The Journal of
Regional
Analysis
& Policy

JRAP 42(3): 210-222. 

# Assessing Regional Attitudes about Entrepreneurship

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**Abstract.** Much of the current discussion on factors that influence entrepreneurial activity focuses on availability of human, social, and financial capitals, regional economic conditions, and dynamics of population. We discuss social attitudes toward entrepreneurship and how attitudes may influence entrepreneurial activity. We analyze telephone survey questions designed to gauge attitudes towards community entrepreneurship. High school entrepreneurship career exploration and positive spin-offs from locally-owned business achieved the highest level of support. Both individual- and community-level variables are significantly associated with attitudes toward entrepreneurship. For example, black ethnicity and Detroit residency held positive association with support for high school entrepreneurship curricula. There is statistically significant regional variation in attitudes beyond what traditional regressors can explain, indicating that such attitudes are best measured directly, not estimated. Our results provide a step towards generating benchmarks for communities wishing to employ policies that encourage a shift in entrepreneurial attitudes.

## 1. Introduction

Encouraging entrepreneurship is a favored policy plank for economic development researchers (Goetz et al., 2010). Focusing on entrepreneurship is particularly compelling as a place-based development strategy and is applicable even in regions without obvious natural advantages or cultural amenities (Loveridge, 1996). Measuring entrepreneurship is not a straightforward exercise. Researchers use various proxies for entrepreneurial activity such as the number of small firms or patents. However, little is known about what contributes to entrepreneurial attitudes or how public policy may influence such attributes. Do such attitudes about entrepreneurship vary by place? If so, what place-based socio-economic conditions are associated with more or less support for entrepreneurship?

Recent literature suggests that community and cultural attributes do influence formation of entrepreneurs (Lichtenstein and Lyons, 2006; Hustedde, 2007; Schroeder, 2007), but it has necessarily focused on conceptual models or case studies of communities. An exception is the Global Entrepreneurship Monitor's assessment of activity and opportunities in entrepreneurship and self-perceptions of ability to succeed as an entrepreneur (Ali et al., 2011; Bosma and Schultjens, 2011). As Bosma and Schultjens (2011, p. 739) conclude, "Perhaps policy efforts should be more directed towards positive entrepreneurial perceptions, successful business role models, and positive attitudes towards entrepreneurship."

Public attitudes toward entrepreneurship shape the entrepreneurial environment of communities in many ways (Rupasingha et al., 2002). Where the polity is aligned with support of locally owned businesses, public resources will more likely be committed to the endeavors of local entrepreneurs. A better understanding of attitudes about entrepreneurship among the general public, irrespective of their interest in personally starting a business, may help create policies that enjoy more public support. This begs the question of whether steps to foster change in entrepreneurial attitudes can influence economic development trajectories. To measure the

impact of such policies, one must first determine whether the policy is associated with changed attitudes and then whether the attitude change influenced business formation and development. A starting point offered by this article is to explore how to measure baseline community attitudes toward entrepreneurship.

The rest of this paper is organized as follows. We first describe the study area and survey methods. Basic results of the survey, which show regional differences in attitudes, are presented next. Several factors that may be associated with differences in attitudes are then considered along two dimensions: individual and community-level variables. We show that variables in both dimensions are associated with attitudes towards entrepreneurship, but that attitudes across sub-state regions vary even when controlling for individual and community characteristics. In other words, regions have distinct cultural entrepreneurship attitudes.

## 2. The Study Area

The State of Michigan (USA) is our study area. A focus on a single state allows us to exclude state-level policy variables such as labor laws and tax code from the analysis. Michigan shows geographic diversity in terms of the concentration of small-scale entrepreneurial activity across its regions based on the counts of non-employer establishments[1] per 1,000 residents (Figure 1). The association of local conditions with varying levels of entrepreneurship influenced our decision to include control variables, as described below.

## 3. Methods

The data were collected by telephone as part of Michigan State University's quarterly State of the State Survey (SOSS).[2] The SOSS provides for statistically valid representation of the populations in six geographic Michigan sub-regions covering the entire state. A total of 1,001 interviews were completed, with a refusal rate of 25.8%. The data collection instrument included a number of social and economic characteristics (age, number of adults in household, employment status, income) that are standard in telephone surveys. Readers interested in more detail about the survey methods can find them in the SOSS 51 methods report at www.ippsr.msu.edu.

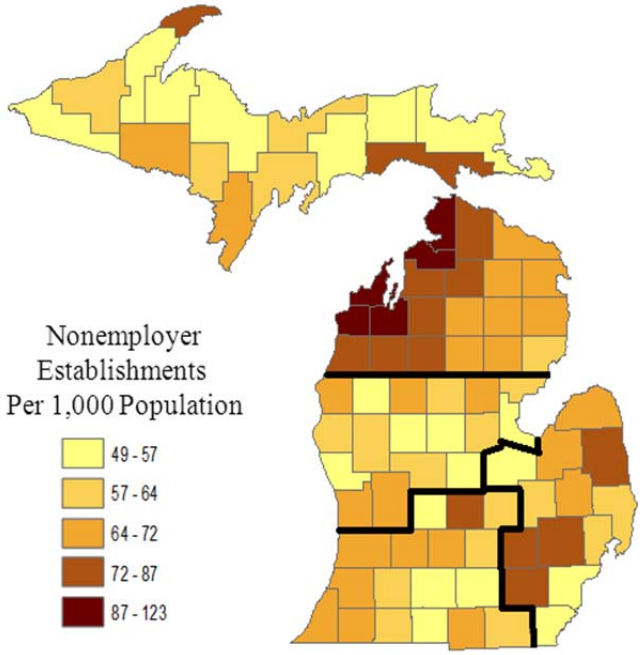


**Figure 1.** Variability in ratio of nonemployers.
Source: 2007 County Business Patterns and U.S. Census Population Estimates.

In addition to standard questions about socioeconomic status, individuals responded to five questions designed to gauge various dimensions of attitudes toward entrepreneurship. After an introductory sentence, respondents were asked to place their attitudes on a five-point Likert scale, where Q1 responses ranged from "not important at all" to "very important" and Q2 through Q5 responses ranged from "strongly disagree" to "strongly agree." The order of presentation was randomized across the five questions to eliminate question order bias.

We discuss each of the introductory sentences in turn here, with a brief explanation of the rationale for each topic. Our overall focus is on capturing various measures of attitudinal support for entrepreneurship within the respondent's community. This is a different but complementary approach to that taken by the Global Entrepreneurship Monitor (Bosma and Schutjens, 2011), which measures respondent self-perceptions of starting their own business and involvement in operating a business.

[1] The US Census defines a **nonemployer** business as one that has no paid employees, has annual business receipts of $1,000 or more ($1 or more in the construction industries), and is subject to federal income taxes. Nonemployer businesses are generally small, such as real estate agents and independent contractors.
[2] These data were collected under contract by the Office for Survey Research of the Institute for Public Policy and Social Research (IPPSR) at Michigan State University. While IPPSR accepts responsibility for the quality of the data, the interpretations and conclusions presented are solely those of the authors.

Q1 How important is it for Michigan high schools to encourage young people to explore careers that involve starting a business?

This was designed to measure the respondent's support for incorporating entrepreneurial concepts into the formal school curriculum. Support might imply willingness to give up some other material in favor of exposure or at least willingness for Michigan to bear costs associated with curriculum design and maintenance. The question is similar to one used by Walstad (1994).

Q2 Locally owned businesses contribute more to the overall welfare of a community than nationally and internationally owned businesses.

Many regions attempt to reduce economic leakages through import substitution. In some cases this is done through public information campaigns, but there is also some legislative activity (Mehra, 2008). Our question here was included to calibrate whether the respondent sees additional benefit in locally owned business. Perception of additional benefit might translate into higher levels of encouragement and support either in the form of tangible programs or in terms of simple solidarity.[3]

Q3 I would encourage a young person to be self-employed or start their own business instead of working for somebody else.

The rationale for this question is similar to the school question, but it is a stronger form of the question because it imposes a condition of personal action, whereas the school question (Q1) is directed to a sociological responsibility.

Q4 People who work for large employers are less likely to lose their source of income than people who work for small employers or are self-employed.[4]

This inquiry measures the perception of entrepreneurship as risky compared with larger corporations. If a community perceives owning a business to be risky, fewer individuals will likely start businesses and community support for entrepreneurship is likely to wane. The theme of entrepreneur-as-risk taker is well developed in the literature (Miller, 2007), but the extent to which the small firm employment or self-employment is perceived as risky by the general population is undeveloped. This question therefore represents a natural progression from studies featuring measures of risk among entrepreneurs.

Q5 People who own their own business or who are self-employed can make just as good of a living as people who work for someone else.

This dimension helps us see whether the individual feels the level of income from owning a business can be equivalent to employment. The literature identifies "necessity" entrepreneurs — individuals who start businesses because they lack opportunities in formal employment (Block and Koellinger, 2009). If a community's dominant or most obvious form of entrepreneur is in business "by necessity" rather than "by choice", there may be negative connotations associated with the form of employment.

Telephone survey respondents were categorized into Michigan SOSS regions shown in the bolder borderlines in Figure 1 (the Upper Peninsula, or UP as it is commonly referenced, is also its own region, as is Detroit). Secondary data from multiple sources were linked to individual respondents by geography. The choice of regional factors is based on *a priori* expectation of their influence on residents' perceptions toward economic development and entrepreneurship. Explanatory variables used in the analysis, data sources, and summary statistics are provided in Table 1.

Some observations were excluded because the respondent indicated "I don't know" or refused to answer the respective benchmark question, while other observations were excluded because of omissions of key individual attributes used as explanatory variables or because respondents reported out-of-region zip codes.[5] The number of complete records ranged from 896 (Q1) to 867 (Q4). To provide consistency across equations in our estimations, we included only the 829 respondents for whom complete data are available for all regressions.

[3] One might consider asking a direct behavioral question, such as "All else equal, I shop at locally owned businesses." The research team felt this direct approach might bias the respondent towards thinking only about retail establishments.

[4] Reversed for scoring

[5] About 11% of respondents chose not to disclose their income range, so we included non-disclosed household income as a separate income category.

The multinomial choice responses of dependent variables Q1 to Q5 are ordered from least openness toward entrepreneurship to most open. We therefore chose an ordered logit estimator to examine the contributions of individual- and community-3level attributes to entrepreneurial attitudes.

**Table 1.** Independent variable descriptions and summary statistics.

| | Source | Level | Description | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|---|---|
| Male | SOSS | Self | Male 1, Female 0 | 0.43 | 0.50 | 0 | 1 |
| Children | SOSS | Self | 1 if R has children age 4 - 12 | 0.17 | 0.37 | 0 | 1 |
| Married | SOSS | Self | 1 if R is married | 0.56 | 0.50 | 0 | 1 |
| Black | SOSS | Self | 1 if R is black | 0.12 | 0.33 | 0 | 1 |
| Hispanic | SOSS | Self | 1 if R is Hispanic | 0.02 | 0.12 | 0 | 1 |
| College | SOSS | Self | 1 if R has college degree or higher | 0.36 | 0.48 | 0 | 1 |
| Employed | SOSS | Self | 1 if R is employed | 0.49 | 0.50 | 0 | 1 |
| Unemployed | SOSS | Self | 1 if R is unemployed | 0.07 | 0.25 | 0 | 1 |
| Self employed | SOSS | Self | 1 if R has own business or self employed | 0.02 | 0.14 | 0 | 1 |
| Urban | SOSS | Self | 1 if R self-reports urban residence | 0.16 | 0.37 | 0 | 1 |
| Income <20k | SOSS | Household | 1 if income <$20,000 | 0.23 | 0.42 | 0 | 1 |
| Income >50k | SOSS | Household | 1 if income > $50,000 | 0.55 | 0.50 | 0 | 1 |
| Income non-disclosed | SOSS | Household | 1 if R refused to disclose income | 0.11 | 0.31 | 0 | 1 |
| Union member | SOSS | Self | 1 if R is past or present union member | 0.49 | 0.50 | 0 | 1 |
| Age <30 | SOSS | Self | 1 if age < 30 years | 0.06 | 0.24 | 0 | 1 |
| Age >50 | SOSS | Self | 1 if age > 50 years | 0.63 | 0.48 | 0 | 1 |
| Median age | ACS | County | Median age of population | 38.15 | 4.31 | 24.1 | 53.8 |
| % Hispanic | ACS | County | Percent of population, Hispanic | 0.04 | 0.02 | 0.0 | 0.1 |
| % Black | ACS | County | Percent of population, Black | 0.11 | 0.14 | 0.0 | 0.4 |
| % Owner house | ACS | County | Percent owner occupied housing | 75.35 | 6.91 | 58.7 | 89.9 |
| % College degree | ACS | County | % of pop. with Bachelor's degree or higher | 0.15 | 0.05 | 0.1 | 0.3 |
| County unemploy | BLS | County | Current county unemployment rate | 13.12 | 3.07 | 7.5 | 27.7 |
| Population density | ACS, ERS | County | Population density in persons per sq. mile | 810. 5 | 1097.2 | 4.1 | 3221.0 |
| Median income | ACS | County | Median family income (1,000's) | 58.22 | 10.43 | 39.4 | 85.8 |
| Population change | ACS | County | Percent population change 2000 - 2009 | 0.01 | 0.04 | -0.1 | 0.2 |
| % estabs >250 jobs | ZBP | Zip Code | % establishments with 250 + workers | 0.00 | 0.01 | 0.0 | 0.1 |
| % estabs <20 jobs | ZBP | Zip Code | % establishments under 20 workers | 0.88 | 0.05 | 0.6 | 1.0 |
| # nonemployers | NES | County | Thousands of non-employer establishments | 32.23 | 42.00 | 0.2 | 117.1 |
| Change small establishments | ZBP | Zip Code | Change in establishments employing 1-99 between 2000 and 2009 | -30.07 | 74.49 | -798 | 192.0 |
| Change large establishments | ZBP | Zip Code | Change in establishments employing over 1,000 between 2000 and 2009 | -0.09 | 0.61 | -3.0 | 2.0 |

Codes for data sources: SOSS=State of the State Survey (primary data from telephone survey); ACS=The US Census American Community Survey 2005-2009 county estimates; ERS=The USDA Economic Research Service; BLS=The Bureau of Labor Statistics; ZBP= Zip Code Business Patterns; and NES=Non-Employer Statistics.

## 4. Results

Summary statistics of the entrepreneurial attitude responses are presented in Table 2. The strong response to encouraging High School entrepreneurship is consistent with Walstad's (1994) finding that 82% of the U.S. public considered school-based entrepreneurship training as a 4 or 5 on a five-point Likert scale of importance. For Q4 only, the mean on the five-point scale is close to the neutral category (3) instead of favorable. Thus, the statewide mean implies that respondents were ambivalent to whether business size is related to employment stability, while they leaned towards the favorable side for the other four indicators.

**Table 2.** Summary statistics: entrepreneurial attitude variables.

| Variable | Mean | Std. Dev. | Min | Max | Count |
|---|---|---|---|---|---|
| Q1. High School encourage | 4.39 | 0.83 | 1 | 5 | 993 |
| Q2. Local contribution | 4.19 | 1.02 | 1 | 5 | 982 |
| Q3. Encourage a young person | 3.65 | 1.27 | 1 | 5 | 981 |
| Q4. Large = secure? | 2.94 | 1.41 | 1 | 5 | 959 |
| Q5. Own biz good living | 4.08 | 1.13 | 1 | 5 | 980 |

Tables 3-7 report ordered logit results for each of the five attitude variables.[6] The individual level and community level variables were jointly significant for all five equations (all at the 1% level, except for the individual variables for question 2 and community variables for question 4). Regional fixed effects were also significant at the 1% level in three of the five equations. Thus, while the indicators suggested for regional growth models (Johnson, Otto, & Deller, 2006) have relevance to entrepreneurial attitudes, they do not fully predict those attitudes. This suggests that attitudes are not deterministic functions of socio-economic variables.[7] Tables 3-7 include the marginal effects results of the ordered logit estimates for the option on the Likert scale most open to entrepreneurship[8]. We chose to examine the marginal effects of the category most favorable to entrepreneurship because of the public's general support for entrepreneurship (as shown in Table 2) and for ease of interpretation. In the next several paragraphs, we discuss salient features of the ordered logit estimates for each equation.

Table 3 reports results for the **high school entrepreneurship exploration** question. This is the only equation where self-identified black respondents held a positive relationship. The marginal effects estimates suggest that black respondents were 24% more likely to strongly approve high school entrepreneurship programs than all other races. This may reflect eagerness in the black community for improvement in Michigan's K-12 educational system, which in general has not served them well (Vanneman et al., 2009). Conversely, a higher percentage of blacks in the county was negatively associated with acceptance of high school curriculum change by respondents. This apparent inconsistency between black individuals and counties with more blacks may be the result of greater confidence in the school's ability to successfully carry out reform in counties that are less divided along cultural lines (Wayne County, at 40%, has the highest proportion of blacks in Michigan). Finally, the regional fixed effect for the City of Detroit (located in Wayne County) was also positive, furthering the impression of eagerness for change in that city.

Turning back to the statewide results, a higher proportion of large establishments in the county was negatively associated with support for high school entrepreneurship, and both the marginal effect and the estimated coefficient were large. The odds ratio is zero. The proportion of small enterprises also carried a negative sign with an odds ratio close to zero. This seems consistent with what one might expect. While the literature is clear that entrepreneurship can be present in any scale of enterprise, in the public's mind the word entrepreneurship may be associated with small business. If the economy is benefiting from many large-scale enterprises, residents may not perceive a need for entrepreneurship due to the relatively high pay scales associated with larger employers. Similarly, if the economy has a large number of small enterprises, the public may feel an instinctive need to balance the "pipeline", in Lichtenstein and Lyons' words, away from small enterprises.

Equation 2, focusing on the **contributions of locally owned business,** produced several interesting results (Table 4). The strongest result, as with equation 1, was the negative influence of the percentage of establishments with more than 250 employees, with a large marginal effect. Unemployed persons were also more inclined to disagree with the perspective. In particular, the marginal effects estimates show that the unemployed were over 13% less likely to be in strong agreement than employed respondents. It is possible that this is due to layoffs or lack of success in obtaining work in this kind of

[6] Given that we are analyzing several questions from the same set of interviewees, we explored whether a SUR estimation technique would improve estimates, but ultimately rejected this approach.

[7] Exploratory factor analysis indicated multiple latent factors, which argues against combining the attitude variables into a single index.

[8] The marginal effects estimates displayed in Tables 3-7 show the difference in the predicted probability of strongly supporting entrepreneurship for a marginal or discrete change in an independent variable. The marginal effects estimates for the remaining 4 Likert scale options for each question (Q1-Q5) are available upon request.

enterprise. On the positive side, people with school-aged children were more likely to agree. People who have school-aged children may see more benefit from locally owned firms, which may be more likely to be in service sectors and to donate to local causes (parks, schools, etc.) oriented towards children.

**Table 3.** High School Entrepreneurship equation ordered logit regression results.

| Variables | Coefficients | SE | Odds Ratio | Marginal Effects | SE |
|---|---|---|---|---|---|
| Male | -0.103 | 0.151 | 0.902 | -0.023 | 0.031 |
| Children | 0.082 | 0.193 | 1.085 | 0.018 | 0.039 |
| Married | 0.113 | 0.182 | 1.120 | 0.025 | 0.037 |
| Black | 1.185*** | 0.420 | 3.271 | 0.245*** | 0.069 |
| Hispanic | 0.671 | 0.510 | 1.956 | 0.146 | 0.097 |
| College | -0.111 | 0.172 | 0.895 | -0.025 | 0.035 |
| Employed | 0.376** | 0.177 | 1.456 | 0.083** | 0.036 |
| Unemployed | 0.192 | 0.267 | 1.212 | 0.043 | 0.054 |
| Self employed | 0.766 | 0.594 | 2.151 | 0.166 | 0.111 |
| Urban | -0.503* | 0.300 | 0.605 | -0.109* | 0.058 |
| Income <20k | 0.217 | 0.240 | 1.242 | 0.048 | 0.049 |
| Income >50k | 0.089 | 0.206 | 1.093 | 0.02 | 0.042 |
| Income non-disclosed | 0.388 | 0.295 | 1.474 | 0.086 | 0.060 |
| Union member | 0.054 | 0.160 | 1.055 | 0.012 | 0.032 |
| Age <30 | -0.616*** | 0.222 | 0.540 | -0.132*** | 0.043 |
| Age >50 | 0.111 | 0.191 | 1.117 | 0.025 | 0.039 |
| Median age | 0.013 | 0.056 | 1.013 | 0.003 | 0.011 |
| % Hispanic | -3.174 | 4.912 | 0.042 | -0.704 | 0.997 |
| % Black | -4.409* | 2.593 | 0.012 | -0.977* | 0.567 |
| % Owner house | -0.036 | 0.037 | 0.965 | -0.008 | 0.008 |
| % College degree | -3.495 | 5.595 | 0.030 | -0.775 | 1.143 |
| County unemploy | -0.049 | 0.038 | 0.952 | -0.011 | 0.008 |
| Population density | 0.158 | 0.447 | 1.171 | 0.035 | 0.090 |
| Median income | -0.010 | 0.033 | 0.990 | -0.002 | 0.007 |
| Population change | -1.138 | 3.934 | 0.320 | -0.252 | 0.788 |
| % estabs >250 jobs | -41.080*** | 11.030 | 0.000 | -9.108*** | 2.504 |
| % estabs <20 jobs | -5.795*** | 1.733 | 0.003 | -1.285*** | 0.414 |
| # nonemployers | 0.000 | 0.012 | 1.000 | 0 | 0.002 |
| Change small estabs | 0.000 | 0.001 | 1.000 | 0 | 0.000 |
| Change large estabs | -0.016 | 0.152 | 0.984 | -0.003 | 0.031 |
| UP | -0.162 | 0.471 | 0.850 | -0.036 | 0.094 |
| North | -0.033 | 0.448 | 0.968 | -0.007 | 0.091 |
| Southwest | -0.479 | 0.300 | 0.619 | -0.107* | 0.059 |
| Southeast | 0.180 | 0.434 | 1.197 | 0.04 | 0.089 |
| Detroit | 1.636** | 0.719 | 5.135 | 0.337*** | 0.107 |
| *Joint Significance Tests* | *(prob>chi²)* | | | | |
| Individual Variables | 0.0095 | | | | |
| Community Variables | 0.00692 | | | | |
| Regions | 0.00559 | | | | |
| pseudo-$R^2$ | 0.0701 | | | | |

*** p<0.01, **p<0.05, *p<0.1. Odds ratios computed as EXP(coef). The marginal effect is for Y=5. N=829.

**Table 4.** Contribution of Locally Owned Business equation ordered logit regression results.

| Variables | Coefficients | SE | Odds Ratio | Marginal Effects | SE |
|---|---|---|---|---|---|
| Male | 0.459*** | 0.148 | 1.582 | 0.102*** | 0.030 |
| Children | 0.645*** | 0.188 | 1.906 | 0.140*** | 0.036 |
| Married | -0.449** | 0.178 | 0.638 | -0.097*** | 0.035 |
| Black | -0.602 | 0.377 | 0.548 | -0.129* | 0.070 |
| Hispanic | 0.399 | 0.512 | 1.490 | 0.088 | 0.102 |
| College | 0.074 | 0.167 | 1.077 | 0.016 | 0.034 |
| Employed | 0.063 | 0.174 | 1.065 | 0.014 | 0.035 |
| Unemployed | -0.642** | 0.255 | 0.526 | -0.137*** | 0.047 |
| Self employed | -0.165 | 0.576 | 0.848 | -0.036 | 0.115 |
| Urban | -0.350 | 0.269 | 0.705 | -0.076 | 0.052 |
| Income <20k | 0.233 | 0.230 | 1.262 | 0.052 | 0.047 |
| Income >50k | -0.303 | 0.194 | 0.739 | -0.067* | 0.039 |
| Income non-disclosed | 0.672** | 0.268 | 1.958 | 0.146*** | 0.052 |
| Union member | -0.046 | 0.154 | 0.955 | -0.01 | 0.031 |
| Age <30 | -0.418* | 0.219 | 0.658 | -0.091** | 0.042 |
| Age >50 | -0.226 | 0.182 | 0.798 | -0.05 | 0.036 |
| Median age | 0.030 | 0.054 | 1.030 | 0.007 | 0.011 |
| % Hispanic | 1.110 | 4.906 | 3.034 | 0.245 | 0.990 |
| % Black | -0.219 | 2.593 | 0.803 | -0.048 | 0.522 |
| % Owner house | -0.054 | 0.036 | 0.947 | -0.012* | 0.007 |
| % College degree | -1.974 | 5.540 | 0.139 | -0.436 | 1.116 |
| County unemploy | 0.054 | 0.039 | 1.055 | 0.012 | 0.008 |
| Population density | -0.176 | 0.445 | 0.839 | -0.039 | 0.089 |
| Median income | -0.017 | 0.033 | 0.983 | -0.004 | 0.007 |
| Population change | 3.783 | 3.882 | 43.948 | 0.835 | 0.770 |
| % estabs >250 jobs | -24.567** | 9.746 | 0.000 | -5.425*** | 1.915 |
| % estabs <20 jobs | -0.964 | 1.665 | 0.381 | -0.213 | 0.332 |
| # nonemployers | 0.003 | 0.011 | 1.003 | 0.001 | 0.002 |
| Change small estabs | 0.002 | 0.001 | 1.002 | 0.000* | 0.000 |
| Change large estabs | -0.057 | 0.140 | 0.945 | -0.013 | 0.028 |
| UP | 0.731 | 0.458 | 2.077 | 0.160* | 0.087 |
| North | -0.239 | 0.444 | 0.787 | -0.053 | 0.088 |
| Southwest | 0.288 | 0.295 | 1.334 | 0.064 | 0.059 |
| Southeast | 0.301 | 0.431 | 1.351 | 0.066 | 0.086 |
| Detroit | -0.417 | 0.723 | 0.659 | -0.092 | 0.144 |
| | | | | | |
| *Joint Significance Tests* | *(prob>chi²)* | | | | |
| Individual Variables | 0.092 | | | | |
| Community Variables | 0.000 | | | | |
| Regions | 0.166 | | | | |
| pseudo-$R^2$ | 0.067 | | | | |

*** p<0.01, **p<0.05, *p<0.1. Odds ratios computed as EXP(coef). The marginal effect is for Y=5. N=829.

In equation 3 (Table 5), males were more likely to agree that they would **encourage a young person** to consider an entrepreneurial career. While entrepreneurs may in fact not be higher risk takers than the general population (Xu and Ruef, 2004), there is a cultural perception of higher risk associated with business start-up. Thus, this observed gender difference may be related to the greater tolerance of risk in men versus women observed in the literature (Byrnes et al., 1999; Manolova et al., 2012). Respondents claiming Hispanic background also were more likely to respond positively to this suggestion,

such that the marginal effects show they were 47% more likely to strongly support this question than other ethnicities. This is consistent with high levels of entrepreneurship among recent immigrants and strong family ties within the Hispanic community. A higher proportion of Hispanics in the respondent's county of residence also proved positive across the respondents of all ethnicities. Among the community variables, urban status, percent of workforce employed, and growth of small establishments had positive associations with encouragement of entrepreneurism.

**Table 5**. Encourage a Young Person equation ordered logit regression results.

| **Variables** | **Coefficients** | **SE** | **Odds Ratio** | **Marginal Effects** | **SE** |
|---|---|---|---|---|---|
| Male | 0.335** | 0.141 | 1.398 | 0.061** | 0.025 |
| Children | 0.000 | 0.178 | 1.000 | 0 | 0.030 |
| Married | -0.423** | 0.174 | 0.655 | -0.071*** | 0.024 |
| Black | -0.028 | 0.374 | 0.972 | -0.005 | 0.062 |
| Hispanic | 2.288*** | 0.578 | 9.855 | 0.470*** | 0.088 |
| College | -0.169 | 0.162 | 0.845 | -0.03 | 0.025 |
| Employed | 0.178 | 0.169 | 1.195 | 0.033 | 0.030 |
| Unemployed | -0.011 | 0.240 | 0.989 | -0.002 | 0.040 |
| Self employed | 0.235 | 0.579 | 1.265 | 0.044 | 0.104 |
| Urban | 0.177 | 0.263 | 1.194 | 0.033 | 0.046 |
| Income <20k | 0.829*** | 0.221 | 2.291 | 0.165*** | 0.044 |
| Income >50k | 0.131 | 0.188 | 1.140 | 0.024 | 0.032 |
| Income non-disclosed | 0.303 | 0.260 | 1.354 | 0.057 | 0.047 |
| Union member | 0.002 | 0.150 | 1.002 | 0 | 0.025 |
| Age <30 | -0.685*** | 0.207 | 1.984 | -0.108*** | 0.026 |
| Age >50 | -0.303* | 0.181 | 0.739 | -0.052** | 0.026 |
| Median age | -0.022 | 0.052 | 0.978 | -0.004 | 0.009 |
| % Hispanic | 9.368** | 4.631 | 1.171E+04 | 1.707** | 0.769 |
| % Black | -1.734 | 2.455 | 0.177 | -0.316 | 0.410 |
| % Owner house | 0.009 | 0.035 | 1.009 | 0.002 | 0.006 |
| % College degree | -4.417 | 5.282 | 0.012 | -0.805 | 0.879 |
| County unemploy | -0.060* | 0.036 | 0.942 | -0.011* | 0.006 |
| Population density | 0.530 | 0.428 | 1.699 | 0.097 | 0.071 |
| Median income | 0.017 | 0.031 | 1.017 | 0.003 | 0.005 |
| Population change | -4.628 | 3.681 | 0.010 | -0.844 | 0.610 |
| % estabs >250 jobs | 2.534 | 11.331 | 12.604 | 0.462 | 1.886 |
| % estabs <20 jobs | 2.639 | 1.670 | 13.999 | 0.481* | 0.277 |
| # nonemployers | -0.011 | 0.011 | 0.989 | -0.002 | 0.002 |
| Change small estabs | 0.003** | 0.001 | 1.003 | 0.000*** | 0.000 |
| Change large estabs | -0.158 | 0.145 | 0.854 | -0.029 | 0.024 |
| UP | 0.578 | 0.424 | 1.782 | 0.113 | 0.081 |
| North | 1.040** | 0.431 | 2.829 | 0.208** | 0.085 |
| Southwest | 0.159 | 0.279 | 1.172 | 0.029 | 0.048 |
| Southeast | 1.119*** | 0.414 | 3.062 | 0.219*** | 0.082 |
| Detroit | 1.591** | 0.702 | 4.909 | 0.335** | 0.141 |
| *Joint Significance Tests* | *(prob>chi²)* | | | | |
| Individual Variables | 0.002 | | | | |
| Community Variables | 0.000 | | | | |
| Regions | 0.206 | | | | |
| pseudo-$R^2$ | 0.057 | | | | |

*** p<0.01, **p<0.05, *p<0.1. Odds ratios computed as EXP(coef). The marginal effect is for Y=5. N=829.

For equation 4 (Table 6), regarding **large firms as providing secure employment,**[9] recall from Table 2 that attitudes about this were more centered on the Likert scale than for the other four questions. Hispanic respondents were more likely to agree that large firms are more secure. Since many Hispanics are recent immigrants, more of them may be working in less formal and temporary job markets and may view large firms as providing greater employment stability. Respondents living in communities with higher proportions of the establishments in small (<20 employees) and large (>250 employees) firms were also more likely to agree that large firms are more secure. This may be due to differences in how large firm fortunes have played out across counties. If many large firms have downsized or closed in the county, the proportion of the workforce in small firms naturally rises. Conversely, large firms that were able to weather recent economic crises maintain a higher profile in the community.

Equation 5 (Table 7) examines whether respondents think **entrepreneurship provides a good living**. Married respondents were less likely to agree that owning a business generates income similar to working for someone else. It is possible that married individuals think entrepreneurial employment is less stable and more time consuming than working in an established firm. Conversely, the marginal effects results suggest that respondents with children were about 15% more likely to strongly agree that entrepreneurship provides a good living. Furthermore, the results show that several county-level variables are correlated with opinions about whether entrepreneurship provides a good living. Respondents from communities with more college-educated people and more homeowners are less likely to agree that entrepreneurship provides a good living. This may be a function of greater opportunities in the formal market accorded to persons in wealthier communities.

## 5. Conclusions

Despite the intuitive appeal that social attitudes can influence nascent entrepreneurs to pursue venture development, few researchers have looked at social attitudes toward entrepreneurship (Lee and Peterson, 2000). In this article, we explore a method for estimating intangible but important dimensions of local entrepreneurial culture. While "culture" per se is difficult to measure, exploring attitudes about entrepreneurship may be a close substitute. We demonstrate that there is regional variation in attitudes toward entrepreneurship. We also show that underlying social and economic structures of communities account for some of the variability in responses, as do some individual characteristics. Thus, the basic characteristics of the community appear to be associated with some differences in attitudes towards entrepreneurship.

While our regressions found statistically significant relationships, it is important to recognize that both attitudes and the structure of local regions most likely evolve over time in a dynamic process that is not fully captured by our models. Our models also leave variance unexplained, implying that attitudes most likely must be measured directly, rather than inferred. Nevertheless, the reader should recall that the objective of this study is not so much to explain variance in entrepreneurial attitudes as it is to document whether differences across regions can be found and to develop plausible measures of such attitudes. Information on attitudes can be helpful in policy formation by those interested in economic development. For example, with a mean score of 4.39 out of 5, it would seem that a policy maker proposing educational reform focused on strengthening high school programs to explore entrepreneurial careers would gain public acceptance for initiatives in this regard. While this may or may not have the desired long-term effect of increasing income and employment, the public popularity of the measure means that it might help win an election or funding from an agency or foundation, allowing experiments to determine the effectiveness of such a policy. We show that homeownership and college education are associated with more favorable attitudes towards entrepreneurship. Thus, investments in increasing these indications of social well-being may have spinoff effects in terms of more community-level support for entrepreneurs.

We also note important differences in Detroit that merit special attention — in four out of five indicators, Detroit residents were more favorable towards entrepreneurship than the base case or the other four regions. There are vast economic differences between the City of Detroit, its metropolitan neighbors, and the rest of the state. Detroit is experiencing rapid population decline, with the last Census showing a decline of roughly 25% — over 237,000 people (Seelye, 2011). While Detroit's intercensal population decline made national news, less

[9] Recall that the introductory phrase was set up such that agreement indicated preference for large businesses, so we reversed the scoring in the analysis to make a higher score indicate more support for small business.

**Table 6.** Large Firms are Secure (reversed scoring) equation ordered logit regression results.

| Variables | Coefficients | SE | Odds Ratio | Marginal Effects | SE |
|---|---|---|---|---|---|
| Male | -0.376*** | 0.137 | 0.687 | -0.053*** | 0.016 |
| Children | 0.229 | 0.175 | 1.257 | 0.034 | 0.026 |
| Married | 0.160 | 0.164 | 1.174 | 0.024 | 0.023 |
| Black | -0.317 | 0.360 | 0.728 | -0.041 | 0.039 |
| Hispanic | -1.699*** | 0.486 | 0.183 | -0.145*** | 0.021 |
| College | 0.337** | 0.155 | 1.401 | 0.052** | 0.024 |
| Employed | 0.230 | 0.161 | 1.259 | 0.035 | 0.023 |
| Unemployed | 0.163 | 0.241 | 1.177 | 0.024 | 0.034 |
| Self employed | -0.161 | 0.514 | 0.851 | -0.022 | 0.061 |
| Urban | 0.461* | 0.260 | 1.586 | 0.073* | 0.043 |
| Income <20k | 0.405* | 0.214 | 1.499 | 0.061* | 0.033 |
| Income >50k | 0.191 | 0.181 | 1.210 | 0.027 | 0.024 |
| Income non-disclosed | -0.063 | 0.248 | 0.939 | -0.009 | 0.031 |
| Union member | -0.010 | 0.144 | 0.990 | -0.001 | 0.019 |
| Age <30 | 1.053*** | 0.203 | 2.866 | 0.189*** | 0.039 |
| Age >50 | 0.336* | 0.174 | 1.399 | 0.052* | 0.027 |
| Median age | -0.018 | 0.050 | 0.982 | -0.003 | 0.007 |
| % Hispanic | 0.081 | 4.561 | 1.084 | 0.012 | 0.591 |
| % Black | -2.916 | 2.434 | 0.054 | -0.414 | 0.310 |
| % Owner house | 0.006 | 0.033 | 1.006 | 0.001 | 0.004 |
| % College degree | 4.781 | 5.179 | 119.224 | 0.678 | 0.675 |
| County unemploy | -0.021 | 0.035 | 0.979 | -0.003 | 0.005 |
| Population density | -0.806** | 0.405 | 0.447 | -0.114** | 0.051 |
| Median income | -0.030 | 0.031 | 0.970 | -0.004 | 0.004 |
| Population change | -0.768 | 3.642 | 0.464 | -0.109 | 0.473 |
| % estabs >250 jobs | 31.400*** | 11.827 | 4.334E+13 | 4.452*** | 1.589 |
| % estabs <20 jobs | 7.898*** | 1.633 | 2.692E+03 | 1.120*** | 0.238 |
| # nonemployers | 0.026** | 0.011 | 1.026 | 0.004*** | 0.001 |
| Change small estabs | -0.001 | 0.001 | 0.999 | 0 | 0.000 |
| Change large estabs | 0.120 | 0.132 | 1.127 | 0.017 | 0.017 |
| UP | -0.735* | 0.428 | 0.480 | -0.087** | 0.036 |
| North | -0.356 | 0.423 | 0.700 | -0.047 | 0.046 |
| Southwest | 0.452 | 0.275 | 1.571 | 0.068 | 0.042 |
| Southeast | 0.351 | 0.416 | 1.420 | 0.052 | 0.061 |
| Detroit | 0.598 | 0.664 | 1.818 | 0.095 | 0.108 |
| *Joint Significance Tests* | *(prob>chi²)* | | | | |
| Individual Variables | 0.000 | | | | |
| Community Variables | 0.100 | | | | |
| Regions | 0.000 | | | | |
| pseudo-$R^2$ | 0.0469 | | | | |

*** p<0.01, **p<0.05, *p<0.1. Odds ratios computed as EXP(coef). The marginal effect is for Y=5. N=829.

**Table 7.** Own Business Good Living equation ordered logit regression results.

| Variables | Coefficients | SE | Odds Ratio | Marginal Effects | SE |
|---|---|---|---|---|---|
| Male | 0.110 | 0.145 | 1.116 | 0.025 | 0.030 |
| Children | 0.669*** | 0.191 | 1.952 | 0.149*** | 0.042 |
| Married | -0.333* | 0.175 | 0.717 | -0.074** | 0.036 |
| Black | -0.154 | 0.357 | 0.857 | -0.035 | 0.073 |
| Hispanic | 0.633 | 0.514 | 1.883 | 0.142 | 0.103 |
| College | -0.001 | 0.164 | 0.999 | 0.000 | 0.034 |
| Employed | 0.057 | 0.171 | 1.059 | 0.013 | 0.035 |
| Unemployed | -0.007 | 0.268 | 0.993 | -0.002 | 0.055 |
| Self employed | 0.548 | 0.639 | 1.730 | 0.123 | 0.128 |
| Urban | -0.379 | 0.268 | 0.685 | -0.084 | 0.052 |
| Income <20k | -0.057 | 0.224 | 0.945 | -0.013 | 0.046 |
| Income >50k | 0.152 | 0.193 | 1.164 | 0.034 | 0.040 |
| Income non-disclos | -0.262 | 0.254 | 0.770 | -0.059 | 0.052 |
| Union member | -0.142 | 0.154 | 0.868 | -0.032 | 0.031 |
| Age <30 | -0.052 | 0.218 | 0.949 | -0.012 | 0.045 |
| Age >50 | -0.147 | 0.182 | 0.863 | -0.033 | 0.037 |
| Median age | 0.062 | 0.054 | 1.064 | 0.014 | 0.011 |
| % Hispanic | 5.433 | 4.798 | 228.835 | 1.226 | 0.996 |
| % Black | -0.362 | 2.588 | 0.696 | -0.082 | 0.530 |
| % Owner house | -0.087** | 0.036 | 0.917 | -0.020*** | 0.007 |
| % College degree | -12.036** | 5.571 | 0.000 | -2.717** | 1.131 |
| County unemploy | -0.029 | 0.035 | 0.971 | -0.007 | 0.007 |
| Population density | 0.773* | 0.449 | 2.166 | 0.174* | 0.098 |
| Median income | 0.080** | 0.033 | 1.083 | 0.018** | 0.008 |
| Population change | -0.982 | 3.757 | 0.375 | -0.222 | 0.783 |
| % estabs >250 jobs | 4.786 | 11.601 | 119.821 | 1.080 | 2.424 |
| % estabs <20 jobs | 0.856 | 1.704 | 2.354 | 0.193 | 0.363 |
| # nonemployers | -0.039*** | 0.012 | 0.962 | -0.009*** | 0.003 |
| Change small estabs | -0.001 | 0.001 | 0.999 | 0.000 | 0.000 |
| Change large estabs | 0.207 | 0.136 | 1.230 | 0.047* | 0.028 |
| UP | -0.362 | 0.433 | 0.696 | -0.081 | 0.087 |
| North | 0.185 | 0.438 | 1.203 | 0.042 | 0.091 |
| Southwest | -0.552* | 0.295 | 0.576 | -0.122** | 0.061 |
| Southeast | 0.453 | 0.431 | 1.573 | 0.103 | 0.087 |
| Detroit | 1.145* | 0.673 | 3.142 | 0.240** | 0.112 |
| | | | | | |
| *Joint Significance Tests* | *(prob>chi²)* | | | | |
| Individual Variables | 0.001 | | | | |
| Community Variables | 0.000 | | | | |
| Regions | 0.009 | | | | |
| pseudo-$R^2$ | 0.049 | | | | |

*** p<0.01, **p<0.05, *p<0.1. Odds ratios computed as EXP(coef). The marginal effect is for Y=5. N=829.

well-heralded is the even larger decline in Detroit Public School (DPS) enrollments — in 2010, DPS managed 42% of the state's worst-performing schools (Biddle, n.d.), and enrollment fell by over 58% between 2007 and 2011 (White, 2011). Our findings support earlier work by Gold (2010), which found that residents of Detroit were very interested in entrepreneurship as an employment avenue. Based on interviews in Detroit, Gold with Darden (2010, p. 188) reported, "The value of small business

was universally endorsed by everyone we interviewed ..." This attitude is perhaps counterintuitive given low rates of African-American ownership of local retail firms (Fairlie, 1999; Bates, 1994), and may present a potential avenue for policymakers focusing on addressing the plight of the city through new economic development programs.

Regional attitudes are not rigid or fixed (Hustedde, 2007), but subject to change through deliberately aimed policies. While a review and reform of the educational system with an eye towards exposing young people to entrepreneurship is an obvious step towards attempting to foster attitudinal change, it need not be the only step. Communities across the country are employing an array of innovative techniques to identify and support entrepreneurs. As attitudes about entrepreneurship become more positive, support for these programs should build.

Local surveys, combined with some of our better-performing control variables, can help a region perform needs assessments with respect to how its attitudes compare with others. Furthermore, they can be used to determine how subsequent policies aimed at fostering a more positive view of entrepreneurship have influenced those attitudes and, finally, whether attitudinal change really plays a role in business formation and expansion. The mechanism for such growth might be internal through business starts by existing residents, but attitudes might also play a role in attracting entrepreneurs to an area. At present, we can only guess that these paths might exist. Worthwhile extensions of the present study would be to increase the geographic scope to the nation, to repeat the measures at some time in the future to determine the extent to which they evolve over time, and to explore whether measures of entrepreneurial attitudes are helpful in predicting economic performance of regions.

## Acknowledgements

This research was supported in part by the Agricultural Food Research Initiative of the National Institute of Food and Agriculture, USDA, Grant #2009-35900-05935 and Michigan State University Extension.

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