

## LAMPIRAN 17

### Uji Asumsi Autokorelasi

Dari persamaan regresi linier berganda diketahui bahwa:

$$b_0 = 26,314 \quad b_1 = 0,370 \quad b_2 = 0,289 \quad b_3 = 0,239$$

Sehingga nilai galat model regresi dapat dihitung melalui tabel berikut,

Res	X1	X2	X3	Y	$\hat{Y}$	$e_t$	$e_t^2$	$e_t^3$	$e_{t-1}$	$e_t - e_{t-1}$	$e_t - e_t - e_{t-1}$
1	48	47	60	72	79.079	25.342	642.230	616.888	563.151	-563.151	1126.302
2	49	57	48	70	77.194	27.459	753.980	726.521	676.787	-676.787	1353.573
3	49	54	58	76	80.648	20.241	409.702	389.460	329.054	-329.054	658.108
4	54	53	38	78	78.500	13.586	184.571	170.985	106.071	-106.071	212.142
5	47	51	47	80	81.723	19.469	379.034	359.566	297.312	-297.312	594.624
6	59	44	45	77	81.539	41.002	1681.202	1640.199	1599.663	-1599.663	3199.326
7	62	52	38	82	80.809	33.035	1091.314	1058.279	1010.504	-1010.504	2021.008
8	47	62	50	81	77.403	10.000	99.999	89.999	22.596	-22.596	45.192
9	43	51	32	72	78.174	16.093	258.997	242.903	180.823	-180.823	361.646
10	51	46	41	70	81.032	17.577	308.946	291.369	227.914	-227.914	455.827
11	57	48	48	71	84.619	40.339	1627.210	1586.871	1542.591	-1542.591	3085.181
12	48	50	32	64	80.058	15.913	253.214	237.302	173.156	-173.156	346.312
13	38	43	44	70	76.671	9.175	84.173	74.999	7.503	-7.503	15.005
14	51	46	64	72	75.866	15.762	248.449	232.687	172.583	-172.583	345.166
15	51	47	40	78	80.228	27.440	752.941	725.501	672.714	-672.714	1345.427
16	59	49	49	67	77.399	14.500	210.257	195.757	132.859	-132.859	265.717

17	41	51	44	65	77.145	12.053	145.276	133.222	68.130	-68.130	136.261
18	39	49	46	66	77.576	9.106	82.927	73.821	5.351	-5.351	10.702
19	53	47	35	77	69.314	8.611	74.143	65.532	4.829	-4.829	9.658
20	58	52	35	76	72.685	31.608	999.059	967.451	926.374	-926.374	1852.748
21	32	51	52	70	77.209	34.867	1215.728	1180.861	1138.519	-1138.519	2277.038
22	53	59	56	84	78.260	14.671	215.245	200.574	136.985	-136.985	273.970
23	62	56	47	79	77.589	10.758	115.739	104.980	38.149	-38.149	76.299
24	61	57	35	72	76.135	14.521	210.863	196.341	134.727	-134.727	269.455
25	50	46	48	70	75.997	28.622	819.218	790.596	743.221	-743.221	1486.442
26	54	48	46	68	85.418	41.138	1692.332	1651.194	1606.914	-1606.914	3213.828
27	49	44	51	61	78.008	13.863	192.176	178.313	114.168	-114.168	228.335
28	59	56	46	75	69.934	27.612	762.447	734.835	692.514	-692.514	1385.027
29	53	53	46	74	78.803	11.441	130.899	119.458	52.096	-52.096	104.193
30	50	52	49	70	77.289	10.919	119.218	108.299	41.929	-41.929	83.857
31	35	51	51	66	77.637	15.599	243.315	227.716	165.677	-165.677	331.354
32	50	29	49	60	78.797	31.426	987.572	956.146	908.774	-908.774	1817.549
33	45	33	47	69	81.037	36.144	1306.417	1270.272	1225.380	-1225.380	2450.760
34	42	44	52	70	72.426	4.634	21.478	16.844	-50.948	50.948	-101.896
35	49	35	51	70	75.404	8.710	75.867	67.157	0.463	-0.463	0.927
36	50	45	59	79	77.739	21.682	470.091	448.410	392.352	-392.352	784.704
37	53	47	56	82	74.451	17.641	311.196	293.555	236.745	-236.745	473.490
38	46	48	48	72	76.878	14.231	202.522	188.291	125.643	-125.643	251.287
39	56	40	61	71	74.408	7.150	51.122	43.972	-23.287	23.287	-46.573
40	50	47	42	70	80.815	14.019	196.526	182.508	115.711	-115.711	231.422
41	52	43	47	73	84.773	19.770	390.838	371.068	306.065	-306.065	612.130
42	44	47	48	76	77.202	38.676	1495.850	1457.174	1418.648	-1418.648	2837.297

43	53	52	52	80	77.899	14.310	204.772	190.462	126.873	-126.873	253.746
44	57	28	44	65	81.563	20.695	428.301	407.605	346.738	-346.738	693.475
45	53	63	41	83	70.230	16.114	259.647	243.534	189.417	-189.417	378.834
46	55	54	49	77	71.728	24.180	584.694	560.514	512.966	-512.966	1025.932
47	47	53	49	74	83.047	26.237	688.375	662.138	605.327	-605.327	1210.655
48	51	51	37	70	80.948	18.300	334.905	316.604	253.957	-253.957	507.914
49	34	53	49	72	81.600	14.342	205.687	191.346	124.087	-124.087	248.175
50	55	48	44	77	76.784	35.211	1239.839	1204.628	1163.055	-1163.055	2326.110
51	44	51	46	72	75.213	24.825	616.294	591.469	541.081	-541.081	1082.161
52	47	50	35	64	72.798	19.425	377.350	357.924	304.552	-304.552	609.104
53	50	41	60	78	76.819	12.997	168.921	155.924	92.102	-92.102	184.204
54	49	56	58	80	79.948	14.774	218.257	203.483	138.309	-138.309	276.617
55	47	41	47	66	81.267	17.995	323.837	305.842	242.571	-242.571	485.141
56	52	35	52	76	80.322	30.727	944.142	913.415	863.819	-863.819	1727.639
57	62	45	46	77	78.075	32.027	1025.758	993.731	947.683	-947.683	1895.366
58	53	48	57	81	73.523	9.178	84.233	75.056	10.710	-10.710	21.421
59	34	45	50	70	81.385	22.355	499.736	477.381	418.351	-418.351	836.702
60	38	50	47	70	79.751	40.849	1668.643	1627.794	1588.892	-1588.892	3177.784
61	62	44	31	65	76.475	31.392	985.482	954.090	909.007	-909.007	1818.014
62	51	46	47	69	77.974	11.394	129.821	118.427	51.847	-51.847	103.694
63	60	35	42	71	80.640	13.085	171.207	158.122	90.566	-90.566	181.132
64	41	35	60	64	83.292	20.009	400.371	380.361	317.079	-317.079	634.158
65	50	52	58	86	80.797	35.242	1241.977	1206.736	1161.180	-1161.180	2322.360
66	48	56	47	77	76.160	7.595	57.681	50.086	-18.479	18.479	-36.958
67	41	60	52	73	69.636	-1.545	2.387	3.932	-67.249	67.249	-134.498
68	53	51	46	79	70.539	17.485	305.709	288.225	235.171	-235.171	470.342

69	36	40	57	67	79.616	23.395	547.322	523.927	467.706	-467.706	935.412
70	44	56	50	70	82.599	26.810	718.788	691.978	636.189	-636.189	1272.378
71	51	53	47	73	82.496	19.342	374.100	354.758	291.604	-291.604	583.208
72	36	47	31	60	74.327	9.699	94.074	84.375	19.747	-19.747	39.493
73	47	50	47	71	69.903	8.102	65.642	57.540	-4.261	4.261	-8.521
74	66	52	42	77	80.174	36.643	1342.685	1306.043	1262.511	-1262.511	2525.022
75	43	43	57	71	79.800	33.737	1138.209	1104.472	1058.409	-1058.409	2116.818
76	57	41	45	67	75.415	7.937	62.993	55.056	-12.422	12.422	-24.844
77	43	49	55	70	78.688	9.225	85.094	75.870	6.407	-6.407	12.813
78	48	42	64	70	80.812	16.053	257.701	241.648	176.890	-176.890	353.779
79	62	56	50	79	81.841	34.499	1190.215	1155.716	1108.374	-1108.374	2216.748
80	61	53	50	71	83.474	35.813	1282.542	1246.729	1199.068	-1199.068	2398.135
81	53	41	47	65	75.955	8.629	74.451	65.823	-1.504	1.504	-3.008
<b>Jumlah</b>	<b>4031</b>	<b>3895</b>	<b>3866</b>	<b>5872</b>	<b>6317.39</b>	<b>1645.49</b>	<b>41916.1</b>	<b>40270.6</b>	<b>35598.7</b>	<b>-35598.74</b>	<b>71197.48</b>

$$d = \frac{\sum e_t - e_t - e_{t-1}}{\sum e_t^3}$$

$$d = \frac{71197,48}{40270,6} = 1,768$$



Nilai Durbin Watson kemudian dibandingkan dengan nilai d-tabel, Hasil perbandingan akan menghasilkan kesimpulan seperti kriteria sebagai berikut (Gujarati:1993):

- 1, Jika  $d < dL$ , berarti terdapat autokorelasi positif
- 2, Jika  $d > (4 - dL)$ , berarti terdapat autokorelasi negatif
- 3, Jika  $dU < d < (4 - dU)$ , berarti tidak terdapat autokorelasi
- 4, Jika  $dL < d < dU$  atau  $(4 - dU) < d < (4 - dL)$ , berarti tidak dapat disimpulkan

Dari Tabel Durbin Watson (DW) diketahui bahwa nilai batas bawah ( $dL$ ) = 1,612 dan batas atas ( $dU$ ) = 1,603, Nilai  $d$  hasil perhitungan sebesar 1,848 berada pada rentang antara  $dU$  dan  $4-dU$  sehingga **tidak terdapat autokorelasi** dalam model regresi.