EC5509 Event workshop

1. The following table lists Cumulative Abnormal Return (CAR) and standard deviation of stock X and stock Y over a 7-day event window.

Event window		-3 day	-2 day	-1 day	0 day	+1 day	+2 day	+3 day
Stock X	CAR	1	1.05	1.10	1.15	1.15	1.15	1.15
	Standard deviation	0.5682	0.5303	0.4825	0.3517	0.3885	0.4291	0.4812
Stock Y	CAR	1	1	0.95	0.90	0.85	0.85	0.85
	Standard deviation	0.5714	0.5988	0.4872	0.4787	0.4749	0.5059	0.5346

Required:

a. Explain the definition of event study window, explain how it corresponds with and differs from calendar time.

b. Calculate t-statistics of both stock X and stock Y for each of the seven event window. Interpret the implication of the results.

c. Interpret the movements in the CAR for both stock X and stock Y, making comparisons between the two cases. Give examples for both cases with the same time profile of the CPI.

d. If abnormal return is estimated by CAPM model, explain how it is possible to interpret movement in the CAR as being related to the event announcement?

2. Explain the time profile of the CAR under conditions of semi strong market efficiency.

3. Explain the difference between CAR and Abnormal Performance Index (API). Critically evaluate the application of CAR and API.

4. When using the market model to estimate the normal return, historical data usually is biased forecasters for future values, how can we deal with slope measurement error?

5. Explain the construction of, and the intuition behind, the CAR.