

































































































































































































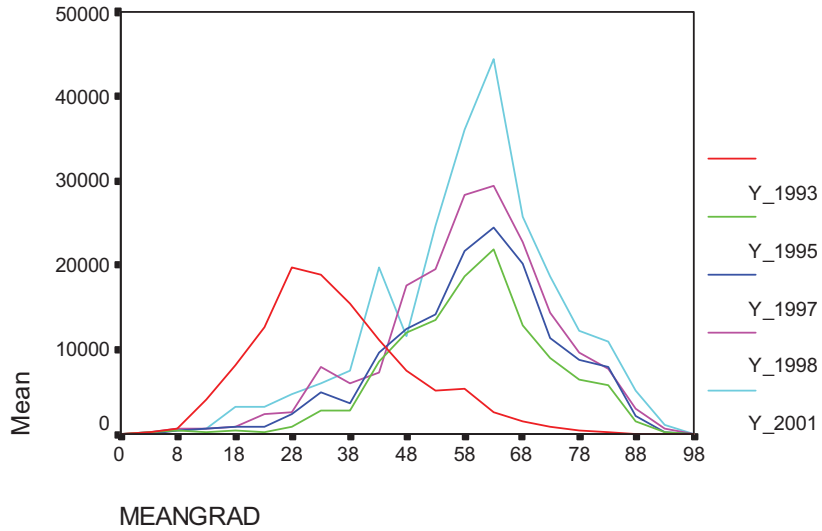






### English Exam Results

1993-- 2001



Correlations: As expected from previous analysis the results for 1993 & 1994 are highly correlated

#### Correlations

		Y_1993	Y_1994
Y_1993	Pearson Correlation	1.000	.942**
	Sig. (2-tailed)	.	.000
	N	21	21
Y_1994	Pearson Correlation	.942**	1.000
	Sig. (2-tailed)	.000	.
	N	21	21

\*\* . Correlation is significant at the 0.01 level

### Correlations

		Y_1993	Y_1995
Y_1993	Pearson Correlation	1.000	-.094
	Sig. (2-tailed)	.	.685
	N	21	21
Y_1995	Pearson Correlation	-.094	1.000
	Sig. (2-tailed)	.685	.
	N	21	21

### Correlations

		Y_1995	Y_1997	Y_1999	Y_2001
Y_1995	Pearson Correlation	1.000	.983**	.907**	.972**
	Sig. (2-tailed)	.	.000	.000	.000
	N	21	21	21	21
Y_1997	Pearson Correlation	.983**	1.000	.916**	.970**
	Sig. (2-tailed)	.000	.	.000	.000
	N	21	21	21	21
Y_1999	Pearson Correlation	.907**	.916**	1.000	.914**
	Sig. (2-tailed)	.000	.000	.	.000
	N	21	21	21	21
Y_2001	Pearson Correlation	.972**	.970**	.914**	1.000
	Sig. (2-tailed)	.000	.000	.000	.
	N	21	21	21	21

\*\* . Correlation is significant at the 0.01 level (2-tailed).

### Descriptive Statistics

	Mean	Std. Deviation	N
MEANGRAD	48.10	30.87	21
Y_1993	5455.05	6524.26	21
Y_1994	5049.57	7141.58	21
Y_1995	5657.57	6721.16	21
Y_1996	6392.33	6950.45	21
Y_1997	7001.86	7817.84	21
Y_1998	8651.38	9572.08	21
Y_1999	8855.00	11701.31	21
Y_2001	11258.86	12623.77	21

**Correlations**

	MEANGRA1	Y_1993	Y_1994	Y_1995	Y_1996	Y_1997	Y_1998	Y_1999	Y_2001
Pearson Correlatio	MEANGRA1								
	MEANGRA1	1.000							
	Y_1993	-.361							
	Y_1994	1.000							
	Y_1995	.942	1.000						
	Y_1996	-.094	-.224	1.000					
	Y_1997	-.060	-.163	.955	1.000				
	Y_1998	-.082	-.203	.983	.954	1.000			
	Y_1999	-.048	-.152	.980	.973	.985	1.000		
	Y_2001	-.072	-.180	.907	.900	.916	.931	1.000	
	MEANGRA1	-.056	-.186	.972	.925	.970	.949	.914	1.000
Sig. (1-tailed)	MEANGRA1	.054	.047	.076	.070	.061	.076	.093	.076
	Y_1993	.054	.000	.343	.398	.361	.418	.378	.404
	Y_1994	.047	.000	.165	.240	.188	.256	.217	.210
	Y_1995	.076	.343	.000	.000	.000	.000	.000	.000
	Y_1996	.070	.000	.000	.000	.000	.000	.000	.000
	Y_1997	.061	.165	.000	.000	.000	.000	.000	.000
	Y_1998	.076	.000	.000	.000	.000	.000	.000	.000
	Y_1999	.093	.256	.000	.000	.000	.000	.000	.000
	Y_2001	.076	.217	.000	.000	.000	.000	.000	.000
N	MEANGRA1	21	21	21	21	21	21	21	21
	Y_1993	21	21	21	21	21	21	21	21
	Y_1994	21	21	21	21	21	21	21	21
	Y_1995	21	21	21	21	21	21	21	21
	Y_1996	21	21	21	21	21	21	21	21
	Y_1997	21	21	21	21	21	21	21	21
	Y_1998	21	21	21	21	21	21	21	21
	Y_1999	21	21	21	21	21	21	21	21
	Y_2001	21	21	21	21	21	21	21	21

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	Y_2001, Y_1993, Y_1999, Y_1996, Y_1994, Y_1997, Y_1995 <sup>a</sup> , Y_1998	.	Enter

a. All requested variables entered.

b. Dependent Variable: MEANGRAD

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.507 <sup>a</sup>	.257	-.238	34.34	.138

a. Predictors: (Constant), Y\_2001, Y\_1993, Y\_1999, Y\_1996, Y\_1994, Y\_1997, Y\_1995, Y\_1998

b. Dependent Variable: MEANGRAD

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4903.257	8	612.907	.520	.820 <sup>a</sup>
	Residual	14150.553	12	1179.213		
	Total	19053.810	20			

a. Predictors: (Constant), Y\_2001, Y\_1993, Y\_1999, Y\_1996, Y\_1994, Y\_1997, Y\_1995, Y\_1998

b. Dependent Variable: MEANGRAD

**Coefficients**

Model	Unstandardized Coefficients		Std. Error	Standardized Coefficients		t	Sig.	Correlations			Collinearity Statistics		
	B	Std. Error		Beta	Partial			Zero-order	Part	Tolerance	VIF		
1	(Constant)	46.282	12.699			3.645	.003						
	Y_1993	-1.43E-03	.004	-.302		-.333	.745	-.096	-.361	-.083	.075	13.337	
	Y_1994	-2.52E-04	.004	-.058		-.057	.955	-.017	-.374	-.014	.060	16.663	
	Y_1995	-4.36E-03	.010	-.949		-.434	.672	-.124	.324	-.108	.013	77.268	
	Y_1996	.563E-03	.005	.352		.307	.764	.088	.334	.076	.047	21.224	
	Y_1997	3.508E-03	.009	.888		.394	.701	.113	.348	.098	.012	82.279	
	Y_1998	-2.25E-04	.010	-.070		-.022	.983	-.006	.323	-.005	.006	164.889	
	Y_1999	-4.06E-04	.002	-.154		-.181	.860	-.052	.300	-.045	.085	11.744	
	Y_2001	5.802E-04	.004	.237		.156	.879	.045	.323	.039	.027	37.558	

a. Dependent Variable: MEANGRAD

Coefficient Correlations

Model	Y_2001	Y_1993	Y_1999	Y_1996	Y_1994	Y_1997	Y_1995	Y_1998
1	1.000	.222	-.564	-.226	-.334	-.615	-.658	.623
Correlation Y_2001		1.000	-.261	-.130	-.953	-.268	-.404	.435
Y_1993	.222	1.000	1.000	.211	.349	.372	.470	-.628
Y_1999	-.564	-.261	1.000	1.000	1.000	.287	.130	-.580
Y_1996	-.226	-.130	.211	1.000	.179	.361	.511	-.557
Y_1994	-.334	-.953	.349	.179	1.000	1.000	.190	-.724
Y_1997	-.615	-.268	.372	.287	.361	1.000	1.000	-.648
Y_1995	-.658	-.404	.470	.130	.511	.190	1.000	-.648
Y_1998	.623	.435	-.628	-.580	-.557	-.724	-.648	1.000
Covariance	.390E-05	.554E-06	-.73E-06	-.29E-06	-.46E-06	-.04E-05	-.46E-05	.392E-05
Y_1993	.554E-06	.847E-05	-.53E-06	-.85E-06	.80E-05	.02E-05	.75E-05	.927E-05
Y_1999	-.73E-06	-.53E-06	.057E-06	.417E-06	.441E-06	.460E-06	.062E-05	.45E-05
Y_1996	-.29E-06	-.85E-06	.417E-06	.590E-05	.995E-06	.302E-05	.648E-06	.304E-05
Y_1994	-.46E-06	.80E-05	.441E-06	.995E-06	.926E-05	.413E-05	.253E-05	.252E-05
Y_1997	.04E-05	.02E-05	.460E-06	.302E-05	.413E-05	.937E-05	.700E-05	.64E-05
Y_1995	.46E-05	.75E-05	.062E-05	.648E-06	.253E-05	.700E-05	.008E-04	.70E-05
Y_1998	.92E-05	.927E-05	.45E-05	.304E-05	-.52E-05	-.64E-05	-.70E-05	.061E-04

a. Dependent Variable: MEANGRAD

**Collinearity Diagnostics**

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions													
				Constant	Y_1993	Y_1994	Y_1995	Y_1996	Y_1997	Y_1998	Y_1999	Y_2001					
1	1	6.741	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	2	1.760	1.957	.01	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	3	.321	4.585	.90	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	4	.438E-02	9.520	.04	.00	.00	.01	.01	.01	.00	.00	.00	.00	.00	.00	.57	.00
5	5	.980E-02	11.634	.00	.10	.07	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.09
6	6	.693E-02	15.821	.00	.62	.51	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.06
7	7	.721E-02	19.790	.01	.01	.01	.02	.41	.06	.06	.03	.00	.00	.00	.00	.00	.27
8	8	.459E-03	28.229	.03	.03	.04	.48	.03	.33	.00	.00	.00	.00	.00	.00	.02	.01
9	9	.919E-03	59.265	.00	.22	.35	.49	.25	.60	.60	.96	.40	.56	.00	.00	.00	.00

a. Dependent Variable: MEANGRAD

### Residuals Statistics

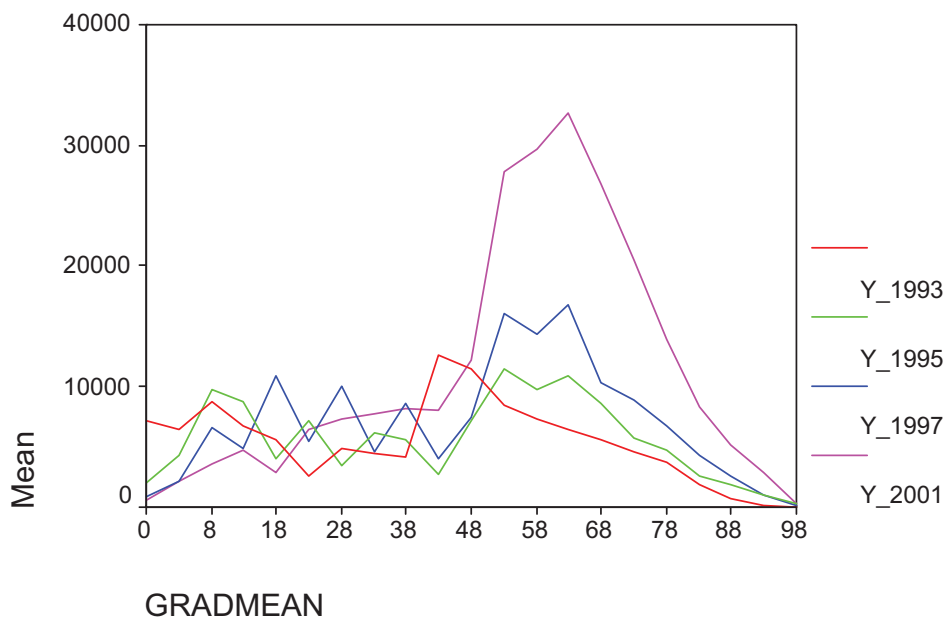
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	22.21	84.53	48.10	15.66	21
Residual	-46.33	51.71	8.12E-15	26.60	21
Std. Predicted Val	-1.653	2.327	.000	1.000	21
Std. Residual	-1.349	1.506	.000	.775	21

a. Dependent Variable: MEANGRAD

Correlations: as expected following our previous findings from the graphs, correlation between years 1993 and 1994 is high (.886) and highly significant

### Math Exam Results

1993--2001





**Correlations**

		Y_1993	Y_1994
Y_1993	Pearson Correlation	1.000	.886**
	Sig. (2-tailed)	.	.000
	N	21	21
Y_1994	Pearson Correlation	.886**	1.000
	Sig. (2-tailed)	.000	.
	N	21	21

\*\* . Correlation is significant at the 0.01 level

**Correlations**

		Y_1993	Y_1995
Y_1993	Pearson Correlation	1.000	.485*
	Sig. (2-tailed)	.	.026
	N	21	21
Y_1995	Pearson Correlation	.485*	1.000
	Sig. (2-tailed)	.026	.
	N	21	21

\* . Correlation is significant at the 0.05 level (2-tailed).

Correlations: While we notice the weak correlations between the years of 1993/1994 and rest of the following years, it appears how highly correlated are the math exam results for the interval of years 1995-2001

Correlations

	Y_1993	Y_1994	Y_1995	Y_1996	Y_1997	Y_1998	Y_1999	Y_2001
Y_1993 Pearson Correlation	1.000	.886**	.485*	.412	.357	.414	.523*	.269
Sig. (2-tailed)		.000	.026	.064	.112	.062	.015	.238
N	21	21	21	21	21	21	21	21
Y_1994 Pearson Correlation	.886**	1.000	.491*	.279	.206	.395	.422	.123
Sig. (2-tailed)	.000		.024	.221	.370	.076	.057	.596
N	21	21	21	21	21	21	21	21
Y_1995 Pearson Correlation	.485*	.491*	1.000	.814**	.765**	.970**	.785**	.704**
Sig. (2-tailed)	.026	.024		.000	.000	.000	.000	.000
N	21	21	21	21	21	21	21	21
Y_1996 Pearson Correlation	.412	.279	.814**	1.000	.920**	.894**	.658**	.910**
Sig. (2-tailed)	.064	.221	.000		.000	.000	.001	.000
N	21	21	21	21	21	21	21	21
Y_1997 Pearson Correlation	.357	.206	.765**	.920**	1.000	.835**	.762**	.840**
Sig. (2-tailed)	.112	.370	.000	.000		.000	.000	.000
N	21	21	21	21	21	21	21	21
Y_1998 Pearson Correlation	.414	.395	.970**	.894**	.835**	1.000	.710**	.827**
Sig. (2-tailed)	.062	.076	.000	.000	.000		.000	.000
N	21	21	21	21	21	21	21	21
Y_1999 Pearson Correlation	.523*	.422	.785**	.658**	.762**	.710**	1.000	.454*
Sig. (2-tailed)	.015	.057	.000	.001	.000	.000		.039
N	21	21	21	21	21	21	21	21
Y_2001 Pearson Correlation	.269	.123	.704**	.910**	.840**	.827**	.454*	1.000
Sig. (2-tailed)	.238	.596	.000	.000	.000	.000	.039	
N	21	21	21	21	21	21	21	21

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

**Descriptive Statistics**

	Mean	Std. Deviation	N
GRADMEAN	48.10	30.87	21
Y_1993	5421.33	3360.78	21
Y_1994	5019.00	3611.71	21
Y_1995	5621.86	3345.20	21
Y_1996	6370.29	4094.39	21
Y_1997	6985.71	4830.86	21
Y_1998	8641.48	5399.62	21
Y_1999	8837.86	5448.02	21
Y_2001	11029.57	10208.53	21

**Correlations**

		GRADMEAN	Y_1993	Y_1994	Y_1995	Y_1996	Y_1997	Y_1998	Y_1999	Y_2001
Pearson Correlation	GRADMEAN	1.000	-.517	-.519	-.257	.019	-.001	-.088	-.434	.308
	Y_1993	-.517	1.000	.886	.485	.412	.357	.414	.523	.269
	Y_1994	-.519	.886	1.000	.491	.279	.206	.395	.422	.123
	Y_1995	-.257	.485	.491	1.000	.814	.765	.970	.785	.704
	Y_1996	.019	.412	.279	.814	1.000	.920	.894	.658	.910
	Y_1997	-.001	.357	.206	.765	.920	1.000	.835	.762	.840
	Y_1998	-.088	.414	.395	.970	.894	.835	1.000	.710	.827
	Y_1999	-.434	.523	.422	.785	.658	.762	.710	1.000	.454
	Y_2001	.308	.269	.123	.704	.910	.840	.827	.454	1.000
	Sig. (1-tailed)	GRADMEAN	.	.008	.008	.130	.467	.498	.352	.025
Y_1993		.008	.	.000	.013	.032	.056	.031	.008	.119
Y_1994		.008	.000	.	.012	.110	.185	.038	.028	.298
Y_1995		.130	.013	.012	.	.000	.000	.000	.000	.000
Y_1996		.467	.032	.110	.000	.	.000	.000	.001	.000
Y_1997		.498	.056	.185	.000	.000	.	.000	.000	.000
Y_1998		.352	.031	.038	.000	.000	.000	.	.000	.000
Y_1999		.025	.008	.028	.000	.001	.000	.000	.	.019
Y_2001		.087	.119	.298	.000	.000	.000	.000	.019	.
N		GRADMEAN	21	21	21	21	21	21	21	21
	Y_1993	21	21	21	21	21	21	21	21	21
	Y_1994	21	21	21	21	21	21	21	21	21
	Y_1995	21	21	21	21	21	21	21	21	21
	Y_1996	21	21	21	21	21	21	21	21	21
	Y_1997	21	21	21	21	21	21	21	21	21
	Y_1998	21	21	21	21	21	21	21	21	21
	Y_1999	21	21	21	21	21	21	21	21	21
	Y_2001	21	21	21	21	21	21	21	21	21

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	Y_2001, Y_1994, Y_1999, Y_1995, Y_1993, Y_1997, Y_1996 <sup>a</sup> , Y_1998	.	Enter

a. All requested variables entered.

b. Dependent Variable: GRADMEAN

**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.878 <sup>a</sup>	.771	.618	19.07

a. Predictors: (Constant), Y\_2001, Y\_1994, Y\_1999, Y\_1995, Y\_1993, Y\_1997, Y\_1996, Y\_1998

b. Dependent Variable: GRADMEAN

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	14690.810	8	1836.351	5.051	.006 <sup>a</sup>
	Residual	4363.000	12	363.583		
	Total	19053.810	20			

a. Predictors: (Constant), Y\_2001, Y\_1994, Y\_1999, Y\_1995, Y\_1993, Y\_1997, Y\_1996, Y\_1998

b. Dependent Variable: GRADMEAN

**Coefficients**

Model	Unstandardized Coefficients		Std. Error	Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error					Beta	Tolerance
1	(Constant)	79.430	9.563		8.306	.000		
	Y_1993	.83E-03	.004	-.744	-1.845	.090	.117	8.514
	Y_1994	969E-03	.003	.464	1.154	.271	.118	8.481
	Y_1995	.48E-02	.011	-1.607	-1.312	.214	.013	78.556
	Y_1996	.48E-03	.004	-.595	-1.096	.294	.065	15.424
	Y_1997	.00E-03	.004	-.313	-.563	.584	.062	16.211
	Y_1998	695E-03	.008	.996	.727	.481	.010	98.518
	Y_1999	668E-03	.003	.294	.644	.531	.091	10.940
	Y_2001	326E-03	.001	1.431	2.970	.012	.082	12.167

a. Dependent Variable: GRADMEAN

**Coefficient Correlations**

Model	Y_2001	Y_1994	Y_1999	Y_1995	Y_1993	Y_1997	Y_1996	Y_1998
1	1.000	.391	.382	.148	-.373	-.248	-.322	-.311
Correlations	Y_2001	Y_1994	Y_1999	Y_1995	Y_1993	Y_1997	Y_1996	Y_1998
	.391	1.000	.290	-.087	-.898	-.057	.086	-.125
	.382	.290	1.000	-.655	-.313	-.752	.011	.476
	.148	-.087	-.655	1.000	-.024	.487	.101	-.942
	-.373	-.898	-.313	-.024	1.000	.116	-.205	.219
	-.248	-.057	-.752	.487	.116	1.000	-.362	-.391
	-.322	.086	.011	.101	-.205	-.362	1.000	-.212
	-.311	-.125	.476	-.942	.219	-.391	-.212	1.000
Covariances:	Y_2001	Y_1994	Y_1999	Y_1995	Y_1993	Y_1997	Y_1996	Y_1998
	.122E-06	.960E-06	.439E-06	.436E-06	2.01E-06	1.29E-06	1.92E-06	3.55E-06
	.960E-06	.182E-05	.582E-06	3.38E-06	1.14E-05	6.92E-07	.211E-06	3.37E-06
	.439E-06	.582E-06	.700E-06	1.92E-05	3.00E-06	6.92E-06	.186E-07	.652E-06
	.436E-06	3.38E-06	1.92E-05	.276E-04	1.01E-06	.956E-05	.663E-06	8.34E-05
	2.01E-06	1.14E-05	3.00E-06	1.01E-06	.370E-05	.532E-06	3.10E-06	.347E-06
	1.29E-06	6.92E-07	6.92E-06	.956E-05	.532E-06	.263E-05	5.26E-06	1.09E-05
	1.92E-06	.186E-07	.186E-07	.663E-06	3.10E-06	5.26E-06	.673E-05	6.81E-06
	3.55E-06	3.37E-06	.652E-06	8.34E-05	.347E-06	1.09E-05	6.81E-06	.143E-05

a. Dependent Variable: GRADMEAN

**Collinearity Diagnostics**

Mode	Dimensijgenvalue	Condition Index	Variance Proportions																
			Constant	Y_1993	Y_1994	Y_1995	Y_1996	Y_1997	Y_1998	Y_1999	Y_2001								
1	7.947	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.571	3.729	.02	.01	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02
3	.188	6.496	.66	.01	.03	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01
4	.150	7.276	.23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.08	.05
5	.074E-02	9.359	.01	.06	.01	.01	.01	.00	.00	.04	.01	.01	.02	.01	.02	.00	.00	.02	.00
6	.189E-02	17.869	.00	.27	.33	.00	.00	.04	.04	.23	.00	.00	.00	.00	.00	.00	.00	.08	.17
7	.585E-02	22.392	.07	.11	.18	.00	.00	.68	.07	.07	.00	.00	.00	.00	.00	.00	.04	.44	.44
8	.068E-03	28.237	.01	.53	.42	.01	.01	.25	.43	.43	.02	.02	.02	.02	.02	.02	.43	.26	.26
9	.162E-03	73.724	.00	.01	.00	.97	.02	.02	.23	.23	.97	.02	.02	.36	.36	.05	.05	.05	.05

a. Dependent Variable: GRADMEAN

**Residuals Statistics**

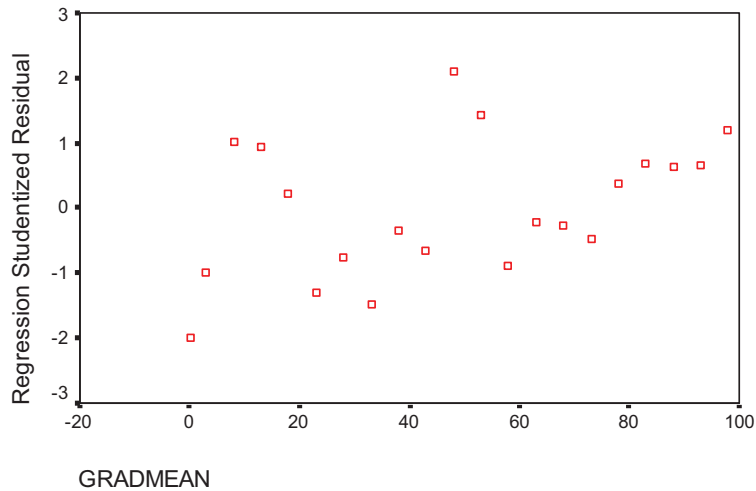
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	.54	82.46	48.10	27.10	21
Std. Predicted Value	-1.755	1.268	.000	1.000	21
Standard Error of Predicted Value	6.88	18.61	12.10	3.14	21
Adjusted Predicted Residual	-81.07	98.40	47.46	42.25	21
Std. Residual	-27.07	31.17	.41E-15	14.77	21
Stud. Residual	-1.419	1.635	.000	.775	21
Deleted Residual	-2.000	2.105	-.005	1.059	21
Stud. Deleted Residual	-55.40	89.07	.64	35.20	21
Mahal. Distance	-2.345	2.538	-.002	1.149	21
Cook's Distance	1.650	18.107	7.619	4.461	21
Centered Leverage	.002	2.310	.242	.519	21
	.083	.905	.381	.223	21

a. Dependent Variable: GRADMEAN



**Scatterplot**

Dependent Variable: GRADMEAN



**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	Y_2001 <sup>a</sup> Y_1993	.	Enter

- a. All requested variables entered.
- b. Dependent Variable: GRADMEAN

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.695 <sup>a</sup>	.483	.425	23.40

- a. Predictors: (Constant), Y\_2001, Y\_1993

**ANOVA<sup>b</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9199.000	2	4599.500	8.401	.003 <sup>a</sup>
	Residual	9854.809	18	547.489		
	Total	19053.810	20			

a. Predictors: (Constant), Y\_2001, Y\_1993

b. Dependent Variable: GRADMEAN

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	64.191	10.470		6.131	.000
	Y_1993	-5.94E-03	.002	-.646	-3.673	.002
	Y_2001	1.459E-03	.001	.483	2.742	.013

a. Dependent Variable: GRADMEAN

**Variables Entered/Removed<sup>b</sup>**

Model	Variables Entered	Variables Removed	Method
1	Y_1994 <sup>a</sup> Y_1993	.	Enter

a. All requested variables entered.

b. Dependent Variable: GRADMEAN

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.533 <sup>a</sup>	.285	.205	27.52

a. Predictors: (Constant), Y\_1994, Y\_1993

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5422.722	2	2711.361	3.580	.049 <sup>a</sup>
	Residual	13631.087	18	757.283		
	Total	19053.810	20			

a. Predictors: (Constant), Y\_1994, Y\_1993

b. Dependent Variable: GRADMEAN

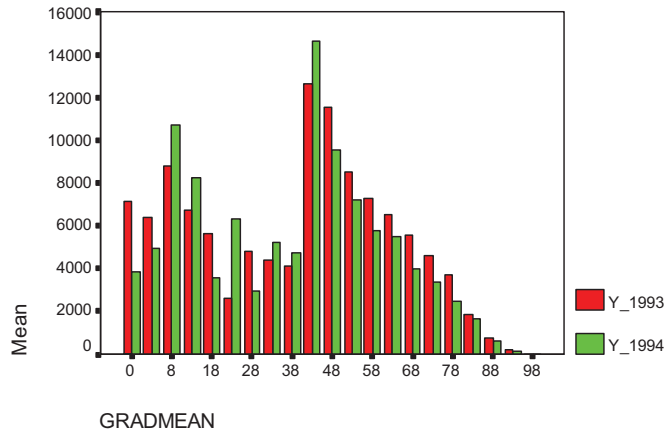
**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	73.470	11.613		6.327	.000
	Y_1993	-2.41E-03	.004	-.262	-.611	.549
	Y_1994	-2.45E-03	.004	-.287	-.669	.512

a. Dependent Variable: GRADMEAN

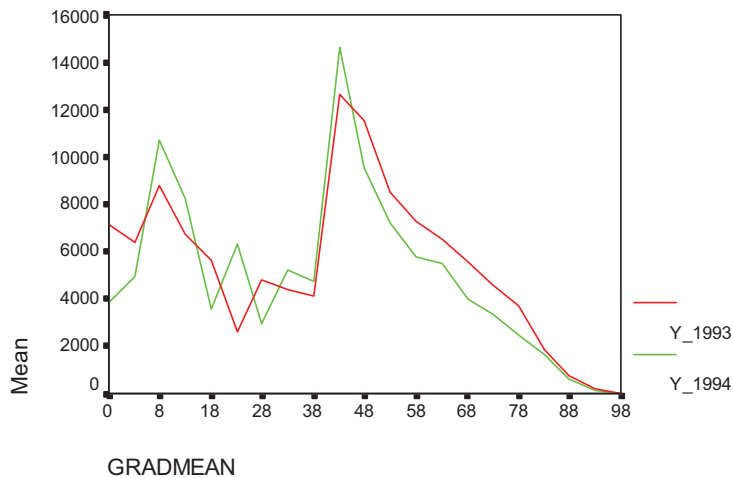
### Math Exam Results

1993/94



### Math Exam Results

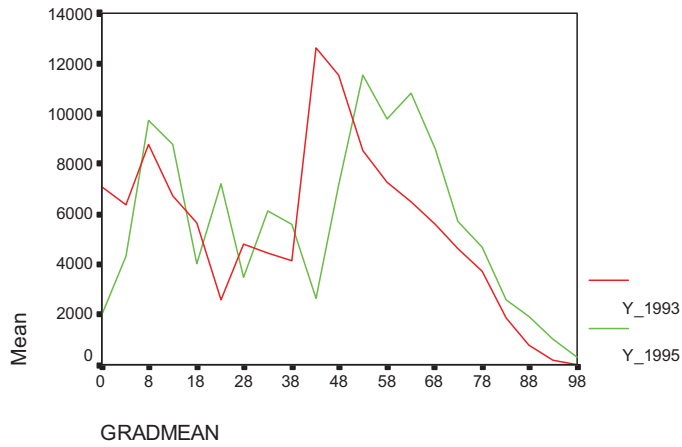
1993/94



Graph: the line and bar charts for results of 1993 and 1995 reflect an apparent variation. They have shifted to the right toward the higher mean grades for 1995.

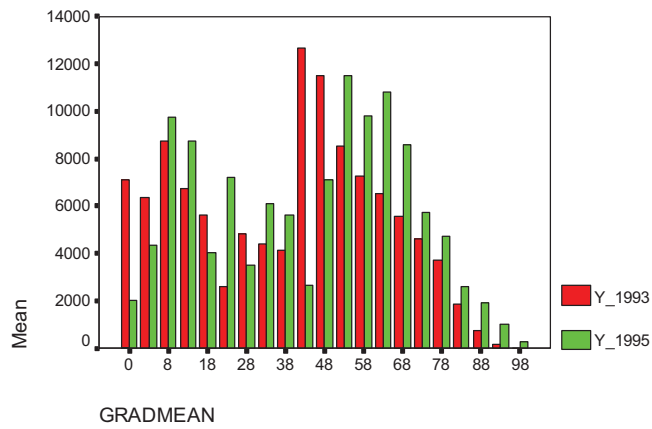
### Math Exam Results

1993/95



### Math Exam Results

1993/95



## References

- MacKinnon, J.G. (1996) Numerical distribution functions for unit-root and cointegration tests, in *Journal of Applied Econometrics*, Vol. 11, pp. 601-618.
- McFadden, D. (1984) Econometric Analysis of Qualitative Response Models, in Zvi Griliches and Michael D. Intriligator, eds. *Handbook of Econometrics*, Volume 2. North-Holland: Amsterdam.
- Fromm, G., P. Taubman (1968) *Policy Simulations with an Econometric Model*. Washington, D.C. Brookings Institution.
- Akaike, H. (1974) *A New Look at the Statistical Model Identification*, IEEE Transactions on Automatic Control, AC-19, 716-723.
- Gagné, R. and P. Ouellette (1998) On the Choice of Functional Forms: Summary of a Monte Carlo Experiment, in *Journal of Business and Economic Statistics*. 16, 1:118-124.
- Harvey, D., Leybourne, S. and P. Newbold (1997) Testing the Equality of Prediction Mean Squared Errors, in *International Journal of Forecasting*, 13: 281 – 291.
- Pal, M., Neogi, C. and B. Ghosh (1998) Estimation of frontier production function with errors-invariables: An illustration from Indian industry, in Sr. Chakravarty, D. Coondoo and R. Mukherjee (eds.) *Quantitative Economics: Theory and Practice*. Allied Publishers Limited, New Delhi, India.
- Dhawan, R. and G. Gerdes (1997) Estimating technological change using a stochastic frontier production function framework: evidence from U.S.. firm-level data, in *Journal of Productivity Analysis* 8, 431-446.
- Heathfield, D.F. and Wibe, S. (1987) *An introduction to cost and production functions*. Macmillan Education Ltd., Hong Kong.