DOES THE OWNERS' GENDERS IMPACT THEIR BUSINESS' ANNUAL PAYROLL?

Abstract

This paper will explore the impact of business owners' gender and their gender-owned business type on their business' annual payroll. It will estimate this impact through an OLS regression controlling for both owners' characteristics and their businesses' characteristics using the public use microdata sample (PUMS) data from the 2007 Survey of Business Owners and Self-Employed Persons (SBO). The results, when tested independently, demonstrate that the estimates of β_1 and β_2 are statistically far from 0 at the 1% level. The results also demonstrate a statistically significant affect on annual payroll when businesses are equally male/female-owned and male-owned. This paper also encourages others to further examine gender differences in entrepreneurship.

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I. Introduction

According to the Bureau of Labor Statistics, wages and salaries per hour worked accounted for 70.4 percent of employer costs for employee compensation in June 2011. Besides wages and salaries, benefit plans are also a factor that drives up payroll costs. The Bureau of Labor Statistics states that the employer portion of insurance, employer contributions to pensions, and other retirement plans make up 29.6 percent of employer costs for employee compensation. This paper will use the public use microdata sample (PUMS) data from the 2007 Survey of Business Owners and Self-Employed Persons (SBO) to explore factors that contribute to businesses' payroll. These factors consist of the characteristics of owners and of their businesses the U.S. Census Bureau collects. This paper will focus on the characteristics of business owners and businesses that stated only having two owners and who's both owners have 50% ownership of their business.

To further explore the variation between a businesses' payroll and revenue, Graph 1 demonstrates the scatter plot correlation of payroll and revenue for all firms. Furthermore, the PUMS data table estimates the cumulative female-owned businesses' revenue and payroll to be $1,195,409,097 and $214,671,261 respectively. Male-owned businesses had a cumulative revenue and payroll of $8,476,983,539 and $1,510,617,296, respectively as well. It also estimates equally male/female-owned businesses' revenue as $1,275,146,944 and payroll as $215,515,521. Using these estimates, the cumulative payroll percentage of revenue makes up 17.96%, 17.82%, 16.90% for female-owned businesses, male-owned business, and equally male/female-owned businesses respectively. This demonstrates payroll taking up 1% less of revenue for equally male/female-owned businesses compared to male-owned and female-owned businesses. These results raise the following question: does the genders of the owners impact the amount a business spends on payroll?

To further explore the payroll and revenue differences of equally male/female-owned, male-owned and female-owned, Graphs 2-5 graphically demonstrate the payroll and revenue variation based on the genders of owners 1 and owner 2. Businesses with a female owner 1 and male owner 2 demonstrate graphically a steeper correlation between businesses' payrolls and revenues, demonstrated in Graph 5. To expand more on the difference in payroll due to the genders of owner 1 and owner 2, Table 1 demonstrates a 1% decrease in the mean percentage of revenue spent on payroll on businesses who had a female secondary owner. To explore this

variation in businesses' annual payroll, this paper will explore how the genders of owners in a two owner equally-owned business impact their business' annual payroll. It will observe the impact of the gender of owner 1 and owner 2 on their business' annual payroll, captured by β_1 and β_2. This paper hypothesizes that β_1 and β_2 are not zero through a linear regression using the PUMS data from the 2007 Survey of Business Owners and Self-Employed Persons (SBO).

II. Literature Review

Although the literature exploring gender differences in entrepreneurship and ownership is limited due it being a topic recently explored in economics, the issue of gender and entrepreneurship has been well recognized. The existing literature mentions the challenge of addressing this difference. Fisher states that it has been an obstacle understanding the nature and implications of issues related to sex, gender, and entrepreneurship due to the lack integrative frameworks (1993). Although gender differences in entrepreneurship are difficult to address, this difference is important to explore due to the importance of entrepreneurship on the economy. King states that entrepreneurship is a contributing factor to economic growth and poverty alleviation (1999). Therefore, it is important to explore gender limitations and gender differences entrepreneurs face. Bonte highlights the relevance of gender differences in competitiveness in the gender gap in latent and nascent entrepreneurship (2012). Their finding suggests that competitively inclined and risk-taking individuals are more likely to be latent or nascent entrepreneurs. Moreover, their results demonstrate that women are less competitively inclined than men and are also less willing to take the risk of starting a new business in almost all countries sampled. Although Bonte explores competitiveness as a limiting aspect of the entry of female entrepreneurship, the study does not explore the determinants of gender differences in competitiveness. To add to the limitations female entrepreneurs face, Khaleque explores the finance limitations of female entrepreneurs (2018). This paper emphases the financial constraints faced by women entrepreneurs and the concurrent effects on business turnovers. The results of this study demonstrate, controlling for characteristics of the firms, the characteristics of the women entrepreneurs, and costs, a 1% increase in availability of credit increases around 6% of monthly sales. This further highlights the credit constraints women entrepreneurs face limiting their business performance. To further explore the gender differences in entrepreneurship, this paper will explore the gender differences in owners impacting their business' annual payroll.

III. Model and Data Specifications

The following linear regression will model the causal impact of the genders of owner 1 and owner 2 on annual payroll:

$$
\begin{aligned}
(1)\ \boldsymbol{AnnualPayroll_i} &= \boldsymbol{\beta_0} + \boldsymbol{\beta_1 Owner1Gender_i} + \boldsymbol{\beta_2 Owner2Gender_i} \\
&+ \boldsymbol{\beta_3 HusbandWifeBusiness_i} + \boldsymbol{\beta_4 HealthInsranceBenefit_i} \\
&+ \boldsymbol{\beta_5 RetirementBenefit_i} + \boldsymbol{\beta_6 ProfitShareBenefit_i} \\
&+ \boldsymbol{\beta_7 PaidHoildays_i} + \boldsymbol{\beta_8 ESales_i} + \boldsymbol{\beta_9 Exports_i} + \boldsymbol{\beta_{10} TwoOwners_i} \\
&+ \boldsymbol{\beta_{11} BachelorOwner1_i} + \boldsymbol{\beta_{12} BachelorOwner2_i} \\
&+ \boldsymbol{\beta_{13} FullTimeEmployees_i} + \boldsymbol{\beta_{14} PartTimeEmployees_i} \\
&+ \boldsymbol{\beta_{15} EstabEmployment_i} + \boldsymbol{\beta_{16} EstabRevenue_i} \\
&+ \boldsymbol{\beta_{17} Owner150\%_i} + \boldsymbol{\beta_{18} Owner250\%_i} + \boldsymbol{\beta_{19} Owner1HoursWorking_i} \\
&+ \boldsymbol{\beta_{20} Owner1HoursWorking_i} + \boldsymbol{\mu_i}
\end{aligned}
$$

Model (1) demonstrates the annual effect of the genders of owner 1 and owner 2, captured by β_1 and β_2, on annual payroll controlling for characteristics of the business and of the primary and secondary owners. The regression's dependent variable is the annual payroll of a business, an integer ranging from $0 to $1,500,000. The independent variables are the genders of owners 1 and owners 2; they are a dummy variable representing 1 if male, 0 if female and "." if not reported. To observe the impact of the gender of owners on their business' annual payroll with little potential omitted variable biases as possible variables are added to the regression as controls.

The justification for these controls are as followed. To control for joint ownership of husband and wife which could influence payroll by owners' wages going to the same household, the dummy variable of Husband/Wife Business (0 = No, 1= Yes and "." if not reported) was added. To control for employee benefits that could make up most of payroll, dummy variables for whether the businesses offered health insurance, retirement benefits, profit share benefits, and paid holidays (0 = No, 1= Yes and "." if not reported) was added. To control for the size of the business that could also have a positive affect on payroll costs, dummy variables for different percentage ranges of Ecommerce sales as % of total sales (ESales) and Exports as % of total sales (Exports), and integer variables for Establishment Employment (EstabEmployment) and Establishment Revenue (EstabRevenue) were added as well. To control for other business'

characteristics that could have a positive influence on payroll, dummy variables for the following were added: whether the business is a two-owner business or not (TwoOwner), whether a business used full-time employees (FullTimeEmployees) and part-time employees (PartTimeEmployees). To control for owner characteristics that could increase payroll due to education usually has a positive increase in wages, dummy variables for whether owner 1 had a bachelor (BachelorOwner1) and whether Owner 2 has a bachelor's degree (BachelorOwner2) were included. To control for equal ownership, the variables Owner150% and Owner250% were included to control for owner 1 and owner 2's both having 50% ownership. Lastly, to control for the amount spent working of each owner that would explain their respective salaries' impact on payroll, a dummy variable ranging from 0 to 5 to represent a range of number of hours worked or managed the business named Owner1HoursWorking and Owner2HoursWorking was also included. Furthermore, the summary statistics of the variables used in the Model (1) can be seen in Table 2.

The following linear regression will model the causal impact of equally male/female-owned, male-owned, and female-owned on annual payroll:

$$
\begin{aligned}
(\mathbf{2})\ \boldsymbol{AnnualPayroll_i} &= \boldsymbol{\beta_0} + \boldsymbol{\beta_1 BusinessGenderOwnedType_i} + \boldsymbol{\beta_2 HusbandWifeBusiness_i} \\
&+ \boldsymbol{\beta_3 HealthInsranceBenefit_i} + \boldsymbol{\beta_4 RetirementBenefit_i} \\
&+ \boldsymbol{\beta_5 ProfitShareBenefit_i} + \boldsymbol{\beta_6 PaidHoildays_i} + \boldsymbol{\beta_7 ESales_i} \\
&+ \boldsymbol{\beta_8 Exports_i} + \boldsymbol{\beta_9 TwoOwners_i} + \boldsymbol{\beta_{10} BachelorOwner1_i} \\
&+ \boldsymbol{\beta_{11} BachelorOwner2_i} + \boldsymbol{\beta_{12} FullTimeEmployees_i} \\
&+ \boldsymbol{\beta_{13} PartTimeEmployees_i} + \boldsymbol{\beta_{14} EstabEmployment_i} \\
&+ \boldsymbol{\beta_{15} EstabRevenue_i} + \boldsymbol{\beta_{16} Owner150\%_i} + \boldsymbol{\beta_{17} Owner250\%_i} \\
&+ \boldsymbol{\beta_{18} Owner1HoursWorking_i} + \boldsymbol{\beta_{19} Owner1HoursWorking_i} + \boldsymbol{\mu_i}
\end{aligned}
$$

Model (2) demonstrates the annual effect of equally male/female-owned, male-owned, and female-owned, captured by β_1, on annual payroll controlling for characteristics of the business and of the primary and secondary owners as in Model (1). The regression's dependent variable is the annual payroll of a business which is an integer ranging from \$0 to \$1,500,000. The independent variable is the business' gender-owned business type; they are a dummy variable representing 1 if male/female-owned, female-owned, female/male-owned and male-

owned for Table 4, Table 5, Table 6, and Table 7 respectively, 0 if otherwise and "." if not reported. To observe the impact of the businesses' gender-owned business type on their business' annual payroll with little potential omitted variable biases as possible, same variables as in Model (1) are added to the regression as controls

IV. Results

The results of this regression using the 2007 SBO PUMS data in Model (1) are shown in Table 3. This table presents the effects of the gender of a business' owner on their business' annual payroll. Column 1 demonstrates the estimated coefficients of the regression of Model (1) restricted. Column 2 demonstrates the estimated coefficients of the regression of Model (1) unrestricted. The increase in r-squared from restricted Model (1) (.0060) to unrestricted Model (1) (.8299) demonstrates that the controls added decrease the difference between the true β_1 and the estimated β_1 and explains the variation in payroll well. Although the regression variables explain 82.99% of the variation in the samples' annual payroll, omitted variable bias still exists and should be kept in mind when interpreting the estimates in Table 3.

Table 3's results demonstrate that, controlling for characteristics of the owners, business, and has a male owner 2, the difference between a male owner 1 and a female owner 1 is about $84, captured by β_1 . This means that keeping other variables constant, a male owner 1 will increase annual payroll by about $84, and a female owner 1 will decrease annual payroll by the amount about. The results also demonstrate that, controlling of the other variables in the regression, the difference between a male owner 2 and a female owner 2 is about $111, captured by β_2. This means that keeping other variables constant, a male owner 2 will increase annual payroll by about $111, while a female owner 2 will decrease annual payroll by $111 as well. Both estimates of β_1 and β_2 are statistically significant at the 1% level. Although these estimates are statistically significant in Table 3, the following demonstrates testing the null hypothesis, $\beta_1 = \beta_2$.

```
. test male1=male2

( 1)  male1 - male2 = 0

       F(  1, 31947) =    0.89
            Prob > F =    0.3445
```

Due to these results, the null hypothesis of $\beta_1 = \beta_2$ cannot be rejected. This demonstrates that the likelihood of a type I error is 34.45% and cannot reject the null at any level of significance. This difference in significance can be interpreted as individually the gender of owner 1 and owner 2 explains the variation of businesses' annual payroll well, but when tested together they are highly correlated. The following will test for $\beta_1 = 0$ and $\beta_2 = 0$ and find that we can reject the null of $\beta_1 = 0$ and $\beta_2 = 0$ independently at the 1% level.

```
 test male1=0

( 1)  male1 = 0

      F(  1, 31947) =   11.52
           Prob > F =    0.0007

 test male2=0

( 1)  male2 = 0

      F(  1, 31947) =   29.18
           Prob > F =    0.0000
```

The results of Model (2) support Model (1) results. Table 4 will demonstrate the results for an equally owned female/male-owned business with a male owner 1 and female owner 2's impact on their business' annual payroll. The results demonstrate that this gender-owned business type of business decreases payroll by about $91, statistically significant at the 1% level. The following will test the null hypothesis and demonstrates that we can reject the null that $\beta_1 = 0$ at the 1% level. This will demonstrate that the difference between an equally owned female/male-owned business with a male owner 1 and female owner 2 and other gender-owned business types is not 0.

```
. test malefemale

 ( 1)  malefemale = 0

       F(  1, 31948) =   18.69
            Prob > F =    0.0000
```

Table 5 will demonstrate the results for an equally owned female-owned business with a female owner 1 and female owner 2's impact on their business' annual payroll. The results demonstrate that this type of business decreases payroll by about $56 but is not statistically

significant at any level. The following will test the null hypothesis and demonstrates that we cannot reject the null that $\beta_1 = 0$ at any level.

```
. test femalefemale=0

 ( 1)  femalefemale = 0

       F(  1, 31948) =    1.83
            Prob > F =    0.1758
```

Table 6 will demonstrate the results for an equally owned female/male-owned business with a female owner 1 and male owner 2's impact on their business' annual payroll. The results demonstrate that this type of business decreases payroll by about $48 and is statistically significant at the 10% level. The following tests the null hypothesis and demonstrates that we can reject the null that $\beta_1 = 0$ at the 10% level. This will demonstrate that the difference between an equally female-owned business with a female owner 1 and female owner 2 and other gender-owned business types is not 0.

```
. test femalemale=0

 ( 1)  femalemale = 0

       F(  1, 31948) =    2.94
            Prob > F =    0.0867
```

Table 7 will demonstrate the results for an equally male-owned business with a male owner 1 and male owner 2's impact on their business' annual payroll. The results demonstrate that this type of business increase payroll by about $145 and is statistically significant at the 1% level. The following tests the null hypothesis and demonstrates that we can reject the null that $\beta_1 = 0$ at the 1% level. This will demonstrate that the difference between an equally male-owned business with a male owner 1 and male owner 2 and other gender-owned business types is not 0.

```
. test malemale

 ( 1)  malemale = 0

       F(  1, 31948) =   43.70
            Prob > F =    0.0000
```

V. Conclusion

This study explored owners' gender on their businesses' annual payroll. Due to the high correlation of the genders of owner 1 and owner 2, the null hypothesis of $\beta_1 = \beta_2$ could not be

reject. However, when testing independently, β_1 =0 and β_2 =0 are statistically far from 0 at the 1% level. The results from Model (2) demonstrated a statistically significant impact on annual payroll when businesses are equally male/female-owned and male-owned. Although these estimates are statistically significant, some variables are not controlled for. These variables are the number of full time and part-time employees a business had, whether the business offered maternity leave, the salaries and/or wage rate of the employees in the business, and the incomes of the owners. Not controlling for these variables gives room for the potential of omitted variable bias, and the results may overestimate the impact of the owners' gender and business' gender-owned business type on annual payroll. Lastly, the gender difference in entrepreneurship on businesses' outcomes and costs should be further explored. Incentives should emerge to reduce this difference and encourage gender equality in entrepreneurship.

VI. References

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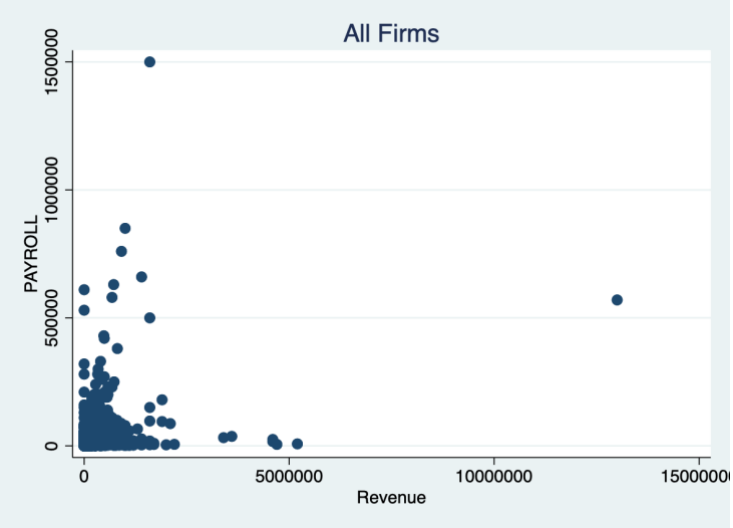
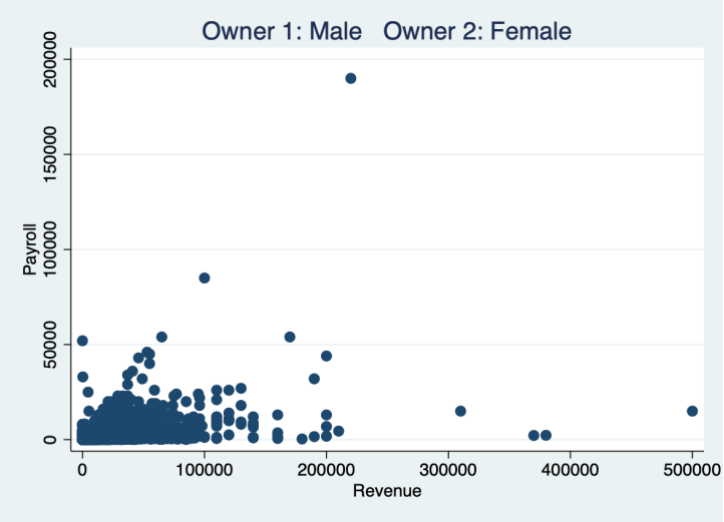


Graph 1



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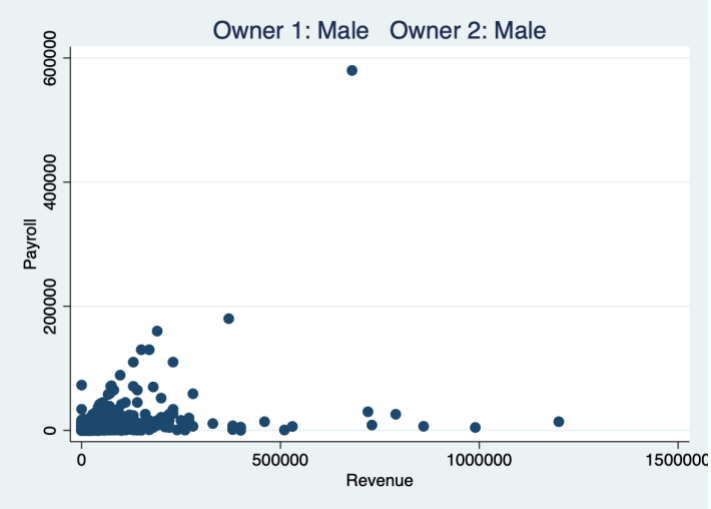

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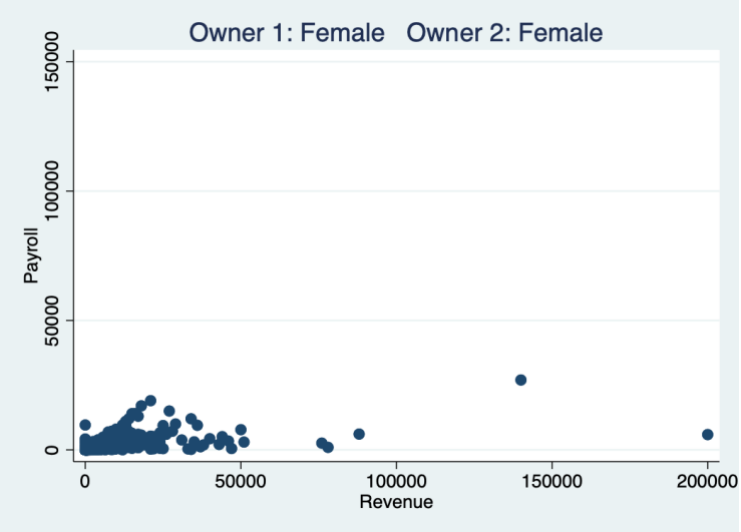

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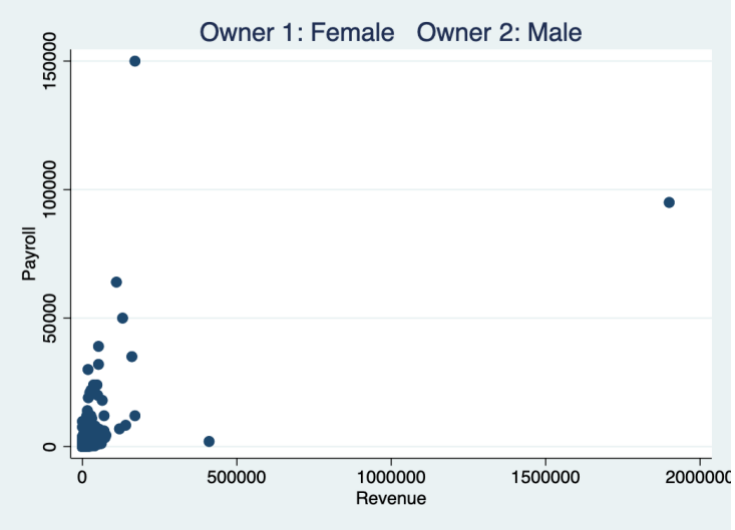

Graph 5

Table 1

Summary Statistics –Payroll % of Revenue, Payroll and Revenue by Owners' Gender

	Observations	Mean	Standard Deviation	Min	Max
Owner 1: Male Owner 2: Female					
Payroll % of Revenue	112,037	.2269684	.7449338	0	190
Payroll	114,198	288.7784	1135.431	0	190000
Revenue	114,198	1512.197	5721.436	0	500000
Owner 1: Male Owner 2: Male					
Payroll % of Revenue	54,482	.2321243	1.106621	0	240
Payroll	55,630	690.7388	3531.157	0	580000
Revenue	55,630	3527.941	15770.61	0	1200000
Owner 1: Female Owner 2: Female					
Payroll % of Revenue	7,090	.2227284	.3374614	0	19
Payroll	30,030	236.0676	1432.198	0	150000
Revenue	7,460	949.1287	4242.195	0	200000
Owner 1: Female Owner 2: Male					
Payroll % of Revenue	21,570	.2321243	1.106621	0	14.2
Payroll	22,570	690.7288	3531.157	0	150000
Revenue	22,570	3527.941	15770.61	0	19000000

Table 2

Regression Variables Summary Statistics

	Observations	Mean	Standard Deviation	Min	Max
Annual Payroll	1,048,575	572.1481	3612.481.28	0	1,500,000
Owner 2: Female	558,897	.4695463	.4990722	0	1
Husband Wife Business	647,132	.1826474	.3863775	0	1
Health Insurance Benefit	767,400	.4569625	.4981447	0	1
Retirement Benefit	767,400	.2616849	.4395522	0	1
Profit Share Benefits	767,400	.0736448	.2611921	0	1
Paid Holidays	767,400	.4991491	.4999996	0	1
Ecommerce sales as % of total sales	328,636	.5271973	1.437987	0	7
Exports as % of total sales	1,013,981	.1847165	.8449467	0	7
Two Owners	788,481	.3639416	.4811324	0	1
Owner 1: Bachelor's Degree	990,116	.217721	.4126969	0	1
Owner 2: Bachelor's Degree	655,419	.1913047	.3933287	0	1
Owner 1: Male	1,048,575	.8019379	.3985394	0	1
Full time employees	767,043	.6981955	.4590412	0	1
Part time employees	766,419	.5299334	.4991035	0	1
Establishment Employment	1,048,575	14.84409	92.75713	0	35,000
Establishment Revenue	1,048,575	2836.071	22590.28	0	13,000,000
Owner 1 Percentage – 50%	1,048,575	.2875016	.4525976	0	1
Owner 2 Percentage – 50%	1,048,575	.2764771	.4472558	0	1
Owner 1 – Hours spent working	736,121	3.175153	1.505421	0	5
Owner 2 – Hours spent working	399,707	2.202278	1.650917	0	5

Table 3

Regression Demonstrating the Effect of Owners' Gender on Annual Payroll

Dependent Variable: Annual Payroll

	1 Model (1) Restricted	2 Model (1) Unrestricted)
Owner 1: Male	470.5294*** (14.89903)	83.73342*** (26.67388)
Owner 2: Male	633.3157*** (11.56919)	110.573*** (20.47109)
Husband/Wife Business		-12.47354 (12.76337)
Health Insurance Benefit		79.39638*** (25.2099)
Retirement Benefit		283.2942*** (22.55661)
Profit Share Benefits		492.3548*** (29.448083)
Paid Holidays		48.7612* (27.43932)
Ecommerce sales as % of total sales		1.318338 (4.448083)
Exports as % of total sales		53.35109*** (6.263913)
Two Owners		-104.9628*** (25.47798)
Owner 1: Bachelor's Degree		7.910382 (19.55586)
Owner 2: Bachelor's Degree		39.17079** (19.54657)
Full time employees		-82.58738*** (31.41375)
Part time employees		-43.70862** (21.40071)
Establishment Employment		27.88623*** (.0858494)
Establishment Revenue		.0241627*** (.0003807)
Owner 1 Percentage – 50%		-251.5165*** (63.39172)
Owner 2 Percentage – 50%		205.0781*** (67.60753)
Owner 1 – Hours spent working		.6775984 (6.508638)
Owner 2 – Hours spent working		21.04917*** (5.967487)
Intercept	-8.602343 (15.81488)	-146.3963*** (43.37776)
Observations	558,897	31,968
R-Squared	.0060	.8299

*Significant at the 10% level **Significant at the 5% level ***Significant at the 1% level. (Standard errors are shown in parentheses)

Table 4
Regression Demonstrating the Effect of Equally Male/Female-Owned on Annual Payroll
Owner 1: Male Owner 2: Female
Dependent Variable: Annual Payroll

Source	SS	df	MS	Number of obs	=	31,968
				F(19, 31948)	=	8198.92
Model	4.1716e+11	19	2.1956e+10	Prob > F	=	0.0000
Residual	8.5552e+10	31,948	2677858.22	R-squared	=	0.8298
				Adj R-squared	=	0.8297
Total	5.0271e+11	31,967	15725831.9	Root MSE	=	1636.4

payroll_noisy	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
malefemale	-90.6123	20.96091	-4.32	0.000	-131.6965	-49.52811
hubw	-26.27394	11.84777	-2.22	0.027	-49.49602	-3.05185
healthins	84.3435	25.20393	3.35	0.001	34.94283	133.7442
retirement	284.7419	22.55887	12.62	0.000	240.5257	328.9582
profitshare	493.4808	29.49267	16.73	0.000	435.6741	551.2876
holidays	51.24192	27.44002	1.87	0.062	-2.541565	105.0254
esales	1.845916	4.447395	0.42	0.678	-6.871148	10.56298
expt	54.2	6.263349	8.65	0.000	41.9236	66.47641
twoowners	-111.8192	25.41544	-4.40	0.000	-161.6345	-62.00397
bachelor1	9.731322	19.55488	0.50	0.619	-28.59699	48.05964
bachelor2	38.95374	19.55349	1.99	0.046	.628142	77.27933
fulltime	-70.5116	31.36116	-2.25	0.025	-131.9807	-9.042527
parttime	-46.02083	21.4014	-2.15	0.032	-87.96838	-4.073267
employment_noisy	27.88668	.085869	324.76	0.000	27.71838	28.05499
receipts_noisy	.0242162	.0003806	63.63	0.000	.0234702	.0249622
pct150	-252.3578	63.40802	-3.98	0.000	-376.6399	-128.0756
pct250	215.8853	67.58345	3.19	0.001	83.41913	348.3514
hoursown1	1.853203	6.509882	0.28	0.776	-10.90642	14.61282
hoursown2	21.28788	5.966569	3.57	0.000	9.593173	32.98258
_cons	2.246171	36.03272	0.06	0.950	-68.37934	72.87168

Table 5

Regression Demonstrating the Effect of Equally Female-Owned on Annual Payroll

Owner 1: Female Owner 2: Female

Dependent Variable: Annual Payroll

Source	SS	df	MS		
Model	4.1711e+11	19	2.1953e+10	Prob > F	0.0000
Residual	8.5597e+10	31,948	2679270.91	R-squared	0.8297
Total	5.0271e+11	31,967	15725831.9	Adj R-squared	0.8296
				Root MSE	1636.8

Number of obs	=	31,968
F(19, 31948)	=	8193.71

payroll_noisy	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
femalefemale	-56.17696	41.49721	-1.35	0.176	-137.5131	25.15916
hubw	-35.79232	11.82078	-3.03	0.002	-58.9615	-12.62314
healthins	80.59151	25.21525	3.20	0.001	31.16865	130.0144
retirement	285.8262	22.56338	12.67	0.000	241.6012	330.0513
profitshare	493.0432	29.50153	16.71	0.000	435.2191	550.8674
holidays	51.62285	27.45061	1.88	0.060	-2.181395	105.4271
esales	2.016475	4.448994	0.45	0.650	-6.703723	10.73667
expt	53.86079	6.266446	8.60	0.000	41.57831	66.14326
twoowners	-106.2636	25.39373	-4.18	0.000	-156.0363	-56.49091
bachelor1	11.82871	19.55336	0.60	0.545	-26.49663	50.15405
bachelor2	42.18457	19.54546	2.16	0.031	3.874715	80.49443
fulltime	-76.93513	31.4451	-2.45	0.014	-138.5687	-15.30153
parttime	-44.81069	21.40919	-2.09	0.036	-86.77351	-2.847865
employment_noisy	27.88822	.0858912	324.69	0.000	27.71987	28.05657
receipts_noisy	.0242377	.0003807	63.67	0.000	.0234916	.0249839
pct150	-248.328	63.41948	-3.92	0.000	-372.6326	-124.0234
pct250	186.9045	67.27976	2.78	0.005	55.0336	318.7754
hoursown1	-.0353722	6.502206	-0.01	0.996	-12.77994	12.7092
hoursown2	22.22489	5.963947	3.73	0.000	10.53532	33.91445
_cons	-4.199423	36.47069	-0.12	0.908	-75.68338	67.28453

Table 6

Regression Demonstrating the Effect of Equally Male/Female-Owned on Annual Payroll

Owner 1: Female Owner 2: Male

Dependent Variable: Annual Payroll

Source	SS	df	MS		
Model	4.1711e+11	19	2.1953e+10	Prob > F	0.0000
Residual	8.5594e+10	31,948	2679178.45	R-squared	0.8297
				Adj R-squared	0.8296
Total	5.0271e+11	31,967	15725831.9	Root MSE	1636.8

payroll_noisy	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
femalemale	-47.87188	27.94206	-1.71	0.087	-102.6394	6.895626
hubw	-22.75939	13.36382	-1.70	0.089	-48.95298	3.434207
healthins	80.60326	25.21002	3.20	0.001	31.19066	130.0159
retirement	285.8074	22.56284	12.67	0.000	241.5833	330.0314
profitshare	493.4105	29.49993	16.73	0.000	435.5895	551.2315
holidays	52.32293	27.44572	1.91	0.057	-1.471728	106.1176
esales	2.122473	4.447981	0.48	0.633	-6.595739	10.84068
expt	53.91683	6.265271	8.61	0.000	41.63666	66.197
twoowners	-102.5254	25.50073	-4.02	0.000	-152.5078	-52.54301
bachelor1	11.7835	19.55294	0.60	0.547	-26.541	50.10801
bachelor2	42.37992	19.54577	2.17	0.030	4.069472	80.69037
fulltime	-74.9443	31.36662	-2.39	0.017	-136.4241	-13.46452
parttime	-44.79776	21.40785	-2.09	0.036	-86.75797	-2.837555
employment_noisy	27.88765	.0858899	324.69	0.000	27.71931	28.056
receipts_noisy	.0242369	.0003807	63.67	0.000	.0234908	.024983
pct150	-248.3877	63.4181	-3.92	0.000	-372.6896	-124.0858
pct250	178.5635	67.47436	2.65	0.008	46.31118	310.8158
hoursown1	-.2595599	6.505236	-0.04	0.968	-13.01007	12.49095
hoursown2	22.72317	5.965719	3.81	0.000	11.03013	34.41621
_cons	-6.699472	36.06242	-0.19	0.853	-77.38319	63.98424

Table 7

Regression Demonstrating the Effect of Equally Male/Female-Owned on Annual Payroll

Owner 1: Male Owner 2: Male

Dependent Variable: Annual Payroll

Source	SS	df	MS			
				Number of obs	=	31,968
				F(19, 31948)	=	8206.65
Model	4.1722e+11	19	2.1959e+10	Prob > F	=	0.0000
Residual	8.5485e+10	31,948	2675764.3	R-squared	=	0.8300
				Adj R-squared	=	0.8298
Total	5.0271e+11	31,967	15725831.9	Root MSE	=	1635.8

payroll_noisy	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
malemale	145.4555	22.0026	6.61	0.000	102.3295	188.5814
hubw	6.349909	13.19333	0.48	0.630	-19.50953	32.20935
healthins	79.99697	25.18768	3.18	0.001	30.62816	129.3658
retirement	282.6782	22.55378	12.53	0.000	238.4719	326.8845
profitshare	492.7203	29.4813	16.71	0.000	434.9359	550.5048
holidays	48.98036	27.43279	1.79	0.074	-4.788955	102.7497
esales	1.28922	4.446999	0.29	0.772	-7.427069	10.00551
expt	53.40248	6.261566	8.53	0.000	41.12957	65.67539
twoowners	-102.0533	25.38535	-4.02	0.000	-151.8095	-52.29702
bachelor1	6.854953	19.55567	0.35	0.726	-31.47491	45.18482
bachelor2	38.26593	19.54101	1.96	0.050	-.0351938	76.56705
fulltime	-80.06386	31.35391	-2.55	0.011	-141.5187	-18.609
parttime	-43.77888	21.39355	-2.05	0.041	-85.71107	-1.846699
employment_noisy	27.88504	.0858361	324.86	0.000	27.7168	28.05328
receipts_noisy	.0241464	.0003807	63.43	0.000	.0234002	.0248925
pct150	-252.873	63.38067	-3.99	0.000	-377.1015	-128.6445
pct250	205.0947	67.28814	3.05	0.002	73.20739	336.9821
hoursown1	.9377665	6.496898	0.14	0.885	-11.7964	13.67193
hoursown2	21.19692	5.961514	3.56	0.000	9.51212	32.88171
_cons	-91.08037	37.73064	-2.41	0.016	-165.0339	-17.12688