



Understanding the Impacts of Demographic Changes on the Education Budget in Turkey: A Macro Perspective

Executive Summary:

According to the Ministry of National Education's data, the population of Turkey increased by 1,61% in 2000 with the female population having increased slightly more than male population. Following this particular year, however, the population increase has been calculated around 1,01% which is assumed to continue until the year of 2010. The population rate of the age group between 6 and 21, on the other hand, was only one tenth of a percent in 2000. For the following years, 6-21 age group population increasing rate is assumed to be very close, but still less than overall population increasing rate. The fact that 6-21 age group population increasing has been rather under that of overall population is a sign of aging factor which mainly the developed nations have been and will be experiencing. This, along with the evidence that the percentage of age groups of 5-9, 10-14, 15-19, and 20-24 in total population will decrease by the year of 2025 according to US Census Bureau, will make it somewhat easier for policy-makers in Turkey to adjust to demographic changes in terms of physical investment needs.

While the consolidated (national) budget of Turkey has had very modest increases for the years of 2004 and 2005 because of the government's battle against the inflation, both the budgets of Ministry of National Education, and Council of Higher Education and universities managed to keep and even boost their previous levels. For instance, the budget of Ministry of National Education increased by 21,48% in 2004 and 20,35% in 2005 whereas the budget of Council of Higher Education and universities increased around 16,36% and 34,01% respectively. It should be remembered that consumer price index increased by 9,32% and 7,72, and wholesale (producer) price index increased by 13,84% and 2,66% for these years.

As for the educational spending per student, these figures increased above the inflation, too, with 21,43% and 15,12% in 2004 and 2005 in pre-primary, primary and secondary education, and 13,64% and 19,02% respectively for tertiary education. Nevertheless, these percentage increases were a little lower than the budgets of Ministry of National Education, and Council of Higher Education and universities since the number of students also increased while the budget figures rose. In other words, with the budget appropriations increasing, the number of people benefiting from the same pie also expanded.

After 2000, the only year when the education budget along with the educational spending per student fell below the inflation rate was 2001, when the worst economic crisis after World War Two hit Turkey severely. The economy shrank around 9.5% of GDP and more than one million people lost their jobs. The increases in educational spending per student in tertiary education relative to consumer prices in 2003 and relative to wholesale (producer) prices in 2004 were also negative in real terms; nonetheless, these figures were so close to zero that they can be neglected.

While the total education budget relative to national wealth rose from 3,07% in the crisis year of 2001 to 4,18% in 2005, these numbers, yet, are still far from the developed nations' educational spendings. Today, competitive countries do their best to stretch their spending limits in education and they try to allocate 6% to 7% of their gross national product (or gross domestic product) for education. Therefore, there is an inevitable need for Turkish policy-makers to expand educational spending both at primary-secondary and tertiary level.

Major metropolitan cities in Turkey from different geographical areas, such as İstanbul, Ankara, and İzmir, expect higher population increases than the average rates of the country until 2010. These cities, the favorites of the migrants coming from other parts of the country already consume the biggest part of the educational spendings and will be anticipated to attract more educational resources. In concrete terms, these three major cities formed 24,56% of 6-21 age group and 25,58% of overall population in 2000. Nonetheless, in 2010, these numbers will be expected to jump to 27,07% and 27,98% respectively.



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Additional Information and Assumptions:

1. In order to make use of census data, schooling age is assumed to be between 6-21.
2. Educational spending per student is assumed to be equal across the country; that is, no regional, urban or rural differences apply.
3. "TL/\$ exchange rate" is the Turkish Central Bank's exchange rate as of last business day of the year.
4. Total number of students in primary and secondary education in 1999 was 15.074.411 and in tertiary education was 1.382.149.
5. The currency of Turkey is Turkish Lira (TL). As of January 1, 2005, six zeros were omitted from TL.
6. The Budget of Ministry of National Education in 1999 was 2.131.808.500 (million TL), and Council of Higher Education and universities was 676.900.000 (million TL).
7. The Budgets of the Ministry, Council of Higher Education and universities for the year of 2005 have not been realized yet; and therefore, can end up slightly different.
8. The whole budgets of the Ministry, Council of Higher Education and universities are assumed to be spent equally to students in formal and non-formal education.
9. Consolidated (national) budget in 1999 was 27.143.467.196 (million TL). Budget figure for 2005 has not been realized yet; and therefore, can end up slightly different.
10. Total education budget in 1999 was 2.807.208.300 (million TL).
11. GNP in 1999 was 78.282.966.800 (million TL).
12. GNP figure for 2005 is estimated and can end up slightly different.
13. GNP per capita for 1999 is \$2.827.
14. 6-21 age group population figures for 1999 are:
Turkey : Males 11.458.000; females 10.940.000; total 22.398.000.
Adana : Males 341.814; females 338.178; total 679.992.
Ankara : Males 671.761; females 612.804; total 1.284.565.
Gaziantep : Males 255.328; females 247.851; total 503.179.
İstanbul : Males 1.621.527; females 1.512.218; total 3.133.745.
İzmir : Males 526.837; females 487.045; total 1.013.882.
Malatya : Males 165.483; females 154.933; total 320.416.
Samsun : Males 207.754; females 219.307; total 427.061.
15. Total population figures for 1999 are:
Turkey : Males 33.522.000; females 32.831.000; total 66.353.000.
Adana : Males 902.268; females 909.010; total 1.811.278.
Ankara : Males 1.979.333; females 1.927.156; total 3.906.489.
Gaziantep : Males 627.808; females 620.710; total 1.248.518.
İstanbul : Males 4.905.194; females 4.722.547; total 9.627.741.
İzmir : Males 1.657.373; females 1.624.045; total 3.281.418.
Malatya : Males 424.196; females 410.181; total 834.377.
Samsun : Males 584.832; females 622.153; total 1.206.985.



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Number of students	2000	2001	2002	2003	2004	2005
Pre-primary education	251.469	228.503	256.392	320.038	358.499	434.771
Primary education	9.884.444	10.289.233	10.310.844	10.331.619	10.479.538	10.565.389
Secondary education	2.019.501	2.128.957	2.312.271	3.034.959	3.014.392	3.039.449
Formal education (pre-primary, primary and secondary)	12.155.414	12.646.693	12.879.507	13.686.616	13.852.429	14.039.609
Non-formal education (pre-primary, primary and secondary)	2.978.799	3.173.841	3.211.278	3.038.982	2.879.391	3.451.515
Total (pre-primary, primary and secondary)	15.134.213	15.820.534	16.090.785	16.725.598	16.731.820	17.491.124
Tertiary education (formal and non-formal)	1.419.927	1.508.205	1.568.384	1.798.623	1.841.546	2.073.428
Total (pre-primary, primary, secondary and tertiary)	16.554.140	17.328.739	17.659.169	18.524.221	18.573.366	19.564.552

(%) Change in the number of students	2000	2001	2002	2003	2004	2005
Change in pre-primary, primary and secondary education from previous year	,40	4,53	1,71	3,95	,04	4,54
Change in tertiary education from previous year	2,73	6,22	3,99	14,68	2,39	12,59
Change in total from previous year	,59	4,68	1,91	4,90	,27	5,34

Budgets	2000	2001	2002	2003	2004	2005
Consolidated (national) budget (million TL)	46.713.341.000	48.359.962.500	98.071.000.000	147.230.170.000	150.508.000.000	155.472.000.000
Change in consolidated (national) budget (%)	72,10	3,52	102,79	50,13	2,23	3,30
Budget of Ministry of National Education (million TL)	3.350.330.000	4.046.305.625	7.460.991.000	10.179.997.000	12.366.236.188	14.882.259.500
Change in Ministry of National Education's budget from previous year (%)	57,16	20,77	84,39	36,44	21,48	20,35
Budget of Ministry of National Education / Consolidated (national) budget	7,17	8,37	7,61	6,91	8,22	9,57

Budget of Council of Higher Education and universities (million TL)	1.054.610.000	1.364.902.000	2.495.968.000	3.346.669.000	3.894.071.000	5.218.465.000
Change in Council of Higher Education and universities' budget from previous year (%)	55,80	29,42	82,87	34,08	16,36	34,01
Budget of Council of Higher Education and universities / Consolidated (national) budget	2,26	2,82	2,55	2,27	2,59	3,36
Total education budget (million TL)	4.404.940.000	5.411.207.625	9.956.959.000	13.526.666.000	16.260.307.188	20.100.724.500
Change in total education budget from previous year (%)	56,92	22,84	84,01	35,85	20,21	23,62
Total education budget / Consolidated (national) budget	9,43	11,19	10,15	9,19	10,80	12,93

Gross National Product (GNP) (some figures are approximate)	2000	2001	2002	2003	2004	2005
GNP (million TL)	125.596.128.800	176.483.953.000	275.032.366.000	356.980.888.200	428.932.343.000	480.963.000.000
Change in GNP (%) (in national currency, TL, terms)	60,44	40,52	55,84	29,80	20,16	12,13
Annual average of TL/\$ rate (2005 figure not realized yet)	623.749	1.222.921	1.504.597	1.495.306	1.422.511	
GNP (million \$) (2005 figure not realized yet)	201.463	144.607	182.929	238.409	301.636	
GNP per capita (\$) (2005 figure not realized yet)	2.987	2.110	2.634	3.390	4.172	
"Budget of Ministry of National Education / (TL) GNP" (%)	2,67	2,29	2,71	2,85	2,88	3,09
"Budget of Council of Higher Education and universities / (TL) GNP" (%)	0,84	0,77	0,91	0,94	0,91	1,09
"Total budget of education / (TL) GNP" (%)	3,51	3,07	3,62	3,79	3,79	4,18

Educational spending per student	2000	2001	2002	2003	2004	2005
Educational spending per student in pre-primary, primary and secondary education (TL)	221.374.577	255.762.898	463.680.983	608.647.715	739.084.940	850.846.378
Change in educational spending per student in pre-primary, primary and secondary education (%)	56,54	15,53	81,29	31,26	21,43	15,12
Educational spending per student in tertiary education	742.721.281	904.984.402	1.591.426.589	1.860.683.979	2.114.566.239	2.516.829.617
Change in educational spending per student in tertiary education (%)	51,65	21,85	75,85	16,92	13,64	19,02

Price indices	2000	2001	2002	2003	2004	2005
Change in consumer price index (CPI) (%)	39,00	68,50	29,70	18,40	9,32	7,72
Change in wholesale (producer) price index (CPI) (%)	32,70	88,60	30,80	13,90	13,84	2,66

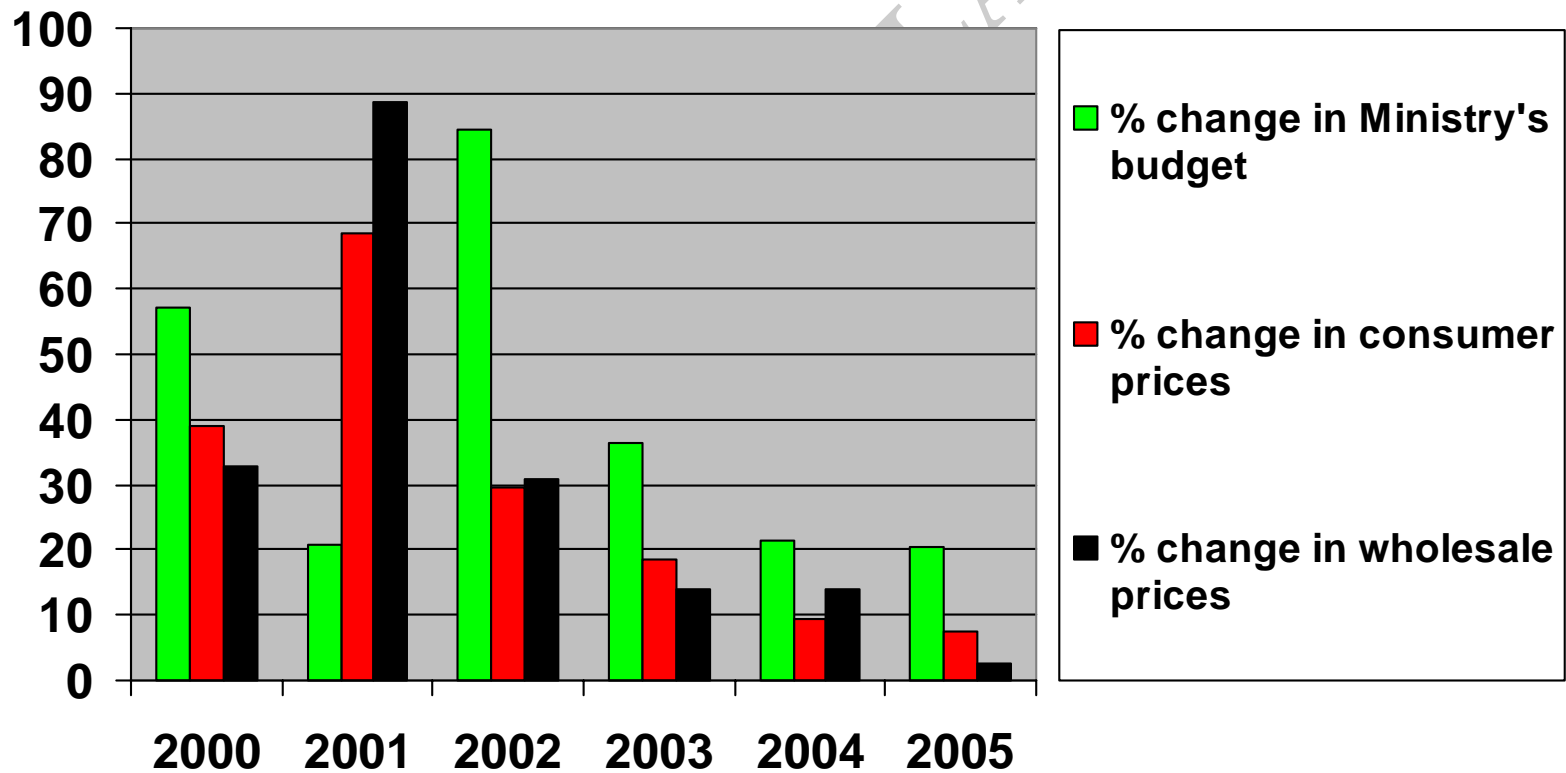
Performance criteria (all adjusted for consumer prices)	2000	2001	2002	2003	2004	2005
Real increase in the budget of Ministry of National Education (%)	13,06	-28,32	42,17	15,24	11,12	11,72
Real increase in the budget of Council of Higher Education and universities (%)	12,09	-23,19	40,99	13,25	6,44	24,41
Real increase in total education budget (%)	12,89	-27,10	41,87	14,74	9,96	14,76
Real increase in educational spending per student in pre-primary, primary and secondary education (%)	12,62	-31,43	39,78	10,87	11,08	6,87
Real increase in educational spending per student in tertiary education (%)	9,10	-27,69	35,58	-1,25	3,96	10,49

Economic crisis of 2001, the worst after World War Two, which hit Turkey severely. The economy shrank around 9.5% of GDP and more than one million people lost their jobs.

Performance criteria (all adjusted for wholesale prices)	2000	2001	2002	2003	2004	2005
Real increase in the budget of Ministry of National Education (%)	18,43	-35,96	40,97	19,79	6,71	17,23
Real increase in the budget of Council of Higher Education and universities (%)	17,41	-31,38	39,81	17,72	2,21	30,54
Real increase in total education budget (%)	18,25	-34,87	40,68	19,27	5,59	20,42
Real increase in educational spending per student in pre-primary, primary and secondary education (%)	17,97	-38,74	38,60	15,25	6,67	12,14
Real increase in educational spending per student in tertiary education (%)	14,28	-35,39	34,44	2,65	-0,17	15,94

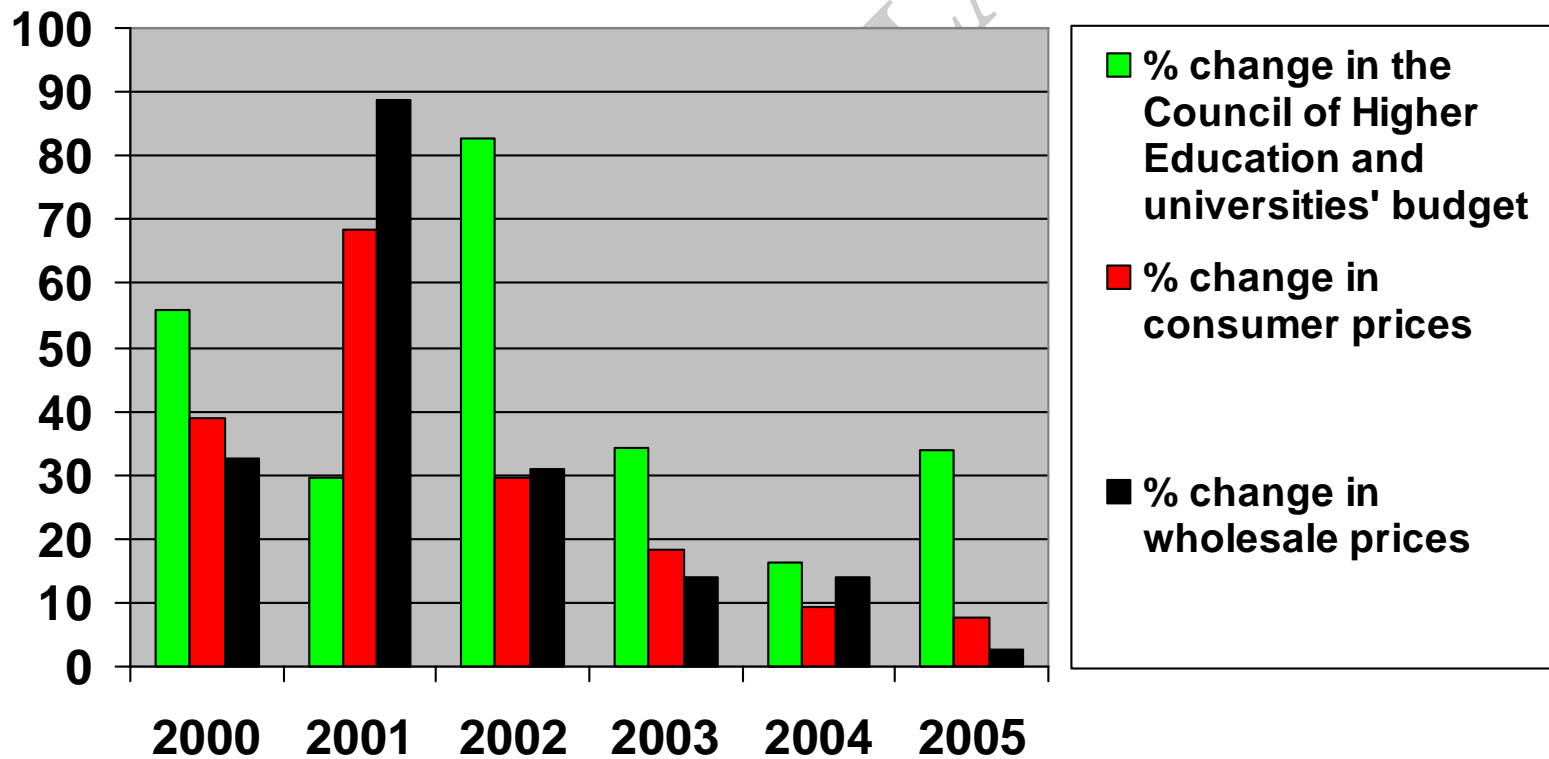


Budget of Ministry of National Education vs. Inflation



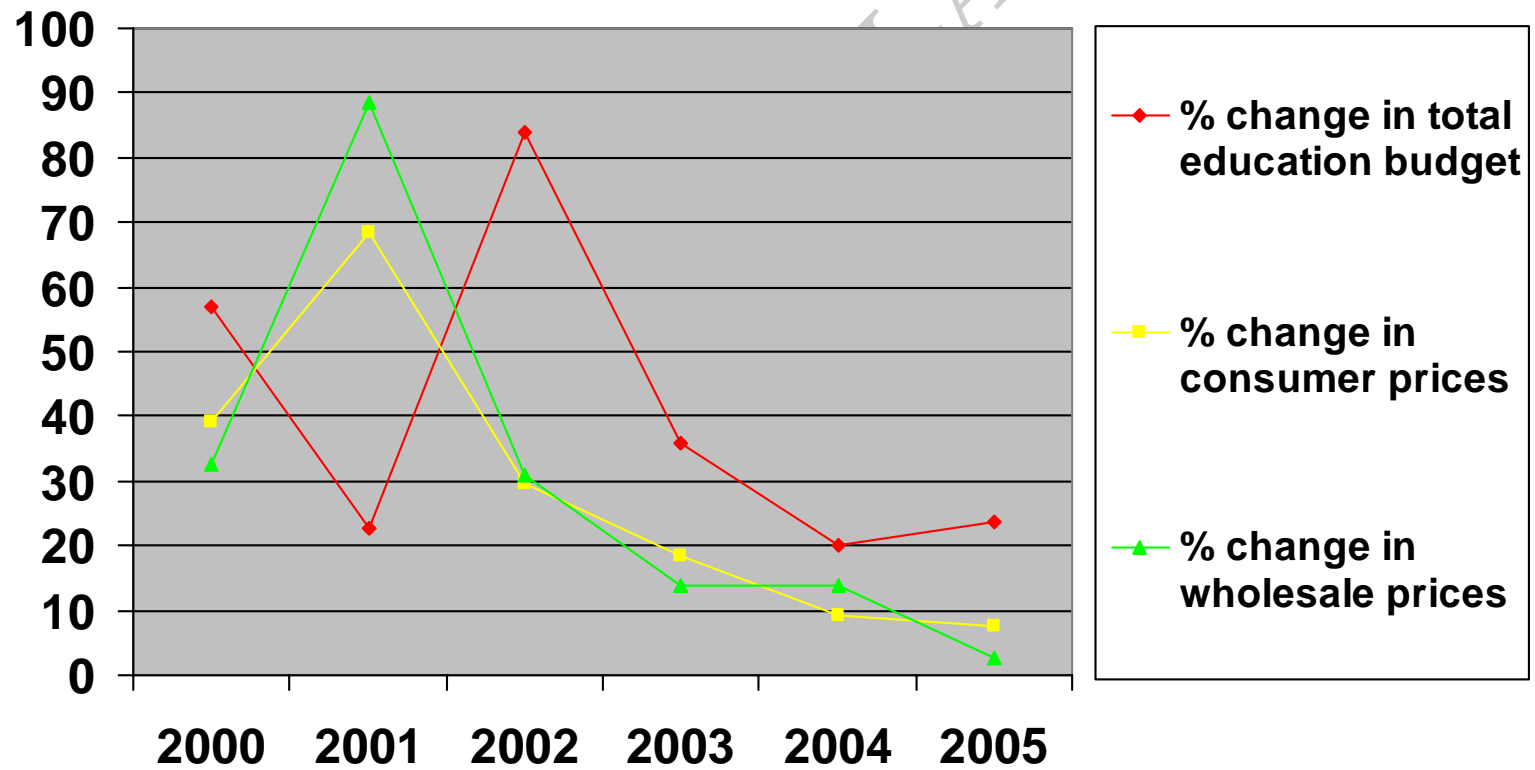


Budget of Council of Higher Education and Universities vs. Inflation



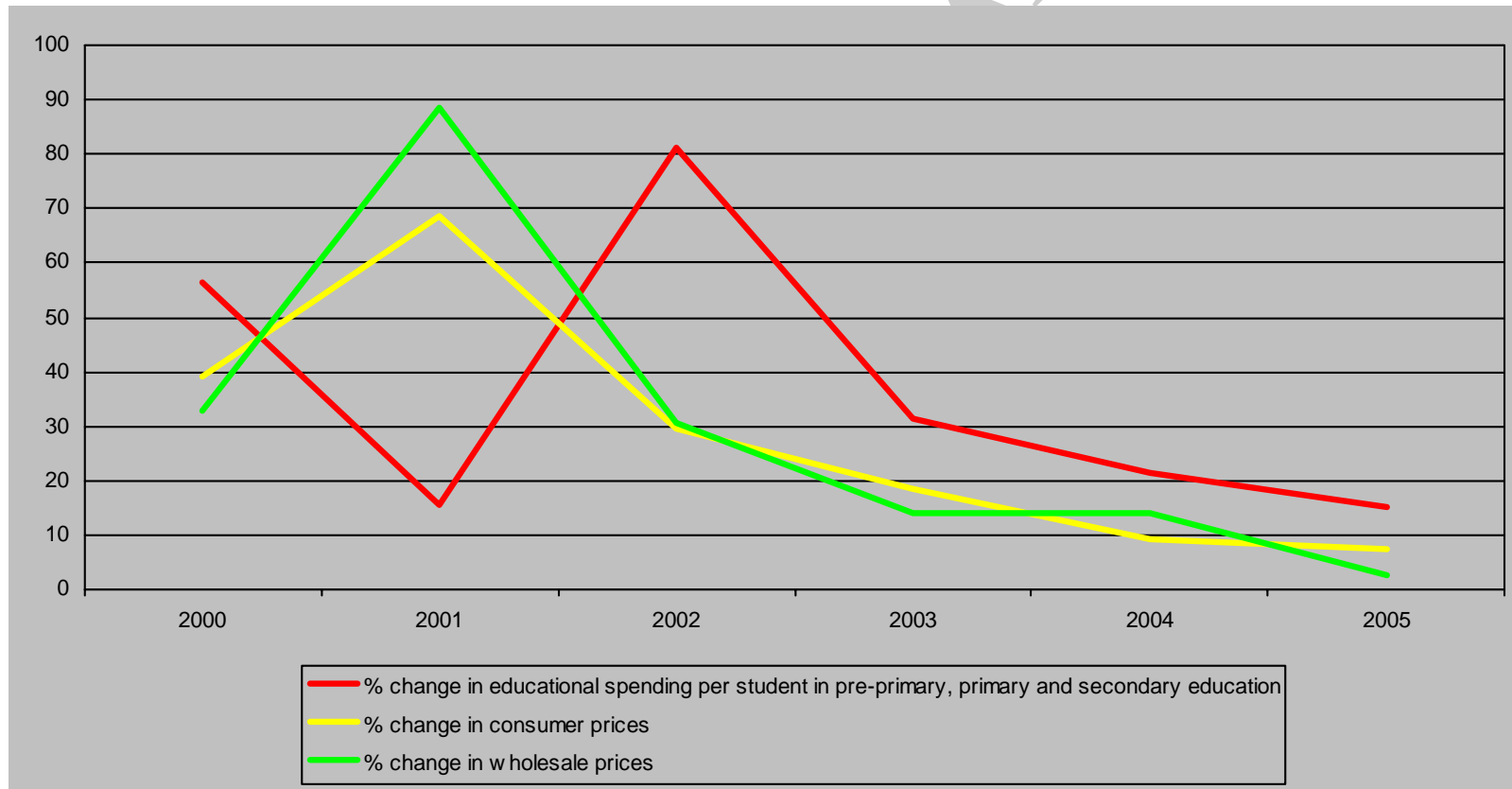


Total Education Budget vs. Inflation



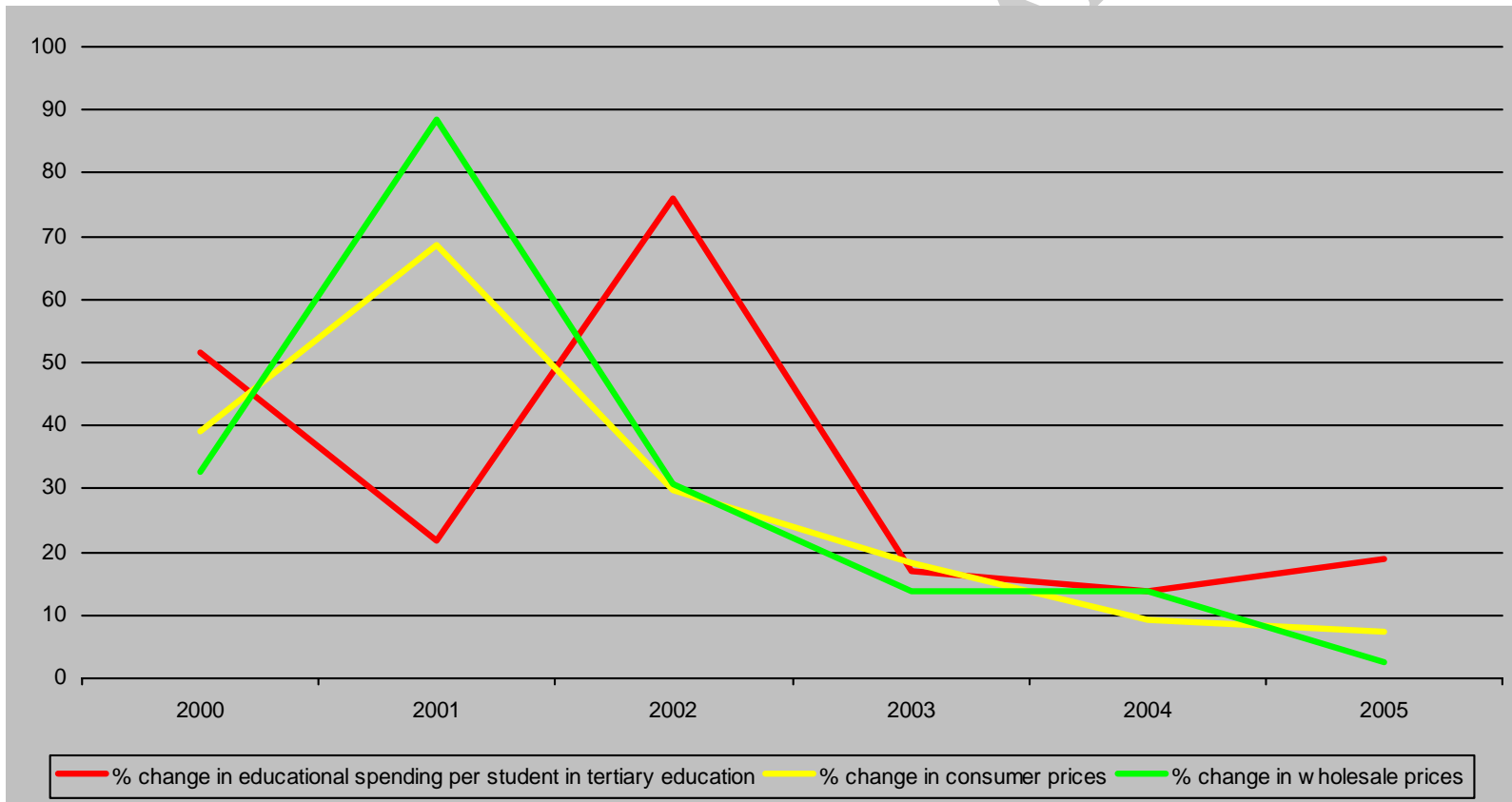


Educational Spending per Student in Pre-primary, Primary and Secondary Education vs. Inflation





Educational Spending per Student in Tertiary Education vs. Inflation





Mid-Year Population Figures and Projections 2000-2010

Source : Ministry of National Education

TURKEY	2000			2001			2002	
	Total	Male	Female	Total	Male	Female	Total	Male
6-21 Age Group	22.419.000	11.460.000	10.959.000	22.449.000	11.469.000	10.980.000	22.495.000	11.487.000
Total Population	67.420.000	34.053.000	33.367.000	68.366.000	34.520.000	33.846.000	69.305.000	34.982.000
Proportion of 6-21 Age Group to Total Population	33,25	33,65	32,84	32,84	33,22	32,44	32,46	32,84
% Increase in 6-21 Age Group Population	,10	,02	,20	1,00	1,00	1,00	1,00	1,00
% Increase in Total Population	1,61	1,58	1,63	1,01	1,01	1,01	1,01	1,01

ADANA



ADANA	2000			2001			2002	
	Total	Male	Female	Total	Male	Female	Total	Male
6-21 Age Group	682.259	342.926	339.333	683.050	343.299	339.751	683.574	343.541
Total Population	1.839.353	915.272	924.081	1.863.961	926.505	937.456	1.888.307	937.565
Proportion of 6-21 Age Group to Total Population	37,09	37,47	36,72	36,65	37,05	36,24	36,20	36,64
% Increase in 6-21 Age Group Population	,33	,33	,34	1,00	1,00	1,00	1,00	1,00
% Increase in Total Population	1,55	1,44	1,66	1,01	1,01	1,01	1,01	1,01

ANKARA

	2000			2001			2002	
	Total	Male	Female	Total	Male	Female	Total	Male
6-21 Age Group	1.289.897	674.007	615.890	1.294.590	675.878	618.712	1.299.051	677.616
Total Population	3.981.456	2.014.597	1.966.859	4.049.344	2.046.184	2.003.160	4.117.064	2.077.576
Proportion of 6-21 Age Group to Total Population	32,40	33,46	31,31	31,97	33,03	30,89	31,55	32,62
% Increase in 6-21 Age Group Population	,42	,33	,50	1,00	1,00	1,00	1,00	1,00
% Increase in Total Population	1,92	1,78	2,06	1,02	1,02	1,02	1,02	1,02

GAZİANTEP

	2000			2001			2002	
	Total	Male	Female	Total	Male	Female	Total	Male
6-21 Age Group	507.975	257.509	250.466	512.649	259.637	253.012	517.290	261.744
Total Population	1.275.766	641.182	634.584	1.300.846	653.479	647.367	1.325.960	665.788
Proportion of 6-21 Age Group to Total Population	39,82	40,16	39,47	39,41	39,73	39,08	39,01	39,31
% Increase in 6-21 Age Group Population	,95	,85	1,06	1,01	1,01	1,01	1,01	1,01
% Increase in Total Population	2,18	2,13	2,24	1,02	1,02	1,02	1,02	1,02

İSTANBUL

	2000			2001			2002	
	Total	Male	Female	Total	Male	Female	Total	Male
6-21 Age Group	3.194.133	1.648.362	1.545.771	3.254.456	1.674.959	1.579.497	3.315.351	1.701.657
Total Population	9.919.682	5.041.947	4.877.735	10.197.171	5.170.700	5.026.471	10.477.194	5.300.048
Proportion of 6-21 Age Group to Total Population	32,20	32,69	31,69	31,92	32,39	31,42	31,64	32,11
% Increase in 6-21 Age Group Population	1,93	1,65	2,22	1,02	1,02	1,02	1,02	1,02
% Increase in Total Population	3,03	2,79	3,29	1,03	1,03	1,03	1,03	1,03

Female	2003			2004			2005			2006			Total
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	
621.435	1.303.171	679.165	624.006	1.306.958	680.531	626.427	1.310.417	681.717	628.700	1.313.600	682.751	630.849	1.316.468
2.039.488	4.184.610	2.108.770	2.075.840	4.251.979	2.139.764	2.112.215	4.319.167	2.170.557	2.148.610	4.386.410	2.201.267	2.185.143	4.453.465
30,47	31,14	32,21	30,06	30,74	31,80	29,66	30,34	31,41	29,26	29,95	31,02	28,87	29,56
1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00
1,02	1,02	1,02	1,02	1,02	1,01	1,02	1,02	1,01	1,02	1,02	1,01	1,02	1,02

Female	2003			2004			2005			2006			Total
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	
255.546	521.851	263.806	258.045	526.330	265.822	260.508	530.730	267.793	262.937	535.069	269.728	265.341	539.329
660.172	1.351.110	678.109	673.001	1.376.291	690.439	685.852	1.401.500	702.778	698.722	1.426.815	715.163	711.652	1.452.154
38,71	38,62	38,90	38,34	38,24	38,50	37,98	37,87	38,10	37,63	37,50	37,72	37,29	37,14
1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01
1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02

Female	2003			2004			2005			2006			Total
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	
1.613.694	3.376.312	1.728.196	1.648.116	3.437.333	1.754.575	1.682.758	3.498.411	1.780.795	1.717.616	3.559.668	1.806.919	1.752.749	3.620.974
5.177.146	10.759.701	5.429.953	5.329.748	11.044.641	5.560.381	5.484.260	11.331.963	5.691.300	5.640.663	11.622.256	5.822.995	5.799.261	11.914.847
31,17	31,38	31,83	30,92	31,12	31,55	30,68	30,87	31,29	30,45	30,63	31,03	30,22	30,39
1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,01	1,02	1,02	1,01	1,02	1,02
1,03	1,03	1,02	1,03	1,03	1,02	1,03	1,03	1,02	1,03	1,03	1,02	1,03	1,03

2007			2008			2009			2010		
Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	
683.613	632.855	1.319.002	684.294	634.708	1.321.162	684.774	636.388	1.322.946	685.053	637.893	
2.231.772	2.221.693	4.520.206	2.262.010	2.258.196	4.586.386	2.291.859	2.294.527	4.651.937	2.321.286	2.330.651	
30,63	28,49	29,18	30,25	28,11	28,81	29,88	27,74	28,44	29,51	27,37	
1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	1,00	
1,01	1,02	1,01	1,01	1,02	1,01	1,01	1,02	1,01	1,01	1,02	

2007			2008			2009			2010		
Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	
271.619	267.710	543.502	273.461	270.041	547.572	275.247	272.325	551.532	276.973	274.559	
727.555	724.599	1.477.475	739.932	737.543	1.502.696	752.254	750.442	1.527.792	764.509	763.283	
37,33	36,95	36,79	36,96	36,61	36,44	36,59	36,29	36,10	36,23	35,97	
1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	1,01	
1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	1,02	

2007			2008			2009			2010		
Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	
1.832.884	1.788.090	3.682.262	1.858.659	1.823.603	3.743.399	1.884.181	1.859.218	3.804.349	1.909.437	1.894.912	
5.955.123	5.959.724	12.209.358	6.087.489	6.121.869	12.505.062	6.219.729	6.285.333	12.801.707	6.351.716	6.449.991	
30,78	30,00	30,16	30,53	29,79	29,94	30,29	29,58	29,72	30,06	29,38	
1,01	1,02	1,02	1,01	1,02	1,02	1,01	1,02	1,02	1,01	1,02	
1,02	1,03	1,02	1,02	1,03	1,02	1,02	1,03	1,02	1,02	1,03	

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	2000			2001			2002	
	Total	Male	Female	Total	Male	Female	Total	Male
6-21 Age Group	1.021.734	530.417	491.317	1.029.210	533.771	495.439	1.036.576	537.051
Total Population	3.347.651	1.688.000	1.659.651	3.408.033	1.715.566	1.692.467	3.468.360	1.742.980
Proportion of 6-21 Age Group to Total Population	30,52	31,42	29,60	30,20	31,11	29,27	29,89	30,81
% Increase in 6-21 Age Group Population	,77	,68	,88	1,01	1,01	1,01	1,01	1,01
% Increase in Total Population	2,02	1,85	2,19	1,02	1,02	1,02	1,02	1,02

MALATYA

	2000			2001			2002	
	Total	Male	Female	Total	Male	Female	Total	Male
6-21 Age Group	321.502	166.279	155.223	321.893	166.715	155.178	322.156	167.082
Total Population	848.588	431.800	416.788	861.238	438.619	422.619	873.801	445.402
Proportion of 6-21 Age Group to Total Population	37,89	38,51	37,24	37,38	38,01	36,72	36,87	37,51
% Increase in 6-21 Age Group Population	,34	,48	,19	1,00	1,00	1,00	1,00	1,00
% Increase in Total Population	1,70	1,79	1,61	1,01	1,02	1,01	1,01	1,02

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	2000			2001			2002	
	Total	Male	Female	Total	Male	Female	Total	Male
6-21 Age Group	421.278	204.932	216.346	415.517	202.156	213.361	409.787	199.404
Total Population	1.207.999	585.235	622.764	1.206.210	584.318	621.892	1.203.757	583.088
Proportion of 6-21 Age Group to Total Population	34,87	35,02	34,74	34,45	34,60	34,31	34,04	34,20
% Increase in 6-21 Age Group Population	-1,35	1,36	1,35	,99	,99	,99	,99	,99
% Increase in Total Population	,08	,07	,10	1,00	1,00	1,00	1,00	1,00

