



## Unemployment insurance and business ownership

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### Abstract

In the United States, self-employed business owners are not entitled to unemployment insurance from the state. This can impact an individual's choice of occupation when it comes to selecting business ownership. In this paper, we examine the relationship between unemployment insurance benefits and business ownership. Using state-level panel data between 1990 and 2020, we study the effect of unemployment insurance on business ownership in the U.S. Exploiting the changes in laws regarding unemployment insurance and employing an empirical strategy of difference-in-difference, we find that a one percent increase in maximum annual unemployment benefit leads to a decline in business ownership by 0.029 percentage points. We suggest some of the policy implications of this result, particularly those that are related to entrepreneurship and business ownership.

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## 1. Introduction

Unlike wage earners, self-employed business owners (entrepreneurs) are not entitled to unemployment insurance (UI) in the United States. Consequently, the effects of unemployment benefits on business owners have generally been overlooked. In this paper, we study the interaction between the two. As far as we are aware, this is the first paper to do so empirically.

Since the entrepreneurship of business owners is recognized as one of the most important drivers of a dynamic and growing economy understanding the influence of a government policy on business formation can help policymakers as well as academics in designing welfare improving policies. In the case of the United States, this is even more pertinent, as the economy has experienced a sustained decline in business dynamism (Decker, Haltiwanger, Jarmin, & Miranda, 2016).

Our paper utilizes policy changes across states to determine the effect of unemployment insurance benefits on businesses. In particular, by analyzing state-level panel data, we find that a one percent increase in the maximum unemployment insurance amount results in a 0.029 percentage point decrease in business ownership.

## 2. Related Literature

Our paper is broadly related to two strands of literature. The first is the literature on unemployment insurance and the second is the literature on entrepreneurship. Both of these are important areas of research in economics and have been studied extensively. Below, we highlight some of the well-known studies and discuss how our paper contributes to the literature.

One of the main areas where our paper contributes to the literature is the effect of unemployment insurance on the labor market. However, much of the previous work has focused on wage-earning employees. On the theoretical side, for example, Mortensen (1990) constructs a model in which unemployment insurance has an effect on search behavior during employment. In his framework, unemployment insurance can reduce the incentive to search for jobs while employed, as employees fear unemployment less. This, in effect, makes unemployment more likely. Mortensen (1977) constructs a model where unemployment insurance can extend

unemployment spells. The model suggests that an increase in reservation wage extends the unemployment duration for employees. [Moffitt and Nicholson \(1982\)](#) on the other hand, construct a model in which employees' value for leisure is behind longer unemployment spells. Other studies also add that while unemployment benefits can extend unemployment spells, those who are not eligible for benefits may find it optimal to increase search intensity and find jobs quicker to make themselves eligible for benefits in the future (see [\(Anderson & Meyer, 1997; Gruber & Krueger, 1991; Summers, 1989\)](#)). On the empirical side, studies have found unemployment durations to be very responsive to changes in the benefit amounts, estimating the elasticity of unemployment duration with respect to monetary benefits to be higher than 0.5<sup>1</sup> (see [\(Meyer, 1990; Solon, 1985\)](#)). However, the elasticity with respect to the length of the benefit is found to be lower. Studies have also found that unemployment benefits may have externalities that affect those ineligible for benefits, as higher benefits can reduce competition for jobs in the labor market [\(Levine, 1993\)](#). In other studies related to labor supply, [Cullen and Gruber \(2000\)](#) find that wives of men who are unemployed work less when unemployment benefits are higher. [McCall \(1996\)](#) finds that unemployment insurance can influence a worker's choice of part-time versus full-time employment. [Baily \(1977\)](#) and [Feldstein \(1976\)](#) show that in the presence of unemployment insurance employees might be more willing to work at firms that layoff their employees. Previous studies have also studied the impact of unemployment insurance on the macroeconomy. For example, [Kekre \(2021\)](#) conducts a study using a macroeconomic model with incomplete markets, search frictions, and nominal rigidities to find that a higher generosity of benefits increases aggregate demand for consumption depending on the marginal propensity to consume of those who are unemployed. He finds that during 2008–2014, unemployment insurance extensions had an output multiplier of 1, and reduced the economy-wide unemployment rate. By studying the interaction between the unemployment insurance program and business ownership in our paper, we add to this line of research that investigates the effects of unemployment insurance.

Our research also provides new insights that are useful for policymaking. The provision of unemployment benefits invariably necessitates efficiency in its design. As such, the research on this topic has been extensive. Due to asymmetric information, in the context of unemployment insurance programs, problems of moral hazard can be a major issue. Therefore, much of the focus of previous studies has been on designing an unemployment insurance program that smooths workers' consumption during unemployment but also incentivizes the worker to search for jobs when unemployed. In that regard, [Hansen and Imrohoroğlu \(1992\)](#) find that optimal insurance programs can be designed in ways that can improve welfare even in the presence of moral hazard due to asymmetric information. Additionally, a few studies have found that a declining sequence of benefits during unemployment might be optimal in the presence of moral hazard [\(Hopenhayn & Nicolini, 1997; Pavoni & Violante, 2007; Shavell & Weiss, 1979\)](#). On the other hand, [Wang and Williamson \(1996\)](#) suggest that the optimal sequence of benefits might in fact be non-monotonic where the benefit amounts initially increase to help smooth consumption and later decline to encourage workers to search for jobs. [Rendahl \(2012\)](#) adds that optimal benefits should decrease with a worker's wealth level if it is observable. [Shimer and Werning \(2007\)](#) argue that an optimal unemployment insurance program should choose benefits and taxes that maximize after-tax reservation wages. In addition to addressing the tension between consumption smoothing and providing incentives for job search, the result in our paper suggests that the optimal design of the unemployment insurance program should also take into account the welfare implications on both the individual as well as society from changes in the number of businesses.

Our paper also contributes to the literature on self-employment and entrepreneurship. Whatever the determinants of entrepreneurship may be, their importance to the economy is undeniable. This has been emphasized by early economists like [Smith \(1776\)](#) as well as modern day economists like [Romer \(1990\)](#) who describe the innovations brought about by entrepreneurs as the engine of economic growth. It is also clear that entrepreneurs are creators of jobs in the economy. Therefore, the role and importance of entrepreneurs cannot be underestimated. As such, the recent decline in different measures of business dynamism in the U.S. [\(Decker et al., 2016\)](#) is a matter of concern. For academics as well as policymakers, it is important to understand both policy and non-policy related determinants of businesses. By studying the interaction between unemployment benefits and business ownership, ours is an attempt in that direction. Other papers that have also investigated the topic have found pecuniary as well as non-pecuniary incentives for business ownership. For example, [Hurst and Benjamin \(2011\)](#) find being "one's own boss" to be the major reason for self-employment. Interestingly, multiple studies have found that self-employed entrepreneurs earn less than their wage-earning counterparts [Borjas and Bronars \(1989\); Moskowitz and Vissing-Jørgensen \(2002\)](#). [Hamilton \(2000\)](#) also finds that for individuals with the same characteristics, the median self-employed have lower earnings as well as growth in earnings than wage earners at the early stages of their employment. Our paper adds to this literature, and more importantly, suggests that unemployment insurance as a policy can have the unintended consequence of distorting the incentives for entrepreneurs.

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<sup>1</sup> Several papers have examined the effects for non-U.S. countries. See [Ham and Rea Jr \(1987\)](#) for Canada, [Hunt \(1995\)](#); [Carling, Edin, Harkman, and Holmlund \(1996\)](#) for Sweden and [Roed and Zhang \(2003\)](#) for Norway.

**Table 1.** Unemployment benefits for the years 1938, 1985 and 2021.

States	Maximum benefits payable (1938)			Maximum benefits payable (1985)			Maximum benefits payable (2021)		
	Waiting period (In weeks)	Weekly amount (\$)	Number of weeks	Waiting period (In weeks)	Weekly amount (\$)	Number of weeks	Waiting period (In weeks)	Weekly amount (\$)	Number of weeks
Alabama	3	15	20	0	120	26	1	275	14
Alaska	2	15	16	1	188	26	1	370	26
Arizona	2	15	14	1	115	26	1	240	26
Arkansas	2	15	16	1	154	26	1	451	16
California	4	15	20	1	166	26	1	450	26
Colorado	2	15	16	1	206	26	1	700	26
Connecticut	2	15	13	0	180	26	1	724	26
Delaware	2	15	13	0	165	26	1	400	26
District of Columbia	3	15	26.6	1	206	26	1	444	26
Florida	3	15	16	1	150	26	1	275	19
Georgia	2	15	16	1	125	26	1	365	26
Hawaii	3	15	15	1	194	26	1	639	26
Idaho	3	15	20	1	173	26	1	463	26
Illinois	3	15	16	1	161	26	1	693	26
Indiana	2	15	15	1	84	26	1	390	26
Iowa	2	15	15	1	143	26	1	651	26
Kansas	2	15	16	1	175	26	1	540	26
Kentucky	3	15	15	0	140	26	1	569	26
Louisiana	4	15	25	1	205	26	1	247	26
Maine	2	15	16	1	139	26	1	766	26
Maryland	2	15	16	0	175	26	1	430	26
Massachusetts	3	15	28.8	1	196	30	1	1282	30
Michigan	3	16	16	0	197	26	1	362	20
Minnesota	2	15	16	1	198	26	1	762	26
Mississippi	2	15	14	1	115	26	1	235	26
Missouri	3	15	12	1	120	26	1	320	20
Montana	3	15	16	1	171	26	1	618	28
Nebraska	2	15	16	1	120	26	1	456	26
Nevada	2	15	18	0	162	26	1	533	26
New Hampshire	3	15	16	0	141	26	1	427	26
New Jersey	2	15	16	1	203	26	1	731	26
New Mexico	2	15	16	1	150	26	1	535	26
New York	3	15	16	1	180	26	1	504	26
North Carolina	2	15	16	1	167	26	1	350	13

North Dakota	2	15	16	1	185	26	1	657	26
Ohio	3	15	16	1	147	26	1	672	26
Oklahoma	2	15	16	1	197	26	1	461	26
Oregon	2	15	16	1	204	26	1	733	26
Pennsylvania	3	15	13	1	224	26	1	591	26
Rhode Island	2	15	20	1	174	26	1	826	26
South Carolina	2	15	22.6	1	125	26	1	326	26
South Dakota	3	15	14	1	129	26	1	466	26
Tennessee	3	15	16	1	120	26	1	275	26
Texas	2	15	16	1	189	26	1	535	26
Utah	2	15	16	1	186	26	1	617	26
Vermont	3	15	14	1	146	26	1	583	26
Virginia	2	15	16	0	150	26	1	378	26
Washington	2	15	16	1	185	26	1	929	26
West Virginia	2	15	12	1	225	26	1	424	26
Wisconsin	3	15	20	0	196	26	1	370	26
Wyoming	2	18	14	1	183	26	1	533	26

### 3. Unemployment Insurance in the United States

The unemployment insurance program is designed to provide temporary financial assistance to workers who lose their jobs. In its current form, unemployment insurance is jointly provided by the federal and state governments. Each state follows the same federal guidelines but administers its own unemployment insurance program. Before the federal government was involved in providing unemployment benefits, Wisconsin was the first state to enact an unemployment insurance program in 1932. Additionally, unemployment benefits were provided by private businesses as well. However, following the great depression in the 1930s and the involuntary unemployment of millions, the federal unemployment insurance program was established as part of the Social Security Act of 1935. The severity of the great depression rendered such private provisions of benefits burdensome for private businesses and necessitated a public system of insurance programs paid for using taxes.

Who is eligible for unemployment insurance benefits? While different states may have different requirements, generally, those who are unemployed through no fault of their own, and who are able, available, and looking for work are eligible. The states will also require a certain amount of wages earned or hours worked during a fixed period of time known as the “base period” before they deem an applicant eligible.

The benefits and requirements for eligibility, maximum amounts, and the duration of benefits are set by each state. These criteria have changed over time and differently across the states. Table 1 provides information on the maximum weekly amount, the number of weeks an individual can get benefits, and the waiting period<sup>2</sup> across states for the years 1938, 1985 and 2021. It is clear from the table, along all three dimensions, there have been substantial changes across time and states.

### 4. Data

We use panel data at the state-level for our analysis. The dataset includes all fifty U.S. states and the District of Columbia, and observations are annual between 1990 and 2020. We exclude the data beyond 2020 because of the policy change regarding unemployment insurance during the COVID-19 pandemic. At the onset of the pandemic, unemployment insurance, which was not available to self-employed individuals, was made available to them as well.

The data used in our analysis are compiled from multiple sources, and all of the data are publicly available. Data on total business owners and employment are aggregated at the state-level and come from the U.S. Bureau of Economic Analysis (BEA). In the BEA, business owners are defined as proprietors and consist of sole proprietors and general partners in a business. Total employment consists of proprietors and wage and salary earners. The data on state-level weekly benefit amount and duration of benefit are taken from the U.S. Department of Labor. We proxy UI benefits by the maximum available payments in a year<sup>3</sup>. The maximum annual benefit amount is computed by multiplying the maximum weekly benefit amount by the number of weeks that an eligible unemployed individual can receive payments. The state-level unemployment rate, and other demographic variables are calculated using data from the Current Population Survey of the Bureau of Labor Statistics. Finally, income per capita for the states is obtained from the Federal Reserve Economic Database (FRED).

### 5. Conceptual Framework

Our analysis is guided by a simple theoretical model of employment and occupational choice. At any given period, suppose an individual has the choice of entering the labor force or staying out of the labor force. If in the labor force, the individual can choose self-employment and run a business or become a wage earner. If self-employed, the individual earns an amount  $y_s$ , which is a random variable. The distribution of the random variable is specific to the individual. On the other hand, if the individual is a wage earner, he earns a wage amount of  $y_w$ , which equals a wage amount  $w$ , also specific to the individual, when employed, and an unemployment benefit amount  $b$ , which is the same across all individuals, when unemployed. Whether a wage earner is employed or unemployed is also random. For simplicity, we assume that all of these earnings are consumed. Then, if the utility function  $u: \mathbb{R} \rightarrow \mathbb{R}$  is increasing with consumption, strictly concave (to incorporate risk aversion) and continuous, then conditional on entering the labor force, the individual chooses self-employment if the expected utility from self-employment is larger than the expected utility from becoming a wage earner, i.e.,

$$\mathbb{E} u(y_s) > \mathbb{E} u(y_w).$$

And, if the utility from staying outside the labor force is given by  $\bar{u}$ , the individual will choose to enter the labor force if

$$\max\{\mathbb{E} u(y_s), \mathbb{E} u(y_w)\} > \bar{u}.$$

For higher values of the unemployment benefit amount  $b$ , clearly, the expected value of wage employment  $\mathbb{E} u(y_w)$  rises for all individuals. This has the effect of attracting more individuals into wage employment, both from the pool of labor force participants and non-participants. The rate of business ownership ( $\beta_0$ ), which is given by,

<sup>2</sup> Waiting period refers to the number of weeks an eligible individual has to serve before receiving the benefits.

<sup>3</sup> We follow Hsu, Matsa, and Melzer (2018) and NoghaniBehambari and Maden (2021).

$$BO = \frac{\text{number of business owners}}{\text{total employed}}$$

decreases. This is because, the number of business owners will decline as they choose wage employment (intensive margin), and the total number of employed will increase because those outside of the labor force now enter the labor force (extensive margin)<sup>4</sup>. Guided by this simple theory, we hypothesize a negative relationship between the rate of business ownership and the amount of unemployment benefits.

### 6. Empirical Strategy

The underlying assumption in our analysis is that rates of business ownership follow the same trend across states and are influenced by the same variables. This allows us to exploit the changes in unemployment benefits across states over time and employ a difference-in-difference strategy. The empirical strategy compares the rates of business ownership before and after the change in the unemployment payment amounts.

The model specification is as follows.

$$BO_{st} = \alpha + \beta \ln(\text{Max UI})_{st} + \delta X_{st} + \lambda_s + \mu_t + \varepsilon_{st} \tag{1}$$

Where the dependent variable  $BO_{st}$  is the rate of business ownership, which is calculated as the percentage of employed workers that are classified as business owners, in state  $S$  during year  $t$ . The key independent variable  $\ln(\text{Max UI})_{st}$  is the natural log of maximum annual unemployment insurance benefit, in state  $S$  during year  $t$ , after adjusting for inflation.  $\beta$  is therefore the main parameter of interest that captures the effect of an increase in UI benefit on business ownership. The vector  $X_{st}$  consists of variables that control for economic conditions and demographic characteristics at the state-level and includes annual observations of the natural log of real income per capita, unemployment rate, the percent of married, the percent of males, the percent of college graduates and average age in the labor force. The descriptive statistics of these variables are presented in Table 2. The table shows that the business ownership rate varies from 0.05 to 0.28, and the rate of Maximum unemployment benefit varies from 3054.52 to 35760, suggesting a well-defined empirical method should be able to exploit the variations of the two variables and identify any possible relationship between the two. The state fixed effect  $\lambda_s$  controls for time-invariant characteristics specific to state  $s$ , while the time fixed effect  $\mu_t$  controls for year-specific characteristics that apply to all states equally. The error term is denoted as  $\varepsilon_{st}$ .

Table 2. Descriptive statistics.

Variable	Mean	Standard deviation	Min.	Max.
Rate of business ownership	0.20	0.03	0.05	0.28
Maximum benefit	11465.84	3124.44	3055.52	35760
Income per capita	43237.08	7249.69	26112.68	84162.24
Unemployment rate	5.46	1.82	2.14	13.7
Percent married	0.59	0.03	0.28	0.69
Percent male	0.52	0.02	0.44	0.59
Percent of college grads	0.27	0.06	0.15	0.73
Average age	40.12	1.64	35.55	44.80

Note: Statistics are nation-wide. The sample consists of people who are employed in an identifiable state, or the District of Columbia pooled from the year 1990 to 2020. The 'Rate of business ownership' is the percent of employed that are classified as proprietors. The 'Maximum Benefit' is the maximum annual unemployment insurance allowed within the state-year cell. Maximum benefit and income per capita are in 2019 dollars.

### 7. Results

Table 3 presents the regression results estimated from various specifications of model (1). We are primarily interested in the estimate of the coefficient of the maximum unemployment insurance level,  $\beta$ . As predicted by our theory, all specifications result in a negative estimate, suggesting that an increase in UI benefits results in a decrease in the rate of business ownership. Moving from Column (1) to Column (2), the estimated effect increases notably when state and time fixed effects are included. This is reasonable since state characteristics and nation-wide changes over time can have effects on rates of business ownership. For example, states that are home to many large corporations might be receiving large sums of tax revenue from such corporations to fund unemployment insurance benefits. These companies might also be hiring many local workers with attractive benefits. This could make self-employment as a business owner less attractive, and therefore cause a negative estimated relationship between UI benefits and the likelihood of owning a business. On the other hand, during an economic boom, the higher tax revenue could induce more generous unemployment benefits. Simultaneously, a tighter labor market would increase labor demand, pushing up the equilibrium wages, which can be considered as the opportunity cost of entrepreneurship.

<sup>4</sup>Using the data from the Current Population Survey, we do not find evidence for the extensive margin. Therefore, we conjecture that the decline in the rate of business ownership comes from the effect on the intensive margin.

**Table 3.** Changes in rate of business ownership versus maximum unemployment benefit, 1990 – 2020.

<b>Dependent variable: Rate of business ownership</b>					
<b>Independent variable</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>	<b>(5)</b>
ln(Maximum UI benefit)	-0.009*** (0.003)	-0.038*** (0.003)	-0.027*** (0.003)	-0.029*** (0.003)	-0.029*** (0.003)
ln(Income per capita)	-	-	-0.107*** (0.007)	-0.090*** (0.008)	-0.089*** (0.009)
Unemployment rate	-	-	-	0.002*** (0.000)	0.002*** (0.000)
Percent of married	-	-	-	-	0.011 (0.016)
Percent of male	-	-	-	-	-0.032 (0.026)
Percent of college grads	-	-	-	-	0.045*** (0.015)
Average age	-	-	-	-	0.001 (0.010)
State FE	No	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.005	0.912	0.925	0.926	0.927
N	1,546	1,546	1,546	1,546	1,546

**Note:** The sample consists of people who are employed and reside in an identifiable state or the District of Columbia pooled from the years 1990 to 2020. 'Rate of business ownership' is the percent of employed who are proprietors. ln(Maximum Benefit) is the natural log of maximum annual unemployment insurance allowed within the state-year cell. ln(Income per Capita) is the natural log of income per capita by state-year. Significance levels are noted by the following: \*\*\* significant at 1 percent. Standard errors are shown in brackets.

In column (3), we include the natural log of income per capita in the regression. When income per capita is higher, tax revenues are generally higher, which might result in a higher UI benefit, and studies have found higher income per capita to correlate negatively with self-employment (e.g., (Fossen, 2021)). At the same time, this control variable can also be considered as a proxy measurement for local economic health. There could be a similar negative relationship between local economic growth and entrepreneurship rate on the local level. Due to these reasons, excluding income per capita can therefore cause a downward bias on the estimate of  $\beta$ . As expected, the log of income per capita has a negative effect on business ownership. In column (2) we see that the estimate, -0.038, is lower when we exclude income per capita. In Column (4), we estimate a positive relationship between the unemployment rate and entrepreneurship, suggesting that unemployment in conventional labor markets could be an incentive for seeking alternative employment arrangements such as self-employment. Additionally, results in Column (5) show that entrepreneurship likelihood is not influenced by the marital composition or the gender composition of residents, and that higher education creates an easier pathway for self-employment, ceteris paribus. We use the model specification with the full set of controls in column (5) as our preferred specification. The parameter estimates for  $\beta$  and its statistical significance are robust to adding these additional controls in columns (4) – (5). While we cannot control for all possible variables that could explain the entrepreneurship likelihood of a state, the robust estimated coefficient of  $\beta$  and a high R<sup>2</sup> suggests a low probability that any excluded variables would significantly alter the current results and affect the interpretation. Using our preferred model specification of Column (5), the estimated coefficient is -0.029, implying that when the maximum UI benefit increases by one percent, the rate of business ownership of that state decreases by 0.029 percentage points.

The simple economic theory presented above can help to explain the negative relationship between unemployment insurance and business ownership. Unemployment insurance increases consumption during periods of unemployment, which, in turn, increases the expected utility of choosing wage employment. So, ceteris paribus, when unemployment insurance is higher, we would expect business ownership to be a less attractive proposition in comparison to wage and salary employment.

## 8. Policy Discussions

The discussion surrounding unemployment insurance policies has been fiercely debated both in the U.S. and around the world, especially since the 2020 COVID-19 pandemic. Some policymakers, citing the problem of moral hazard, argue that unemployment insurance could incentivize individuals to extend their unemployed status without contributing to the economic development of the local economy, while others suggest that social insurance programs like unemployment insurance benefit is a basic human right that helps combat poverty and also maintains a healthy supply of labor. As was mentioned in the literature review, the tension between solving the problem of moral hazard and providing a tool to insure against an undesirable shock is at the heart of research on policy design among academics as well.

Our paper adds a new dimension to this debate. Our results suggest that the effect of policies related to unemployment benefits should not ignore current or potential business owners. In particular, because business owners are job creators and innovators, concurrent support to business owners at the policy level can be welfare improving to the economy overall. Some social insurance programs for the self-employed already exist, but they are generally limited to extraordinary events, unlike losing a salaried job, which is a fairly common event. Financial assistance under the CARES act during the pandemic and disaster assistance programs from the Small Business Administration (SBA) are a few examples. However, the support system may not necessarily be in the form of insurance programs, because just like with the case of wage earners, the problem of asymmetry and moral hazard poses a problem, perhaps even a bigger one, with the self-employed.

Alternative policies to support business owners could take the form of tax incentives. Policies could also be more targeted, such as the Self-Employment Assistance program, which provides financial assistance to unemployed individuals to start their own businesses, is one example. SBA's funding available to women-led, veteran-led, native American-led, rural businesses is another example. Also, many talented youths aspiring for entrepreneurship, are discouraged due to student loan debt and are choosing a safer salaried profession. Debt relief to this group of individuals can be a way to help them realize their potential. These programs would obviously imply an increase in taxes, but one could argue that the contributions of talented entrepreneurs to the economy in the long-run, including increased tax revenues, can compensate for the increase in the societal tax burden in the short-run.

To summarize, policymakers should be cautious in making changes in unemployment insurance programs unilaterally. While the programs have their virtues, they may also produce unintended effects of potentially discouraging entrepreneurship, and therefore dampen the long-term growth of local economies.

## 9. Conclusion

Using a difference-in-difference strategy, we find a robust negative relationship between unemployment insurance and business ownership. In particular, we find that a percent increase in unemployment benefits can lead to a 0.029 percentage points decrease in business ownership. This result is significant because it identifies an unintended consequence of unemployment benefit expansion that can be welfare-reducing. Specifically, it is possible that an expansion of unemployment benefits would disincentivize potentially productive businesses and cause losses in business tax revenues. There is also the concern that a decrease in the number of businesses can lower the local labor market's demand for labor.

This result also poses several questions for future research. Firstly, what causes the rate of business ownership to fall? Is the policy change reducing entry into self-employment or is it inducing business owners to exit? It will also be interesting to understand how changes in unemployment insurance affect business ownership by gender, age, education level, marital status, and race, among other demographic variables. A panel data at the individual level can be used to answer this question. At a more aggregate level, is the policy change regarding unemployment benefits welfare improving or reducing overall? The effect on business ownership provides a new channel to consider for researchers. This question further leads to the issue of the types of individuals that are entering or exiting business ownership. For example, if efficient business owners, perhaps facing financing constraints, exit, the policy change could lead to welfare reduction in the aggregate. However, it could also be that an increase in unemployment insurance deters those at the margin - who are indifferent between wage employment and business ownership - from entering into business ventures. This might lead to somewhat muted welfare effects through changes in business ownership. Our future research agenda includes analyzing these different dynamics.

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