Do different treatments affect bias update?

```
# add treat2
hip_analysis <- hip_analysis %>%
  mutate(treat2 = ifelse(treat2a == 1 | treat2b == 1, 1, 0),
         .after = treat2b)

# all salary variables
orig_names <- c('guess_entry_salary',
                'guess_entry_salary_6m',
                'guess_you_salary_1m',
                'guess_salary_medium',
                'guess_salary_sp',
                'guess_you_salary_6m')

orig_benchmarks <- c(750,
                     1202,
                     750,
                     1707,
                     2857,
                     1202)

# pooled
formula_pool <- paste0('w_',
                       orig_names,
                       ' ~ ',
                       'treat1 + treat2 + ',
                       orig_names,
                       ' | firm + today_day | 0 | firm + today_day')

formula_pool_int <- paste0('w_',
                           orig_names,
                           ' ~ ',
                           'treat1 * treat2 + ',
                           orig_names,
                           ' | firm + today_day | 0 | firm + today_day')

reg_pool <- vector(mode = 'list', length = 6)

for (i in 1:6) {
  reg_pool[[i]] <- felm(as.formula(formula_pool[i]), data = hip_analysis)
}

reg_pool_int <- vector(mode = 'list', length = 6)

for (i in 1:6) {
  reg_pool_int[[i]] <- felm(as.formula(formula_pool_int[i]), data = hip_analysis)
}
```

```
## Warning in newols(mm, nostats = nostats[1], exactDOF = exactDOF, onlyse =
## onlyse, : Negative eigenvalues set to zero in multiway clustered variance
## matrix. See felm(...,psdef=FALSE)
```

```
# separated
formula_sep <- paste0('w_',
                      orig_names,
                      ' ~ ',
                      'treat1 + treat2a + treat2b + ',
                      orig_names,
                      ' | firm + today_day | 0 | firm + today_day')

formula_sep_int <- paste0('w_',
                          orig_names,
                          ' ~ ',
                          'treat1 * (treat2a + treat2b) + ',
                          orig_names,
                          ' | firm + today_day | 0 | firm + today_day')

reg_sep <- vector(mode = 'list', length = 6)

for (i in 1:6) {
  reg_sep[[i]] <- felm(as.formula(formula_sep[i]), data = hip_analysis)
}

reg_sep_int <- vector(mode = 'list', length = 6)

for (i in 1:6) {
  reg_sep_int[[i]] <- felm(as.formula(formula_sep_int[i]), data = hip_analysis)
}
```

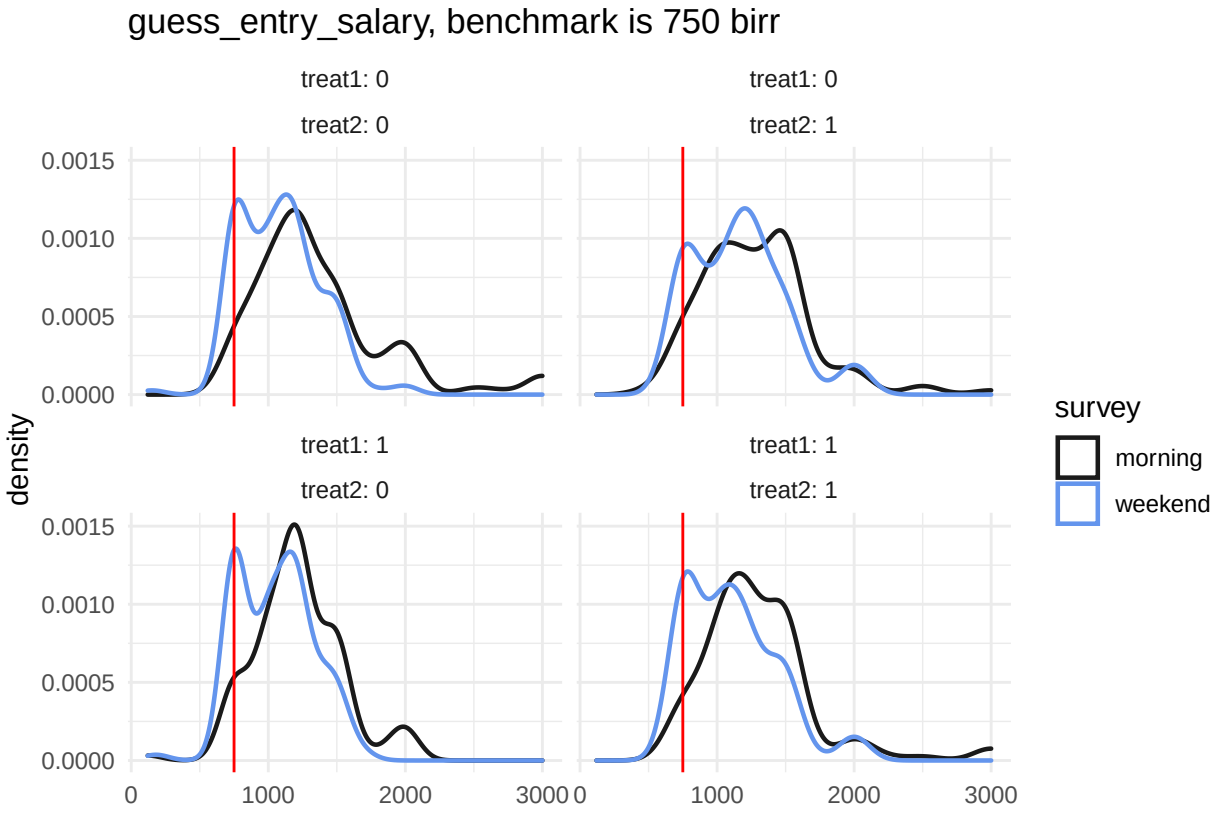
```
## Warning in newols(mm, nostats = nostats[1], exactDOF = exactDOF, onlyse =
## onlyse, : Negative eigenvalues set to zero in multiway clustered variance
## matrix. See felm(...,psdef=FALSE)

## Warning in newols(mm, nostats = nostats[1], exactDOF = exactDOF, onlyse =
## onlyse, : Negative eigenvalues set to zero in multiway clustered variance
## matrix. See felm(...,psdef=FALSE)

## Warning in newols(mm, nostats = nostats[1], exactDOF = exactDOF, onlyse =
## onlyse, : Negative eigenvalues set to zero in multiway clustered variance
## matrix. See felm(...,psdef=FALSE)
```

```
gen_density(variable = orig_names[1], benchmark = orig_benchmarks[1], pooled = TRUE)
```

```
## Warning: Removed 31 rows containing non-finite values (stat_density).
```




```
stargazer(reg_pool[1], reg_pool_int[1], type = 'latex')
```

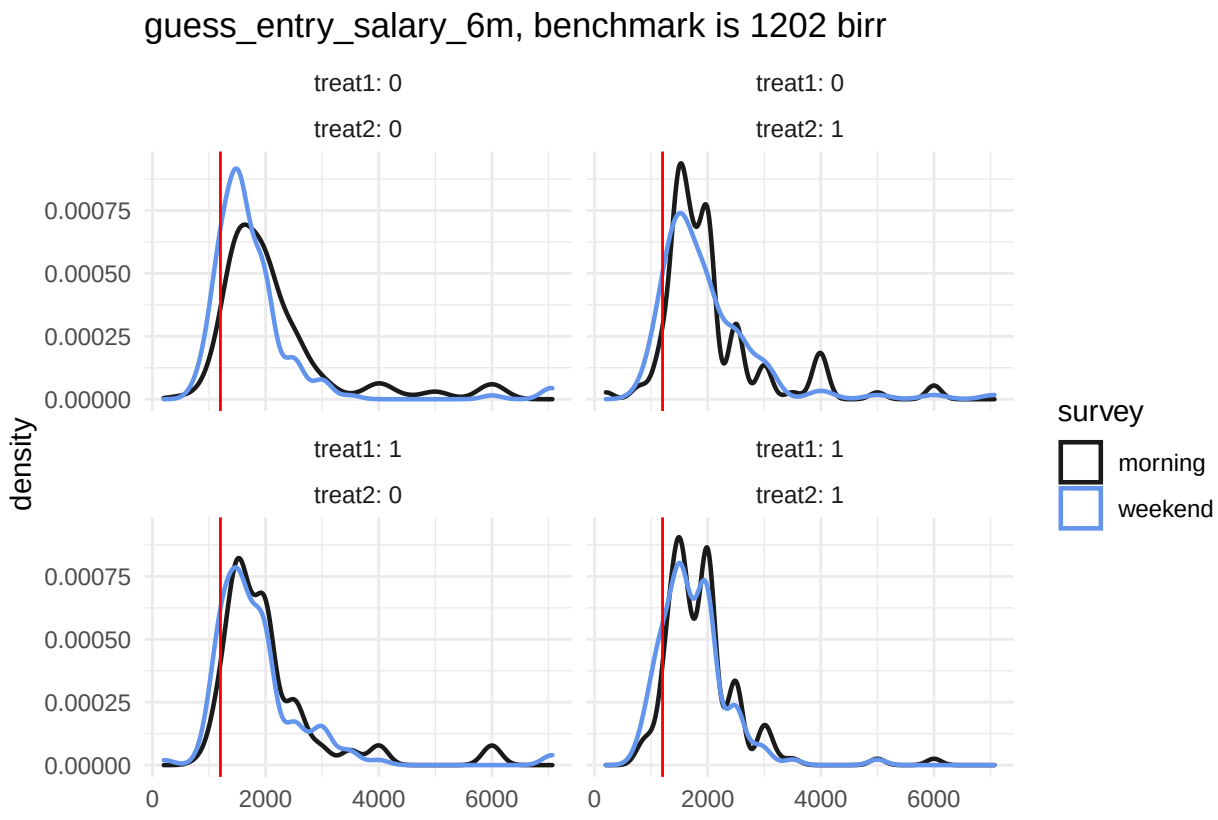
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:47 PM

Table 1:

	Dependent variable:	
	formula_pool[i]	formula_pool_int[i]
	(1)	(2)
treat1	−9.282	6.061
	(29.435)	(41.709)
treat2	64.085**	80.238*
	(26.856)	(41.360)
guess_entry_salary	0.189***	0.190***
	(0.023)	(0.023)
treat1:treat2		−34.340
		(61.872)
Observations	494	494
R^2	0.142	0.143
Adjusted R^2	0.067	0.065
Residual Std. Error	295.821 (df = 453)	296.029 (df = 452)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[2], benchmark = orig_benchmarks[2], pooled = TRUE)
```

```
## Warning: Removed 31 rows containing non-finite values (stat_density).
```




```
stargazer(reg_pool[2], reg_pool_int[2], type = 'latex')
```

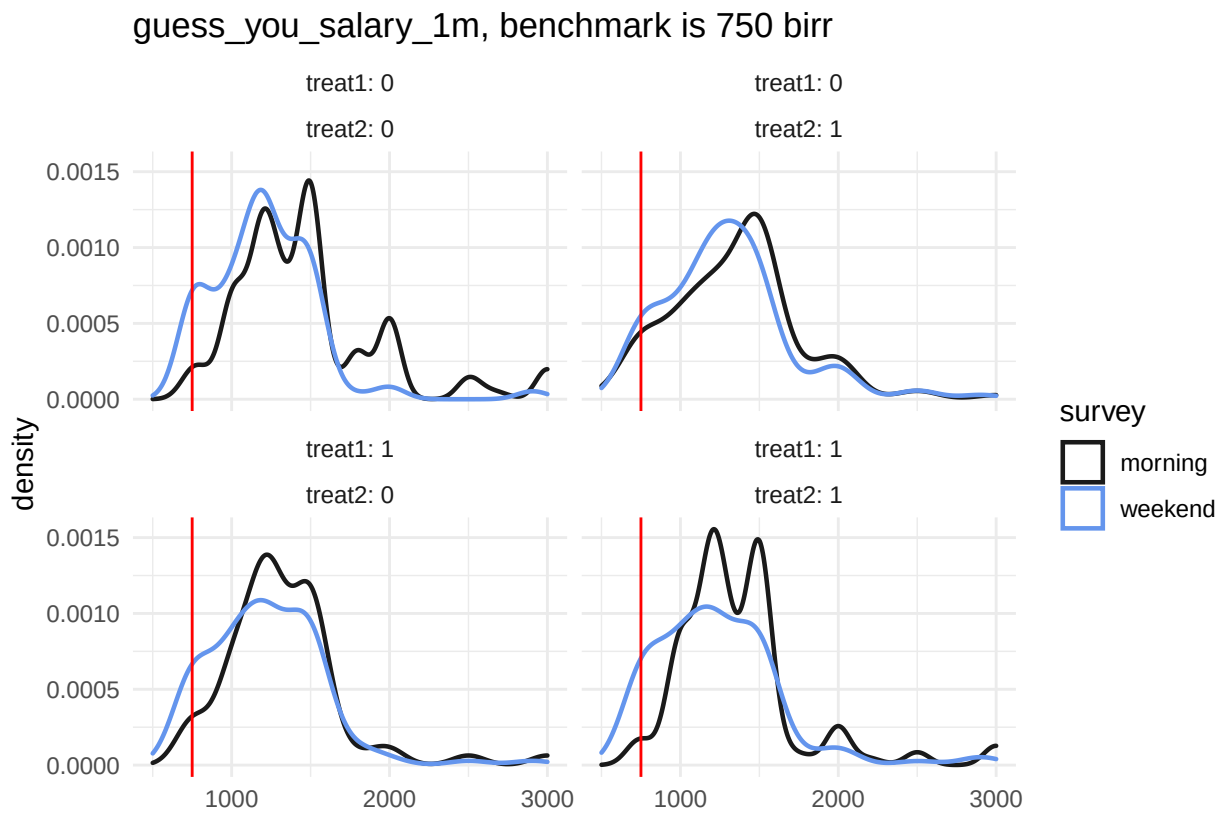
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:48 PM

Table 2:

	Dependent variable:	
	formula_pool[i]	formula_pool_int[i]
	(1)	(2)
treat1	51.105	148.597**
	(71.449)	(64.893)
treat2	114.693	218.003**
	(90.143)	(97.649)
guess_entry_salary_6m	0.378***	0.377***
	(0.063)	(0.063)
treat1:treat2		−220.070**
		(98.238)
Observations	494	494
R^2	0.236	0.239
Adjusted R^2	0.168	0.170
Residual Std. Error	795.569 (df = 453)	794.612 (df = 452)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[3], benchmark = orig_benchmarks[3], pooled = TRUE)
```

```
## Warning: Removed 32 rows containing non-finite values (stat_density).
```




```
stargazer(reg_pool[3], reg_pool_int[3], type = 'latex')
```

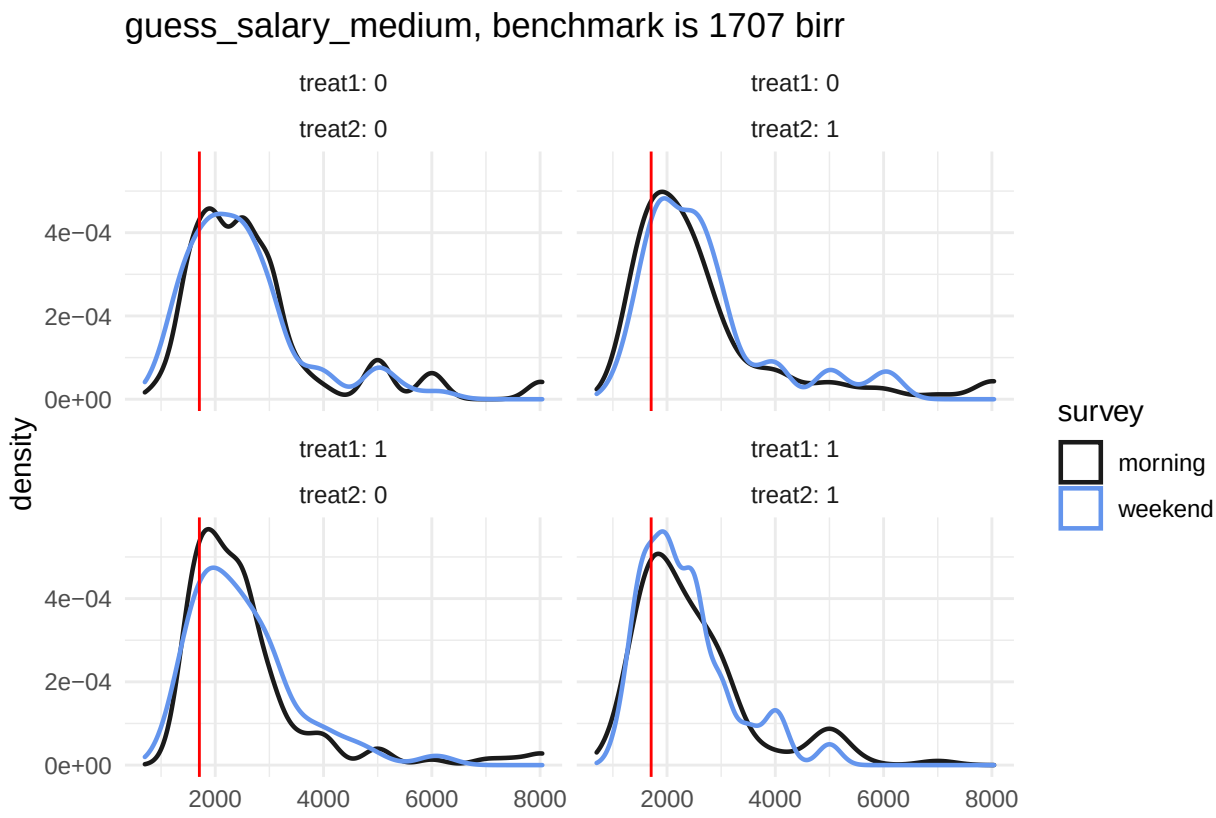
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:48 PM

Table 3:

	Dependent variable:	
	formula_pool[i]	formula_pool_int[i]
	(1)	(2)
treat1	17.609	69.249*
	(43.940)	(39.744)
treat2	64.963**	119.105**
	(30.681)	(50.136)
guess_you_salary_1m	0.243***	0.248***
	(0.061)	(0.059)
treat1:treat2		−115.003*
		(62.120)
Observations	493	493
R^2	0.149	0.154
Adjusted R^2	0.074	0.077
Residual Std. Error	359.462 (df = 452)	358.757 (df = 451)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[4], benchmark = orig_benchmarks[4], pooled = TRUE)
```

```
## Warning: Removed 66 rows containing non-finite values (stat_density).
```




```
stargazer(reg_pool[4], reg_pool_int[4], type = 'latex')
```

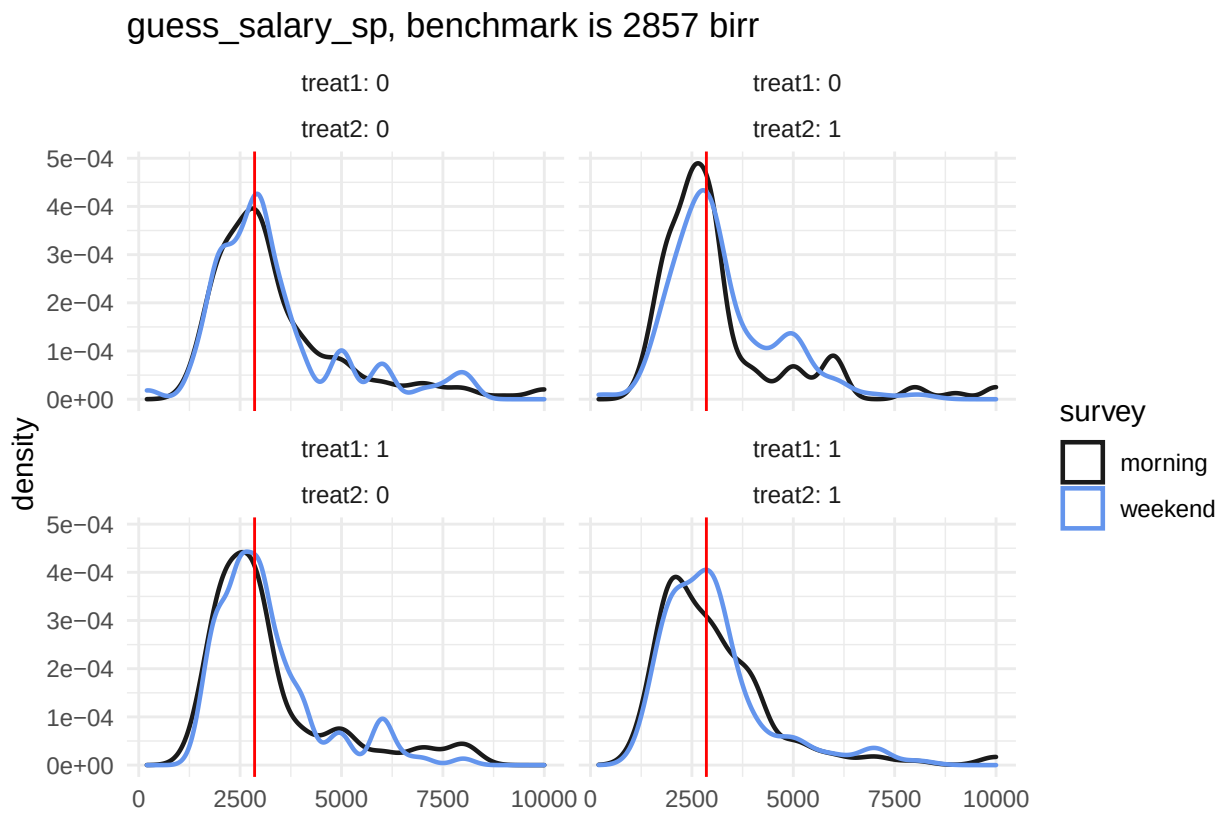
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:49 PM

Table 4:

	Dependent variable:	
	formula_pool[i]	formula_pool_int[i]
	(1)	(2)
treat1	−139.637	2.275
	(111.194)	(141.302)
treat2	80.634	227.052*
	(95.040)	(117.985)
guess_salary_medium	0.353***	0.353***
	(0.051)	(0.052)
treat1:treat2		−310.566**
		(141.338)
Observations	464	464
R^2	0.275	0.280
Adjusted R^2	0.208	0.212
Residual Std. Error	921.625 (df = 424)	919.537 (df = 423)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[5], benchmark = orig_benchmarks[5], pooled = TRUE)
```

```
## Warning: Removed 43 rows containing non-finite values (stat_density).
```




```
stargazer(reg_pool[5], reg_pool_int[5], type = 'latex')
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:49 PM

Table 5:

	Dependent variable:	
	formula_pool[i]	formula_pool_int[i]
	(1)	(2)
treat1	−161.088	−135.263
	(190.351)	(237.153)
treat2	−18.911	7.917
	(97.692)	(139.166)
guess_salary_sp	0.426***	0.426***
	(0.053)	(0.053)
treat1:treat2		−57.049
		(238.609)
Observations	482	482
R^2	0.303	0.303
Adjusted R^2	0.240	0.238
Residual Std. Error	1,230.533 (df = 441)	1,231.850 (df = 440)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[6], benchmark = orig_benchmarks[6], pooled = TRUE)
```

```
## Warning: Removed 31 rows containing non-finite values (stat_density).
```


```
stargazer(reg_pool[6], reg_pool_int[6], type = 'latex')
```

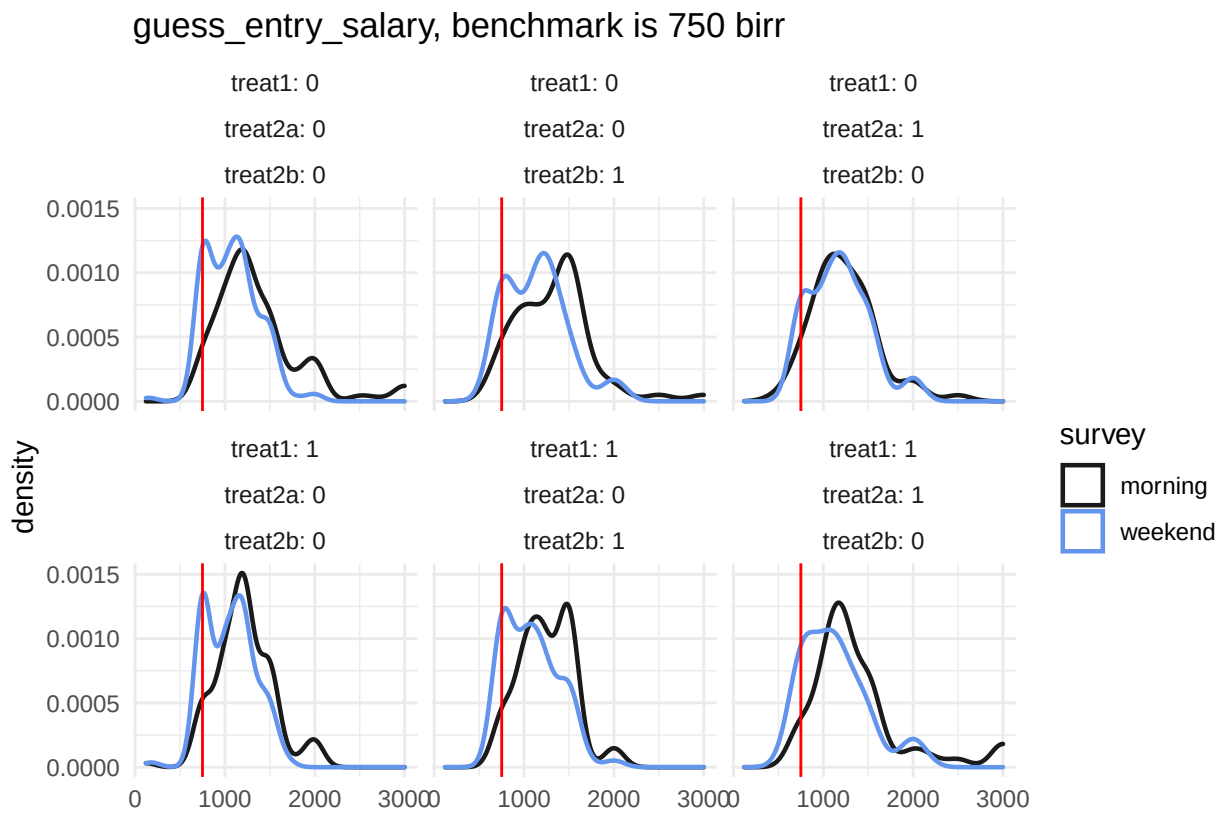
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:50 PM

Table 6:

	Dependent variable:	
	formula_pool[i]	formula_pool_int[i]
	(1)	(2)
treat1	−72.719	44.646
	(76.796)	(59.713)
treat2	75.180	199.557*
	(63.176)	(101.890)
guess_you_salary_6m	0.229***	0.229***
	(0.043)	(0.048)
treat1:treat2		−263.904
		(165.942)
Observations	494	494
R^2	0.176	0.182
Adjusted R^2	0.103	0.108
Residual Std. Error	776.360 (df = 453)	774.506 (df = 452)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[1], benchmark = orig_benchmarks[1], pooled = FALSE)
```

```
## Warning: Removed 31 rows containing non-finite values (stat_density).
```




```
stargazer(reg_sep[1], reg_sep_int[1], type = 'latex')
```

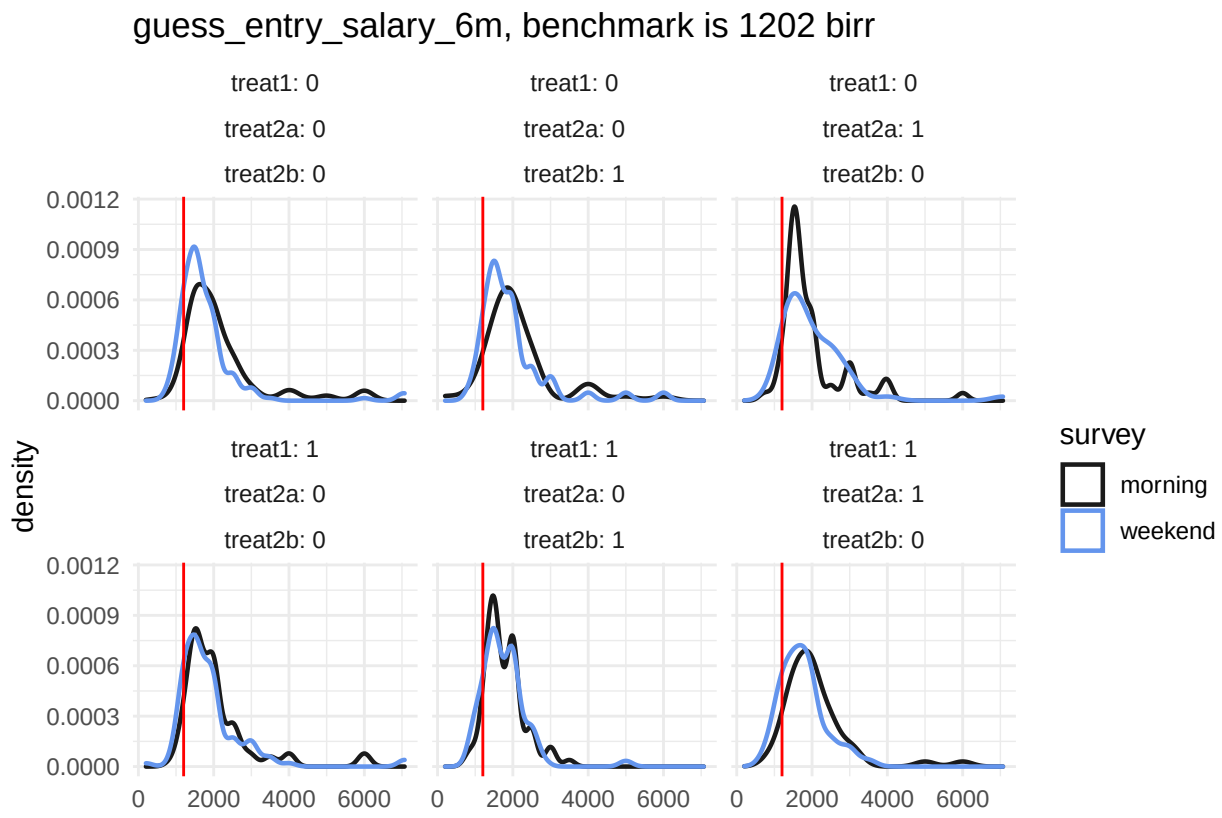
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:51 PM

Table 7:

	Dependent variable:	
	formula_sep[i]	formula_sep_int[i]
	(1)	(2)
treat1	−7.670	6.373
	(28.467)	(41.576)
treat2a	86.283**	114.564
	(34.018)	(66.312)
treat2b	45.047	46.332
	(37.181)	(56.777)
guess_entry_salary	0.188***	0.191***
	(0.023)	(0.025)
treat1:treat2a		−61.514
		(87.616)
treat1:treat2b		−6.197
		(78.131)
Observations	494	494
R^2	0.144	0.146
Adjusted R^2	0.067	0.064
Residual Std. Error	295.821 (df = 452)	296.236 (df = 450)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[2], benchmark = orig_benchmarks[2], pooled = FALSE)
```

```
## Warning: Removed 31 rows containing non-finite values (stat_density).
```




```
stargazer(reg_sep[2], reg_sep_int[2], type = 'latex')
```

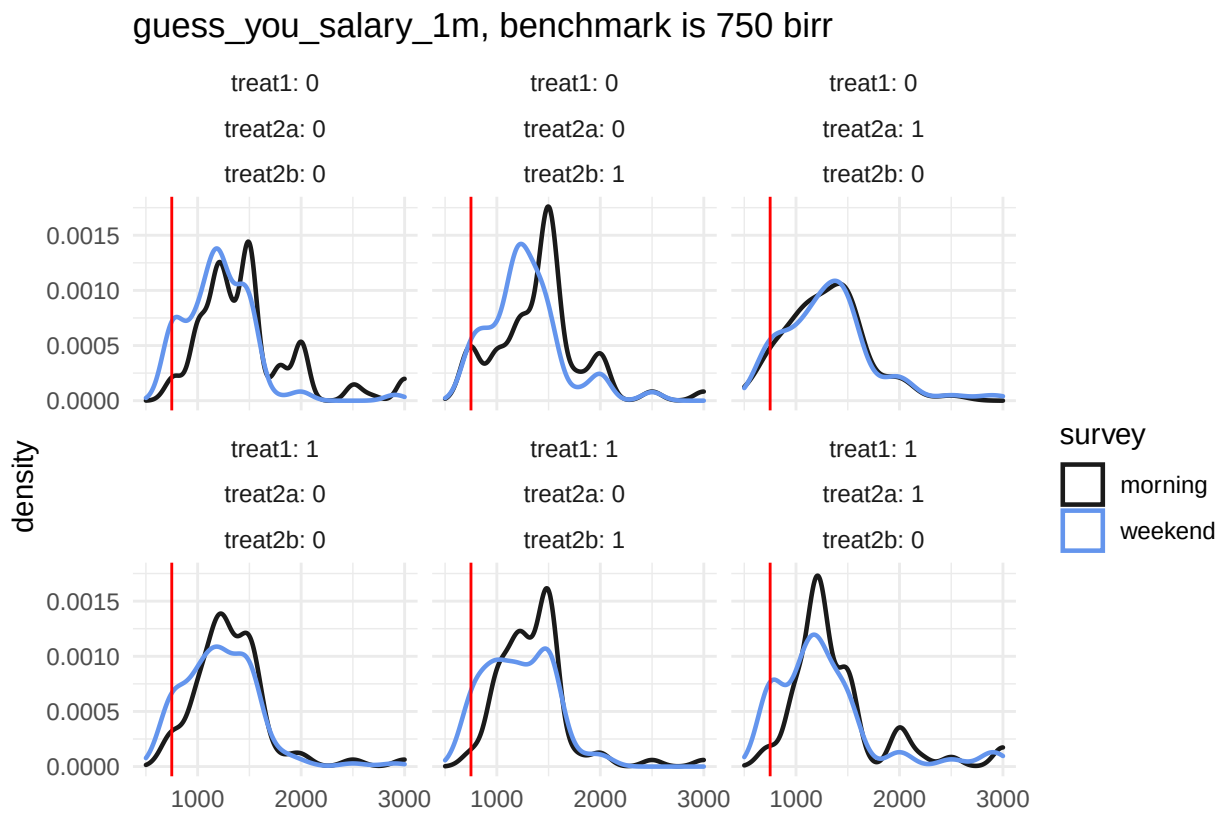
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:51 PM

Table 8:

	Dependent variable:	
	formula_sep[i]	formula_sep_int[i]
	(1)	(2)
treat1	50.654	148.778**
	(72.158)	(65.887)
treat2a	108.746	269.267*
	(107.802)	(137.052)
treat2b	119.773	168.605*
	(88.255)	(80.410)
guess_entry_salary_6m	0.378***	0.380***
	(0.064)	(0.069)
treat1:treat2a		−352.007**
		(129.130)
treat1:treat2b		−115.061
		(123.015)
Observations	494	494
R^2	0.236	0.241
Adjusted R^2	0.166	0.169
Residual Std. Error	796.439 (df = 452)	795.353 (df = 450)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[3], benchmark = orig_benchmarks[3], pooled = FALSE)
```

```
## Warning: Removed 32 rows containing non-finite values (stat_density).
```




```
stargazer(reg_sep[3], reg_sep_int[3], type = 'latex')
```

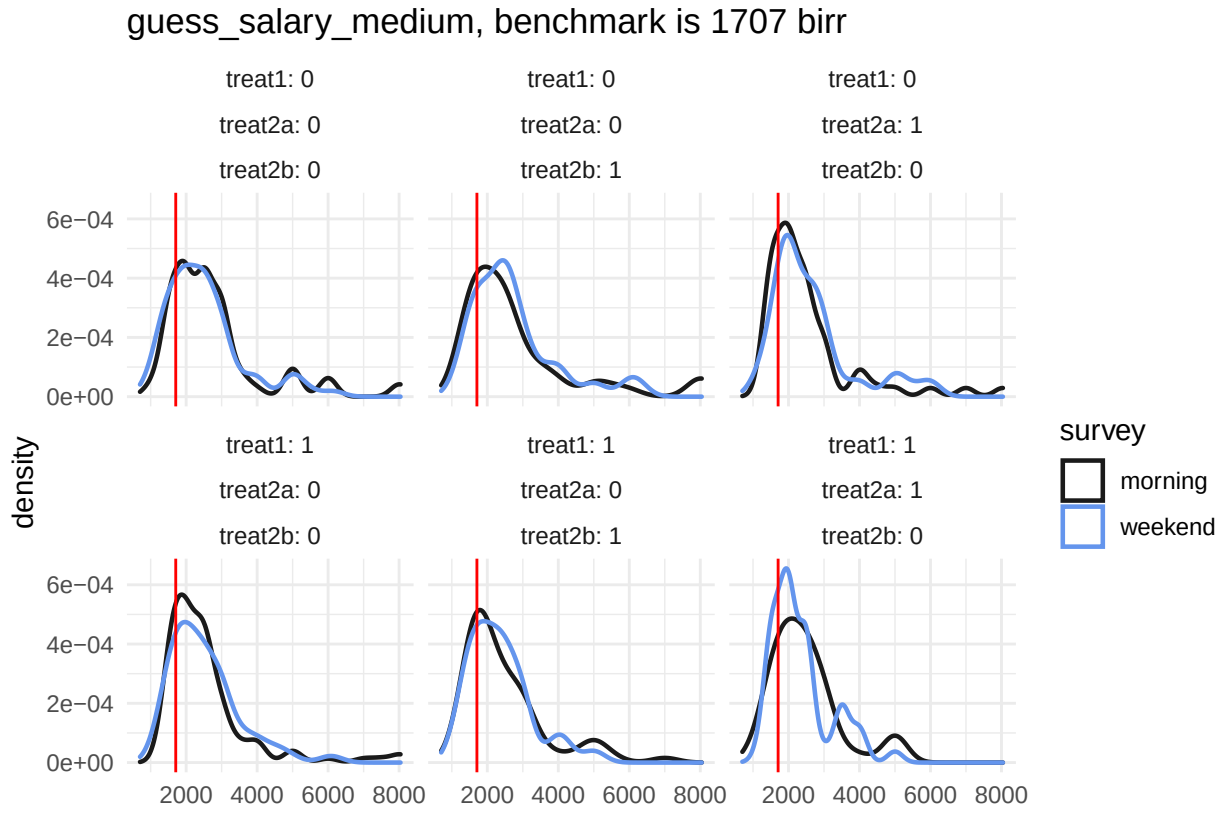
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:52 PM

Table 9:

	Dependent variable:	
	formula_sep[i]	formula_sep_int[i]
	(1)	(2)
treat1	20.575	69.923*
	(42.553)	(39.374)
treat2a	102.895*	172.891*
	(53.226)	(83.334)
treat2b	32.659	66.446
	(32.845)	(52.655)
guess_you_salary_1m	0.245***	0.251***
	(0.062)	(0.065)
treat1:treat2a		−153.582
		(109.673)
treat1:treat2b		−73.994
		(64.470)
Observations	493	493
R^2	0.153	0.159
Adjusted R^2	0.076	0.078
Residual Std. Error	359.076 (df = 451)	358.623 (df = 449)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[4], benchmark = orig_benchmarks[4], pooled = FALSE)
```

```
## Warning: Removed 66 rows containing non-finite values (stat_density).
```




```
stargazer(reg_sep[4], reg_sep_int[4], type = 'latex')
```

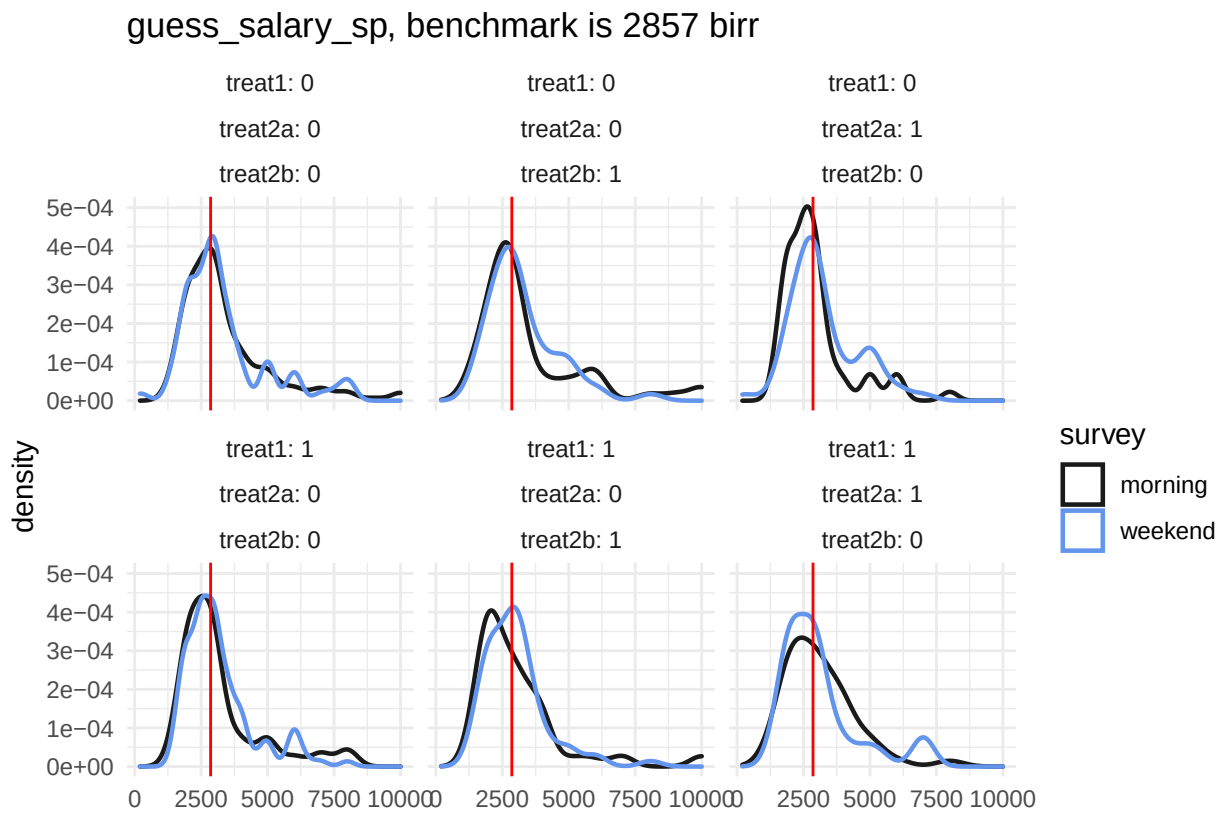
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:53 PM

Table 10:

	Dependent variable:	
	formula_sep[i]	formula_sep_int[i]
	(1)	(2)
treat1	−139.561	2.368
	(110.884)	(141.822)
treat2a	81.854	251.293
	(108.310)	(156.993)
treat2b	79.558	204.175
	(95.355)	(126.052)
guess_salary_medium	0.353***	0.353***
	(0.051)	(0.051)
treat1:treat2a		−369.438**
		(153.273)
treat1:treat2b		−261.332
		(211.412)
Observations	464	464
R^2	0.275	0.280
Adjusted R^2	0.206	0.208
Residual Std. Error	922.713 (df = 423)	921.531 (df = 421)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[5], benchmark = orig_benchmarks[5], pooled = FALSE)
```

```
## Warning: Removed 43 rows containing non-finite values (stat_density).
```




```
stargazer(reg_sep[5], reg_sep_int[5], type = 'latex')
```

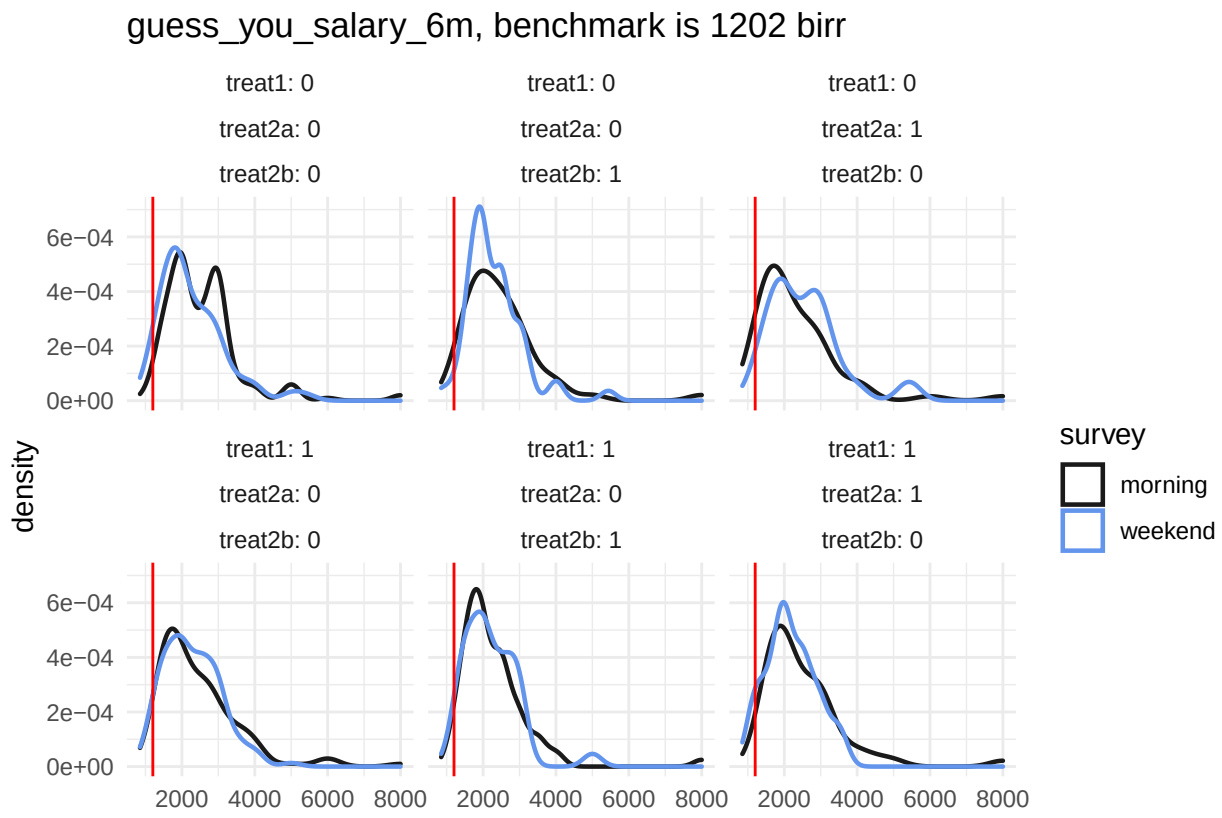
% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:53 PM

Table 11:

	Dependent variable:	
	formula_sep[i]	formula_sep_int[i]
	(1)	(2)
treat1	−154.232	−134.945
	(189.855)	(239.040)
treat2a	80.764	157.021
	(138.593)	(179.008)
treat2b	−107.360	−142.732
	(102.381)	(201.474)
guess_salary_sp	0.428***	0.430***
	(0.051)	(0.050)
treat1:treat2a		−160.991
		(246.075)
treat1:treat2b		58.088
		(336.645)
Observations	482	482
R^2	0.305	0.306
Adjusted R^2	0.240	0.238
Residual Std. Error	1,230.264 (df = 440)	1,232.468 (df = 438)
Note:		*p<0.1; **p<0.05; ***p<0.01

```
gen_density(variable = orig_names[6], benchmark = orig_benchmarks[6], pooled = FALSE)
```

```
## Warning: Removed 31 rows containing non-finite values (stat_density).
```




```
stargazer(reg_sep[6], reg_sep_int[6], type = 'latex')
```

% Table created by stargazer v.5.2.2 by Marek Hlavac, Harvard University. E-mail: hlavac at fas.harvard.edu
% Date and time: Wed, Jul 21, 2021 - 6:24:54 PM

Table 12:

	Dependent variable:	
	formula_sep[i]	formula_sep_int[i]
	(1)	(2)
treat1	−69.147	45.339
	(73.352)	(64.248)
treat2a	127.742	323.880**
	(113.610)	(143.342)
treat2b	29.359	77.853
	(39.714)	(79.183)
guess_you_salary_6m	0.228***	0.230***
	(0.043)	(0.061)
treat1:treat2a		−424.804**
		(196.521)
treat1:treat2b		−117.271
		(141.672)
Observations	494	494
R^2	0.178	0.187
Adjusted R^2	0.103	0.109
Residual Std. Error	776.506 (df = 452)	773.937 (df = 450)
Note:		*p<0.1; **p<0.05; ***p<0.01