Stats II Replication - Latura and Weeks (2021) - Corporate Board Quotas and Gender Equality Policies in the Workplace

Olivia Daly

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In this document I have included the summary output tables of all of the different variations on the original regression I ran for Latura and Weeks's 2021 study on corporate board quotas and gender equality in the workplace, based on the data they used from Italy and Greece.
This document is intended to be a supplement to my code to show that I really did get all of the original authors' work to run and replicate on my computer.

1 Altering the models to compare outputs

The original additive model-

```
#Focus on dependent variable of Overall = Share of company report
#devoted to gender equality issues

m1<-lm(prop_attn ~ year_f + company + quota + sustain + pct_rev_change,
       data=data_final)
vcov_company <- cluster.vcov(m1, data_final$company)
m1_se <- as.matrix(coeftest(m1, vcov_company))

#Focus on dependent variable of Leadership = Share of company report devoted to gender
#gap in leadership

m2<-lm(prop_lead ~ year_f + company + quota + sustain + pct_rev_change,
       data=data_final)
vcov_company <- cluster.vcov(m2, data_final$company)
m2_se <- as.matrix(coeftest(m2, vcov_company))

#Focus on dependent variable of Pay = Share of report
#devoted to gender pay gap

m3<-lm(prop_pay ~ year_f + company + quota + sustain + pct_rev_change,
       data=data_final)
vcov_company <- cluster.vcov(m3, data_final$company)
m3_se <- as.matrix(coeftest(m3, vcov_company))

#Focus on dependent variable of Family Care = Share of report devoted to family
#care (ie., childcare, birth/maternity, family leave, and scheduling flexibility)

m4<-lm(prop_family ~ year_f + company + quota + sustain + pct_rev_change,
       data=data_final)
vcov_company <- cluster.vcov(m4, data_final$company)
m4_se <- as.matrix(coeftest(m4, vcov_company))

#Focus on dependent variable of Discrim/Harass = Share of
#report devoted to sexual discrimination and harassment

m5<-lm(prop_harass ~ year_f + company + quota + sustain + pct_rev_change,
       data=data_final)
```

```
vcov_company <- cluster.vcov(m5, data_final$company)
m5_se <- as.matrix(coeftest(m5, vcov_company))
```

Table 1: Output Table - Effects of Quota Law on Company Attention to Gender Equality - Original Additive Model

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
Quota	0.033**	0.012***	0.002*	0.020*	−0.001
	(0.010)	(0.003)	(0.001)	(0.009)	(0.001)
Sustainability	0.122***	0.017***	0.001	0.101***	0.003
	(0.015)	(0.005)	(0.001)	(0.015)	(0.003)
Percent Revenue Change	−0.000	−0.000	−0.000***	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Company FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Year FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Observations	761	761	761	761	761
R^2	0.801	0.722	0.548	0.743	0.463
Adjusted R^2	0.770	0.680	0.479	0.704	0.380

Note: *p<0.05; **p<0.01; ***p<0.001
Robust standard errors clustered around company in parentheses.

Where I included the new interaction between year and quota:
Code for interaction:

```
#Focus on dependent variable of Overall = Share of company report
#devoted to gender equality issues

m1 <-lm(prop_attn ~ year_f*quota + company + sustain + pct_rev_change,
        data=data_final)
vcov_company <- cluster.vcov(m1, data_final$company)
m1_se <- as.matrix(coeftest(m1, vcov_company))

#Focus on dependent variable of Leadership = Share of company report devoted to gender
#gap in leadership

m2<-lm(prop_lead ~ year_f*quota + company + sustain + pct_rev_change,
        data=data_final)
vcov_company <- cluster.vcov(m2, data_final$company)
m2_se <- as.matrix(coeftest(m2, vcov_company))

#Focus on dependent variable of Pay = Share of report
#devoted to gender pay gap

m3<-lm(prop_pay ~ year_f*quota + company + sustain + pct_rev_change,
        data=data_final)
vcov_company <- cluster.vcov(m3, data_final$company)
m3_se <- as.matrix(coeftest(m3, vcov_company))

#Focus on dependent variable of Family Care = Share of report devoted to family
#care (ie., childcare, birth/maternity, family leave, and scheduling flexibility)

m4<-lm(prop_family ~ year_f*quota + company + sustain + pct_rev_change,
        data=data_final)
```

```
vcov_company <- cluster.vcov(m4, data_final$company)
m4_se <- as.matrix(coeftest(m4, vcov_company))

#Focus on dependent variable of Discrim/Harass = Share of
#report devoted to sexual discrimination and harassment

m5<-lm(prop_harass ~ year_f*quota + company + sustain + pct_rev_change,
       data=data_final)
vcov_company <- cluster.vcov(m5, data_final$company)
m5_se <- as.matrix(coeftest(m5, vcov_company))
```

Table 2: Output Table - Effects of Quota Law on Company Attention to Gender Equality- New Model w/ Interaction between Year and Quota

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
Quota	0.046^{*}	0.017^{**}	0.003^{***}	0.025	−0.000
	(0.019)	(0.005)	(0.001)	(0.015)	(0.003)
Sustainability	0.121^{***}	0.016^{***}	0.001	0.101^{***}	0.003
	(0.015)	(0.005)	(0.001)	(0.015)	(0.003)
Percent Revenue Change	−0.000	−0.000	-0.000^{***}	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Company FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Year FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Observations	761	761	761	761	761
R^2	0.802	0.725	0.554	0.744	0.465
Adjusted R^2	0.770	0.680	0.481	0.702	0.377

Note: *p<0.05; **p<0.01; ***p<0.001
Robust standard errors clustered around company in parentheses.

What would the output look like if we did not control for potential confounders?

Comparing all of this with the interaction table they did year-by-year:

Code used to create these interactions:

```

m1dd<-lm(prop_attn ~ company + quota:year2011 + quota:year2012 +
quota:year2013 + quota:year2014 + quota:year2015 + quota:year2016 + quota:year2017 +
year2007 + year2008 + year2009 + year2011 + year2012 + year2013 + year2014 + year2015 +
    year2016 + year2017 +
sustain + pct_rev_change,
       data=data_final)
vcov_company <- cluster.vcov(m1dd, data_final$company)
m1_dd2 <- as.matrix(coeftest(m1dd, vcov_company))


```

Table 3: Output Table: Effects of Quota Law on Company Attention to Gender Equality

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
Quota	−0.001	−0.001	0.000	−0.001	−0.000
	(0.007)	(0.002)	(0.000)	(0.007)	(0.001)
Sustainability	−0.007	0.000	0.000	−0.007	−0.001
	(0.007)	(0.002)	(0.000)	(0.006)	(0.001)
Percent Revenue Change	−0.004	−0.003	0.000	−0.001	−0.000
	(0.008)	(0.002)	(0.000)	(0.007)	(0.001)
year_f2012	−0.007	−0.002	0.000	−0.005	−0.000
	(0.013)	(0.003)	(0.000)	(0.012)	(0.001)
year_f2013	−0.008	0.002	0.000	−0.011	0.000
	(0.009)	(0.003)	(0.000)	(0.008)	(0.001)
year_f2014	−0.012	−0.001	0.001	−0.012	0.001
	(0.010)	(0.003)	(0.001)	(0.009)	(0.001)
year_f2015	−0.006	0.001	0.000	−0.008	0.001
	(0.012)	(0.003)	(0.001)	(0.011)	(0.001)
year_f2016	−0.018	−0.002	0.000	−0.018	0.002
	(0.015)	(0.003)	(0.001)	(0.013)	(0.002)
year_f2017	−0.010	−0.000	−0.000	−0.012	0.002
	(0.015)	(0.004)	(0.000)	(0.013)	(0.002)
quota	0.046*	0.017**	0.003***	0.025	−0.000
	(0.019)	(0.005)	(0.001)	(0.015)	(0.003)
sustain	0.121***	0.016***	0.001	0.101***	0.003
	(0.015)	(0.005)	(0.001)	(0.015)	(0.003)
pct_rev_change	−0.000	−0.000	−0.000***	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
year_f2009:quota					
year_f2010:quota					
year_f2011:quota	−0.023	−0.008	−0.003*	−0.012	−0.000
	(0.017)	(0.005)	(0.001)	(0.015)	(0.003)
year_f2012:quota	−0.020	−0.004	−0.002	−0.014	0.001
	(0.020)	(0.006)	(0.001)	(0.017)	(0.003)
year_f2013:quota	−0.010	−0.006	−0.003*	0.001	−0.001
	(0.016)	(0.006)	(0.001)	(0.013)	(0.003)
year_f2014:quota	−0.019	−0.009	−0.003*	−0.006	−0.001
	(0.014)	(0.005)	(0.001)	(0.012)	(0.003)
year_f2015:quota	−0.013	−0.006	−0.002*	−0.003	−0.002
	(0.014)	(0.006)	(0.001)	(0.012)	(0.003)
year_f2016:quota	−0.003	−0.000	−0.001	−0.001	−0.001
	(0.011)	(0.005)	(0.001)	(0.009)	(0.002)
year_f2017:quota					
Company FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Year FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Observations	761	761	761	761	761
R^2	0.802	0.725	0.554	0.744	0.465
Adjusted R^2	0.770	0.680	0.481	0.702	0.377

Note: *p<0.05; **p<0.01; ***p<0.001
Robust standard errors clustered around company in parentheses.

Table 4: Output Table - Effects of Quota Law on Company Attention to Gender Equality- Interactive Model Where Potential Confounders are Not Controlled For

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
Quota	0.062**	0.017**	0.003***	0.041*	0.002
	(0.021)	(0.006)	(0.001)	(0.017)	(0.002)
Company FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Year FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Observations	962	962	962	962	962
R^2	0.691	0.673	0.542	0.630	0.456
Adjusted R^2	0.650	0.630	0.482	0.581	0.384

Note: *p<0.05; **p<0.01; ***p<0.001
Robust standard errors clustered around company in parentheses.

Table 5: Output Table - Effects of Quota Law on Company Attention to Gender Equality- Additive Model Where Potential Confounders are Not Controlled For

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
Quota	0.039***	0.012***	0.001	0.027**	−0.000
	(0.011)	(0.003)	(0.001)	(0.010)	(0.001)
Company FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Year FEs	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*
Observations	962	962	962	962	962
R^2	0.687	0.670	0.536	0.626	0.453
Adjusted R^2	0.648	0.629	0.479	0.580	0.385

Note: *p<0.05; **p<0.01; ***p<0.001
Robust standard errors clustered around company in parentheses.

Table 6: Table A5: Regression Results, No Controls or extra Covariates

	Dependent variable:				
	Overall	Leadership	Pay	Family Care	Discrim/Harass
	(1)	(2)	(3)	(4)	(5)
quota	0.039***	0.012***	0.001	0.027**	−0.000
	(0.011)	(0.003)	(0.001)	(0.010)	(0.001)
Company FEs	Yes	Yes	Yes	Yes	Yes
Year FEs	Yes	Yes	Yes	Yes	Yes
Observations	962	962	962	962	962
R^2	0.687	0.670	0.536	0.626	0.453
Adjusted R^2	0.648	0.629	0.479	0.580	0.385

Note: *p<0.05; **p<0.01; ***p<0.001
Robust standard errors clustered around company in parentheses.

```
m1ddb<-lm(fem_share ~ company + quota:year2011 + quota:year2012 +
quota:year2013 + quota:year2014 + quota:year2015 + quota:year2016 + quota:year2017 +
year2007 + year2008 + year2009 + year2011 + year2012 + year2013 + year2014 + year2015 +
    year2016 + year2017 +
sustain + pct_rev_change,
       data=data_final)
vcov_company <- cluster.vcov(m1ddb, data_final$company)
m1_dd4 <- as.matrix(coeftest(m1ddb, vcov_company))


m1ddc<-lm(prop_attn ~ company + quota:year2011 + quota:year2012 +
quota:year2013 + quota:year2014 + quota:year2015 + quota:year2016 + quota:year2017 +
year2007 + year2008 + year2009 + year2011 + year2012 + year2013 + year2014 + year2015 +
    year2016 + year2017 +
sustain + pct_rev_change + fem_share,
       data=data_final)
vcov_company <- cluster.vcov(m1ddc, data_final$company)
m1_dd6 <- as.matrix(coeftest(m1ddc, vcov_company))
```

Completing an anova test-

Code:

```
interaction <- aov(prop_attn ~ year_f*quota, data = data_final)

summary(interaction)
```

Table 7: Output Table: Effects of Gender Quota Law Over Time

	Dependent variable:		
	Overall	Share women	Overall
	(1)	(2)	(3)
quota:year2011	0.023**	1.713	0.030**
	(0.009)	(1.717)	(0.009)
quota:year2012	0.026	7.219***	0.021
	(0.015)	(1.787)	(0.016)
quota:year2013	0.036**	9.976***	0.033**
	(0.011)	(2.196)	(0.012)
quota:year2014	0.027*	15.624***	0.023
	(0.012)	(2.134)	(0.015)
quota:year2015	0.033*	19.168***	0.031
	(0.015)	(1.878)	(0.017)
quota:year2016	0.043**	23.366***	0.041*
	(0.015)	(1.990)	(0.018)
quota:year2017	0.046*	26.061***	0.046*
	(0.019)	(2.126)	(0.023)
fem_share			0.000
			(0.000)
sustain	0.121***	−3.437**	0.116***
	(0.015)	(1.276)	(0.016)
pct_rev_change	−0.000	−0.005	−0.000
	(0.000)	(0.005)	(0.000)
year2007			
year2008	0.007	−1.652	0.009
	(0.007)	(1.156)	(0.008)
year2009	0.006	−0.443	0.007
	(0.005)	(0.700)	(0.006)
year2011	0.004	0.024	−0.002
	(0.007)	(1.084)	(0.006)
year2012	0.000	0.430	0.006
	(0.013)	(1.123)	(0.015)
year2013	−0.001	0.614	0.002
	(0.008)	(1.326)	(0.009)
year2014	−0.004	1.358	−0.002
	(0.009)	(1.166)	(0.010)
year2015	0.001	1.864	0.002
	(0.012)	(1.284)	(0.013)
year2016	−0.011	1.125	−0.011
	(0.013)	(1.315)	(0.015)
year2017	−0.002	0.697	−0.002
	(0.014)	(1.453)	(0.016)
Company FEs	*Yes*	*Yes*	*Yes*
Year FEs	*Yes*	*Yes*	*Yes*
Observations	761	704	704
R^2	0.802	0.831	0.800
Adjusted R^2	0.770	0.801	0.765

Note: *p<0.05; **p<0.01; ***p<0.001
Robust standard errors clustered around company in parentheses.

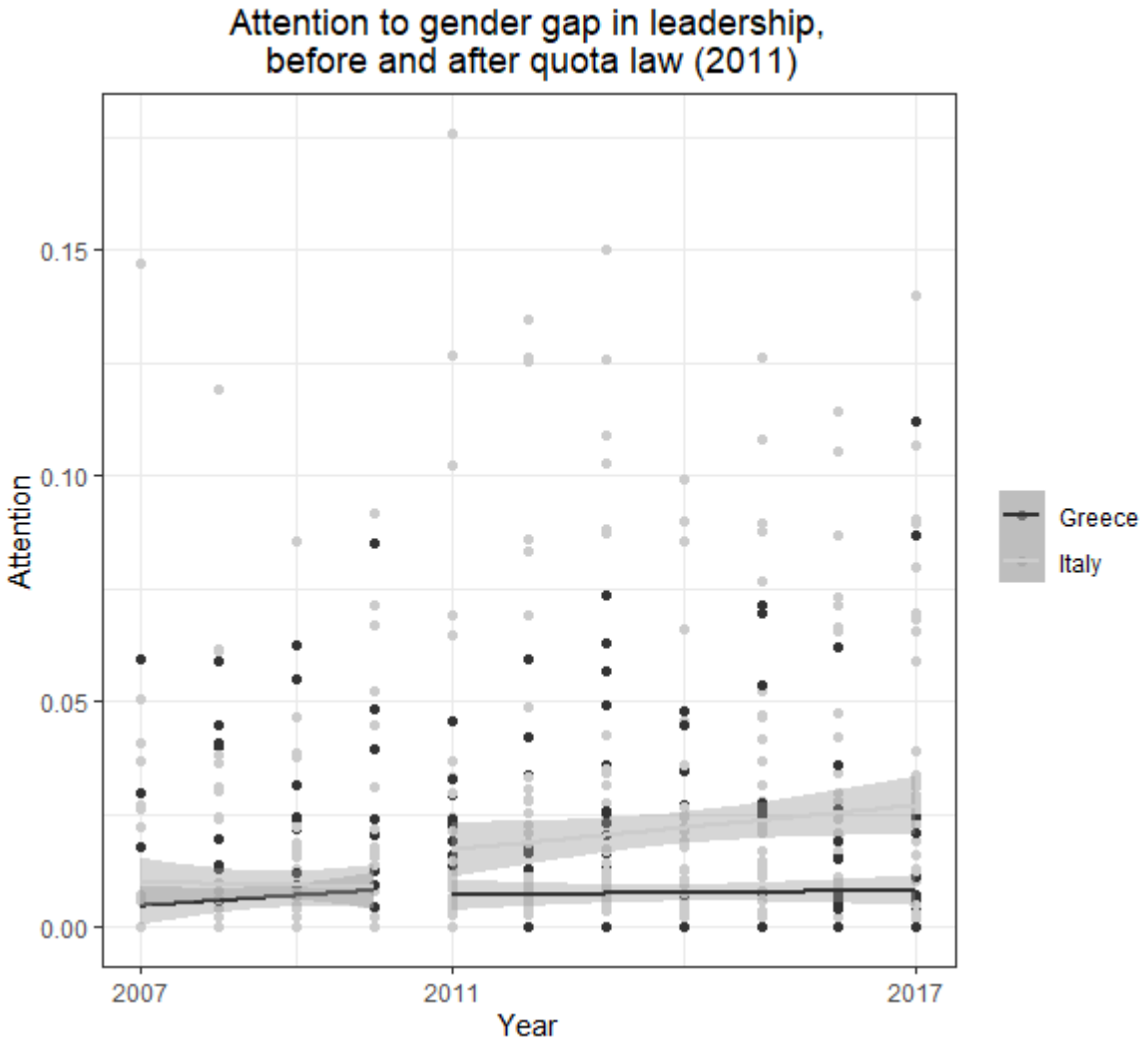
Attention to gender gap in leadership,
before and after quota law (2011)
Attention
0.15
0.10
0.05
0.00
2007
2011
2017
Year
Greece
Italy

Figure 1:

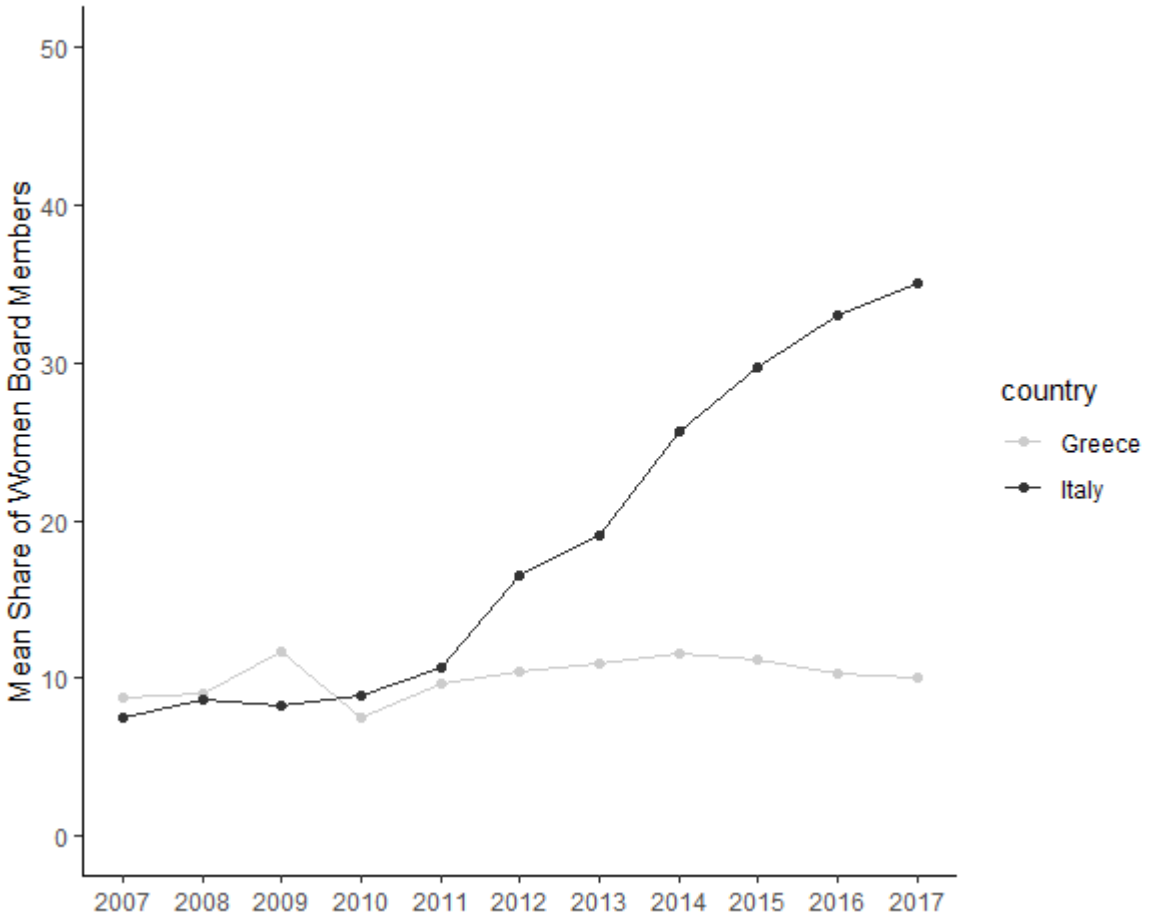
Mean Share of Women Board Members
50
40
30
20
10
0
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
country
Greece
Italy

Figure 2: