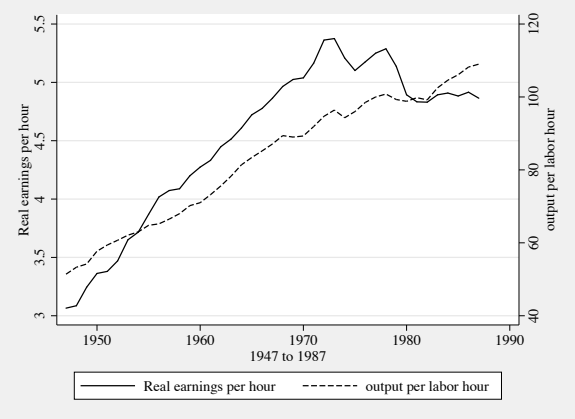
Introductory Applied Econometrics
EEP/IAS 118
Fall 2015

Daily Assignment 18
Assigned 12/1 (to be submitted)

Practice exercise #16: Time series

Using 41 years of data from 1947 to 1987, we analyze the real wage rate as a function of the average labor productivity in the US.

a. Looking at the following graph over time, what potential problem could a regression of wage on labor productivity raise?
b. What are the two procedures that could be employed to solve this problem?
c. Use the results of the regressions (1)-(3) given below to support the argument that you have just developed.
d. Fully interpret the result of regression (3) (Remember that this means SSS)
e. Compute a confidence interval for the effect of productivity on wage from the results of regression (4) estimated from the first 25 years.
f. Can the results from question (e) be interpreted as suggesting that productivity has at most a small effect on wage? (Think of what you have controlled for in this regression).



VARIABLES	(1) Real wage	(2) Real wage	(3) Real wage (t) - real wage (t-1)	(4) Real wage (t) - real wage (t-1)
Productivity	0.0360***	-0.111***		
	(0.00246)	(0.0103)		
Year		0.111***		
		(0.0151)		
Prod(t)-Prod(t-1)			0.0463***	0.0133
			(0.00985)	(0.0113)
Constant	1.528***	213.3***	-0.0217	0.0689***
	(0.208)	(28.78)	(0.0185)	(0.0220)
Observations	41	41	40	25
R-squared	0.846	0.936	0.368	0.057
Years of observation	1947-87	1947-87	1947-87	1947-72

*Each column presents a different regression model. The y variable is listed as the column title and the x variables are the row titles. Standard errors are in parenthesis.