

ตารางสถิติ
 ตารางสถิติ Statistical Tables

TABLE I	RANDOM DIGITS _____	512
II	BINOMIAL PROBABILITY SUMS _____	514
III	POISSON PROBABILITY SUMS _____	514
IV	NORMAL CURVE _____	516
V	t DISTRIBUTION _____	516
VI	CHI SQUARE DISTRIBUTION _____	517
VII	F DISTRIBUTION _____	518
VIII	STUDENTIZED RANGE _____	519
IX	MAXIMUM F-RATIO _____	520
X	CRITICAL VALUES FOR COCHRAN'S TEST _____	521
XI	UNIT NORMAL LOSS FUNCTION _____	522
XII	CRITICAL VALUES OF R FOR THE SIGN TEST _____	523
XIII	WILCOXON MATCHED-PAIRS SIGNED-RANKS TEST _____	524
XIV	WILCOXON RANK SUM TEST _____	525
XV	RUNS TEST _____	526
XVI	DURBIN-WATSON TEST STATISTIC _____	527
XVII	THEIL-NAGER TEST FOR INDEPENDENCE OF REGRESSION DISTURBANCES _____	528

Poisson Probability Sums $\sum_{x=0}^r p(x; \mu)$ (Continued)

	μ									
	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	
0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
1	0.0005	0.0002	0.0001	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
2	0.0028	0.0012	0.0005	0.0002	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000
3	0.0103	0.0049	0.0023	0.0010	0.0005	0.0002	0.0000	0.0000	0.0000	0.0000
4	0.0293	0.0151	0.0076	0.0037	0.0018	0.0009	0.0004	0.0002	0.0001	0.0000
5	0.0671	0.0375	0.0203	0.0107	0.0055	0.0028	0.0014	0.0007	0.0003	0.0000
6	0.1301	0.0786	0.0458	0.0259	0.0142	0.0076	0.0040	0.0021	0.0010	0.0000
7	0.2202	0.1432	0.0895	0.0540	0.0316	0.0180	0.0100	0.0054	0.0029	0.0000
8	0.3328	0.2320	0.1550	0.0998	0.0621	0.0374	0.0220	0.0126	0.0071	0.0000
9	0.4579	0.3405	0.2424	0.1658	0.1094	0.0699	0.0433	0.0261	0.0154	0.0000
10	0.5830	0.4599	0.3472	0.2517	0.1757	0.1185	0.0774	0.0491	0.0304	0.0000
11	0.6968	0.5793	0.4616	0.3532	0.2600	0.1848	0.1270	0.0847	0.0549	0.0000
12	0.7916	0.6887	0.5760	0.4631	0.3585	0.2676	0.1931	0.1350	0.0917	0.0000
13	0.8645	0.7813	0.6815	0.5730	0.4644	0.3632	0.2745	0.2009	0.1426	0.0000
14	0.9165	0.8540	0.7720	0.6751	0.5704	0.4657	0.3675	0.2808	0.2081	0.0000
15	0.9513	0.9074	0.8444	0.7636	0.6694	0.5681	0.4667	0.3715	0.2867	0.0000
16	0.9730	0.9441	0.8987	0.8355	0.7559	0.6641	0.5660	0.4677	0.3750	0.0000
17	0.9878	0.9823	0.9626	0.9302	0.8752	0.8195	0.7423	0.6550	0.5622	0.0000
18	0.9938	0.9907	0.9787	0.9573	0.9235	0.8752	0.8122	0.7363	0.6509	0.0000
19	0.9965	0.9977	0.9970	0.9970	0.9970	0.9970	0.9970	0.9970	0.9970	0.0000
20	0.9984	0.9993	0.9993	0.9993	0.9993	0.9993	0.9993	0.9993	0.9993	0.0000
21	0.9993	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.9997	0.0000
22	0.9997	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.0000
23	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.9999	0.0000
24	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000
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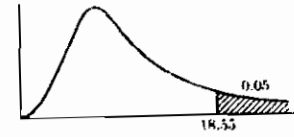
Poisson Probability Sums $\sum_{x=0}^r p(x; \mu)$ (Continued)

r	μ									
	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	
0	0.0041	0.0025	0.0015	0.0009	0.0006	0.0003	0.0002	0.0001	0.0001	
1	0.0266	0.0174	0.0113	0.0073	0.0047	0.0030	0.0019	0.0012	0.0008	
2	0.0884	0.0620	0.0430	0.0296	0.0203	0.0138	0.0093	0.0062	0.0042	
3	0.2017	0.1512	0.1118	0.0818	0.0591	0.0424	0.0301	0.0212	0.0149	
4	0.3575	0.2851	0.2237	0.1730	0.1321	0.0996	0.0744	0.0550	0.0403	
5	0.5289	0.4457	0.3690	0.3007	0.2414	0.1912	0.1496	0.1157	0.0885	
6	0.6860	0.6063	0.5265	0.4497	0.3782	0.3134	0.2562	0.2068	0.1649	
7	0.8095	0.7440	0.6728	0.5987	0.5246	0.4530	0.3856	0.3239	0.2687	
8	0.8944	0.8472	0.7916	0.7291	0.6620	0.5925	0.5231	0.4557	0.3918	
9	0.9462	0.9161	0.8774	0.8305	0.7764	0.7166	0.6530	0.5874	0.5218	
10	0.9747	0.9574	0.9332	0.9015	0.8622	0.8159	0.7634	0.7060	0.6453	
11	0.9890	0.9799	0.9661	0.9466	0.9208	0.8881	0.8487	0.8030	0.7520	
12	0.9955	0.9912	0.9840	0.9730	0.9573	0.9362	0.9091	0.8758	0.8364	
13	0.9983	0.9964	0.9929	0.9872	0.9784	0.9658	0.9486	0.9261	0.8981	
14	0.9994	0.9986	0.9970	0.9943	0.9897	0.9827	0.9726	0.9585	0.9400	
15	0.9998	0.9995	0.9988	0.9976	0.9954	0.9918	0.9862	0.9780	0.9665	
16	0.9999	0.9998	0.9996	0.9990	0.9980	0.9963	0.9934	0.9889	0.9823	
17	1.0000	0.9999	0.9999	0.9997	0.9992	0.9984	0.9970	0.9947	0.9911	
18										
19										
20										
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Percentage Points of the χ^2 Distribution

Table VI

Percentages represent areas in right-hand end of distribution. Example: For $\nu = 12$, $P(\chi^2 > 18.55) = 0.05$.



Degrees of freedom	Probability that chi-square value will be exceeded									
	0.995	0.990	0.975	0.950	0.900	0.100	0.050	0.025	0.010	0.005
1	0.00393	0.00157	0.00982	0.00393	0.0158	2.71	3.84	5.02	6.63	7.88
2	0.0100	0.0201	0.0506	0.103	0.211	4.61	5.99	7.38	9.21	10.60
3	0.072	0.115	0.216	0.352	0.564	6.25	7.81	9.35	11.34	12.84
4	0.207	0.297	0.484	0.711	1.064	7.78	9.49	11.14	13.28	14.86
5	0.412	0.554	0.831	1.145	1.61	9.24	11.07	12.83	15.09	16.75
6	0.676	0.872	1.24	1.64	2.20	10.64	12.50	14.45	16.81	18.55
7	0.989	1.24	1.69	2.17	2.83	12.02	14.07	16.01	18.48	20.23
8	1.34	1.65	2.18	2.73	3.49	13.36	15.51	17.53	20.09	21.96
9	1.73	2.09	2.70	3.33	4.17	14.68	16.92	19.02	21.67	23.59
10	2.16	2.56	3.25	3.94	4.87	15.99	18.31	20.48	23.21	25.19
11	2.60	3.05	3.82	4.57	5.58	17.28	19.63	21.92	24.72	26.76
12	3.07	3.57	4.40	5.23	6.30	18.55	21.03	23.34	26.22	28.30
13	3.57	4.11	5.01	5.89	7.04	19.81	22.36	24.74	27.69	29.82
14	4.07	4.66	5.63	6.57	7.79	21.06	23.68	26.12	29.14	31.32
15	4.60	5.23	6.26	7.26	8.55	22.31	25.00	27.49	30.58	32.80
16	5.14	5.81	6.91	7.96	9.31	23.54	26.30	28.85	32.00	34.27
17	5.70	6.41	7.56	8.67	10.09	24.77	27.59	30.19	33.41	35.72
18	6.26	7.01	8.23	9.39	10.86	25.99	28.87	31.53	34.81	37.16
19	6.84	7.63	8.91	10.12	11.65	27.20	30.14	32.85	36.19	38.58
20	7.43	8.26	9.59	10.85	12.44	28.41	31.41	34.17	37.57	40.00
21	8.03	8.90	10.28	11.59	13.24	29.62	32.67	35.48	38.93	41.40
22	8.64	9.54	10.98	12.34	14.04	30.81	33.92	36.78	40.29	42.80
23	9.26	10.20	11.69	13.09	14.85	32.01	35.17	38.08	41.64	44.13
24	9.89	10.36	12.40	13.85	15.66	33.20	36.42	39.36	42.98	45.56
25	10.52	11.52	13.12	14.61	16.47	34.38	37.65	40.65	44.31	46.93
26	11.16	12.20	13.84	15.38	17.29	35.56	38.89	41.92	45.64	48.29
27	11.81	12.83	14.57	16.15	18.11	36.74	40.11	43.19	46.96	49.64
28	12.46	13.56	15.31	16.93	18.94	37.92	41.34	44.46	48.28	50.99
29	13.12	14.26	16.05	17.71	19.77	39.09	42.56	45.72	49.59	52.34
30	13.79	14.95	16.79	18.49	20.60	40.26	43.77	46.98	50.89	53.67
40	20.71	22.16	24.43	26.51	29.05	51.80	55.76	59.34	63.69	66.77
50	27.99	29.71	32.36	34.76	37.69	63.17	67.50	71.42	76.15	79.49
60	35.53	37.43	40.48	43.19	46.46	74.40	79.08	83.30	83.38	91.95
70	43.28	45.44	48.76	51.74	55.33	85.53	90.53	95.02	100.4	104.22
80	51.17	53.54	57.15	60.39	64.28	98.58	101.9	106.6	112.3	116.32
90	59.20	61.75	65.65	69.13	73.29	107.6	113.1	118.1	124.1	123.3
100	67.33	70.06	74.22	77.93	82.36	113.5	124.3	129.6	135.3	140.2
α	-2.58	-2.33	-1.96	-1.64	-1.28	+1.28	+1.64	+1.96	+2.33	+2.58

NOTE: For $\nu > 100$ (i.e., for more than 100 degrees of freedom) take

$$\chi^2 = \nu \left[1 - \frac{2}{9\nu} + \alpha \sqrt{\frac{2}{9\nu}} \right]^2 \quad \text{or} \quad \chi^2 = \frac{1}{2} [\alpha + \sqrt{(2\nu - 1)}]^2$$

according to the degree of accuracy required. α is the standardized normal deviate corresponding to the α level of significance, and is shown in the bottom line of the table.

Table IX Critical Values for the Maximum F-Ratio [46]
 95% points (first line), 99% points (second line)

k	f							
	2	3	4	5	6	7	8	9
2	39.0	15.4	9.60	7.15	5.82	4.99	4.43	4.03
	199	47.5	23.2	14.9	11.1	8.89	7.50	6.54
3	87.5	27.8	15.5	10.8	8.38	6.94	6.00	5.34
	448	85	37	22	15.5	12.1	9.9	8.5
4	142	39.2	20.6	13.7	10.4	8.44	7.18	6.31
	729	120	49	28	19.1	14.5	11.7	9.9
5	202	50.7	25.2	16.3	12.1	9.70	8.12	7.11
	1036	151	59	33	22	16.5	13.2	11.1
6	266	62.0	29.5	18.7	13.7	10.8	9.03	7.80
	1362	184	69	38	25	18.4	14.5	12.1
7	333	72.9	33.6	20.8	15.0	11.8	9.78	8.41
	1705	216	79	42	27	20	15.8	13.1
8	403	83.5	37.5	22.9	16.3	12.7	10.5	8.95
	2063	249	89	46	30	22	16.9	13.9
9	475	93.9	41.1	24.7	17.5	13.5	11.1	9.45
	2432	281	97	50	32	23	17.9	14.7
10	550	104	44.6	26.5	18.6	14.3	11.7	9.91
	2813	310	106	54	34	24	18.9	15.3
11	626	114	48.0	28.2	19.7	15.1	12.2	10.3
	3204	337	113	57	36	26	19.8	16.0
12	704	124	51.4	29.9	20.7	15.8	12.7	10.7
	3605	361	120	60	37	27	21	16.6

k	10	12	15	20	30	60	∞
	2	3.72	3.28	2.86	2.46	2.07	1.67
5.85		4.91	4.07	3.32	2.63	1.96	1.00
3	4.85	4.16	3.54	2.95	2.40	1.85	1.00
	7.4	6.1	4.9	3.8	3.0	2.2	1.0
4	5.67	4.79	4.01	3.29	2.61	1.96	1.00
	8.6	6.9	5.5	4.3	3.3	2.3	1.0
5	6.34	5.30	4.37	3.54	2.78	2.04	1.00
	9.6	7.6	6.0	4.6	3.4	2.4	1.0
6	6.92	5.72	4.68	3.76	2.91	2.11	1.00
	10.4	8.2	6.4	4.9	3.6	2.4	1.0
7	7.42	6.09	4.95	3.94	3.02	2.17	1.00
	11.1	8.7	6.7	5.1	3.7	2.5	1.0
8	7.87	6.42	5.19	4.10	3.12	2.22	1.00
	11.8	9.1	7.1	5.3	3.8	2.5	1.0
9	8.28	6.72	5.40	4.24	3.21	2.26	1.00
	12.4	9.5	7.3	5.5	3.9	2.6	1.0
10	8.66	7.00	5.59	4.37	3.29	2.30	1.00
	12.9	9.9	7.5	5.6	4.0	2.6	1.0
11	9.01	7.25	5.77	4.49	3.36	2.33	1.00
	13.4	10.2	7.8	5.8	4.1	2.7	1.0
12	9.34	7.48	5.93	4.59	3.39	2.36	1.00
	13.9	10.6	8.0	5.9	4.2	2.7	1.0

Table I

Values given are for the statistic $(\text{largest } s^2)/(Zs^2)$, where each of the k values of s^2 has ν degrees of freedom.

CRITICAL VALUES FOR COCHRAN'S TEST

PERCENTILE 95

$\nu \backslash k$	1	2	3	4	5	6	7	8	9	10	16	36	144	∞
2	0.9985	0.9750	0.9392	0.9057	0.8772	0.8534	0.8332	0.8159	0.8010	0.7880	0.7341	0.6602	0.5813	0.5000
3	0.9669	0.8709	0.7977	0.7457	0.7071	0.6771	0.6530	0.6333	0.6167	0.6025	0.5466	0.4748	0.4031	0.3333
4	0.9085	0.7679	0.6841	0.6287	0.5895	0.5598	0.5363	0.5175	0.5017	0.4884	0.4366	0.3720	0.3093	0.2500
5	0.8412	0.6838	0.5981	0.5441	0.5065	0.4783	0.4564	0.4387	0.4241	0.4118	0.3645	0.3066	0.2513	0.2000
6	0.7808	0.6161	0.5321	0.4803	0.4447	0.4184	0.3980	0.3817	0.3682	0.3568	0.3135	0.2612	0.2119	0.1667
7	0.7271	0.5612	0.4800	0.4307	0.3974	0.3726	0.3535	0.3384	0.3259	0.3154	0.2756	0.2278	0.1833	0.1429
8	0.6798	0.5157	0.4377	0.3910	0.3595	0.3362	0.3185	0.3043	0.2926	0.2829	0.2462	0.2022	0.1616	0.1250
9	0.6385	0.4775	0.4027	0.3584	0.3266	0.3067	0.2901	0.2768	0.2659	0.2568	0.2226	0.1820	0.1446	0.1111
10	0.6020	0.4450	0.3733	0.3311	0.3029	0.2823	0.2666	0.2541	0.2439	0.2353	0.2032	0.1655	0.1308	0.1000
12	0.5410	0.3924	0.3264	0.2890	0.2624	0.2439	0.2299	0.2187	0.2098	0.2020	0.1737	0.1403	0.1100	0.0833
15	0.4709	0.3348	0.2758	0.2419	0.2195	0.2034	0.1911	0.1815	0.1736	0.1671	0.1429	0.1144	0.0889	0.0667
20	0.3894	0.2705	0.2205	0.1921	0.1735	0.1602	0.1501	0.1422	0.1357	0.1303	0.1108	0.0879	0.0675	0.0500
24	0.3434	0.2354	0.1907	0.1656	0.1493	0.1374	0.1286	0.1216	0.1160	0.1113	0.0942	0.0743	0.0567	0.0417
30	0.2929	0.1980	0.1593	0.1377	0.1237	0.1137	0.1061	0.1002	0.0958	0.0921	0.0771	0.0604	0.0457	0.0333
40	0.2370	0.1576	0.1259	0.1082	0.0968	0.0887	0.0827	0.0780	0.0745	0.0713	0.0595	0.0462	0.0347	0.0250
60	0.1737	0.1131	0.0895	0.0765	0.0682	0.0623	0.0583	0.0552	0.0520	0.0497	0.0411	0.0316	0.0234	0.0167
120	0.0998	0.0632	0.0495	0.0419	0.0371	0.0337	0.0312	0.0292	0.0279	0.0266	0.0218	0.0165	0.0120	0.0083
∞	0	0	0	0	0	0	0	0	0	0	0	0	0	0

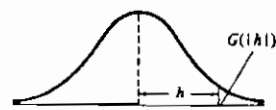
PERCENTILE 99

$\nu \backslash k$	1	2	3	4	5	6	7	8	9	10	16	36	144	∞
2	0.9999	0.9950	0.9794	0.9586	0.9373	0.9172	0.8988	0.8823	0.8674	0.8539	0.7949	0.7067	0.6062	0.5000
3	0.9933	0.9423	0.8831	0.8335	0.7933	0.7606	0.7335	0.7107	0.6912	0.6743	0.6059	0.5153	0.4230	0.3333
4	0.9676	0.8643	0.7814	0.7212	0.6761	0.6410	0.6129	0.5897	0.5702	0.5536	0.4884	0.4057	0.3251	0.2500
5	0.9279	0.7885	0.6957	0.6329	0.5875	0.5531	0.5259	0.5037	0.4854	0.4697	0.4094	0.3351	0.2644	0.2000
6	0.8928	0.7218	0.6258	0.5635	0.5195	0.4866	0.4608	0.4401	0.4229	0.4084	0.3529	0.2858	0.2229	0.1667
7	0.8376	0.6644	0.5685	0.5080	0.4659	0.4347	0.4105	0.3911	0.3751	0.3616	0.3105	0.2494	0.1929	0.1429
8	0.7945	0.6152	0.5209	0.4627	0.4226	0.3932	0.3704	0.3522	0.3373	0.3248	0.2779	0.2214	0.1700	0.1250
9	0.7544	0.5727	0.4810	0.4251	0.3870	0.3592	0.3378	0.3207	0.3067	0.2950	0.2514	0.1992	0.1521	0.1111
10	0.7175	0.5358	0.4469	0.3934	0.3572	0.3308	0.3106	0.2945	0.2813	0.2704	0.2297	0.1811	0.1376	0.1000
12	0.6528	0.4751	0.3910	0.3428	0.3094	0.2861	0.2680	0.2535	0.2419	0.2320	0.1961	0.1535	0.1157	0.0833
15	0.5747	0.4069	0.3317	0.2882	0.2563	0.2366	0.2228	0.2104	0.2002	0.1918	0.1612	0.1251	0.0934	0.0667
20	0.4799	0.3297	0.2654	0.2288	0.2048	0.1877	0.1748	0.1646	0.1567	0.1501	0.1248	0.0960	0.0709	0.0500
24	0.4247	0.2871	0.2295	0.1970	0.1759	0.1608	0.1495	0.1406	0.1338	0.1283	0.1060	0.0810	0.0595	0.0417
30	0.3632	0.2412	0.1913	0.1635	0.1454	0.1327	0.1232	0.1157	0.1100	0.1054	0.0867	0.0658	0.0480	0.0333
40	0.2940	0.1915	0.1508	0.1281	0.1135	0.1033	0.0957	0.0898	0.0853	0.0816	0.0668	0.0503	0.0360	0.0250
60	0.2151	0.1371	0.1069	0.0902	0.0796	0.0722	0.0668	0.0625	0.0594	0.0567	0.0461	0.0344	0.0250	0.0167
120	0.1225	0.0759	0.0585	0.0489	0.0429	0.0387	0.0357	0.0334	0.0316	0.0302	0.0242	0.0178	0.0125	0.0083
∞	0	0	0	0	0	0	0	0	0	0	0	0	0	0

By permission from C. Eisenhart, M. W. Hastay, W. A. Wallis, *Techniques of Statistical Analysis*, chap. 15. McGraw-Hill Book Company, New York, 1947.

Unit Normal Loss Function $G(|h|)$

Table XI



h	0.00	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
0.0	0.3989	0.3940	0.3890	0.3841	0.3793	0.3744	0.3697	0.3649	0.3602	0.3556
0.1	0.3509	0.3464	0.3418	0.3373	0.3328	0.3284	0.3240	0.3197	0.3154	0.3111
0.2	0.3069	0.3027	0.2986	0.2944	0.2904	0.2863	0.2824	0.2784	0.2745	0.2706
0.3	0.2668	0.2630	0.2592	0.2555	0.2518	0.2481	0.2445	0.2409	0.2374	0.2339
0.4	0.2304	0.2270	0.2236	0.2203	0.2169	0.2137	0.2104	0.2072	0.2040	0.2009
0.5	0.1978	0.1947	0.1917	0.1887	0.1857	0.1828	0.1799	0.1771	0.1742	0.1714
0.6	0.1687	0.1659	0.1633	0.1606	0.1580	0.1554	0.1528	0.1503	0.1478	0.1453
0.7	0.1429	0.1405	0.1381	0.1358	0.1334	0.1312	0.1289	0.1267	0.1245	0.1223
0.8	0.1202	0.1181	0.1160	0.1140	0.1120	0.1100	0.1080	0.1061	0.1042	0.1023
0.9	0.1004	0.09860	0.09680	0.09503	0.09328	0.09156	0.08986	0.08819	0.08654	0.08491
1.0	0.08332	0.08174	0.08019	0.07866	0.07716	0.07568	0.07422	0.07279	0.07138	0.06999
1.1	0.06862	0.06727	0.06595	0.06465	0.06336	0.06210	0.06086	0.05964	0.05844	0.05726
1.2	0.05610	0.05496	0.05384	0.05274	0.05165	0.05059	0.04954	0.04851	0.04750	0.04650
1.3	0.04553	0.04457	0.04363	0.04270	0.04179	0.04090	0.04002	0.03916	0.03831	0.03748
1.4	0.03667	0.03587	0.03508	0.03431	0.03356	0.03281	0.03208	0.03137	0.03067	0.02998
1.5	0.02931	0.02865	0.02800	0.02736	0.02674	0.02612	0.02552	0.02494	0.02436	0.02380
1.6	0.02324	0.02270	0.02217	0.02165	0.02114	0.02064	0.02015	0.01967	0.01920	0.01874
1.7	0.01829	0.01785	0.01742	0.01699	0.01658	0.01617	0.01578	0.01539	0.01501	0.01464
1.8	0.01428	0.01392	0.01357	0.01323	0.01290	0.01257	0.01226	0.01195	0.01164	0.01134
1.9	0.01105	0.01077	0.01049	0.01022	0.009957	0.009698	0.009445	0.009198	0.008957	0.008721
2.0	0.008491	0.008266	0.008046	0.007832	0.007623	0.007418	0.007219	0.007024	0.006835	0.006649
2.1	0.006468	0.006292	0.006120	0.005952	0.005788	0.005628	0.005472	0.005320	0.005172	0.005028
2.2	0.004887	0.004750	0.004616	0.004486	0.004358	0.004235	0.004114	0.003996	0.003882	0.003770
2.3	0.003662	0.003556	0.003453	0.003352	0.003255	0.003159	0.003067	0.002977	0.002889	0.002804
2.4	0.002720	0.002640	0.002561	0.002484	0.002410	0.002337	0.002267	0.002199	0.002132	0.002067
2.5	0.002004	0.001943	0.001883	0.001826	0.001769	0.001715	0.001662	0.001610	0.001560	0.001511
2.6	0.001464	0.001418	0.001373	0.001330	0.001288	0.001247	0.001207	0.001169	0.001132	0.001095
2.7	0.001060	0.001026	0.0009928	0.0009607	0.0009295	0.0008992	0.0008699	0.0008414	0.0008138	0.0007870
2.8	0.0007611	0.0007359	0.0007115	0.0006879	0.0006650	0.0006428	0.0006213	0.0006004	0.0005802	0.0005606
2.9	0.0005417	0.0005233	0.0005055	0.0004883	0.0004716	0.0004555	0.0004398	0.0004247	0.0004101	0.0003959
3.0	0.0003822	0.0003689	0.0003560	0.0003436	0.0003316	0.0003199	0.0003087	0.0002978	0.0002873	0.0002771
3.1	0.0002673	0.0002577	0.0002485	0.0002396	0.0002311	0.0002227	0.0002147	0.0002070	0.0001995	0.0001922
3.2	0.0001852	0.0001785	0.0001720	0.0001657	0.0001596	0.0001537	0.0001480	0.0001426	0.0001373	0.0001322
3.3	0.0001273	0.0001225	0.0001179	0.0001135	0.0001093	0.0001051	0.0001012	0.00009734	0.00009365	0.00009009
3.4	0.00008666	0.00008335	0.00008016	0.00007709	0.00007413	0.00007127	0.00006852	0.00006587	0.00006331	0.00006085
3.5	0.00005848	0.00005620	0.00005400	0.00005188	0.00004984	0.00004788	0.00004599	0.00004417	0.00004242	0.00004073
3.6	0.00003911	0.00003755	0.00003605	0.00003460	0.00003321	0.00003188	0.00003059	0.00002935	0.00002816	0.00002702
3.7	0.00002592	0.00002486	0.00002385	0.00002287	0.00002193	0.00002103	0.00002016	0.00001933	0.00001851	0.00001776
3.8	0.00001702	0.00001632	0.00001563	0.00001498	0.00001435	0.00001375	0.00001317	0.00001262	0.00001208	0.00001157
3.9	0.00001108	0.00001061	0.00001016	0.000009723	0.000009307	0.000008908	0.000008525	0.000008158	0.000007806	0.000007469
4.0	0.000007145	0.000006835	0.000006538	0.000006253	0.000005980	0.000005718	0.000005468	0.000005227	0.000004997	0.000004777
4.1	0.000004566	0.000004364	0.000004170	0.000003985	0.000003807	0.000003637	0.000003475	0.000003319	0.000003170	0.000003027
4.2	0.000002891	0.000002760	0.000002635	0.000002516	0.000002402	0.000002292	0.000002188	0.000002088	0.000001992	0.000001901
4.3	0.000001814	0.000001730	0.000001650	0.000001574	0.000001501	0.000001431	0.000001365	0.000001301	0.000001241	0.000001183
4.4	0.000001127	0.000001074	0.000001024	0.0000009756	0.0000009296	0.0000008857	0.0000008437	0.0000008037	0.0000007655	0.0000007290
4.5	0.0000006942	0.0000006610	0.0000006294	0.0000005992	0.0000005704	0.0000005429	0.0000005167	0.0000004917	0.0000004679	0.0000004452
4.6	0.0000004236	0.0000004029	0.0000003833	0.0000003645	0.0000003467	0.0000003297	0.0000003135	0.0000002981	0.0000002834	0.0000002694
4.7	0.0000002560	0.0000002433	0.0000002313	0.0000002197	0.0000002088	0.0000001984	0.0000001884	0.0000001790	0.0000001700	0.0000001615
4.8	0.0000001533	0.0000001456	0.0000001382	0.0000001312	0.0000001246	0.0000001182	0.0000001122	0.0000001065	0.0000001011	0.00000009588
4.9	0.00000009096	0.00000008629	0.00000008185	0.00000007763	0.00000007362	0.00000006982	0.00000006620	0.00000006276	0.00000005950	0.00000005640

$$G(-h) = h + G(h)$$

Examples: $G(3.57) = 0.00004417$

$$G(-3.57) = 3.57004417$$

Table XII
Critical Values of r for the Sign Test

(Two-tail percentage points are given for the binomial for $p = 0.5$)

N	1%	5%	10%	25%	N	1%	5%	10%	25%
1					51	15	18	19	20
2					52	16	18	19	21
3				0	53	16	18	20	21
4				0	54	17	19	20	22
5			0	0	55	17	19	20	22
6		0	0	1	56	17	20	21	23
7		0	0	1	57	18	20	21	23
8	0	0	1	1	58	18	21	22	24
9	0	1	1	2	59	19	21	22	24
10	0	1	1	2	60	19	21	23	25
11	0	1	2	3	61	20	22	23	25
12	1	2	2	3	62	20	22	24	25
13	1	2	3	3	63	20	23	24	26
14	1	2	3	4	64	21	23	24	26
15	2	3	3	4	65	21	24	25	27
16	2	3	4	5	66	22	24	25	27
17	2	4	4	5	67	22	25	26	28
18	3	4	5	6	68	22	25	26	28
19	3	4	5	6	69	23	25	27	29
20	3	5	5	6	70	23	26	27	29
21	4	5	6	7	71	24	26	28	30
22	4	5	6	7	72	24	27	28	30
23	4	6	7	8	73	25	27	28	31
24	5	6	7	8	74	25	28	29	31
25	5	7	7	9	75	25	28	29	32
26	6	7	8	9	76	26	28	30	32
27	6	7	8	10	77	26	29	30	32
28	6	8	9	10	78	27	29	31	33
29	7	8	9	10	79	27	30	31	33
30	7	9	10	11	80	28	30	32	34
31	7	9	10	11	81	28	31	32	34
32	8	9	10	12	82	28	31	33	35
33	8	10	11	12	83	29	32	33	35
34	9	10	11	13	84	29	32	33	36
35	9	11	12	13	85	30	32	34	36
36	9	11	12	14	86	30	33	34	37
37	10	12	13	14	87	31	33	35	37
38	10	12	13	14	88	31	34	35	38
39	11	12	13	15	89	31	34	36	38
40	11	13	14	15	90	32	35	36	39
41	11	13	14	16	91	32	35	37	39
42	12	14	15	16	92	33	36	37	39
43	12	14	15	17	93	33	36	38	40
44	13	15	16	17	94	34	37	38	40
45	13	15	16	18	95	34	37	38	41
46	13	15	16	18	96	34	37	39	41
47	14	16	17	19	97	35	38	39	42
48	14	16	17	19	98	35	38	40	42
49	15	17	18	19	99	36	39	40	43
50	15	17	18	20	100	36	39	41	43

Table XIII Critical Values of *T* in the Wilcoxon Matched-Pairs Signed-Ranks Test

Critical Values of *T* at Various Levels of Probability

The symbol *T* denotes the smaller sum of ranks associated with differences that are all of the same sign. For any given *N* (number of ranked differences), the obtained *T* is significant at a given level if it is equal to or less than the value shown in the table.

N	Level of significance for one-tailed test				N	Level of significance for one-tailed test			
	.05	.025	.01	.005		.05	.025	.01	.005
	Level of significance for two-tailed test					Level of significance for two-tailed test			
	.10	.05	.02	.01		.10	.05	.02	.01
5	0	--	--	--	28	130	116	101	91
6	2	0	--	--	29	140	126	110	100
7	3	2	0	--	30	151	137	120	109
8	5	3	1	0	31	163	147	130	118
9	8	5	3	1	32	175	159	140	128
10	10	8	5	3	33	187	170	151	138
11	13	10	7	5	34	200	182	162	148
12	17	13	9	7	35	213	195	173	159
13	21	17	12	9	36	227	208	185	171
14	25	21	15	12	37	241	221	198	182
15	30	25	19	15	38	256	235	211	194
16	35	29	23	19	39	271	249	224	207
17	41	34	27	23	40	286	264	238	220
18	47	40	32	27	41	302	279	252	233
19	53	46	37	32	42	319	294	266	247
20	60	52	43	37	43	336	310	281	261
21	67	58	49	42	44	353	327	296	276
22	75	65	55	48	45	371	343	312	291
23	83	73	62	54	46	389	361	328	307
24	91	81	69	61	47	407	378	345	322
25	100	89	76	68	48	426	396	362	339
26	110	98	84	75	49	446	415	379	355
27	119	107	92	83	50	466	434	397	373

(Slight discrepancies will be found between the critical values appearing in the table above and in Table 2 of the 1964 revision of F. Wilcoxon, and R. A. Wilcoxon, *Some Rapid Approximate Statistical Procedures*, New York, Lederle Laboratories, 1964. The disparity reflects the latter's policy of selecting the critical value nearest a given significance level, occasionally overstepping that level. For example, for *N* = 8,

the probability of a *T* of 3 = 0.0390 (two-tail)

and

the probability of a *T* of 4 = 0.0546 (two-tail).

Wilcoxon and Wilcoxon select a *T* of 4 as the critical value at the 0.05 level of significance (two-tail), whereas Table J reflects a more conservative policy by setting a *T* of 3 as the critical value at this level.)

Table XIV

Critical values and probability levels for the Wilcoxon rank sum test

n	m=6		m=7		m=8		m=9		m=10		m=11		m=12		m=13		m=14		m=15		m=16		m=17		m=18		m=19		m=20					
	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided	$\alpha_1 = P = .05$ one-sided	$\alpha_2 = P = .10$ two-sided				
6	28, 50	.0465																																
7	29, 49	.0660																																
8	29, 55	.0367	39, 66	.0487																														
9	30, 54	.0307	40, 65	.0641	51, 65	.0415																												
10	31, 59	.0406	41, 71	.0469	52, 84	.0524	66, 105	.0470																										
11	32, 58	.0539	42, 70	.0603	54, 90	.0454	67, 104	.0567	82, 128	.0446																								
12	33, 63	.0440	43, 76	.0454	55, 89	.0506	69, 111	.0474	83, 127	.0526	92, 143	.0441																						
13	34, 62	.0567	44, 75	.0571	56, 96	.0416	70, 110	.0564	84, 134	.0493	93, 147	.0505	100, 160	.0513																				
14	35, 67	.0457	45, 81	.0439	57, 95	.0506	72, 117	.0476	85, 133	.0572	89, 141	.0465	95, 154	.0478	103, 167	.0487																		
15	36, 66	.0539	46, 80	.0544	59, 101	.0454	73, 116	.0560	87, 133	.0572	90, 140	.0536	97, 153	.0542	104, 166	.0545	108, 174	.0465																
16	37, 71	.0491	47, 85	.0427	60, 100	.0543	75, 123	.0477	89, 141	.0465	92, 143	.0441	99, 161	.0455	106, 174	.0465	109, 173	.0534																
17	38, 70	.0633	48, 85	.0521	62, 106	.0489	76, 122	.0555	90, 140	.0536	93, 147	.0505	100, 160	.0513	107, 173	.0513	110, 179	.0546																
18	38, 76	.0415	49, 91	.0416	63, 105	.0576	78, 129	.0478	95, 154	.0478	96, 154	.0478	103, 167	.0487	109, 179	.0546	113, 187	.0472																
19	39, 75	.0512	50, 90	.0501	64, 112	.0445	79, 128	.0551	97, 153	.0542	99, 161	.0455	106, 174	.0465	111, 179	.0531	114, 186	.0521																
20	40, 80	.0437	52, 95	.0434	65, 111	.0521	81, 135	.0478	99, 161	.0455	101, 160	.0513	108, 174	.0478	113, 187	.0472																		
21	41, 79	.0530	53, 94	.0573	66, 110	.0521	82, 134	.0547	101, 160	.0513	103, 167	.0487	110, 179	.0546																				
22	42, 84	.0437	54, 100	.0469	67, 117	.0475	83, 135	.0478	103, 167	.0487	104, 166	.0545	111, 179	.0546																				
23	43, 83	.0547	55, 99	.0550	68, 116	.0530	84, 141	.0478	104, 166	.0545	106, 174	.0465	113, 187	.0472																				
24	44, 88	.0474	56, 105	.0455	69, 123	.0437	85, 147	.0477	106, 174	.0465	108, 174	.0465	114, 186	.0521																				
25	45, 87	.0561	57, 104	.0531	70, 122	.0503	86, 146	.0538	107, 173	.0513	109, 173	.0513	115, 186	.0521																				
26	46, 92	.0490	58, 110	.0443	72, 123	.0463	87, 147	.0477	108, 174	.0465	110, 179	.0546																						
27	47, 94	.0574	59, 109	.0513	73, 127	.0528	88, 146	.0538	109, 173	.0513	111, 179	.0546																						
28	47, 97	.0433	61, 114	.0497	75, 133	.0487	90, 153	.0476	109, 173	.0513	111, 179	.0546																						
29	48, 96	.0505	62, 113	.0569	75, 132	.0552	91, 152	.0534	110, 179	.0546	111, 179	.0546																						
30	49, 101	.0448	63, 119	.0494	77, 139	.0452	93, 159	.0475	111, 179	.0546	113, 187	.0472																						
31	50, 100	.0518	64, 118	.0550	78, 138	.0510	94, 158	.0531	113, 187	.0472	114, 186	.0521																						
32	51, 105	.0462	65, 124	.0471	80, 144	.0475	96, 165	.0474	114, 186	.0521																								
33	52, 104	.0530	66, 123	.0533	81, 143	.0532	97, 164	.0527																										

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Table XV Critical values of the R in the Runs Test

Given in the bodies of Table XV₁ and Table XV₂ are various critical values of R for various values of n₁ and n₂. For the one-sample run test, any value of R which is equal to or smaller than that shown in Table XV₁ or equal to or larger than that shown in Table XV₂ is significant at the .05 level. For the Wald-Wolfowitz two-sample runs test, any value of R which is equal to or smaller than that shown in Table XV₁ is significant at the .05 level.

Table XV₁

n ₁ \ n ₂	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
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* Adapted from Swed, Friede S., and Eisenhart, C. 1943. Tables for testing randomness of grouping in a sequence of alternatives. *Ann. Math. Statist.*, 14, 83-86, with the kind permission of the authors and publisher.

Table XV₂

n ₁ \ n ₂	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
2																			
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Table XVI Durbin-Watson Test Statistic, Lower and Upper Bounds of the 5%, 1% and 2.5% Points

n	Significance Points of d_L and d_U : 5%										Significance Points of d_L and d_U : 1%									
	$k' = 1$		$k' = 2$		$k' = 3$		$k' = 4$		$k' = 5$		$k' = 1$		$k' = 2$		$k' = 3$		$k' = 4$		$k' = 5$	
	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U	d_L	d_U
15	1.08	1.30	0.95	1.54	0.82	1.75	0.60	1.97	0.56	2.21	0.81	1.07	0.70	1.25	0.59	1.46	0.49	1.70	0.39	1.96
16	1.10	1.37	0.98	1.54	0.86	1.73	0.74	1.93	0.62	2.15	0.84	1.09	0.74	1.25	0.63	1.44	0.53	1.66	0.44	1.90
17	1.13	1.38	1.02	1.54	0.90	1.71	0.78	1.90	0.67	2.10	0.87	1.10	0.77	1.25	0.67	1.43	0.57	1.63	0.48	1.85
18	1.16	1.39	1.05	1.53	0.93	1.69	0.82	1.87	0.71	2.06	0.90	1.12	0.80	1.26	0.71	1.42	0.61	1.60	0.52	1.80
19	1.18	1.40	1.09	1.53	0.97	1.68	0.86	1.85	0.75	2.02	0.93	1.13	0.83	1.26	0.74	1.41	0.65	1.58	0.56	1.77
20	1.20	1.41	1.10	1.54	1.00	1.68	0.90	1.83	0.79	1.99	0.95	1.15	0.86	1.27	0.77	1.41	0.68	1.57	0.60	1.74
21	1.22	1.42	1.13	1.54	1.03	1.67	0.93	1.81	0.83	1.96	0.97	1.16	0.89	1.27	0.80	1.41	0.72	1.55	0.63	1.71
22	1.24	1.43	1.15	1.54	1.05	1.66	0.96	1.80	0.86	1.94	1.00	1.17	0.91	1.28	0.83	1.40	0.75	1.54	0.66	1.69
23	1.26	1.44	1.17	1.54	1.08	1.66	0.99	1.79	0.90	1.92	1.02	1.19	0.94	1.29	0.86	1.40	0.77	1.53	0.70	1.67
24	1.27	1.45	1.19	1.55	1.10	1.66	1.01	1.78	0.93	1.90	1.04	1.20	0.96	1.30	0.88	1.41	0.80	1.53	0.72	1.66
25	1.29	1.45	1.21	1.55	1.12	1.66	1.04	1.77	0.95	1.89	1.05	1.21	0.98	1.30	0.90	1.41	0.83	1.52	0.75	1.65
26	1.30	1.46	1.22	1.55	1.14	1.65	1.06	1.76	0.98	1.88	1.07	1.22	1.00	1.31	0.93	1.41	0.85	1.52	0.78	1.64
27	1.32	1.47	1.24	1.56	1.16	1.65	1.08	1.76	1.01	1.86	1.09	1.23	1.02	1.32	0.95	1.41	0.88	1.51	0.81	1.63
28	1.33	1.48	1.26	1.56	1.18	1.65	1.10	1.75	1.03	1.85	1.10	1.24	1.04	1.32	0.97	1.41	0.90	1.51	0.83	1.62
29	1.34	1.48	1.27	1.56	1.20	1.65	1.12	1.74	1.05	1.84	1.12	1.25	1.05	1.33	0.99	1.42	0.92	1.51	0.85	1.61
30	1.35	1.49	1.28	1.57	1.21	1.65	1.14	1.74	1.07	1.83	1.13	1.26	1.07	1.34	1.01	1.42	0.94	1.51	0.88	1.61
31	1.36	1.50	1.30	1.57	1.23	1.65	1.16	1.74	1.09	1.83	1.15	1.27	1.08	1.34	1.02	1.42	0.96	1.51	0.90	1.60
32	1.37	1.50	1.31	1.57	1.24	1.65	1.18	1.73	1.11	1.82	1.16	1.28	1.10	1.35	1.04	1.43	0.98	1.51	0.92	1.60
33	1.38	1.51	1.32	1.58	1.26	1.65	1.19	1.73	1.13	1.81	1.17	1.29	1.11	1.36	1.05	1.43	1.00	1.51	0.94	1.59
34	1.39	1.51	1.33	1.58	1.27	1.65	1.21	1.73	1.15	1.81	1.18	1.30	1.13	1.36	1.07	1.43	1.01	1.51	0.95	1.59
35	1.40	1.52	1.34	1.58	1.28	1.65	1.22	1.73	1.16	1.80	1.19	1.31	1.14	1.37	1.08	1.44	1.03	1.51	0.97	1.59
36	1.41	1.52	1.35	1.59	1.29	1.65	1.24	1.73	1.18	1.80	1.21	1.32	1.15	1.38	1.10	1.44	1.04	1.51	0.99	1.59
37	1.42	1.53	1.36	1.59	1.31	1.66	1.26	1.72	1.19	1.80	1.22	1.32	1.16	1.38	1.11	1.45	1.06	1.51	1.00	1.59
38	1.43	1.54	1.37	1.59	1.32	1.66	1.26	1.72	1.21	1.79	1.23	1.33	1.18	1.39	1.12	1.45	1.07	1.52	1.00	1.59
39	1.43	1.54	1.38	1.60	1.33	1.66	1.27	1.72	1.22	1.79	1.24	1.34	1.19	1.39	1.14	1.45	1.09	1.52	1.03	1.58
40	1.44	1.54	1.39	1.60	1.34	1.66	1.29	1.72	1.23	1.79	1.25	1.34	1.20	1.40	1.15	1.46	1.10	1.52	1.05	1.58
45	1.48	1.57	1.43	1.62	1.38	1.67	1.34	1.72	1.29	1.78	1.29	1.38	1.24	1.42	1.20	1.48	1.16	1.53	1.11	1.58
50	1.50	1.59	1.46	1.63	1.42	1.67	1.38	1.72	1.34	1.77	1.32	1.40	1.28	1.45	1.24	1.49	1.20	1.54	1.16	1.59
55	1.53	1.60	1.49	1.64	1.45	1.68	1.41	1.72	1.38	1.77	1.36	1.43	1.32	1.47	1.28	1.51	1.25	1.55	1.21	1.59
60	1.55	1.62	1.51	1.65	1.48	1.69	1.44	1.73	1.41	1.77	1.38	1.45	1.35	1.48	1.32	1.52	1.28	1.56	1.25	1.60
65	1.57	1.63	1.54	1.66	1.50	1.70	1.47	1.73	1.44	1.77	1.41	1.47	1.38	1.50	1.35	1.53	1.31	1.57	1.28	1.61
70	1.58	1.64	1.55	1.67	1.52	1.70	1.49	1.74	1.46	1.77	1.43	1.49	1.40	1.53	1.37	1.55	1.34	1.58	1.31	1.61
75	1.60	1.65	1.57	1.68	1.54	1.71	1.51	1.74	1.49	1.77	1.45	1.50	1.42	1.53	1.39	1.56	1.37	1.59	1.34	1.62
80	1.61	1.66	1.59	1.69	1.56	1.72	1.53	1.74	1.51	1.77	1.47	1.52	1.44	1.54	1.42	1.57	1.41	1.60	1.36	1.62
85	1.62	1.67	1.60	1.70	1.57	1.72	1.55	1.75	1.52	1.77	1.48	1.54	1.46	1.55	1.43	1.58	1.43	1.61	1.39	1.63
90	1.63	1.68	1.61	1.70	1.59	1.73	1.57	1.75	1.54	1.78	1.50	1.54	1.47	1.56	1.45	1.59	1.44	1.62	1.41	1.64
95	1.64	1.69	1.62	1.71	1.60	1.73	1.58	1.75	1.56	1.78	1.51	1.55	1.49	1.57	1.47	1.60	1.45	1.62	1.42	1.64
100	1.65	1.69	1.63	1.72	1.61	1.74	1.59	1.76	1.57	1.78	1.52	1.56	1.50	1.58	1.48	1.60	1.46	1.63	1.44	1.65

Note: k' = number of explanatory variables excluding the constant term.
 Source: J. Durbin and G. S. Watson, "Testing for Serial Correlation in Least Squares Regression", *Biometrika*, vol. 38, 1951, pp. 159-77. Reprinted with the permission of the authors and the *Biometrika* trustees.

Note: k' = number of explanatory variables excluding the constant term.
 Source: J. Durbin and G. S. Watson, "Testing for Serial Correlation in Least Squares Regression", *Biometrika*, vol. 38, 1951, pp. 159-77. Reprinted with the permission of the authors and the *Biometrika* trustees.

Table XVII
The Theil-Nager Test for the Independence of Regression Disturbances

n	k' = 1						k' = 2		k' = 3		k' = 4		k' = 5	
	d _L		d _B		d _L	d _B	d _L	d _B	d _L	d _B	d _L	d _B	d _L	d _B
	1%	5%	1%	5%	1%	5%	1%	5%	1%	5%	1%	5%	1%	5%
15	0.95	1.25	0.83	1.40	0.71	1.61	0.59	1.84	0.48	2.09	0.48	2.09	0.48	2.09
16	0.98	1.24	0.86	1.40	0.75	1.59	0.64	1.80	0.53	2.03	0.53	2.03	0.53	2.03
17	1.01	1.23	0.90	1.40	0.79	1.58	0.68	1.77	0.57	1.98	0.57	1.98	0.57	1.98
18	1.03	1.26	0.93	1.40	0.82	1.56	0.72	1.74	0.62	1.95	0.62	1.95	0.62	1.95
19	1.06	1.28	0.96	1.41	0.86	1.55	0.76	1.72	0.66	1.90	0.66	1.90	0.66	1.90
20	1.08	1.28	0.99	1.41	0.89	1.55	0.79	1.70	0.70	1.87	0.70	1.87	0.70	1.87
21	1.10	1.30	1.01	1.41	0.92	1.54	0.83	1.69	0.73	1.84	0.73	1.84	0.73	1.84
22	1.12	1.31	1.04	1.42	0.95	1.54	0.86	1.68	0.77	1.82	0.77	1.82	0.77	1.82
23	1.14	1.32	1.06	1.42	0.97	1.54	0.89	1.67	0.80	1.80	0.80	1.80	0.80	1.80
24	1.16	1.33	1.08	1.43	1.00	1.54	0.91	1.66	0.83	1.79	0.83	1.79	0.83	1.79
25	1.18	1.34	1.10	1.43	1.02	1.54	0.94	1.66	0.86	1.77	0.86	1.77	0.86	1.77
26	1.19	1.35	1.12	1.44	1.04	1.54	0.96	1.65	0.88	1.76	0.88	1.76	0.88	1.76
27	1.21	1.36	1.13	1.44	1.06	1.54	0.99	1.64	0.91	1.75	0.91	1.75	0.91	1.75
28	1.22	1.37	1.15	1.45	1.08	1.54	1.01	1.64	0.93	1.74	0.93	1.74	0.93	1.74
29	1.24	1.38	1.17	1.45	1.10	1.54	1.03	1.63	0.96	1.73	0.96	1.73	0.96	1.73
30	1.25	1.38	1.18	1.46	1.12	1.54	1.05	1.63	0.98	1.73	0.98	1.73	0.98	1.73
31	1.26	1.39	1.20	1.47	1.13	1.55	1.07	1.63	1.00	1.72	1.00	1.72	1.00	1.72
32	1.27	1.40	1.21	1.47	1.15	1.55	1.08	1.63	1.02	1.71	1.02	1.71	1.02	1.71
33	1.28	1.41	1.22	1.48	1.16	1.55	1.10	1.63	1.04	1.71	1.04	1.71	1.04	1.71
34	1.29	1.41	1.24	1.48	1.17	1.55	1.12	1.63	1.06	1.70	1.06	1.70	1.06	1.70
35	1.30	1.42	1.25	1.48	1.19	1.55	1.13	1.63	1.07	1.70	1.07	1.70	1.07	1.70
36	1.31	1.43	1.26	1.49	1.20	1.56	1.15	1.63	1.09	1.70	1.09	1.70	1.09	1.70
37	1.32	1.43	1.27	1.49	1.21	1.56	1.16	1.62	1.10	1.70	1.10	1.70	1.10	1.70
38	1.33	1.44	1.28	1.50	1.23	1.56	1.17	1.62	1.12	1.70	1.12	1.70	1.12	1.70
39	1.34	1.44	1.29	1.50	1.24	1.56	1.19	1.63	1.13	1.69	1.13	1.69	1.13	1.69
40	1.35	1.45	1.30	1.51	1.25	1.57	1.20	1.63	1.15	1.69	1.15	1.69	1.15	1.69
45	1.39	1.48	1.34	1.53	1.30	1.58	1.25	1.63	1.21	1.69	1.21	1.69	1.21	1.69
50	1.42	1.50	1.38	1.54	1.34	1.59	1.30	1.64	1.26	1.69	1.26	1.69	1.26	1.69
55	1.45	1.52	1.41	1.56	1.37	1.60	1.33	1.64	1.30	1.69	1.30	1.69	1.30	1.69
60	1.47	1.54	1.44	1.57	1.40	1.61	1.37	1.65	1.33	1.69	1.33	1.69	1.33	1.69
65	1.49	1.55	1.46	1.59	1.43	1.62	1.40	1.66	1.36	1.69	1.36	1.69	1.36	1.69
70	1.51	1.57	1.48	1.60	1.45	1.63	1.42	1.66	1.39	1.70	1.39	1.70	1.39	1.70
75	1.53	1.58	1.50	1.61	1.47	1.64	1.45	1.67	1.42	1.70	1.42	1.70	1.42	1.70
80	1.54	1.59	1.52	1.62	1.49	1.65	1.47	1.67	1.44	1.70	1.44	1.70	1.44	1.70
85	1.56	1.60	1.53	1.63	1.51	1.65	1.49	1.68	1.46	1.71	1.46	1.71	1.46	1.71
90	1.57	1.61	1.55	1.64	1.53	1.66	1.50	1.69	1.48	1.71	1.48	1.71	1.48	1.71
95	1.58	1.62	1.56	1.65	1.54	1.67	1.52	1.69	1.50	1.71	1.50	1.71	1.50	1.71
100	1.59	1.63	1.57	1.65	1.55	1.67	1.53	1.70	1.51	1.72	1.51	1.72	1.51	1.72

f (Number of observations)	A (Number of coefficients adjusted)									
	2		3		4		5		6	
	1%	5%	1%	5%	1%	5%	1%	5%	1%	5%
15	1.07	1.36	1.24	1.53	1.43	1.73	1.65	1.94	1.88	2.16
16	1.08	1.37	1.24	1.53	1.42	1.71	1.62	1.90	1.85	2.11
17	1.10	1.38	1.25	1.53	1.41	1.69	1.59	1.87	1.79	2.06
18	1.12	1.39	1.25	1.53	1.40	1.68	1.57	1.85	1.75	2.02
19	1.13	1.40	1.26	1.53	1.40	1.67	1.56	1.83	1.72	1.99
20	1.15	1.41	1.26	1.53	1.40	1.67	1.54	1.81	1.70	1.96
21	1.16	1.42	1.27	1.53	1.40	1.66	1.53	1.80	1.68	1.94
22	1.17	1.43	1.28	1.54	1.40	1.66	1.53	1.78	1.66	1.92
23	1.19	1.44	1.29	1.54	1.40	1.65	1.52	1.77	1.65	1.90
24	1.20	1.45	1.29	1.54	1.40	1.65	1.51	1.77	1.64	1.89
25	1.21	1.46	1.30	1.55	1.40	1.65	1.51	1.76	1.63	1.87
26	1.22	1.46	1.31	1.55	1.40	1.65	1.51	1.75	1.62	1.86
27	1.23	1.47	1.32	1.55	1.41	1.65	1.51	1.75	1.61	1.85
28	1.24	1.48	1.32	1.56	1.41	1.65	1.51	1.74	1.60	1.84
29	1.25	1.48	1.33	1.56	1.41	1.65	1.50	1.74	1.60	1.83
30	1.26	1.49	1.34	1.57	1.42	1.65	1.50	1.73	1.60	1.82
31	1.27	1.50	1.34	1.57	1.42	1.65	1.50	1.73	1.59	1.82
32	1.28	1.50	1.35	1.57	1.43	1.65	1.50	1.73	1.59	1.81
33	1.29	1.51	1.36	1.58	1.43	1.65	1.51	1.73	1.59	1.81
34	1.30	1.51	1.36	1.58	1.43	1.65	1.51	1.72	1.58	1.80
35	1.31	1.52	1.37	1.58	1.44	1.65	1.51	1.72	1.58	1.80
36	1.31	1.52	1.38	1.59	1.44	1.65	1.51	1.72	1.58	1.79
37	1.32	1.53	1.38	1.59	1.44	1.65	1.51	1.72	1.58	1.79
38	1.33	1.53	1.39	1.59	1.45	1.65	1.51	1.72	1.58	1.79
39	1.34	1.54	1.39	1.60	1.45	1.66	1.51	1.72	1.58	1.79
40	1.34	1.54	1.41	1.61	1.46	1.66	1.52	1.72	1.58	1.78
45	1.37	1.56	1.42	1.61	1.47	1.67	1.53	1.72	1.58	1.78
50	1.40	1.58	1.44	1.63	1.49	1.67	1.54	1.72	1.59	1.77
55	1.43	1.60	1.47	1.64	1.51	1.68	1.55	1.72	1.59	1.77
60	1.45	1.62	1.48	1.65	1.52	1.69	1.56	1.73	1.60	1.77
65	1.47	1.63	1.50	1.66	1.53	1.70	1.57	1.73	1.60	1.77
70	1.49	1.64	1.51	1.67	1.55	1.70	1.58	1.73	1.61	1.77
75	1.50	1.65	1.53	1.68	1.56	1.71	1.59	1.74	1.62	1.77
80	1.52	1.66	1.54	1.69	1.57	1.72	1.60	1.74	1.62	1.77
85	1.53	1.67	1.55	1.70	1.58	1.72	1.60	1.75	1.63	1.77
90	1.54	1.68	1.56	1.70	1.59	1.73	1.61	1.75	1.61	1.78
95	1.55	1.69	1.57	1.71	1.60	1.73	1.62	1.75	1.64	1.78
100	1.56	1.69	1.58	1.72	1.60	1.74	1.63	1.76	1.65	1.78

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