APPENDIX N
STATE OF OREGON
PUMS REGRESSION ANALYSIS

EXHIBIT N-a
RESULTS OF LOGISTIC REGRESSION
EXPLANATION OF RESULTS AND VARIABLES

Logistic Regression Output

Below, variable names and operational definitions are provided. When interpreting **Exhibits N-1 to N-5**, the third column—Exp (B)—is the most informative index with regard to the influence of the independent variables on the likelihood of being self-employed. From the inverse of this value, we can interpret a likelihood value of its effect on self-employment. For example the Exp (B) for an African American is .467, from **Exhibit N-1**, the inverse of this is 2.14. This means that a nonminority male is 2.14 times more likely to be self-employed than an African American. Columns A and B are reported as a matter of convention to give the reader another indicator of both the magnitude of the variable's effect and the direction of the effect ("-" suggests the greater the negative B value the more it depresses the likelihood of being self-employed, and vice versa for a positive B value. It is noteworthy that theoretically "race-neutral" variables (e.g., marital status) tend to impact the likelihood of self-employment positively and that the race/ethnicity/gender variables, in general, tend to have a negative effect on self-employment.

Variables

Race, ethnicity, and gender indicator variables:

African American
Asian American
Hispanic American
Native American
Sex: Nonminority woman or not

Other indicator variables:

Marital Status: Married or not
Age
Age2: age squared. Used to acknowledge the positive, curvilinear relationship between each year of age and self-employment.
Disability: Individuals self-reported health-related disabilities.
Tenure: Owns their own home
Value: Household property value.
Mortgage: Monthly total mortgage payments.
Unearn: Unearned income, such as interests and dividends.
Resdinc: Household income less individuals personal income.
P65: Number of individuals over the age of 65 living in the household.
P18: Number of children under the age of 18 living in the household.
Some College: Some college education
College Graduate: College degree
More than College: Professional or graduate degree

EXHIBIT N-1
RESULTS OF LOGISTIC REGRESSION OVERALL

State of Oregon			
	B	**Sig.**	**Exp (B)**
African American	**-0.762**	0.000	0.467
Hispanic American	**-0.729**	0.000	0.482
Asian American	-0.132	0.117	0.877
Native American	**-0.450**	0.000	0.637
Sex (1=Female)	**-0.695**	0.000	0.499
Marital Status (1=Married)	**0.158**	0.000	1.171
Age	**0.092**	0.000	1.096
Age2	**-0.001**	0.000	0.999
Disability (1=Yes)	-0.041	0.343	0.960
Tenure (1=Yes)	**0.283**	0.000	1.327
Value	**0.026**	0.000	1.026
Mortgage	**0.000**	0.000	1.000
Unearn	**0.000**	0.000	1.000
Resdinc	0.000	0.212	1.000
P65	0.050	0.334	1.051
P18	**0.072**	0.000	1.075
Some College (1=Yes)	**0.080**	0.027	1.084
College Graduate (1=Yes)	-0.034	0.440	0.966
More than College (1=Yes)	**0.099**	0.050	1.105
Number of Observations	42587		
Chi-squared statistic (df=19)	2116.475		
Log Likelihood	-31211.93		

Note: **BOLD** Statistically significant at $p < .05$.
Estimation was conducted using the Binary Logistic command on SPSS. The Binary Logistic command performs binary logistic regressions and reports estimated coefficients and odds ratios that measure the effect on the probability of each one-unit increase in the included variables.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-2
RESULTS OF LOGISTIC REGRESSION
CONSTRUCTION

State of Oregon			
	B	**Sig.**	**Exp (B)**
African American	**-0.943**	0.033	0.389
Hispanic American	**-0.489**	0.009	0.613
Asian American	**-0.636**	0.048	0.530
Native American	-0.457	0.079	0.633
Sex (1=Female)	**-0.638**	0.000	0.528
Marital Status (1=Married)	**0.187**	0.020	1.206
Age	**0.094**	0.001	1.098
Age2	**-0.001**	0.026	0.999
Disability (1=Yes)	-0.045	0.621	0.956
Tenure (1=Yes)	0.057	0.649	1.059
Value	**0.031**	0.000	1.032
Mortgage	0.000	0.715	1.000
Unearn	**0.000**	0.002	1.000
Resdinc	0.000	0.217	1.000
P65	-0.193	0.149	0.825
P18	**0.084**	0.004	1.088
Some College (1=Yes)	**0.161**	0.027	1.175
College Graduate (1=Yes)	0.002	0.983	1.002
More than College (1=Yes)	-0.006	0.969	0.994
Number of Observations	5351		
Chi-squared statistic (df=19)	319.5062		
Log Likelihood	-5779.077		

Note: **BOLD** Statistically significant at $p < .05$.
Estimation was conducted using the Binary Logistic command on SPSS. The Binary Logistic command performs binary logistic regressions and reports estimated coefficients and odds ratios that measure the effect on the probability of each one-unit increase in the included variables.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-3
RESULTS OF LOGISTIC REGRESSION
PROFESSIONAL SERVICES

State of Oregon			
	B	**Sig.**	**Exp (B)**
African American	**-0.934**	0.004	0.393
Hispanic American	**-0.893**	0.000	0.409
Asian American	**-1.083**	0.000	0.339
Native American	-0.530	0.051	0.588
Sex (1=Female)	**-1.477**	0.000	0.228
Marital Status (1=Married)	-0.089	0.322	0.914
Age	**0.137**	0.000	1.147
Age2	**-0.001**	0.002	0.999
Disability (1=Yes)	0.025	0.829	1.025
Tenure (1=Yes)	**0.314**	0.021	1.369
Value	**0.020**	0.012	1.020
Mortgage	**0.000**	0.000	1.000
Unearn	0.000	0.123	1.000
Resdinc	**0.000**	0.025	1.000
P65	**0.382**	0.001	1.465
P18	**0.083**	0.013	1.086
Some College (1=Yes)	-0.003	0.985	0.997
College Graduate (1=Yes)	0.181	0.173	1.199
More than College (1=Yes)	**0.889**	0.000	2.433
Number of Observations	11613		
Chi-squared statistic (df=19)	1123.037		
Log Likelihood	-5935.262		

Note: **BOLD** Statistically significant at p < .05.
Estimation was conducted using the Binary Logistic command on SPSS. The Binary Logistic command performs binary logistic regressions and reports estimated coefficients and odds ratios that measure the effect on the probability of each one-unit increase in the included variables.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-4
RESULTS OF LOGISTIC REGRESSION
OTHER SERVICES

State of Oregon			
	B	**Sig.**	**Exp (B)**
African American	**-0.508**	0.018	0.602
Hispanic American	**-0.491**	0.000	0.612
Asian American	0.260	0.028	1.297
Native American	**-0.433**	0.012	0.648
Sex (1=Female)	**0.001**	0.980	1.001
Marital Status (1=Married)	**0.276**	0.000	1.318
Age	**0.107**	0.000	1.113
Age2	**-0.001**	0.000	0.999
Disability (1=Yes)	-0.156	0.023	0.856
Tenure (1=Yes)	0.268	0.004	1.307
Value	**0.027**	0.000	1.027
Mortgage	**0.000**	0.000	1.000
Unearn	**0.000**	0.000	1.000
Resdinc	0.000	0.773	1.000
P65	0.120	0.121	1.128
P18	**0.091**	0.000	1.096
Some College (1=Yes)	0.035	0.533	1.035
College Graduate (1=Yes)	-0.051	0.484	0.951
More than College (1=Yes)	-0.789	0.000	0.454
Number of Observations	12727		
Chi-squared statistic (df=19)	729.3855		
Log Likelihood	-11269.89		

Note: **BOLD** Statistically significant at p < .05.
Estimation was conducted using the Binary Logistic command on SPSS. The Binary Logistic command performs binary logistic regressions and reports estimated coefficients and odds ratios that measure the effect on the probability of each one-unit increase in the included variables.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-5
RESULTS OF LOGISTIC REGRESSION
GOODS AND SUPPLIES

State of Oregon			
	B	**Sig.**	**Exp (B)**
African American	-0.676	0.144	0.509
Hispanic American	**-0.419**	0.037	0.658
Asian American	**0.535**	0.003	1.708
Native American	-0.008	0.976	0.992
Sex (1=Female)	-0.063	0.452	0.939
Marital Status (1=Married)	**0.258**	0.005	1.294
Age	**0.109**	0.001	1.115
Age2	-0.001	0.055	0.999
Disability (1=Yes)	0.045	0.656	1.046
Tenure (1=Yes)	**0.458**	0.000	1.580
Value	**0.045**	0.000	1.046
Mortgage	**0.000**	0.015	1.000
Unearn	**0.000**	0.003	1.000
Resdinc	0.000	0.069	1.000
P65	-0.146	0.261	0.864
P18	-0.007	0.847	0.993
Some College (1=Yes)	**0.412**	0.000	1.511
College Graduate (1=Yes)	**0.621**	0.000	1.861
More than College (1=Yes)	**0.860**	0.000	2.363
Number of Observations	12896		
Chi-squared statistic (df=19)	641.3002		
Log Likelihood	-6035.7		

Note: **BOLD** Statistically significant at $p < .05$.
Estimation was conducted using the Binary Logistic command on SPSS. The Binary Logistic command performs binary logistic regressions and reports estimated coefficients and odds ratios that measure the effect on the probability of each one-unit increase in the included variables.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-b
RESULTS OF LINEAR REGRESSION
EXPLANATION OF RESULTS AND VARIABLES

Linear Regression Output

Below, variable names and operational definitions are provided. When interpreting the linear regression **Exhibits N-6 to N-10**, the first column—Unstandardized B—is the most informative index with regard to the influence of the independent variables on the earnings of a self-employed individual. Each number in this column represents a percent change in earnings. For example the corresponding number for an African American is -.178, from **Exhibit N-6**, meaning that an African American will earn 17.8 percent less than a nonminority male. The other four columns are reported in order to give the reader another indicator of both the magnitude of the variable's effect and the direction of the effect. Std. Error reports the standard deviation in the sampling distribution. Standardized B reports the standard deviation change in the dependent variable from on standard deviation increase in the independent variable. The t and Sig. columns simply report the level and strength of a variable's significance.

Variables

Race, ethnicity and gender indicator variables:

African American
Asian American
Hispanic American
Native American
Nonminority Woman

Other indicator variables:

Marital Status: Married or not
Disability: Individuals self-reported health-related disabilities.
Age
Age2: age squared. Used to acknowledge the positive, curvilinear relationship between each year of age and self-employment.
Speaks English Well: Person's ability to speak English if not a native speaker.
Some College: Some college education
College Graduate: College degree
More than College: Professional or graduate degree

EXHIBIT N-6
RESULTS OF LINEAR REGRESSION
OVERALL

State of Oregon					
	Unstandardized		**Standardized**		
	B	**Std. Error**	**B**	**t**	**Sig.**
African American	-0.178	0.122	-0.018	-1.463	0.144
Hispanic American	**-0.365**	0.071	-0.068	-5.144	0.000
Asian American	**-0.276**	0.068	-0.054	-4.063	0.000
Native American	**-0.220**	0.087	-0.031	-2.518	0.012
Nonminority Women (1=Female)	**-0.449**	0.026	-0.216	-17.193	0.000
Marital Status (1=Married)	**0.169**	0.026	0.080	6.478	0.000
Disability (1=Yes)	**-0.074**	0.033	-0.028	-2.233	0.026
Age	**0.070**	0.010	0.731	6.818	0.000
Age2	**-0.001**	0.000	-0.709	-6.619	0.000
Speaks English Well (1=Yes)	-0.012	0.047	-0.004	-0.264	0.792
Some College (1=Yes)	**0.127**	0.027	0.067	4.643	0.000
College Graduate (1=Yes)	**0.347**	0.033	0.150	10.540	0.000
More than College (1=Yes)	**0.735**	0.037	0.282	20.130	0.000
Constant	8.662	0.226		38.346	0.000

Note: **BOLD** Statistically significant at $p < .05$.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-7
RESULTS OF LINEAR REGRESSION
CONSTRUCTION

State of Oregon					
	Unstandardized		Standardized		
	B	Std. Error	B	t	Sig.
African American	-0.367	0.308	-0.031	-1.190	0.234
Hispanic American	0.070	0.134	0.015	0.520	0.603
Asian American	-0.171	0.220	-0.021	-0.777	0.437
Native American	-0.068	0.175	-0.010	-0.391	0.696
Nonminority Women (1=Female)	**-0.345**	0.087	-0.106	-3.971	0.000
Marital Status (1=Married)	**0.208**	0.049	0.114	4.267	0.000
Disability (1=Yes)	-0.045	0.059	-0.021	-0.762	0.446
Age	**0.055**	0.018	0.687	3.063	0.002
Age2	**-0.001**	0.000	-0.711	-3.176	0.002
Speaks English Well (1=Yes)	-0.179	0.094	-0.054	-1.901	0.058
Some College (1=Yes)	**0.097**	0.046	0.062	2.142	0.032
College Graduate (1=Yes)	**0.265**	0.064	0.120	4.144	0.000
More than College (1=Yes)	**0.309**	0.102	0.085	3.014	0.003
Constant	9.062	0.391		23.204	0.000

Note: **BOLD** Statistically significant at $p < .05$.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-8
RESULTS OF LINEAR REGRESSION
PROFESSIONAL SERVICES

State of Oregon					
	Unstandardized		**Standardized**		
	B	**Std. Error**	**B**	**t**	**Sig.**
African American	0.389	0.269	0.041	1.444	0.149
Hispanic American	**-0.452**	0.213	-0.062	-2.126	0.034
Native American	0.079	0.197	0.012	0.398	0.691
Asian American	-0.114	0.224	-0.014	-0.507	0.612
Nonminority Women (1=Female)	**-0.481**	0.066	-0.218	-7.297	0.000
Marital Status (1=Married)	**0.167**	0.067	0.071	2.481	0.013
Disability (1=Yes)	**-0.213**	0.093	-0.066	-2.300	0.022
Age	**0.104**	0.029	0.907	3.571	0.000
Age2	**-0.001**	0.000	-0.899	-3.546	0.000
Speaks English Well (1=Yes)	-0.048	0.106	-0.014	-0.456	0.648
Some College (1=Yes)	**0.269**	0.114	0.106	2.368	0.018
College Graduate (1=Yes)	**0.487**	0.111	0.215	4.370	0.000
More than College (1=Yes)	**0.790**	0.106	0.405	7.442	0.000
Constant	8.111	0.649		12.489	0.000

Note: **BOLD** Statistically significant at $p < .05$.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-9
RESULTS OF LINEAR REGRESSION
OTHER SERVICES

State of Oregon					
	Unstandardized		**Standardized**		
	B	**Std. Error**	**B**	**t**	**Sig.**
African American	**-0.456**	0.162	-0.057	-2.822	0.005
Hispanic American	**-0.500**	0.102	-0.108	-4.901	0.000
Asian American	**-0.429**	0.089	-0.108	-4.788	0.000
Native American	**-0.293**	0.127	-0.046	-2.302	0.021
Nonminority Women (1=Female)	**-0.421**	0.037	-0.237	-11.411	0.000
Marital Status (1=Married)	**0.078**	0.038	0.041	2.050	0.040
Disability (1=Yes)	-0.075	0.049	-0.031	-1.514	0.130
Age	**0.043**	0.015	0.495	2.827	0.005
Age2	**0.000**	0.000	-0.420	-2.399	0.017
Speaks English Well (1=Yes)	0.128	0.073	0.042	1.764	0.078
Some College (1=Yes)	**0.107**	0.039	0.062	2.729	0.006
College Graduate (1=Yes)	**0.264**	0.050	0.119	5.318	0.000
More than College (1=Yes)	**0.268**	0.074	0.077	3.635	0.000
Constant	9.139	0.335		27.251	0.000

Note: **BOLD** Statistically significant at $p < .05$.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.

EXHIBIT N-10
RESULTS OF LINEAR REGRESSION
GOODS AND SUPPLIES

State of Oregon					
	Unstandardized		Standardized		
	B	Std. Error	B	t	Sig.
African American	0.366	0.386	0.030	0.949	0.343
Hispanic American	**-0.471**	0.172	-0.091	-2.736	0.006
Asian American	0.021	0.160	0.005	0.134	0.894
Native American	-0.342	0.213	-0.051	-1.606	0.109
Nonminority Women (1=Female)	**-0.443**	0.065	-0.220	-6.825	0.000
Marital Status (1=Married)	**0.271**	0.071	0.124	3.797	0.000
Disability (1=Yes)	0.006	0.082	0.002	0.072	0.943
Age	**0.086**	0.027	0.887	3.218	0.001
Age2	**-0.001**	0.000	-0.896	-3.264	0.001
Speaks English Well (1=Yes)	-0.089	0.117	-0.029	-0.765	0.445
Some College (1=Yes)	0.099	0.068	0.054	1.453	0.147
College Graduate (1=Yes)	**0.223**	0.080	0.102	2.767	0.006
More than College (1=Yes)	**0.395**	0.118	0.114	3.355	0.001
Constant	8.349	0.603		13.846	0.000

Note: **BOLD** Statistically significant at $p < .05$.
Source: The Public Use Microdata Samples (PUMS) data from 2000 Census of Population and MGT of America, Inc. Calculations using SPSS.