Supplements

Table A: Chinese healthcare related data

Year	Medical device industry revenues (million yuan)	Number of hospital visits (million)	65+ population (million)	Number of hospitals (Unit)
2000	55813	1286	88	16318
2001	62797	1250	91	16197
2002	73404	1243	94	17844
2003	88048	1213	97	17764
2004	130300	1305	99	18393
2005	175218	1387	101	18703
2006	236382	1471	104	19246
2007	302975	1638	106	19852
2008	325563	1782	110	19712
2009	425937	1922	113	20291
2010	553090	2040	119	20918
2011	673860	2259	123	21979
2012	777200	2542	127	23170

Table B: Regression results

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.996392262
R Square	0.99279754
Adjusted R Square	0.99039672
Standard Error	23813.59461
Observations	13

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	7.03513E+11	2.34504E+11	413.524344	5.89061E-10
Residual	9	5103785595	567087288.3		
Total	12	7.08617E+11			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-1026663.827	133427.0709	-7.69456917	3.0168E-05	-1328496.831	-724830.822
number of hospital visit	370.4587625	60.12411417	6.161567078	0.00016638	234.448567	506.46896
65+ population	6119.012608	3891.986681	1.572208003	0.15035201	-2685.27294	14923.298
hospital number	3.702597872	18.43689998	0.200825403	0.84530017	-38.00456748	45.40976

Table C: The t test of significance: decision rules[1]

Type of Hypothesis	H_0: The Null Hypothesis	H_1: The Alternative Hypothesis	Decision Rule: Reject H_0 if
Two-tail	$\beta_1=\beta_1^*$	$\beta_1\neq\beta_1^*$	$\lvert t\rvert>t_{\alpha/2}$,df
Right-tail	$\beta_1\leq\beta_1^*$	$\beta_1>\beta_1^*$	$t>t_{\alpha}$,df
Left-tail	$\beta_1\geq\beta_1^*$	$\beta_1<\beta_1^*$	$t<-t_{\alpha}$,df

Notes: β_1^* is the hypothesized numerical value of β_1.

$|t|$ means the absolute value of t.

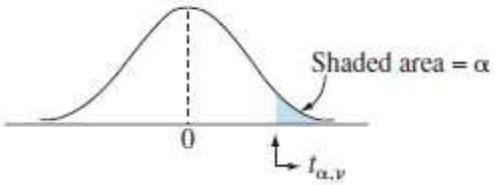
t_α or $t_{\alpha/2}$ means the critical t value at the α or $\alpha/2$ level of significance.

df: degrees of freedom, $(n-2)$ for the two-variable model, $(n-3)$ for the three-variable model, and so on

The same procedure holds to test hypothesis about β_1.

1. Gujarati DN and Porter DC. *Basic econometrics*. 5th ed. Boston: McGraw-Hill Irwin, 2009, p.xx, 922 p.

Table D: Percentage points of the t distribution



df/α =	.40	.25	.10	.05	.025	.01	.005	.001	.0005
1	0.325	1.000	3.078	6.314	12.706	31.821	63.657	318.309	636.619
2	0.289	0.816	1.886	2.920	4.303	6.965	9.925	22.327	31.599
3	0.277	0.765	1.638	2.353	3.182	4.541	5.841	10.215	12.924
4	0.271	0.741	1.533	2.132	2.776	3.747	4.604	7.173	8.610
5	0.267	0.727	1.476	2.015	2.571	3.365	4.032	5.893	6.869
6	0.265	0.718	1.440	1.943	2.447	3.143	3.707	5.208	5.959
7	0.263	0.711	1.415	1.895	2.365	2.998	3.499	4.785	5.408
8	0.262	0.706	1.397	1.860	2.306	2.896	3.355	4.501	5.041
9	0.261	0.703	1.383	1.833	2.262	2.821	3.250	4.297	4.781
10	0.260	0.700	1.372	1.812	2.228	2.764	3.169	4.144	4.587
11	0.260	0.697	1.363	1.796	2.201	2.718	3.106	4.025	4.437
12	0.259	0.695	1.356	1.782	2.179	2.681	3.055	3.930	4.318
13	0.259	0.694	1.350	1.771	2.160	2.650	3.012	3.852	4.221
14	0.258	0.692	1.345	1.761	2.145	2.624	2.977	3.787	4.140
15	0.258	0.691	1.341	1.753	2.131	2.602	2.947	3.733	4.073
16	0.258	0.690	1.337	1.746	2.120	2.583	2.921	3.686	4.015
17	0.257	0.689	1.333	1.740	2.110	2.567	2.898	3.646	3.965
18	0.257	0.688	1.330	1.734	2.101	2.552	2.878	3.610	3.922
19	0.257	0.688	1.328	1.729	2.093	2.539	2.861	3.579	3.883
20	0.257	0.687	1.325	1.725	2.086	2.528	2.845	3.552	3.850
21	0.257	0.686	1.323	1.721	2.080	2.518	2.831	3.527	3.819
22	0.256	0.686	1.321	1.717	2.074	2.508	2.819	3.505	3.792
23	0.256	0.685	1.319	1.714	2.069	2.500	2.807	3.485	3.768
24	0.256	0.685	1.318	1.711	2.064	2.492	2.797	3.467	3.745
25	0.256	0.684	1.316	1.708	2.060	2.485	2.787	3.450	3.725
26	0.256	0.684	1.315	1.706	2.056	2.479	2.779	3.435	3.707
27	0.256	0.684	1.314	1.703	2.052	2.473	2.771	3.421	3.690
28	0.256	0.683	1.313	1.701	2.048	2.467	2.763	3.408	3.674
29	0.256	0.683	1.311	1.699	2.045	2.462	2.756	3.396	3.659
30	0.256	0.683	1.310	1.697	2.042	2.457	2.750	3.385	3.646
35	0.255	0.682	1.306	1.690	2.030	2.438	2.724	3.340	3.591
40	0.255	0.681	1.303	1.684	2.021	2.423	2.704	3.307	3.551
50	0.255	0.679	1.299	1.676	2.009	2.403	2.678	3.261	3.496
60	0.254	0.679	1.296	1.671	2.000	2.390	2.660	3.232	3.460
120	0.254	0.677	1.289	1.658	1.980	2.358	2.617	3.160	3.373
inf.	0.253	0.674	1.282	1.645	1.960	2.326	2.576	3.090	3.291

Source: Computed by M. Longnecker using Splus

Table E: Regression results

Y and X1

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.992251249
R Square	0.984562541
Adjusted R Square	0.983159136
Standard Error	31535.32702
Observations	13

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	6.97678E+11	6.97678E+11	701.552517	2.57875E-11
Residual	11	10939245351	994476850.1		
Total	12	7.08617E+11			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-609743.6033	35388.49349	-17.2299961	2.6283E-09	-687633.1522	-531854.0543
number of hospital visit	553.3439799	20.89128221	26.48683668	2.5788E-11	507.3625777	599.325382

Y and X2

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.980909914
R Square	0.96218426
Adjusted R Square	0.958746466
Standard Error	49356.65704
Observations	13

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	6.8182E+11	6.8182E+11	279.884167	3.59461E-09
Residual	11	26796875539	2436079594		
Total	12	7.08617E+11			

	Coefficients	*Standard*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*

		Error				
Intercept	-1748028.048	123092.6949	-14.2009081	2.0251E-08	-2018953.243	-1477102.854
65+ population	19391.36416	1159.095439	16.72973899	3.5946E-09	16840.2123	21942.51602

Y and X3

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.96151241
R Square	0.924506115
Adjusted R Square	0.917643034
Standard Error	69737.33142
Observations	13

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	6.55121E+11	6.55121E+11	134.707165	1.63777E-07
Residual	11	53496249335	4863295394		
Total	12	7.08617E+11			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	-1897611.305	190203.0518	-9.97676581	7.5668E-07	-2316245.399	-1478977.211
hospital quantity	114.0216304	9.824080196	11.60634157	1.6378E-07	92.39897565	135.6442851

Table F: Chinese population and its relevant data from 1980 to 2010

Year/Ages	China total 65 and above population (millions)	China total population (millions)	Percentages of 65 and above population in China (%)	China total population growth rate (annual %)
1980	50.677	987.05	5.13	1.3
1981	52.697	1,000.72	5.27	1.3
1982	54.594	1,016.54	5.37	1.5
1983	56.419	1,030.08	5.48	1.4
1984	58.218	1,043.57	5.58	1.3
1985	60.009	1,058.51	5.67	1.4
1986	61.565	1,075.07	5.73	1.5
1987	63.149	1,093.00	5.78	1.6
1988	64.754	1,110.26	5.83	1.6
1989	66.377	1,127.04	5.89	1.5
1990	68.05	1,143.33	5.95	1.5
1991	69.808	1,158.23	6.03	1.4
1992	71.671	1,171.71	6.12	1.2
1993	73.608	1,185.17	6.21	1.1
1994	75.58	1,198.50	6.31	1.1
1995	77.576	1,211.21	6.40	1.1
1996	80.073	1,223.89	6.54	1
1997	82.387	1,236.26	6.66	1
1998	84.584	1,247.61	6.78	1
1999	86.749	1,257.86	6.90	0.9
2000	88.912	1,267.43	7.02	0.8
2001	91.044	1,276.27	7.13	0.7
2002	93.202	1,284.53	7.26	0.7
2003	95.336	1,292.27	7.38	0.6
2004	97.312	1,299.88	7.49	0.6
2005	99.087	1,307.56	7.58	0.6
2006	101.237	1,314.48	7.70	0.6
2007	103.21	1,321.29	7.81	0.5
2008	105.163	1,328.02	7.92	0.5
2009	107.325	1,334.50	8.04	0.5
2010	109.845	1,340.91	8.19	0.5