

# POLICY *report*

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## Increasing Entrepreneurship is a Key to Lowering Poverty Rates

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### EXECUTIVE SUMMARY

During the economic boom of the 2000s, poverty rates declined in many states. Yet some states were more effective at getting the poverty rate down than others. While there has been much analysis of why some states are more successful than others, what's been missing is a discussion of the role of entrepreneurs in the process. This paper suggests that economic freedom and entrepreneurship are keys to escaping poverty for many.

There is a strong connection between a state's rate of entrepreneurship and declines in poverty. Statistical analysis of all 50 states indicates that states with a larger share of entrepreneurs had bigger declines in poverty. In fact, comparing states during the last economic boom—from 2001 to 2007—data show that for every 1 percentage point increase in the rate of entrepreneurship in a state, there is a 2 percent decline in the poverty rate.

To help reduce poverty, policymakers should focus on increasing the number of entrepreneurs in their state. Research shows that one of the most effective ways to increase entrepreneurship is by lowering tax burdens. In particular, this study shows that high tax burdens, measured as a percentage of personal income, drags down the growth rate of entrepreneurship in a state: for every 1 percentage point increase in the tax burden, there's a corresponding 1 percentage point drop in the entrepreneurship rate. States without income taxes also have higher average rates of entrepreneurship than those with income taxes. The average number of sole proprietors as a percentage of employment in states without an income tax is 21.7. The rate for states with an income tax is 19.6.

Pulling out all the stops to increase the rate of entrepreneurship should be a top priority for policymakers. In a small state like Arizona the results can be dramatic. Increasing the rate of entrepreneurship from 16 to 20 percent would mean 100,000 more entrepreneurs are starting a business.

## Introduction

Sharon Garza's decades-long dream was to start a hot dog cart business. By 1998, at the age of 39, she had been employed in the food service industry for most of her adult life, mainly working at fast food chains in her hometown of Denver, Colorado. To make extra money on the weekends, she would often sell her mother's homemade red chili bean burritos—a precious recipe from her Mexican upbringing—at football games at Mile High Stadium and could often bring in \$200 in an afternoon. She had been selling burritos at the stadium since childhood.

A divorced, single mother of two, Sharon didn't see her financial future resting in her fast food jobs or the occasional child support checks from her ex-husband. Instead, she saw her future in that dream of owning and operating her own hot dog stand. She saw it as a means to the ultimate end of working for herself, setting her own hours, and being able to spend more time with her children.

Sharon got her chance in 1998, when she was finally able to purchase a used hot dog cart for \$4,000. For a few years, making money with the business was a struggle. There were many weekdays when she only grossed \$20. But she stuck with it while she continued to keep part-time hours at one of her fast food jobs.

*Many people living in poverty start businesses each year, working their way out of poverty and providing employment opportunities for others struggling to work their way out.*

When Sharon realized in 1999 that she needed to devote all her attention to her hot dog cart business, Heavenly Dawgs, she quit her other job. As authors Martha Shirk and Anna Wadia describe, in 1998, her last year working at a fast food restaurant, Sharon barely made enough money to pay rent. However, in 1999, “the cart's first partial year of operation, the business grossed \$60,000. After paying the business-related expenses, the family ended up with \$20,000 in income, elevating them above the poverty threshold for the first time since Sharon had divorced eleven years earlier.”<sup>1</sup> By the end of 2000, she grossed more than \$90,000. That income allowed Sharon and her family to pay household expenses and have about \$6,000 left over to re-invest in her business.

Across the United States, many people living in poverty start businesses each year. Over time, they not only work their way out of poverty but also often provide employment opportunities for people in their community who are also struggling to work their way out of poverty. Meanwhile, many state policymakers argue that the best ways to reduce poverty are government driven and financed by taxpayers: higher transfer payments.

The benefit of hindsight allows us to see how successful that strategy has been. States all have different policies and, accordingly, have different rates of change in their poverty levels over time. After comparing states that have large governments and high taxes with those that didn't, Goldwater Institute scholar Matthew Ladner, Ph.D., concluded in 2006 that “low-tax and -spending states enjoyed

sizable decreases in poverty rates during the 1990s. High-tax and -spending states, meanwhile, suffered *increases* in poverty rates.”<sup>2</sup>

This study will make the case that removing barriers to entrepreneurship is a vital component to reducing poverty. That activity can take the form of starting a hot dog stand or opening a local salon. Or it could even be a business that starts in a college student’s garage and that becomes the next technology giant. In any case, we will see that when governments protect economic freedom, states enjoy job growth and lower levels of poverty.

### Poverty Rates and the States

Each state’s poverty rate offers a window into how well it is increasing economic opportunity for the poor. The poverty rate indicates how much of the population earns less than the federal poverty line. The U.S. Census Bureau adds up individual income, excludes taxes paid and transfer payments received, and then estimates the share of the population that falls below the federal poverty line. Although the exclusion of taxes may lead to an understating of the number of people below the poverty line, the exclusion of transfer payments would suggest that the official rate might be overestimated. Still, the data are widely used and allow analysts to make comparisons over time.

*When governments protect economic freedom, states enjoy job growth, lower levels of poverty, and higher income levels.*

The period from 2001 to 2007 captures the last economic boom using the business cycle dates calculated by the National Bureau of Economic Research. During that period, the poverty rate moved down in some states but increased in others. Table 1 ranks the states according to their reduction in the poverty rate during the period. About 19 states saw their poverty rates drop between 2001 and 2007. The top five states with the biggest reductions in poverty saw an average decline of 25 percent.

Arizona, with a decline of 2.05 percent, did well in the rankings, placing 15th. Of its regional competitors, only Utah and New Mexico had larger declines. New Mexico’s decline was in large part a result of having a poverty rate much higher than the national average in 2001. Downward movement was practically inevitable during the economic boom. Utah, in contrast, had a lower-than-average poverty rate and yet saw a further decline in poverty.

The differences in the rates of poverty decline are not random. Each state pursues different sets of policies to reduce poverty. Those policies can affect the amount of poverty we see in a state.

The biggest policy change in one respect was the federal welfare reform legislation of 1996, which was signed into law by President Bill Clinton. The

**Table 1. The Change in the Poverty Rate, 2001–07**

Rank	State	Percentage	Rank	State	Percentage
1	Hawaii	-34.21	26	Maine	5.83
2	North Dakota	-32.61	27	New Jersey	7.41
3	Arkansas	-22.47	28	Virginia	7.50
4	New Mexico	-22.22	29	Pennsylvania	8.33
5	Idaho	-13.91	30	Oregon	8.47
6	Oklahoma	-11.26	31	Texas	10.74
7	New Hampshire	-10.77	32	South Dakota	11.90
8	Alaska	-10.59	33	Colorado	12.64
9	West Virginia	-9.76	34	Michigan	14.89
10	Alabama	-8.81	35	Kansas	15.84
11	Utah	-8.57	36	Mississippi	17.10
12	South Carolina	-6.62	37	Iowa	20.27
13	Washington	-4.67	38	Ohio	21.90
14	Montana	-2.26	39	Connecticut	21.92
15	Arizona	-2.05	40	Maryland	22.22
16	Florida	-1.57	41	Kentucky	23.02
17	Rhode Island	-1.04	42	North Carolina	24.00
18	Illinois	-0.99	43	Wyoming	25.29
19	Louisiana	-0.62	44	Minnesota	25.68
20	California	0.79	45	Massachusetts	25.84
21	Vermont	2.06	46	Missouri	31.96
22	New York	2.11	47	Nevada	36.62
23	Tennessee	4.96	48	Delaware	38.81
24	Nebraska	5.32	49	Indiana	38.82
25	Georgia	5.43	50	Wisconsin	39.24

Source: U.S. Census Bureau.

law—the Personal Responsibility and Work Opportunity Reconciliation Act—did a number of things. For starters, it ended the federal program that generations of Americans had commonly known as “welfare,” the Aid to Families with Dependent Children (AFDC) program. The new program, called Temporary Assistance to Needy Families (TANF), consisted of block grants to states to create their own programs, with a few conditions attached. The primary conditions were that states had to agree to a five-year lifetime limit for those on government assistance and a general requirement that historical levels of welfare spending be maintained. Those conditions were called the “maintenance of effort” provision. Finally, work requirements for recipients mandate that those receiving a welfare check also must actively seek work while on government assistance.

Research indicates welfare reform had a substantial effect on poverty rates. As Robert Moffit of Johns Hopkins University outlines in an extensive review of the literature available on the subject, “the reform has had generally positive average effects on employment, earnings, and income” for the poor, and poverty rates have generally dropped.<sup>3</sup>

As University of Michigan welfare expert Rebecca Blank concluded in a 2002 study, “at exactly the same time as [welfare] caseloads start to fall, work effort rises substantially among exactly the population most affected by the caseload declines.” Their review of the literature bolsters this view, particularly when considering women. “Other available data supports the idea that women are moving from welfare to work at a high rate. Among those who report receiving public assistance income in the previous year, the share reporting themselves employed in March of the following year rises from 19.8 percent in 1990 to 44.3 percent in 2000.”<sup>4</sup>

Although welfare reform certainly helped lift people out of poverty, other factors are also in play. Some scholars have identified “economic freedom”—broadly defined as lower taxes, lower government spending, and low regulatory barriers to starting and running a business—as a key component to reduction in poverty. The Fraser Institute points out in its report, *Economic Freedom of North America 2010*, “states with higher levels of economic freedom tend to have a smaller percentage of people living below the poverty line, indicating that economic freedom is beneficial to people living at all income levels.”<sup>5</sup>

*“States with higher levels of economic freedom tend to have a smaller percentage of people living below the poverty line, indicating that economic freedom is beneficial to people living at all income levels.”*  
— Fraser Institute

## **Entrepreneurship among the States**

Academic interest in how entrepreneurs function and in how their activity translates into economic growth has increased during the past 20 years. International studies have found that one-third of the differences in national economic growth rates can be directly attributed to the level of entrepreneurship in each country.<sup>6</sup> Another study that compared 16 developed economies found that entrepreneurial activity explains approximately one-half of the differences between countries in the growth of gross domestic product (GDP).<sup>7</sup>

To explore further how entrepreneurship reduces poverty, we can examine how much entrepreneurship exists in each state and whether it drives reductions in poverty.

A good way to measure the rate of entrepreneurship is to look at the share of “nonfarm sole proprietorships” in a state as a percentage of overall employment—or, in laymen’s terms, the percentage of the workforce that is self-employed. The data come from the U.S. Bureau of Economic Analysis, which is based at the

U.S. Department of Commerce. This measure of entrepreneurship tells us how common these businesses are relative to other employment opportunities. Some of these entrepreneurs may start firms that employ low-skilled workers in manual labor. Others may open small high-tech start-ups. Still other entrepreneurs may begin a business that employs only a single person.

Table 2 ranks the states by the average entrepreneurship rate during 2001 to 2007. Just as with the poverty statistics, entrepreneurship rates vary by state for a host of reasons. Some of those reasons are demographic.

**Table 2. Ranking the States by the Rate of Entrepreneurship, 2001–07**

Rank	State	Average nonfarm sole proprietorships as a percentage of employment	Rank	State	Average nonfarm sole proprietorships as a percentage of employment
1	Montana	22.3	26	New York	17.1
2	Vermont	21.8	27	Nevada	16.9
3	Alaska	21.0	28	Louisiana	16.9
4	Colorado	20.9	29	New Jersey	16.6
5	Maine	20.9	30	North Carolina	16.6
6	Idaho	20.6	31	Michigan	16.5
7	California	20.3	32	Kansas	16.4
8	New Hampshire	20.0	33	Minnesota	16.3
9	Wyoming	19.9	34	Alabama	16.3
10	Texas	19.2	35	Arkansas	16.2
11	Utah	19.1	36	Missouri	16.1
12	Connecticut	19.0	37	Iowa	16.0
13	Oregon	18.5	38	Illinois	16.0
14	Oklahoma	18.3	39	North Dakota	15.9
15	Tennessee	18.1	40	Mississippi	15.8
16	Maryland	18.0	41	Nebraska	15.7
17	Florida	17.9	42	Pennsylvania	15.6
18	Arizona	17.8	43	Rhode Island	15.5
19	Washington	17.5	44	Ohio	15.3
20	Georgia	17.5	45	West Virginia	15.2
21	New Mexico	17.4	46	Virginia	15.0
22	South Carolina	17.3	47	Kentucky	14.9
23	South Dakota	17.2	48	Delaware	14.9
24	Hawaii	17.2	49	Wisconsin	14.7
25	Massachusetts	17.1	50	Indiana	14.6

Source: U.S. Bureau of Economic Analysis.

The Ewing Marion Kauffman Foundation publishes an annual Index of Entrepreneurial Activity, which is based on U.S. Census Bureau data. The index measures the rate of business creation among adults at the individual owner level each month. As the foundation explains, “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 business and those who are employers or non-employers.”<sup>8</sup> The Kauffman Index is best used as a gauge of new entrepreneurs. It is also a very good source of information about the demographic characteristics of entrepreneurs in a state.

That index shows that Arizona had the highest entrepreneurial rate in the nation in 2011, with entrepreneurs representing 0.53 percent of the overall population. That’s a big jump from the previous year’s rate of 0.33 percent. Yet, it’s quite likely that this jump isn’t a reflection of an increase in the long-term natural rate of entrepreneurship in Arizona. Instead, it’s more likely a reflection of the fact that Arizona had a high unemployment rate that year.<sup>9</sup> Many of those new entrepreneurs may be what are called “necessity entrepreneurs.” These are people who become self-employed mainly because they’ve lost their job and otherwise wouldn’t choose to be self-employed. These individuals are more likely to enter the traditional workforce once employment conditions improve.

Analyzing the Kauffman data for Arizona in 2011 shows that about one-third of the overall rate of entrepreneurship is attributable to those who are self-employed after being unemployed in the previous month. This finding suggests a higher concentration of “necessity entrepreneurs” in Arizona in 2011 than existed in, for instance, 2006 at the tail end of the economic boom, when Arizona’s entrepreneurial score in the Kauffman Index was around 0.30 percent, which placed it at around 20th in the nation that year.<sup>10</sup>

The analysis in this paper uses the sole proprietorship data because it is more stable over the time frame studied and enables us to get a better sense of a core rate of entrepreneurship. In addition, the data mainly account for the type of entrepreneurs that we are most interested in studying: those who are more likely, either at the inception of the business or over time, to hire workers. Finally, the data account for sole proprietorships that were established in previous years as well for new entrepreneurs.

*The trend line in figure 1 shows that high rates of entrepreneurship correspond to the largest declines in poverty, and lower rates of entrepreneurship correspond to increases in poverty.*

## **Entrepreneurship and Poverty Alleviation**

To understand how entrepreneurship leads to poverty reduction, we can examine the link between high rates of entrepreneurship and declines in poverty.

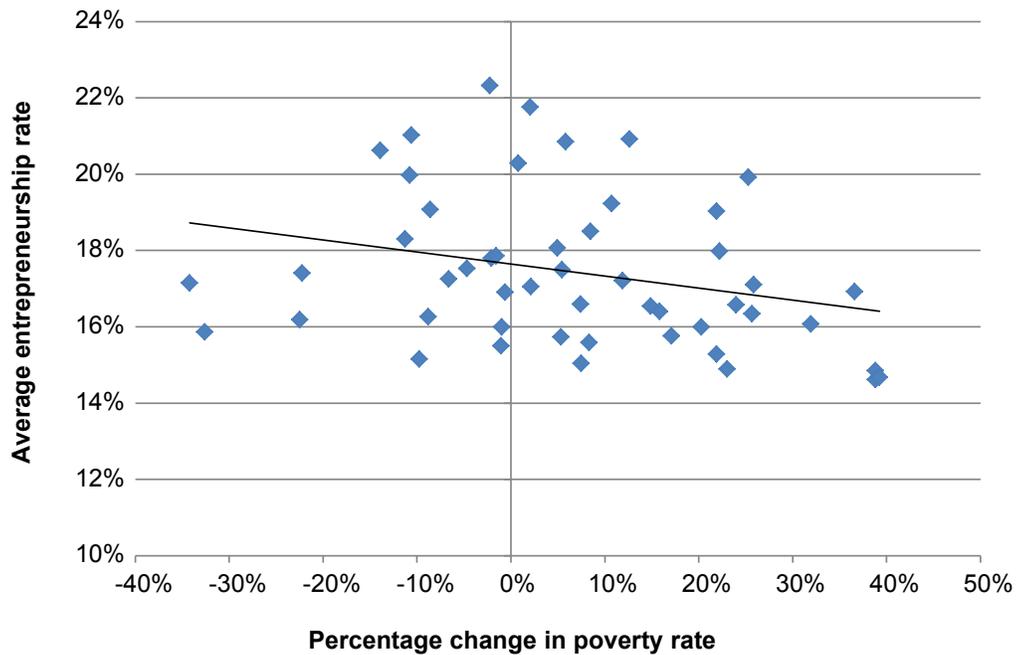
Figure 1 plots each state’s rate of entrepreneurship and change in the state’s poverty rate between 2001 and 2007 to demonstrate the relationship between entrepreneurship and poverty.

The trend line shows that high rates of entrepreneurship correspond to the largest declines in poverty, and lower rates of entrepreneurship correspond to increases in poverty. Although a change from a lower rate of entrepreneurship (say, 16 percent) to a higher entrepreneurship rate (20 percent) may seem marginal, recall that the entrepreneurship rate represents a share of employment. The actual difference between those two numbers can be large. In the case of Arizona, which had a roughly 16 percent entrepreneurship rate in 2001, a move to a 20 percent rate of entrepreneurship would represent the creation of more than 100,000 entrepreneurs.

The downward-sloping trend line in the chart provides at least anecdotal evidence that this relationship could remain strong even after adjusting for other factors that might influence the poverty rate. So the next step is to subject this connection to statistical analysis that adjusts for demographics, economic growth, and a number of state-specific factors. It is also important to adjust for the welfare reform policies that have been enacted in each state that would also have an influence on the poverty rate.

*Although a change from a lower entrepreneurship rate to a higher one may seem marginal, this rate represents a share of employment. In Arizona, which had a roughly 16 percent entrepreneurship rate in 2001, a move to a 20 percent would represent the creation of more than 100,000 entrepreneurs.*

**Figure 1: Higher Rates of Entrepreneurship Correlate to Declines in Poverty Rate, 2001–07**



Source: Author’s calculations based on data from the U.S. Census Bureau and the Bureau of Economic Analysis.

A review of the literature on the studies of both poverty rates and entrepreneurship show that six control variables are used most often to adjust for state-specific characteristics:

- The median age adjusts for the overall age composition of a state.
- The racial composition of the overall population adjusts for the demographic differences between states.
- The education level of the population is adjusted for by including a variable indicating the percentage of the population that has less than a high school education. The general assumption is that higher concentrations of those with less education tend to make the poverty rate higher and more difficult to decrease.
- The percentage of the population that is male adjusts for overall gender composition of the state.
- The overall unemployment rate is a proxy for labor market conditions.
- Population density per square mile is used to adjust for whether a state is more or less rural. Rural states tend to have a higher natural rate of poverty.<sup>11</sup>

Other variables can be added to this mix of control variables to see how they influence the rate of poverty decline. Therefore, the statistical analysis conducted here also includes the following variables:

- The average growth in real per capita GDP, which is useful in determining how much of the change in the poverty rate is due to overall economic growth.
- The caseload decline in the welfare rolls for the purpose of seeing how much the effectiveness of a state in lowering its caseload might influence the poverty rate decline or increase.
- The amount of the Earned Income Tax Credit paid to poor workers through the federal tax code. Since 1996, this form of transfer payment has become one of the primary income support programs in the United States. Including the tax credit in this analysis helps account for other incentives for the poor to enter the workforce.
- A welfare reform score assigned to each state by the Heartland Institute in 2008 as means of aggregating the number and type of restrictions on welfare recipients as well as the extent of work requirements.<sup>12</sup> The score is used here to control for differences in welfare policies between states.

*Every 1 percentage point increase in the average entrepreneurship rate in a state corresponds to a 2 percent decline in the poverty rate.*

- The average entrepreneurship share by state. We are most interested in this variable. If there is a link between entrepreneurship and the poverty rate, we should see a strong and statistically significant relationship even after adjusting for all of the factors listed previously.

The full results of the analysis appear in appendix A. In sum, the main result suggests that the share of entrepreneurship in a state is indeed significantly related to declines in the poverty rate even after adjusting for all of the other factors. In fact, every 1 percentage point increase in the average entrepreneurship rate in a state corresponds to a 2 percent decline in the poverty rate. The overall growth of a state's economy was also significant.

What do those results mean for a state like Arizona? With a poverty rate today of around 18.6 percent, a 1 percentage point increase in the share of entrepreneurs in the economy—as measured by sole proprietorships—could bring the poverty rate down to 18.3 percent. That reduction in the poverty rate translates to around 19,000 fewer people in poverty in the state.

*Low taxes have tended, in one way or another, to correlate to higher rates of entrepreneurship. If an entrepreneur were to consider starting a business, he or she would be rightly worried about the tax bite that might await him or her at the end of the year.*

## **High Tax Burdens Hurt the Growth of Entrepreneurship**

If an important part of poverty reduction depends on the extent of entrepreneurial activity in an economy, the next obvious question is what specific policies can most influence entrepreneurship. Some of the answers can come from a review of the published analysis on what policy factors positively benefit entrepreneurship.

Low taxes have tended, in one way or another, to correlate to higher rates of entrepreneurship. If an entrepreneur were to consider starting a business, he or she would be rightly worried about the tax bite that might await him or her at the end of the year. That tax bite might have an effect on how many people could be hired and how the business might be structured. In addition, the entrepreneur might also be interested in expanding the business over time, which might require incorporating and could subject the business to the corporate income tax. A number of studies have found that high tax burdens inhibit growth in the number of people in a state who decide to become entrepreneurs.<sup>13</sup>

A study published by the U.S. Small Business Administration authored by University of Tennessee economist Donald Bruce and Creighton University economist John Deskins studied how a number of different tax policies affected the level of entrepreneurship. They found that high income tax burdens tended to decrease the share of entrepreneurship in a state. They also discovered that high rates of entrepreneurship are related to declines in the poverty rate.<sup>14</sup>

Evidence also suggests that states that tax capital gains income at a rate lower than ordinary income encourage growth in entrepreneurship. A 1998 study by Harvard University professors Paul Gompers and Josh Lerner concluded that entrepreneurial activity is sensitive to the taxation of capital gains. In particular, the authors found that a reduction in capital gains taxes is associated with an increase in venture capital funding in a state.<sup>15</sup> A 2010 study by William Gentry of Williams College came to the same conclusion. Gentry's paper noted that "capital gains taxes could distort a number of important decisions of entrepreneurs. These decisions include starting a new business, expanding the business, and obtaining outside financing; the capital gains tax can also affect whether and when an entrepreneur sells his or her business."<sup>16</sup> Gentry's analysis indicates that states with higher capital gains tax rates also contain fewer entrepreneurs starting businesses that seek venture capital funding.

### **Measuring the Effect of the Tax Policy on Entrepreneurship Growth**

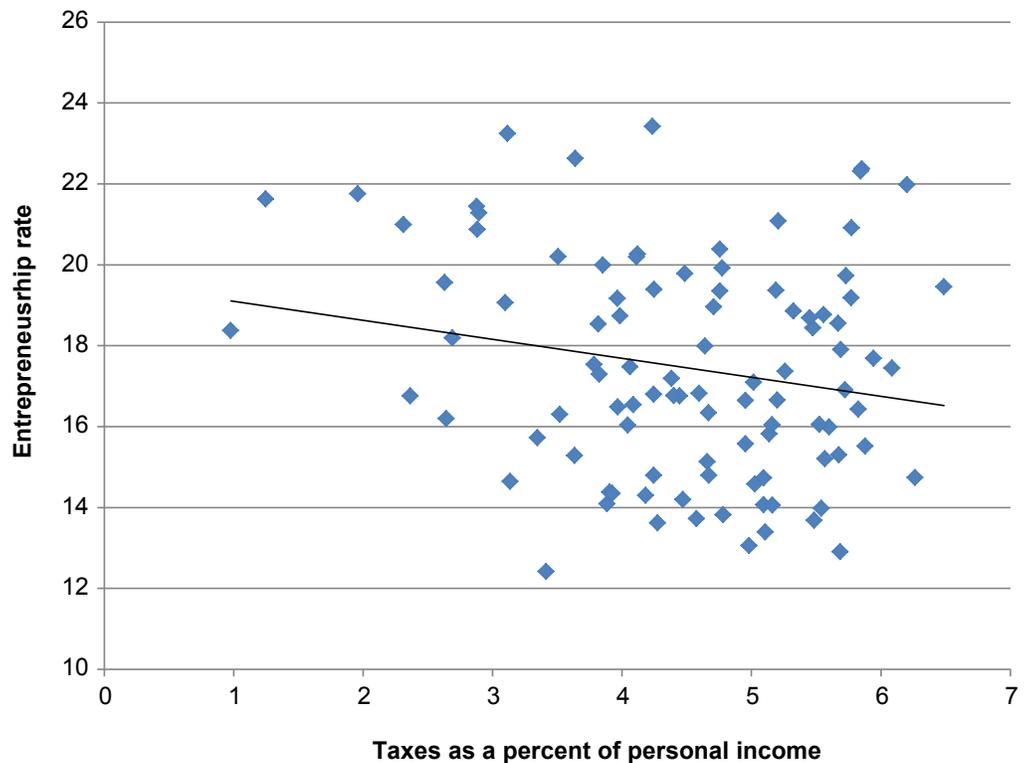
Using statistical analysis, we can further test whether tax policy affects the growth of entrepreneurship in a state. As a first step, we can see if tax burdens are correlated with levels of entrepreneurship. Figure 1 shows that there is a strong connection between levels of entrepreneurship in a state and the general tax burden of a state (sales tax, personal income tax, and corporate income tax) as a percentage of personal income. As you can see, higher tax burdens correspond to lower rates of entrepreneurship. The downward-sloping trendline shows this relationship.

This tax burden variable can be analyzed along with a number of control variables to determine whether this is just a coincidence or whether tax burdens do indeed influence the growth of entrepreneurship in a state. The full results of this analysis and explanation of what control variables were used is explained in appendix B. The main result from the analysis is that tax burdens do inhibit the growth of entrepreneurship: for every one percentage point increase in the general tax burden as a percentage of personal income, there is a one percentage point decrease in the number of entrepreneurs in a state.

This is in line with other studies on this subject. In fact, the U.S. Small Business Administration study cited earlier found that how the tax system is structured matters as well. States that had high effective income tax rates—meaning those states that have high tax income tax burdens as measured by what tax filers actually pay in taxes as opposed to the statutory tax rate that is written in law—were also states that, after adjusting for demographic factors, had lower rates of entrepreneurship.<sup>17</sup>

*For every 1 percentage point increase in the general tax burden as a percentage of personal income, there is a 1 percentage point decrease in the number of entrepreneurs in a state.*

**Figure 2. Tax Burden and Entrepreneurship, 2001–07**



*States without income taxes have higher average rates of entrepreneurship than those with income taxes,*

*Source:* Author’s calculations based on data from U.S. Census Bureau and the Bureau of Economic Analysis.

States without income taxes also have higher average rates of entrepreneurship than those with income taxes. The average entrepreneurship rate in states without an income tax is 21.7 percent. The rate for states with income taxes is 19.6 percent.<sup>18</sup> The two percentage point difference could equal at least a couple thousand new entrepreneurs in the average state. A state that eliminated its income tax would certainly see an increase in the number of entrepreneurs in their state.

Other policy factors can inhibit the growth in entrepreneurship among those working their way out of poverty. In particular, occupational licensing is a non-tax policy barrier that inhibits the movement out of poverty through entrepreneurial endeavors.<sup>19</sup> The extent to how much damage it does to entrepreneurs lifting themselves out of poverty is a subject for future research.

## How Entrepreneurship Can Alleviate Poverty

Statistical analysis has its limits, especially when determining whether the correlations we see can also be the explanation of the phenomenon we observe. In our case, qualitative studies can help clarify how higher rates of entrepreneurship translate to the economic growth and job creation that help reduce poverty.

A review of these studies, including studies from the Federal Reserve, reveals how entrepreneurs foster local job creation and greater economic growth.<sup>20</sup> Such cases are often found in low-income areas and immigrant communities that may not have many outside businesses vying to set up shop. In such places, homegrown entrepreneurs are often the best source of work or can provide reliable outlets to purchase necessities such as groceries.

The power of entrepreneurship is often most striking in developing countries. Studies that have focused on poor countries find that growing levels of entrepreneurship are important to a country's development and to lowering of the poverty rate.<sup>21</sup> The authors of one of these studies conclude that entrepreneurial activity is "crucial to help millions of poor people who live in undeveloped nations" and that "entrepreneurship is not only relevant for [developing economies], but also necessary."<sup>22</sup> In the United States, studies have noted that large shares of entrepreneurs are centered in industries that rely on low-wage workers—often the type of workers who find themselves below the poverty line—making those potential workers the most likely new hires for an entrepreneur.<sup>23</sup>

Some more real-world examples in the United States come from the Initiative for a Competitive Inner City (ICIC), an organization that has tracked more than 600 companies in inner cities across the nation for 13 years.<sup>24</sup> The ICIC list consists of companies located in 143 inner-city communities, including Phoenix and Tucson. To be on the ICIC list, a company must have located at least 51 percent or more of its operations in economically distressed urban areas; must be an independent for-profit corporation, partnership, or proprietorship; and must have 10 or more employees and a five-year sales history. In other words, these entrepreneurs are committed to staying in poverty-stricken areas. By tracking these companies, the ICIC paints a picture that vividly shows how entrepreneurship benefits poor communities and helps drive the employment that brings down a state's poverty rate. The ICIC estimates that these firms have collectively created 70,000 new jobs over the past 13 years. On average, 37 percent of the workforce of those companies is from the local inner city.

The entrepreneurs identified by the ICIC have become a force for stability and pride in these communities. The average employee turnover rate for these firms was only 12 percent, less than one-third the national average. And the heads of these companies have proven to be advocates for the communities in which

*Studies have found a statistically significant connection between high levels of entrepreneurship and a drop in property crime.*

they locate. That finding probably isn't too surprising because 77 percent of the entrepreneurs who head these companies have lived in the inner cities where the businesses were located.<sup>25</sup>

The entrepreneurs on the ICIC list are also an engine for redevelopment. When their companies grew, many of the entrepreneurs were in a position to buy the building next to the company to expand—buildings that were abandoned and decrepit before the existence of the business.

Their presence also seems to have had an effect on crime rates in those areas. One classic theory of inner-city crime growth is called the “broken windows” theory. That theory suggests that the presence of broken windows on abandoned buildings, of graffiti, and of a general sense of neglect in a city breeds crime; those signs imply low police or pedestrian activity in the area and, because nobody is watching, indicate an increased probability that someone might be able to get away with a crime. Studies that have looked at the spread of entrepreneurship have found a statistically significant connection between high levels of entrepreneurship in a state and a drop in property crime.<sup>26</sup> A plausible explanation is that entrepreneurs create an environment where community pride can grow, and this pride, in turn, has an effect on the overall crime rate.

*A classic study published by the National Bureau of Economic Research in 2000 concluded “individuals who began toward the bottom of the earnings distribution, continuous experience with self-employment was a successful strategy for moving ahead (relative to wage-earners), both in the short- and long-term.*

Further evidence of how entrepreneurship can be a ladder out of poverty comes from the Aspen Institute. Researchers there conducted a five-year survey in the mid-1990s that followed more than 1,500 low-income entrepreneurs across the nation. Close to three-fourths (72 percent) of those low-income entrepreneurs experienced an increase in their household income of more than \$8,000, to \$22,374. Their household assets increased by an average of more than \$15,000 over five years. Perhaps most impressive, more than half (53 percent) had moved out of poverty in five years. Another study found that those who were on welfare before becoming entrepreneurs were able to generate enough income on their own that, on average, the amount of public assistance that these entrepreneurs accepted declined by 61 percent between 1988 and 1992.<sup>27</sup>

Finally, economists have tracked upward income mobility among low-income entrepreneurs. A classic study published by the National Bureau of Economic Research in 2000 tracked the placement of low-income entrepreneurs in the income distribution over time. The authors concluded that, “in the sample as a whole, for individuals who began toward the bottom of the earnings distribution, continuous experience with self-employment was a successful strategy for moving ahead (relative to wage-earners), both in the short- and long-term.”<sup>28</sup>

## Conclusion

A major factor affecting entrepreneurship—and, for that matter, the poverty rate—is demographics, which is largely beyond the control of policymakers. However, policymakers hoping to increase entrepreneurial opportunities have tools available to them, and lowering the barriers to entrepreneurship is a vital one. With a state poverty level that has grown 30 percent since 2007 and a poverty rate that now ranks as the fourth highest in the nation, Arizona policymakers cannot afford to ignore the policies that can help alleviate these economic woes.

High tax burdens appear to have a dampening effect on entrepreneurship. Therefore, the best policies to spur growth in entrepreneurship are those that lower tax barriers and weight of the tax load on the private sector. As cited in this paper, there is evidence that lowering the tax burden specifically by lowering tax rates, particularly income tax rates, can encourage entrepreneurship. Sole proprietorships – the types of businesses studied in this paper – pay taxes as individuals through the personal income tax so income tax rates have a substantial effect on their behavior.

Yet the best step that can be taken is to eliminate both the personal and corporate income tax. Even if the new tax structure raised the same amount of revenue for state government as the old structure that included the income tax, it could substantially encourage overall job growth and investment in the state. The rising economic tide due to this reform would surely increase the amount of entrepreneurial activity in the state as well.<sup>29</sup>

Thousands of Arizonans are living their dreams of working for themselves, doing what makes them happy, and helping build their community at the same time through entrepreneurial pursuits. But many people are waiting for the right time to act on their dreams. It is incumbent on policymakers not to stand in the way for those who have yet to act, particularly those for whom entrepreneurship will be the best route out of poverty. It is also vital for the government not to needlessly trample on those who already have achieved that dream. By focusing on reducing taxes and reforming the tax code, policymakers can help make Arizona a more prosperous and more entrepreneurial state.

*It is incumbent on policymakers not to stand in the way for those who have yet to act, particularly those for whom entrepreneurship will be the best route out of poverty. It is also vital for the government not to needlessly trample on those who already have achieved that dream.*

## **Appendix A**

### **Poverty Decline and Entrepreneurship**

This appendix explains the methodology and data establishing the connection between entrepreneurship and poverty across states. The estimates come from an ordinary least squares (OLS) regression model designed to gauge the influence of a number of demographic and policy variables on both the change in the poverty rate and the change in the rate of entrepreneurship in a state. The cross-sectional model uses data from all 50 states for the period from 2001 to 2007.

The effect that a number of demographic and policy variables have on the change in the poverty rate in each state was estimated. The control variables used here are common in the published studies of poverty in the states. Unless otherwise specified, the variables used in this regression are defined as follows:

#### **Dependent variable**

Change in poverty rate—the percentage change in the poverty rate between 2001 and 2007. These data comes from the U.S. Census Bureau and represent the number of people under the federal poverty line as a percentage of the total population in a state.

#### **Independent variables (demographic)**

Median age—the median age of the population of a state, based on U.S. Census Bureau data.

Percentage white—the percentage of population that is white, based on U.S. Census Bureau data.

Percentage with less than a high school degree—specifically, the percentage of those over the age of 25 without a high school diploma, based on data from the U.S. Department of Education.

Percentage male—the percentage of population that is male, based on U.S. Census Bureau data.

Unemployment rate—the annual unemployment rate as calculated by the U.S. Bureau of Labor Statistics. This variable is meant to help adjust for general macroeconomic conditions.

Population density—the average number of people in a state per square mile as calculated by the U.S. Census Bureau. This variable is a means of adjusting for how rural or urban a state is.

Average growth in real per capita gross domestic product by state—based on data from the U.S. Bureau of Economic Analysis.

### Independent variables (policy and economic)

Average share of nonfarm sole proprietors as a percentage of private employment (entrepreneurial share)—the measure of the level of entrepreneurship used in this paper. The data come from the U.S. Bureau of Economic Analysis.

Percentage change in population on welfare (percentage change in welfare)—the variable meant to control for the change in welfare rolls. The data come from the U.S. Department of Health and Human Services.

EITC level—the average federal Earned Income Tax Credit issued by state in 2007.

Welfare reform score—the numeric score given to each state by the Heartland Institute in 2008. This score is an attempt to quantify the policies that each state adopted after the federal welfare reform act of 1996. Higher scores correspond to states that have stricter work requirements, stricter sanctions on beneficiaries who fail to seek work, and low lifetime limits on welfare benefits.

The regression results appear in table A-1:

**Table A-1. Influences on the Change in Poverty Rate, 2001–07**

	Coefficients	T- statistic
Intercept	5.13	1.03
<i>Demographic and economic variables</i>		
Median age	-0.012	-0.72
Percentage white	0.002	0.86
Percentage with less than high school degree	-0.01	-0.88
Percentage male	-7.63	-0.92
Unemployment rate	-0.006	-0.16
Population density	0	0.25
Average growth in real per capita GDP*	-0.063	-1.68
<i>Policy and entrepreneurship variables</i>		
Entrepreneurial share**	-2.5	-1.76
EITC level	0.00	-0.13
Percentage change in welfare	0.26	0.90
Welfare reform score	0.00	-0.018

Source: Author's calculations.

Note: R-squared = 0.32; \* = significant at the 10 percent level; \*\* = significant at the 5 percent level.

The two most significant variables affecting poverty rates are the ones representing (a) the growth in a state's overall economy as represented by real per capita GDP and (b) the level of entrepreneurship. Both variables are negatively associated with movement in the poverty rate. Thus, in the case of the growth of the economy, poverty declines are greater—or the growth of poverty is slower—in states with a higher level of economic growth. That finding seems to suggest that, as the saying goes, a rising tide does lift all boats.

What's especially compelling is that the entrepreneurial level had such a strong effect on the decline in poverty. For every 1 percentage point increase in the share of entrepreneurs in a state, the poverty rate declined by more than 2 percentage points. This finding provides strong evidence that the scatterplot in figure 1 of this study isn't just an accident: even after adjusting for a number of demographic and economic factors, the level of entrepreneurship is still a factor in explaining the differences between poverty rates.

## **Appendix B**

### **Policy and Entrepreneurship**

This appendix explains the methodology and data involved in the analysis of the connection between entrepreneurship growth and tax burden. The estimates come from a fixed-effects regression model designed to gauge the influence of demographic variables and tax burden on the rate of entrepreneurship in a state while simultaneously holding the effects of both time and in-state fluctuations constant.<sup>30</sup> The model is a panel composed of data from all 50 states for the period from 2001 to 2007.

#### **Dependent variable**

Growth in the share of entrepreneurship—consists of the share of nonfarm sole proprietorships as a percentage of overall private employment. The data come from the U.S. Bureau of Economic Analysis.

#### **Independent variables (demographic and economic)**

Median age—the median age of the population of a state, based on U.S. Census Bureau data.

Median income—the median income of a state, based on U.S. Census Bureau data.

Percentage white—the percentage of population that is white, based on U.S. Census Bureau data.

Percentage with less than a high school degree—specifically, the percentage of those over the age of 25 without a high school diploma, based on data from the U.S. Department of Education.

Percentage male—the percentage of population that is male, based on U.S. Census Bureau data.

Unemployment rate—the annual unemployment rate as calculated by the U.S. Bureau of Labor Statistics. This variable is meant to help adjust for general macroeconomic conditions.

Population density—the average number of people in a state per square mile as calculated by the U.S. Census Bureau. This variable is a means of adjusting for how rural or urban a state is.

Tax burden—all state sales tax revenue, personal income tax revenue, and corporate income tax revenue as a percentage of state personal income, based on data from the U.S. Census Bureau and the Bureau of Economic Analysis.

The regression results appear in table B-1.

**Table B-1. Influences on Changes in the Entrepreneurship Rate, 2001–07**

	<b>Coefficients</b>	<b>T-statistic</b>
Median income	-0.000	-1.02
Percentage white	-0.042	-0.16
Percentage with less than high school degree	0.081	0.46
Percentage male	-1.414	-0.87
Unemployment rate	0.018	0.08
Population density***	0.076	3.48
Tax burden**	-1.100	-2.05

*Source:* Author's calculations.

*Note:*  $R$  squared = 0.90; \*\* = significant at the 5 percent level; \*\*\* = significant at the 1 percent level.

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