Old Index Value	New Rank	New Index Value
AL	48	0.48	44	0.58
AK	30	0.90	31	0.98
AZ	40	0.74	35	0.80
AR	23	1.08	10	1.46
CA	3	2.01	4	1.81
CO	11	1.52	18	1.23
CT	4	1.96	13	1.38
DE	34	0.84	42	0.61
FL	16	1.41	5	1.70
GA	41	0.72	22	1.15
HI	43	0.68	37	0.79
ID	13	1.48	2	1.93
IL	8	1.61	11	1.42
IN	38	0.80	39	0.73
IA	45	0.59	46	0.57
KS	19	1.27	17	1.27
KY	50	-0.05	50	-0.51
LA	24	1.08	16	1.29
ME	35	0.84	30	1.03
MD	27	1.04	41	0.66
MA	5	1.95	9	1.54
MI	17	1.33	33	0.93
MN	21	1.13	23	1.14
MS	47	0.51	47	0.56
MO	39	0.78	40	0.73
MT	26	1.06	19	1.23
<b>NE</b>	<b>36</b>	<b>0.83</b>	<b>24</b>	<b>1.13</b>
NV	10	1.56	7	1.63
NH	12	1.51	14	1.32
NJ	6	1.89	12	1.40
NM	28	0.99	32	0.95
NY	1	2.08	1	2.04
NC	46	0.59	29	1.03
ND	25	1.07	21	1.18
OH	31	0.89	27	1.06
OK	15	1.44	15	1.30
OR	32	0.87	45	0.57
PA	14	1.47	28	1.06
RI	18	1.32	48	0.56
SC	49	0.18	43	0.60
SD	42	0.70	36	0.80
TN	22	1.10	20	1.19
TX	29	0.94	34	0.82
UT	33	0.84	26	1.07
VT	9	1.58	8	1.58
VA	20	1.20	25	1.11
WA	2	2.03	3	1.88
WV	44	0.61	49	0.07
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Sources: Bureau of Labor Statistics, Bureau of Economic Analysis, U.S. Census Bureau, U.S. Statistical Abstract, IRS Statistics of Income Bulletin, and Author's calculations

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