



The Regressive Effects of Regulations in Arizona

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KEY FINDINGS

The impact of federal regulations from 1997 to 2015 on the Arizona economy is associated with the following regressive effects:

- 143,888 people living in poverty
- 3.4 percent higher income inequality
- 170 fewer businesses annually
- 2,204 lost jobs annually
- 7.35 percent higher prices

With regard to the volume of state-level regulations, Arizona ranks 39 of 44 states for which data are available (where a rank of “1” is most burdensome).

Regulations have unintended consequences. Recent research shows that a greater regulatory burden (as measured by the number of regulatory restrictions—instances of the words and phrases *shall*, *must*, *may not*, *prohibited*, and *required*—included in rules and regulations) is associated with increased poverty rates, higher levels of income inequality, reduced entrepreneurship, and increased consumer prices (especially for the products consumed by individuals living in poverty). Focusing specifically on Arizona, this snapshot describes each of these regressive effects.

POVERTY

The increase in Arizona’s regulatory burden from 1997 to 2015 is associated with an increase in the number of people living in poverty by 143,888 (990,291 after vs. 846,403 before) and an increase in the poverty rate of 2.05 percentage points (14.1 percent after vs. 12.05 percent before).¹

Using the federal regulation and state enterprise (FRASE) index, which “represents the degree of impact federal regulations have on a state’s economy relative to federal regulations’ impact on the national economy,”² researchers have found that states with a higher incidence of federal regulations also tend to exhibit higher poverty rates.³ Specifically, a 10 percent increase in the effective federal regulatory burden upon a state is associated with about a 2.5 percent increase in the poverty rate.

From 1997 to 2015 (the period for which FRASE estimates are available), the effective federal regulatory burden upon Arizona increased by 68 percent and is associated with an increase in Arizona’s poverty rate of 17 percent.⁴ As of 2018, the overall poverty rate in Arizona stood at 14.1 percent.⁵ If the increase in the regulatory burden had not occurred, our research suggests that the poverty rate could have been as low as 12.05 percent in 2018.⁶ Though this may not seem like a large difference in relative terms, it amounts to *143,888 fewer people living in poverty in Arizona in 2018.*

INCOME INEQUALITY

The increase in Arizona’s regulatory burden from 1997 to 2015 is associated with an increase in the state’s income inequality by 3.4 percent.

Given the association between rising poverty and federal regulations, it is no surprise that income inequality has also increased. Using the FRASE index, researchers have found that states with a higher incidence of federal regulations also have higher levels of income inequality. Specifically, a 10 percent increase in the effective federal regulatory burden upon a state is associated with an approximate 0.5 percent increase in the state’s Gini coefficient (the most commonly used measure of income inequality).⁷

From 1997 to 2015, the effective federal regulatory burden upon Arizona increased by 68 percent,⁸ *and that increase is associated with a 3.4 percent increase in Arizona’s level of income inequality.*⁹ As of 2015, Arizona was the 13th most unequal state in terms of income inequality.

ENTREPRENEURSHIP

The average annual growth rate of industry-specific federal regulations (measured from 1999 to 2015) is associated with an annual loss of 170 small firms and 2,204 jobs in Arizona.

One reason a greater regulatory burden may increase poverty and inequality is that regulation can reduce entrepreneurship. Researchers matched data from the Mercatus Center at George Mason University on industry-level federal regulation (from the RegData dataset) with Census Bureau data on the number of small and large firms and the number of employees per industry.¹⁰ They estimate that a 10 percent increase in the number of regulatory restrictions pertaining to a particular industry is associated with a 0.42 percent reduction in the total number of small firms (that is, with fewer than 500 employees)¹¹ within that industry and a corresponding 0.55 percent

reduction in small firm employment.¹² Moreover, the researchers find that consecutive years of rising regulatory burden on an industry have a compounding effect, whereby the negative effects of regulation are amplified if preceded by above-average regulation growth.

In 2017, Arizona had 106,501 small firms, collectively employing 1,065,720 workers.¹³ Between 1999 and 2015, industry-level federal regulatory restrictions increased, on average, by 3.78 percent per year.¹⁴ The results of the research mentioned earlier suggest that in an average year, if industry-level federal regulations uniformly increase by 3.78 percent, Arizona loses about 170 small firms (0.16 percent of total small firms) and 2,204 jobs (0.21 percent of small firm employment).¹⁵

CONSUMER PRICES

The increase in industry-specific federal regulations (measured from 1999 to 2015) is associated with a 7.35 percent increase in consumer prices in Arizona and the rest of the nation.¹⁶

A 2018 study combines consumer expenditure and pricing data from the Bureau of Labor Statistics with regulation data from RegData to determine the impact of industry-level regulation on the prices of consumer goods.¹⁷ Given that regulations drive up compliance costs, it is not surprising that the researchers find that a 10 percent increase in federal regulations is associated with a 0.9 percent increase in consumer prices. The study also finds that the poorest households spend an outsized share of their income on the goods that are most regulated. Consequently, between 1999 and 2015, the average annual increase in prices for the households in the lowest income group was 2.46 percent, significantly more than the 2.08 percent increase in average prices experienced by households in the top income group.

Over the same period, industry-level federal regulations increased by an average of 3.78 percent per year, which, based on the research mentioned earlier, is associated with 0.34 percent higher prices nationally.¹⁸ To put this into perspective, the annual rate of inflation from 1999 to 2015 in the United States averaged 2.19 percent,¹⁹ but it could have been as little as 1.85 percent per annum if there had been no growth in regulation. Whereas this may seem like a small difference in the inflation rate, the effects compound over time.

ARIZONA'S STATE-LEVEL REGULATIONS

In terms of the number of state-level regulatory restrictions, Arizona ranks 39 of 44 states, with 64,319 regulatory restrictions (where a rank of "1" is most regulated). Arizona also ranks 4 in the nation in terms of occupational licensure burden (where a rank of "1" is most burdensome).

Although Arizona cannot unilaterally reduce federal regulatory burdens impacting the state, it can reduce homegrown red tape. An example of state-level red tape is occupational licensure, which can impose a costly barrier to entering a profession. Arizona requires a license to work in 68 low-

income occupations and requires an average of 765 days of education, training, or apprenticeships to obtain a license.²⁰ Arizona is the 4th most regulated state in terms of the breadth and burden of occupational licensing, according to the Institute for Justice. Using a more comprehensive measure of regulation, Arizona’s administrative law code measured 6,004,954 words in total length in 2020 and contained 64,319 distinct regulatory restrictions.²¹ *Compared with 43 other states for which data are available, Arizona ranks 39 (California ranks 1, as the state with the most regulatory restrictions, and Idaho ranks 44, as the state with the fewest regulatory restrictions).*

ABOUT THE AUTHORS

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NOTES

1. Our estimates, based on data from 1997 to 2015, are applied to the poverty rate in 2018, the most recent year with available data.
2. For more information on the FRASE index, see Patrick A. McLaughlin and Oliver Sherouse, *The Impact of Federal Regulation on the 50 States*, 2016 ed. (Arlington, VA: Mercatus Center at George Mason University, 2016); “FRASE Technical Documentation,” QuantGov, December 1, 2017, <https://www.quantgov.org/frase-documentation>.
3. Dustin Chambers, Patrick A. McLaughlin, and Laura Stanley, “Regulation and Poverty: An Empirical Examination of the Relationship between the Incidence of Federal Regulation and the Occurrence of Poverty across the US States,” *Public Choice* 180, no. 1–2 (2019): 131–44.



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4. Multiplying the poverty elasticity measure (0.25 percent increase in poverty per 1.00 percent increase in regulation) by the increase in regulations in Arizona as measured by the FRASE index (68 percent) yields the percentage increase in the poverty rate owing to regulation (17 percent).
5. For overall poverty rates and numbers of people living in poverty by state, see Census Bureau, “SAIPE State and County Estimates for 2018” (dataset), December 12, 2019, <https://www.census.gov/data/datasets/2018/demo/saipe/2018-state-and-county.html>.
6. The potential poverty rate of 12.05 percent (14.1/1.17) ignores any additional growth in regulation since 2015.
7. Dustin Chambers and Colin O’Reilly, “Regulation and Income Inequality in the United States” (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, June 2020).
8. McLaughlin and Sherouse, *The Impact of Federal Regulation on the 50 States*; “FRASE Technical Documentation,” QuantGov.
9. Multiplying the inequality elasticity measure (0.05 percent increase in the Gini coefficient per 1.00 percent increase in regulation) by the increase in regulations in Arizona as measured by the FRASE index (68 percent) yields the percentage increase in the Gini coefficient owing to regulation (3.4 percent).
10. For more information about RegData, see Patrick A. McLaughlin, “RegData US 3.2 Annual” (dataset), QuantGov, Mercatus Center at George Mason University, Arlington, VA, 2020, <https://www.quantgov.org/regdata-us-documentation>.
11. Dustin Chambers, Patrick A. McLaughlin, and Tyler Richards, “Regulation, Entrepreneurship, and Firm Size” (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, April 2018). Following Small Business Administration classifications, Chambers, McLaughlin, and Richards define small firms as businesses with fewer than 500 employees.
12. Chambers, McLaughlin, and Richards, “Regulation, Entrepreneurship, and Firm Size.”
13. For data on employment and firms, see “SUSB Tables,” Census Bureau, accessed October 14, 2020, <https://www.census.gov/programs-surveys/susb/data/tables.All.html>.
14. Chambers, McLaughlin, and Richards, “Regulation, Entrepreneurship, and Firm Size,” 35.
15. Multiplying the small firm elasticity measure (0.0423 percent reduction in small firms within an industry per 1 percent increase in industry regulation) by the average increase in national industry-level regulation as measured in RegData (3.78 percent) yields the annual percent reduction in small firms owing to regulation (0.159894 percent). Multiplying this value by the number of firms with fewer than 500 employees (106,501 firms) yields the number of lost small businesses annually, 170 firms (0.159894 percent \times 106,501). To determine lost jobs, multiply the employment elasticity measure (0.0547 percent reduction in small business employment within an industry per 1 percent increase in industry regulation) by the average increase in national industry-level regulation as measured in RegData (3.78 percent) yields the annual percentage reduction in small business employment owing to regulation (0.206766 percent). Multiplying this value by the number of small business employees (1,065,720) yields the number of small business jobs lost annually, 2,204 (0.206766 percent \times 1,065,720).
16. If the annual inflation rate equals 2.19 percent, the price level grows by approximately 41.43 percent over a 16-year period (that is, 1999 to 2015). At the lower rate of inflation (1.85 percent), the price level grows by 34.08 percent. The difference in gross price appreciation over the period equals 7.35 percent.
17. Dustin Chambers, Courtney A. Collins, and Alan Krause, “How Do Federal Regulations Affect Consumer Prices? An Analysis of the Regressive Effects of Regulation,” *Public Choice* 180, no. 1–2 (2019): 57–90.
18. Multiplying the price elasticity measure (0.09 percent increase in consumer prices per 1.00 percent increase in regulation) by the average increase in national industry-level regulation as measured by RegData (3.78 percent) yields the annual percentage increase in consumer prices owing to regulation (0.3402 percent).
19. The inflation rate (2.19 percent) is the average annualized rate of change in the seasonally adjusted consumer price index for all urban consumers (CPI-U), Series ID CUSR0000SA0, from January 1999 to December 2015 as reported by the Bureau of Labor Statistics.

20. Dick M. Carpenter II et al., *License to Work: A National Study of the Burdens from Occupational Licensing*, 2nd ed. (Arlington, VA: Institute for Justice, 2017).
21. Patrick A. McLaughlin and Oliver Sherouse, "State RegData 2.0" (dataset), QuantGov, July 8, 2020, <https://www.quantgov.org/state-regdata-documentation?rq=state%20regdata>.