```
. reg tfr furate
```

Source	SS	df	MS	Number of obs	=	41
				F(1, 39)	=	15.20
Model	.2440228	1	.2440228	Prob > F	=	0.0004
Residual	.626000481	39	.016051294	R-squared	=	0.2805
				Adj R-squared	=	0.2620
Total	.87002328	40	.021750582	Root MSE	=	.12669

tfr	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
furate	-.0542401	.0139111	-3.90	0.000	-.0823779	-.0261023
_cons	2.317497	.0916004	25.30	0.000	2.132218	2.502777

Since 0.000 < 0.05 we reject the null hypothesis.

At the 5% significance level, the unemployment rate has a statistically significant negative effect on the total fertility rate (TFR). A one-unit increase in the unemployment rate is associated with a decrease of approximately 0.0542 in the TFR.

```
. reg tfr furate marriage
```

Source	SS	df	MS	Number of obs	=	41
				F(2, 38)	=	8.80
Model	.275445226	2	.137722613	Prob > F	=	0.0007
Residual	.594578055	38	.015646791	R-squared	=	0.3166
				Adj R-squared	=	0.2806
Total	.87002328	40	.021750582	Root MSE	=	.12509

tfr	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
furate	-.0445351	.0153473	-2.90	0.006	-.0756042	-.0134661
marriage	-.025123	.0177282	-1.42	0.165	-.0610118	.0107658
_cons	2.487458	.150211	16.56	0.000	2.183372	2.791545

Since 0.006 < 0.05, we reject the null hypothesis.

At the 5% significance level, the unemployment rate continues to have a statistically significant negative effect on the total fertility rate (TFR), even after controlling for the marriage rate.

```
. reg tfr furate marriage divorce
```

Source	SS	df	MS	Number of obs	=	41
				F(3, 37)	=	26.71
Model	.595226897	3	.198408966	Prob > F	=	0.0000
Residual	.274796383	37	.007426929	R-squared	=	0.6842
				Adj R-squared	=	0.6585
Total	.87002328	40	.021750582	Root MSE	=	.08618

tfr	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
furate	-.0210889	.0111611	-1.89	0.067	-.0437034	.0015256
marriage	.0396634	.0157055	2.53	0.016	.0078411	.0714858
divorce	-.2346374	.0357582	-6.56	0.000	-.3070903	-.1621845
_cons	2.772787	.1122531	24.70	0.000	2.54534	3.000233

Since 0.067 > 0.05, we fail to reject the null hypothesis.

At the 5% significance level, the unemployment rate does not have a statistically significant effect on the total fertility rate (TFR) after controlling for marriage rate and divorce rate.

```
. reg tfr furate marriage divorce urban
```

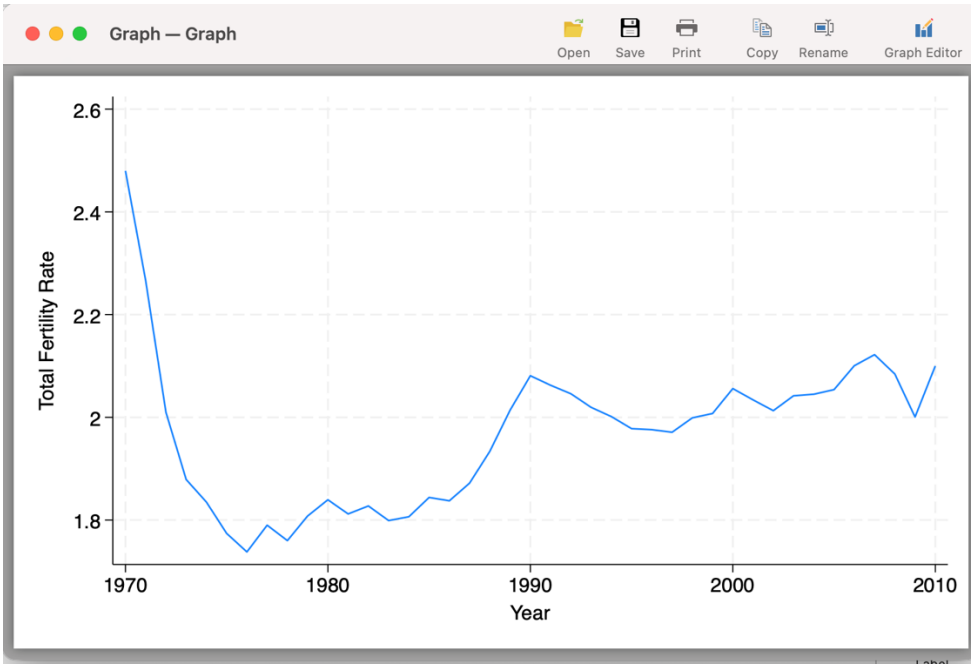
Source	SS	df	MS	Number of obs	=	41
				F(4, 36)	=	20.57
Model	.605208289	4	.151302072	Prob > F	=	0.0000
Residual	.264814991	36	.007355972	R-squared	=	0.6956
				Adj R-squared	=	0.6618
Total	.87002328	40	.021750582	Root MSE	=	.08577

tfr	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
furate	-.0245002	.0114872	-2.13	0.040	-.0477973	-.0012031
marriage	-.0345066	.0655631	-0.53	0.602	-.1674747	.0984614
divorce	-.2505948	.0381325	-6.57	0.000	-.3279312	-.1732584
urban	-.0347453	.0298277	-1.16	0.252	-.0952387	.0257482
_cons	6.211834	2.954428	2.10	0.043	.2199774	12.20369

Since 0.040 < 0.05, we reject the null hypothesis.

At the 5% significance level, the unemployment rate has a statistically significant negative effect on the total fertility rate (TFR) after controlling for marriage rate, divorce rate, and urbanization rate.

```
. twoway line tfr year
```




```
. twoway line tfr year

. gen d75 = 0

. replace d75 = 1 if year >= 1976
(37 real changes made)

. list year d75 in 1/10
```

	year	d75
1.	1970	0
2.	1971	0
3.	1972	0
4.	1973	0
5.	1974	0
6.	1975	0
7.	1976	1
8.	1977	1
9.	1978	1
10.	1979	1

```
. reg tfr furate marriage divorce urban d75
```

Source	SS	df	MS	Number of obs	=	41
				F(5, 35)	=	21.01
Model	.652573166	5	.130514633	Prob > F	=	0.0000
Residual	.217450114	35	.00621286	R-squared	=	0.7501
				Adj R-squared	=	0.7144
Total	.87002328	40	.021750582	Root MSE	=	.07882

tfr	Coefficient	Std. err.	t	P>|t|	[95% conf.	interval]
furate	-.016885	.0109113	-1.55	0.131	-.0390361	.0052662
marriage	-.0271033	.0603135	-0.45	0.656	-.1495463	.0953396
divorce	-.4059252	.0662793	-6.12	0.000	-.5404793	-.2713712
urban	-.0628377	.0292396	-2.15	0.039	-.1221973	-.0034782
d75	.2048391	.0741875	2.76	0.009	.0542306	.3554477
_cons	8.756155	2.867291	3.05	0.004	2.935244	14.57706

Since $0.009 < 0.05$, we reject the null hypothesis.

At the 5% significance level, the dummy variable d75 is statistically significant. This suggests that there is a significant difference in the total fertility rate between the periods 1970–1975 and 1976–2010, after controlling for the other variables in the model.

Part G

Since $0.131 > 0.05$, we fail to reject the null hypothesis.

At the 5% significance level, the unemployment rate does not have a statistically significant effect on the total fertility rate (TFR) in the final regression model.