Exam Questions/Data Analysis for Risk and Security Management Prof. Dr. Dirk Drechsler

#13 (Total 24 Points)

				ъ0	b1	
				243,21	12,95	
			Estimated			
Month	t	Attacks	Attacks	Error	Numerator	Denominator
January	1	242	256,16	-14,16		200,51
February	2	265				
			269,11	-4,11	101,00	16,89
March	3	283	282,06	0,94	25,50	0,88
April	4	312	295,01	16,99	257,60	288,66
May	5	312	307,96	4,04	167,70	16,32
June	6	340	320,91	19,09	226,50	364,43
July	7	335	333,86	1,14	322,20	1,30
August	8	323	346,81	-23,81	622,50	566,92
Total					1723,02	1455,91
					d	1,18
					(4-d)	2,82

$$(e_2 - e_{2-1})^2 = (-4,11 + (-14,16))^2 = 101,00$$

$$e_1^2 = (-14,16)^2 = 200,51$$

$$d = \frac{\sum_{i=2}^n (e_t - e_{t-1})^2}{\sum_{i=1}^n e_t^2} = \frac{1723,02}{1455,91} = 1,18$$

 H_0 : The error terms are *not positively autocorrelated* versus the alternative hypothesis

 H_1 : The error terms are **positively autocorrelated**

$$0,763 \le 1,18 \le 1,332$$

No decision possible

 H_0 : The error terms are *not negatively autocorrelated* versus the alternative hypothesis

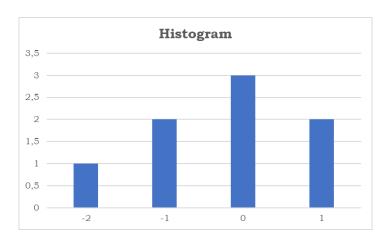
 H_a : The error terms are **negatively autocorrelated**

No negative autocorrelation

Exam Questions/Data Analysis for Risk and Security Management *Prof. Dr. Dirk Drechsler*

Histogram

Bin	# of values		
-2	1		
-1	2		
0	3		
1	2		



The error terms are approximately normally distributed.