EE425

Nature of Econometrics and Economic Data

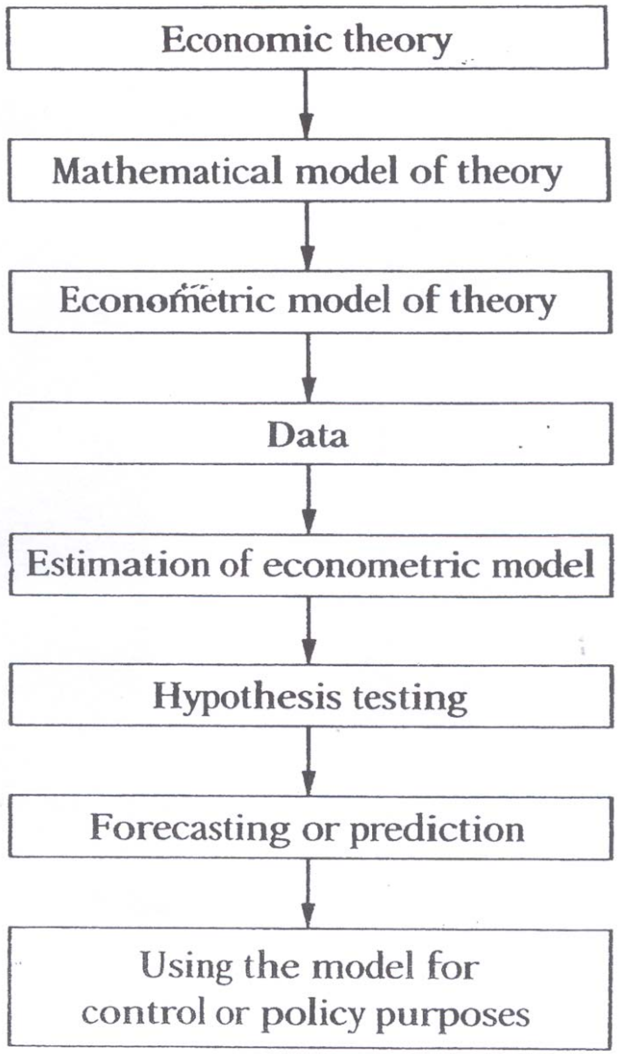
Prof. Dr. Pranee Tinakorn
Faculty of Economics
Thammasat University

What is econometrics?

- P.A.samuelson, et al.(1954): “ ….econometrics may be defined as the quantitative analysis of actual economic phenomena based on the concurrent development of theory and observation, related by appropriate methods of inference.”

- A.S.Goldberger(1964): “ Econometrics may be defined as the social science in which the tools of economic theory, mathematics, and statistical inference are applied to the analysis of economic phenomena.”

Steps in Econometric Analysis



Types of Economic Data

- Cross-sectional data: sample of individuals households firms , or any unit of observation ,taken at a point in time
- Time series data: observations on a variable or many variables, taken over a period of time

- Pooled cross sectional data: consists of both cross-sectional and time series information
- Panel or longitudinal data: consists of time series information for the same cross-sectional member in the data

TABLE 1.1

A Cross-Sectional Data Set on Wages and Other Individual Characteristics

obsno	*wage*	*educ*	*exper*	*female*	*married*
1	3.10	11	2	1	0
2	3.24	12	22	1	1
3	3.00	11	2	0	0
4	6.00	8	44	0	1
5	5.30	12	7	0	1
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
525	11.56	16	5	0	1
526	3.50	14	5	1	0

TABLE 1.3 Time series data

Minimum Wage, Unemployment, and Related Data for Puerto Rico

obsno	*year*	*avgmin*	*avgcov*	*unemp*	*gnp*
1	1950	0.20	20.1	15.4	878.7
2	1951	0.21	20.7	16.0	925.0
3	1952	0.23	22.6	14.8	1015.9
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.
37	1986	3.35	58.1	18.9	4281.6
38	1987	3.35	58.2	16.8	4496.7

TABLE 1.3 EXCHANGE RATES FOR SEVEN COUNTRIES: 1977–1998

Year	Canada	France	Germany	Japan	Sweden	Switzerland	U.K.
1977	1.063300	4.916100	2.323600	268.6200	4.480200	2.406500	1.744900
1978	1.140500	4.509100	2.009700	210.3900	4.520700	1.790700	1.918400
1979	1.171300	4.256700	1.834300	219.0200	4.289300	1.664400	2.122400
1980	1.169300	4.225100	1.817500	226.6300	4.231000	1.677200	2.324600
1981	1.199000	5.439700	2.263200	220.6300	5.066000	1.967500	2.024300
1982	1.234400	6.579400	2.428100	249.0600	6.283900	2.032700	1.748000
1983	1.232500	7.620400	2.553900	237.5500	7.671800	2.100700	1.515900
1984	1.295200	8.735600	2.845500	237.4600	8.270800	2.350000	1.336800
1985	1.365900	8.980000	2.942000	238.4700	8.603200	2.455200	1.297400
1986	1.389600	6.925700	2.170500	168.3500	7.127300	1.797900	1.467700
1987	1.325900	6.012200	1.798100	144.6000	6.346900	1.491800	1.639800
1988	1.230600	5.959500	1.757000	128.1700	6.137000	1.464300	1.781300
1989	1.184200	6.380200	1.880800	138.0700	6.455900	1.636900	1.638200
1990	1.166800	5.446700	1.616600	145.0000	5.923100	1.390100	1.784100
1991	1.146000	5.646800	1.661000	134.5900	6.052100	1.435600	1.767400
1992	1.208500	5.293500	1.561800	126.7800	5.825800	1.406400	1.766300
1993	1.290200	5.666900	1.654500	111.0800	7.795600	1.478100	1.501600
1994	1.366400	5.545900	1.621600	102.1800	7.716100	1.366700	1.531900
1995	1.372500	4.986400	1.432100	93.96000	7.140600	1.181200	1.578500
1996	1.363800	5.115800	1.504900	108.7800	6.708200	1.236100	1.560700
1997	1.384900	5.839300	1.734800	121.0600	7.644600	1.451400	1.637600
1998	1.483600	5.899500	1.759700	130.9900	7.952200	1.450600	1.657300

Source: Economic Report of the President, January 2000 and January 2001.