

Econ 723
Topics in Econometrics
Fall 2009-Emory
Date of this document: August 2009

Instructor: Essie Maasoumi (emaasou@emory.edu)

Office: 324 Rich Memorial Building
Tel: 404-727-1116 (assistant)/9817 (direct)
Office hours: Mondays 2-4 pm and by Appointment (Feel free to call me or email me whenever you need to meet).
Class hours: MW 10-12

Course Requirements:

At least Econ 520-521 sequence at Emory, or by instructor's approval.

Grading:

At least one paper the subject and outline of which should be cleared with the instructor before the end of the fourth week.

Typed papers are due no later than ONE WEEK before exam week. Papers will be invited for presentation. More than one paper will be required when several students collaborate, with transparent designation of assignments and roles.

Reading Material:

The following **texts** and "handbooks" are examples and will complement the papers/articles which are partly listed below for the topics below.

J. Heckman and E. Leamer, *Handbook of Econometrics*, Vols 5, 6A-6B (HL)
R. Engle and D. McFadden, *Handbook of Econometrics*, Volume IV, North-Holland.(EM)

Griliches and Intrilligator, *Handbook (s) of Econometrics*, Volume II; North-Holland (GI2).

T. Cover and J. Thomas, *Elements of Information Theory*, Wiley series in Communications (CT).

J. Wooldridge, *Econometric Analysis of Cross Section and Panel Data*, MIT Press, 2007 (Second Edition).

Selected (Main) Topics:

Note: Many of the papers cited here, particularly my own, are merely examples which also offer convenient citations to other references on each topic. Some papers are useful under several topics. The papers' titles are suggestive of the topics/applications which may be emphasized.

(This list will be regularly revised and extended).

1.

Entropy and Information Theory (IT):

(With applications in Finance and Empirical Welfare Economics, model selection, Prediction, dependence, testing, growth convergence, nonlinearity, density and copula estimation).

- The CT text.
- (A)Maasoumi, E. (1993), “A Compendium on Information Theory in Economics and Econometrics“, *Econometric Reviews*, 12, 137-181.
- (B)Ebrahimi, N., E. Maasoumi, and E. Soofi (1999a), “Ordering Univariate Distributions by Entropy and Variance”, *Journal of Econometrics*, 1999.
- (A)Granger, C. W., E. Maasoumi, and J. Racine (2004)*, “A Metric Entropy Measure of Dependence for possibly nonlinear processes,” *Journal of Time Series Analysis*.
- (A) Maasoumi, E., and J. Racine (2002)“Entropy and Predictability of Stock Market Returns”, *Journal of Econometrics*, 107, 291-312.
- (C)Pesaran, M.H., and A. Timmerman (1995),“Predictability of stock returns: Robustness and economic significance”, *Journal of Finance*, 50, 1201-1228.
- (BT) Robinson, P.M. (1991),“Consistent nonparametric entropy based testing”, *Review of Economic Studies*, 58, 437-453.
- (AT) Skaug, H. and D. Tjøstheim (1996), “Testing for serial independence using measures of distance between densities”, in P.M. Robinson and M. Rosenblatt (eds.), *Athens Conference on Applied Probability and Time Series*, Springer Lecture Notes in Statistics, Springer.
- (BT)Hong, Y-M., and H. White (2006),“Asymptotic distribution theory for nonparametric entropy measures of serial dependence”, *Econometrica*.
- (BT)Matusita, K. (1967), “On the notion of decision functions,“ *Annals of the Institute of Statistical Mathematics*, 19, 181-192.
- (Bap)von Furstenberg, G., and E. Maasoumi (1988),“Macroeconomic Implications of the Information Revolution”, *American Economic Review: papers and proceedings*, Vol.78, No. 2,(May), 178-81.
- (BT,ap) Maasoumi, E. and H. Theil (1979),“The Effect of the Shape of the Income Distribution on Two Inequality Measures,”, *Economics Letters*, 4, pp.289-291.
- (Cap) Hirschberg, J. G., E. Maasoumi and D. J. Slottje, (1991), “Cluster analysis for measuring welfare and quality of life across countries,” *Journal of Econometrics*, 50, 131-150.

(Cap)Maasoumi, E., J.Hirschberg, and D. Slottje (2001)“Clusters of Quality of Life Attributes in the United States”, *Journal of Applied Econometrics*, 16, 445-460.

(Cap) Piccolo, D., (1990), “A distance measure for classifying ARIMA models,” *Journal of Time Series*, 11, 153-164.

Harry JOE (Dependence, copulas, risk measures...)

Nelsen (Copulas)

2.

Empirical Welfare/Mobility measures

(Asur)[maasoumi] Maasoumi, E. (1998),”Empirical Analyses of Welfare and Inequality”, in P.Schmidt and M.H. Pesaran (eds.) *Handbook of Applied Microeconometrics*, Basil Blackwell.

(Asur) Maasoumi, E. (1986), “The Measurement and Decomposition of Multidimensional Inequality,” *Econometrica*, 54, 991-997.

(Bap) Maasoumi,E., and S. Zandvakili (1991),“Generalized Entropy Measures of Mobility for Different Sexes and Income Levels,” *Journal of Econometrics*, 121-133.

(AT,ap) Maasoumi, E and M. Trede“Comparing Income Mobility in Germany and the US using Generalized Entropy Mobility Measures,” *The Review of Economics and Statistics*, 83-3, 2001, 551-559.

Biewens, Martin (2002?), *J of Econometrics* (inference on mobility/poverty measures, GAUSS software)

3.

Ordering Distributions and Prospects:

(Emphasis on Testing for Stochastic Dominance with applications in economics and finance. Other applications in program evaluation).

References

[1] (A)McFadden, D. (1989)*, “Testing for stochastic dominance,” in Part II of T. Fomby and T.K. Seo (eds.) *Studies in the Economics of Uncertainty* (in honor of J. Hadar), Springer-Verlag.

Anderson, G.J. (1996), “Nonparametric tests of stochastic dominance in income distributions,” *Econometrica*, 64, 1183-1193.

- Atkinson, A. B. and F. Bourguignon (1982), "The Comparison of Multidimensional Distributions of Economic status," *Review of Economic Studies*, 12, 183-201.
- Bawa, V.S. (1975), "Optimal rules for ordering uncertain prospects," *Journal of Financial Economics*, 2, 95-121.
- Bowman, A. W. (1985), "A Comparative Study of Some Kernel-Based Non-parametric Density Estimators," *Journal of Statistical Computation and Simulation*, 21, 313-327.
- Dardanoni, V. and A. Forcina (1999), "Inference for Lorenz curve orderings", *Econometrics Journal*, 2, 49-75.
- Davidson R. and J-Y. Duclos (2000)*, "Statistical inference for stochastic dominance and for the measurement of poverty and inequality", *Econometrica*, 68, 1435-1464.
- Davidson, R. and J-Y Duclos (1997), "Statistical inference for the measurement of the incidence of taxes and transfers", *Econometrica*, 52, 761-76.
- Duclos and.....??????????
- Duclos and...???
- Davies, J., and M. Hoy (1996), "Making inequality comparisons when Lorenz curves intersect," **American Economic Review**
- Durbin, J. (1985), "The first passage density of a continuous Gaussian process to a general boundary," **Journal of Applied Probability**, 22, 99-122.
- Ebrahimi, N., E. Maasoumi, and E. Soofi (1999a), "Ordering Univariate Distributions by Entropy and Variance", *Journal of Econometrics*, 1999.
- Gourieroux, C., Holly, A., and A. Monfort (1982)*, "Likelihood ratio test, Wald test and Kuhn-Tucker test in linear models with inequality constraints in the regression parameters," *Econometrica*, 50, 63-80.
- Hadar, J. and W.R. Russell (1969)*, "Rules for ordering uncertain prospects," *American Economic Review*, 59, 25-34.
- Hadar, J. and W.R. Russell (1971), "Stochastic dominance and diversification," *Journal of Economic Theory*, 3, 288-305.
- Hanoch, G. and H. Levy (1969), "The efficiency analysis of choices involving risk," *Review of Economic Studies*, 36, 335-346.
- Kodde, D.A., and F.C. Palm (1986), "Wald criteria for jointly testing equality and inequality restrictions," *Econometrica*, 50, 1243-1248.
- Kodde, D.A., and F. Palm (1987), "A parametric test of the negativity of the substitution matrix", *Journal of Applied Econometrics*, 2, 227-35.

- (A) Linton, O., E. Maasoumi, and Whang (2006), "Testing for Stochastic Dominance: A Subsampling Approach", *Review of Economic Studies* (see also the Corrigendum in RES, 2007).
- Linton et al (2009)???????LSE site
- (Abac)Maasoumi (2001)*, "Parametric and Nonparametric Tests of Limited Domain and Ordered Hypotheses in Economics", Chapter 15, In B. Baltagi (ed.), *Companion to Econometric Theory*, Basil Blackwell Publishers.
- (Aap)Maasoumi, E. and A. Heshmati (2000)*, "Stochastic dominance amongst Swedish income distributions", *Econometric Reviews*.
- "Growth and Convergence: A Profile of Distribution Dynamics and Mobility", E. Maasoumi, Jeffrey Racine and Thanasis Stengos (2006), *Journal of Econometrics*.
- Lim et al** "A Reexamination of the Equity Premium Puzzle: A Robust Non-parametric Approach", E. Maasoumi, G. Lim and Vance Martin, *North American Journal of Economics and Finance*, 2007.
- Porter, R. (1978), "Portfolio applications: Empirical studies," in G. Whitmore and M. Findley (eds.) *Stochastic Dominance*, Lexington: Lexington Books, pp. 117-161.
- Robertson, T., and F.T. Wright (1981), "Likelihood ratio tests for and against stochastic ordering between multinomial populations," *Annals of Statistics*, 9, 1248-57.
- Robertson, T., Wright, F.T., and R. Dykstra (1982), *Order restricted statistical inference*, J. Wiley and Sons, New York, N.Y.
- Shapiro (1988), "Towards a unified theory of inequality constrained testing in multivariate analysis," **International Statistical Review**, 56, 49-62.
- Shorrocks, A.F.(1983), "Ranking income distributions," **Economica**, 50, 3-17.
- Shorrocks A., and J. Foster (1987), "Transfer sensitive inequality measures," **Review of Economic Studies**, 54, 485-497.
- Tse, Y.K. and Zheng (2000), "A Monte Carlo study of some tests for stochastic dominance", mimeo, Singapore National Univ.
- Politis, D. N., J. P. Romano and M. Wolf (1999). *Subsampling*. Springer-Verlag, New York. [short account in a *J of Econometrics* (1997) article].
- Whitmore,G.A. and M.C. Findley (1978), *Stochastic Dominance: An approach to decision making under risk*, Heath, Lexington :Mars.
- Wolak, F. (1991)*, "The local nature of hypothesis tests involving inequality constraints in nonlinear models," **Econometrica**, 981-95.

- Xu, K. (1995), "Asymptotically distribution-free statistical test for generalized Lorenz curves: An alternative approach, *Journal of Income Distribution*, Vol. 7, No.1.
- Xu, Kuan, G. Fisher and D. Willson (1996), "Testing first- and second-order stochastic dominance", *Canadian Journal of Economics*, Vol. 29, s562-s564, 1996.
- Xu, K., Gordon Fisher and Douglas Willson (1998), "An empirical analysis of term premium using significance tests for stochastic dominance", *Economics Letters*, Vol. 60, No. 2, 195-203.

4.

Growth Convergence

- Abac) Mankiw, N., Romer, D. and D. Weil (1992) "A Contribution to the Empirics of Economic Growth," *Quarterly Journal of Economics*, 108, 407-437.
- (Abac) Durlauf, S. N. and P. A. Johnson (1995) "Multiple Regimes and Cross-Country Growth Behavior," *Journal of Applied Econometrics*, 10, 365-384.
- (Abac) Quah, D. T. (1996) "Empirics for Economic Growth and Convergence," *European Economic Review*, 40, 1353-1375.
- (A)"Growth and Convergence: A Profile of Distribution Dynamics and Mobility", E. Maasoumi, Jeffrey Racine and Thanasis Stengos (2006), *Journal of Econometrics*.
- (Cap) Hobijn, B., and P. H. Franses (2000), "Asymptotically perfect and relative convergence of productivity," *Journal of Applied Econometrics*, **15**, 59-81.
- (Cap) Liu and T. Stengos (1999) "Non-Linearities in Cross Country Growth Regressions: A Semiparametric Approach," *Journal of Applied Econometrics*, 14, 527-538.
- (Aap)(B)Maasoumi and Wang, "Economic Reform, Growth and Convergence in China", with Le Wang, *Econometric Journal*, (2008).
- (soft) Maasoumi and Wang, GEMM (2009) (STATA program, description)

5.

Prediction and forecasting

- Granger, Clive, and J.L. Lin (1994), "Using the mutual information coefficient to identify lags in nonlinear models", *Journal of Time Series Analysis*, 15(4), 371-384.

- Granger ,C. W.J., and P. Newbold (1986), *Forecasting Economic Time Series*, 2nd Edition, Academic Press.
- Granger, C., and R. Ramanathan (1984),“Improved Methods of Combining Forecasting,” *Journal of Forecasting*, 3; 197-204.
- Hamilton, James (1993),“Estmation, Inference, and forecasting of time series subject to change in regime”, in Maddala, Rao, and Vinod (eds.) *Handbook of Statistics*, vol. 11, North-Holland.
- Lee and Hong (2001),“Testing for serial correlation of unknown form using wavelet methods”, *Econometric Theory*, 17, 2, 386-423.
- Maasoumi (1978), “A Modified Stein-like Estimator for the Reduced Form Coefficients of Simultaneous Equations,” *Econometrica*, Vol 46, pp. 695-703.
- Maasoumi, E. (1986),“Reduced Form Estimation and Prediction from Uncertain Structural Models: A Generic Approach,” *Journal of Econometrics*, 31, pp. 3-29.
- Maasoumi (1987),“The Approximate Moments of the 3SLS Reduced Form Estimator and MELO Combinations of OLS-3SLS for Prediction,” in *Time Series and Econometric Modelling*, I.B. MacNeill and G.J. Umphrey (eds.), Reidel Publishing Co., 359-371.
- Maasoumi, E. (1990),“How to Live with Misspecification If You Must,” *Journal of Econometrics*, pp.67-86.
- Maasoumi, E., and J-H. Jeong (1988),“A Comparison of GRF and Other Reduced Form Estimators in Simultaneous Equations Models,” *Journal of Econometrics*, 115-34.
- Maasoumi, E., A. Khotanzad, and A. Abaye (1994),“Artificial Neural Networks for Some Macroeconomic Series : A First Report” , *Econometric Reviews*, 1994, vol 13, No. 1.
- Qi, M. (1999),“Nonlinear predictability of stock returns using financial and economic variables”, *J. of Business and Econ. Statistics*, 17(4), 419-429.
- Sargan, J.D. (1988), “The existence of the moments of the estimated reduced form coefficients”, Chapter 6, in Maasoumi (ed.), *Contributions to Econometrics, Vol. II: J.D. Sargan*, Cambridge U. Press.
- Stock, J., and M. Watson (1999)*,“A comparison of linear and nonlinear Univariate models for forecasting macroeconomic time series”, Ch.1, in Engle and White (eds.), *Cointegration, Casuality, and Forecasting*, Oxford. (A good reference list)

Swanson, N, and H. White (1997), “A Model selection approach to real-time macroeconomic forecasting using linear models and artificial Neural Networks”, *Review of Econ. & Statistics*, 79, 540-550.

White, H. (1994)*, “Neural Networks”, *Econometric Reviews* (with discussion), vol 13, No.1.

6.

Program Evaluation and Treatment Effects (ask for a complete separate list on this topic)

Micro-econometrics for Policy, Program, and Treatment Effects, by Myong-Jae Lee, Oxford University Press, 2005.

Wooldridge’s Text (Chapter 8)

”Robust Inference Concerning Recent Trends in US Environmental Quality”, E. Maasoumi, and Daniel L. Millimet, *Journal of Applied Econometrics*, 20, 55-77, 2005.

“Class Size and Educational Policy: Who Benefits from Smaller Classes”, E. Maasoumi, D. Millimet and V. Rangaprasat, *Econometric Reviews*, 24 (4), 2005.

mms “A Distributional Analysis of Returns to Marriage”, E. Maasoumi, D. Millimet and D. Sarkar, *Oxford Bulletin of Economics and Statistics*, forthcoming.

“The Information Basis of Matching with Propensity Scores”, E. Maasoumi and Ozkan Eren, Proceedings of the American Statistical Association (CD-ROM), 2005.

Phillipe van Kerm (2009)??????? Also on Copulas.

A extended reading list on this topic will be provided **in a semester focused on it**, with several special issues of journals, emphasizing the work of Heckman and his collaborators/students, and recent advances on quantile regressions in this area, exemplified by recent work of Abadi, Imbens, Chernozukov, Angrist, Blundell, and others.