```
•
```

. *a

xtset code year

Panel variable: code (unbalanced)

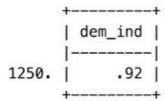
Time variable: year, 1960 to 2000, but with gaps

Delta: 1 unit

. *data set is unbalanced

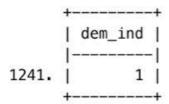
. *b

. list dem_ind if country == "United States" & year==1965



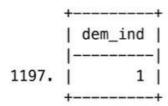
. * Answer .92

. list dem_ind if country == "Uruguay" & year==1965

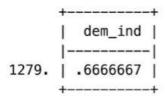


. * Answer 1

. list dem_ind if country == "Trinidad and Tobago" & year==1995



- . *Answer 1
- . list dem_ind if country == "Venezuela, RB" & year==1995



- . * Answer 0.667
- . *c
- . sum dem_ind, detail

dem_ind

	Percentiles	Smallest		
1%	0	0		
5%	0	0		
10%	0	0	0bs	1,266
25%	.1666667	0	Sum of wgt.	1,266
50%	.5		Mean	.4990732
		Largest	Std. dev.	.3713367
75%	.8333333	1		
90%	1	1	Variance	.137891
95%	1	1	Skewness	.0955317
99%	1	1	Kurtosis	1.479739

- . * Avergae overall democracy index is 0.499. The minimum and maximum values o
- > f the index are 0 and 1
- > respectively.
- . * standard deviation is .3713367
- . * 10th percentile 0

```
. * 25th- .1667
```

- * 50th- .5
- . * 75th- .8333
- . * 90th- 1

٠

. *d

. xtset code year

Panel variable: code (unbalanced)

Time variable: year, 1960 to 2000, but with gaps

Delta: 1 unit

. reg dem_ind log_gdppc, vce (cluster country)

Linear regression	Number of obs	=	958
	F(1, 149)	=	396.40
	Prob > F	=	0.0000
	R-squared	=	0.4385
	Root MSE	=	.2719

(Std. err. adjusted for 150 clusters in country)

	ĺ	Robust				
dem_ind	Coefficient	std. err.	t	P> t	[95% conf.	interval]
log_gdppc	.2356731	.011837	19.91	0.000	.212283	.2590632
_cons	-1.354828	.1004215	-13.49	0.000	-1.553262	-1.156394

. *6

^{. *}The coefficient of log of gdp is .2356731 . Thus a 1% change in log_gdppc l

> eads to a 0.002356731 ch

> ange in dem_ind.

- . *Yes it is significant as p value is less than level of significance and the
 > 95% CI doesn't contain
- > 0.

. . *f

- . *If log of per capita income increases by 20%, democracy index would increas
- > e by 0.046. The confiden
- > ce interval becomes [4.246,5.18]
- . *g
- . xtset code year

Panel variable: code (unbalanced)

Time variable: year, 1960 to 2000, but with gaps

Delta: 1 unit

. xtreg dem_ind log_gdppc, fe vce (cluster country)

Fixed-effects (within) regression		=	958
Group variable: code	Number of groups :	=	150
R-sq: Within = 0.0197	Obs per group: min :	=	1
Between = 0.5365	avg :	=	6.4
18 Sect. Sector # Description of the Control of the	max :	=	9
	F(1,149)	=	7.06
$corr(u_i, Xb) = 0.6173$	Prob > F	=	0.0088

(Std. err. adjusted for 150 clusters in country)

dem_ind	Coefficient	Robust std. err.	t	P> t	[95% conf.	interval]
 Log_gdppc	.083741	.0315258	2.66	0.009	.0214456	.1460364
_cons	115316	.257198	-0.45	0.655	6235425	.3929106
sigma_u	.26651952					
sigma_e	.20351058					
rho	.63168655	(fraction	of varia	nce due t	o u_i)	

. xtreg dem_ind log_gdppc i.year, fe vce (cluster country)

Fixed-effects (within) regression	Number of obs	=	958
Group variable: code	Number of groups	=	150
R-sq: Within = 0.1182	Obs per group: mir	ı =	1
Between = 0.3832	avg	=	6.4
Overall = 0.3190	max	=	9
	F(9,149)	=	5.65
$corr(u_i, Xb) = 0.4393$	Prob > F	=	0.0000

(Std. err. adjusted for 150 clusters in country)

dem_ind	Coefficient	Robust std. err.	t	P> t	[95% conf.	interval]
log_gdppc	.0535878	.042432	1.26	0.209	0302585	.137434
year						
1965	.0002347	.0209199	0.01	0.991	0411033	.0415727
1970	1268076	.0340453	-3.72	0.000	1940816	0595337
1975	1477264	.0370153	-3.99	0.000	2208692	0745836
1980	097822	.0355399	-2.75	0.007	1680494	0275947
1985	0871025	.0391062	-2.23	0.027	1643769	009828
1990	0421216	.0353035	-1.19	0.235	1118818	.0276385
1995	.0095646	.0426094	0.22	0.823	0746322	.0937613
2000	.0323636	.0432037	0.75	0.455	0530075	.1177348
_cons	.1802954	.327202	0.55	0.582	4662601	.8268508
sigma_u	.28355993					
sigma_e	.19397224					
rho	.68122712	(fraction	of varia	nce due t	o u_i)	

```
. *i
. xtreg dem_ind log_gdppc, fe
Fixed-effects (within) regression
                                              Number of obs =
                                                                         958
Group variable: code
                                              Number of groups =
                                                                         150
R-squared:
                                              Obs per group:
    Within = 0.0197
                                                                          1
                                                            min =
    Between = 0.5365
                                                            avg =
                                                                         6.4
    0verall = 0.4385
                                                                           9
                                                            max =
                                               F(1,807)
                                                               =
                                                                       16.20
corr(u_i, Xb) = 0.6173
                                              Prob > F
                                                              =
                                                                      0.0001
    dem_ind | Coefficient Std. err.
                                              P>|t|
                                                        [95% conf. interval]
   log_gdppc |
                 .083741
                           .0208046
                                       4.03
                                              0.000
                                                        .0429035
                                                                    .1245785
                -.115316
                           .1698581
                                      -0.68
                                              0.497
                                                       -.4487318
                                                                    .2180999
      _cons |
    sigma u | .26651952
    sigma_e | .20351058
        rho | .63168655 (fraction of variance due to u_i)
F test that all u_i=0: F(149, 807) = 6.04
                                                           Prob > F = 0.0000
. estimates store fe
. xtreg dem_ind log_gdppc, re
                                              Number of obs =
Random-effects GLS regression
                                                                         958
Group variable: code
                                              Number of groups =
                                                                         150
R-squared:
                                              Obs per group:
    Within = 0.0197
                                                            min =
                                                                           1
    Between = 0.5365
                                                            avg =
                                                                         6.4
    0verall = 0.4385
                                                                           9
                                                            max =
                                              Wald chi2(1)
                                                              =
                                                                      160.81
corr(u_i, X) = 0 (assumed)
                                              Prob > chi2
                                                              =
                                                                      0.0000
```