

GVPT 722
Illustrating Achen's criticism of R²

2004 NES Data

– *The impact of feeling thermometer ratings of the Republican party on ratings of George W. Bush is slightly stronger among non-southerners than among southerners.*

```
. reg bush_therm rep_therm if south==0, beta
```

Source	SS	df	MS	Number of obs =	773
Model	509188.977	1	509188.977	F(1, 771)	= 1162.35
Residual	337752.169	771	438.070258	Prob > F	= 0.0000
Total	846941.146	772	1097.07402	R-squared	= 0.6012
				Adj R-squared	= 0.6007
				Root MSE	= 20.93

bush_therm	Coef.	Std. Err.	t	P> t	Beta
rep_therm	.9998021	.0293256	34.09	0.000	.7753769
_cons	.871831	1.695762	0.51	0.607	.

```
. reg bush_therm rep_therm if south==1, beta
```

Source	SS	df	MS	Number of obs =	402
Model	319910.228	1	319910.228	F(1, 400)	= 817.32
Residual	156564.958	400	391.412396	Prob > F	= 0.0000
Total	476475.187	401	1188.21742	R-squared	= 0.6714
				Adj R-squared	= 0.6706
				Root MSE	= 19.784

bush_therm	Coef.	Std. Err.	t	P> t	Beta
rep_therm	.9734303	.0340493	28.59	0.000	.8193961
_cons	4.7052	2.142288	2.20	0.029	.

— *But, R² and the standardized coefficient are larger for southerners than non-southerners.*

— *Why? Because there is more variation in Republican ratings among southerners than among non-southerners.*

```
. tab south, summ(rep_therm)
```

region==3	Summary of Feeling Thermometer: Republican party		
South	Mean	Std. Dev.	Freq.
Non-South	51.88	25.73	774
South	55.85	29.02	402
Total	53.23	26.95	1176