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January 17, 2018

Mr. R. Earl Lewis, Jr. Deputy Secretary Maryland Department of Transportation 7201 Corporate Center Drive Hanover, MD 21076

Dear Deputy Secretary Lewis:

The 2017 Disparity Study, entitled *Business Disparities in the Maryland Market Area*, provides a comprehensive analysis of the participation of minority- and women-owned business enterprises in Maryland state contracting and in the geographic and product markets within which the State operates. In the final chapter of that Study, I wrote:

Maryland has a strong basis in evidence to implement a race- and gender-based program for contracting and procurement based upon the findings in this Study. This record establishes that minorities and women in the Maryland market area continue to experience statistically significant disparities in their access to State and private sector contracts and in those factors necessary for business success. Further, the anecdotal evidence provides vivid individual accounts of the discriminatory barriers, both overt and covert, to their full and fair participation in both State and private sector procurement and contracting expenditures. The statistical and anecdotal evidence presented in this Study is strong evidence that establishes Maryland's compelling interest in remedying race and gender discrimination. The evidence supports the conclusion that affirmative intervention is still needed to dismantle the exclusion of racial and gender groups from the private sector market. Maryland will likely be a passive participant in a discriminatory marketplace if it fails to continue to address the issue. Moreover, ... there remain large and statistically significant disparities between the availability of M/WBEs and their utilization on State contracts despite the State's aggressive current efforts. These results support the need for continued remedial action.¹

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NERA Economic Consulting, *Business Disparities in the Maryland Market Area* (February 8, 2017) ("the 2017 Disparity Study"), p. 322.



NERA submitted the 2017 Disparity Study to the Maryland Department of Transportation ("MDOT") which, in turn, provided it to the Maryland General Assembly and posted it on the MDOT website.

As the Principal Investigator for the 2017 Disparity Study, I was asked by the State of Maryland to examine information regarding the major industry activities and ancillary industry activities that are likely to be involved in the medical cannabis business. Specifically, I was asked:

- 1. To examine data provided by the State for the medical cannabis business and determine whether the North American Industry Classification System ("NAICS") codes relevant to the medical cannabis business are different in any consequential way from the NAICS codes included in NERA's analysis of Maryland state contracting for the 2017 Disparity Study; and
- 2. To determine whether the 2017 Disparity Study provides an evidentiary basis for applying race- and/or gender-conscious remedial measures, including the State's Minority Business Enterprise ("MBE") Program, to the medical cannabis business.

I. Overview

As explained in more detail below, my analysis finds that:

- 1. The vast majority of NAICS codes associated with the major industry activities that are expected to be relevant to the medical cannabis business are included in the 2017 Disparity Study.
- 2. The vast majority of NAICS codes associated with the ancillary industry activities that are expected to be relevant to the medical cannabis business are included in the 2017 Disparity Study.
- 3. The vast majority of lifecycle spend associated with the major industry activities that are expected to be relevant to the medical cannabis business occurs in NAICS codes that are included in the 2017 Disparity Study.
- 4. A supplementary statistical analysis of wage and salary earnings, business owner earnings, and business formation covering the Maryland geographic market area and the NAICS codes associated with each of the three primary medical cannabis business license types (*i.e.* Growers, Processors, and Dispensaries) as well as for Independent Testing Labs, additionally confirms the presence of large, adverse, and statistically significant disparities affecting



African Americans, Hispanics, Asians, Native Americans, minorities as a group, nonminority females, and minorities and women as a group.

For these reasons, I conclude that the 2017 Disparity Study does provide a strong basis in evidence for applying race- and/or gender-conscious remedial measures, including the State's MBE Program, to the types of work involved in the medical cannabis business.

II. Findings

The State provided NERA with a report detailing the specific NAICS codes that are likely to be directly involved in the major activities of medical cannabis business, as well as estimates of the overall lifecycle spending attributable to each of those NAICS codes.² That report also identified ancillary NAICS codes that, although not tied to specific lifecycle spending amounts, were also expected to be involved in the medical cannabis business.³

Entitled *Analysis of the Maryland Medical Cannabis Industry*, the report was prepared by MGT Consulting Group, a national professional services provider. NERA was asked to examine the MGT Report regarding the major and ancillary industries that are anticipated to be involved in the medical cannabis business and make a determination as to whether the industry codes relevant to the medical cannabis business were different in any consequential way from the industry codes examined in NERA's analysis of Maryland state contracting for the 2017 Disparity Study and whether the 2017 Disparity Study could provide an evidentiary basis for the application of race- and/or gender-conscious remedial measures, including the State's MBE Program, to the types of work involved in the medical cannabis business.

I reviewed the NAICS codes in the MGT Report at both the "industry," or six-digit, level and the "industry group," or four-digit, level in order to provide the fullest picture possible of the types of firms involved in the medical cannabis business.

MGT Consulting, Analysis of the Maryland Medical Cannabis Industry (December 8, 2017) ("the MGT Report").

³ *Id.*, pp. 26, 40-43.



A. Correspondence by Six-Digit NAICS Code Between the Major Industry Activities in the MGT Report and the 2017 Disparity Study

The MGT Report identified 109 six-digit NAICS codes that are relevant to the major activities of the medical cannabis business.⁴ Of these:

- 95 six-digit NAICS codes appear in the Grower licensee category;
- 79 six-digit NAICS codes appear in the Processor licensee category;
- 81 six-digit NAICS codes appear in the Dispensary licensee category; and
- 63 six-digit NAICS codes appear in the Independent Testing Laboratory category.

Of the 95 six-digit NAICS codes that appear in the Grower licensee category, 81 (85.3%) were also included in the 2017 Disparity Study. These 81 NAICS codes account for approximately 61.6 percent of the total estimated lifecycle spend in the Grower licensee category.

Of the 79 six-digit NAICS codes that appear in the Processor licensee category, 70 (88.6%) were also included in the 2017 Disparity Study. These 70 NAICS codes account for approximately 92.3 percent of the total estimated lifecycle spend in the Processor licensee category.

Of the 81 six-digit NAICS codes that appear in the Dispensary licensee category, 75 (92.6%) were also included in the 2017 Disparity Study. These 75 NAICS codes account for approximately 96.0 percent of the total estimated lifecycle spend in the Dispensary licensee category.

Of the 63 six-digit NAICS codes that appear in the Independent Testing Laboratory category, 61 (96.8%) were also included in the 2017 Disparity Study. These 61 NAICS codes account for approximately 97.4 percent of the total estimated lifecycle spend in the Independent Testing Laboratory category.

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See, e.g., MGT Report, Table 2, pp. 7-9. One additional code, NAICS 111998 (Marijuana, grown in an open field), was included in Table 2 but excluded from most of the MGT Report's other analyses, because no Maryland medical cannabis licensee is currently growing marijuana outdoors. Because of this, we exclude this NAICS code from any further analysis unless specifically indicated otherwise. It is worth noting, however, that NAICS code 111998 is included in the 2017 Disparity Study.



Overall, of the 109 six-digit NAICS codes that are relevant to the major activities of the medical cannabis business, 95 (87.2%) were also included in the 2017 Disparity Study. These 95 NAICS codes account for approximately 90.8 percent of the total estimated lifecycle spend across the combined Grower, Processor, Dispensary, and Independent Testing Laboratory categories.

B. Correspondence by Six-Digit NAICS Code Between the Ancillary Industry Activities in the MGT Report and the 2017 Disparity Study

The MGT Report identified 44 six-digit NAICS codes that are relevant to the ancillary activities of the medical cannabis business.⁵ Of these:

- 12 six-digit NAICS codes appear in the Information, Finance and Insurance category;
- 6 six-digit NAICS codes appear in the Real Estate, Rentals and Leasing category;
- 14 six-digit NAICS codes appear in the Professional, Scientific and Technical Services category;
- 9 six-digit NAICS codes appear in the Management, Administration and Support Services category; and
- 3 six-digit NAICS codes appear in the Health Care and Other Services category.

Of the 12 six-digit NAICS codes that appear in the Information, Finance and Insurance category, 8 (66.7%) were also included in the 2017 Disparity Study.

Of the 6 six-digit NAICS codes that appear in the Real Estate, Rentals and Leasing category, 3 (50.0%) were also included in the 2017 Disparity Study.

Of the 14 six-digit NAICS codes that appear in the Professional, Scientific and Technical Services category, 11 (78.6%) were also included in the 2017 Disparity Study.

Of the 9 six-digit NAICS codes that appear in the Management, Administration and Support Services category, 8 (88.9%) were also included in the 2017 Disparity Study.

⁵ MGT Report, pp. 26, 40-43.



Of the 3 six-digit NAICS codes that appear in the Health Care and Other Services category, 3 (100.0%) were also included in the 2017 Disparity Study.

Overall, of the 44 six-digit NAICS codes that are relevant to the ancillary activities of the medical cannabis business, 33 (75.0%) were also included in the 2017 Disparity Study.

C. Correspondence by Four-Digit NAICS Code Between the Major Industry Activities in the MGT Report and the 2017 Disparity Study

The 109 six-digit NAICS codes relevant to the major activities of the medical cannabis business correspond to 62 four-digit NAICS codes. Of these:

- 52 four-digit NAICS codes appear in the Grower licensee category;
- 46 four-digit NAICS codes appear in the Processor licensee category;
- 48 four-digit NAICS codes appear in the Dispensary licensee category; and
- 31 four-digit NAICS codes appear in the Independent Testing Laboratory category.

Of the 52 four-digit NAICS codes that appear in the Grower licensee category, 47 (90.4%) were also included in the 2017 Disparity Study. These 47 NAICS codes account for approximately 96.6 percent of the total estimated lifecycle spend in the Grower licensee category.

Of the 46 four-digit NAICS codes that appear in the Processor licensee category, 41 (89.1%) were also included in the 2017 Disparity Study. These 41 NAICS codes account for approximately 97.7 percent of the total estimated lifecycle spend in the Processor licensee category.

Of the 48 four-digit NAICS codes that appear in the Dispensary licensee category, 43 (89.6%) were also included in the 2017 Disparity Study. These 43 NAICS codes account for approximately 96.9 percent of the total estimated lifecycle spend in the Dispensary licensee category.

Of the 31 four-digit NAICS codes that appear in the Independent Testing Laboratory category, 29 (93.5%) were also included in the 2017 Disparity Study. These 29 NAICS

⁶ NERA calculations using the MGT Report, Table 2, pp. 7-9. See also fn. 4.



codes account for approximately 97.4 percent of the total estimated lifecycle spend in the Independent Testing Laboratory category.

Overall, of the 62 four-digit NAICS codes that are relevant to the major activities of the medical cannabis business, 57 (91.9%) were also included in the 2017 Disparity Study. These 57 NAICS codes account for approximately 96.9 percent of the total estimated lifecycle spend across the combined Grower, Processor, Dispensary, and Independent Testing Laboratory categories.

D. Correspondence by Four-Digit NAICS Code Between the Ancillary Industry Activities in the MGT Report and the 2017 Disparity Study

The MGT Report identified 24 four-digit NAICS codes that are relevant to the ancillary activities of the medical cannabis business.⁷ Of these:

- 6 four-digit NAICS codes appear in the Information, Finance and Insurance category;
- 5 four-digit NAICS codes appear in the Real Estate, Rentals and Leasing category;
- 6 four-digit NAICS codes appear in the Professional, Scientific and Technical Services category;
- 5 four-digit NAICS codes appear in the Management, Administration and Support Services category; and
- 2 four-digit NAICS codes appear in the Health Care and Other Services category.

Of the 6 four-digit NAICS codes that appear in the Information, Finance and Insurance category, 6 (100.0%) were also included in the 2017 Disparity Study.

Of the 5 four-digit NAICS codes that appear in the Real Estate, Rentals and Leasing category, 4 (80.0%) were also included in the 2017 Disparity Study.

Of the 6 four-digit NAICS codes that appear in the Professional, Scientific and Technical Services category, 6 (100.0%) were also included in the 2017 Disparity Study.

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⁷ MGT Report, pp. 26, 40-43.



Of the 5 four-digit NAICS codes that appear in the Management, Administration and Support Services category, 4 (80.0%) were also included in the 2017 Disparity Study.

Of the 2 four-digit NAICS codes that appear in the Health Care and Other Services category, 2 (100.0%) were also included in the 2017 Disparity Study.

Overall, of the 24 four-digit NAICS codes that are relevant to the ancillary activities of the medical cannabis business, 22 (91.7%) were also included in the 2017 Disparity Study.

E. Supplementary Statistical Analyses

In the 2017 Disparity Study, I used a large dataset from the Census Bureau's American Community Survey to evaluate, using the statistical technique of regression analysis, the extent of disparities affecting minority- and women-owned businesses in the geographic market area and industries that are relevant to State of Maryland contracting activity. We considered disparities in three distinct but related areas: (1) wage and salary earnings, (2) business owner earnings, and (3) business formation rates.

With respect to disparities in wage and salary earnings, the 2017 Disparity Study concluded:

... [M]inorities and women earn substantially and significantly less than their nonminority male counterparts in the State of Maryland market area. Such disparities are consistent with race and gender discrimination in the labor force that, in addition to its direct effect on workers, also reduces the future availability of M/WBEs by stifling opportunities for minorities and women to progress through those internal labor markets and occupational hierarchies that are most likely to lead to entrepreneurial opportunities. These disparities reflect more than mere "societal discrimination" because they demonstrate the nexus between discrimination in the job market and reduced entrepreneurial opportunities for minorities and women. Other things equal, these reduced entrepreneurial opportunities in turn lead to lower M/WBE availability levels than would be observed in a race- and gender-neutral market area.⁸

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⁸ NERA Economic Consulting, *Business Disparities in the Maryland Market Area* (February 8, 2017), p. 6.



With respect to disparities in business owner earnings, the 2017 Disparity Study concluded:

... [M]inority and female entrepreneurs earned substantially and significantly less from their efforts than similarly situated nonminority male entrepreneurs. These disparities are a symptom of discrimination in commercial markets that directly and adversely affect M/WBEs. Other things equal, if minorities and women cannot earn remuneration from their entrepreneurial efforts comparable to that of nonminority males, growth rates will slow, business failure rates will increase, and business formation rates may decrease. Combined, these phenomena result in lower M/WBE availability levels than would otherwise be observed in a race- and gender-neutral market area.

With respect to disparities in business formation rates, the 2017 Disparity Study concluded:

... [M]inorities and women in general are substantially and statistically significantly less likely to own their own businesses than would be expected based upon their observable demographic characteristics including age, education, geographic location, industry and trends over time. Moreover, as demonstrated in previous sections, these groups also suffer substantial and significant earnings disadvantages relative to comparable nonminority males whether they work as wage and salary employees or as entrepreneurs. These findings are consistent with results that would be observed in a discriminatory market area. ¹⁰

As a check on our findings above in Sections II.A through II.D, I re-created the regression analyses that were performed for the 2017 Disparity Study and customized them to reflect the NAICS codes identified in the MGT Report that are relevant to Growers, Processors, Dispensaries, Independent Testing Laboratories and Ancillary activities.

The results of these analyses are summarized below in Tables 1 through 6. Each table consists of three columns, one for each type of regression analysis performed, and seven rows, one for each type of MBE. "Adverse" in a given cell indicates that the corresponding regression coefficient was negative and statistically significant – a result

NERA Economic Consulting, *Business Disparities in the Maryland Market Area* (February 8, 2017), p. 6.

NERA Economic Consulting, Business Disparities in the Maryland Market Area (February 8, 2017), p. 165.



consistent with the presence of discrimination. Of the 126 different coefficients summarized in Tables 1 through 6, 122, or 96.8 percent, are consistent with the presence of discrimination.¹¹

Table 1. Regressions Analysis Results on NAICS Codes for Growers

| | Wages and Salaries | Business Owner Earnings | Business Formation Rate |
|------------------------|-----------------------|----------------------------|----------------------------|
| African American | Adverse | Adverse | Adverse |
| Hispanic | Adverse | Adverse | Adverse |
| Asian/Pacific Islander | Adverse | Adverse | Adverse |
| Native American | Adverse | Adverse | Adverse |
| Minorities | Adverse | Adverse | Adverse |
| Non-minority Female | Adverse | Adverse | Adverse |
| Minorities & Women | Adverse | Adverse | Adverse |

Table 2. Regressions Analysis Results on NAICS Codes for Processors

| | Wages and Salaries | Business Owner Earnings | Business Formation Rate |
|------------------------|--------------------|----------------------------|----------------------------|
| African American | Adverse | Adverse | Adverse |
| Hispanic | Adverse | Adverse | Adverse |
| Asian/Pacific Islander | Adverse | Adverse | Not Adverse |
| Native American | Adverse | Adverse | Adverse |
| Minorities | Adverse | Adverse | Adverse |
| Non-minority Female | Adverse | Adverse | Adverse |
| Minorities & Women | Adverse | Adverse | Adverse |

The underlying regression results for Tables 1 through 6 are provided in the Appendix to this Report. *See also* Chapter IV of the 2017 Disparity Study (pp. 121-176) for additional documentation of the data and methods used in these analyses.



Table 3. Regressions Analysis Results on NAICS Codes for Dispensaries

| | Wages and Salaries | Business Owner Earnings | Business Formation Rate |
|------------------------|--------------------|----------------------------|----------------------------|
| African American | Adverse | Adverse | Adverse |
| Hispanic | Adverse | Adverse | Adverse |
| Asian/Pacific Islander | Adverse | Adverse | Not Adverse |
| Native American | Adverse | Adverse | Adverse |
| Minorities | Adverse | Adverse | Adverse |
| Non-minority Female | Adverse | Adverse | Adverse |
| Minorities & Women | Adverse | Adverse | Adverse |

Table 4. Regressions Analysis Results on NAICS Codes for Independent Testing Labs

| | Wages and Salaries | Business Owner Earnings | Business Formation Rate |
|------------------------|--------------------|----------------------------|----------------------------|
| African American | Adverse | Adverse | Adverse |
| Hispanic | Adverse | Adverse | Adverse |
| Asian/Pacific Islander | Adverse | Adverse | Not Adverse |
| Native American | Adverse | Adverse | Adverse |
| Minorities | Adverse | Adverse | Adverse |
| Non-minority Female | Adverse | Adverse | Adverse |
| Minorities & Women | Adverse | Adverse | Adverse |



Table 5. Regressions Analysis Results on NAICS Codes for Growers, Processors, Dispensaries, and Independent Testing Labs Combined

| | Wages and Salaries | Business Owner Earnings | Business Formation Rate |
|------------------------|--------------------|----------------------------|----------------------------|
| African American | Adverse | Adverse | Adverse |
| Hispanic | Adverse | Adverse | Adverse |
| Asian/Pacific Islander | Adverse | Adverse | Adverse |
| Native American | Adverse | Adverse | Adverse |
| Minorities | Adverse | Adverse | Adverse |
| Non-minority Female | Adverse | Adverse | Adverse |
| Minorities & Women | Adverse | Adverse | Adverse |

Table 6. Regressions Analysis Results on NAICS Codes for Ancillary Activities

| | Wages and Salaries | Business Owner Earnings | Business Formation Rate |
|------------------------|--------------------|----------------------------|----------------------------|
| African American | Adverse | Adverse | Adverse |
| Hispanic | Adverse | Adverse | Adverse |
| Asian/Pacific Islander | Adverse | Adverse | Adverse |
| Native American | Adverse | Adverse | Adverse |
| Minorities | Adverse | Adverse | Adverse |
| Non-minority Female | Adverse | Adverse | Not Adverse |
| Minorities & Women | Adverse | Adverse | Adverse |



III. Conclusions

After reviewing and analyzing the information received from the State, and bearing in mind the 2017 Disparity Study's finding that discrimination continues to adversely impact minority-owned and women-owned firms throughout the Maryland economy, I conclude, based upon the information available to me at this time, that the 2017 Disparity Study provides a strong basis in evidence, consisting of both quantitative and qualitative findings, that supports the use of race- and gender-based measures to remediate discrimination affecting minority- and women-owned businesses in the types of industries relevant to the medical cannabis business.

Moreover, the 2017 Disparity Study details a range of race- and gender-neutral activities that the State has already undertaken to address existing disparities. The 2017 Disparity Study found that, notwithstanding these race- and gender-neutral activities, many of which have been in place for a number of years, disparities continue to exist in both public and private contracting in the same geographic and industry markets in which medical cannabis licensees and independent testing laboratories are likely to operate. These disparities, in general, are large, adverse, and statistically significant. In addition, the 2017 Disparity Study contains both qualitative and quantitative evidence to suggest that economy-wide contracting disparities in Maryland's relevant markets are even greater than disparities in the public sector. This difference may be due to the fact that the State has, for a number of years, operated an assertive MBE program in an attempt to remedy discrimination, which would tend to reduce, though it has not yet eliminated, the effects of discrimination in public procurement. Absent such affirmative remedial efforts by the State, I would expect to see evidence in the relevant markets in which the medical cannabis licensees will operate that is consistent with the continued presence of business discrimination.

I would note that I am an economist, but not a lawyer. I hold a doctorate in economics and I am well qualified to review the data in the MGT Report and to opine on its significance with respect to the 2017 Disparity Study. I am a Managing Director of NERA, the head of its Austin office, a member of its labor and employment practice, and the head of its national affirmative action consulting practice. I have conducted more than 50 disparity, availability, and related studies in my career and directed numerous other studies concerning various aspects of business markets and labor markets. These studies are often done in the context of litigation involving business enterprise or employment discrimination. I have acted as an expert witness in MBE program and other discrimination-related litigation. I have testified and been accepted as an expert economist and statistician in federal district courts in California, Florida, Georgia, Illinois, Minnesota, and Texas, in the U.S. Court of Federal Claims, in state courts in Illinois and Texas, and before both chambers of the U.S. Congress.



In closing, as an expert in disparity studies and the economics of business discrimination, I have a high level of expertise concerning how economic data relates to the law that has been applied to MBE and related programs by courts and legislatures. I have not been asked to review the specific details of the Maryland medical cannabis statute and regulations and I do not offer any opinion about the specifics of the statute or the regulations. I would note, however, that even where a strong basis in evidence exists to support a race- or gender-based program, that fact alone should not end the inquiry. Specifically, it is imperative that any race- or gender-conscious mechanisms applied to the medical cannabis business be carefully established and consistent with the law.

Sincerely,

Jon Wainwright Managing Director

NERA Economic Consulting

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Table A.1. Annual Wage Earnings Regressions, NAICS Codes for Growers, 2010-2014

| Indonondant Variables | Specification | | |
|---|---------------|----------|----------|
| Independent Variables | (1) | (2) | (3) |
| | -0.420 | -0.423 | -0.423 |
| African American | (131.51) | (127.40) | (127.45) |
| Hignoria | -0.299 | -0.298 | -0.298 |
| Hispanic | (108.12) | (106.36) | (106.50) |
| Asjan | -0.199 | -0.197 | -0.199 |
| Asian | (42.29) | (40.59) | (42.20) |
| Native American | -0.388 | -0.386 | -0.388 |
| Ivative American | (36.50) | (36.04) | (36.51) |
| Two or more races | -0.292 | -0.293 | -0.292 |
| - 1. 5 - 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. | (43.33) | (42.58) | (43.30) |
| Nonminority Female | -0.339 | -0.340 | -0.340 |
| TVOIMMOTILY Temate | (172.10) | (169.40) | (169.57) |
| Age | 0.177 | 0.177 | 0.177 |
| L L | (295.90) | (295.9) | (295.89) |
| Age^2 | -0.002 | -0.002 | -0.002 |
| Age | (262.41) | (262.41) | (262.41) |
| MDMA | 0.516 | 0.504 | 0.499 |
| IVIDIVIA | (39.62) | (34.96) | (35.78) |
| MDMA*African American | | 0.070 | 0.073 |
| THE WITTER THICKEN | | (4.52) | (4.73) |
| MDMA*Hispanic | | -0.039 | -0.037 |
| THE WIT THIS PAINC | | (2.31) | (2.18) |
| MDMA*Asian | | -0.035 | n/a |
| THE WITT TOTAL | | (1.61) | 11/ 4 |
| MDMA*Native American | | -0.119 | n/a |
| | | (1.22) | , 0, |
| MDMA*Two or more races | | 0.049 | n/a |
| | | (1.25) | |
| MDMA*Nonminority Female | | 0.035 | 0.038 |
| · | | (2.97) | (3.26) |
| Education (16 categories) | Yes | Yes | Yes |
| Geography (51 categories) | Yes | Yes | Yes |
| Industry (88 categories) | Yes | Yes | Yes |
| N | 982,548 | 982,548 | 982,548 |
| Adj. R ² | .2842 | .2843 | .2843 |

Source: NERA calculations from the 2010-2014 ACS Public Use Microdata Sample.

Notes: (1) See 2017 Disparity Study, pp. 127-131, for a description of Specifications 1 through 3; (2) Universe is all private sector wage and salary workers between the ages of 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (3) Reported number is the percentage difference in annual wages between a given group and nonminority men; (4) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at a 90 (95) (99) percent confidence level; (5) Geography is defined based on place of residence; (6) "MDMA" is shorthand for "State of Maryland Market Area," which includes the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area; (7) "n/a" in Specification 3 means that the category was not included in the regression because it was not statistically significant in Specification 2, as described in the 2017 Disparity Study, pp. 129-131; (8) The "Yes" values next to the "Education," "Geography" and "Industry" rows indicate that control variables were included in the regression specification for these factors.



Table A.2. Annual Wage Earnings Regressions, NAICS Codes for Processors, 2010-2014

| I. J J A.W. C. III. | | Specification | | | |
|--|----------|---------------|----------|--|--|
| Independent Variables | (1) | (2) | (3) | | |
| African American | -0.417 | -0.420 | -0.420 | | |
| African American | (118.99) | (115.21) | (115.31) | | |
| Hispanic | -0.296 | -0.296 | -0.296 | | |
| riispanic | (96.61) | (95.02) | (96.61) | | |
| Asian | -0.213 | -0.210 | -0.210 | | |
| Asian | (40.56) | (38.94) | (39.02) | | |
| Native American | -0.385 | -0.383 | -0.385 | | |
| Ivative American | (33.82) | (33.39) | (33.84) | | |
| Two or more races | -0.285 | -0.287 | -0.288 | | |
| 1 WO OF INOTE FACES | (38.14) | (37.72) | (37.76) | | |
| Nonminority Female | -0.329 | -0.330 | -0.330 | | |
| 1voliminority 1 chiaic | (145.55) | (143.41) | (143.65) | | |
| Age | 0.174 | 0.174 | 0.174 | | |
| Age | (257.63) | (257.63) | (257.62) | | |
| Age^2 | -0.002 | -0.002 | -0.002 | | |
| 11gc | (228.45) | (228.46) | (228.45) | | |
| MDMA | 0.503 | 0.492 | 0.482 | | |
| TVID IVII I | (33.96) | (30.26) | (30.76) | | |
| MDMA*African American | | 0.061 | 0.068 | | |
| TVIDIVIT TITTOUT TITTOUT | | (3.57) | (4.02) | | |
| MDMA*Hispanic | | -0.037 | n/a | | |
| The state of the s | | (1.93) | | | |
| MDMA*Asian | | -0.060 | -0.054 | | |
| | | (2.35) | (2.11) | | |
| MDMA*Native American | | -0.131 | n/a | | |
| | | (1.24) | | | |
| MDMA*Two or more races | | 0.094 | 0.101 | | |
| | | (2.05) | (2.21) | | |
| MDMA*Nonminority Female | | 0.037 | 0.044 | | |
| | | (2.70) | (3.27) | | |
| Education (16 categories) | Yes | Yes | Yes | | |
| Geography (51 categories) | Yes | Yes | Yes | | |
| Industry (88 categories) | Yes | Yes | Yes | | |
| N | 779,941 | 779,941 | 779,941 | | |
| Adj. R ² | .2688 | .2688 | .2688 | | |



Table A.3. Annual Wage Earnings Regressions, NAICS Codes for Dispensaries, 2010-2014

| Indonesidant Variables | | Specification | | |
|-------------------------------|----------|---------------|----------|--|
| Independent Variables | (1) | (2) | (3) | |
| A Guinna A ann anima | -0.416 | -0.419 | -0.419 | |
| African American | (123.20) | (119.10) | (119.18) | |
| Highania | -0.302 | -0.301 | -0.302 | |
| Hispanic | (101.88) | (100.22) | (101.83) | |
| Asian | -0.215 | -0.211 | -0.211 | |
| Asian | (44.21) | (42.18) | (42.21) | |
| Native American | -0.390 | -0.389 | -0.390 | |
| Ivative American | (35.39) | (34.99) | (35.39) | |
| Two or more room | -0.294 | -0.296 | -0.294 | |
| Two or more races | (41.71) | (41.14) | (41.69) | |
| Nonminority Female | -0.332 | -0.332 | -0.332 | |
| Ivoliminority remaie | (155.40) | (153.00) | (155.40) | |
| Age | 0.184 | 0.184 | 0.184 | |
| Age | (286.59) | (286.6) | (286.59) | |
| Age^2 | -0.002 | -0.002 | -0.002 | |
| Age | (254.33) | (254.34) | (254.34) | |
| MDMA | 0.483 | 0.484 | 0.489 | |
| IVIDIVIA | (33.99) | (30.67) | (33.79) | |
| MDMA*African American | | 0.045 | 0.040 | |
| WDWA Amean American | | (2.72) | (2.60) | |
| MDMA*Hispanic | | -0.036 | n/a | |
| 141D14174 Trispanie | | (1.91) | | |
| MDMA*Asian | | -0.094 | -0.097 | |
| WDWA Asign | | (3.98) | (4.22) | |
| MDMA*Native American | | -0.104 | n/a | |
| TVIDIVITY TVILLIVE TYMETICALI | | (0.99) | 11/ 4 | |
| MDMA*Two or more races | | 0.072 | n/a | |
| TVIDIVITY I WO OF MOTO TREES | | (1.68) | 11/ 4 | |
| MDMA*Nonminority Female | | 0.022 | n/a | |
| | | (1.71) | | |
| Education (16 categories) | Yes | Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| Industry (88 categories) | Yes | Yes | Yes | |
| N | 858,504 | 858,504 | 858,504 | |
| Adj. R ² | .2788 | .2788 | .2788 | |



Table A.4. Annual Wage Earnings Regressions, NAICS Codes for Independent Testing Laboratories, 2010-2014

| Indonondant Variables | | Specification | | | |
|--|----------|---------------|----------|--|--|
| Independent Variables | (1) | (2) | (3) | | |
| African American | -0.441 | -0.445 | -0.445 | | |
| African American | (112.76) | (108.91) | (108.92) | | |
| Hispanic | -0.304 | -0.303 | -0.302 | | |
| riispanic | (89.23) | (87.59) | (87.61) | | |
| Asian | -0.206 | -0.201 | -0.200 | | |
| Asian | (35.40) | (33.46) | (33.41) | | |
| Native American | -0.409 | -0.409 | -0.409 | | |
| Native American | (33.80) | (33.42) | (33.79) | | |
| Two or more races | -0.299 | -0.301 | -0.299 | | |
| I wo of more faces | (36.99) | (36.47) | (36.96) | | |
| Nonminority Female | -0.334 | -0.334 | -0.334 | | |
| Nominmority remaic | (135.80) | (133.49) | (135.79) | | |
| Age | 0.174 | 0.174 | 0.174 | | |
| Age | (235.20) | (235.21) | (235.20) | | |
| Age^2 | -0.002 | -0.002 | -0.002 | | |
| Age | (208.82) | (208.82) | (208.83) | | |
| MDMA | 0.529 | 0.529 | 0.542 | | |
| IVIDIVIA | (33.12) | (29.82) | (32.71) | | |
| MDMA*African American | | 0.070 | 0.061 | | |
| THE WITTER THICKEN | | (3.78) | (3.44) | | |
| MDMA*Hispanic | | -0.040 | -0.048 | | |
| THE WITTING AND THE PARTY OF TH | | (1.99) | (2.49) | | |
| MDMA*Asian | | -0.099 | -0.107 | | |
| THE THE TRIBLE | | (3.78) | (4.16) | | |
| MDMA*Native American | | -0.080 | n/a | | |
| | | (0.70) | 11/ 64 | | |
| MDMA*Two or more races | | 0.082 | n/a | | |
| THE TWO OF MICH 1900 | | (1.71) | 11, 4 | | |
| MDMA*Nonminority Female | | 0.021 | n/a | | |
| · | | (1.46) | | | |
| Education (16 categories) | Yes | Yes | Yes | | |
| Geography (51 categories) | Yes | Yes | Yes | | |
| Industry (88 categories) | Yes | Yes | Yes | | |
| N | 663,342 | 663,342 | 663,342 | | |
| Adj. R ² | .2641 | .2642 | .2642 | | |



Table A.5. Annual Wage Earnings Regressions, NAICS Codes for Ancillary Activities, 2010-2014

| Independent Variables | | Specification | | |
|--------------------------------|----------|---------------|----------|--|
| independent variables | (1) | (2) | (3) | |
| African American | -0.427 | -0.432 | -0.432 | |
| Affican American | (121.27) | (117.72) | (117.83) | |
| Hispanic | -0.367 | -0.368 | -0.367 | |
| Trispanic | (105.96) | (104.50) | (105.92) | |
| Asian | -0.172 | -0.168 | -0.167 | |
| Asian | (39.84) | (37.39) | (37.32) | |
| Native American | -0.423 | -0.425 | -0.423 | |
| Native American | (28.94) | (28.82) | (28.94) | |
| Two or more races | -0.321 | -0.323 | -0.321 | |
| 1 WO OF HIOTE FACES | (43.64) | (42.77) | (43.62) | |
| Nonminority Female | -0.367 | -0.368 | -0.367 | |
| Tvommority Temate | (169.70) | (166.34) | (169.73) | |
| Age | 0.189 | 0.189 | 0.189 | |
| 1180 | (250.96) | (250.94) | (250.95) | |
| Age^2 | -0.002 | -0.002 | -0.002 | |
| 1150 | (224.54) | (224.53) | (224.53) | |
| MDMA | 0.490 | 0.474 | 0.495 | |
| 1/11/1/11 | (34.02) | (28.93) | (33.39) | |
| MDMA*African American | | 0.104 | 0.088 | |
| THE THE THINGS THE THE THE THE | | (6.15) | (5.70) | |
| MDMA*Hispanic | | 0.036 | n/a | |
| THE THE PAINT | | (1.61) | | |
| MDMA*Asian | | -0.057 | -0.070 | |
| | | (3.23) | (4.27) | |
| MDMA*Native American | | 0.130 | n/a | |
| | | (0.88) | 11/ 64 | |
| MDMA*Two or more races | | 0.065 | n/a | |
| | | (1.63) | , | |
| MDMA*Nonminority Female | | 0.024 | n/a | |
| <u> </u> | | (1.88) | | |
| Education (16 categories) | Yes | Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| Industry (88 categories) | Yes | Yes | Yes | |
| N | 647,693 | 647,693 | 647,693 | |
| Adj. R ² | .3229 | .3230 | .3230 | |



Table A.6. Annual Wage Earnings Regressions, NAICS Codes for Growers, Processors, Dispensaries and Independent Testing Laboratories Combined, 2010-2014

| Televisia AV. Ciller | | Specification | | |
|---------------------------|-----------|-----------------|-----------|--|
| Independent Variables | (1) | (2) | (3) | |
| A.C.: A | -0.422 | -0.424 | -0.424 | |
| African American | (143.42) | (138.77) | (138.77) | |
| Hispanic | -0.307 | -0.306 | -0.306 | |
| riispanic | (117.97) | (116.13) | (116.14) | |
| Asian | -0.201 | -0.198 | -0.198 | |
| Asian | (48.18) | (45.94) | (45.93) | |
| Native American | -0.395 | -0.394 | -0.395 | |
| Native American | (39.91) | (39.46) | (39.91) | |
| Two or more races | -0.299 | -0.300 | -0.299 | |
| 1 WO OF INOTO TUCCO | (48.33) | (47.43) | (48.28) | |
| Nonminority Female | -0.336 | -0.336 | -0.336 | |
| Tronminority Temate | (184.43) | (181.53) | (181.56) | |
| Age | 0.183 | 0.183 | 0.183 | |
| 7.50 | (329.65) | (329.66) | (329.66) | |
| Age^2 | -0.002 | -0.002 | -0.002 | |
| Age | (292.17) | (292.18) | (292.18) | |
| MDMA | 0.484 | 0.483 | 0.484 | |
| THE THE | (39.57) | (35.27) | (35.61) | |
| MDMA*African American | | 0.051 | 0.050 | |
| | | (3.50) | (3.46) | |
| MDMA*Hispanic | | -0.034 | -0.035 | |
| -T | | (2.05) | (2.11) | |
| MDMA*Asian | | -0.073 | -0.074 | |
| | | (3.74) | (3.79) | |
| MDMA*Native American | | -0.097 | n/a | |
| | | (1.02) | | |
| MDMA*Two or more races | | 0.037 | n/a | |
| | | (1.01) 0.022 | 0.021 | |
| MDMA*Nonminority Female | | (2.01) | (1.95) | |
| Education (16 categories) | Yes | Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| | Yes | Yes | Yes | |
| Industry (88 categories) | 1 55 | 1 65 | 1 65 | |
| N | 1,128,040 | 1,128,040 | 1,128,040 | |
| Adj. R ² | .2941 | .2941 | .2941 | |



Table A.7. Annual Business Owner Earnings Regressions, NAICS Codes for Growers, 2010-2014

| Indonondont Vowichles | | Specification | | |
|---------------------------|---------|-----------------|---------|--|
| Independent Variables | (1) | (2) | (3) | |
| African American | -0.484 | -0.479 | -0.484 | |
| African American | (27.69) | (26.22) | (27.69) | |
| Hispanic | -0.170 | -0.174 | -0.170 | |
| mspanic | (11.60) | (11.73) | (11.60) | |
| Asian | -0.248 | -0.258 | -0.248 | |
| 7.51411 | (10.37) | (10.54) | (10.37) | |
| Native American | -0.421 | -0.419 | -0.421 | |
| Tractive 7 tilletream | (8.69) | (8.56) | (8.69) | |
| Two or more races | -0.393 | -0.393 | -0.393 | |
| Two of more faces | (13.41) | (13.19) | (13.41) | |
| Nonminority Female | -0.420 | -0.421 | -0.420 | |
| 1 (diministry 1 diminis | (45.31) | (44.77) | (45.31) | |
| Age | 0.172 | 0.172 | 0.172 | |
| | (56.24) | (56.24) | (56.24) | |
| Age^2 | -0.002 | -0.002 | -0.002 | |
| | (49.64) | (49.64) | (49.64) | |
| MDMA | 0.291 | 0.242 | 0.291 | |
| | (4.86) | (3.80) | (4.86) | |
| MDMA*African American | | -0.080 | n/a | |
| | | (0.94) | | |
| MDMA*Hispanic | | 0.162 | n/a | |
| -F | | (1.61) | | |
| MDMA*Asian | | 0.264 | n/a | |
| | | (1.93) | | |
| MDMA*Native American | | -0.200 | n/a | |
| | | (0.46) | | |
| MDMA*Two or more races | | 0.017 | n/a | |
| | | (0.08) 0.066 | | |
| MDMA*Nonminority Female | | | n/a | |
| Education (16 categories) | Yes | (1.06) Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| | | | | |
| Industry (88 categories) | Yes | Yes | Yes | |
| N | 158,631 | 158,631 | 158,631 | |
| Adj. R ² | .0897 | .0897 | .0897 | |

Source: NERA calculations from the 2010-2014 ACS Public Use Microdata Sample.

Notes: (1) See 2017 Disparity Study, pp. 139-141, for a description of specifications 1 through 3; (2) Universe is all persons in the private sector with positive business earnings between the ages of 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (3) Reported number is the percentage difference in annual business earnings between a given group and nonminority men; (4) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at a 90 (95) (99) percent confidence level; (5) Geography is defined based on place of residence; (6) "MDMA" is shorthand for "State of Maryland Market Area," which includes the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area; (7) "n/a" in Specification 3 means that the category was not included in the regression because it was not statistically significant in Specification 2, as described in the 2017 Disparity Study, pp. 140-141.



Table A.8. Business Owner Earnings Regressions, NAICS Codes for Processors, 2010-2014

| I. J J (Y C. l. l | | Specification | | |
|-----------------------------|---------|---------------|---------|--|
| Independent Variables | (1) | (2) | (3) | |
| African American | -0.442 | -0.440 | -0.442 | |
| | (21.33) | (20.30) | (21.33) | |
| Hispanic | -0.192 | -0.195 | -0.192 | |
| rispanic | (11.81) | (11.87) | (11.81) | |
| Asian | -0.220 | -0.229 | -0.220 | |
| Asian | (7.82) | (7.96) | (7.82) | |
| Native American | -0.391 | -0.390 | -0.391 | |
| Ivative American | (7.02) | (6.94) | (7.02) | |
| Two or more races | -0.383 | -0.378 | -0.383 | |
| I wo of more races | (11.33) | (10.97) | (11.33) | |
| Nonminority Female | -0.410 | -0.411 | -0.410 | |
| Tvoimmority remaie | (36.98) | (36.52) | (36.98) | |
| Age | 0.143 | 0.143 | 0.143 | |
| Age | (38.60) | (38.59) | (38.60) | |
| Age^2 | -0.001 | -0.001 | -0.001 | |
| Age | (34.30) | (34.29) | (34.30) | |
| MDMA | 0.325 | 0.290 | 0.325 | |
| IVIDIVITY | (4.65) | (3.85) | (4.65) | |
| MDMA*African American | | -0.047 | n/a | |
| TVIDIVITY TITTEGII TITTEGII | | (0.48) | 11/ 4 | |
| MDMA*Hispanic | | 0.136 | n/a | |
| THE THIS PUBLIC | | (1.25) | 11/ 4 | |
| MDMA*Asian | | 0.234 | n/a | |
| TVID IVII I I IOIGII | | (1.51) | 11/ 4 | |
| MDMA*Native American | | -0.143 | n/a | |
| | | (0.26) | 11/ 64 | |
| MDMA*Two or more races | | -0.175 | n/a | |
| | | (0.85) | 11/ 64 | |
| MDMA*Nonminority Female | | 0.033 | n/a | |
| • | | (0.44) | | |
| Education (16 categories) | Yes | Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| Industry (88 categories) | Yes | Yes | Yes | |
| N | 115,116 | 115,116 | 115,116 | |
| Adj. R ² | .0740 | .0740 | .0740 | |



Table A.9. Business Owner Earnings Regressions, NAICS Codes for Dispensaries, 2010-2014

| African American African American African American African American African American Asian Asi | Indonondont Vowichles | | Specification | | |
|--|---------------------------|---------|---------------|---------|--|
| C22.22 | Independent Variables | (1) | (2) | (3) | |
| Hispanic | African American | -0.446 | -0.446 | -0.446 | |
| Hispanic | | (22.22) | (21.30) | (22.22) | |
| Asian | Hignonia | -0.192 | -0.195 | -0.192 | |
| Asian (8.24) (8.42) (8.24) Native American -0.396 (7.26) (7.18) (7.26) Two or more races -0.380 (11.68) (11.28) (11.68) (11.68) (11.28) (11.68) (11.68) (11.28) (11.68) (11.68) (11.28) (11.68) (11.68) (11.28) (11.68) (11.68) (11.28) (11.68) (11.68) (11.68) (11.28) (11.68 | Hispanic | (12.03) | (12.11) | (12.03) | |
| Native American (8.24) | Asian | -0.216 | | -0.216 | |
| Native American (7.26) (7.18) (7.26) Two or more races -0.380 -0.375 -0.380 (11.68) (11.28) (11.68) Nonminority Female -0.405 -0.405 -0.405 (38.43) (37.91) (38.43) Age 0.148 0.148 0.148 (41.04) (41.03) (41.04) Age² -0.001 -0.001 -0.001 (36.28) (36.27) (36.28) MDMA (4.92) (4.11) (4.92) MDMA*Hispanic 0.001 n/a MDMA*Asian 0.258 (1.71) n/a MDMA*Native American 0.258 (1.71) n/a MDMA*Nonminority Female 0.007 (0.25) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes | Asian | (8.24) | (8.42) | (8.24) | |
| Two or more races (7.26) (7.18) (7.26) (7.18) (7.26) (7.18) (7.26) (7.18) (7.26) (7.18) (7.26) (7.18) (7.26) (7.18) (7.26) (7.18) (7.26) (7.18) (7.26) (7.28) (7.26) (7.28) | Native American | | | | |
| Nonminority Female | Tvative 7 tilleriean | | ` ' | | |
| Nonminority Female | Two or more races | | | | |
| Nonminority Female (38.43) (37.91) (38.43) (38.43) (37.91) (38.43) (38.43) (37.91) (38.43) (38.43) (37.91) (38.43) (38.43) (37.91) (38.43) (38.43) (37.91) (38.43) (41.04) (41.04) (41.04) (41.04) (41.04) (41.04) (41.04) (41.04) (41.04) (41.04) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36.28) (36.27) (36.28) (36 | Two of more faces | | ` ' | | |
| Age 0.148 0.148 0.148 (41.04) (41.03) (41.04) Age² 0.336 0.303 (36.27) (36.28) MDMA 0.336 0.303 0.336 (4.92) (4.11) (4.92) MDMA*African American 0.157 (1.44) 0.258 (1.71) 0.258 (1.71) 0.258 (1.71) 0.258 (1.71) 0.258 (1.71) 0.258 (1.71) 0.259 0.258 (1.71) 0.259 0.258 (1.71) 0.259 0.258 (1.71) 0.259 0.258 (1.71) 0.259 0.258 (1.71) 0.259 0.258 (1.71) 0.259 0. | Nonminority Female | | | | |
| Age (41.04) (41.03) (41.04) Age² -0.001 -0.001 -0.001 MDMA 0.336 0.303 0.336 (4.92) (4.11) (4.92) MDMA*African American 0.001 n/a MDMA*Hispanic 0.157 n/a MDMA*Asian 0.258 (1.71) MDMA*Native American -0.134 n/a MDMA*Two or more races (1.03) n/a MDMA*Nonminority Female 0.007 n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | Trommonty Temate | | | | |
| Age² (41.04) (41.03) (41.04) Age² -0.001 -0.001 -0.001 MDMA (36.28) (36.27) (36.28) MDMA*African American 0.336 (4.92) (4.11) (4.92) MDMA*Hispanic 0.157 (1.44) n/a MDMA*Asian 0.258 (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | Age | ***** | | | |
| Age (36.28) (36.27) (36.28) MDMA 0.336 0.303 0.336 (4.92) (4.11) (4.92) MDMA*African American 0.001 (0.01) n/a MDMA*Hispanic 0.157 (1.44) n/a MDMA*Asian 0.258 (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | 1190 | | | | |
| MDMA (36.28) (36.27) (36.28) MDMA*African American 0.336 (4.92) (4.11) (4.92) MDMA*African American 0.001 n/a n/a MDMA*Hispanic 0.157 (1.44) n/a MDMA*Asian 0.258 (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | Age^2 | | | | |
| MDMA (4.92) (4.11) (4.92) MDMA*African American 0.001 n/a MDMA*Hispanic 0.157 n/a MDMA*Asian 0.258 n/a MDMA*Native American -0.134 n/a MDMA*Two or more races -0.201 n/a MDMA*Nonminority Female 0.007 n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | 1190 | | | | |
| MDMA*African American (4.92) (4.11) (4.92) MDMA*African American 0.001 n/a MDMA*Hispanic 0.157 (1.44) n/a MDMA*Asian 0.258 (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races (1.03) n/a MDMA*Nonminority Female 0.007 n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | MDMA | | | | |
| MDMA*African American (0.01) n/a MDMA*Hispanic 0.157 (1.44) n/a MDMA*Asian 0.258 (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | | (4.92) | | (4.92) | |
| MDMA*Hispanic 0.157 (1.44) n/a MDMA*Asian 0.258 (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | MDMA*African American | | | n/a | |
| MDMA*Hispanic (1.44) n/a MDMA*Asian 0.258 (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | | | | | |
| MDMA*Asian 0.258 (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | MDMA*Hispanic | | | n/a | |
| MDMA*Asian (1.71) n/a MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | • | | | | |
| MDMA*Native American -0.134 (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | MDMA*Asian | | | n/a | |
| MDMA*Native American (0.25) n/a MDMA*Two or more races -0.201 (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | | | | | |
| MDMA*Two or more races | MDMA*Native American | | | n/a | |
| MDMA*Two or more races (1.03) n/a MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | | | | | |
| MDMA*Nonminority Female 0.007 (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | MDMA*Two or more races | | | n/a | |
| MDMA*Nonminority Female (0.10) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | | | | | |
| Education (16 categories)YesYesYesGeography (51 categories)YesYesYesIndustry (88 categories)YesYesYesN123,314123,314123,314 | MDMA*Nonminority Female | | | n/a | |
| Geography (51 categories) Yes Yes Yes Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 123,314 | Education (16 categories) | Yes | | Yes | |
| Industry (88 categories) Yes Yes Yes N 123,314 123,314 123,314 | Geography (51 categories) | Yes | Yes | Yes | |
| N 123,314 123,314 123,314 | | Yes | Yes | Yes | |
| | | 123,314 | 123,314 | 123,314 | |
| | Adj. R ² | .0801 | .0801 | .0801 | |



Table A.10. Business Owner Earnings Regressions, NAICS Codes for Independent Testing Laboratories, 2010-2014

| I. J J 4 V J | | Specification | | | |
|---------------------------|---------|------------------|---------|--|--|
| Independent Variables | (1) | (2) | (3) | | |
| African American | -0.496 | -0.496 | -0.496 | | |
| | (23.02) | (22.15) | (23.02) | | |
| Hispanic | -0.210 | -0.214 | -0.210 | | |
| Hispanic | (12.41) | (12.5) | (12.41) | | |
| Asian | -0.238 | -0.244 | -0.238 | | |
| Asian | (8.28) | (8.30) | (8.28) | | |
| Native American | -0.389 | -0.391 | -0.389 | | |
| Trative American | (6.69) | (6.69) | (6.69) | | |
| Two or more races | -0.379 | -0.372 | -0.379 | | |
| 1 wo of more races | (10.76) | (10.31) | (10.76) | | |
| Nonminority Female | -0.416 | -0.415 | -0.416 | | |
| 1 tollimitority 1 olliuic | (36.53) | (35.89) | (36.53) | | |
| Age | 0.149 | 0.149 | 0.149 | | |
| Age | (38.32) | (38.30) | (38.32) | | |
| Age^2 | -0.001 | -0.001 | -0.001 | | |
| 1150 | (33.94) | (33.93) | (33.94) | | |
| MDMA | 0.315 | 0.299 | 0.315 | | |
| | (4.37) | (3.82) | (4.37) | | |
| MDMA*African American | | 0.017 | n/a | | |
| | | (0.15) | 11/ 65 | | |
| MDMA*Hispanic | | 0.178 | n/a | | |
| | | (1.55) | | | |
| MDMA*Asian | | 0.157 | n/a | | |
| | | (1.02) | , | | |
| MDMA*Native American | | 0.235 | n/a | | |
| | | (0.32) | | | |
| MDMA*Two or more races | | -0.243 | n/a | | |
| | | (1.23) | | | |
| MDMA*Nonminority Female | | -0.040 (0.56) | n/a | | |
| Education (16 categories) | Yes | Yes | Yes | | |
| Geography (51 categories) | Yes | Yes | Yes | | |
| Industry (88 categories) | Yes | Yes | Yes | | |
| N | 103,606 | 103,606 | 103,606 | | |
| Adj. R ² | .0767 | .0767 | .0767 | | |



Table A.11. Business Owner Earnings Regressions, NAICS Codes for Ancillary Activities, 2010-2014

| Laborator W. Saldon | Specification | | | |
|---------------------------|---------------|---------|---------|--|
| Independent Variables | (1) | (2) | (3) | |
| African American | -0.482 | -0.476 | -0.482 | |
| | (19.68) | (18.32) | (19.68) | |
| Hispanic | -0.259 | -0.260 | -0.259 | |
| Hispanic | (11.43) | (11.31) | (11.43) | |
| Asian | -0.213 | -0.223 | -0.213 | |
| Asian | (7.63) | (7.77) | (7.63) | |
| Native American | -0.493 | -0.493 | -0.493 | |
| TVative American | (6.22) | (6.18) | (6.22) | |
| Two or more races | -0.353 | -0.349 | -0.353 | |
| 1 wo of more faces | (8.65) | (8.33) | (8.65) | |
| Nonminority Female | -0.332 | -0.333 | -0.332 | |
| 1.0mmorty 1.0mmo | (28.02) | (27.53) | (28.02) | |
| Age | 0.172 | 0.172 | 0.172 | |
| 1180 | (35.04) | (35.04) | (35.04) | |
| Age^2 | -0.002 | -0.002 | -0.002 | |
| 1150 | (30.39) | (30.39) | (30.39) | |
| MDMA | 0.258 | 0.231 | 0.258 | |
| TVID IVII I | (3.19) | (2.56) | (3.19) | |
| MDMA*African American | | -0.089 | n/a | |
| THE THIRD THIS COUNTY | | (0.83) | 11/ 4 | |
| MDMA*Hispanic | | 0.030 | n/a | |
| THE THE PAINT | | (0.22) | 11/4 | |
| MDMA*Asian | | 0.210 | n/a | |
| | | (1.52) | 11/4 | |
| MDMA*Native American | | 0.011 | n/a | |
| | | (0.01) | | |
| MDMA*Two or more races | | -0.116 | n/a | |
| | | (0.52) | | |
| MDMA*Nonminority Female | | 0.031 | n/a | |
| · | | (0.43) | | |
| Education (16 categories) | Yes | Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| Industry (88 categories) | Yes | Yes | Yes | |
| N | 79,823 | 79,823 | 79,823 | |
| Adj. R ² | .0794 | .0794 | .0794 | |



Table A.12. Business Owner Earnings Regressions, NAICS Codes for Growers, Processors, Dispensaries and Independent Testing Laboratories Combined, 2010-2014

| Indonesident Vesichter | | Specification | | |
|--------------------------------|---------|--|---------|--|
| Independent Variables | (1) | (2) | (3) | |
| African American | -0.481 | -0.478 | -0.481 | |
| | (28.54) | (27.16) | (28.54) | |
| Hispanic | -0.181 | -0.184 | -0.181 | |
| Hispanic | (12.69) | (12.82) | (12.69) | |
| Asian | -0.224 | -0.232 | -0.224 | |
| Asian | (9.89) | (10.02) | (9.89) | |
| Native American | -0.424 | -0.422 | -0.424 | |
| Tradive American | (9.01) | (8.89) | (9.01) | |
| Two or more races | -0.391 | -0.390 | -0.391 | |
| 1 wo of more races | (13.74) | (13.49) | (13.74) | |
| Nonminority Female | -0.424 | -0.425 | -0.424 | |
| 1voimimority i cinaic | (48.02) | (47.38) | (48.02) | |
| Age | 0.170 | 0.170 | 0.170 | |
| Age | (57.49) | (57.49) | (57.49) | |
| Age^2 | -0.002 | -0.002 | -0.002 | |
| Age | (50.56) | (50.55) | (50.56) | |
| MDMA | 0.287 | | 0.287 | |
| IVIDIVIT C | (4.91) | | (4.91) | |
| MDMA*African American | | | n/a | |
| Tributt Attributi Attributioni | | | 11/ 4 | |
| MDMA*Hispanic | | 0.249 (3.97) -0.054 (0.65) 0.170 | n/a | |
| Tribitin't Trispunic | | (1.70) | 11/ 4 | |
| MDMA*Asian | | 0.218 | n/a | |
| TVID IVII I I ISIGII | | (1.70) | 11/ 4 | |
| MDMA*Native American | | -0.189 | n/a | |
| TABLE TABLE TIMOROUM | | (0.43) | 11/ 4 | |
| MDMA*Two or more races | | -0.013 | n/a | |
| THE THE STIME TWO | | (0.07) | 11/ 65 | |
| MDMA*Nonminority Female | | 0.032 | n/a | |
| • | | (0.55) | | |
| Education (16 categories) | Yes | Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| Industry (88 categories) | Yes | Yes | Yes | |
| N | 169,807 | 169,807 | 169,807 | |
| Adj. R ² | .0949 | .0949 | .0949 | |



Table A.13. Business Formation Regressions, NAICS Codes for Growers, 2010-2014

| Independent Variables | | Specification | | |
|---------------------------|-----------|--|-----------|--|
| independent variables | (1) | (2) | (3) | |
| African American | -0.073 | -0.074 | -0.074 | |
| African American | (54.64) | (53.12) | (53.12) | |
| Hispania | -0.059 | -0.059 | -0.059 | |
| Hispanic | (56.44) | (56.47) | (56.47) | |
| Asian | -0.049 | -0.050 | -0.050 | |
| Asian | (28.41) | (28.3) | (28.29) | |
| Native American | -0.061 | -0.062 | -0.062 | |
| Native American | (15.84) | (15.94) | (15.88) | |
| Two or more races | -0.032 | -0.032 | -0.032 | |
| 1 wo of more races | (12.05) | (11.83) | (12.05) | |
| Nonminority Female | -0.062 | -0.063 | -0.063 | |
| Trommorty Temate | (77.86) | (77.30) | (77.30) | |
| Age | 0.013 | 0.013 | 0.013 | |
| 1.50 | (63.45) | (63.44) | (63.44) | |
| Age^2 | -0.000 | -0.000 | -0.000 | |
| 1.50 | (36.83) | (36.81) | (36.81) | |
| MDMA | -0.029 | | -0.037 | |
| | (8.11) | | (9.91) | |
| MDMA*African American | | | 0.022 | |
| | | | (3.47) | |
| MDMA*Hispanic | | | 0.029 | |
| 1 | | -0.038 -0 (9.93) (9 0.022 0. (3.50) (3 0.030 0. (4.24) (4 | (4.21) | |
| MDMA*Asian | | | 0.029 | |
| | | (3.31) | (3.28) | |
| MDMA*Native American | | 0.067 | n/a | |
| | | (1.57) | | |
| MDMA*Two or more races | | 0.001 | n/a | |
| | | (0.06) 0.021 | 0.021 | |
| MDMA*Nonminority Female | | (4.64) | (4.60) | |
| Education (16 categories) | Yes | Yes | Yes | |
| ` ' | | | | |
| Geography (51 categories) | Yes | Yes | Yes | |
| Industry (25 categories) | Yes | Yes | Yes | |
| N | 1,130,936 | 1,130,936 | 1,130,936 | |
| Pseudo R ² | .1367 | .1367 | .1367 | |

Source: NERA calculations from the 2010-2014 ACS Public Use Microdata Sample.

Notes: (1) See 2017 Disparity Study, pp. 153-154, for a description of specifications 1 through 3; (2) Universe is all private sector labor force participants between the ages of 16 and 64; observations with imputed values to the dependent variable and all independent variables are excluded; (3) Reported number represents the percentage point probability difference in business ownership rates between a given group and nonminority men, evaluated at the mean business ownership rate for the estimation sample; (4) Number in parentheses is the absolute value of the associated t-statistic. Using a two-tailed test, t-statistics greater than 1.64 (1.96) (2.58) are statistically significant at a 90 (95) (99) percent confidence level; (5) Geography is defined based on place of residence; (6) "MDMA" is shorthand for "State of Maryland Market Area," which includes the State of Maryland, the State of Delaware, the District of Columbia, and the Virginia and West Virginia portions of the Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area; (7) "n/a" in Specification 3 indicates that the category was not included in the regression because it was not statistically significant in Specification 2, as described in the 2017 Disparity Study, p. 154.



Table A.14. Business Formation Regressions, NAICS Codes for Processors, 2010-2014

| Independent Variables | | Specification | | |
|---------------------------|---------|---------------|---------|--|
| independent variables | (1) | (2) | (3) | |
| A frican A mariaan | -0.064 | -0.064 | -0.064 | |
| African American | (45.72) | (44.37) | (44.34) | |
| Hispanic | -0.042 | -0.042 | -0.042 | |
| Hispanic | (37.75) | (37.71) | (37.67) | |
| Asian | -0.035 | -0.036 | -0.036 | |
| Asian | (18.25) | (18.80) | (18.77) | |
| Native American | -0.055 | -0.056 | -0.055 | |
| Ivative American | (14.13) | (14.23) | (14.15) | |
| Two or more races | -0.027 | -0.027 | -0.027 | |
| 1 wo of more faces | (9.83) | (9.74) | (9.85) | |
| Nonminority Female | -0.049 | -0.050 | -0.049 | |
| TVOIMMOTRY Temate | (57.43) | (56.71) | (57.42) | |
| Age | 0.014 | 0.014 | 0.014 | |
| 7.50 | (61.85) | (61.84) | (61.84) | |
| Age^2 | -0.000 | -0.000 | -0.000 | |
| 7.50 | (40.42) | (40.4) | (40.40) | |
| MDMA | -0.020 | -0.026 | -0.024 | |
| | (5.19) | (6.35) | (6.14) | |
| MDMA*African American | | 0.016 | 0.013 | |
| | | (2.40) | (2.10) | |
| MDMA*Hispanic | | 0.017 | 0.014 | |
| - F | | (2.42) | (2.13) | |
| MDMA*Asian | | 0.049 | 0.046 | |
| | | (4.78) | (4.58) | |
| MDMA*Native American | | 0.073 | n/a | |
| | | (1.67) | | |
| MDMA*Two or more races | | 0.007 | n/a | |
| | | (0.41) | | |
| MDMA*Nonminority Female | | 0.007 | n/a | |
| • | *** | (1.48) | ** | |
| Education (16 categories) | Yes | Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| Industry (25 categories) | Yes | Yes | Yes | |
| N | 892,432 | 892,432 | 892,432 | |
| Pseudo R ² | .1364 | .1364 | .1364 | |



Table A.15. Business Formation Regressions, NAICS Codes for Dispensaries, 2010-2014

| African American Asian As | Independent Veriables | | Specification | | |
|--|---------------------------------|---------|---------------|---------|--|
| African American (47.58) (46.09) (46.04) Hispanic (36.9) (36.79) (36.95) Asian (18.13) (18.55) (18.48) Native American (10.44) (14.49) (14.42) Two or more races (10.44) (10.32) (10.32) Age (60.30) (59.63) (60.29) Age (10.44) (66.10) (66.09) (66.09) Age (10.44) (66.10) (66.09) (66.09) Age (10.44) (4.66) (5.76) (5.23) MDMA (4.66) (5.76) (5.23) MDMA*African American MDMA*Asian (1.94) (1.59) MDMA*Native American (1.52) (1.59) MDMA*Native American (1.52) (1.59) MDMA*Nonminority Female (1.52) (1.59) MDMA*Nonminority Female (1.52) (1.52) (1.59) MDMA*Nonminority Female (1.52) (1.52) (1.52) MDMA*Nonminority Female (1.84) (1.84) (1.84) MDMA*Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes | Independent Variables | (1) | (2) | (3) | |
| Hispanic -0.038 | A frican American | -0.062 | -0.063 | -0.062 | |
| Asian | African American | (47.58) | (46.09) | (46.04) | |
| Asian | Hignania | -0.038 | -0.039 | -0.038 | |
| Native American | Hispanic | (36.9) | (36.79) | (36.95) | |
| Native American (18.13) (18.55) (18.48) | Agian | -0.031 | -0.033 | -0.032 | |
| Native American (14.41) (14.49) (14.42) Two or more races -0.027 -0.027 -0.027 Nonminority Female -0.048 -0.048 -0.048 Age (60.30) (59.63) (60.29) Age² (66.10) (66.09) (66.09) Age² (43.28) (43.27) (43.28) MDMA (4.66) (5.76) (5.23) MDMA*African American 0.013 0.009 MDMA*Hispanic 0.013 0.009 MDMA*Asian 0.039 0.034 MDMA*Native American 0.063 (1.52) MDMA*Two or more races 0.005 n/a MDMA*Two or more races 0.005 n/a MDMA*Nonminority Female 0.008 (1.84) Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes </td <td>Asian</td> <td></td> <td>(18.55)</td> <td></td> | Asian | | (18.55) | | |
| Two or more races | Nativa American | -0.053 | -0.053 | -0.053 | |
| Two or more races | Native American | | | | |
| Nonminority Female 10.44 (10.32) (10.46) | Two or more races | -0.027 | -0.027 | -0.027 | |
| Nonminority Female (60.30) (59.63) (60.29) Age 0.014 0.014 0.014 (66.10) (66.09) (66.09) Age² -0.000 -0.000 -0.000 (43.28) (43.27) (43.28) MDMA -0.017 -0.022 -0.019 (4.66) (5.76) (5.23) MDMA*African American 0.013 0.009 (2.13) (1.59) MDMA*Hispanic 0.013 n/a MDMA*Asian 0.039 0.034 (4.17) (3.79) MDMA*Native American 0.063 n/a MDMA*Two or more races 0.005 (0.32) MDMA*Nonminority Female 0.008 MDMA*Nonminority Female 0.008 Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | 1 110 01 11010 14005 | (10.44) | (10.32) | (10.46) | |
| Age | Nonminority Female | -0.048 | | -0.048 | |
| Age (66.10) (66.09) (66.09) Age² -0.000 -0.000 -0.000 MDMA -0.017 -0.022 -0.019 MDMA*African American (2.13) (1.59) MDMA*Hispanic 0.013 (1.94) MDMA*Asian (4.17) (3.79) MDMA*Native American 0.063 (1.52) MDMA*Two or more races 0.005 (0.32) MDMA*Nonminority Female 0.008 (1.84) Education (16 categories) Yes Yes Medication (15 categories) Yes Yes Industry (25 categories) Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Industry (25 categories) Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes | Nominionty Pelliaic | (60.30) | (59.63) | (60.29) | |
| Age ² -0.000 -0.000 -0.000 -0.000 (43.28) MDMA -0.017 -0.022 -0.019 (4.66) (5.76) (5.23) MDMA*African American (2.13) (1.59) MDMA*Hispanic 0.003 (2.13) (1.59) MDMA*Asian 0.039 0.034 (4.17) (3.79) MDMA*Native American (1.52) n/a MDMA*Two or more races (0.32) n/a MDMA*Nonminority Female 0.008 (1.84) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes Yes Industry (25 categories) Yes | Ago | 0.014 | 0.014 | 0.014 | |
| Age (43.28) (43.27) (43.28) MDMA -0.017 -0.022 -0.019 (4.66) (5.76) (5.23) MDMA*African American 0.013 0.009 MDMA*Hispanic 0.013 (1.59) MDMA*Asian 0.039 0.034 MDMA*Native American 0.063 (1.52) MDMA*Two or more races 0.005 0.005 MDMA*Nonminority Female 0.008 n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 978,410 | Age | (66.10) | (66.09) | (66.09) | |
| MDMA (43.28) (43.27) (43.28) (43.28) (43.27) (43.28) (43.28) (43.27) (43.28) (43.28) (43.27) (43.28) (43.28) (43.27) (43.28) (43.28) (43.27) (43.28) (43.28) (4.66) (5.76) (5.76) (5.23) (5.23) (1.59) (1 | $\Delta \cos^2$ | -0.000 | -0.000 | -0.000 | |
| MDMA (4.66) (5.76) (5.23) MDMA*African American 0.013 0.009 MDMA*Hispanic 0.013 (1.59) MDMA*Asian 0.039 0.034 MDMA*Native American 0.063 (1.52) MDMA*Two or more races 0.005 0.005 MDMA*Nonminority Female 0.008 (1.84) Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | Age | (43.28) | (43.27) | (43.28) | |
| (4.66) (5.76) (5.23) (5.23) (1.59) (2.13) (1.59) (1.59) (1.59) (1.59) (1.59) (1.59) (1.94) | MDMA | -0.017 | -0.022 | -0.019 | |
| MDMA*African American (2.13) (1.59) MDMA*Hispanic 0.013 n/a MDMA*Asian 0.039 0.034 MDMA*Native American 0.063 n/a MDMA*Two or more races 0.005 n/a MDMA*Nonminority Female 0.008 n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | WDWA | (4.66) | (5.76) | (5.23) | |
| MDMA*Hispanic | MDM A * A frican American | | 0.013 | 0.009 | |
| MDMA*Hispanic (1.94) n/a MDMA*Asian 0.039 0.034 MDMA*Native American 0.063 (1.52) MDMA*Two or more races 0.005 (0.32) MDMA*Nonminority Female 0.008 (1.84) Education (16 categories) Yes Yes Geography (51 categories) Yes Yes Industry (25 categories) Yes Yes N 978,410 978,410 978,410 | WDWA Affican American | | (2.13) | (1.59) | |
| MDMA*Asian | MDMA*Hispanic | | | n/a | |
| MDMA*Asian (4.17) (3.79) MDMA*Native American 0.063 n/a MDMA*Two or more races 0.005 n/a MDMA*Nonminority Female 0.008 n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | WIDWIA Thispanic | | (1.94) | 11/ a | |
| (4.17) (3.79) (3.79) (4.17) (4.17) (4.17) (4.17) (4.1 | MDM A * A sian | | 0.039 | 0.034 | |
| MDMA*Native American (1.52) n/a MDMA*Two or more races 0.005 (0.32) n/a MDMA*Nonminority Female 0.008 (1.84) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | WIDWIA ASIAII | | | (3.79) | |
| MDMA*Two or more races | MDM A*Native American | | | n/a | |
| MDMA*Two or more races (0.32) n/a MDMA*Nonminority Female 0.008 (1.84) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | WIDWIA Native American | | | 11/ a | |
| MDMA*Nonminority Female | MDM A *Two or more races | | | n/a | |
| MDMA*Nonminority Female (1.84) n/a Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | WDWA 1 wo of more faces | | | 11/ a | |
| Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | MDM A *Nonminority Famala | | 0.008 | n/a | |
| Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | TVIDIVIA NOIHIIIIOIITY FEIIIAIC | | (1.84) | 11/ a | |
| Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | Education (16 categories) | Yes | Yes | Yes | |
| Industry (25 categories) Yes Yes Yes N 978,410 978,410 978,410 | Geography (51 categories) | Yes | Yes | Yes | |
| N 978,410 978,410 978,410 | Industry (25 categories) | Yes | Yes | Yes | |
| Pseudo R ² .1466 .1466 .1466 | | 978,410 | 978,410 | | |
| | Pseudo R ² | .1466 | .1466 | .1466 | |



 $Table\ A.16.\ Business\ Formation\ Regressions,\ NAICS\ Codes\ for\ Independent\ Testing\ Laboratories,\ 2010-2014$

| Indonesident Veriables | | Specification | | |
|-----------------------------------|---------|--|---------|--|
| Independent Variables | (1) | (2) | (3) | |
| A Cui ann A maniann | -0.072 | -0.072 | -0.072 | |
| African American | (45.00) | (42.99) | (44.85) | |
| Hispanic | -0.047 | -0.047 | -0.047 | |
| riispanie | (38.01) | (37.87) | (37.88) | |
| Asian | -0.041 | -0.043 | -0.043 | |
| Asian | (20.07) | (20.46) | (20.46) | |
| Native American | -0.060 | -0.060 | -0.060 | |
| Ivative American | (13.79) | (13.79) | (13.81) | |
| Two or more races | -0.031 | -0.031 | -0.031 | |
| I wo of more faces | (10.06) | (9.98) | (10.08) | |
| Nonminority Female | -0.057 | -0.057 | -0.057 | |
| | (59.32) | (58.68) | (58.71) | |
| Age | 0.016 | 0.016 | 0.016 | |
| 11gc | (59.85) | (59.85) | (59.85) | |
| Age^2 | -0.000 | -0.000 | -0.000 | |
| 7.50 | (38.55) | (38.55) | (38.55) | |
| MDMA | -0.023 | | -0.029 | |
| TVID IVII I | (5.54) | / | (6.53) | |
| MDMA*African American | | | n/a | |
| TAID TAIL THE COMPANY THE COMPANY | | | | |
| MDMA*Hispanic | | | 0.015 | |
| THE INIT THIS PAIN C | | (38.55) -0.029 (6.50) 0.000 (0.03) 0.015 (1.97) 0.047 | (1.95) | |
| MDMA*Asian | | | 0.047 | |
| | | (4.27) | (4.26) | |
| MDMA*Native American | | 0.032 | n/a | |
| | | (0.69) | 11/ 44 | |
| MDMA*Two or more races | | 0.008 | n/a | |
| | | (0.47) | | |
| MDMA*Nonminority Female | | 0.011 | 0.011 | |
| · | | (2.16) | (2.15) | |
| Education (16 categories) | Yes | Yes | Yes | |
| Geography (51 categories) | Yes | Yes | Yes | |
| Industry (25 categories) | Yes | Yes | Yes | |
| N | 764,035 | 764,035 | 764,035 | |
| Pseudo R ² | .1370 | .1370 | .1370 | |



Table A.17. Business Formation Regressions, NAICS Codes for Ancillary Activities, 2010-2014

| African American -0.060 -0.061 -0.061 -0.061 -0.061 (48.62) -0.034 -0.035 -0.035 -0.035 -0.035 -0.035 -0.035 -0.048 -0.049 -0.049 -0.049 -0.049 -0.032 -0.018 -0.018 -0.019 -0.018 -0.018 -0.018 -0.018 -0.018 -0.011 -0.011 -0.011 -0.011 -0.011 -0.011 -0.011 -0.011 -0.011 -0.011 -0.011 -0.011 -0.000 -0.0 | Independent Veriables | | Specification | | |
|--|----------------------------|---------|---|---------|--|
| African American (50.00) (48.62) (48.62) (48.62) (48.62) (48.62) (48.62) (-0.034) (-0.035) (-0.035) (-0.035) (-0.035) (-0.048) (-0.049) (-0.049) (-0.048) (-0.049) (-0.049) (-0.038) (-0.032) (-0.032) (-0.032) (-0.032) (-0.032) (-0.032) (-0.032) (-0.032) (-0.018) (-0.019) (-0.018) (-0.018) (-0.019) (-0.018) (-0.016) (-0.018) (-0.018) (-0.016) (-0.018) (-0.018) (-0.016) (-0.018) (-0.018) (-0.011) (-0.011) (-0.011) (-0.011) (-0.011) (-0.011) (-0.011) (-0.011) (-0.011) (-0.011) (-0.011) (-0.011) (-0.026) (-0.041) (-0.040) (-0.026) (-0.041) (-0.040) (-0.026) (-0.041) (-0.040) (-0.026) (-0.041) (-0.040) (-0.032) (-0.031) (-0.032) (-0.031) (-0.032) (-0.031) (-0.031) (-0.030) (-0.032) (-0.031) (-0.033) (-0.031) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.034) (-0.036) (-0.035) (-0.036) (-0.036) (-0 | Independent Variables | (1) | (2) | (3) | |
| Hispanic -0.034 -0.035 -0.035 (29.36) (29.35) (29.36) (29.35) (29.36) (29.36) (29.36) (29.36) (29.36) (29.36) (29.36) (38.69) (38.69) (38.69) (38.69) (38.69) (38.69) (38.69) (38.69) (38.69) (6.32) (6.48) (6.39) (6.32) (6.48) (6.39) (6.32) (6.48) (6.39) (6.32) (6.48) (6.39) (6.32) (6.48) (7.42) (7.45) | A frican American | -0.060 | -0.061 | -0.061 | |
| Asian | African American | (50.00) | (48.62) | (48.62) | |
| Asian | Hignania | -0.034 | -0.035 | -0.035 | |
| Asian Native American No more races | Hispanic | (28.91) | (29.36) | (29.35) | |
| Native American (38.60) (38.69) (38.69) (38.69) (-0.032 -0.032 -0.032 (-0.032 (-0.032 (-0.032 (-0.048 (-0.018 -0.019 (-0.018 (-0.000 | Agian | -0.048 | -0.049 | -0.049 | |
| Native American (6.39) (6.32) (6.48) Two or more races -0.018 -0.019 -0.018 Nonminority Female -0.016 -0.018 -0.018 Age 0.011 0.011 0.011 Age² -0.000 -0.000 -0.000 (30.28) (30.27) (30.27) MDMA (8.02) (11.88) (11.89) MDMA*African American 0.032 0.031 (5.15) MDMA*Hispanic 0.031 0.030 (3.93) (3.89) MDMA*Native American 0.046 (6.66) (6.62) MDMA*Nonminority Female 0.012 (0.95) n/a MDMA*Nonminority Female 0.043 (0.043) (10.16) Education (16 categories) Yes Yes Yes Modulative (25 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes | Asian | | | | |
| Two or more races Country Count | Nativa American | | | -0.032 | |
| Two or more races | Native American | | | | |
| Nonminority Female (7.42) | Two or more races | | | | |
| Nonminority Female (21.67) (23.31) (23.30) Age | 1 wo of more faces | | | | |
| Age (21.87) (25.31) (25.30) (21.87) (25.31) (25.30) (21.87) (25.31) (25.30) (21.87) (20.01) (0.011 (0.011 (47.31) (47.31) (47.31) (21.81) (47.32) (47.31) (47.31) (47.31) (21.82) (47.31) (47.31) (47.31) (21.82) (47.31) (47.31) (47.31) (21.82) (47.31) (47.31) (47.31) (21.82) (47.31) (47.31) (47.31) (21.82) (47.31) (47.31) (47.31) (21.82) (47.31) (47.31) (47.31) (21.82) (47.31) (47.31) (21.82) (30.27) (30.27) (30.28) (30.27) (30.27) (8.02) (11.88) (11.89) (8.02) (11.88) (11.89) (8.02) (0.032 (0.031) (5.15) (5.11) (5.15) (5.11) (6.15) (5.11) (7.11) (7.11) (7.11) (7.12) (7.12) (7.12) (7.12) (7.12) (7.12) (7. | Nonminority Female | -0.016 | | -0.018 | |
| Age (47.32) (47.31) (47.31) Age² -0.000 -0.000 -0.000 MDMA -0.026 -0.041 -0.040 MDMA*African American (8.02) (11.88) (11.89) MDMA*Hispanic 0.031 0.030 MDMA*Asian 0.046 (6.66) 0.046 MDMA*Native American -0.034 n/a MDMA*Two or more races 0.012 n/a MDMA*Nonminority Female 0.043 0.043 Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes N 715,307 715,307 715,307 715,307 | 1. Comminority I Chiaic | | | | |
| Age ² | Λαρ | 0.011 | 0.011 | | |
| Age (30.28) (30.27) (30.27) MDMA -0.026 -0.041 -0.040 (8.02) (11.88) (11.89) MDMA*African American 0.032 0.031 MDMA*Hispanic 0.031 0.030 MDMA*Asian 0.046 (6.66) (6.62) MDMA*Native American -0.034 n/a MDMA*Two or more races 0.012 n/a MDMA*Nonminority Female 0.043 0.043 Education (16 categories) Yes Yes Geography (51 categories) Yes Yes Industry (25 categories) Yes Yes N 715,307 715,307 715,307 | Age | | | | |
| MDMA -0.026 | Λae^2 | | | | |
| MDMA (8.02) (11.88) (11.89) MDMA*African American 0.032 0.031 MDMA*Hispanic 0.031 0.030 MDMA*Asian 0.046 0.046 MDMA*Native American 0.012 0.012 MDMA*Two or more races 0.012 0.043 MDMA*Nonminority Female 0.043 0.043 Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | Age | | | (30.27) | |
| MDMA*African American (8.02) (11.88) (11.89) MDMA*African American 0.032 0.031 (5.11) MDMA*Hispanic 0.031 0.030 (3.93) (3.89) MDMA*Asian 0.046 0.046 (6.66) (6.62) MDMA*Native American -0.034 (0.83) n/a MDMA*Two or more races 0.012 (0.95) n/a MDMA*Nonminority Female 0.043 (10.16) (10.16) Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | MDMA | | | | |
| MDMA*African American (5.15) (5.11) MDMA*Hispanic 0.031 0.030 MDMA*Asian 0.046 0.046 MDMA*Native American -0.034 (6.66) MDMA*Two or more races 0.012 n/a MDMA*Nonminority Female 0.043 0.043 Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | 141121417.1 | (8.02) | | | |
| MDMA*Hispanic MDMA*Asian MDMA*Native American MDMA*Two or more races MDMA*Nonminority Female Education (16 categories) MDMA*Nonminority (51 categories) MDMA*Two or more races MDMA*Two or more races MDMA*Nonminority Female MDMA*Nonminori | MDMA*African American | | | | |
| MDMA*Hispanic (3.93) (3.89) MDMA*Asian 0.046 0.046 MDMA*Native American -0.034 (0.83) MDMA*Two or more races 0.012 n/a MDMA*Nonminority Female 0.043 0.043 Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | WIDWA Affical American | | | | |
| MDMA*Asian (3.93) (3.89) | MDMA*Hispanic | | | | |
| MDMA*Asian (6.66) (6.62) MDMA*Native American -0.034 (0.83) n/a MDMA*Two or more races 0.012 (0.95) n/a MDMA*Nonminority Female 0.043 (10.16) 0.043 (10.16) Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | 111D1VII I IIISpuille | | -0.032 (6.32) -0.019 (7.45) -0.018 (23.31) (0.011 (47.31) -0.000 (30.27) -0.041 (11.88) (0.032 (5.15) (0.031 (3.93) 0.046 (6.66) -0.034 (0.83) (0.95) 0.043 (10.16) | | |
| MDMA*Native American | MDM A * A sian | | | | |
| MDMA*Native American (0.83) n/a MDMA*Two or more races 0.012 (0.95) n/a MDMA*Nonminority Female 0.043 (10.16) 0.043 (10.16) Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | TVIDIVITY TIGITAL | | · · · · · · | (6.62) | |
| MDMA*Two or more races | MDM A*Native American | | | n/a | |
| MDMA*Two or more races (0.95) n/a MDMA*Nonminority Female 0.043 (10.16) 0.043 (10.16) Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | WIDWIT TAUTY C TAINCHCUIT | | | 11/ 4 | |
| MDMA*Nonminority Female | MDMA*Two or more races | | | n/a | |
| MDMA*Nonminority Female (10.16) (10.16) Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | WIDWIA 1 WO OF INOIC faces | | | | |
| Education (16 categories) Yes Yes Yes Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | MDMA*Nonminority Female | | | | |
| Geography (51 categories) Yes Yes Yes Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | • | | | | |
| Industry (25 categories) Yes Yes Yes N 715,307 715,307 715,307 | Education (16 categories) | Yes | Yes | Yes | |
| N 715,307 715,307 715,307 | Geography (51 categories) | Yes | Yes | Yes | |
| 710,007 710,007 | Industry (25 categories) | Yes | Yes | Yes | |
| Pseudo R ² .1391 .1394 .1394 | N | 715,307 | 715,307 | 715,307 | |
| | Pseudo R ² | .1391 | .1394 | .1394 | |



Table A.18. Business Formation Regressions, NAICS Codes for Growers, Processors, Dispensaries and Independent Testing Laboratories Combined, 2010-2014

| African American -0.066 | 3) 066 .86) 053 .38) 041 .17) |
|---|---|
| African American (56.57) (54.87) (54 Hispanic Asian (57.37) (57.38) (57 -0.040 -0.041 -0.041 (27.35) (27.17) (27 -0.055 -0.056 -0.041 (16.24) (16.32) (16 | .86) 053 .38) 041 .17) |
| Hispanie (56.57) (54.87) (54 Hispanie (57.37) (57.38) (57 Asian (27.35) (27.17) (27 Native American (16.24) (16.32) (16 | 053 .38) 041 .17) |
| Asian (57.37) (57.38) (57 Asian (27.35) (27.17) (27 Native American (16.24) (16.32) (16 | .38) 041 .17) |
| Asian (57.37) (57.38) | 041 .17) |
| Asian (27.35) (27.17) (27 Native American (27.35) -0.056 -0.056 (16.24) (16.32) (16 | .17) |
| Native American (27.35) (27.17) (27 -0.055 -0.056 -0.056 (16.24) (16.32) (16 | |
| Native American (16.24) (16.32) (16 | 055 |
| (16.24) (16.32) (16 | |
| | .29) |
| I wo or more races | 029 |
| (12./3) (12.48) $(12$ | .73) |
| INonminority Hamala | 057 |
| (80.22) (79.77) (79 | .78) |
| Ι Δ σε |)12 |
| (66.79) (66.78) (66 | .78) |
| ΙΔ σε- | 000 |
| (39.10) (39.08) (39 | .08) |
| | 032 |
| (7.49) (9.38) (9. | 38) |
| IMIDMA * A trican American |)17 |
| (2.98) (2. | 95) |
| IMI IM A * Highoria |)26 |
| (4.20) $(4.$ | 18) |
| IN/IN/IA * A crop |)21 |
| (2./5) (2. | 73) |
| MDMA*Native American | /a |
| (1.40) | |
| MDMA*Two or more races -0.000 n | /a |
| (0.03) | |
| IMI M A * Nonminority Hemale |)21 |
| (5.24) (5. | 22) |
| ` ` ` ' | es |
| | es |
| | es |
| | 7,063 |
| Pseudo R ² .1551 .1551 .15 | |



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