

What we have learnt sofar

August 24, 2018

1. Mastering simple algebras could yield powerful payoffs:
 - (a) Production is the product of yield and area harvested;
 - (b) Geometric sequence and arithmetic sequence;
 - (c) Personal advice: just keep things simple.
2. The log function could be used to linearize equations:
 - (a) But you cannot use it when there are negative or zero values;
 - (b) When you use double logs, you are assuming a Cobb-Douglas functional form;
 - (c) You are also assuming the property with the CD function, such as constant elasticity of substitution and homogeneity and so on.
3. Polynomial function is a good way of accounting for non-linearity:
 - (a) Taylor series expansion is the foundation;
 - (b) But try linear function first (remember the approximation errors?);
 - (c) Polynomial regression is a regression that estimates for derivatives. You should see it very clearly now.
4. The summation term is an useful way of making expression compact. Be aware of the pattern!
5. Present value: money in the next year is not the money in this year. The time itself has values!
6. Economics research is 99% about functions: how X affects Y ? What will be the value of Y . But in most cases, the function itself is unknown, and we sometimes have to make assumptions about the functional form. So you have to know well about the properties of the functions.
7. Graphing is an useful tool. Watch out for intercepts, slope and curvature.