

White :-

→ squared residual  
=  $(R_{i,t})^2$

- كويبي دكل ار  $X$  ومنظوم حسب ار  $S.R.$
- فنزوح كل  $X$  بعامود  $\beta$  جديد
- \* اذا كانه عن  $X$  منفرجه بعض بعامود جديد
- \* اذا كانه عن  $X$  3<sup>①</sup> منفرجه الاول الثاني
- ② الثاني \* الثالث
- ③ الاول \* الثالث

- \* اذا كانه عن  $X$  4 : ① الاول \* الثاني
- ② الثاني \* الثالث
- ③ الثالث \* الرابع
- ④ الاول \* الثالث
- ⑤ الثاني \* الرابع
- ⑥ الاول \* الرابع

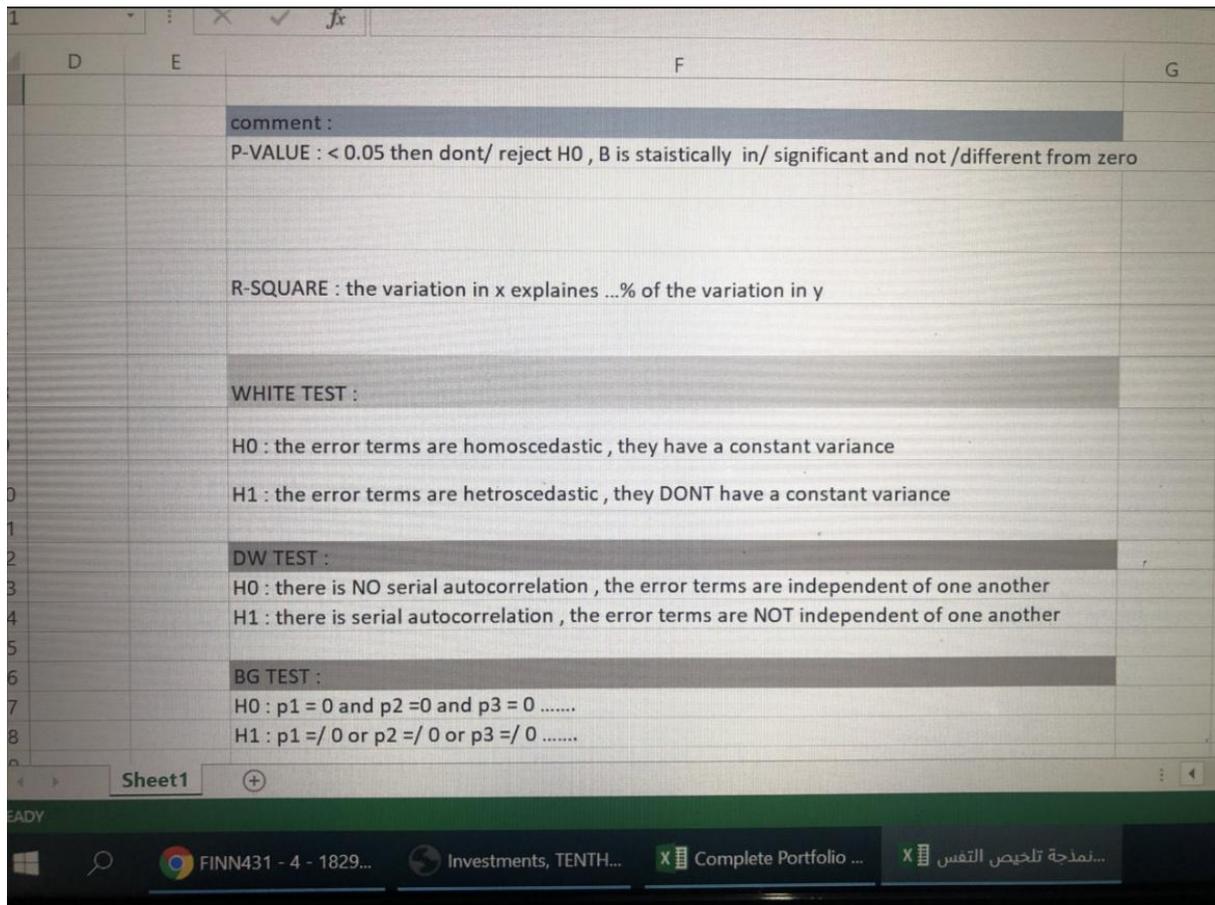
- Regression جديد
- $X$  : Residual squared.
- كل ار  $X$  الجار مع الكويبي :  $X$  القائم

→ chi - test :-

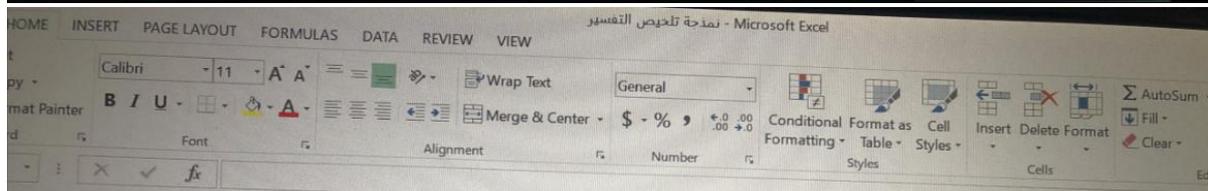
~~chi stat~~  
 $chi^{stat} = R^2 \times T$  (عدد ال obs. \* T)  
 chi critical :  $chi_{SQ.INV}(0.05, \text{عدد ال Parameters})$   
 (عدد ال Parameters = intercept + ...)

B	C	D
	linear	
	A) INTERCEPT INTERPRETATION :	
	if x equal zero (\$) then average predicted y would equal $b_0$ (\$)	
	B) SLOPE INTERPRETATION :	
	if x increases by 1 (unit) then average predicted y would (increase/ decrease by $b_1$ (\$)	
	ملاحظات keeping other variables fixed /// higher/ lower (dummy variables)	
	log :	
	A) INTERCEPT INTERPRETATION :	
	if x equal 1 (unit) then average predicted y would equal $b_0$ (\$)	
	B) SLOPE INTERPRETATION :	
	if x increases by 1 % then average predicted y would (increase/ decrease by ( $b_1/100$ ) (\$)	
	exponencial :	
	A) INTERCEPT INTERPRETATION :	
	if x equal zero (\$) then average predicted y would equal $e^{b_0}$ (\$)	
	B) SLOPE INTERPRETATION :	
	if x increases by 1 (unit) then average predicted y would (increase/ decrease by $100 * b_1$ (\$)	

B	C	D
	if x equal 1 (unit) then average predicted y would equal $b_0$ (\$)	
	B) SLOPE INTERPRETATION :	
	if x increases by 1 % then average predicted y would (increase/ decrease by ( $b_1/100$ ) (\$)	
	exponencial :	
	A) INTERCEPT INTERPRETATION :	
	if x equal zero (\$) then average predicted y would equal $e^{b_0}$ (\$)	
	B) SLOPE INTERPRETATION :	
	if x increases by 1 (unit) then average predicted y would (increase/ decrease by $100 * b_1$ (\$)	
	power :	
	A) INTERCEPT INTERPRETATION :	
	if x equal 1(\$)\$ then average predicted y would equal $e^{b_0}$ (\$)	
	B) SLOPE INTERPRETATION :	
	if x increases by 1 % then average predicted y would (increase/ decrease by $b_1\%$ (\$)	



D	E	F
		H1 : the error terms are heteroscedastic , they DONT have a constant variance
		<b>DW TEST :</b>
		H0 : there is NO serial autocorrelation , the error terms are independent of one another
		H1 : there is serial autocorrelation , the error terms are NOT independent of one another
		<b>BG TEST :</b>
		H0 : $p_1 = 0$ and $p_2 = 0$ and $p_3 = 0$ .....
		H1 : $p_1 \neq 0$ or $p_2 \neq 0$ or $p_3 \neq 0$ .....
		<b>NORMALITY TEST :</b>
		H0 : the error terms are normality distributed with skewness = 0 , and excess kurtosis = 0
		H1 : the error terms are NOT normality distributed with skewness $\neq 0$ , or excess kurtosis $\neq 0$
		<b>auxiliary reg equation</b>
		$(\hat{U}_t)^2 = \alpha_1 + \alpha_2 * + \alpha_3 * + \alpha_4 * + V_t$



H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V

H0 :  $B_0 = 0$   
H1 :  $B_0 \neq 0$

### Consequences

- in general we could encounter any combination of 3 problems:
- the coefficient estimates are wrong
  - the associated standard errors are wrong
  - the distribution that we assumed for the test statistics will be inappropriate

